High-Performance Solid Carbide Drills

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solid carbide drills for external coolant or dry machining		series	grade	standard* ● first choice ○ alternate choice P	M	K	N	S	H	hole tolerance	standard range diameter range D1 mm min–max	D1 in min–max	drilling depth L/D1
	GOdrill™ for microdrilling applications	B04_CPG	KC7325	●	●	●	●	●	○	IT9–IT10	1,0–12,7	.0394–.500	3–5 x
	**TF Drill** for high metal removal rates	B/K105	K10			●	●	○		IT9–IT10	3,0–21,0	.1130–.8101	5 x D
		B/K105	KC7210	○		●				IT9–IT10	3,5–18,5	.1250–.6563	5 x D
	**HP Drill** for dry applications or flood coolant	B221/B222_HP	KCPK15	●		●				IT9–IT10	3,0–21,0	.1181–.8268	3–5 x
	**SPF Drill** for composite (CFRP) materials	B/K53_SPF	KDF400				●			IT9–IT10	3,2–12,7	.1260–.5010	3–5 x
	**KU-Drill** for universal applications	B966	KC7315	●		●				IT9–IT10	3,0–20,0	.1181–.7874	3 x D
	**NC Spot Drill 120°**	B501	K10	●	○	●	○	○		–	6,0–12,0	.2352–.4724	1 x D
	NC Spot Drill 90°	B505	K10	●	○	●	○	○		–	6,0–20,0	.2362–.7874	1 x D

solid carbide drills with internal coolant channel		series	grade	standard* ● first choice ○ alternate choice P	M	K	N	S	H	hole tolerance	standard range diameter range D1 mm min–max	D1 inch min–max	drilling depth L/D1
	GOdrill for microdrilling applications	B05_CPG	KC7325	●	●	●	●	●	○	IT9–IT10	1,5–12,7	.0591–.500	3–8 x
	**TF Drill** for high metal removal rates	B/K125	K715					●		IT9–IT10	6,0–15,9	.2500–.6250	5 x D
	HP Drill for stainless steel	B/K21_HP	KCM15	○	●			○		IT9–IT10	3,0–21,0	.1181–.8268	3–8 x
	**HP Drill** for steel	B224/B225_HP	KCPK15	●		○				IT9–IT10	3,0–21,0	.1181–.8268	3–5 x
	**YPC Drill** for cast iron materials	B/K25_YPC	KCK10			●				IT9–IT10	3,0–25,0	.1181–.9844	3–8 x
	**SE Drill** for steel	B256	KC7315	●		○				IT9–IT10	5,0–16,0	.1969–.6299	8 x D
	Long-Length Drill for steel, iron, and stainless steel	B269_HP	KCPK15	●	○	○				IT9–IT10	3,0–20,0	.1181–.7874	12 x D
	Deep-Hole Drill for steel, iron, and non-ferrous materials	B27_HPG	KC7425	●	○	●				IT9–IT10	2,4–16,0	.0938–.6299	15–30 x
		B27_HPS	KN25				●			IT9–IT10	2,4–16,0	.0938–.6299	15–30 x
	**HP Drill** for high-temperature alloys	B/K28_	K715				○	●		IT9–IT10	3,97–25,0	.1563–.9843	5 x D
	**Y-TECH™ Drill** for high-temperature alloys	B29_YPL	KC7315		●			●		IT9–IT10	3,0–21,0	.1181–.8268	3–5 x
	**TX Drill** for close tolerance holes	B411	KF1			●	●			IT8–IT9	3,2–25,0	.1250–.9843	5 x D
	**Flat-Bottom Drill** for flat-bottom applications	B707_FBG	KC7315	●		●				IT9–IT10	3,0–21,0	.1181–.8268	3 x D
		B707_FBL	KC7315		●			●		IT9–IT10	3,0–21,0	.1181–.8268	3 x D
		B707_FBS	KN15				●			IT9–IT10	3,0–21,0	.1181–.8268	3 x D
	**HP Step Drill** for steel and iron	B73_HP	KCPK15	●		●				IT9–IT10	3,7–19,45	.1470–.7656	short, long
	**KU-Drill** for universal applications	B97_	KC7315	●	○	●	○	○		IT9–IT10	2,4–20,0	.0938–.7874	3–8 x

* In regard to coatings, anything is possible. If a specific drill is not suitable for your workpiece material, please contact our Engineered Solutions Department for an offer about special coatings and edge preparations.

engineered solution range			■ standard □ engineered solution capabilities																				inch
diameter range D1 metric min–max	diameter range D1 in min–max	drilling depth																					page(s)
1,0–20,0	.0394–1.00	1.5–8 x	■				■			■			□	□				□	■	■	□		G5
3,0–25,0	.1130–1.00	1.5–8 x	■				■			■			□	□				□	■	□			G16
3,0–25,0	.1130–1.00	1.5–8 x	■	■			■			■			□	□				□	■	□			
3,0–25,0	.1181–1.00	1.5–8 x	■	■			■			■			□	□	■		□	□	■	□			G33
3,0–25,0	.1181–1.00	1.5–5 x	■	■			■			■			□	□				□	■	□			G85
3,0–25,0	.1181–1.00	1.5–8 x	■				■	■		■			□	□	□		■	■	■	■			G97
6,0–20,0	.2362–.7874	1 x D	■																				G109
6,0–20,0	.2362–.7874	1 x D	■																				

engineered solution range			■ standard □ engineered solution capabilities																				inch
diameter range D1 metric min–max	diameter range D1 inch min–max	drilling depth																					page(s)
1,0–20,0	.0394–1.00	1.5–8 x			■	■	■			■			□	□				□	■	■	□		G10
6,0–25,0	.2500–1.00	3–8 x			■		■	■		■			□	□				□	■	□			G22
3,0–25,0	.1181–1.00	1.5–8 x			■		■						□	□	■		□	□	■	□			G25
3,0–25,0	.1181–1.00	1.5–5 x			■	■	■			■			□	□	■		□	□	■	□			G39
3,0–25,0	.1181–1.00	1.5–8 x			■	■	■	■		■			□	□		■		■	■	□			G44
3,0–25,0	.1181–1.00	1.5–12 x			■	■	■	■		■			□	□	□		■	□	■	□			G52
3,0–25,0	.1181–.7874	1.5–12 x			■	■	■	■		■			□	□	□		■	□	■	□			G55
2,4–16,0	.0938–.6299	430mm			■	■	■	■		■			□	□	□		■	□	■	□			G59
2,4–16,0	.0938–.6299	430mm			■	■	■	■		■			□	□	□		■	□	■	□			
3,0–25,0	.1181–1.00	1.5–8 x			■		■			■			□	□	■		□	□	■	□			G71
3,0–25,0	.1181–1.00	1.5–8 x			■	■	■	■		■			□	□		■		□	■	□			G75
3,0–25,0	.1181–1.00	1.5–12 x			■	■	■	■	■	■	■		□	□	□			□	■	□			G80
3,0–25,0	.1181–1.00	1.5–8 x			■	■	■	■	■		■	■	□	□	□		■	■	■	□			G88
3,0–25,0	.1181–1.00	1.5–8 x			■	■	■	■	■		■	■	□	□	□		■	■	■	□			
3,0–25,0	.1181–1.00	1.5–8 x			■	■	■	■	■		■	■	□	□	□		■	■	■	□			
3,0–25,0	.1181–1.00	1.5–8 x			■	■	■						■	■	■		□	□	■	□			G93
2,4–25,0	.1181–1.00	1.5–12 x			■	■	■	■		■			□	□	□		■	■	■	■			G101

KENNAMETAL



HIGH-PERFORMANCE SOLID CARBIDE DRILLS

Solid Carbide Drills • Dimension Tables

Dimensions for Kennametal Solid Carbide Drills (B_Series) • Metric

mm Ø		DIN 6535		SHORT* ~3 x D			LONG* ~5 x D			EXTRA LONG** ~8 x D		
D1 min	D1 max	D	LS	L	L3	L4 max	L	L3	L4 max	L	L3	L4 max
1,000	1,400	4	28	58	7	5	58	9	6	58	12	10
1,401	1,900	4	28	58	9	6	58	12	9	58	18	15
1,901	2,300	4	28	58	13	9	58	18	14	66	26	22
2,301	2,999	4	28	58	17	12	58	22	17	66	30	25
3,000	3,750	6	36	62	20	14	66	28	23	78	40	33
3,751	4,750	6	36	66	24	17	74	36	29	87	49	41
4,751	6,000	6	36	66	28	20	82	44	35	94	56	48
6,001	7,000	8	36	79	34	24	91	53	43	105	67	57
7,001	8,000	8	36	79	41	29	91	53	43	110	72	61
8,001	10,000	10	40	89	47	35	103	61	49	122	80	68
10,001	12,000	12	45	102	55	40	118	71	56	141	94	79
12,001	14,000	14	45	107	60	43	124	77	60	155	108	91
14,001	16,000	16	48	115	65	45	133	83	63	171	121	101
16,001	18,000	18	48	123	73	51	143	93	71	185	135	113
18,001	20,000	20	50	131	79	55	153	101	77	200	148	124
20,001	22,000	20	50	141	86	60	167	112	85	217	162	136
22,001	25,000	25	56	153	95	65	184	126	98	238	180	150

* D1<20mm to DIN 6537K
D1>20mm to factory standard
** To factory standard

NOTE: Solid Carbide Drills from Kennametal in short and regular lengths conform to DIN 6537.
Drills with long lengths conform to Kennametal factory standard.
Solid Carbide Drills with diameter D1>20mm (not DIN 6537) are also standardized to factory standard.

Dimensions for Kennametal Solid Carbide Drills (B_Series) • Inch

in Ø		DIN 6535		SHORT* ~3 x D			LONG* ~5 x D			EXTRA LONG** ~8 x D		
D1 min	D1 max	D	LS	L	L3	L4 max	L	L3	L4 max	L	L3	L4 max
.0394	.0551	.1575	1.10	2.28	.28	.20	2.28	.35	.24	2.28	.47	.39
.0552	.0748	.1575	1.10	2.28	.35	.24	2.28	.47	.35	2.28	.71	.59
.0748	.0906	.1575	1.10	2.28	.51	.35	2.28	.71	.55	2.60	1.02	.87
.0906	.1177	.1575	1.10	2.28	.67	.47	2.28	.87	.67	2.60	1.18	.98
.1181	.1476	.2362	1.42	2.44	.79	.55	2.60	1.10	.91	3.07	1.57	1.30
.1477	.1870	.2362	1.42	2.60	.94	.67	2.91	1.42	1.14	3.43	1.93	1.61
.1870	.2362	.2362	1.42	2.60	1.10	.79	3.23	1.73	1.38	3.70	2.20	1.89
.2363	.2756	.3150	1.42	3.11	1.34	.94	3.58	2.09	1.69	4.13	2.64	2.24
.2756	.3150	.3150	1.42	3.11	1.61	1.14	3.58	2.09	1.69	4.33	2.83	2.40
.3150	.3937	.3937	1.57	3.50	1.85	1.38	4.06	2.40	1.93	4.80	3.15	2.68
.3937	.4724	.4724	1.77	4.02	2.17	1.57	4.65	2.80	2.20	5.55	3.70	3.11
.4725	.5512	.5512	1.77	4.21	2.36	1.69	4.88	3.03	2.36	6.10	4.25	3.58
.5512	.6299	.6299	1.89	4.53	2.56	1.77	5.24	3.27	2.48	6.73	4.76	3.98
.6300	.7087	.7087	1.89	4.84	2.87	2.01	5.63	3.66	2.80	7.28	5.32	4.45
.7087	.7874	.7874	1.97	5.16	3.11	2.17	6.02	3.98	3.03	7.87	5.83	4.88
.7874	.8661	.7874	1.97	5.55	3.39	2.36	6.57	4.41	3.35	8.54	6.38	5.35
.8662	.9843	.9843	2.20	6.02	3.74	2.56	7.24	4.96	3.86	9.37	7.09	5.91

* D1<20mm to DIN 6537K
D1>20mm to factory standard
** To factory standard

Dimensions for Kennametal Solid Carbide Drills (K_Series) • Inch

in Ø				SHORT** ~3 x D			REGULAR** ~5 x D			LONG** ~8 x D		
D1 min	D1 max	D	LS min	L	L3	L4 max	L	L3	L4 max	L	L3	L4 max
.1250	.1563	.1875	1.44	2.48	.91	.69	2.60	1.06	.84	3.07	1.54	1.28
.1563	.1875	.1875	1.44	2.68	1.14	.89	2.91	1.38	1.12	3.31	1.77	1.52
.1876	.2500	.2500	1.44	2.87	1.34	1.02	3.23	1.69	1.37	3.74	2.20	1.89
.2500	.3125	.3125	1.52	3.11	1.50	1.11	3.58	1.97	1.58	4.33	2.72	2.33
.3126	.3750	.3750	1.59	3.50	1.81	1.37	4.06	2.36	1.91	4.92	3.23	2.78
.3750	.4375	.4375	1.67	3.78	2.01	1.50	4.37	2.60	2.08	5.24	3.46	2.96
.4376	.5000	.5000	1.79	4.02	2.13	1.56	4.65	2.76	2.18	5.63	3.74	3.17
.5000	.5625	.5625	1.79	4.21	2.32	1.69	4.88	2.99	2.35	6.10	4.21	3.58
.5626	.6250	.6250	1.91	4.53	2.52	1.83	5.24	3.23	2.53	6.73	4.72	4.04
.6250	.6875	.6875	1.91	4.84	2.83	2.09	5.63	3.62	2.86	7.28	5.28	4.53
.6876	.7500	.7500	1.99	5.08	2.99	2.19	5.83	3.74	2.92	7.76	5.67	4.86
.7500	.8125	.8125	1.99	5.31	3.23	2.36	6.02	3.94	3.06	8.15	6.06	5.20
.8126	.8750	.8750	2.07	5.55	3.39	2.46	6.57	4.41	3.47	8.54	6.38	5.46
.8750	.9375	.9375	2.15	5.79	3.50	2.52	6.93	4.69	3.69	8.94	6.69	5.71
.9376	.9375	1.0000	2.22	6.02	3.70	2.66	7.24	4.92	3.87	9.37	7.05	6.01

** To factory standard

Tolerances of Drills and Holes

Solid carbide drills with tolerance of m7 (SE Drill, TF Drill, KU Drill) create holes with tolerances of H9. H8 can be achieved in very good conditions. The TX Drill should be used for holes in H8, in favorable conditions H7 can be achieved.

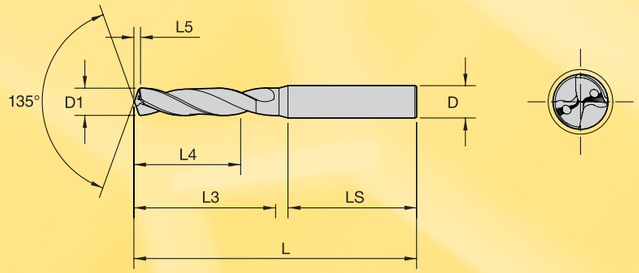
Solid carbide drills (BF Drill) with h7 create holes in **JS9–JS11**.
Other drilling tolerances require special solid carbide drill versions.

Shank Designs to DIN 6535



Form HE, 2° angle Design F

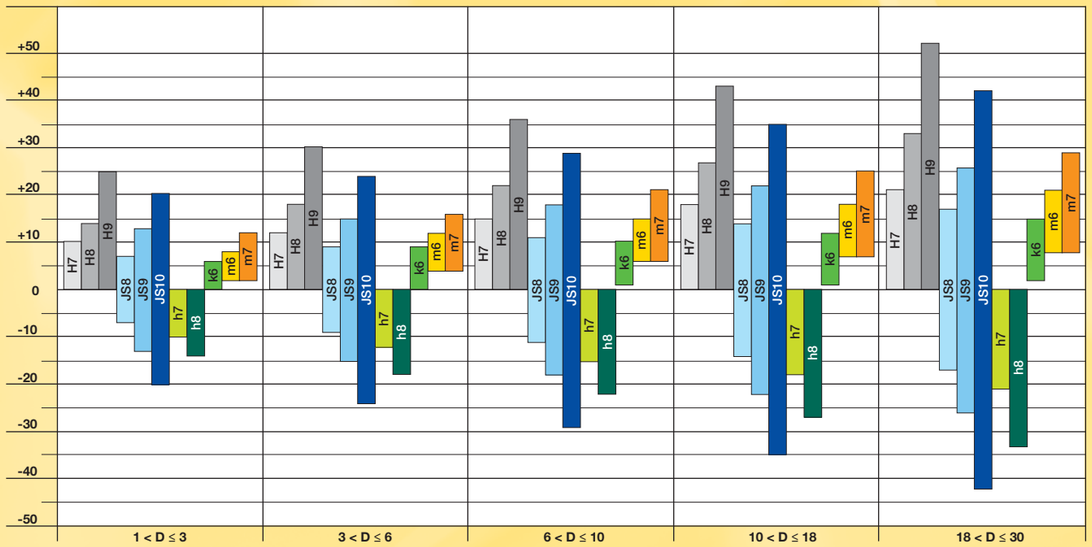
Form HA, straight round Design A



Holemaking Drilling Portfolio • Diameter Tolerances

drill type	drill tolerance	hole tolerance	hole tolerance (best*)	details
TX	k6	H8	H7	B410, B411, B412
TF	m6	H9	H8	B125
TF	m7	H9	H8	B104, B105, B106
KU	m7	H9	H8	B966, B976, B977, B978
SE	m7	H9	H8	B256
HP	m7	H9	H8	B210_HP, B211_HP, B212_HP; B221_HP, B222_HP, B224_HP, B225_HP, B226_HP; B269_HP; B284, B285
FB*	m7	H9	H8	B706_FB*, B707_FB*, B708_FB*, B709_FB*
YPC	m7	H9	H8	B254_YPC, B255_YPC, B256_YPC
YPL	m7	H9	H8	B291_YPL, B292_YPL, B293_YPL
SPF	m7	H9	H8	B531, B532, B533
BF	h7	JS9	JS8	B343
GO	h7	JS9	JS8	B041_CPG, B042_CPG, B043_CPG, B051_CPG, B052_CPG, B053_CPG
HPG	h7	JS9	JS8	B271_HPG, B272_HPG, B273_HPG, B274_HPG
HPS	h8	JS10	JS9	B271_HPS, B272_HPS, B273_HPS, B274_HPS

* Can be achieved in very good conditions.



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Solid Carbide Drills • Recommendation Chart

standard first choice = bold alternate choice = regular simple special = gray	**through coolant**	**flood coolant**	**MQL**	**dry**	**deep hole**	**flat bottom**	**drill and chamfer**	**universal**
P — Steel	**B224_HP** **B225_HP** B226_HP **B256**	**B221_HP** **B222_HP**	**B221_HP, B222_HP** **B224_HP, B225_HP** B226_HP **B256**	**B221_HP** **B222_HP**	**B269_HP** **B271_HPG** **B272_HPG** **B273_HPG** **B274_HPG**	B706_FBG **B707_FBG** B708_FBG B709_FBG	**B731_HP** **B732_HP**	**B966** **B976, B977, B978** **B041_CPG, B042_CPG** **B051_CPG, B052_CPG, B053_CPG**
M — Stainless Steel	**B210_HP/K210_HP** **B211_HP/K211_HP** B212_HP/K212_HP					B706_FBL B707_FBL B708_FBL B709_FBL		B966 B976, B977, B978 **B041_CPG, B042_CPG** **B051_CPG, B052_CPG, B053_CPG**
K — Cast Iron	**B254_YPC/K254_YPC** **B255_YPC/K255_YPC** **B256_YPC/K256_YPC**	B104/K104 **B105/K105** B106/K106	**B254_YPC/K254_YPC** **B255_YPC/K255_YPC** **B256_YPC/K256_YPC**	B104/K104 **B105/K105** B106/K106	**B269_HP** **B271_HPG** **B272_HPG** **B273_HPG** **B274_HPG**	B706_FBG **B707_FBG** B708_FBG B709_FBG	**B731_HP** **B732_HP**	**B966** **B976, B977, B978** **B041_CPG, B042_CPG** **B051_CPG, B052_CPG, B053_CPG**
N — Non-Ferrous	B410/K410 **B411/K411** B412/K412	B104/K104 **B105/K105** B106/K106			**B271_HPS** **B272_HPS** **B273_HPS** **B274_HPS**	B706_FBS **B707_FBS** B708_FBS B709_FBS		B966 B976, B977, B978 **B041_CPG, B042_CPG** **B051_CPG, B052_CPG, B053_CPG**
N — CFRP		**B531A/K531A** **B532A/K532A** B533A/K533A		**B531A/K531A** **B532A/K532A** B533A/K533A				
S — Heat-Resistant Alloys, Titanium Alloys	**B291_YPL, B292_YPL** **B284/K284, B285/K285** **B125/K125**					B706_FBL **B707_FBL** B708_FBL B709_FBL		B966 B976, B977, B978 B041_CPG, B042_CPG B051_CPG, B052_CPG, B053_CPG



GOdrill™ • Kennametal's First Microdrill

The high-performance solid carbide drill tailored for very small- to medium-diameter drilling applications.

Primary Application

The all new GOdrill addresses drilling operations in a diameter range of 1–12,7mm (.0394–.5") in a broad variety of materials and applications such as fuel systems or medical components. Due to its very unique design, the GOdrill expands the advantages of modular drills into the small diameter range: high-end grades, wear-indicator coating, and new, proprietary geometries enable full utilization of the drill's tool life capacity. The GOdrill qualifies as a very cost-effective, throwaway-type tool in the given diameter range.



Features and Benefits

GOdrill Design

- Marginless design for reduced friction and heat — thus longer tool life.
- Very versatile tool works in a wide range of materials.
- Cost effective, no regrind logistics.
- No setup.
- Throw away or recycle.
- Through-coolant option down to diameter 1,5mm (.0591").

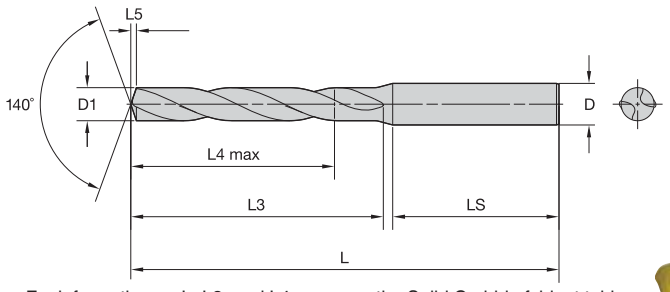
CPG Point

- Optimized gashing design for microdrilling ensures free flow of chips in the center of the drill.
- Excellent centering capabilities.
- Reduced axial forces.
- Good hole quality, roundness, and cylindricity for all materials.

KC7325™ Grade

The grade contains a double coating:

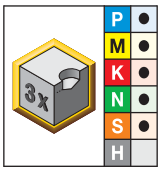
- The multilayer, TiAlN-based coating with high hot hardness enables the drill to run at high cutting speeds as well as in MQL applications.
- A TiN top layer serves as wear indicator for easier monitoring on small drills, which can be difficult to see.
- Improved visibility of wear helps to utilize the tool's full tool life capacity.

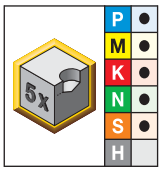


For information on L, L3, and L4 max, see the Solid Carbide foldout table.



B041A/B042A • ~3 x D/~5 x D



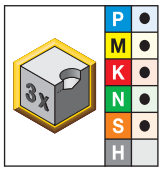


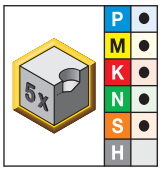
● first choice
○ alternate choice

short • KC7325	long • KC7325	D1 diameter mm	in	fraction	wire size	L5	LS	D
B041A01000CPG	B042A01000CPG	1,000	.0394	–	–	0,1	28	4
B041A01016CPG	B042A01016CPG	1,016	.0400	–	–	0,1	28	4
B041A01041CPG	B042A01041CPG	1,041	.0410	–	–	0,2	28	4
B041A01067CPG	B042A01067CPG	1,067	.0420	–	–	0,2	28	4
B041A01092CPG	B042A01092CPG	1,092	.0430	–	–	0,2	28	4
B041A01100CPG	B042A01100CPG	1,100	.0433	–	–	0,2	28	4
B041A01181CPG	B042A01181CPG	1,181	.0465	–	–	0,2	28	4
B041A01191CPG	B042A01191CPG	1,191	.0469	–	–	0,2	28	4
B041A01200CPG	B042A01200CPG	1,200	.0472	–	–	0,2	28	4
B041A01300CPG	B042A01300CPG	1,300	.0512	–	–	0,2	28	4
B041A01321CPG	B042A01321CPG	1,321	.0520	–	–	0,2	28	4
B041A01397CPG	B042A01397CPG	1,397	.0550	–	–	0,2	28	4
B041A01400CPG	B042A01400CPG	1,400	.0551	–	–	0,2	28	4
B041A01500CPG	B042A01500CPG	1,500	.0591	–	–	0,2	28	4
B041A01600CPG	B042A01600CPG	1,600	.0630	–	–	0,2	28	4
B041A01700CPG	B042A01700CPG	1,700	.0669	–	–	0,3	28	4
B041A01800CPG	B042A01800CPG	1,800	.0709	–	–	0,3	28	4
B041A01900CPG	B042A01900CPG	1,900	.0748	–	–	0,3	28	4
B041A01984CPG	B042A01984CPG	1,984	.0781	–	–	0,3	28	4
B041A02000CPG	B042A02000CPG	2,000	.0787	–	–	0,3	28	4
B041A02100CPG	B042A02100CPG	2,100	.0827	–	–	0,3	28	4
B041A02200CPG	B042A02200CPG	2,200	.0866	–	–	0,3	28	4
B041A02300CPG	B042A02300CPG	2,300	.0906	–	–	0,4	28	4
B041A02383CPG	B042A02383CPG	2,383	.0938	3/32	–	0,4	28	4
B041A02400CPG	B042A02400CPG	2,400	.0945	–	–	0,4	28	4
B041A02439CPG	B042A02439CPG	2,439	.0960	–	41	0,4	28	4
B041A02489CPG	B042A02489CPG	2,489	.0980	–	40	0,4	28	4
B041A02500CPG	B042A02500CPG	2,500	.0984	–	–	0,4	28	4
B041A02578CPG	B042A02578CPG	2,578	.1015	–	38	0,4	28	4
B041A02600CPG	B042A02600CPG	2,600	.1024	–	–	0,4	28	4
B041A02642CPG	B042A02642CPG	2,642	.1040	–	37	0,4	28	4
B041A02700CPG	B042A02700CPG	2,700	.1063	–	–	0,4	28	4
B041A02705CPG	B042A02705CPG	2,705	.1065	–	36	0,4	28	4
B041A02779CPG	B042A02779CPG	2,779	.1094	7/64	–	0,4	28	4
B041A02800CPG	B042A02800CPG	2,800	.1102	–	–	0,5	28	4
B041A02820CPG	B042A02820CPG	2,820	.1110	–	34	0,5	28	4
B041A02870CPG	B042A02870CPG	2,870	.1130	–	33	0,5	28	4
B041A02900CPG	B042A02900CPG	2,900	.1142	–	–	0,5	28	4
B041A02947CPG	B042A02947CPG	2,947	.1160	–	32	0,5	28	4
B041A03000CPG	B042A03000CPG	3,000	.1181	–	–	0,5	36	6

(continued)

(B041A/B042A • ~3 x D/~5 x D continued)

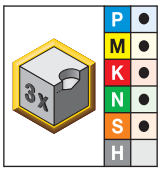


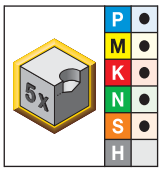


short • KC7325	long • KC7325	D1 diameter mm	in	fraction	wire size	L5	LS	D
B041A03048CPG	B042A03048CPG	3,048	.1200	–	31	0,5	36	6
B041A03100CPG	B042A03100CPG	3,100	.1220	–	–	0,5	36	6
B041A03175CPG	B042A03175CPG	3,175	.1250	1/8	–	0,5	36	6
B041A03200CPG	B042A03200CPG	3,200	.1260	–	–	0,5	36	6
B041A03264CPG	B042A03264CPG	3,264	.1285	–	30	0,5	36	6
B041A03300CPG	B042A03300CPG	3,300	.1299	–	–	0,5	36	6
B041A03400CPG	B042A03400CPG	3,400	.1339	–	–	0,6	36	6
B041A03455CPG	B042A03455CPG	3,455	.1360	–	29	0,6	36	6
B041A03500CPG	B042A03500CPG	3,500	.1378	–	–	0,6	36	6
B041A03571CPG	B042A03571CPG	3,571	.1406	9/64	–	0,6	36	6
B041A03600CPG	B042A03600CPG	3,600	.1417	–	–	0,6	36	6
B041A03658CPG	B042A03658CPG	3,658	.1440	–	27	0,6	36	6
B041A03700CPG	B042A03700CPG	3,700	.1457	–	–	0,6	36	6
B041A03734CPG	B042A03734CPG	3,734	.1470	–	26	0,6	36	6
B041A03800CPG	B042A03800CPG	3,800	.1496	–	–	0,6	36	6
B041A03900CPG	B042A03900CPG	3,900	.1535	–	–	0,6	36	6
B041A03970CPG	B042A03970CPG	3,970	.1563	5/32	–	0,7	36	6
B041A04000CPG	B042A04000CPG	4,000	.1575	–	–	0,7	36	6
B041A04039CPG	B042A04039CPG	4,039	.1590	–	21	0,7	36	6
B041A04090CPG	B042A04090CPG	4,090	.1610	–	20	0,7	36	6
B041A04100CPG	B042A04100CPG	4,100	.1614	–	–	0,7	36	6
B041A04200CPG	B042A04200CPG	4,200	.1654	–	–	0,7	36	6
B041A04217CPG	B042A04217CPG	4,217	.1660	–	19	0,7	36	6
B041A04300CPG	B042A04300CPG	4,300	.1693	–	–	0,7	36	6
B041A04366CPG	B042A04366CPG	4,366	.1719	11/64	–	0,7	36	6
B041A04400CPG	B042A04400CPG	4,400	.1732	–	–	0,7	36	6
B041A04500CPG	B042A04500CPG	4,500	.1772	–	–	0,7	36	6
B041A04600CPG	B042A04600CPG	4,600	.1811	–	–	0,8	36	6
B041A04623CPG	B042A04623CPG	4,623	.1820	–	14	0,8	36	6
B041A04700CPG	B042A04700CPG	4,700	.1850	–	13	0,8	36	6
B041A04763CPG	B042A04763CPG	4,763	.1875	3/16	–	0,8	36	6
B041A04800CPG	B042A04800CPG	4,800	.1890	–	12	0,8	36	6
B041A04852CPG	B042A04852CPG	4,852	.1910	–	11	0,8	36	6
B041A04900CPG	B042A04900CPG	4,900	.1929	–	–	0,8	36	6
B041A05000CPG	B042A05000CPG	5,000	.1969	–	–	0,8	36	6
B041A05100CPG	B042A05100CPG	5,100	.2008	–	–	0,8	36	6
B041A05106CPG	B042A05106CPG	5,106	.2010	–	7	0,8	36	6
B041A05159CPG	B042A05159CPG	5,159	.2031	13/64	–	0,9	36	6
B041A05200CPG	B042A05200CPG	5,200	.2047	–	–	0,9	36	6
B041A05300CPG	B042A05300CPG	5,300	.2087	–	–	0,9	36	6
B041A05400CPG	B042A05400CPG	5,400	.2126	–	–	0,9	36	6
B041A05410CPG	B042A05410CPG	5,410	.2130	–	3	0,9	36	6
B041A05500CPG	B042A05500CPG	5,500	.2165	–	–	0,9	36	6
B041A05558CPG	B042A05558CPG	5,558	.2188	7/32	–	0,9	36	6
B041A05600CPG	B042A05600CPG	5,600	.2205	–	–	0,9	36	6
B041A05616CPG	B042A05616CPG	5,616	.2211	–	2	0,9	36	6
B041A05700CPG	B042A05700CPG	5,700	.2244	–	–	1,0	36	6
B041A05800CPG	B042A05800CPG	5,800	.2283	–	–	1,0	36	6
B041A05900CPG	B042A05900CPG	5,900	.2323	–	–	1,0	36	6
B041A05954CPG	B042A05954CPG	5,954	.2344	15/64	–	1,0	36	6
B041A06000CPG	B042A06000CPG	6,000	.2362	–	–	1,0	36	6
B041A06100CPG	B042A06100CPG	6,100	.2402	–	–	1,0	36	8

(continued)

(B041A/B042A • ~3 x D/~5 x D continued)

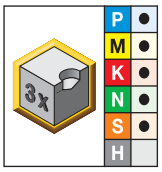


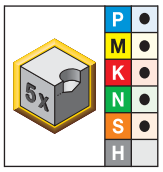


short • KC7325	long • KC7325	D1 diameter mm	in	fraction	wire size	L5	LS	D
B041A06200CPG	B042A06200CPG	6,200	.2441	–	–	1,0	36	8
B041A06300CPG	B042A06300CPG	6,300	.2480	–	–	1,1	36	8
B041A06350CPG	B042A06350CPG	6,350	.2500	1/4	E	1,1	36	8
B041A06400CPG	B042A06400CPG	6,400	.2520	–	–	1,1	36	8
B041A06500CPG	B042A06500CPG	6,500	.2559	–	–	1,1	36	8
B041A06528CPG	B042A06528CPG	6,528	.2570	–	F	1,1	36	8
B041A06600CPG	B042A06600CPG	6,600	.2598	–	–	1,1	36	8
B041A06630CPG	B042A06630CPG	6,630	.2610	–	G	1,1	36	8
B041A06700CPG	B042A06700CPG	6,700	.2638	–	–	1,1	36	8
B041A06746CPG	B042A06746CPG	6,746	.2656	17/64	–	1,1	36	8
B041A06800CPG	B042A06800CPG	6,800	.2677	–	–	1,1	36	8
B041A06900CPG	B042A06900CPG	6,900	.2717	–	–	1,2	36	8
B041A07000CPG	B042A07000CPG	7,000	.2756	–	–	1,2	36	8
B041A07100CPG	B042A07100CPG	7,100	.2795	–	–	1,2	36	8
B041A07145CPG	B042A07145CPG	7,145	.2813	9/32	–	1,2	36	8
B041A07200CPG	B042A07200CPG	7,200	.2835	–	–	1,2	36	8
B041A07300CPG	B042A07300CPG	7,300	.2874	–	–	1,2	36	8
B041A07400CPG	B042A07400CPG	7,400	.2913	–	–	1,3	36	8
B041A07500CPG	B042A07500CPG	7,500	.2953	–	–	1,3	36	8
B041A07541CPG	B042A07541CPG	7,541	.2969	19/64	–	1,3	36	8
B041A07600CPG	B042A07600CPG	7,600	.2992	–	–	1,3	36	8
B041A07700CPG	B042A07700CPG	7,700	.3031	–	–	1,3	36	8
B041A07800CPG	B042A07800CPG	7,800	.3071	–	–	1,3	36	8
B041A07900CPG	B042A07900CPG	7,900	.3110	–	–	1,3	36	8
B041A07938CPG	B042A07938CPG	7,938	.3125	5/16	–	1,3	36	8
B041A08000CPG	B042A08000CPG	8,000	.3150	–	–	1,4	36	8
B041A08100CPG	B042A08100CPG	8,100	.3189	–	–	1,4	40	10
B041A08200CPG	B042A08200CPG	8,200	.3228	–	–	1,4	40	10
B041A08300CPG	B042A08300CPG	8,300	.3268	–	–	1,4	40	10
B041A08334CPG	B042A08334CPG	8,334	.3281	21/64	–	1,4	40	10
B041A08400CPG	B042A08400CPG	8,400	.3307	–	–	1,4	40	10
B041A08433CPG	B042A08433CPG	8,433	.3320	–	Q	1,4	40	10
B041A08500CPG	B042A08500CPG	8,500	.3346	–	–	1,4	40	10
B041A08600CPG	B042A08600CPG	8,600	.3386	–	–	1,5	40	10
B041A08700CPG	B042A08700CPG	8,700	.3425	–	–	1,5	40	10
B041A08733CPG	B042A08733CPG	8,733	.3438	11/32	–	1,5	40	10
B041A08800CPG	B042A08800CPG	8,800	.3465	–	–	1,5	40	10
B041A08900CPG	B042A08900CPG	8,900	.3504	–	–	1,5	40	10
B041A09000CPG	B042A09000CPG	9,000	.3543	–	–	1,5	40	10
B041A09100CPG	B042A09100CPG	9,100	.3583	–	–	1,5	40	10
B041A09129CPG	B042A09129CPG	9,129	.3594	23/64	–	1,6	40	10
B041A09200CPG	B042A09200CPG	9,200	.3622	–	–	1,6	40	10
B041A09300CPG	B042A09300CPG	9,300	.3661	–	–	1,6	40	10
B041A09347CPG	B042A09347CPG	9,347	.3680	–	U	1,6	40	10
B041A09400CPG	B042A09400CPG	9,400	.3701	–	–	1,6	40	10
B041A09500CPG	B042A09500CPG	9,500	.3740	–	–	1,6	40	10
B041A09525CPG	B042A09525CPG	9,525	.3750	3/8	–	1,6	40	10
B041A09600CPG	B042A09600CPG	9,600	.3780	–	–	1,6	40	10
B041A09700CPG	B042A09700CPG	9,700	.3819	–	–	1,7	40	10
B041A09800CPG	B042A09800CPG	9,800	.3858	–	–	1,7	40	10
B041A09900CPG	B042A09900CPG	9,900	.3898	–	–	1,7	40	10
B041A09921CPG	B042A09921CPG	9,921	.3906	25/64	–	1,7	40	10

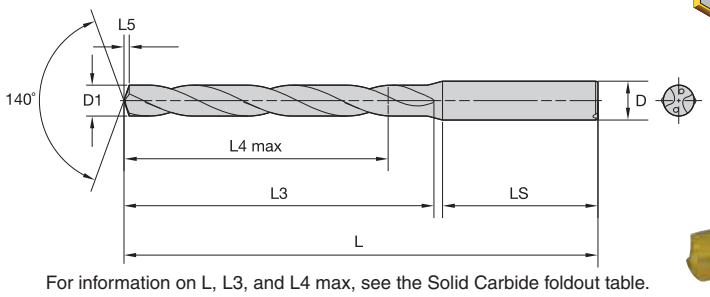
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(B041A/B042A • ~3 x D/~5 x D continued)





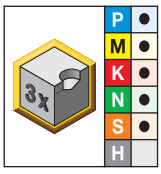
short • KC7325	long • KC7325	D1 diameter mm	in	fraction	wire size	L5	LS	D
B041A10000CPG	B042A10000CPG	10,000	.3937	–	–	1,7	40	10
B041A10100CPG	B042A10100CPG	10,100	.3976	–	–	1,7	45	12
B041A10200CPG	B042A10200CPG	10,200	.4016	–	–	1,7	45	12
B041A10300CPG	B042A10300CPG	10,300	.4055	–	–	1,8	45	12
B041A10320CPG	B042A10320CPG	10,320	.4063	13/32	–	1,8	45	12
B041A10400CPG	B042A10400CPG	10,400	.4094	–	–	1,8	45	12
B041A10500CPG	B042A10500CPG	10,500	.4134	–	–	1,8	45	12
B041A10600CPG	B042A10600CPG	10,600	.4173	–	–	1,8	45	12
B041A10700CPG	B042A10700CPG	10,700	.4213	–	–	1,8	45	12
B041A10716CPG	B042A10716CPG	10,716	.4219	27/64	–	1,8	45	12
B041A10800CPG	B042A10800CPG	10,800	.4252	–	–	1,8	45	12
B041A10900CPG	B042A10900CPG	10,900	.4291	–	–	1,9	45	12
B041A11000CPG	B042A11000CPG	11,000	.4331	–	–	1,9	45	12
B041A11100CPG	B042A11100CPG	11,100	.4370	–	–	1,9	45	12
B041A11113CPG	B042A11113CPG	11,113	.4375	7/16	–	1,9	45	12
B041A11200CPG	B042A11200CPG	11,200	.4409	–	–	1,9	45	12
B041A11300CPG	B042A11300CPG	11,300	.4449	–	–	1,9	45	12
B041A11400CPG	B042A11400CPG	11,400	.4488	–	–	2,0	45	12
B041A11500CPG	B042A11500CPG	11,500	.4528	–	–	2,0	45	12
B041A11509CPG	B042A11509CPG	11,509	.4531	29/64	–	2,0	45	12
B041A11600CPG	B042A11600CPG	11,600	.4567	–	–	2,0	45	12
B041A11700CPG	B042A11700CPG	11,700	.4606	–	–	2,0	45	12
B041A11800CPG	B042A11800CPG	11,800	.4646	–	–	2,0	45	12
B041A11900CPG	B042A11900CPG	11,900	.4685	–	–	2,0	45	12
B041A11908CPG	B042A11908CPG	11,908	.4688	15/32	–	2,0	45	12
B041A12000CPG	B042A12000CPG	12,000	.4724	–	–	2,1	45	12
B041A12100CPG	B042A12100CPG	12,100	.4764	–	–	2,1	45	14
B041A12200CPG	B042A12200CPG	12,200	.4803	–	–	2,1	45	14
B041A12300CPG	B042A12300CPG	12,300	.4843	–	–	2,1	45	14
B041A12304CPG	B042A12304CPG	12,304	.4844	31/64	–	2,1	45	14
B041A12400CPG	B042A12400CPG	12,400	.4882	–	–	2,1	45	14
B041A12500CPG	B042A12500CPG	12,500	.4921	–	–	2,1	45	14
B041A12600CPG	B042A12600CPG	12,600	.4961	–	–	2,2	45	14
B041A12700CPG	B042A12700CPG	12,700	.5000	1/2	–	2,2	45	14

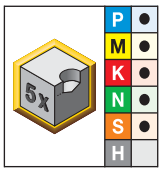


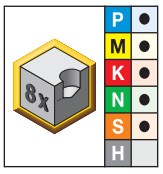
For information on L, L3, and L4 max, see the Solid Carbide foldout table.



B051A/B052A/B053A • ~3 x D/~5 x D/~8 x D





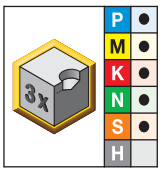


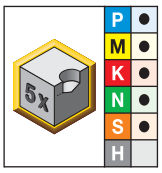
● first choice
○ alternate choice

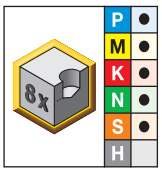
short • KC7325	long • KC7325	extra long • KC7325	D1 diameter mm	in	fraction	wire size	L5	LS	D
B051A01500CPG	B052A01500CPG	B053A01500CPG	1,500	.0591	–	–	0,2	28	4
B051A01600CPG	B052A01600CPG	B053A01600CPG	1,600	.0630	–	–	0,2	28	4
B051A01700CPG	B052A01700CPG	B053A01700CPG	1,700	.0669	–	–	0,3	28	4
B051A01800CPG	B052A01800CPG	B053A01800CPG	1,800	.0709	–	–	0,3	28	4
B051A01900CPG	B052A01900CPG	B053A01900CPG	1,900	.0748	–	–	0,3	28	4
B051A01984CPG	B052A01984CPG	B053A01984CPG	1,984	.0781	–	–	0,3	28	4
B051A02000CPG	B052A02000CPG	B053A02000CPG	2,000	.0787	–	–	0,3	28	4
B051A02100CPG	B052A02100CPG	B053A02100CPG	2,100	.0827	–	–	0,3	28	4
B051A02200CPG	B052A02200CPG	B053A02200CPG	2,200	.0866	–	–	0,3	28	4
B051A02300CPG	B052A02300CPG	B053A02300CPG	2,300	.0906	–	–	0,4	28	4
B051A02383CPG	B052A02383CPG	B053A02383CPG	2,383	.0938	3/32	–	0,4	28	4
B051A02400CPG	B052A02400CPG	B053A02400CPG	2,400	.0945	–	–	0,4	28	4
B051A02439CPG	B052A02439CPG	B053A02439CPG	2,439	.0960	–	41	0,4	28	4
B051A02489CPG	B052A02489CPG	B053A02489CPG	2,489	.0980	–	40	0,4	28	4
B051A02500CPG	B052A02500CPG	B053A02500CPG	2,500	.0984	–	–	0,4	28	4
B051A02578CPG	B052A02578CPG	B053A02578CPG	2,578	.1015	–	38	0,4	28	4
B051A02600CPG	B052A02600CPG	B053A02600CPG	2,600	.1024	–	–	0,4	28	4
B051A02642CPG	B052A02642CPG	B053A02642CPG	2,642	.1040	–	37	0,4	28	4
B051A02700CPG	B052A02700CPG	B053A02700CPG	2,700	.1063	–	–	0,4	28	4
B051A02705CPG	B052A02705CPG	B053A02705CPG	2,705	.1065	–	36	0,4	28	4
B051A02779CPG	B052A02779CPG	B053A02779CPG	2,779	.1094	7/64	–	0,4	28	4
B051A02800CPG	B052A02800CPG	B053A02800CPG	2,800	.1102	–	–	0,5	28	4
B051A02820CPG	B052A02820CPG	B053A02820CPG	2,820	.1110	–	34	0,5	28	4
B051A02870CPG	B052A02870CPG	B053A02870CPG	2,870	.1130	–	33	0,5	28	4
B051A02900CPG	B052A02900CPG	B053A02900CPG	2,900	.1142	–	–	0,5	28	4
B051A02947CPG	B052A02947CPG	B053A02947CPG	2,947	.1160	–	32	0,5	28	4
B051A03000CPG	B052A03000CPG	B053A03000CPG	3,000	.1181	–	–	0,5	36	6
B051A03048CPG	B052A03048CPG	B053A03048CPG	3,048	.1200	–	31	0,5	36	6
B051A03100CPG	B052A03100CPG	B053A03100CPG	3,100	.1220	–	–	0,5	36	6
B051A03175CPG	B052A03175CPG	B053A03175CPG	3,175	.1250	1/8	–	0,5	36	6
B051A03200CPG	B052A03200CPG	B053A03200CPG	3,200	.1260	–	–	0,5	36	6
B051A03264CPG	B052A03264CPG	B053A03264CPG	3,264	.1285	–	30	0,5	36	6
B051A03300CPG	B052A03300CPG	B053A03300CPG	3,300	.1299	–	–	0,5	36	6
B051A03400CPG	B052A03400CPG	B053A03400CPG	3,400	.1339	–	–	0,6	36	6
B051A03455CPG	B052A03455CPG	B053A03455CPG	3,455	.1360	–	29	0,6	36	6
B051A03500CPG	B052A03500CPG	B053A03500CPG	3,500	.1378	–	–	0,6	36	6
B051A03571CPG	B052A03571CPG	B053A03571CPG	3,571	.1406	9/64	–	0,6	36	6
B051A03600CPG	B052A03600CPG	B053A03600CPG	3,600	.1417	–	–	0,6	36	6
B051A03658CPG	B052A03658CPG	B053A03658CPG	3,658	.1440	–	27	0,6	36	6
B051A03700CPG	B052A03700CPG	B053A03700CPG	3,700	.1457	–	–	0,6	36	6

(continued)

(B051A/B052A/B053A • ~3 x D/~5 x D/~8 x D continued)



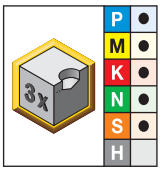


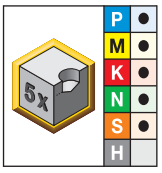


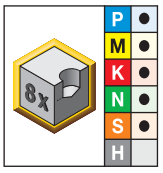
short • KC7325	long • KC7325	extra long • KC7325	D1 diameter mm	in	fraction	wire size	L5	LS	D
B051A03734CPG	B052A03734CPG	B053A03734CPG	3,734	.1470	–	26	0,6	36	6
B051A03800CPG	B052A03800CPG	B053A03800CPG	3,800	.1496	–	–	0,6	36	6
B051A03900CPG	B052A03900CPG	B053A03900CPG	3,900	.1535	–	–	0,6	36	6
B051A03970CPG	B052A03970CPG	B053A03970CPG	3,970	.1563	5/32	–	0,7	36	6
B051A04000CPG	B052A04000CPG	B053A04000CPG	4,000	.1575	–	–	0,7	36	6
B051A04039CPG	B052A04039CPG	B053A04039CPG	4,039	.1590	–	21	0,7	36	6
B051A04090CPG	B052A04090CPG	B053A04090CPG	4,090	.1610	–	20	0,7	36	6
B051A04100CPG	B052A04100CPG	B053A04100CPG	4,100	.1614	–	–	0,7	36	6
B051A04200CPG	B052A04200CPG	B053A04200CPG	4,200	.1654	–	–	0,7	36	6
B051A04217CPG	B052A04217CPG	B053A04217CPG	4,217	.1660	–	19	0,7	36	6
B051A04300CPG	B052A04300CPG	B053A04300CPG	4,300	.1693	–	–	0,7	36	6
B051A04366CPG	B052A04366CPG	B053A04366CPG	4,366	.1719	11/64	–	0,7	36	6
B051A04400CPG	B052A04400CPG	B053A04400CPG	4,400	.1732	–	–	0,7	36	6
B051A04500CPG	B052A04500CPG	B053A04500CPG	4,500	.1772	–	–	0,7	36	6
B051A04600CPG	B052A04600CPG	B053A04600CPG	4,600	.1811	–	–	0,8	36	6
B051A04623CPG	B052A04623CPG	B053A04623CPG	4,623	.1820	–	14	0,8	36	6
B051A04700CPG	B052A04700CPG	B053A04700CPG	4,700	.1850	–	13	0,8	36	6
B051A04763CPG	B052A04763CPG	B053A04763CPG	4,763	.1875	3/16	–	0,8	36	6
B051A04800CPG	B052A04800CPG	B053A04800CPG	4,800	.1890	–	12	0,8	36	6
B051A04852CPG	B052A04852CPG	B053A04852CPG	4,852	.1910	–	11	0,8	36	6
B051A04900CPG	B052A04900CPG	B053A04900CPG	4,900	.1929	–	–	0,8	36	6
B051A05000CPG	B052A05000CPG	B053A05000CPG	5,000	.1969	–	–	0,8	36	6
B051A05100CPG	B052A05100CPG	B053A05100CPG	5,100	.2008	–	–	0,8	36	6
B051A05106CPG	B052A05106CPG	B053A05106CPG	5,106	.2010	–	7	0,8	36	6
B051A05159CPG	B052A05159CPG	B053A05159CPG	5,159	.2031	13/64	–	0,9	36	6
B051A05200CPG	B052A05200CPG	B053A05200CPG	5,200	.2047	–	–	0,9	36	6
B051A05300CPG	B052A05300CPG	B053A05300CPG	5,300	.2087	–	–	0,9	36	6
B051A05400CPG	B052A05400CPG	B053A05400CPG	5,400	.2126	–	–	0,9	36	6
B051A05410CPG	B052A05410CPG	B053A05410CPG	5,410	.2130	–	3	0,9	36	6
B051A05500CPG	B052A05500CPG	B053A05500CPG	5,500	.2165	–	–	0,9	36	6
B051A05558CPG	B052A05558CPG	B053A05558CPG	5,558	.2188	7/32	–	0,9	36	6
B051A05600CPG	B052A05600CPG	B053A05600CPG	5,600	.2205	–	–	0,9	36	6
B051A05616CPG	B052A05616CPG	B053A05616CPG	5,616	.2211	–	2	0,9	36	6
B051A05700CPG	B052A05700CPG	B053A05700CPG	5,700	.2244	–	–	1,0	36	6
B051A05800CPG	B052A05800CPG	B053A05800CPG	5,800	.2283	–	–	1,0	36	6
B051A05900CPG	B052A05900CPG	B053A05900CPG	5,900	.2323	–	–	1,0	36	6
B051A05954CPG	B052A05954CPG	B053A05954CPG	5,954	.2344	15/64	–	1,0	36	6
B051A06000CPG	B052A06000CPG	B053A06000CPG	6,000	.2362	–	–	1,0	36	6
B051A06100CPG	B052A06100CPG	B053A06100CPG	6,100	.2402	–	–	1,0	36	8
B051A06200CPG	B052A06200CPG	B053A06200CPG	6,200	.2441	–	–	1,0	36	8
B051A06300CPG	B052A06300CPG	B053A06300CPG	6,300	.2480	–	–	1,1	36	8
B051A06350CPG	B052A06350CPG	B053A06350CPG	6,350	.2500	1/4	E	1,1	36	8
B051A06400CPG	B052A06400CPG	B053A06400CPG	6,400	.2520	–	–	1,1	36	8
B051A06500CPG	B052A06500CPG	B053A06500CPG	6,500	.2559	–	–	1,1	36	8
B051A06528CPG	B052A06528CPG	B053A06528CPG	6,528	.2570	–	F	1,1	36	8
B051A06600CPG	B052A06600CPG	B053A06600CPG	6,600	.2598	–	–	1,1	36	8
B051A06630CPG	B052A06630CPG	B053A06630CPG	6,630	.2610	–	G	1,1	36	8
B051A06700CPG	B052A06700CPG	B053A06700CPG	6,700	.2638	–	–	1,1	36	8
B051A06746CPG	B052A06746CPG	B053A06746CPG	6,746	.2656	17/64	–	1,1	36	8
B051A06800CPG	B052A06800CPG	B053A06800CPG	6,800	.2677	–	–	1,1	36	8
B051A06900CPG	B052A06900CPG	B053A06900CPG	6,900	.2717	–	–	1,2	36	8

(continued)

(B051A/B052A/B053A • ~3 x D/~5 x D/~8 x D continued)



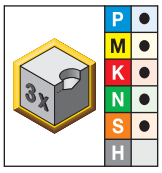


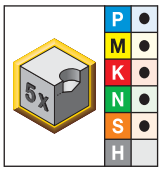


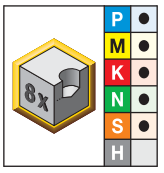
short • KC7325	long • KC7325	extra long • KC7325	D1 diameter mm	in	fraction	wire size	L5	LS	D
B051A07000CPG	B052A07000CPG	B053A07000CPG	7,000	.2756	–	–	1,2	36	8
B051A07100CPG	B052A07100CPG	B053A07100CPG	7,100	.2795	–	–	1,2	36	8
B051A07145CPG	B052A07145CPG	B053A07145CPG	7,145	.2813	9/32	–	1,2	36	8
B051A07200CPG	B052A07200CPG	B053A07200CPG	7,200	.2835	–	–	1,2	36	8
B051A07300CPG	B052A07300CPG	B053A07300CPG	7,300	.2874	–	–	1,2	36	8
B051A07400CPG	B052A07400CPG	B053A07400CPG	7,400	.2913	–	–	1,3	36	8
B051A07500CPG	B052A07500CPG	B053A07500CPG	7,500	.2953	–	–	1,3	36	8
B051A07541CPG	B052A07541CPG	B053A07541CPG	7,541	.2969	19/64	–	1,3	36	8
B051A07600CPG	B052A07600CPG	B053A07600CPG	7,600	.2992	–	–	1,3	36	8
B051A07700CPG	B052A07700CPG	B053A07700CPG	7,700	.3031	–	–	1,3	36	8
B051A07800CPG	B052A07800CPG	B053A07800CPG	7,800	.3071	–	–	1,3	36	8
B051A07900CPG	B052A07900CPG	B053A07900CPG	7,900	.3110	–	–	1,3	36	8
B051A07938CPG	B052A07938CPG	B053A07938CPG	7,938	.3125	5/16	–	1,3	36	8
B051A08000CPG	B052A08000CPG	B053A08000CPG	8,000	.3150	–	–	1,4	36	8
B051A08100CPG	B052A08100CPG	B053A08100CPG	8,100	.3189	–	–	1,4	40	10
B051A08200CPG	B052A08200CPG	B053A08200CPG	8,200	.3228	–	–	1,4	40	10
B051A08300CPG	B052A08300CPG	B053A08300CPG	8,300	.3268	–	–	1,4	40	10
B051A08334CPG	B052A08334CPG	B053A08334CPG	8,334	.3281	21/64	–	1,4	40	10
B051A08400CPG	B052A08400CPG	B053A08400CPG	8,400	.3307	–	–	1,4	40	10
B051A08433CPG	B052A08433CPG	B053A08433CPG	8,433	.3320	–	Q	1,4	40	10
B051A08500CPG	B052A08500CPG	B053A08500CPG	8,500	.3346	–	–	1,4	40	10
B051A08600CPG	B052A08600CPG	B053A08600CPG	8,600	.3386	–	–	1,5	40	10
B051A08700CPG	B052A08700CPG	B053A08700CPG	8,700	.3425	–	–	1,5	40	10
B051A08733CPG	B052A08733CPG	B053A08733CPG	8,733	.3438	11/32	–	1,5	40	10
B051A08800CPG	B052A08800CPG	B053A08800CPG	8,800	.3465	–	–	1,5	40	10
B051A08900CPG	B052A08900CPG	B053A08900CPG	8,900	.3504	–	–	1,5	40	10
B051A09000CPG	B052A09000CPG	B053A09000CPG	9,000	.3543	–	–	1,5	40	10
B051A09100CPG	B052A09100CPG	B053A09100CPG	9,100	.3583	–	–	1,5	40	10
B051A09129CPG	B052A09129CPG	B053A09129CPG	9,129	.3594	23/64	–	1,6	40	10
B051A09200CPG	B052A09200CPG	B053A09200CPG	9,200	.3622	–	–	1,6	40	10
B051A09300CPG	B052A09300CPG	B053A09300CPG	9,300	.3661	–	–	1,6	40	10
B051A09347CPG	B052A09347CPG	B053A09347CPG	9,347	.3680	–	U	1,6	40	10
B051A09400CPG	B052A09400CPG	B053A09400CPG	9,400	.3701	–	–	1,6	40	10
B051A09500CPG	B052A09500CPG	B053A09500CPG	9,500	.3740	–	–	1,6	40	10
B051A09525CPG	B052A09525CPG	B053A09525CPG	9,525	.3750	3/8	–	1,6	40	10
B051A09600CPG	B052A09600CPG	B053A09600CPG	9,600	.3780	–	–	1,6	40	10
B051A09700CPG	B052A09700CPG	B053A09700CPG	9,700	.3819	–	–	1,7	40	10
B051A09800CPG	B052A09800CPG	B053A09800CPG	9,800	.3858	–	–	1,7	40	10
B051A09900CPG	B052A09900CPG	B053A09900CPG	9,900	.3898	–	–	1,7	40	10
B051A09921CPG	B052A09921CPG	B053A09921CPG	9,921	.3906	25/64	–	1,7	40	10

(continued)

(B051A/B052A/B053A • ~3 x D/~5 x D/~8 x D continued)







short • KC7325	long • KC7325	extra long • KC7325	D1 diameter mm	in	fraction	wire size	L5	LS	D
B051A10000CPG	B052A10000CPG	B053A10000CPG	10,000	.3937	–	–	1,7	40	10
B051A10100CPG	B052A10100CPG	B053A10100CPG	10,100	.3976	–	–	1,7	45	12
B051A10200CPG	B052A10200CPG	B053A10200CPG	10,200	.4016	–	–	1,7	45	12
B051A10300CPG	B052A10300CPG	B053A10300CPG	10,300	.4055	–	–	1,8	45	12
B051A10320CPG	B052A10320CPG	B053A10320CPG	10,320	.4063	13/32	–	1,8	45	12
B051A10400CPG	B052A10400CPG	B053A10400CPG	10,400	.4094	–	–	1,8	45	12
B051A10500CPG	B052A10500CPG	B053A10500CPG	10,500	.4134	–	–	1,8	45	12
B051A10600CPG	B052A10600CPG	B053A10600CPG	10,600	.4173	–	–	1,8	45	12
B051A10700CPG	B052A10700CPG	B053A10700CPG	10,700	.4213	–	–	1,8	45	12
B051A10716CPG	B052A10716CPG	B053A10716CPG	10,716	.4219	27/64	–	1,8	45	12
B051A10800CPG	B052A10800CPG	B053A10800CPG	10,800	.4252	–	–	1,8	45	12
B051A10900CPG	B052A10900CPG	B053A10900CPG	10,900	.4291	–	–	1,9	45	12
B051A11000CPG	B052A11000CPG	B053A11000CPG	11,000	.4331	–	–	1,9	45	12
B051A11100CPG	B052A11100CPG	B053A11100CPG	11,100	.4370	–	–	1,9	45	12
B051A11113CPG	B052A11113CPG	B053A11113CPG	11,113	.4375	7/16	–	1,9	45	12
B051A11200CPG	B052A11200CPG	B053A11200CPG	11,200	.4409	–	–	1,9	45	12
B051A11300CPG	B052A11300CPG	B053A11300CPG	11,300	.4449	–	–	1,9	45	12
B051A11400CPG	B052A11400CPG	B053A11400CPG	11,400	.4488	–	–	2,0	45	12
B051A11500CPG	B052A11500CPG	B053A11500CPG	11,500	.4528	–	–	2,0	45	12
B051A11509CPG	B052A11509CPG	B053A11509CPG	11,509	.4531	29/64	–	2,0	45	12
B051A11600CPG	B052A11600CPG	B053A11600CPG	11,600	.4567	–	–	2,0	45	12
B051A11700CPG	B052A11700CPG	B053A11700CPG	11,700	.4606	–	–	2,0	45	12
B051A11800CPG	B052A11800CPG	B053A11800CPG	11,800	.4646	–	–	2,0	45	12
B051A11900CPG	B052A11900CPG	B053A11900CPG	11,900	.4685	–	–	2,0	45	12
B051A11908CPG	B052A11908CPG	B053A11908CPG	11,908	.4688	15/32	–	2,0	45	12
B051A12000CPG	B052A12000CPG	B053A12000CPG	12,000	.4724	–	–	2,1	45	12
B051A12100CPG	B052A12100CPG	B053A12100CPG	12,100	.4764	–	–	2,1	45	14
B051A12200CPG	B052A12200CPG	B053A12200CPG	12,200	.4803	–	–	2,1	45	14
B051A12300CPG	B052A12300CPG	B053A12300CPG	12,300	.4843	–	–	2,1	45	14
B051A12304CPG	B052A12304CPG	B053A12304CPG	12,304	.4844	31/64	–	2,1	45	14
B051A12400CPG	B052A12400CPG	B053A12400CPG	12,400	.4882	–	–	2,1	45	14
B051A12500CPG	B052A12500CPG	B053A12500CPG	12,500	.4921	–	–	2,1	45	14
B051A12600CPG	B052A12600CPG	B053A12600CPG	12,600	.4961	–	–	2,2	45	14
B051A12700CPG	B052A12700CPG	B053A12700CPG	12,700	.5000	1/2	–	2,2	45	14

Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance	D tolerance h6	nominal size range	D1 tolerance	D tolerance h6
1–3	0,000/-0,014 (h8)	0,000/-0,006	.0394–.1181	.0000/-.0006 (h8)	.0000/-.0002
>3–6	0,000/-0,012 (h7)	0,000/-0,008	>.1181–.2362	.0000/-.0005 (h7)	.0000/-.0003
>6–10	0,000/-0,015 (h7)	0,000/-0,009	>.2362–.3937	.0000/-.0006 (h7)	.0000/-.0004
>10–18	0,000/-0,018 (h7)	0,000/-0,011	>.3937–.7087	.0000/-.0007 (h7)	.0000/-.0004
>18–20	0,000/-0,021 (h7)	0,000/-0,013	>.7087–.7874	.0000/-.0008 (h7)	.0000/-.0005

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Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max	Metric Recommended Feed Rate (f) by Diameter		1,0	2,0	3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	60	**70**	100	mm/r		0,04 - 0,09	0,05 - 0,11	0,06 - 0,13	0,09 - 0,16	0,11 - 0,22	0,13 - 0,26	0,15 - 0,31	0,18 - 0,35	0,22 - 0,42	0,28 - 0,54
	2	80	**90**	100	mm/r		0,04 - 0,09	0,05 - 0,11	0,06 - 0,13	0,08 - 0,16	0,12 - 0,22	0,14 - 0,26	0,17 - 0,31	0,20 - 0,35	0,24 - 0,42	0,31 - 0,53
	3	50	**70**	90	mm/r		0,05 - 0,11	0,06 - 0,13	0,07 - 0,15	0,09 - 0,17	0,13 - 0,23	0,15 - 0,28	0,19 - 0,33	0,22 - 0,38	0,26 - 0,47	0,34 - 0,59
	4	50	**70**	100	mm/r		0,04 - 0,12	0,05 - 0,13	0,06 - 0,15	0,08 - 0,17	0,12 - 0,23	0,14 - 0,28	0,17 - 0,33	0,19 - 0,38	0,23 - 0,47	0,29 - 0,59
	6	30	**40**	60	mm/r		0,03 - 0,05	0,04 - 0,06	0,05 - 0,07	0,06 - 0,10	0,08 - 0,14	0,10 - 0,18	0,12 - 0,22	0,14 - 0,24	0,18 - 0,32	0,23 - 0,41
M	1	20	**30**	40	mm/r		0,02 - 0,05	0,03 - 0,06	0,04 - 0,70	0,05 - 0,09	0,08 - 0,11	0,09 - 0,12	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,16 - 0,20
	2	30	**40**	50	mm/r		0,02 - 0,06	0,03 - 0,07	0,04 - 0,08	0,06 - 0,10	0,08 - 0,12	0,09 - 0,14	0,10 - 0,16	0,12 - 0,18	0,14 - 0,20	0,16 - 0,22
	3	20	**30**	40	mm/r		0,02 - 0,05	0,03 - 0,06	0,04 - 0,07	0,06 - 0,09	0,08 - 0,11	0,09 - 0,12	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,16 - 0,20
K	1	80	**130**	170	mm/r		0,09 - 0,18	0,10 - 0,20	0,11 - 0,22	0,12 - 0,24	0,16 - 0,31	0,20 - 0,38	0,23 - 0,44	0,25 - 0,49	0,31 - 0,06	0,38 - 0,47
	2	90	**110**	120	mm/r		0,06 - 0,13	0,08 - 0,15	0,10 - 0,17	0,12 - 0,19	0,16 - 0,25	0,20 - 0,31	0,23 - 0,36	0,25 - 0,40	0,31 - 0,48	0,38 - 0,60
	3	80	**110**	130	mm/r		0,05 - 0,11	0,06 - 0,13	0,07 - 0,15	0,09 - 0,19	0,12 - 0,25	0,14 - 0,30	0,17 - 0,35	0,19 - 0,40	0,25 - 0,48	0,30 - 0,60
N	1	90	**230**	270	mm/r		0,05 - 0,12	0,06 - 0,13	0,08 - 0,14	0,10 - 0,16	0,12 - 0,20	0,16 - 0,24	0,20 - 0,28	0,24 - 0,32	0,28 - 0,40	0,32 - 0,48
	2	90	**220**	270	mm/r		0,04 - 0,08	0,06 - 0,12	0,08 - 0,16	0,10 - 0,20	0,12 - 0,24	0,16 - 0,28	0,20 - 0,32	0,24 - 0,36	0,28 - 0,44	0,32 - 0,52
	3	90	**180**	225	mm/r		0,10 - 0,13	0,11 - 0,14	0,12 - 0,14	0,13 - 0,16	0,14 - 0,20	0,16 - 0,24	0,20 - 0,28	0,24 - 0,32	0,28 - 0,40	0,32 - 0,44
	5	90	**130**	270	mm/r		0,04 - 0,08	0,06 - 0,12	0,08 - 0,16	0,10 - 0,20	0,12 - 0,24	0,16 - 0,28	0,20 - 0,32	0,24 - 0,36	0,28 - 0,40	0,32 - 0,48
S	1	20	**25**	30	mm/r		0,01 - 0,04	0,02 - 0,05	0,03 - 0,06	0,04 - 0,08	0,06 - 0,10	0,08 - 0,12	0,09 - 0,13	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18
	2	10	**20**	30	mm/r		0,01 - 0,03	0,02 - 0,03	0,02 - 0,04	0,03 - 0,06	0,05 - 0,08	0,07 - 0,10	0,08 - 0,11	0,09 - 0,12	0,10 - 0,14	0,11 - 0,16
	3	20	**25**	40	mm/r		0,01 - 0,03	0,02 - 0,03	0,02 - 0,04	0,02 - 0,05	0,04 - 0,07	0,06 - 0,09	0,07 - 0,10	0,08 - 0,11	0,09 - 0,13	0,10 - 0,15
	4	20	**25**	50	mm/r		0,01 - 0,03	0,02 - 0,03	0,02 - 0,04	0,03 - 0,06	0,05 - 0,08	0,07 - 0,10	0,08 - 0,11	0,09 - 0,12	0,10 - 0,14	0,11 - 0,16

Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max	Inch Recommended Feed Rate (f) by Diameter		3/64 .047	5/64 .078	1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
P	1	200	**230**	330	IPR		.001 - .003	.002 - .004	.002 - .005	.004 - .006	.005 - .008	.005 - .010	.006 - .012	.007 - .014	.008 - .017	.011 - .022
	2	260	**300**	330	IPR		.001 - .003	.002 - .004	.003 - .005	.004 - .006	.005 - .008	.005 - .010	.006 - .012	.008 - .014	.010 - .017	.012 - .021
	3	160	**230**	300	IPR		.002 - .004	.003 - .005	.003 - .005	.004 - .006	.005 - .009	.006 - .011	.007 - .013	.008 - .015	.010 - .018	.014 - .023
	4	160	**230**	330	IPR		.001 - .004	.002 - .005	.003 - .005	.004 - .006	.005 - .009	.005 - .011	.006 - .013	.007 - .015	.009 - .018	.012 - .023
	6	100	**130**	200	IPR		.001 - .003	.001 - .003	.002 - .003	.002 - .004	.004 - .005	.004 - .007	.005 - .008	.005 - .010	.007 - .013	.009 - .016
M	1	70	**100**	130	IPR		.001 - .002	.001 - .002	.002 - .003	.002 - .004	.003 - .004	.004 - .005	.004 - .006	.005 - .006	.006 - .007	.006 - .008
	2	100	**130**	160	IPR		.001 - .002	.001 - .002	.002 - .003	.002 - .004	.003 - .005	.004 - .006	.004 - .006	.005 - .007	.006 - .008	.006 - .009
	3	70	**100**	130	IPR		.001 - .002	.001 - .002	.002 - .003	.002 - .004	.003 - .004	.004 - .005	.004 - .006	.005 - .006	.006 - .007	.006 - .008
K	1	260	**430**	560	IPR		.002 - .005	.003 - .007	.003 - .006	.005 - .009	.006 - .012	.006 - .015	.009 - .017	.010 - .019	.012 - .024	.015 - .029
	2	300	**360**	390	IPR		.002 - .005	.003 - .006	.003 - .005	.005 - .007	.006 - .010	.008 - .012	.009 - .014	.010 - .016	.012 - .019	.015 - .024
	3	260	**360**	430	IPR		.001 - .005	.002 - .006	.002 - .005	.004 - .007	.005 - .010	.006 - .012	.006 - .014	.007 - .016	.010 - .019	.012 - .024
N	1	300	**750**	890	IPR		.002 - .005	.002 - .005	.003 - .006	.004 - .006	.005 - .008	.006 - .009	.008 - .011	.009 - .013	.011 - .016	.013 - .019
	2	300	**720**	890	IPR		.002 - .006	.002 - .006	.003 - .006	.004 - .008	.005 - .009	.006 - .011	.008 - .013	.009 - .014	.011 - .017	.013 - .020
	3	300	**590**	740	IPR		.004 - .005	.004 - .005	.005 - .006	.005 - .006	.006 - .008	.006 - .009	.008 - .011	.009 - .013	.011 - .016	.013 - .017
	5	300	**430**	890	IPR		.002 - .004	.002 - .005	.003 - .006	.004 - .008	.005 - .009	.006 - .011	.008 - .013	.009 - .014	.011 - .016	.013 - .019
S	1	70	**80**	100	IPR		.001 - .002	.001 - .002	.001 - .002	.002 - .003	.002 - .004	.003 - .005	.004 - .005	.004 - .006	.005 - .006	.006 - .007
	2	30	**70**	100	IPR		.001 - .002	.001 - .002	.001 - .002	.001 - .002	.002 - .003	.003 - .004	.003 - .004	.004 - .005	.004 - .006	.004 - .006
	3	70	**80**	130	IPR		.001 - .002	.001 - .002	.001 - .002	.001 - .002	.002 - .003	.002 - .004	.003 - .004	.003 - .004	.004 - .005	.004 - .006
	4	70	**80**	160	IPR		.001 - .002	.001 - .002	.001 - .002	.001 - .002	.002 - .003	.003 - .004	.003 - .004	.004 - .005	.004 - .006	.004 - .006

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Material Group		Cutting Speed – vc Range – m/min min	Starting Value	max	Metric Recommended Feed Rate (f) by Diameter	1,0	2,0	3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	70	100	140	mm/r	0,04 - 0,09	0,05 - 0,12	0,07 - 0,14	0,08 - 0,16	0,11 - 0,22	0,13 - 0,26	0,15 - 0,31	0,18 - 0,35	0,22 - 0,42	0,28 - 0,54
	2	90	120	140	mm/r	0,04 - 0,09	0,05 - 0,12	0,07 - 0,14	0,08 - 0,16	0,12 - 0,22	0,14 - 0,26	0,17 - 0,31	0,20 - 0,35	0,24 - 0,42	0,31 - 0,53
	3	60	80	100	mm/r	0,05 - 0,10	0,06 - 0,13	0,08 - 0,15	0,09 - 0,17	0,13 - 0,23	0,15 - 0,28	0,19 - 0,33	0,22 - 0,38	0,26 - 0,47	0,34 - 0,59
	4	50	80	100	mm/r	0,05 - 0,10	0,06 - 0,13	0,07 - 0,15	0,08 - 0,17	0,12 - 0,23	0,14 - 0,28	0,17 - 0,33	0,19 - 0,38	0,23 - 0,47	0,29 - 0,59
	6	40	50	70	mm/r	0,03 - 0,05	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10	0,08 - 0,14	0,10 - 0,18	0,13 - 0,22	0,14 - 0,24	0,18 - 0,32	0,23 - 0,41
M	1	20	30	40	mm/r	0,02 - 0,05	0,03 - 0,06	0,04 - 0,07	0,05 - 0,09	0,08 - 0,11	0,09 - 0,12	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,16 - 0,20
	2	30	40	50	mm/r	0,02 - 0,06	0,03 - 0,07	0,04 - 0,08	0,06 - 0,10	0,08 - 0,12	0,09 - 0,14	0,10 - 0,16	0,12 - 0,18	0,14 - 0,20	0,16 - 0,22
	3	20	30	40	mm/r	0,02 - 0,05	0,03 - 0,06	0,04 - 0,07	0,05 - 0,09	0,08 - 0,11	0,09 - 0,12	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,16 - 0,20
K	1	80	120	170	mm/r	0,08 - 0,16	0,09 - 0,17	0,11 - 0,22	0,12 - 0,24	0,16 - 0,31	0,20 - 0,38	0,23 - 0,44	0,25 - 0,49	0,31 - 0,60	0,38 - 0,74
	2	80	110	140	mm/r	0,10 - 0,14	0,11 - 0,15	0,12 - 0,16	0,13 - 0,19	0,16 - 0,25	0,20 - 0,31	0,23 - 0,36	0,25 - 0,40	0,31 - 0,48	0,38 - 0,60
	3	80	100	130	mm/r	0,05 - 0,13	0,07 - 0,15	0,08 - 0,17	0,09 - 0,19	0,12 - 0,25	0,14 - 0,30	0,17 _ 0,35	0,19 - 0,40	0,24 - 0,48	0,30 - 0,60
N	1	90	230	315	mm/r	0,05 - 0,12	0,06 - 0,13	0,08 - 0,14	0,10 - 0,16	0,12 - 0,20	0,16 - 0,24	0,20 - 0,28	0,24 - 0,32	0,28 - 0,40	0,32 - 0,48
	2	90	225	270	mm/r	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16	0,10 - 0,20	0,12 - 0,24	0,16 - 0,28	0,20 - 0,32	0,24 - 0,36	0,28 - 0,44	0,32 - 0,52
	3	90	180	270	mm/r	0,10 - 0,13	0,11 - 0,14	0,12 - 0,14	0,13 - 0,16	0,14 - 0,20	0,16 - 0,24	0,20 - 0,28	0,24 - 0,32	0,28 - 0,40	0,32 - 0,44
	5	90	135	180	mm/r	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16	0,10 - 0,20	0,12 - 0,24	0,16 - 0,28	0,20 - 0,32	0,24 - 0,36	0,28 - 0,40	0,32 - 0,48
S	1	10	25	30	mm/r	0,01 - 0,04	0,02 - 0,05	0,03 - 0,06	0,04 - 0,08	0,06 - 0,10	0,08 - 0,12	0,09 - 0,13	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18
	2	10	20	25	mm/r	0,01 - 0,03	0,02 - 0,03	0,02 - 0,04	0,03 - 0,06	0,05 - 0,08	0,07 - 0,10	0,08 - 0,11	0,09 - 0,12	0,10 - 0,14	0,11 - 0,16
	3	10	25	30	mm/r	0,01 - 0,03	0,02 - 0,03	0,02 - 0,04	0,02 - 0,05	0,04 - 0,07	0,06 - 0,09	0,07 - 0,10	0,08 - 0,11	0,09 - 0,13	0,10 - 0,15
	4	10	25	40	mm/r	0,01 - 0,03	0,02 - 0,03	0,02 - 0,04	0,03 - 0,06	0,05 - 0,08	0,07 - 0,10	0,08 - 0,11	0,09 - 0,12	0,10 - 0,14	0,11 - 0,16

Material Group		Cutting Speed – vc Range – SFM min	Starting Value	max	Inch Recommended Feed Rate (f) by Diameter	3/64 .047	5/64 .078	1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
P	1	230	330	460	IPR	.001 - .003	.002 - .004	.003 - .005	.004 - .006	.005 - .008	.005 - .010	.006 - .012	.007 - .014	.008 - .017	.011 - .022
	2	300	390	460	IPR	.001 - .003	.002 - .004	.003 - .005	.004 - .006	.005 - .008	.005 - .010	.006 - .012	.008 - .014	.010 - .017	.012 - .021
	3	200	260	330	IPR	.002 - .004	.003 - .005	.004 - .006	.004 - .006	.005 - .009	.006 - .011	.007 - .013	.008 - .015	.010 - .018	.014 - .023
	4	160	260	330	IPR	.002 - .004	.002 - .005	.003 - .006	.004 - .006	.005 - .009	.005 - .011	.006 - .013	.007 - .015	.009 - .018	.012 - .023
	6	130	160	230	IPR	.001 - .003	.001 - .003	.002 - .004	.002 - .004	.004 - .005	.004 - .007	.005 - .008	.005 - .010	.007 - .013	.009 - .016
M	1	70	100	130	IPR	.001 - .002	.001 - .002	.002 - .003	.002 - .004	.003 - .004	.004 - .005	.004 - .006	.005 - .006	.006 - .007	.006 - .008
	2	100	130	160	IPR	.001 - .002	.001 - .002	.002 - .003	.002 - .004	.003 - .005	.004 - .006	.004 - .006	.005 - .007	.006 - .008	.006 - .009
	3	70	100	130	IPR	.001 - .002	.001 - .002	.002 - .003	.002 - .004	.003 - .004	.004 - .005	.004 - .006	.005 - .006	.006 - .007	.006 - .008
K	1	260	390	560	IPR	.002 - .005	.003 - .007	.004 - .009	.005 - .009	.006 - .012	.008 - .015	.009 - .017	.010 - .019	.012 - .024	.015 - .029
	2	260	360	460	IPR	.002 - .005	.003 - .006	.004 - .007	.005 - .007	.006 - .010	.008 - .012	.009 - .014	.010 - .016	.012 - .019	.015 - .024
	3	260	330	430	IPR	.001 - .005	.002 - .006	.003 - .007	.004 - .007	.005 - .010	.006 - .012	.006 - .014	.007 - .016	.009 - .019	.012 - .024
N	1	300	750	1030	IPR	.002 - .005	.002 - .005	.003 - .006	.004 - .006	.005 - .008	.006 - .009	.008 - .011	.009 - .013	.011 - .016	.013 - .019
	2	300	740	890	IPR	.002 - .006	.002 - .006	.003 - .006	.004 - .008	.005 - .009	.006 - .011	.008 - .013	.009 - .014	.011 - .017	.013 - .020
	3	300	590	890	IPR	.004 - .005	.004 - .005	.005 - .006	.005 - .006	.006 - .008	.006 - .009	.008 - .011	.009 - .013	.011 - .016	.013 - .017
	5	300	440	590	IPR	.002 - .004	.002 - .005	.003 - .006	.004 - .008	.005 - .009	.006 - .011	.008 - .013	.009 - .014	.011 - .016	.013 - .019
S	1	30	80	100	IPR	.001 - .002	.001 - .002	.001 - .002	.002 - .003	.002 - .004	.003 - .005	.004 - .005	.004 - .006	.005 - .006	.006 - .007
	2	30	70	80	IPR	.001 - .002	.001 - .002	.001 - .002	.001 - .002	.002 - .003	.003 - .004	.003 - .004	.004 - .005	.004 - .006	.004 - .006
	3	30	80	100	IPR	.001 - .002	.001 - .002	.001 - .002	.001 - .002	.002 - .003	.002 - .004	.003 - .004	.003 - .004	.004 - .005	.004 - .006
	4	30	80	130	IPR	.001 - .002	.001 - .002	.001 - .002	.001 - .002	.002 - .003	.003 - .004	.003 - .004	.004 - .005	.004 - .006	.004 - .006



TF Drills for High Metal Removal Rates

Primary Application

B/K105 Solid Carbide Drills are ideal for high metal removal rates and excellent hole quality in short chipping materials such as gray cast iron, ductile iron, and aluminum as well as in short-hole titanium applications.

Features and Benefits

Three Cutting Edges

- Higher feed rates than with two-edged drills.

Three Spacious Flutes

- Rapid chip evacuation.
- Three-margin lands deliver better hole quality and straightness than two-flute drills.

Wear-Resistant Carbide Grade

- High tool life in abrasive materials such as cast iron and aluminum die cast alloys.

TiAlN-Coated KC7210™ Grade

- Higher wear resistance at elevated speeds.

Uncoated K10™ Grade

- The uncoated grade helps to prevent built-up edge in drilling aluminum and high-temp alloys.

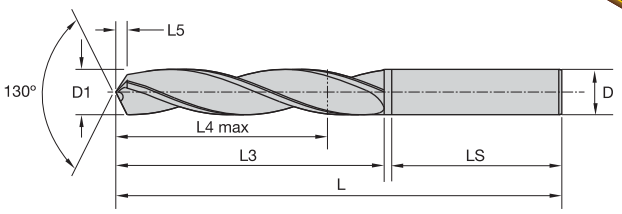
Customization

- Intermediate diameters available as engineered solutions.
- Length variations and step drills available as custom solutions.



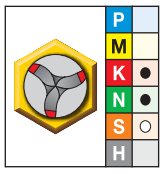
KENNAMETAL®

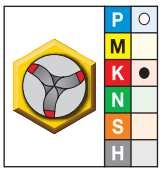






B105 • ~5 x D



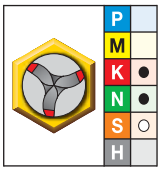


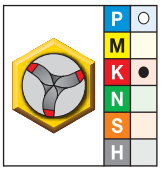
● first choice
○ alternate choice

K10	KC7210	D1 diameter mm	in	fraction	wire size	L	L4 max	L5	LS	D
B105A03000	–	3,000	.1181	–	–	66	23	0,7	36	6
B105A03100	–	3,100	.1220	–	–	66	23	0,8	36	6
B105A03200	–	3,200	.1260	–	–	66	23	0,8	36	6
B105A03300	–	3,300	.1299	–	–	66	23	0,8	36	6
B105A03500	**B105A03500**	3,500	.1378	–	–	66	23	0,9	36	6
B105A03700	–	3,700	.1457	–	–	66	23	0,9	36	6
B105A03800	–	3,800	.1496	–	–	74	29	0,9	36	6
B105A04000	**B105A04000**	4,000	.1575	–	–	74	29	1,0	36	6
B105A04100	–	4,100	.1614	–	–	74	29	1,0	36	6
B105A04200	**B105A04200**	4,200	.1654	–	–	74	29	1,0	36	6
B105A04300	–	4,300	.1693	–	–	74	29	1,1	36	6
B105A04500	–	4,500	.1772	–	–	74	29	1,1	36	6
B105A04650	–	4,650	.1831	–	–	74	29	1,2	36	6
B105A04700	–	4,700	.1850	–	13	74	29	1,2	36	6
B105A04800	–	4,800	.1890	–	12	82	35	1,2	36	6
B105A05000	**B105A05000**	5,000	.1969	–	–	82	35	1,2	36	6
B105A05100	–	5,100	.2008	–	–	82	35	1,3	36	6
B105A05200	–	5,200	.2047	–	–	82	35	1,3	36	6
B105A05500	**B105A05500**	5,500	.2165	–	–	82	35	1,4	36	6
B105A05550	–	5,550	.2185	–	–	82	35	1,4	36	6
B105A05700	–	5,700	.2244	–	–	82	35	1,4	36	6
B105A05800	–	5,800	.2283	–	–	82	35	1,4	36	6
B105A06000	**B105A06000**	6,000	.2362	–	–	82	35	1,5	36	6
B105A06100	–	6,100	.2402	–	–	91	43	1,5	36	8
B105A06300	–	6,300	.2480	–	–	91	43	1,6	36	8
B105A06400	–	6,400	.2520	–	–	91	43	1,6	36	8
B105A06500	**B105A06500**	6,500	.2559	–	–	91	43	1,6	36	8
B105A06600	–	6,600	.2598	–	–	91	43	1,6	36	8
B105A06700	–	6,700	.2638	–	–	91	43	1,7	36	8
B105A06800	**B105A06800**	6,800	.2677	–	–	91	43	1,7	36	8
B105A07000	**B105A07000**	7,000	.2756	–	–	91	43	1,7	36	8
B105A07100	–	7,100	.2795	–	–	91	43	1,8	36	8
B105A07400	–	7,400	.2913	–	–	91	43	1,8	36	8
B105A07500	–	7,500	.2953	–	–	91	43	1,9	36	8
B105A07600	–	7,600	.2992	–	–	91	43	1,9	36	8
B105A07800	–	7,800	.3071	–	–	91	43	1,9	36	8
B105A08000	**B105A08000**	8,000	.3150	–	–	91	43	2,0	36	8
B105A08100	–	8,100	.3189	–	–	103	49	2,0	40	10
B105A08300	–	8,300	.3268	–	–	103	49	2,1	40	10
B105A08400	–	8,400	.3307	–	–	103	49	2,1	40	10
B105A08500	**B105A08500**	8,500	.3346	–	–	103	49	2,1	40	10
B105A08600	–	8,600	.3386	–	–	103	49	2,1	40	10

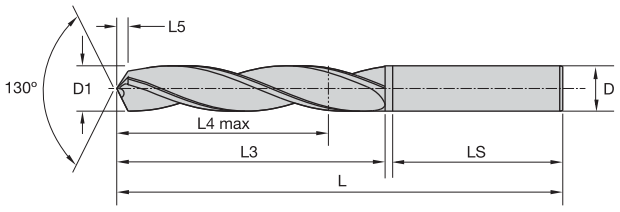
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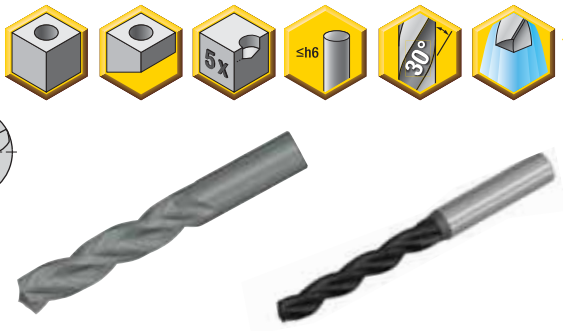
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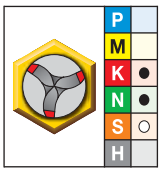


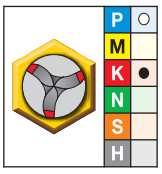
K10	KC7210	D1 diameter mm	in	fraction	wire size	L	L4 max	L5	LS	D
B105A08700	–	8,700	.3425	–	–	103	49	2,2	40	10
B105A08800	–	8,800	.3465	–	–	103	49	2,2	40	10
B105A09000	**B105A09000**	9,000	.3543	–	–	103	49	2,2	40	10
B105A09100	–	9,100	.3583	–	–	103	49	2,3	40	10
B105A09300	–	9,300	.3661	–	–	103	49	2,3	40	10
B105A09500	–	9,500	.3740	–	–	103	49	2,4	40	10
B105A09700	–	9,700	.3819	–	–	103	49	2,4	40	10
B105A09800	–	9,800	.3858	–	–	103	49	2,4	40	10
B105A10000	**B105A10000**	10,000	.3937	–	–	103	49	2,5	40	10
B105A10100	–	10,100	.3976	–	–	118	56	2,5	45	12
B105A10200	**B105A10200**	10,200	.4016	–	–	118	56	2,5	45	12
B105A10300	–	10,300	.4055	–	–	118	56	2,6	45	12
B105A10500	**B105A10500**	10,500	.4134	–	–	118	56	2,6	45	12
B105A10700	–	10,700	.4213	–	–	118	56	2,7	45	12
B105A10800	–	10,800	.4252	–	–	118	56	2,7	45	12
B105A11000	**B105A11000**	11,000	.4331	–	–	118	56	2,7	45	12
B105A11100	–	11,100	.4370	–	–	118	56	2,8	45	12
B105A11200	–	11,200	.4409	–	–	118	56	2,8	45	12
B105A11500	**B105A11500**	11,500	.4528	–	–	118	56	2,9	45	12
B105A11700	–	11,700	.4606	–	–	118	56	2,9	45	12
B105A11800	–	11,800	.4646	–	–	118	56	2,9	45	12
B105A12000	**B105A12000**	12,000	.4724	–	–	118	56	3,0	45	12
B105A12100	–	12,100	.4764	–	–	124	60	3,0	45	14
B105A12500	**B105A12500**	12,500	.4921	–	–	124	60	3,1	45	14
B105A12700	–	12,700	.5000	1/2	–	124	60	3,2	45	14
B105A12800	–	12,800	.5039	–	–	124	60	3,2	45	14
B105A13000	**B105A13000**	13,000	.5118	–	–	124	60	3,2	45	14
B105A13100	–	13,100	.5157	–	–	124	60	3,3	45	14
B105A13500	**B105A13500**	13,500	.5315	–	–	124	60	3,4	45	14
B105A13800	–	13,800	.5433	–	–	124	60	3,4	45	14
B105A14000	**B105A14000**	14,000	.5512	–	–	124	60	3,5	45	14
B105A14200	–	14,200	.5591	–	–	133	63	3,5	48	16
B105A14500	–	14,500	.5709	–	–	133	63	3,6	48	16
B105A15000	**B105A15000**	15,000	.5906	–	–	133	63	3,7	48	16
B105A15100	–	15,100	.5945	–	–	133	63	3,8	48	16
B105A15500	**B105A15500**	15,500	.6102	–	–	133	63	3,9	48	16
B105A15800	–	15,800	.6220	–	–	133	63	3,9	48	16
B105A16000	–	16,000	.6299	–	–	133	63	4,0	48	16
B105A16500	–	16,500	.6496	–	–	143	71	4,1	48	18
B105A17000	–	17,000	.6693	–	–	143	71	4,2	48	18
B105A17500	**B105A17500**	17,500	.6890	–	–	143	71	4,4	48	18
B105A18000	**B105A18000**	18,000	.7087	–	–	143	71	4,5	48	18
B105A18500	**B105A18500**	18,500	.7283	–	–	153	77	4,6	50	20
B105A19000	–	19,000	.7480	–	–	153	77	4,7	50	20
B105A19500	–	19,500	.7677	–	–	153	77	4,9	50	20
B105A20000	–	20,000	.7874	–	–	153	77	5,0	50	20
B105A20500	–	20,500	.8071	–	–	167	85	5,1	50	20
B105A21000	–	21,000	.8268	–	–	167	85	5,2	50	20





K105 • ~5 x D



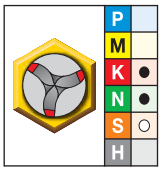


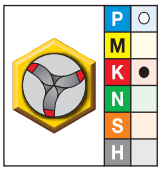
● first choice
○ alternate choice

K10	KC7210	D1 diameter in	mm	fraction	wire size	L	L4 max	L5	LS	D
K105A01130	–	.1130	2,870	–	33	2.60	.84	.030	1.44	.1875
K105A01250	K105A01250	.1250	3,175	1/8	–	2.60	.84	.031	1.44	.1875
K105A01285	K105A01285	.1285	3,264	–	30	2.60	.84	.032	1.44	.1875
K105A01360	–	.1360	3,454	–	29	2.60	.84	.034	1.44	.1875
K105A01364	–	.1364	3,465	–	–	2.60	.84	.034	1.44	.1875
K105A01395	–	.1395	3,543	–	–	2.60	.84	.035	1.44	.1875
K105A01406	–	.1406	3,572	9/64	–	2.60	.84	.035	1.44	.1875
K105A01440	–	.1440	3,658	–	27	2.60	.84	.036	1.44	.1875
–	K105A01495	.1495	3,797	–	25	2.60	.84	.037	1.44	.1875
K105A01502	–	.1502	3,815	–	–	2.60	.84	.038	1.44	.1875
K105A01517	–	.1517	3,853	–	–	2.60	.84	.038	1.44	.1875
K105A01532	–	.1532	3,891	–	–	2.60	.84	.038	1.44	.1875
K105A01563	K105A01563	.1563	3,969	5/32	–	2.60	.84	.039	1.44	.1875
K105A01590	–	.1590	4,039	–	21	2.91	1.13	.040	1.44	.1875
K105A01624	–	.1624	4,125	–	–	2.91	1.13	.041	1.44	.1875
K105A01660	–	.1660	4,216	–	19	2.91	1.13	.042	1.44	.1875
K105A01695	–	.1695	4,305	–	18	2.91	1.13	.042	1.44	.1875
K105A01716	–	.1716	4,359	–	–	2.91	1.13	.043	1.44	.1875
K105A01719	K105A01719	.1719	4,366	11/64	–	2.91	1.13	.043	1.44	.1875
K105A01730	–	.1730	4,394	–	17	2.91	1.13	.043	1.44	.1875
K105A01762	–	.1762	4,476	–	–	2.91	1.13	.044	1.44	.1875
K105A01781	–	.1781	4,524	–	–	2.91	1.13	.045	1.44	.1875
–	K105A01820	.1820	4,623	–	14	2.91	1.13	.046	1.44	.1875
K105A01835	–	.1835	4,661	–	–	2.91	1.13	.046	1.44	.1875
K105A01875	K105A01875	.1875	4,762	3/16	–	2.91	1.13	.047	1.44	.1875
K105A01890	–	.1890	4,801	–	12	3.23	1.37	.047	1.44	.2500
K105A01910	–	.1910	4,851	–	11	3.23	1.37	.048	1.44	.2500
K105A01935	–	.1935	4,915	–	10	3.23	1.37	.048	1.44	.2500
K105A01976	–	.1976	5,019	–	–	3.23	1.37	.050	1.44	.2500
K105A02002	–	.2002	5,085	–	–	3.23	1.37	.050	1.44	.2500
K105A02045	–	.2045	5,194	–	–	3.23	1.37	.051	1.44	.2500
–	K105A02130	.2130	5,410	–	3	3.23	1.37	.053	1.44	.2500
K105A02175	–	.2175	5,525	–	–	3.23	1.37	.054	1.44	.2500
K105A02188	K105A02188	.2187	5,556	7/32	–	3.23	1.37	.055	1.44	.2500
K105A02279	–	.2279	5,789	–	–	3.23	1.37	.057	1.44	.2500
K105A02280	–	.2280	5,791	–	1	3.23	1.37	.057	1.44	.2500
K105A02342	–	.2342	5,949	–	–	3.23	1.37	.059	1.44	.2500
K105A02500	K105A02500	.2500	6,350	1/4	E	3.23	1.37	.063	1.44	.2500
K105A02530	–	.2530	6,426	–	–	3.58	1.59	.063	1.52	.3125
K105A02570	K105A02570	.2570	6,528	–	F	3.58	1.59	.064	1.52	.3125
K105A02620	–	.2620	6,655	–	–	3.58	1.59	.066	1.52	.3125
K105A02656	K105A02656	.2656	6,747	17/64	–	3.58	1.59	.066	1.52	.3125
–	K105A02720	.2720	6,909	–	I	3.58	1.59	.068	1.52	.3125

(continued)

(K105 • ~5 x D continued)





K10	KC7210	D1 diameter in	D1 diameter mm	D1 diameter fraction	D1 diameter wire size	L	L4 max	L5	LS	D
K105A02746	–	.2746	6,975	–	–	3.58	1.59	.069	1.52	.3125
K105A02813	K105A02813	.2813	7,144	9/32	–	3.58	1.59	.070	1.52	.3125
K105A02870	–	.2870	7,290	–	–	3.58	1.59	.072	1.52	.3125
K105A02879	–	.2879	7,313	–	–	3.58	1.59	.072	1.52	.3125
K105A02941	–	.2941	7,470	–	–	3.58	1.59	.074	1.52	.3125
K105A02969	K105A02969	.2969	7,541	19/64	–	3.58	1.59	.074	1.52	.3125
K105A03125	K105A03125	.3125	7,938	5/16	–	3.58	1.59	.078	1.52	.3125
K105A03281	K105A03281	.3281	8,334	21/64	–	4.06	1.92	.082	1.59	.3750
–	K105A03320	.3320	8,433	–	Q	4.06	1.92	.083	1.59	.3750
K105A03371	–	.3371	8,562	–	–	4.06	1.92	.084	1.59	.3750
K105A03438	K105A03438	.3437	8,731	11/32	–	4.06	1.92	.086	1.59	.3750
K105A03474	–	.3474	8,824	–	–	4.06	1.92	.087	1.59	.3750
K105A03566	–	.3566	9,058	–	–	4.06	1.92	.089	1.59	.3750
K105A03594	–	.3594	9,128	23/64	–	4.06	1.92	.090	1.59	.3750
–	K105A03680	.3680	9,347	–	U	4.06	1.92	.092	1.59	.3750
K105A03750	K105A03750	.3750	9,525	3/8	–	4.06	1.92	.094	1.59	.3750
K105A03906	K105A03906	.3906	9,922	25/64	–	4.37	2.09	.098	1.67	.4375
K105A04059	–	.4059	10,310	–	–	4.37	2.09	.102	1.67	.4375
K105A04063	K105A04063	.4063	10,319	13/32	–	4.37	2.09	.102	1.67	.4375
K105A04219	K105A04219	.4219	10,716	27/64	–	4.37	2.09	.105	1.67	.4375
K105A04375	K105A04375	.4375	11,112	7/16	–	4.37	2.09	.109	1.67	.4375
K105A04531	–	.4531	11,509	29/64	–	4.65	2.19	.113	1.79	.5000
K105A04545	–	.4545	11,544	–	–	4.65	2.19	.114	1.79	.5000
K105A04688	–	.4687	11,906	15/32	–	4.65	2.19	.117	1.79	.5000
K105A04844	K105A04844	.4844	12,303	31/64	–	4.65	2.19	.121	1.79	.5000
K105A05000	K105A05000	.5000	12,700	1/2	–	4.65	2.19	.125	1.79	.5000
K105A05120	–	.5120	13,005	–	–	4.88	2.36	.128	1.79	.5625
K105A05379	–	.5379	13,663	–	–	4.88	2.36	.135	1.79	.5625
K105A05625	K105A05625	.5625	14,288	9/16	–	4.88	2.36	.141	1.79	.5625
K105A05745		.5745	14,592	–	–	5.24	2.54	.144	1.91	.6250
K105A05848	–	.5848	14,854	–	–	5.24	2.54	.146	1.91	.6250
K105A06250	–	.6250	15,875	5/8	–	5.24	2.54	.156	1.91	.6250
–	K105A06562	.6563	16,669	21/32	–	5.63	2.87	.164	1.91	.6875
K105A06875	–	.6875	17,462	11/16	–	5.63	2.87	.172	1.91	.6875
K105A07224	–	.7224	18,349	–	–	5.83	2.93	.181	1.99	.7500
K105A07500	–	.7500	19,050	3/4	–	5.83	2.93	.187	1.99	.7500
K105A08101	–	.8101	20,576	–	–	6.02	3.07	.202	1.99	.8125

Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance m7	D tolerance h6	nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008	>.1181–.2362	.0002/.0006	.0000/-.0003
>6–10	0,006/0,021	0,000/-0,009	>.2362–.3937	.0002/.0008	.0000/-.0004
>10–18	0,007/0,025	0,000/-0,011	>.3937–.7087	.0003/.0010	.0000/-.0004
>18–25,4	0,008/0,029	0,000/-0,013	>.7087–1.0000	.0003/.0011	.0000/-.0005

TF Drills • B/K105 Series • Grade K10™ • Flood Coolant for Drill Diameters 3–20mm



Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
K	1	60	**85**	110	mm/r	0,11 - 0,20	0,12 - 0,20	0,16 - 0,28	0,20 - 0,35	0,22 - 0,42	0,24 - 0,50	0,28 - 0,61	0,30 - 0,68
	2	70	**72**	90	mm/r	0,11 - 0,20	0,12 - 0,20	0,16 - 0,28	0,20 - 0,35	0,22 - 0,42	0,24 - 0,50	0,28 - 0,61	0,30 - 0,68
	3	50	**51**	70	mm/r	0,09 - 0,18	0,10 - 0,18	0,14 - 0,26	0,18 - 0,33	,020 - 0,40	0,22 - 0,48	0,26 - 0,59	0,28 - 0,66
N	1	100	**210**	410	mm/r	0,09 - 0,15	0,10 - 0,20	0,18 - 0,33	0,20 - 0,38	0,25 - 0,43	,033 - 0,51	0,43 - 0,58	0,64 - 0,79
	2	100	**248**	250	mm/r	0,10 - 0,19	0,12 - 0,21	0,18 - 0,33	0,25 - 0,42	0,30 - 0,50	0,35 - 0,58	0,44 - 0,74	0,52 - 0,88
	5	60	**173**	250	mm/r	0,08 - 0,15	0,13 - 0,18	0,18 - 0,33	0,20 - 0,36	0,23 - 0,38	0,33 - 0,46	0,38 - 0,48	0,58 - 0,76
S	4	30	**20**	51	mm/r	0,03 - 0,05	0,04 - 0,07	0,07 - 0,09	0,09 - 0,12	0,11 - 0,15	0,13 - 0,18	0,17 - 0,24	0,22 - 0,30

Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
K	1	200	**280**	360	IPR	.004 - .008	.005 - .008	.006 - .011	.008 - .014	.009 - .017	.009 - .020	.011 - .024	.012 - .027
	2	230	**240**	300	IPR	.004 - .008	.005 - .008	.006 - .011	.008 - .014	.009 - .017	.009 - .020	.011 - .024	.012 - .027
	3	160	**170**	230	IPR	.003 - .007	.004 - .007	.005 - .010	.007 - .013	.008 - .016	.008 - .019	.010 - .023	.011 - .026
N	1	330	**690**	1340	IPR	.003 - .007	.004 - .008	.007 - .013	.008 - .015	.010 - .017	.013 - .020	.017 - .023	.025 - .031
	2	330	**810**	820	IPR	.003 - .007	.004 - .008	.007 - .013	.008 - .015	.010 - .017	.013 - .020	.017 - .023	.025 - .031
	5	200	**570**	820	IPR	.003 - .006	.005 - .007	.007 - .013	.008 - .014	.009 - .015	.013 - .018	.015 - .019	.023 - .030
S	4	100	**70**	170	IPR	.001 - .002	.002 - .003	.003 - .004	.004 - .005	.004 - .006	.005 - .007	.007 - .009	.009 - .012

TF Drills • B/K105 Series • Grade KC7210™ • Flood Coolant for Drill Diameters 3–20mm



Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
K	1	80	**140**	161	mm/r	0,13 - 0,20	0,14 - 0,24	0,17 - 0,31	0,20 - 0,39	0,25 - 0,45	0,29 - 0,51	0,33 - 0,62	0,36 - 0,70
	2	80	**120**	120	mm/r	0,13 - 0,20	0,15 - 0,23	0,19 - 0,28	0,23 - 0,34	0,26 - 0,38	0,29 - 0,43	0,34 - 0,50	0,36 - 0,54
	3	60	**84**	130	mm/r	0,09 - 0,18	0,10 - 0,18	0,14 - 0,26	0,18 - 0,33	0,20 - 0,40	0,22 - 0,48	0,26 - 0,59	0,28 - 0,66
N	2	100	**298**	300	mm/r	0,10 - 0,19	0,12 - 0,21	0,18 - 0,33	0,25 - 0,42	0,30 - 0,50	0,35 - 0,58	0,44 - 0,74	0,52 - 0,88
	5	60	**225**	300	mm/r	0,08 - 0,15	0,13 - 0,18	0,18 - 0,33	0,20 - 0,36	0,23 - 0,38	0,33 - 0,46	0,38 - 0,48	0,58 - 0,76

Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
K	1	260	**460**	520	IPR	.005 - .008	.006 - .009	.007 - .012	.008 - .015	.010 - .018	.011 - .020	.013 - .024	.014 - .028
	2	260	**390**	390	IPR	.005 - .008	.006 - .009	.007 - .011	.009 - .013	.010 - .015	.011 - .017	.013 - .020	.014 - .021
	3	200	**280**	430	IPR	.003 - .007	.004 - .007	.005 - .010	.007 - .013	.008 - .016	.008 - .019	.010 - .023	.011 - .026
N	2	330	**980**	980	IPR	.003 - .007	.004 - .008	.007 - .013	.008 - .015	.010 - .017	.013 - .020	.017 - .023	.025 - .031
	5	200	**740**	980	IPR	.003 - .006	.005 - .007	.007 - .013	.008 - .014	.009 - .015	.013 - .018	.015 - .019	.023 - .030

TF Drills • B/K105 Series • Grade KC7210 • MQL (Minimum Quantity Lubricant) for Dry Applications for Drill Diameters 3–20mm



Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
K	1	60	**110**	150	mm/r	0,10 - 0,20	0,13 - 0,24	0,16 - 0,31	0,20 - 0,39	0,24 - 0,44	0,27 - 0,51	0,33 - 0,62	0,36 - 0,70
	2	60	**94**	100	mm/r	0,13 - 0,20	0,16 - 0,23	0,20 - 0,28	0,23 - 0,34	0,26 - 0,38	0,29 - 0,43	0,34 - 0,50	0,36 - 0,54
	3	50	**84**	110	mm/r	,010 - 0,19	0,13 - 0,20	0,16 - 0,31	0,20 - 0,37	0,23 - 0,44	0,26 - 0,48	0,31 - 0,58	0,33 - 0,64

Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
K	1	200	**360**	490	IPR	.003 - .006	.003 - .007	.004 - .009	.006 - .012	.008 - .016	.012 - .019	.015 - .023	.020 - .028
	2	200	**310**	330	IPR	.003 - .006	.003 - .007	.004 - .009	.006 - .012	.008 - .016	.012 - .019	.015 - .023	.020 - .028
	3	160	**280**	360	IPR	.003 - .006	.003 - .007	.004 - .009	.006 - .012	.008 - .016	.012 - .019	.015 - .023	.020 - .028



TF Drills with Through Coolant for Titanium Materials

Primary Application

B/K125 Solid Carbide Drills are specifically designed for titanium and titanium alloy workpiece materials.

Features and Benefits

Three Cutting Edges

- Higher feed rates than two-edged drills.

Three-Flute Design

- Three-margin lands deliver better hole quality and straightness than two-flute drills.

Through-Coolant Design

- Improved chip evacuation enables deeper holes.
- More effective cooling of the cutting edges and longer tool life.
- Lubrication of the margin lands and better hole surface quality.

Fine-Grained Carbide Grade

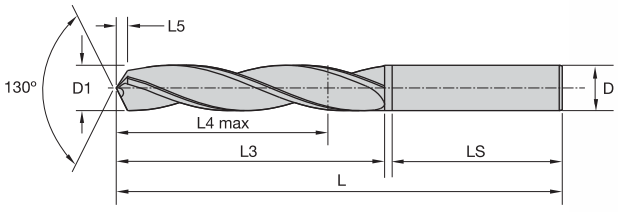
- Optimum combination of toughness and wear resistance for titanium drilling applications.

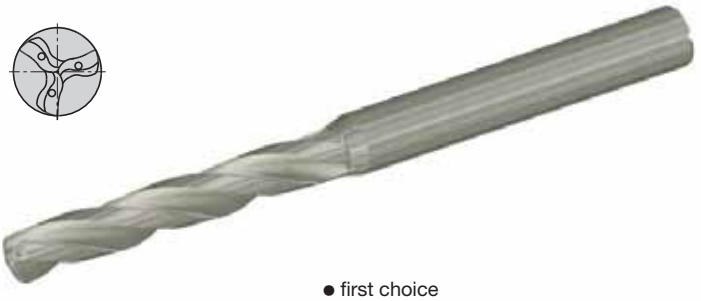
Customization

- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.

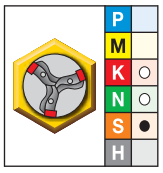








B125 • ~5 x D

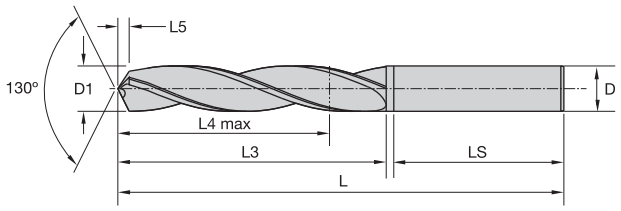


● first choice
○ alternate choice

K715	D1 diameter mm	in	fraction	wire size	L	L4 max	L5	LS	D
B125A06000	6,000	.2362	–	–	94	35	1,6	48	6
B125A06500	6,500	.2559	–	–	105	43	1,7	50	8
B125A06800	6,800	.2677	–	–	105	43	1,8	50	8
B125A07000	7,000	.2756	–	–	105	43	1,9	50	8
B125A07400	7,400	.2913	–	–	110	43	2,0	55	8
B125A07500	7,500	.2953	–	–	110	43	2,0	55	8
B125A08000	8,000	.3150	–	–	110	43	2,1	55	8
B125A08500	8,500	.3346	–	–	122	49	2,3	59	10
B125A09000	9,000	.3543	–	–	122	49	2,4	59	10
B125A09500	9,500	.3740	–	–	122	49	2,5	59	10
B125A10000	10,000	.3937	–	–	122	49	2,7	59	10
B125A10500	10,500	.4134	–	–	141	56	2,8	68	12
B125A11000	11,000	.4331	–	–	141	56	3,0	68	12
B125A12000	12,000	.4724	–	–	141	56	3,2	68	12
B125A14000	14,000	.5512	–	–	155	60	3,8	76	14

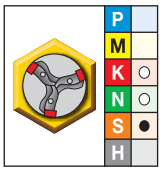
Tolerance		
nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008
>6–10	0,006/0,021	0,000/-0,009
>10–18	0,007/0,025	0,000/-0,011
>18–25,4	0,008/0,029	0,000/-0,013







K125 • ~5 x D



● first choice
○ alternate choice

K715	D1 diameter in	mm	fraction	wire size	L	L3	L4 max	L5	LS	D
K125A02500	.2500	6,350	1/4	E	3.74	1.69	1.37	.067	1.95	.2500
K125A02813	.2813	7,144	9/32	–	4.33	1.97	1.59	.076	2.26	.3125
K125A02950	.2950	7,493	–	M	4.33	1.97	1.59	.079	2.26	.3125
K125A03125	.3125	7,938	5/16	–	4.33	1.97	1.59	.084	2.26	.3125
K125A03438	.3437	8,731	11/32	–	4.92	2.36	1.92	.092	2.46	.3750
K125A03750	.3750	9,525	3/8	–	4.92	2.36	1.92	.101	2.46	.3750
K125A04063	.4063	10,319	13/32	–	5.24	2.60	2.09	.109	2.54	.4375
K125A04219	.4219	10,716	27/64	–	5.24	2.60	2.09	.113	2.54	.4375
K125A04375	.4375	11,112	7/16	–	5.24	2.60	2.09	.117	2.54	.4375
K125A04844	.4844	12,303	31/64	–	5.63	2.76	2.19	.130	2.78	.5000
K125A05000	.5000	12,700	1/2	–	5.63	2.76	2.19	.134	2.78	.5000
K125A05625	.5625	14,288	9/16	–	6.10	2.99	2.36	.151	3.01	.5625
K125A06250	.6250	15,875	5/8	–	6.73	3.23	2.54	.168	3.41	.6250

Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance m7	D tolerance h6	nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008	>.1181–.2362	.0002/.0006	.0000/-.0003
>6–10	0,006/0,021	0,000/-0,009	>.2362–.3937	.0002/.0008	.0000/-.0004
>10–18	0,007/0,025	0,000/-0,011	>.3937–.7087	.0003/.0010	.0000/-.0004
>18–25,4	0,008/0,029	0,000/-0,013	>.7087–1.0000	.0003/.0011	.0000/-.0005

TF Drills • B/K125 Series • Grade K715™ • Through Coolant for Drill Diameters 3–20mm





Material Group	Cutting Speed – vc Range – m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
S 4	80	**70**	90	mm/r	–	–	0,03 - 0,08	0,03 - 0,08	0,03 - 0,08	0,08 - 0,15	0,08 - 0,15	–
Material Group	**Cutting Speed – vc Range – SFM min**	**Starting Value**	**max**		**Inch Recommended Feed Rate (f) by Diameter 1/8 .125**	**3/16 .188**	**1/4 .250**	**5/16 .313**	**3/8 .375**	**1/2 .500**	**5/8 .625**	**3/4 .750**
S 4	260	**230**	300	IPR	–	–	.001 - .003	.001 - .003	.001 - .003	.003 - .006	.003 - .006	–



HP Beyond™ Drills with Through Coolant for Stainless Steel

Primary Application

B/K210_HP Series Solid Carbide Drills are designed specifically for stainless steel applications, offering high performance and long tool life in regular steel and titanium materials. By combining unique Kennametal technologies, such as the HP-point, flute geometry, and a new post-coat treatment technology into one tool, the B2_HP Beyond is the ultimate high-volume production tool.

Features and Benefits

HP Drill-Point Design

- Low thrust prevents workpiece flexing.
- Excellent centering capabilities.

Unique Flute Design

- Improved chip evacuation.
- Capability to drill deeper holes in difficult-to-machine materials.

KCM15™ Beyond Grade

- A nanolayer, TiAlN-based coating with high wear resistance and low adhesion to stainless steel materials.
- The highly polished surface ensures superior chip evacuation even when low-pressure coolant is applied.
- The average metal removal rate and tool life dramatically improve (minimum 10–30%).

Customization

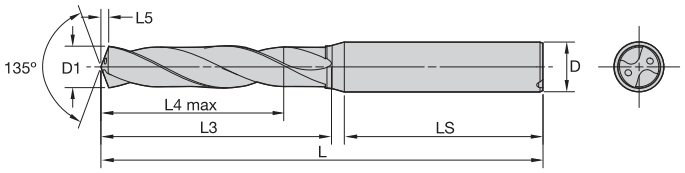
- Intermediate diameters available as engineered solutions.
- Length variations and step drills available as engineered solutions.
- High step diameter ratios and very complex step drill geometries are not recommended for austenitic stainless steel.
- Using Kennametal Slim Line Hydraulic Chucks together with standard B21_HP is recommended if workpiece contours need to be bypassed.

F-Shank

- For standard line items with F-shank, please refer to the e-catalog on www.kennametal.com.





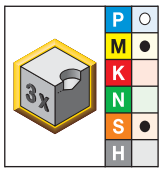


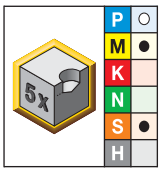


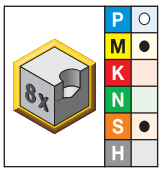
For information on L, L3, and L4 max, see the Solid Carbide foldout table.

beyond

B210/B211/B212_HP • ~3 x D/~5 x D/~8 x D





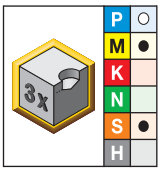


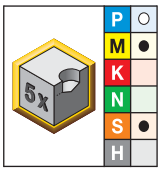
● first choice
○ alternate choice

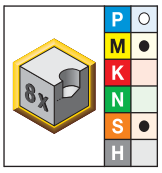
short • KCM15	long • KCM15	extra long • KCM15	D1 diameter mm	in	fraction	wire size	L5	LS	D
B210A03000HP	B211A03000HP	B212A03000HP	3,000	.1181	–	–	0,6	36	6
B210A03048HP	B211A03048HP	B212A03048HP	3,048	.1200	–	31	0,6	36	6
–	B211A03100HP	–	3,100	.1220	–	–	0,6	36	6
B210A03175HP	B211A03175HP	B212A03175HP	3,175	.1250	1/8	–	0,6	36	6
–	B211A03200HP	–	3,200	.1260	–	–	0,6	36	6
B210A03264HP	B211A03264HP	B212A03264HP	3,264	.1285	–	30	0,6	36	6
B210A03300HP	B211A03300HP	B212A03300HP	3,300	.1299	–	–	0,6	36	6
–	B211A03400HP	–	3,400	.1339	–	–	0,6	36	6
B210A03455HP	B211A03455HP	B212A03455HP	3,455	.1360	–	29	0,7	36	6
B210A03500HP	B211A03500HP	B212A03500HP	3,500	.1378	–	–	0,7	36	6
B210A03571HP	B211A03571HP	B212A03571HP	3,571	.1406	9/64	–	0,7	36	6
–	B211A03600HP	–	3,600	.1417	–	–	0,7	36	6
B210A03658HP	B211A03658HP	B212A03658HP	3,658	.1440	–	27	0,7	36	6
B210A03700HP	B211A03700HP	B212A03700HP	3,700	.1457	–	–	0,7	36	6
B210A03734HP	B211A03734HP	B212A03734HP	3,734	.1470	–	26	0,7	36	6
–	B211A03800HP	B212A03800HP	3,800	.1496	–	–	0,7	36	6
–	B211A03861HP	–	3,861	.1520	–	24	0,7	36	6
–	B211A03900HP	–	3,900	.1535	–	–	0,7	36	6
B210A04000HP	B211A04000HP	B212A04000HP	4,000	.1575	–	–	0,8	36	6
B210A04039HP	B211A04039HP	B212A04039HP	4,039	.1590	–	21	0,8	36	6
B210A04090HP	B211A04090HP	B212A04090HP	4,090	.1610	–	20	0,8	36	6
–	B211A04100HP	B212A04100HP	4,100	.1614	–	–	0,8	36	6
B210A04200HP	B211A04200HP	B212A04200HP	4,200	.1654	–	–	0,8	36	6
B210A04217HP	B211A04217HP	B212A04217HP	4,217	.1660	–	19	0,8	36	6
–	B211A04300HP	–	4,300	.1693	–	–	0,8	36	6
B210A04366HP	B211A04366HP	B212A04366HP	4,366	.1719	11/64	–	0,8	36	6
–	B211A04400HP	–	4,400	.1732	–	–	0,8	36	6
B210A04500HP	B211A04500HP	B212A04500HP	4,500	.1772	–	–	0,8	36	6
B210A04700HP	B211A04700HP	B212A04700HP	4,700	.1850	–	13	0,9	36	6
–	B211A04800HP	B212A04800HP	4,800	.1890	–	12	0,9	36	6
B210A04852HP	B211A04852HP	B212A04852HP	4,852	.1910	–	11	0,9	36	6
–	B211A04900HP	–	4,900	.1929	–	–	0,9	36	6
B210A05000HP	B211A05000HP	B212A05000HP	5,000	.1969	–	–	0,9	36	6
B210A05100HP	B211A05100HP	B212A05100HP	5,100	.2008	–	–	1,0	36	6
B210A05106HP	B211A05106HP	B212A05106HP	5,106	.2010	–	7	1,0	36	6
B210A05159HP	B211A05159HP	B212A05159HP	5,159	.2031	13/64	–	1,0	36	6
B210A05200HP	B211A05200HP	–	5,200	.2047	–	–	1,0	36	6
–	B211A05300HP	–	5,300	.2087	–	–	1,0	36	6
B210A05400HP	B211A05400HP	–	5,400	.2126	–	–	1,0	36	6
B210A05410HP	–	–	5,410	.2130	–	3	1,0	36	6

(continued)

(B210/B211/B212_HP • ~3 x D/~5 x D/~8 x D continued)



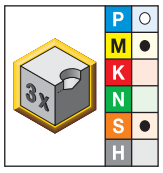


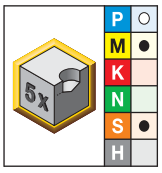


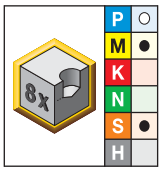
short • KCM15	long • KCM15	extra long • KCM15	D1 diameter mm	in	fraction	wire size	L5	LS	D
B210A05500HP	B211A05500HP	B212A05500HP	5,500	.2165	–	–	1,0	36	6
–	B211A05600HP	–	5,600	.2205	–	–	1,1	36	6
B210A05616HP	B211A05616HP	B212A05616HP	5,616	.2211	–	2	1,1	36	6
–	B211A05700HP	–	5,700	.2244	–	–	1,1	36	6
B210A05800HP	B211A05800HP	B212A05800HP	5,800	.2283	–	–	1,1	36	6
–	B211A05900HP	–	5,900	.2323	–	–	1,1	36	6
B210A05954HP	B211A05954HP	–	5,954	.2344	15/64	–	1,1	36	6
B210A06000HP	B211A06000HP	B212A06000HP	6,000	.2362	–	–	1,1	36	6
B210A06100HP	B211A06100HP	–	6,100	.2402	–	–	1,1	36	8
B210A06200HP	B211A06200HP	–	6,200	.2441	–	–	1,2	36	8
B210A06300HP	B211A06300HP	–	6,300	.2480	–	–	1,2	36	8
B210A06350HP	B211A06350HP	B212A06350HP	6,350	.2500	1/4	E	1,2	36	8
–	B211A06400HP	–	6,400	.2520	–	–	1,2	36	8
B210A06500HP	B211A06500HP	B212A06500HP	6,500	.2559	–	–	1,2	36	8
B210A06528HP	–	–	6,528	.2570	–	F	1,2	36	8
–	B211A06600HP	–	6,600	.2598	–	–	1,2	36	8
B210A06630HP	B211A06630HP	B212A06630HP	6,630	.2610	–	G	1,2	36	8
B210A06700HP	B211A06700HP	–	6,700	.2638	–	–	1,3	36	8
B210A06800HP	B211A06800HP	B212A06800HP	6,800	.2677	–	–	1,3	36	8
B210A06900HP	B211A06900HP	–	6,900	.2717	–	–	1,3	36	8
B210A07000HP	B211A07000HP	B212A07000HP	7,000	.2756	–	–	1,3	36	8
B210A07100HP	B211A07100HP	–	7,100	.2795	–	–	1,3	36	8
–	B211A07200HP	–	7,200	.2835	–	–	1,3	36	8
–	B211A07300HP	–	7,300	.2874	–	–	1,4	36	8
–	B211A07400HP	–	7,400	.2913	–	–	1,4	36	8
B210A07500HP	B211A07500HP	B212A07500HP	7,500	.2953	–	–	1,4	36	8
–	B211A07600HP	–	7,600	.2992	–	–	1,4	36	8
–	B211A07700HP	–	7,700	.3031	–	–	1,4	36	8
B210A07800HP	B211A07800HP	B212A07800HP	7,800	.3071	–	–	1,5	36	8
–	B211A07900HP	–	7,900	.3110	–	–	1,5	36	8
B210A07938HP	–	–	7,938	.3125	5/16	–	1,5	36	8
B210A08000HP	B211A08000HP	B212A08000HP	8,000	.3150	–	–	1,5	36	8
B210A08100HP	B211A08100HP	–	8,100	.3189	–	–	1,5	40	10
B210A08200HP	B211A08200HP	–	8,200	.3228	–	–	1,5	40	10
–	B211A08300HP	–	8,300	.3268	–	–	1,6	40	10
B210A08400HP	B211A08400HP	B212A08400HP	8,400	.3307	–	–	1,6	40	10
B210A08433HP	–	–	8,433	.3320	–	Q	1,6	40	10
B210A08500HP	B211A08500HP	B212A08500HP	8,500	.3346	–	–	1,6	40	10
B210A08600HP	B211A08600HP	–	8,600	.3386	–	–	1,6	40	10
B210A08700HP	B211A08700HP	–	8,700	.3425	–	–	1,6	40	10
–	B211A08800HP	B212A08800HP	8,800	.3465	–	–	1,6	40	10
–	B211A08900HP	–	8,900	.3504	–	–	1,7	40	10
B210A09000HP	B211A09000HP	B212A09000HP	9,000	.3543	–	–	1,7	40	10
B210A09093HP	–	–	9,093	.3580	–	T	1,7	40	10
–	B211A09100HP	–	9,100	.3583	–	–	1,7	40	10
–	B211A09200HP	–	9,200	.3622	–	–	1,7	40	10
–	B211A09300HP	–	9,300	.3661	–	–	1,7	40	10
–	B211A09400HP	–	9,400	.3701	–	–	1,8	40	10
B210A09500HP	B211A09500HP	B212A09500HP	9,500	.3740	–	–	1,8	40	10
–	B211A09600HP	–	9,600	.3780	–	–	1,8	40	10
B210A09700HP	B211A09700HP	–	9,700	.3819	–	–	1,8	40	10
B210A09800HP	B211A09800HP	–	9,800	.3858	–	–	1,8	40	10

(continued)

(B210/B211/B212_HP • ~3 x D/~5 x D/~8 x D continued)



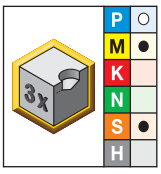


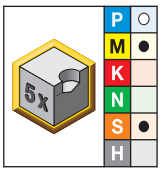


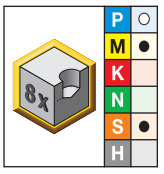
short • KCM15	long • KCM15	extra long • KCM15	D1 diameter mm	in	fraction	wire size	L5	LS	D
–	B211A09900HP	–	9,900	.3898	–	–	1,8	40	10
B210A09921HP	–	–	9,921	.3906	25/64	–	1,9	40	10
B210A10000HP	B211A10000HP	B212A10000HP	10,000	.3937	–	–	1,9	40	10
–	B211A10100HP	–	10,100	.3976	–	–	1,9	45	12
B210A10200HP	B211A10200HP	B212A10200HP	10,200	.4016	–	–	1,9	45	12
–	B211A10300HP	–	10,300	.4055	–	–	1,9	45	12
B210A10400HP	B211A10400HP	–	10,400	.4094	–	–	1,9	45	12
B210A10500HP	B211A10500HP	B212A10500HP	10,500	.4134	–	–	2,0	45	12
–	B211A10600HP	–	10,600	.4173	–	–	2,0	45	12
–	B211A10700HP	–	10,700	.4213	–	–	2,0	45	12
B210A10716HP	–	–	10,716	.4219	27/64	–	2,0	45	12
B210A10800HP	B211A10800HP	–	10,800	.4252	–	–	2,0	45	12
–	B211A10900HP	–	10,900	.4291	–	–	2,0	45	12
B210A11000HP	B211A11000HP	B212A11000HP	11,000	.4331	–	–	2,1	45	12
–	B211A11100HP	–	11,100	.4370	–	–	2,1	45	12
B210A11200HP	B211A11200HP	–	11,200	.4409	–	–	2,1	45	12
–	B211A11400HP	–	11,400	.4488	–	–	2,1	45	12
B210A11500HP	B211A11500HP	–	11,500	.4528	–	–	2,1	45	12
B210A11509HP	–	–	11,509	.4531	29/64	–	2,1	45	12
–	B211A11600HP	–	11,600	.4567	–	–	2,2	45	12
–	B211A11700HP	–	11,700	.4606	–	–	2,2	45	12
–	B211A11800HP	B212A11800HP	11,800	.4646	–	–	2,2	45	12
–	B211A11900HP	–	11,900	.4685	–	–	2,2	45	12
B210A12000HP	B211A12000HP	B212A12000HP	12,000	.4724	–	–	2,2	45	12
–	B211A12100HP	–	12,100	.4764	–	–	2,3	45	14
B210A12200HP	B211A12200HP	–	12,200	.4803	–	–	2,3	45	14
–	B211A12300HP	–	12,300	.4843	–	–	2,3	45	14
B210A12304HP	–	–	12,304	.4844	31/64	–	2,3	45	14
B210A12500HP	B211A12500HP	B212A12500HP	12,500	.4921	–	–	2,3	45	14
–	B211A12600HP	–	12,600	.4961	–	–	2,3	45	14
B210A12700HP	B211A12700HP	B212A12700HP	12,700	.5000	1/2	–	2,4	45	14
B210A12800HP	B211A12800HP	–	12,800	.5039	–	–	2,4	45	14
–	B211A12900HP	–	12,900	.5079	–	–	2,4	45	14
B210A13000HP	B211A13000HP	B212A13000HP	13,000	.5118	–	–	2,4	45	14
–	B211A13100HP	–	13,100	.5157	–	–	2,4	45	14
–	B211A13200HP	–	13,200	.5197	–	–	2,5	45	14
–	B211A13300HP	–	13,300	.5236	–	–	2,5	45	14
B210A13495HP	–	–	13,495	.5313	17/32	–	2,5	45	14
B210A13500HP	B211A13500HP	B212A13500HP	13,500	.5315	–	–	2,5	45	14
–	B211A13800HP	–	13,800	.5433	–	–	2,6	45	14

(continued)

(B210/B211/B212_HP • ~3 x D/~5 x D/~8 x D continued)

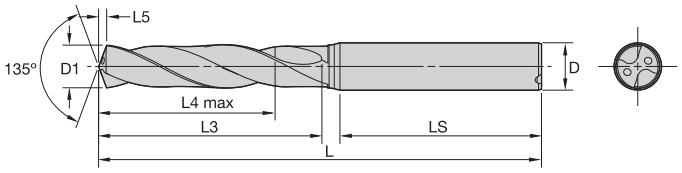






short • KCM15	long • KCM15	extra long • KCM15	D1 diameter mm	in	fraction	wire size	L5	LS	D
–	B211A13900HP	–	13,900	.5472	–	–	2,6	45	14
B210A14000HP	B211A14000HP	B212A14000HP	14,000	.5512	–	–	2,6	45	14
B210A14100HP	B211A14100HP	–	14,100	.5551	–	–	2,6	48	16
B210A14200HP	B211A14200HP	–	14,200	.5591	–	–	2,6	48	16
–	B211A14300HP	–	14,300	.5630	–	–	2,7	48	16
–	B211A14400HP	–	14,400	.5669	–	–	2,7	48	16
B210A14500HP	B211A14500HP	–	14,500	.5709	–	–	2,7	48	16
–	B211A14600HP	–	14,600	.5748	–	–	2,7	48	16
–	B211A14800HP	–	14,800	.5827	–	–	2,8	48	16
B210A15000HP	B211A15000HP	–	15,000	.5906	–	–	2,8	48	16
–	B211A15100HP	–	15,100	.5945	–	–	2,8	48	16
–	B211A15200HP	–	15,200	.5984	–	–	2,8	48	16
–	B211A15300HP	–	15,300	.6024	–	–	2,8	48	16
–	B211A15400HP	–	15,400	.6063	–	–	2,9	48	16
B210A15500HP	B211A15500HP	–	15,500	.6102	–	–	2,9	48	16
–	B211A15600HP	–	15,600	.6142	–	–	2,9	48	16
–	B211A15700HP	–	15,700	.6181	–	–	2,9	48	16
–	B211A15800HP	–	15,800	.6220	–	–	2,9	48	16
B210A15875HP	B211A15875HP	B212A15875HP	15,875	.6250	5/8	–	3,0	48	16
–	B211A15900HP	–	15,900	.6260	–	–	3,0	48	16
B210A16000HP	B211A16000HP	B212A16000HP	16,000	.6299	–	–	3,0	48	16
–	B211A16100HP	–	16,100	.6339	–	–	3,0	48	18
B210A16500HP	B211A16500HP	–	16,500	.6496	–	–	3,1	48	18
B210A16670HP	–	–	16,670	.6563	21/32	–	3,1	48	18
B210A17000HP	B211A17000HP	–	17,000	.6693	–	–	3,2	48	18
B210A17500HP	B211A17500HP	–	17,500	.6890	–	–	3,3	48	18
–	B211A17700HP	–	17,700	.6969	–	–	3,3	48	18
B210A18000HP	B211A18000HP	–	18,000	.7087	–	–	3,3	48	18
–	B211A18400HP	–	18,400	.7244	–	–	3,4	50	20
B210A18500HP	B211A18500HP	–	18,500	.7283	–	–	3,4	50	20
B210A19000HP	B211A19000HP	–	19,000	.7480	–	–	3,5	50	20
B210A19050HP	B211A19050HP	B212A19050HP	19,050	.7500	3/4	–	3,5	50	20
–	B211A19100HP	–	19,100	.7520	–	–	3,5	50	20
–	B211A19200HP	–	19,200	.7559	–	–	3,6	50	20
–	B211A19300HP	–	19,300	.7598	–	–	3,6	50	20
B210A19500HP	B211A19500HP	–	19,500	.7677	–	–	3,6	50	20
B210A20000HP	B211A20000HP	–	20,000	.7874	–	–	3,7	50	20
–	B211A20500HP	–	20,500	.8071	–	–	3,8	50	20
–	B211A21000HP	–	21,000	.8268	–	–	3,9	50	20



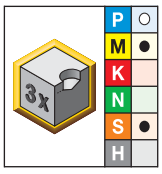


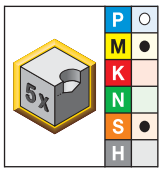
For information on L, L3, and L4 max, see the Solid Carbide foldout table.

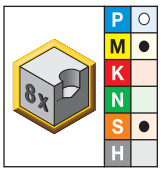


beyond

K210/K211/K212_HP • ~3 x D/~5 x D/~8 x D





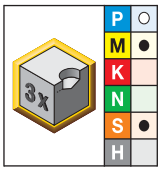


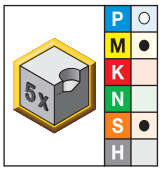
● first choice
○ alternate choice

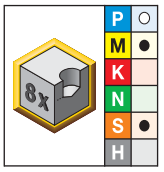
short • KCM15	regular • KCM15	long • KCM15	D1 diameter in	D1 diameter mm	D1 diameter fraction	D1 diameter wire size	L5	LS	D
K210A01563HP	K211A01563HP	K212A01563HP	.1563	3,969	5/32	–	.030	1.44	.1875
–	K211A01636HP	–	.1636	4,155	–	–	.031	1.44	.1875
–	K211A01803HP	–	.1803	4,580	–	–	.034	1.44	.1875
–	K211A01820HP	–	.1820	4,623	–	14	.034	1.44	.1875
–	K211A01850HP	–	.1850	4,699	–	13	.035	1.44	.1875
K210A01875HP	K211A01875HP	K212A01875HP	.1875	4,762	3/16	–	.035	1.44	.1875
–	K211A02071HP	–	.2071	5,260	–	–	.039	1.44	.2500
–	K211A02130HP	–	.2130	5,410	–	3	.040	1.44	.2500
K210A02188HP	K211A02188HP	K212A02188HP	.2187	5,556	–	–	.041	1.44	.2500
–	K211A02211HP	–	.2211	5,616	–	2	.042	1.44	.2500
K210A02500HP	K211A02500HP	K212A02500HP	.2500	6,350	1/4	E	.047	1.44	.2500
–	K211A02570HP	–	.2570	6,528	–	F	.048	1.52	.3125
–	K211A02610HP	–	.2610	6,629	–	G	.049	1.52	.3125
–	K211A02649HP	–	.2649	6,728	–	–	.050	1.52	.3125
K210A02656HP	K211A02656HP	K212A02656HP	.2656	6,747	17/64	–	.050	1.52	.3125
–	K211A02720HP	–	.2720	6,909	–	I	.051	1.52	.3125
–	K211A02770HP	–	.2770	7,036	–	J	.052	1.52	.3125
K210A02813HP	K211A02813HP	K212A02813HP	.2813	7,144	9/32	–	.053	1.52	.3125
K210A02969HP	K211A02969HP	K212A02969HP	.2969	7,541	19/64	–	.056	1.52	.3125
K210A03125HP	K211A03125HP	K212A03125HP	.3125	7,938	5/16	–	.058	1.52	.3125
–	K211A03230HP	–	.3230	8,204	–	P	.060	1.59	.3750
K210A03281HP	K211A03281HP	K212A03281HP	.3281	8,334	21/64	–	.061	1.59	.3750
–	K211A03320HP	–	.3320	8,433	–	Q	.062	1.59	.3750
–	K211A03390HP	–	.3390	8,611	–	R	.063	1.59	.3750
K210A03438HP	K211A03438HP	K212A03438HP	.3437	8,731	–	–	.064	1.59	.3750
K210A03594HP	K211A03594HP	K212A03594HP	.3594	9,128	23/64	–	.067	1.59	.3750
–	K211A03680HP	–	.3680	9,347	–	U	.069	1.59	.3750
K210A03750HP	K211A03750HP	K212A03750HP	.3750	9,525	3/8	–	.070	1.59	.3750
–	K211A03770HP	–	.3770	9,576	–	V	.070	1.67	.4375
–	K211A03820HP	–	.3820	9,703	–	–	.071	1.67	.4375
K210A03906HP	K211A03906HP	K212A03906HP	.3906	9,922	25/64	–	.073	1.67	.4375
–	K211A03970HP	–	.3970	10,084	–	X	.074	1.67	.4375
K210A04063HP	K211A04063HP	K212A04063HP	.4063	10,319	13/32	–	.076	1.67	.4375
K210A04219HP	K211A04219HP	K212A04219HP	.4219	10,716	27/64	–	.079	1.67	.4375

(continued)

(K210/K211/K212_HP • ~3 x D/~5 x D/~8 x D continued)







short • KCM15	regular • KCM15	long • KCM15	D1 diameter in	mm	fraction	wire size	L5	LS	D
–	K211A04341HP	–	.4341	11,026	–	–	.081	1.67	.4375
K210A04375HP	K211A04375HP	K212A04375HP	.4375	11,112	7/16	–	.082	1.67	.4375
K210A04531HP	K211A04531HP	K212A04531HP	.4531	11,509	29/64	–	.084	1.79	.5000
–	K211A04571HP	–	.4571	11,610	–	–	.085	1.79	.5000
K210A04688HP	K211A04688HP	K212A04688HP	.4687	11,906	–	–	.087	1.79	.5000
K210A04844HP	K211A04844HP	K212A04844HP	.4844	12,303	31/64	–	.090	1.79	.5000
–	K211A04911HP	–	.4911	12,474	–	–	.092	1.79	.5000
K210A05000HP	K211A05000HP	K212A05000HP	.5000	12,700	1/2	–	.093	1.79	.5000
–	K211A05080HP	–	.5080	12,903	–	–	.095	1.79	.5625
–	K211A05149HP	–	.5149	13,078	–	–	.096	1.79	.5625
–	K211A05156HP	–	.5156	13,097	33/64	–	.096	1.79	.5625
–	K211A05471HP	–	.5471	13,896	–	–	.102	1.79	.5625
K210A05625HP	K211A05625HP	K212A05625HP	.5625	14,288	9/16	–	.105	1.79	.5625
–	K211A05774HP	–	.5774	14,666	–	–	.107	1.91	.6250
K210A06250HP	K211A06250HP	K212A06250HP	.6250	15,875	5/8	–	.116	1.91	.6250
–	K211A06330HP	K212A06330HP	.6330	16,078	–	–	.118	1.91	.6875
–	K211A06563HP	–	.6563	16,669	21/32	–	.122	1.91	.6875
–	K211A06562HP	–	.6563	16,669	21/32	–	.122	1.91	.6875
–	K211A06643HP	–	.6643	16,873	–	–	.124	1.91	.6875
K210A06875HP	K211A06875HP	K212A06875HP	.6875	17,462	11/16	–	.128	1.91	.6875
–	K211A06964HP	–	.6964	17,689	–	–	.129	1.99	.7500
K210A07500HP	K211A07500HP	K212A07500HP	.7500	19,050	3/4	–	.139	1.99	.7500
–	K211A07580HP	K212A07580HP	.7580	19,253	–	–	.141	1.99	.8125
–	K211A07656HP	–	.7656	19,447	49/64	–	.142	1.99	.8125
–	K211A07797HP	–	.7797	19,804	–	–	.145	1.99	.8125
–	K211A08138HP	–	.8138	20,670	–	–	.151	2.07	.8750
–	K211A08830HP	–	.8830	22,428	–	–	.164	2.15	.9375

Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance m7	D tolerance h6	nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008	>.1181–.2362	.0002/.0006	.0000/-.0003
>6–10	0,006/0,021	0,000/-0,009	>.2362–.3937	.0002/.0008	.0000/-.0004
>10–18	0,007/0,025	0,000/-0,011	>.3937–.7087	.0003/.0010	.0000/-.0004
>18–25,4	0,008/0,029	0,000/-0,013	>.7087–1.0000	.0003/.0011	.0000/-.0005

HP Drills • B/K21_HP Series • Grade KCM15™ • Through Coolant for Drill Diameters 3–20mm



Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max	Metric Recommended Feed Rate (f) by Diameter		3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	110	**160**	210	mm/r		0,05 - 0,13	0,08 - 0,19	0,11 - 0,24	0,14 - 0,30	0,16 - 0,35	0,18 - 0,39	0,20 - 0,46	0,23 - 0,51
	2	130	**170**	210	mm/r		0,05 - 0,13	0,08 - 0,17	0,11 - 0,20	0,14 - 0,24	0,16 - 0,28	0,18 - 0,32	0,20 - 0,37	0,23 - 0,41
	3	110	**150**	190	mm/r		0,08 - 0,13	0,12 - 0,19	0,14 - 0,24	0,17 - 0,30	0,20 - 0,35	0,22 - 0,39	0,26 - 0,46	0,29 - 0,51
	4	80	**120**	150	mm/r		0,08 - 0,12	0,11 - 0,18	0,12 - 0,23	0,15 - 0,28	0,17 - 0,33	0,19 - 0,37	0,22 - 0,43	0,25 - 0,48
	5	60	**80**	90	mm/r		0,03 - 0,11	0,04 - 0,11	0,05 - 0,11	0,05 - 0,14	0,08 - 0,18	0,11 - 0,21	0,14 - 0,24	0,16 - 0,26
	6	70	**120**	170	mm/r		0,05 - 0,11	0,08 - 0,14	0,11 - 0,17	0,13 - 0,21	0,15 - 0,24	0,17 - 0,27	0,19 - 0,33	0,22 - 0,36
M	1	60	**80**	90	mm/r		0,03 - 0,08	0,06 - 0,14	0,08 - 0,19	0,11 - 0,21	0,13 - 0,23	0,14 - 0,24	0,16 - 0,26	0,19 - 0,29
	2	50	**80**	80	mm/r		0,03 - 0,08	0,06 - 0,14	0,08 - 0,19	0,11 - 0,21	0,13 - 0,23	0,14 - 0,24	0,16 - 0,26	0,19 - 0,29
	3	40	**60**	70	mm/r		0,03 - 0,08	0,06 - 0,14	0,08 - 0,19	0,11 - 0,21	0,13 - 0,23	0,14 - 0,24	0,16 - 0,26	0,19 - 0,29
S	1	20	**20**	20	mm/r		0,03 - 0,08	0,04 - 0,09	0,05 - 0,11	0,05 - 0,11	0,08 - 0,14	0,11 - 0,16	0,14 - 0,19	0,16 - 0,21
	2	10	**20**	30	mm/r		0,03 - 0,11	0,04 - 0,11	0,05 - 0,11	0,05 - 0,11	0,08 - 0,14	0,11 - 0,16	0,14 - 0,19	0,16 - 0,21
	4	30	**50**	60	mm/r		0,02 - 0,04	0,04 - 0,06	0,05 - 0,07	0,05 - 0,07	0,07 - 0,11	0,07 - 0,11	0,11 - 0,13	0,11 - 0,13
Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max	Inch Recommended Feed Rate (f) by Diameter		1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
P	1	360	**520**	690	IPR		.002 - .005	.003 - .007	.004 - .009	.006 - .012	.006 - .014	.007 - .015	.008 - .018	.009 - .020
	2	430	**560**	690	IPR		.002 - .005	.003 - .007	.004 - .008	.006 - .009	.006 - .011	.007 - .013	.008 - .015	.009 - .016
	3	360	**490**	620	IPR		.003 - .005	.005 - .007	.006 - .009	.007 - .012	.008 - .014	.009 - .015	.010 - .018	.011 - .020
	4	260	**390**	490	IPR		.003 - .005	.004 - .007	.005 - .009	.006 - .011	.007 - .013	.007 - .015	.009 - .017	.010 - .019
	5	200	**260**	300	IPR		.001 - .004	.002 - .004	.002 - .004	.002 - .006	.003 - .007	.004 - .008	.006 - .009	.006 - .010
	6	230	**390**	560	IPR		.002 - .004	.003 - .006	.004 - .007	.005 - .008	.006 - .009	.007 - .011	.007 - .013	.009 - .014
M	1	200	**260**	300	IPR		.001 - .003	.002 - .006	.003 - .007	.004 - .008	.005 - .009	.006 - .009	.006 - .010	.007 - .011
	2	160	**260**	260	IPR		.001 - .003	.002 - .006	.003 - .007	.004 - .008	.005 - .009	.006 - .009	.006 - .010	.007 - .011
	3	130	**200**	230	IPR		.001 - .003	.002 - .006	.003 - .007	.004 - .008	.005 - .009	.006 - .009	.006 - .010	.007 - .011
S	1	70	**70**	70	IPR		.001 - .003	.002 - .004	.002 - .004	.002 - .004	.003 - .006	.004 - .006	.006 - .007	.006 - .008
	2	30	**70**	100	IPR		.001 - .004	.002 - .004	.002 - .004	.002 - .004	.003 - .006	.004 - .006	.006 - .007	.006 - .008
	4	100	**160**	200	IPR		.001 - .002	.002 - .002	.002 - .003	.002 - .003	.003 - .004	.003 - .004	.004 - .005	.004 - .005



HP Beyond™ Drills for Steel

Primary Application

B221_HP Series Solid Carbide Drills offer the highest metal removal rates and longest tool life in steel and iron materials when dry cutting or using external flood coolant. Dry drilling up to 5 x D possible.

B224_HP Series Solid Carbide Drills are ideal for super high-speed drilling of unalloyed and alloyed steel. Achieve 100% higher cutting speed without compromising tool life. Operate these drills with standard through coolant or MQL.

By combining unique Kennametal technologies, such as the HP-point, flute geometry, and a new Beyond grade technology into one tool, the B2_HP Beyond is the ultimate high-volume production tool.

Features and Benefits

HP Drill-Point Design

- Low thrust prevents workpiece flexing.
- Excellent centering capabilities.

Unique Flute Design

- Improved chip evacuation in dry and mid L/D drilling operations.
- Better hole surface quality.

KCPK15™ Beyond Grade

- The grade is a multilayer, TiAlN-based coating with high hot hardness. High cutting speeds enable use in MQL applications.
- The highly polished surface ensures superior chip evacuation even when low-pressure coolant is applied.
- The average metal removal rate and tool life performance improved dramatically (10–30%).

Customization

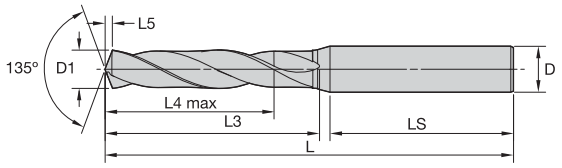
- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.
- For holes deeper than 5 x D, internal coolant is recommended.
- Using Kennametal Slim Line Hydraulic Chucks together with standard B22_HP is recommended if workpiece contours need to be bypassed.

F-Shank

- For standard line items with F-shank please refer to the e-catalog on www.kennametal.com.







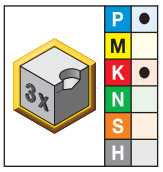


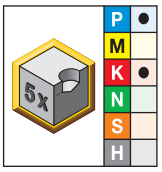


For information on L, L3, and L4 max, see the Solid Carbide foldout table.

beyond

B221/B222_HP • ~3 x D/~5 x D



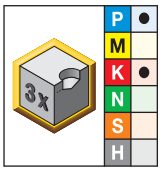


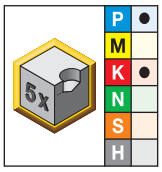
● first choice
○ alternate choice

short • KCPK15	long • KCPK15	D1 diameter mm	in	fraction	wire size	L5	LS	D
B221A03000HP	B222A03000HP	3,000	.1181	–	–	0,6	36	6
B221A03048HP	B222A03048HP	3,048	.1200	–	31	0,6	36	6
B221A03100HP	–	3,100	.1220	–	–	0,6	36	6
B221A03175HP	B222A03175HP	3,175	.1250	1/8	–	0,6	36	6
B221A03200HP	–	3,200	.1260	–	–	0,6	36	6
B221A03264HP	B222A03264HP	3,264	.1285	–	30	0,6	36	6
B221A03300HP	B222A03300HP	3,300	.1299	–	–	0,6	36	6
B221A03400HP	–	3,400	.1339	–	–	0,6	36	6
B221A03455HP	B222A03455HP	3,455	.1360	–	29	0,7	36	6
B221A03500HP	B222A03500HP	3,500	.1378	–	–	0,7	36	6
B221A03571HP	B222A03571HP	3,571	.1406	9/64	–	0,7	36	6
B221A03600HP	–	3,600	.1417	–	–	0,7	36	6
B221A03658HP	–	3,658	.1440	–	27	0,7	36	6
B221A03700HP	B222A03700HP	3,700	.1457	–	–	0,7	36	6
B221A03734HP	–	3,734	.1470	–	26	0,7	36	6
B221A03800HP	B222A03800HP	3,800	.1496	–	–	0,7	36	6
B221A03900HP	–	3,900	.1535	–	–	0,7	36	6
B221A03970HP	B222A03970HP	3,970	.1563	5/32	–	0,7	36	6
B221A04000HP	B222A04000HP	4,000	.1575	–	–	0,8	36	6
B221A04039HP	–	4,039	.1590	–	21	0,8	36	6
B221A04090HP	–	4,090	.1610	–	20	0,8	36	6
B221A04100HP	–	4,100	.1614	–	–	0,8	36	6
B221A04200HP	B222A04200HP	4,200	.1654	–	–	0,8	36	6
B221A04217HP	–	4,217	.1660	–	19	0,8	36	6
B221A04300HP	–	4,300	.1693	–	–	0,8	36	6
B221A04366HP	B222A04366HP	4,366	.1719	11/64	–	0,8	36	6
B221A04400HP	–	4,400	.1732	–	–	0,8	36	6
B221A04500HP	B222A04500HP	4,500	.1772	–	–	0,8	36	6
B221A04600HP	B222A04600HP	4,600	.1811	–	–	0,9	36	6
B221A04623HP	–	4,623	.1820	–	14	0,9	36	6
B221A04700HP	–	4,700	.1850	–	13	0,9	36	6
B221A04763HP	B222A04763HP	4,763	.1875	3/16	–	0,9	36	6
B221A04800HP	B222A04800HP	4,800	.1890	–	12	0,9	36	6
B221A04852HP	–	4,852	.1910	–	11	0,9	36	6
B221A04900HP	–	4,900	.1929	–	–	0,9	36	6
B221A05000HP	B222A05000HP	5,000	.1969	–	–	0,9	36	6
B221A05100HP	B222A05100HP	5,100	.2008	–	–	1,0	36	6
B221A05106HP	B222A05106HP	5,106	.2010	–	7	1,0	36	6
B221A05159HP	B222A05159HP	5,159	.2031	13/64	–	1,0	36	6
B221A05200HP	–	5,200	.2047	–	–	1,0	36	6

(continued)

(B221/B222_HP • ~3 x D/~5 x D continued)

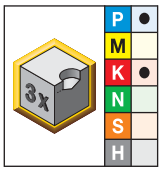


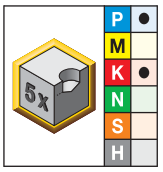


short • KCPK15	long • KCPK15	D1 diameter mm	in	fraction	wire size	L5	LS	D
B221A05300HP	–	5,300	.2087	–	–	1,0	36	6
B221A05400HP	–	5,400	.2126	–	–	1,0	36	6
B221A05410HP	B222A05410HP	5,410	.2130	–	3	1,0	36	6
B221A05500HP	B222A05500HP	5,500	.2165	–	–	1,0	36	6
B221A05558HP	B222A05558HP	5,558	.2188	7/32	–	1,0	36	6
B221A05600HP	–	5,600	.2205	–	–	1,1	36	6
B221A05616HP	–	5,616	.2211	–	2	1,1	36	6
B221A05700HP	–	5,700	.2244	–	–	1,1	36	6
B221A05800HP	B222A05800HP	5,800	.2283	–	–	1,1	36	6
B221A05900HP	–	5,900	.2323	–	–	1,1	36	6
B221A05954HP	B222A05954HP	5,954	.2344	15/64	–	1,1	36	6
B221A06000HP	B222A06000HP	6,000	.2362	–	–	1,1	36	6
B221A06100HP	–	6,100	.2402	–	–	1,1	36	8
B221A06200HP	–	6,200	.2441	–	–	1,2	36	8
B221A06300HP	–	6,300	.2480	–	–	1,2	36	8
B221A06350HP	B222A06350HP	6,350	.2500	1/4	E	1,2	36	8
B221A06400HP	–	6,400	.2520	–	–	1,2	36	8
B221A06500HP	B222A06500HP	6,500	.2559	–	–	1,2	36	8
B221A06528HP	B222A06528HP	6,528	.2570	–	F	1,2	36	8
B221A06600HP	–	6,600	.2598	–	–	1,2	36	8
B221A06630HP	–	6,630	.2610	–	G	1,2	36	8
B221A06700HP	B222A06700HP	6,700	.2638	–	–	1,3	36	8
B221A06746HP	B222A06746HP	6,746	.2656	17/64	–	1,3	36	8
B221A06800HP	B222A06800HP	6,800	.2677	–	–	1,3	36	8
B221A06900HP	–	6,900	.2717	–	–	1,3	36	8
B221A07000HP	B222A07000HP	7,000	.2756	–	–	1,3	36	8
B221A07100HP	–	7,100	.2795	–	–	1,3	36	8
B221A07145HP	B222A07145HP	7,145	.2813	9/32	–	1,3	36	8
B221A07200HP	–	7,200	.2835	–	–	1,3	36	8
B221A07300HP	–	7,300	.2874	–	–	1,4	36	8
B221A07400HP	–	7,400	.2913	–	–	1,4	36	8
B221A07500HP	B222A07500HP	7,500	.2953	–	–	1,4	36	8
B221A07541HP	B222A07541HP	7,541	.2969	19/64	–	1,4	36	8
B221A07600HP	–	7,600	.2992	–	–	1,4	36	8
B221A07700HP	–	7,700	.3031	–	–	1,4	36	8
B221A07800HP	B222A07800HP	7,800	.3071	–	–	1,5	36	8
B221A07900HP	–	7,900	.3110	–	–	1,5	36	8
B221A07938HP	B222A07938HP	7,938	.3125	5/16	–	1,5	36	8
B221A08000HP	B222A08000HP	8,000	.3150	–	–	1,5	36	8
B221A08100HP	–	8,100	.3189	–	–	1,5	40	10
B221A08200HP	B222A08200HP	8,200	.3228	–	–	1,5	40	10
B221A08300HP	–	8,300	.3268	–	–	1,6	40	10
B221A08334HP	B222A08334HP	8,334	.3281	21/64	–	1,6	40	10
B221A08400HP	–	8,400	.3307	–	–	1,6	40	10
B221A08433HP	B222A08433HP	8,433	.3320	–	Q	1,6	40	10
B221A08500HP	B222A08500HP	8,500	.3346	–	–	1,6	40	10
B221A08600HP	–	8,600	.3386	–	–	1,6	40	10
B221A08700HP	–	8,700	.3425	–	–	1,6	40	10
B221A08733HP	B222A08733HP	8,733	.3438	11/32	–	1,6	40	10
B221A08800HP	B222A08800HP	8,800	.3465	–	–	1,6	40	10
B221A08900HP	–	8,900	.3504	–	–	1,7	40	10
B221A09000HP	B222A09000HP	9,000	.3543	–	–	1,7	40	10

(continued)

(B221/B222_HP • ~3 x D/~5 x D continued)

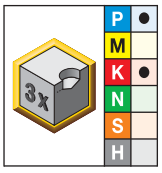


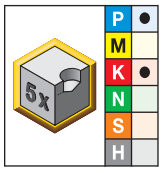


short • KCPK15	long • KCPK15	D1 diameter mm	in	fraction	wire size	L5	LS	D
B221A09100HP	–	9,100	.3583	–	–	1,7	40	10
B221A09129HP	B222A09129HP	9,129	.3594	23/64	–	1,7	40	10
B221A09200HP	–	9,200	.3622	–	–	1,7	40	10
B221A09300HP	B222A09300HP	9,300	.3661	–	–	1,7	40	10
B221A09347HP	B222A09347HP	9,347	.3680	–	U	1,7	40	10
B221A09400HP	–	9,400	.3701	–	–	1,8	40	10
B221A09500HP	B222A09500HP	9,500	.3740	–	–	1,8	40	10
B221A09525HP	B222A09525HP	9,525	.3750	3/8	–	1,8	40	10
B221A09600HP	–	9,600	.3780	–	–	1,8	40	10
B221A09700HP	–	9,700	.3819	–	–	1,8	40	10
B221A09800HP	B222A09800HP	9,800	.3858	–	–	1,8	40	10
B221A09900HP	–	9,900	.3898	–	–	1,8	40	10
B221A09921HP	B222A09921HP	9,921	.3906	25/64	–	1,9	40	10
B221A10000HP	B222A10000HP	10,000	.3937	–	–	1,9	40	10
B221A10100HP	–	10,100	.3976	–	–	1,9	45	12
B221A10200HP	B222A10200HP	10,200	.4016	–	–	1,9	45	12
B221A10300HP	–	10,300	.4055	–	–	1,9	45	12
B221A10320HP	B222A10320HP	10,320	.4063	13/32	–	1,9	45	12
B221A10400HP	–	10,400	.4094	–	–	1,9	45	12
B221A10500HP	B222A10500HP	10,500	.4134	–	–	2,0	45	12
B221A10600HP	–	10,600	.4173	–	–	2,0	45	12
B221A10700HP	–	10,700	.4213	–	–	2,0	45	12
B221A10716HP	B222A10716HP	10,716	.4219	27/64	–	2,0	45	12
B221A10800HP	B222A10800HP	10,800	.4252	–	–	2,0	45	12
B221A10900HP	–	10,900	.4291	–	–	2,0	45	12
B221A11000HP	B222A11000HP	11,000	.4331	–	–	2,1	45	12
B221A11100HP	–	11,100	.4370	–	–	2,1	45	12
B221A11113HP	B222A11113HP	11,113	.4375	7/16	–	2,1	45	12
B221A11200HP	–	11,200	.4409	–	–	2,1	45	12
B221A11300HP	–	11,300	.4449	–	–	2,1	45	12
B221A11400HP	–	11,400	.4488	–	–	2,1	45	12
B221A11500HP	B222A11500HP	11,500	.4528	–	–	2,1	45	12
B221A11509HP	B222A11509HP	11,509	.4531	29/64	–	2,1	45	12
B221A11600HP	–	11,600	.4567	–	–	2,2	45	12
B221A11700HP	–	11,700	.4606	–	–	2,2	45	12
B221A11800HP	–	11,800	.4646	–	–	2,2	45	12
B221A11900HP	–	11,900	.4685	–	–	2,2	45	12
B221A11908HP	B222A11908HP	11,908	.4688	15/32	–	2,2	45	12
B221A12000HP	B222A12000HP	12,000	.4724	–	–	2,2	45	12
B221A12100HP	–	12,100	.4764	–	–	2,3	45	14
B221A12200HP	–	12,200	.4803	–	–	2,3	45	14
B221A12300HP	–	12,300	.4843	–	–	2,3	45	14
–	B222A12304HP	12,304	.4844	31/64	–	2,3	45	14
B221A12400HP	–	12,400	.4882	–	–	2,3	45	14
B221A12500HP	B222A12500HP	12,500	.4921	–	–	2,3	45	14
B221A12600HP	–	12,600	.4961	–	–	2,3	45	14
B221A12700HP	B222A12700HP	12,700	.5000	1/2	–	2,4	45	14
B221A12800HP	–	12,800	.5039	–	–	2,4	45	14
B221A12900HP	–	12,900	.5079	–	–	2,4	45	14
B221A13000HP	B222A13000HP	13,000	.5118	–	–	2,4	45	14
B221A13100HP	–	13,100	.5157	–	–	2,4	45	14
B221A13200HP	–	13,200	.5197	–	–	2,5	45	14

(continued)

(B221/B222_HP • ~3 x D/~5 x D continued)





short • KCPK15	long • KCPK15	D1 diameter mm	in	fraction	wire size	L5	LS	D
B221A13300HP	–	13,300	.5236	–	–	2,5	45	14
B221A13500HP	B222A13500HP	13,500	.5315	–	–	2,5	45	14
B221A13600HP	–	13,600	.5354	–	–	2,5	45	14
B221A13700HP	–	13,700	.5394	–	–	2,6	45	14
B221A13800HP	–	13,800	.5433	–	–	2,6	45	14
B221A13891HP	–	13,891	.5469	35/64	–	2,6	45	14
B221A13900HP	–	13,900	.5472	–	–	2,6	45	14
B221A14000HP	B222A14000HP	14,000	.5512	–	–	2,6	45	14
B221A14100HP	–	14,100	.5551	–	–	2,6	48	16
B221A14200HP	–	14,200	.5591	–	–	2,6	48	16
B221A14288HP	B222A14288HP	14,288	.5625	9/16	–	2,7	48	16
B221A14300HP	–	14,300	.5630	–	–	2,7	48	16
B221A14400HP	–	14,400	.5669	–	–	2,7	48	16
B221A14500HP	B222A14500HP	14,500	.5709	–	–	2,7	48	16
B221A14600HP	–	14,600	.5748	–	–	2,7	48	16
B221A14684HP	–	14,684	.5781	37/64	–	2,7	48	16
B221A14700HP	–	14,700	.5787	–	–	2,7	48	16
B221A14800HP	–	14,800	.5827	–	–	2,8	48	16
B221A14900HP	–	14,900	.5866	–	–	2,8	48	16
B221A15000HP	B222A15000HP	15,000	.5906	–	–	2,8	48	16
B221A15083HP	–	15,083	.5938	19/32	–	2,8	48	16
B221A15100HP	–	15,100	.5945	–	–	2,8	48	16
B221A15200HP	–	15,200	.5984	–	–	2,8	48	16
B221A15300HP	–	15,300	.6024	–	–	2,8	48	16
B221A15400HP	–	15,400	.6063	–	–	2,9	48	16
B221A15479HP	–	15,479	.6094	39/64	–	2,9	48	16
B221A15500HP	B222A15500HP	15,500	.6102	–	–	2,9	48	16
B221A15600HP	–	15,600	.6142	–	–	2,9	48	16
B221A15700HP	–	15,700	.6181	–	–	2,9	48	16
B221A15800HP	–	15,800	.6220	–	–	2,9	48	16
B221A15875HP	B222A15875HP	15,875	.6250	5/8	–	3,0	48	16
B221A15900HP	–	15,900	.6260	–	–	3,0	48	16
B221A16000HP	B222A16000HP	16,000	.6299	–	–	3,0	48	16
B221A16500HP	B222A16500HP	16,500	.6496	–	–	3,1	48	18
B221A17000HP	B222A17000HP	17,000	.6693	–	–	3,2	48	18
B221A17463HP	B222A17463HP	17,463	.6875	11/16	–	3,2	48	18
B221A17500HP	B222A17500HP	17,500	.6890	–	–	3,3	48	18
B221A17700HP	–	17,700	.6969	–	–	3,3	48	18
B221A18000HP	B222A18000HP	18,000	.7087	–	–	3,3	48	18
B221A18500HP	B222A18500HP	18,500	.7283	–	–	3,4	50	20
B221A19000HP	B222A19000HP	19,000	.7480	–	–	3,5	50	20
B221A19050HP	B222A19050HP	19,050	.7500	3/4	–	3,5	50	20
B221A19500HP	–	19,500	.7677	–	–	3,6	50	20
B221A20000HP	B222A20000HP	20,000	.7874	–	–	3,7	50	20
B221A20500HP	–	20,500	.8071	–	–	3,8	50	20
B221A21000HP	–	21,000	.8268	–	–	3,9	50	20

Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance m7	D tolerance h6	nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008	>.1181–.2362	.0002/.0006	.0000/-.0003
>6–10	0,006/0,021	0,000/-0,009	>.2362–.3937	.0002/.0008	.0000/-.0004
>10–18	0,007/0,025	0,000/-0,011	>.3937–.7087	.0003/.0010	.0000/-.0004
>18–25,4	0,008/0,029	0,000/-0,013	>.7087–1.0000	.0003/.0011	.0000/-.0005

HP Drills • B221_HP, B222_HP Series • Grade KCPK15™ • Flood Coolant for Drill Diameters 3–20mm



Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	70	110	150	mm/r	0,08 - 0,16	0,07 - 0,17	0,08 - 0,24	0,08 - 0,29	0,09 - 0,35	0,12 - 0,42	0,25 - 0,55	0,33 - 0,67
	2	90	120	160	mm/r	0,08 - 0,15	0,07 - 0,14	0,12 - 0,23	0,14 - 0,29	0,16 - 0,28	0,19 - 0,40	0,25 - 0,50	0,33 - 0,60
	3	60	90	120	mm/r	0,09 - 0,16	0,09 - 0,17	0,15 - 0,27	0,18 - 0,33	0,20 - 0,35	0,25 - 0,44	0,33 - 0,55	0,37 - 0,67
	4	50	80	120	mm/r	0,08 - 0,16	0,08 - 0,17	0,13 - 0,27	0,16 - 0,33	0,17 - 0,33	0,21 - 0,44	0,26 - 0,54	0,32 - 0,62
	6	50	80	120	mm/r	0,06 - 0,11	0,07 - 0,13	0,09 - 0,17	0,13 - 0,24	0,15 - 0,24	0,18 - 0,30	0,23 - 0,40	0,28 - 0,49
K	1	70	100	120	mm/r	0,11 - 0,21	0,09 - 0,18	0,14 - 0,28	0,16 - 0,37	0,20 - 0,40	0,22 - 0,45	0,28 - 0,58	0,36 - 0,71
	2	70	120	120	mm/r	0,11 - 0,19	0,09 - 0,16	0,14 - 0,23	0,16 - 0,32	0,19 - 0,32	0,22 - 0,37	0,28 - 0,47	0,36 - 0,60
	3	50	90	130	mm/r	0,08 - 0,17	0,07 - 0,14	0,12 - 0,25	0,13 - 0,27	0,16 - 0,29	0,18 - 0,39	0,25 - 0,48	0,29 - 0,58

Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
P	1	230	360	490	IPR	.003 - .006	.003 - .007	.003 - .009	.003 - .011	.004 - .014	.005 - .017	.010 - .022	.013 - .026
	2	300	390	520	IPR	.003 - .006	.003 - .006	.005 - .009	.006 - .011	.006 - .011	.007 - .016	.010 - .020	.013 - .024
	3	200	300	390	IPR	.004 - .006	.004 - .007	.006 - .011	.007 - .013	.008 - .014	.010 - .017	.013 - .022	.015 - .026
	4	160	260	390	IPR	.003 - .006	.003 - .007	.005 - .011	.006 - .013	.007 - .013	.008 - .017	.010 - .021	.013 - .024
	6	160	260	390	IPR	.002 - .004	.003 - .005	.004 - .007	.005 - .009	.006 - .009	.007 - .012	.009 - .016	.011 - .019
K	1	230	330	390	IPR	.004 - .008	.004 - .007	.006 - .011	.006 - .015	.008 - .016	.009 - .018	.011 - .023	.014 - .028
	2	230	390	390	IPR	.004 - .007	.004 - .006	.006 - .009	.006 - .013	.007 - .013	.009 - .015	.011 - .019	.014 - .024
	3	160	300	430	IPR	.003 - .007	.003 - .006	.005 - .010	.005 - .011	.006 - .011	.007 - .015	.010 - .019	.011 - .023

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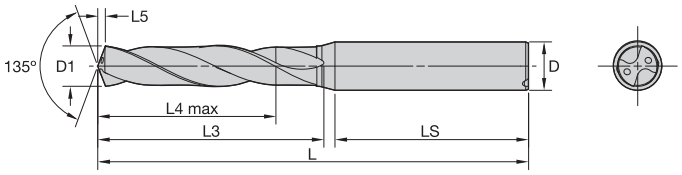
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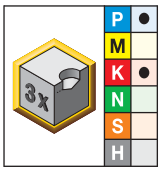


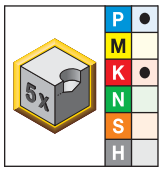


For information on L, L3, and L4 max, see the Solid Carbide foldout table.

beyond

B224/B225_HP • ~3 x D/~5 x D



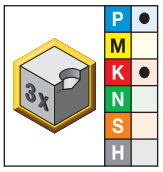


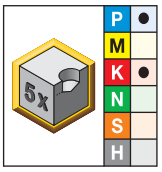
● first choice
○ alternate choice

short • KCPK15	long • KCPK15	D1 diameter mm	in	fraction	wire size	L5	LS	D
B224A03000HP	B225A03000HP	3,000	.1181	–	–	0,6	36	6
B224A03048HP	B225A03048HP	3,048	.1200	–	31	0,6	36	6
B224A03100HP	B225A03100HP	3,100	.1220	–	–	0,6	36	6
B224A03175HP	B225A03175HP	3,175	.1250	1/8	–	0,6	36	6
B224A03200HP	B225A03200HP	3,200	.1260	–	–	0,6	36	6
B224A03264HP	B225A03264HP	3,264	.1285	–	30	0,6	36	6
B224A03300HP	B225A03300HP	3,300	.1299	–	–	0,6	36	6
B224A03400HP	B225A03400HP	3,400	.1339	–	–	0,6	36	6
B224A03455HP	B225A03455HP	3,455	.1360	–	29	0,7	36	6
B224A03500HP	B225A03500HP	3,500	.1378	–	–	0,7	36	6
B224A03571HP	B225A03571HP	3,571	.1406	9/64	–	0,7	36	6
B224A03600HP	B225A03600HP	3,600	.1417	–	–	0,7	36	6
B224A03658HP	–	3,658	.1440	–	27	0,7	36	6
B224A03700HP	B225A03700HP	3,700	.1457	–	–	0,7	36	6
B224A03734HP	–	3,734	.1470	–	26	0,7	36	6
B224A03797HP	B225A03797HP	3,797	.1495	–	25	0,7	36	6
B224A03800HP	B225A03800HP	3,800	.1496	–	–	0,7	36	6
B224A03900HP	B225A03900HP	3,900	.1535	–	–	0,7	36	6
B224A03970HP	B225A03970HP	3,970	.1563	5/32	–	0,7	36	6
B224A04000HP	B225A04000HP	4,000	.1575	–	–	0,8	36	6
B224A04039HP	–	4,039	.1590	–	21	0,8	36	6
B224A04090HP	–	4,090	.1610	–	20	0,8	36	6
–	B225A04100HP	4,100	.1614	–	–	0,8	36	6
B224A04200HP	B225A04200HP	4,200	.1654	–	–	0,8	36	6
B224A04217HP	–	4,217	.1660	–	19	0,8	36	6
–	B225A04300HP	4,300	.1693	–	–	0,8	36	6
B224A04366HP	B225A04366HP	4,366	.1719	11/64	–	0,8	36	6
–	B225A04400HP	4,400	.1732	–	–	0,8	36	6
B224A04496HP	B225A04496HP	4,496	.1770	–	16	0,8	36	6
–	B225A04500HP	4,500	.1772	–	–	0,8	36	6
–	B225A04600HP	4,600	.1811	–	–	0,9	36	6
B224A04623HP	–	4,623	.1820	–	14	0,9	36	6
B224A04700HP	B225A04700HP	4,700	.1850	–	13	0,9	36	6
–	B225A04760HP	4,760	.1874	–	–	0,9	36	6
B224A04763HP	–	4,763	.1875	3/16	–	0,9	36	6
–	B225A04800HP	4,800	.1890	–	12	0,9	36	6
B224A04852HP	–	4,852	.1910	–	11	0,9	36	6
–	B225A04900HP	4,900	.1929	–	–	0,9	36	6
B224A05000HP	B225A05000HP	5,000	.1969	–	–	0,9	36	6
B224A05100HP	B225A05100HP	5,100	.2008	–	–	1,0	36	6

(continued)

(B224/B225_HP • ~3 x D/~5 x D continued)

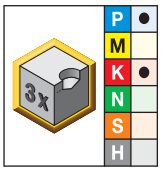


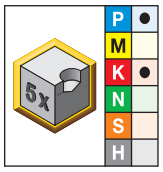


short • KCPK15	long • KCPK15	D1 diameter mm	in	fraction	wire size	L5	LS	D
B224A05106HP	B225A05106HP	5,106	.2010	–	7	1,0	36	6
B224A05159HP	B225A05159HP	5,159	.2031	13/64	–	1,0	36	6
–	B225A05200HP	5,200	.2047	–	–	1,0	36	6
–	B225A05300HP	5,300	.2087	–	–	1,0	36	6
–	B225A05400HP	5,400	.2126	–	–	1,0	36	6
B224A05410HP	B225A05410HP	5,410	.2130	–	3	1,0	36	6
B224A05500HP	B225A05500HP	5,500	.2165	–	–	1,0	36	6
B224A05558HP	B225A05558HP	5,558	.2188	7/32	–	1,0	36	6
B224A05600HP	B225A05600HP	5,600	.2205	–	–	1,1	36	6
B224A05616HP	–	5,616	.2211	–	2	1,1	36	6
–	B225A05700HP	5,700	.2244	–	–	1,1	36	6
B224A05791HP	B225A05791HP	5,791	.2280	–	1	1,1	36	6
–	B225A05800HP	5,800	.2283	–	–	1,1	36	6
–	B225A05900HP	5,900	.2323	–	–	1,1	36	6
B224A05944HP	B225A05944HP	5,944	.2340	–	A	1,1	36	6
B224A05954HP	B225A05954HP	5,954	.2344	15/64	–	1,1	36	6
B224A06000HP	B225A06000HP	6,000	.2362	–	–	1,1	36	6
–	B225A06100HP	6,100	.2402	–	–	1,1	36	8
–	B225A06200HP	6,200	.2441	–	–	1,2	36	8
–	B225A06300HP	6,300	.2480	–	–	1,2	36	8
B224A06350HP	B225A06350HP	6,350	.2500	1/4	E	1,2	36	8
–	B225A06400HP	6,400	.2520	–	–	1,2	36	8
B224A06500HP	B225A06500HP	6,500	.2559	–	–	1,2	36	8
B224A06528HP	B225A06528HP	6,528	.2570	–	F	1,2	36	8
–	B225A06600HP	6,600	.2598	–	–	1,2	36	8
B224A06630HP	–	6,630	.2610	–	G	1,2	36	8
B224A06700HP	B225A06700HP	6,700	.2638	–	–	1,3	36	8
B224A06746HP	B225A06746HP	6,746	.2656	17/64	–	1,3	36	8
B224A06800HP	B225A06800HP	6,800	.2677	–	–	1,3	36	8
–	B225A06900HP	6,900	.2717	–	–	1,3	36	8
B224A06909HP	B225A06909HP	6,909	.2720	–	I	1,3	36	8
B224A07000HP	B225A07000HP	7,000	.2756	–	–	1,3	36	8
–	B225A07100HP	7,100	.2795	–	–	1,3	36	8
B224A07145HP	B225A07145HP	7,145	.2813	9/32	–	1,3	36	8
–	B225A07200HP	7,200	.2835	–	–	1,3	36	8
–	B225A07300HP	7,300	.2874	–	–	1,4	36	8
B224A07366HP	B225A07366HP	7,366	.2900	–	L	1,4	36	8
B224A07400HP	B225A07400HP	7,400	.2913	–	–	1,4	36	8
B224A07500HP	B225A07500HP	7,500	.2953	–	–	1,4	36	8
B224A07541HP	B225A07541HP	7,541	.2969	19/64	–	1,4	36	8
–	B225A07600HP	7,600	.2992	–	–	1,4	36	8
–	B225A07700HP	7,700	.3031	–	–	1,4	36	8
–	B225A07800HP	7,800	.3071	–	–	1,5	36	8
–	B225A07900HP	7,900	.3110	–	–	1,5	36	8
B224A07938HP	B225A07938HP	7,938	.3125	5/16	–	1,5	36	8
B224A08000HP	B225A08000HP	8,000	.3150	–	–	1,5	36	8
–	B225A08100HP	8,100	.3189	–	–	1,5	40	10
B224A08200HP	B225A08200HP	8,200	.3228	–	–	1,5	40	10
–	B225A08300HP	8,300	.3268	–	–	1,6	40	10
B224A08334HP	B225A08334HP	8,334	.3281	21/64	–	1,6	40	10
–	B225A08400HP	8,400	.3307	–	–	1,6	40	10
B224A08433HP	B225A08433HP	8,433	.3320	–	Q	1,6	40	10

(continued)

(B224/B225_HP • ~3 x D/~5 x D continued)

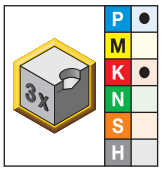


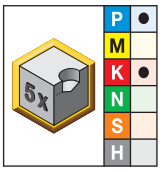


short • KCPK15	long • KCPK15	D1 diameter mm	in	fraction	wire size	L5	LS	D
B224A08500HP	B225A08500HP	8,500	.3346	–	–	1,6	40	10
–	B225A08600HP	8,600	.3386	–	–	1,6	40	10
B224A08700HP	B225A08700HP	8,700	.3425	–	–	1,6	40	10
B224A08733HP	B225A08733HP	8,733	.3438	11/32	–	1,6	40	10
B224A08800HP	B225A08800HP	8,800	.3465	–	–	1,6	40	10
B224A08839HP	B225A08839HP	8,839	.3480	–	S	1,7	40	10
–	B225A08900HP	8,900	.3504	–	–	1,7	40	10
B224A09000HP	B225A09000HP	9,000	.3543	–	–	1,7	40	10
B224A09093HP	B225A09093HP	9,093	.3580	–	T	1,7	40	10
–	B225A09100HP	9,100	.3583	–	–	1,7	40	10
B224A09129HP	B225A09129HP	9,129	.3594	23/64	–	1,7	40	10
–	B225A09200HP	9,200	.3622	–	–	1,7	40	10
–	B225A09300HP	9,300	.3661	–	–	1,7	40	10
–	B225A09347HP	9,347	.3680	–	U	1,7	40	10
B224A09400HP	B225A09400HP	9,400	.3701	–	–	1,8	40	10
B224A09500HP	B225A09500HP	9,500	.3740	–	–	1,8	40	10
B224A09525HP	B225A09525HP	9,525	.3750	3/8	–	1,8	40	10
–	B225A09600HP	9,600	.3780	–	–	1,8	40	10
–	B225A09700HP	9,700	.3819	–	–	1,8	40	10
–	B225A09800HP	9,800	.3858	–	–	1,8	40	10
–	B225A09900HP	9,900	.3898	–	–	1,8	40	10
B224A09921HP	B225A09921HP	9,921	.3906	25/64	–	1,9	40	10
B224A10000HP	B225A10000HP	10,000	.3937	–	–	1,9	40	10
–	B225A10100HP	10,100	.3976	–	–	1,9	45	12
B224A10200HP	B225A10200HP	10,200	.4016	–	–	1,9	45	12
B224A10300HP	B225A10300HP	10,300	.4055	–	–	1,9	45	12
B224A10320HP	B225A10320HP	10,320	.4063	13/32	–	1,9	45	12
B224A10400HP	B225A10400HP	10,400	.4094	–	–	1,9	45	12
B224A10500HP	B225A10500HP	10,500	.4134	–	–	2,0	45	12
–	B225A10600HP	10,600	.4173	–	–	2,0	45	12
–	B225A10700HP	10,700	.4213	–	–	2,0	45	12
B224A10716HP	B225A10716HP	10,716	.4219	27/64	–	2,0	45	12
B224A10800HP	B225A10800HP	10,800	.4252	–	–	2,0	45	12
–	B225A10900HP	10,900	.4291	–	–	2,0	45	12
B224A11000HP	B225A11000HP	11,000	.4331	–	–	2,1	45	12
–	B225A11100HP	11,100	.4370	–	–	2,1	45	12
B224A11113HP	B225A11113HP	11,113	.4375	7/16	–	2,1	45	12
–	B225A11200HP	11,200	.4409	–	–	2,1	45	12
–	B225A11300HP	11,300	.4449	–	–	2,1	45	12
–	B225A11400HP	11,400	.4488	–	–	2,1	45	12
B224A11500HP	B225A11500HP	11,500	.4528	–	–	2,1	45	12
B224A11509HP	B225A11509HP	11,509	.4531	29/64	–	2,1	45	12
–	B225A11600HP	11,600	.4567	–	–	2,2	45	12
–	B225A11700HP	11,700	.4606	–	–	2,2	45	12
–	B225A11800HP	11,800	.4646	–	–	2,2	45	12
–	B225A11900HP	11,900	.4685	–	–	2,2	45	12
B224A11908HP	B225A11908HP	11,908	.4688	15/32	–	2,2	45	12
B224A12000HP	B225A12000HP	12,000	.4724	–	–	2,2	45	12
–	B225A12100HP	12,100	.4764	–	–	2,3	45	14
–	B225A12200HP	12,200	.4803	–	–	2,3	45	14
B224A12300HP	B225A12300HP	12,300	.4843	–	–	2,3	45	14
B224A12304HP	B225A12304HP	12,304	.4844	31/64	–	2,3	45	14

(continued)

(B224/B225_HP • ~3 x D/~5 x D continued)

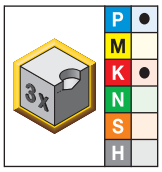


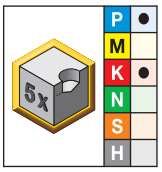


short • KCPK15	long • KCPK15	D1 diameter mm	in	fraction	wire size	L5	LS	D
–	B225A12400HP	12,400	.4882	–	–	2,3	45	14
B224A12500HP	B225A12500HP	12,500	.4921	–	–	2,3	45	14
–	B225A12600HP	12,600	.4961	–	–	2,3	45	14
B224A12700HP	B225A12700HP	12,700	.5000	1/2	–	2,4	45	14
B224A12800HP	B225A12800HP	12,800	.5039	–	–	2,4	45	14
–	B225A12900HP	12,900	.5079	–	–	2,4	45	14
B224A13000HP	B225A13000HP	13,000	.5118	–	–	2,4	45	14
B224A13096HP	–	13,096	.5156	33/64	–	2,4	45	14
B224A13100HP	B225A13100HP	13,100	.5157	–	–	2,4	45	14
–	B225A13200HP	13,200	.5197	–	–	2,5	45	14
–	B225A13300HP	13,300	.5236	–	–	2,5	45	14
–	B225A13400HP	13,400	.5276	–	–	2,5	45	14
B224A13495HP	B225A13495HP	13,495	.5313	17/32	–	2,5	45	14
B224A13500HP	B225A13500HP	13,500	.5315	–	–	2,5	45	14
–	B225A13600HP	13,600	.5354	–	–	2,5	45	14
–	B225A13700HP	13,700	.5394	–	–	2,6	45	14
–	B225A13800HP	13,800	.5433	–	–	2,6	45	14
B224A13891HP	B225A13891HP	13,891	.5469	35/64	–	2,6	45	14
–	B225A13900HP	13,900	.5472	–	–	2,6	45	14
B224A14000HP	B225A14000HP	14,000	.5512	–	–	2,6	45	14
–	B225A14100HP	14,100	.5551	–	–	2,6	48	16
–	B225A14200HP	14,200	.5591	–	–	2,6	48	16
B224A14288HP	B225A14288HP	14,288	.5625	9/16	–	2,7	48	16
–	B225A14300HP	14,300	.5630	–	–	2,7	48	16
–	B225A14400HP	14,400	.5669	–	–	2,7	48	16
B224A14500HP	B225A14500HP	14,500	.5709	–	–	2,7	48	16
–	B225A14600HP	14,600	.5748	–	–	2,7	48	16
B224A14684HP	B225A14684HP	14,684	.5781	37/64	–	2,7	48	16
–	B225A14700HP	14,700	.5787	–	–	2,7	48	16
–	B225A14800HP	14,800	.5827	–	–	2,8	48	16
–	B225A14900HP	14,900	.5866	–	–	2,8	48	16
–	B225A15000HP	15,000	.5906	–	–	2,8	48	16
B224A15083HP	B225A15083HP	15,083	.5938	19/32	–	2,8	48	16
–	B225A15100HP	15,100	.5945	–	–	2,8	48	16
–	B225A15200HP	15,200	.5984	–	–	2,8	48	16
–	B225A15300HP	15,300	.6024	–	–	2,8	48	16
–	B225A15400HP	15,400	.6063	–	–	2,9	48	16
B224A15479HP	B225A15479HP	15,479	.6094	39/64	–	2,9	48	16
B224A15500HP	B225A15500HP	15,500	.6102	–	–	2,9	48	16
B224A15600HP	B225A15600HP	15,600	.6142	–	–	2,9	48	16
–	B225A15700HP	15,700	.6181	–	–	2,9	48	16
–	B225A15800HP	15,800	.6220	–	–	2,9	48	16
B224A15875HP	B225A15875HP	15,875	.6250	5/8	–	3,0	48	16
–	B225A15900HP	15,900	.6260	–	–	3,0	48	16
B224A16000HP	B225A16000HP	16,000	.6299	–	–	3,0	48	16
–	B225A16100HP	16,100	.6339	–	–	3,0	48	18
B224A16500HP	B225A16500HP	16,500	.6496	–	–	3,1	48	18
–	B225A16670HP	16,670	.6563	21/32	–	3,1	48	18

(continued)

(B224/B225_HP • ~3 x D/~5 x D continued)





short • KCPK15	long • KCPK15	D1 diameter mm	in	fraction	wire size	L5	LS	D
B224A17000HP	B225A17000HP	17,000	.6693	–	–	3,2	48	18
B224A17463HP	B225A17463HP	17,463	.6875	11/16	–	3,2	48	18
B224A17500HP	B225A17500HP	17,500	.6890	–	–	3,3	48	18
–	B225A17700HP	17,700	.6969	–	–	3,3	48	18
B224A18000HP	B225A18000HP	18,000	.7087	–	–	3,3	48	18
–	B225A18500HP	18,500	.7283	–	–	3,4	50	20
B224A19000HP	B225A19000HP	19,000	.7480	–	–	3,5	50	20
B224A19050HP	B225A19050HP	19,050	.7500	3/4	–	3,5	50	20
–	B225A19200HP	19,200	.7559	–	–	3,6	50	20
–	B225A19250HP	19,250	.7579	–	–	3,6	50	20
–	B225A19300HP	19,300	.7598	–	–	3,6	50	20
–	B225A19500HP	19,500	.7677	–	–	3,6	50	20
B224A20000HP	B225A20000HP	20,000	.7874	–	–	3,7	50	20
–	B225A20500HP	20,500	.8071	–	–	3,8	50	20
–	B225A21000HP	21,000	.8268	–	–	3,9	50	20

Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance m7	D tolerance h6	nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008	>.1181–.2362	.0002/.0006	.0000/-.0003
>6–10	0,006/0,021	0,000/-0,009	>.2362–.3937	.0002/.0008	.0000/-.0004
>10–18	0,007/0,025	0,000/-0,011	>.3937–.7087	.0003/.0010	.0000/-.0004
>18–25,4	0,008/0,029	0,000/-0,013	>.7087–1.0000	.0003/.0011	.0000/-.0005

HP Drills • B224HP, B225HP Series • Grade KCPK15™ • Through Coolant or MQL (Minimum Quantity Lubricant) for Drill Diameters 3–20mm





Material Group		Cutting Speed – vc Range – m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	130	**240**	290	mm/r	0,09 - 0,18	0,11 - 0,21	0,14 - 0,25	0,16 - 0,34	0,18 - 0,39	0,20 - 0,43	0,22 - 0,51	0,26 - 0,58
	2	190	**230**	270	mm/r	0,09 - 0,18	0,11 - 0,21	0,14 - 0,25	0,16 - 0,34	0,18 - 0,39	0,20 - 0,43	0,22 - 0,51	0,26 - 0,58
	3	130	**160**	190	mm/r	0,01 - 0,11	0,12 - 0,21	0,14 - 0,24	0,16 - 0,34	0,18 - 0,39	0,20 - 0,43	0,22 - 0,51	0,26 - 0,58
	4	110	**150**	170	mm/r	0,07 - 0,15	0,09 - 0,18	0,12 - 0,20	0,15 - 0,28	0,17 - 0,33	0,19 - 0,37	0,22 - 0,43	0,25 - 0,48
	6	110	**150**	190	mm/r	0,07 - 0,13	0,11 - 0,11	0,12 - 0,20	0,15 - 0,28	0,17 - 0,33	0,19 - 0,37	0,22 - 0,43	0,25 - 0,48
Material Group		Cutting Speed – vc Range – SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
P	1	430	**790**	950	IPR	.004 - .007	.004 - .008	.006 - .010	.006 - .013	.007 - .015	.008 - .017	.009 - .020	.010 - .023
	2	620	**750**	890	IPR	.004 - .007	.004 - .008	.006 - .010	.006 - .013	.007 - .015	.008 - .017	.009 - .020	.010 - .023
	3	430	**520**	620	IPR	.000 - .004	.005 - .008	.006 - .009	.006 - .013	.007 - .015	.008 - .017	.009 - .020	.010 - .023
	4	360	**490**	560	IPR	.003 - .006	.004 - .007	.005 - .008	.006 - .011	.007 - .013	.007 - .015	.009 - .017	.010 - .019
	6	360	**490**	620	IPR	.003 - .005	.004 - .004	.005 - .008	.006 - .011	.007 - .013	.007 - .015	.009 - .017	.010 - .019



YPC Beyond™ with Through Coolant for Iron Materials

Primary Application

The all new B25_YPC Series Solid Carbide Drills are specifically engineered to deliver best-in-class hole quality and longest tool life in cast iron, ductile iron, CGI, and ADI. Operate these drills with standard through coolant or MQL.

The B25_YPC Beyond Solid Carbide Drill combines unique Kennametal technologies, such as the Y-TECH™ flute spacing, the HP-point geometry, the KCK10™ Beyond grade, and the latest, proprietary post-coat treatment technology into one tool.

Features and Benefits

Y-TECH Technology with Uneven Flute-to-Flute Angle

- Unbalanced forces by design avoid chipping on margin lands.

Three-Margin Lands

- Reduce pendulum motion by directing forces towards third margin for superior hole accuracy (cylindricity, constant diameter, hole straightness).

New HP Drill-Point Design

- Low thrust prevents workpiece flexing.
- Excellent centering capabilities.
- Highest possible feed rates.

Corner Chamfer

- Avoids breakout when drilling through holes in gray iron.
- Significantly increases tool life at elevated speeds and feeds.

KCK10 Beyond Grade

- The grade contains multiple layers of PVD coating offering outstanding wear resistance for the drilling of cast irons.
- The highly polished surface ensures superior chip evacuation even when low-pressure coolant or MQL is applied.

Customization

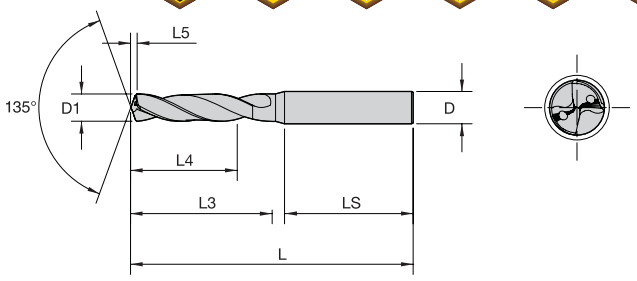
- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.
- Using Kennametal Slim Line hydraulic chucks together with standard B25_YPC is recommended if workpiece contours need to be bypassed.

F-Shank

- For standard line items with F-shank, please refer to the e-catalog on www.kennametal.com.







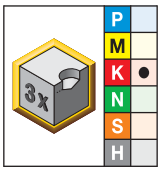


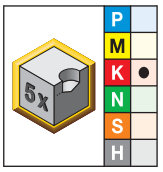
NEW!

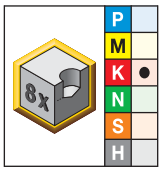
beyond

For information on L, L3, and L4 max, see the Solid Carbide foldout table.

B254/B255/B256_YPC • ~3 x D/~5 x D/~8 x D





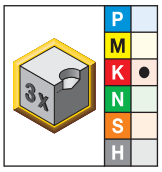


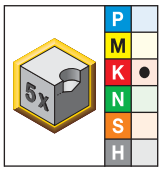
● first choice
○ alternate choice

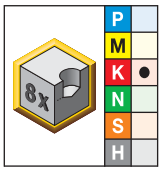
short • KCK10	long • KCK10	extra long • KCK10	D1 diameter mm	in	fraction	wire size	L5	LS	D
B254A03000YPC	B255A03000YPC	B256A03000YPC	3,000	.1181	–	–	0,9	36	6
B254A03048YPC	B255A03048YPC	B256A03048YPC	3,048	.1200	–	31	0,9	36	6
B254A03175YPC	B255A03175YPC	B256A03175YPC	3,175	.1250	1/8	–	0,9	36	6
B254A03200YPC	B255A03200YPC	B256A03200YPC	3,200	.1260	–	–	0,9	36	6
B254A03250YPC	B255A03250YPC	–	3,250	.1280	–	–	0,9	36	6
–	–	B256A03264YPC	3,264	.1285	–	30	0,9	36	6
B254A03300YPC	B255A03300YPC	B256A03300YPC	3,300	.1299	–	–	0,9	36	6
–	B255A03400YPC	–	3,400	.1339	–	–	1,0	36	6
B254A03454YPC	B255A03454YPC	–	3,454	.1360	–	29	1,0	36	6
B254A03500YPC	B255A03500YPC	B256A03500YPC	3,500	.1378	–	–	1,0	36	6
B254A03571YPC	B255A03571YPC	B256A03571YPC	3,571	.1406	9/64	–	1,0	36	6
B254A03600YPC	B255A03600YPC	–	3,600	.1417	–	–	1,0	36	6
–	–	B256A03658YPC	3,658	.1440	–	27	1,0	36	6
B254A03700YPC	B255A03700YPC	B256A03700YPC	3,700	.1457	–	–	1,0	36	6
B254A03734YPC	B255A03734YPC	–	3,734	.1470	–	26	1,1	36	6
B254A03797YPC	B255A03797YPC	–	3,797	.1495	–	25	1,1	36	6
B254A03800YPC	B255A03800YPC	B256A03800YPC	3,800	.1496	–	–	1,1	36	6
B254A03861YPC	B255A03861YPC	–	3,861	.1520	–	24	1,1	36	6
B254A03970YPC	B255A03970YPC	B256A03970YPC	3,970	.1563	5/32	–	1,1	36	6
B254A04000YPC	B255A04000YPC	B256A04000YPC	4,000	.1575	–	–	1,1	36	6
B254A04039YPC	B255A04039YPC	–	4,039	.1590	–	21	1,1	36	6
–	–	B256A04090YPC	4,090	.1610	–	20	1,1	36	6
B254A04100YPC	B255A04100YPC	B256A04100YPC	4,100	.1614	–	–	1,1	36	6
B254A04200YPC	B255A04200YPC	B256A04200YPC	4,200	.1654	–	–	1,2	36	6
–	B255A04217YPC	–	4,217	.1660	–	19	1,2	36	6
–	B255A04300YPC	B256A04300YPC	4,300	.1693	–	–	1,2	36	6
B254A04366YPC	B255A04366YPC	B256A04366YPC	4,366	.1719	11/64	–	1,2	36	6
B254A04496YPC	B255A04496YPC	–	4,496	.1770	–	16	1,2	36	6
B254A04500YPC	B255A04500YPC	B256A04500YPC	4,500	.1772	–	–	1,2	36	6
B254A04572YPC	B255A04572YPC	–	4,572	.1800	–	15	1,3	36	6
–	B255A04600YPC	–	4,600	.1811	–	–	1,3	36	6
–	–	B256A04623YPC	4,623	.1820	–	14	1,3	36	6
B254A04700YPC	B255A04700YPC	B256A04700YPC	4,700	.1850	–	13	1,3	36	6
B254A04763YPC	B255A04763YPC	–	4,763	.1875	3/16	–	1,3	36	6
B254A04800YPC	B255A04800YPC	B256A04800YPC	4,800	.1890	–	12	1,3	36	6
–	–	B256A04852YPC	4,852	.1910	–	11	1,3	36	6
–	B255A04900YPC	–	4,900	.1929	–	–	1,3	36	6
B254A05000YPC	B255A05000YPC	B256A05000YPC	5,000	.1969	–	–	1,4	36	6
B254A05055YPC	B255A05055YPC	–	5,055	.1990	–	8	1,4	36	6
B254A05100YPC	B255A05100YPC	B256A05100YPC	5,100	.2008	–	–	1,4	36	6

(continued)

(B254/B255/B256_YPC • ~3 x D/~5 x D/~8 x D continued)



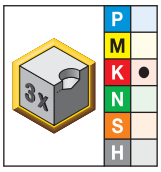


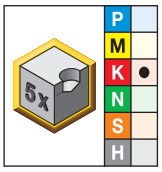


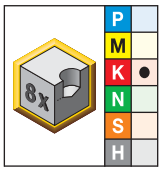
short • KCK10	long • KCK10	extra long • KCK10	D1 diameter mm	in	fraction	wire size	L5	LS	D
B254A05106YPC	B255A05106YPC	–	5,106	.2010	–	7	1,4	36	6
B254A05159YPC	B255A05159YPC	B256A05159YPC	5,159	.2031	13/64	–	1,4	36	6
–	B255A05200YPC	B256A05200YPC	5,200	.2047	–	–	1,4	36	6
–	B255A05250YPC	–	5,250	.2067	–	–	1,4	36	6
B254A05300YPC	B255A05300YPC	B256A05300YPC	5,300	.2087	–	–	1,4	36	6
–	B255A05400YPC	–	5,400	.2126	–	–	1,5	36	6
B254A05410YPC	B255A05410YPC	–	5,410	.2130	–	3	1,5	36	6
B254A05500YPC	B255A05500YPC	B256A05500YPC	5,500	.2165	–	–	1,5	36	6
B254A05558YPC	B255A05558YPC	–	5,558	.2188	7/32	–	1,5	36	6
B254A05600YPC	B255A05600YPC	B256A05600YPC	5,600	.2205	–	–	1,5	36	6
–	–	B256A05616YPC	5,616	.2211	–	2	1,5	36	6
B254A05700YPC	B255A05700YPC	B256A05700YPC	5,700	.2244	–	–	1,5	36	6
B254A05791YPC	B255A05791YPC	–	5,791	.2280	–	1	1,6	36	6
B254A05800YPC	B255A05800YPC	B256A05800YPC	5,800	.2283	–	–	1,6	36	6
–	–	B256A05900YPC	5,900	.2323	–	–	1,6	36	6
B254A05944YPC	B255A05944YPC	–	5,944	.2340	–	A	1,6	36	6
B254A05954YPC	B255A05954YPC	B256A05954YPC	5,954	.2344	15/64	–	1,6	36	6
B254A06000YPC	B255A06000YPC	B256A06000YPC	6,000	.2362	–	–	1,6	36	6
B254A06100YPC	B255A06100YPC	–	6,100	.2402	–	–	1,6	36	8
B254A06200YPC	B255A06200YPC	B256A06200YPC	6,200	.2441	–	–	1,7	36	8
–	B255A06300YPC	–	6,300	.2480	–	–	1,7	36	8
B254A06350YPC	B255A06350YPC	B256A06350YPC	6,350	.2500	1/4	E	1,7	36	8
–	B255A06400YPC	B256A06400YPC	6,400	.2520	–	–	1,7	36	8
B254A06500YPC	B255A06500YPC	B256A06500YPC	6,500	.2559	–	–	1,7	36	8
B254A06528YPC	B255A06528YPC	–	6,528	.2570	–	F	1,7	36	8
B254A06600YPC	B255A06600YPC	B256A06600YPC	6,600	.2598	–	–	1,8	36	8
–	B255A06630YPC	–	6,630	.2610	–	G	1,8	36	8
B254A06700YPC	B255A06700YPC	B256A06700YPC	6,700	.2638	–	–	1,8	36	8
B254A06746YPC	B255A06746YPC	–	6,746	.2656	17/64	–	1,8	36	8
B254A06800YPC	B255A06800YPC	B256A06800YPC	6,800	.2677	–	–	1,8	36	8
B254A06900YPC	B255A06900YPC	–	6,900	.2717	–	–	1,8	36	8
B254A06909YPC	B255A06909YPC	–	6,909	.2720	–	I	1,8	36	8
B254A07000YPC	B255A07000YPC	B256A07000YPC	7,000	.2756	–	–	1,9	36	8
B254A07100YPC	–	–	7,100	.2795	–	–	1,9	36	8
–	B255A07145YPC	–	7,145	.2813	9/32	–	1,9	36	8
–	B255A07200YPC	–	7,200	.2835	–	–	1,9	36	8
–	B255A07300YPC	B256A07300YPC	7,300	.2874	–	–	1,9	36	8
B254A07366YPC	B255A07366YPC	–	7,366	.2900	–	L	1,9	36	8
B254A07400YPC	B255A07400YPC	–	7,400	.2913	–	–	2,0	36	8
B254A07493YPC	B255A07493YPC	–	7,493	.2950	–	M	2,0	36	8
B254A07500YPC	B255A07500YPC	B256A07500YPC	7,500	.2953	–	–	2,0	36	8
B254A07541YPC	B255A07541YPC	–	7,541	.2969	19/64	–	2,0	36	8
B254A07600YPC	B255A07600YPC	B256A07600YPC	7,600	.2992	–	–	2,0	36	8
–	B255A07700YPC	–	7,700	.3031	–	–	2,0	36	8
B254A07800YPC	B255A07800YPC	B256A07800YPC	7,800	.3071	–	–	2,1	36	8
B254A07900YPC	B255A07900YPC	–	7,900	.3110	–	–	2,1	36	8
B254A07938YPC	B255A07938YPC	–	7,938	.3125	5/16	–	2,1	36	8
B254A08000YPC	B255A08000YPC	B256A08000YPC	8,000	.3150	–	–	2,1	36	8
B254A08100YPC	B255A08100YPC	–	8,100	.3189	–	–	2,1	40	10
B254A08200YPC	B255A08200YPC	B256A08200YPC	8,200	.3228	–	–	2,1	40	10
–	B255A08300YPC	B256A08300YPC	8,300	.3268	–	–	2,2	40	10
B254A08334YPC	B255A08334YPC	–	8,334	.3281	21/64	–	2,2	40	10

(continued)

(B254/B255/B256_YPC • ~3 x D/~5 x D/~8 x D continued)



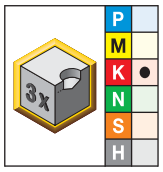


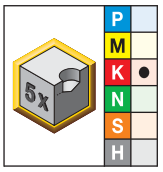


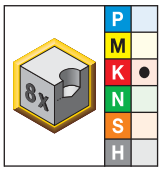
short • KCK10	long • KCK10	extra long • KCK10	D1 diameter mm	in	fraction	wire size	L5	LS	D
B254A08400YPC	–	–	8,400	.3307	–	–	2,2	40	10
B254A08433YPC	B255A08433YPC	–	8,433	.3320	–	Q	2,2	40	10
B254A08500YPC	B255A08500YPC	B256A08500YPC	8,500	.3346	–	–	2,2	40	10
B254A08600YPC	B255A08600YPC	B256A08600YPC	8,600	.3386	–	–	2,2	40	10
B254A08700YPC	B255A08700YPC	B256A08700YPC	8,700	.3425	–	–	2,3	40	10
B254A08733YPC	B255A08733YPC	–	8,733	.3438	11/32	–	2,3	40	10
B254A08800YPC	B255A08800YPC	B256A08800YPC	8,800	.3465	–	–	2,3	40	10
B254A08839YPC	B255A08839YPC	–	8,839	.3480	–	S	2,3	40	10
B254A08900YPC	B255A08900YPC	–	8,900	.3504	–	–	2,3	40	10
B254A09000YPC	B255A09000YPC	B256A09000YPC	9,000	.3543	–	–	2,3	40	10
B254A09093YPC	B255A09093YPC	–	9,093	.3580	–	T	2,4	40	10
B254A09100YPC	B255A09100YPC	B256A09100YPC	9,100	.3583	–	–	2,4	40	10
B254A09129YPC	B255A09129YPC	–	9,129	.3594	23/64	–	2,4	40	10
B254A09200YPC	B255A09200YPC	B256A09200YPC	9,200	.3622	–	–	2,4	40	10
–	B255A09300YPC	B256A09300YPC	9,300	.3661	–	–	2,4	40	10
–	–	B256A09347YPC	9,347	.3680	–	U	2,4	40	10
B254A09400YPC	B255A09400YPC	B256A09400YPC	9,400	.3701	–	–	2,4	40	10
B254A09500YPC	B255A09500YPC	B256A09500YPC	9,500	.3740	–	–	2,5	40	10
B254A09525YPC	B255A09525YPC	–	9,525	.3750	3/8	–	2,5	40	10
–	B255A09600YPC	B256A09600YPC	9,600	.3780	–	–	2,5	40	10
–	B255A09700YPC	B256A09700YPC	9,700	.3819	–	–	2,5	40	10
B254A09800YPC	B255A09800YPC	B256A09800YPC	9,800	.3858	–	–	2,5	40	10
B254A09921YPC	B255A09921YPC	–	9,921	.3906	25/64	–	2,6	40	10
B254A10000YPC	B255A10000YPC	B256A10000YPC	10,000	.3937	–	–	2,6	40	10
B254A10200YPC	B255A10200YPC	B256A10200YPC	10,200	.4016	–	–	2,6	45	12
B254A10262YPC	B255A10262YPC	–	10,262	.4040	–	Y	2,6	45	12
B254A10300YPC	B255A10300YPC	B256A10300YPC	10,300	.4055	–	–	2,6	45	12
B254A10320YPC	B255A10320YPC	–	10,320	.4063	13/32	–	2,7	45	12
B254A10400YPC	B255A10400YPC	B256A10400YPC	10,400	.4094	–	–	2,7	45	12
B254A10490YPC	B255A10490YPC	–	10,490	.4130	–	Z	2,7	45	12
B254A10500YPC	B255A10500YPC	B256A10500YPC	10,500	.4134	–	–	2,7	45	12
–	B255A10600YPC	–	10,600	.4173	–	–	2,7	45	12
B254A10700YPC	–	B256A10700YPC	10,700	.4213	–	–	2,7	45	12
B254A10716YPC	B255A10716YPC	–	10,716	.4219	27/64	–	2,7	45	12
B254A10800YPC	B255A10800YPC	B256A10800YPC	10,800	.4252	–	–	2,8	45	12
B254A10900YPC	B255A10900YPC	–	10,900	.4291	–	–	2,8	45	12
B254A11000YPC	B255A11000YPC	B256A11000YPC	11,000	.4331	–	–	2,8	45	12
B254A11100YPC	B255A11100YPC	–	11,100	.4370	–	–	2,8	45	12
B254A11113YPC	B255A11113YPC	–	11,113	.4375	7/16	–	2,8	45	12
B254A11200YPC	B255A11200YPC	B256A11200YPC	11,200	.4409	–	–	2,9	45	12
–	B255A11300YPC	B256A11300YPC	11,300	.4449	–	–	2,9	45	12
B254A11500YPC	B255A11500YPC	B256A11500YPC	11,500	.4528	–	–	2,9	45	12
B254A11509YPC	B255A11509YPC	–	11,509	.4531	29/64	–	2,9	45	12
–	–	B256A11600YPC	11,600	.4567	–	–	3,0	45	12
–	B255A11700YPC	–	11,700	.4606	–	–	3,0	45	12
B254A11800YPC	B255A11800YPC	B256A11800YPC	11,800	.4646	–	–	3,0	45	12
B254A11900YPC	B255A11900YPC	–	11,900	.4685	–	–	3,0	45	12
B254A11908YPC	B255A11908YPC	–	11,908	.4688	15/32	–	3,0	45	12
B254A12000YPC	B255A12000YPC	B256A12000YPC	12,000	.4724	–	–	3,1	45	12
–	B255A12100YPC	–	12,100	.4764	–	–	3,1	45	14
B254A12200YPC	B255A12200YPC	B256A12200YPC	12,200	.4803	–	–	3,1	45	14
B254A12251YPC	B255A12251YPC	–	12,251	.4823	–	–	3,1	45	14

(continued)

(B254/B255/B256_YPC • ~3 x D/~5 x D/~8 x D continued)



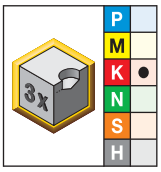


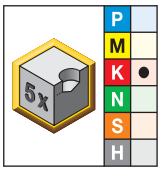


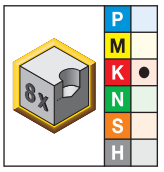
short • KCK10	long • KCK10	extra long • KCK10	D1 diameter mm	in	fraction	wire size	L5	LS	D
–	B255A12300YPC	B256A12300YPC	12,300	.4843	–	–	3,1	45	14
B254A12304YPC	B255A12304YPC	–	12,304	.4844	31/64	–	3,1	45	14
–	–	B256A12400YPC	12,400	.4882	–	–	3,1	45	14
B254A12500YPC	B255A12500YPC	B256A12500YPC	12,500	.4921	–	–	3,2	45	14
B254A12700YPC	B255A12700YPC	B256A12700YPC	12,700	.5000	1/2	–	3,2	45	14
B254A12800YPC	B255A12800YPC	B256A12800YPC	12,800	.5039	–	–	3,2	45	14
B254A13000YPC	B255A13000YPC	B256A13000YPC	13,000	.5118	–	–	3,3	45	14
B254A13096YPC	B255A13096YPC	B256A13096YPC	13,096	.5156	33/64	–	3,3	45	14
B254A13100YPC	–	–	13,100	.5157	–	–	3,3	45	14
B254A13200YPC	B255A13200YPC	B256A13200YPC	13,200	.5197	–	–	3,3	45	14
B254A13300YPC	–	–	13,300	.5236	–	–	3,4	45	14
B254A13400YPC	–	–	13,400	.5276	–	–	3,4	45	14
B254A13495YPC	B255A13495YPC	B256A13495YPC	13,495	.5313	17/32	–	3,4	45	14
B254A13500YPC	B255A13500YPC	B256A13500YPC	13,500	.5315	–	–	3,4	45	14
–	–	B256A13700YPC	13,700	.5394	–	–	3,5	45	14
B254A13800YPC	–	B256A13800YPC	13,800	.5433	–	–	3,5	45	14
B254A13891YPC	B255A13891YPC	B256A13891YPC	13,891	.5469	35/64	–	3,5	45	14
B254A14000YPC	B255A14000YPC	B256A14000YPC	14,000	.5512	–	–	3,5	45	14
B254A14100YPC	B255A14100YPC	–	14,100	.5551	–	–	3,6	48	16
B254A14288YPC	B255A14288YPC	–	14,288	.5625	9/16	–	3,6	48	16
B254A14500YPC	B255A14500YPC	B256A14500YPC	14,500	.5709	–	–	3,6	48	16
–	B255A14600YPC	–	14,600	.5748	–	–	3,7	48	16
B254A14684YPC	B255A14684YPC	B256A14684YPC	14,684	.5781	37/64	–	3,7	48	16
–	B255A14700YPC	–	14,700	.5787	–	–	3,7	48	16
B254A14750YPC	B255A14750YPC	–	14,750	.5807	–	–	3,7	48	16
B254A14800YPC	B255A14800YPC	B256A14800YPC	14,800	.5827	–	–	3,7	48	16
B254A15000YPC	B255A15000YPC	B256A15000YPC	15,000	.5906	–	–	3,8	48	16
B254A15083YPC	B255A15083YPC	B256A15083YPC	15,083	.5938	19/32	–	3,8	48	16
B254A15200YPC	B255A15200YPC	B256A15200YPC	15,200	.5984	–	–	3,8	48	16
B254A15250YPC	B255A15250YPC	–	15,250	.6004	–	–	3,8	48	16
–	–	B256A15300YPC	15,300	.6024	–	–	3,8	48	16
B254A15400YPC	B255A15400YPC	B256A15400YPC	15,400	.6063	–	–	3,9	48	16
B254A15479YPC	B255A15479YPC	B256A15479YPC	15,479	.6094	39/64	–	3,9	48	16
B254A15500YPC	B255A15500YPC	B256A15500YPC	15,500	.6102	–	–	3,9	48	16
B254A15600YPC	–	–	15,600	.6142	–	–	3,9	48	16
B254A15800YPC	B255A15800YPC	B256A15800YPC	15,800	.6220	–	–	4,0	48	16
B254A15875YPC	B255A15875YPC	–	15,875	.6250	5/8	–	4,0	48	16
B254A16000YPC	B255A16000YPC	B256A16000YPC	16,000	.6299	–	–	4,0	48	16
–	B255A16271YPC	B256A16271YPC	16,271	.6406	41/64	–	4,1	48	18
–	B255A16300YPC	B256A16300YPC	16,300	.6417	–	–	4,1	48	18
B254A16500YPC	B255A16500YPC	B256A16500YPC	16,500	.6496	–	–	4,1	48	18
B254A16670YPC	B255A16670YPC	B256A16670YPC	16,670	.6563	21/32	–	4,2	48	18
B254A16800YPC	B255A16800YPC	B256A16800YPC	16,800	.6614	–	–	4,2	48	18
–	B255A16900YPC	–	16,900	.6654	–	–	4,2	48	18
B254A17000YPC	B255A17000YPC	B256A17000YPC	17,000	.6693	–	–	4,2	48	18
–	B255A17200YPC	–	17,200	.6772	–	–	4,3	48	18
B254A17300YPC	B255A17300YPC	–	17,300	.6811	–	–	4,3	48	18
–	B255A17400YPC	B256A17400YPC	17,400	.6850	–	–	4,3	48	18
B254A17463YPC	B255A17463YPC	–	17,463	.6875	11/16	–	4,3	48	18
B254A17500YPC	B255A17500YPC	B256A17500YPC	17,500	.6890	–	–	4,3	48	18
B254A17800YPC	B255A17800YPC	B256A17800YPC	17,800	.7008	–	–	4,4	48	18
B254A17859YPC	B255A17859YPC	B256A17859YPC	17,859	.7031	45/64	–	4,4	48	18

(continued)

(B254/B255/B256_YPC • ~3 x D/~5 x D/~8 x D continued)

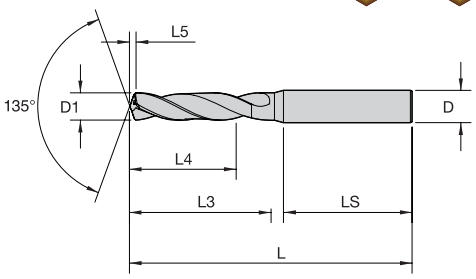


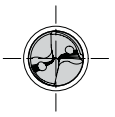




short • KCK10	long • KCK10	extra long • KCK10	D1 diameter mm	in	fraction	wire size	L5	LS	D
B254A18000YPC	B255A18000YPC	B256A18000YPC	18,000	.7087	–	–	4,5	48	18
B254A18200YPC	–	–	18,200	.7165	–	–	4,5	50	20
B254A18258YPC	B255A18258YPC	B256A18258YPC	18,258	.7188	23/32	–	4,5	50	20
B254A18500YPC	B255A18500YPC	B256A18500YPC	18,500	.7283	–	–	4,6	50	20
B254A18800YPC	B255A18800YPC	B256A18800YPC	18,800	.7402	–	–	4,7	50	20
B254A19000YPC	B255A19000YPC	B256A19000YPC	19,000	.7480	–	–	4,7	50	20
B254A19050YPC	B255A19050YPC	–	19,050	.7500	3/4	–	4,7	50	20
–	B255A19446YPC	B256A19446YPC	19,446	.7656	49/64	–	4,8	50	20
B254A19446YPC	–	–	19,446	.7656	49/64	–	4,8	50	20
B254A19500YPC	B255A19500YPC	B256A19500YPC	19,500	.7677	–	–	4,8	50	20
B254A19700YPC	B255A19700YPC	–	19,700	.7756	–	–	4,9	50	20
B254A19800YPC	B255A19800YPC	B256A19800YPC	19,800	.7795	–	–	4,9	50	20
B254A20000YPC	B255A20000YPC	B256A20000YPC	20,000	.7874	–	–	4,9	50	20
–	B255A20500YPC	–	20,500	.8071	–	–	5,1	50	20
B254A20638YPC	B255A20638YPC	B256A20638YPC	20,638	.8125	13/16	–	5,1	50	20
B254A21000YPC	B255A21000YPC	–	21,000	.8268	–	–	5,2	50	20
B254A22000YPC	B255A22000YPC	B256A22000YPC	22,000	.8661	–	–	5,4	50	20
B254A22225YPC	B255A22225YPC	B256A22225YPC	22,225	.8750	7/8	–	5,5	56	25
B254A23416YPC	B255A23416YPC	–	23,416	.9219	59/64	–	5,7	56	25
B254A24000YPC	B255A24000YPC	–	24,000	.9449	–	–	5,9	56	25
B254A25000YPC	B255A25000YPC	–	25,000	.9843	–	–	6,1	56	25
–	–	B256A25004YPC	25,004	.9844	63/64	–	6,1	56	25







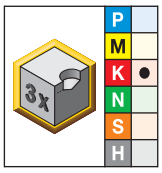


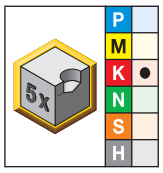
NEW!

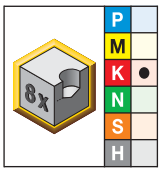
beyond

For information on L, L3, and L4 max, see the Solid Carbide foldout table.

K254/K255/K256_YPC • ~3 x D/~5 x D/~8 x D





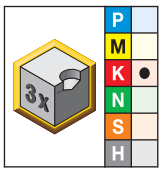


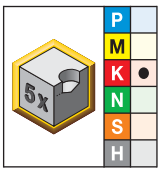
● first choice
○ alternate choice

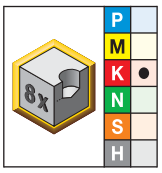
short • KCK10	regular • KCK10	long • KCK10	D1 diameter in	mm	fraction	wire size	L5	LS	D
K254A01250YPC	K255A01250YPC	–	.1250	3,175	1/8	–	.036	1.44	.1875
–	K255A01360YPC	–	.1360	3,455	–	29	.039	1.44	.1875
–	K255A01406YPC	–	.1406	3,571	9/64	–	.040	1.44	.1875
–	K255A01495YPC	–	.1495	3,797	–	25	.042	1.44	.1875
K254A01563YPC	–	K256A01563YPC	.1563	3,969	5/32	–	.044	1.44	.1875
–	K255A01563YPC	–	.1563	3,970	5/32	–	.044	1.44	.1875
–	K255A01770YPC	–	.1770	4,496	–	16	.049	1.44	.1875
K254A01875YPC	–	K256A01875YPC	.1875	4,762	3/16	–	.052	1.44	.1875
–	K255A01875YPC	–	.1875	4,763	3/16	–	.052	1.44	.1875
–	K255A02010YPC	–	.2010	5,106	–	7	.055	1.44	.2500
–	K255A02130YPC	–	.2130	5,410	–	3	.058	1.44	.2500
K254A02188YPC	K255A02188YPC	K256A02188YPC	.2188	5,558	7/32	–	.059	1.44	.2500
K254A02500YPC	K255A02500YPC	K256A02500YPC	.2500	6,350	1/4	E	.067	1.44	.2500
–	K255A02570YPC	–	.2570	6,528	–	F	.069	1.52	.3125
–	K255A02610YPC	–	.2610	6,630	–	G	.070	1.52	.3125
K254A02656YPC	K255A02656YPC	K256A02656YPC	.2656	6,746	17/64	–	.071	1.52	.3125
–	K255A02720YPC	–	.2720	6,909	–	I	.072	1.52	.3125
K254A02813YPC	K255A02813YPC	K256A02813YPC	.2813	7,145	9/32	–	.075	1.52	.3125
K254A02969YPC	K255A02969YPC	K256A02969YPC	.2969	7,541	19/64	–	.078	1.52	.3125
K254A03125YPC	K255A03125YPC	K256A03125YPC	.3125	7,938	5/16	–	.082	1.52	.3125
K254A03281YPC	K255A03281YPC	K256A03281YPC	.3281	8,334	21/64	–	.086	1.59	.3750
–	K255A03320YPC	–	.3320	8,433	–	Q	.087	1.59	.3750
K254A03438YPC	K255A03438YPC	K256A03438YPC	.3438	8,733	11/32	–	.090	1.59	.3750
K254A03594YPC	K255A03594YPC	K256A03594YPC	.3594	9,129	23/64	–	.093	1.59	.3750
–	K255A03680YPC	–	.3680	9,347	–	U	.095	1.59	.3750
K254A03750YPC	K255A03750YPC	K256A03750YPC	.3750	9,525	3/8	–	.097	1.59	.3750
K254A03906YPC	K255A03906YPC	K256A03906YPC	.3906	9,921	25/64	–	.101	1.67	.4375
K254A04063YPC	K255A04063YPC	K256A04063YPC	.4063	10,320	13/32	–	.105	1.67	.4375
K254A04219YPC	K255A04219YPC	K256A04219YPC	.4219	10,716	27/64	–	.108	1.67	.4375
K254A04375YPC	K255A04375YPC	K256A04375YPC	.4375	11,113	7/16	–	.112	1.67	.4375
K254A04531YPC	K255A04531YPC	K256A04531YPC	.4531	11,509	29/64	–	.116	1.79	.5000
K254A04688YPC	K255A04688YPC	K256A04688YPC	.4688	11,908	15/32	–	.119	1.79	.5000
K254A04844YPC	K255A04844YPC	K256A04844YPC	.4844	12,304	31/64	–	.123	1.79	.5000
K254A05000YPC	K255A05000YPC	K256A05000YPC	.5000	12,700	1/2	–	.127	1.79	.5000
–	K255A05156YPC	–	.5156	13,096	33/64	–	.130	1.79	.5625
K254A05625YPC	K255A05625YPC	K256A05625YPC	.5625	14,288	9/16	–	.142	1.79	.5625
K254A06250YPC	K255A06250YPC	K256A06250YPC	.6250	15,875	5/8	–	.156	1.91	.6250
–	K255A06563YPC	–	.6563	16,670	21/32	–	.164	1.91	.6875
K254A06875YPC	K255A06875YPC	K256A06875YPC	.6875	17,463	11/16	–	.171	1.91	.6875
K254A07500YPC	K255A07500YPC	K256A07500YPC	.7500	19,050	3/4	–	.186	1.99	.7500

(continued)

(K254/K255/K256_YPC • ~3 x D/~5 x D/~8 x D continued)







short • KCK10	regular • KCK10	long • KCK10	D1 diameter in	mm	fraction	wire size	L5	LS	D
–	K255A07656YPC	–	.7656	19,446	49/64	–	.189	1.99	.8125
K254A08125YPC	K255A08125YPC	–	.8125	20,638	13/16	–	.200	1.99	.8125
K254A08750YPC	K255A08750YPC	–	.8750	22,225	7/8	–	.215	2.07	.8750

Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance m7	D tolerance h6	nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008	>.1181–.2362	.0002/.0006	.0000/-.0003
>6–10	0,006/0,021	0,000/-0,009	>.2362–.3937	.0002/.0008	.0000/-.0004
>10–18	0,007/0,025	0,000/-0,011	>.3937–.7087	.0003/.0010	.0000/-.0004
>18–25,4	0,008/0,029	0,000/-0,013	>.7087–1.0000	.0003/.0011	.0000/-.0005

YPC Drills • B/K25_YPC Series • Grade KCK10™ • Through Coolant for Drill Diameters 3–20mm





Material Group		Cutting Speed – vc Range – m/min min	Starting Value	max	Metric Recommended Feed Rate (f) by Diameter		3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
K	1	130	**160**	210	mm/r		0,08 - 0,12	0,15 - 0,21	0,21 - 0,29	0,26 - 0,37	0,30 - 0,42	0,34 - 0,45	0,38 - 0,53	0,42 - 0,58
	2	90	**130**	180	mm/r		0,08 - 0,12	0,14 - 0,18	0,20 - 0,27	0,24 - 0,32	0,26 - 0,38	0,32 - 0,42	0,36 - 0,48	0,39 - 0,53
	3	70	**90**	130	mm/r		0,07 - 0,11	0,11 - 0,15	0,16 - 0,22	0,20 - 0,27	0,23 - 0,32	0,25 - 0,35	0,29 - 0,40	0,32 - 0,43
Material Group		Cutting Speed – vc Range – SFM min	Starting Value	max	Inch Recommended Feed Rate (f) by Diameter		1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
K	1	430	**520**	690	IPR		.003 - .005	.006 - .008	.008 - .011	.010 - .015	.012 - .017	.013 - .018	.015 - .021	.017 - .023
	2	300	**430**	590	IPR		.003 - .005	.006 - .007	.008 - .011	.009 - .013	.010 - .015	.013 - .017	.014 - .019	.015 - .021
	3	230	**300**	430	IPR		.003 - .004	.004 - .006	.006 - .009	.008 - .011	.009 - .013	.010 - .014	.011 - .016	.013 - .017



SE 4-Margin Drills with Through Coolant for Steel

Primary Application

B256 Series Solid Carbide Drills are the high-performance platform for mid-L/D applications in steel that require high accuracy and consistent hole straightness combined with excellent metal removal rates and long tool life.

Features and Benefits

SE Drill-Point Design

- Sculptured edge enables high feed rates.

Four-Margin Lands

- Improves hole straightness.
- Improves hole alignment when drilling through cross holes.

KC7315™ Grade

- Multilayer, TiAlN-based coating with high hot hardness allows 30% higher cutting speeds and constant tool life.
- Optimized tool surface finish ensures chip evacuation when drilling deeper holes.

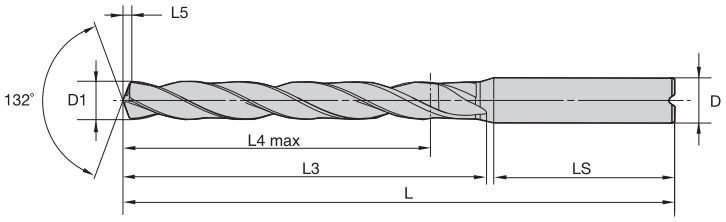
Customization

- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.
- For follow-up operations, such as machining screw holes in connecting rods, the point angle of the step drill for the screw head should be adjusted.



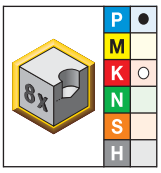








B256 • ~8 x D



● first choice
○ alternate choice

extra long • KC7315	D1 diameter mm	in	fraction	wire size	L5	LS	D
B256A05000	5,000	.1969	–	–	1,0	36	6
B256A05100	5,100	.2008	–	–	1,0	36	6
B256A05500	5,500	.2165	–	–	1,1	36	6
B256A05800	5,800	.2283	–	–	1,2	36	6
B256A06000	6,000	.2362	–	–	1,2	36	6
B256A06500	6,500	.2559	–	–	1,3	36	8
B256A06800	6,800	.2677	–	–	1,4	36	8
B256A07000	7,000	.2756	–	–	1,4	36	8
B256A07800	7,800	.3071	–	–	1,6	36	8
B256A08000	8,000	.3150	–	–	1,6	36	8
B256A08400	8,400	.3307	–	–	1,7	40	10
B256A08500	8,500	.3346	–	–	1,7	40	10
B256A08800	8,800	.3465	–	–	1,8	40	10
B256A09000	9,000	.3543	–	–	1,8	40	10
B256A09500	9,500	.3740	–	–	1,9	40	10
B256A10000	10,000	.3937	–	–	2,0	40	10
B256A10200	10,200	.4016	–	–	2,0	45	12
B256A10500	10,500	.4134	–	–	2,1	45	12
B256A11000	11,000	.4331	–	–	2,2	45	12
B256A11800	11,800	.4646	–	–	2,3	45	12
B256A12000	12,000	.4724	–	–	2,4	45	12
B256A12500	12,500	.4921	–	–	2,5	45	14
B256A13000	13,000	.5118	–	–	2,6	45	14
B256A13500	13,500	.5315	–	–	2,7	45	14
B256A14000	14,000	.5512	–	–	2,8	45	14
B256A15000	15,000	.5906	–	–	3,0	48	16
B256A16000	16,000	.6299	–	–	3,2	48	16

Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance m7	D tolerance h6	nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008	>.1181–.2362	.0002/.0006	.0000/-.0003
>6–10	0,006/0,021	0,000/-0,009	>.2362–.3937	.0002/.0008	.0000/-.0004
>10–18	0,007/0,025	0,000/-0,011	>.3937–.7087	.0003/.0010	.0000/-.0004
>18–25,4	0,008/0,029	0,000/-0,013	>.7087–1.0000	.0003/.0011	.0000/-.0005

SE Drills • B256 Series • Grade KC7315™ • Through Coolant for Drill Diameters 3–20mm



Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	120	**145**	175	mm/r	0,08 - 0,11	0,09 - 0,15	0,11 - 0,15	0,13 - 0,19	0,13 - 0,22	0,15 - 0,27	0,18 - 0,33	0,22 - 0,37
	2	80	**100**	120	mm/r	0,08 - 0,11	0,08 - 0,13	0,09 - 0,17	0,15 - 0,21	0,16 - 0,25	0,18 - 0,33	0,22 - 0,42	0,26 - 0,50
	3	80	**90**	120	mm/r	0,08 - 0,11	0,09 - 0,15	0,11 - 0,15	0,13 - 0,19	0,13 - 0,22	0,15 - 0,27	0,18 - 0,33	0,22 - 0,37
	4	60	**70**	80	mm/r	0,06 - 0,09	0,07 - 0,13	0,09 - 0,13	0,11 - 0,15	0,11 - 0,17	0,13 - 0,22	0,15 - 0,27	0,17 - 0,30

Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
P	1	390	**480**	570	IPR	.003 - .004	.004 - .006	.004 - .006	.005 - .007	.005 - .009	.006 - .011	.007 - .013	.009 - .015
	2	260	**330**	390	IPR	.003 - .004	.003 - .005	.004 - .007	.006 - .008	.006 - .010	.007 - .013	.009 - .017	.010 - .020
	3	260	**300**	390	IPR	.003 - .004	.004 - .006	.004 - .006	.005 - .007	.005 - .009	.006 - .011	.007 - .013	.009 - .015
	4	200	**230**	260	IPR	.002 - .004	.003 - .005	.004 - .005	.004 - .006	.004 - .007	.005 - .009	.006 - .011	.007 - .012

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HP Beyond™ 4-Margin Long-Length Drills with Through Coolant

beyond™

Primary Application

B269_HP Series Solid Carbide Drills are 12 x D, long-length drills, closing the gap between 8 x D drill (B256_SE) and 15 x D (B271_HP). They are designed for deep-hole applications without pilot drill in steel, cast iron, and stainless steel materials. Operate these drills with standard through coolant or MQL. The drills have a standard A-shank according to DIN 6535 HA (round cylindrical with 2mm steps).

Features and Benefits

Four-Margin Lands

- Improves hole straightness.
- Improves hole alignment when drilling through cross holes or inclined exits.

HP Drill-Point Design

- Low thrust prevents workpiece flexing.
- Excellent centering capabilities.
- Eliminates the need for pilot drilling.

Unique Flute Design

- Drastically improved chip evacuation.
- Better hole surface quality.

KCPK15™ Beyond Grade

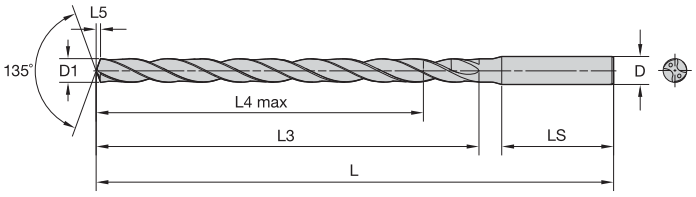
- The grade is a multilayer, TiAlN-based coating with high hot hardness. It enables highest cutting speeds and enables the use in MQL applications.
- The highly polished surface ensures superior chip evacuation even when low-pressure coolant is applied.

Customization

- Intermediate diameters available as engineered solutions.
- Length variations and step drills available as engineered solutions.



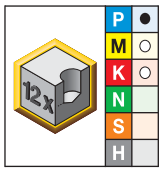






beyond

B269_HP • ~12 x D

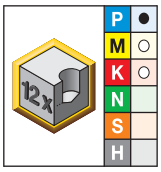


● first choice
○ alternate choice

KCPK15	D1 diameter mm	in	fraction	wire size	L	L3	L4 max	L5	LS	D
B269A03000HP	3,000	.1181	–	–	93	52	44	0,6	36	6
B269A03175HP	3,175	.1250	1/8	–	93	52	44	0,6	36	6
B269A03264HP	3,264	.1285	–	30	93	53	44	0,6	36	6
B269A03500HP	3,500	.1378	–	–	93	53	44	0,7	36	6
B269A03970HP	3,970	.1563	5/32	–	107	66	56	0,7	36	6
B269A04000HP	4,000	.1575	–	–	107	66	56	0,8	36	6
B269A04500HP	4,500	.1772	–	–	107	67	56	0,8	36	6
B269A04600HP	4,600	.1811	–	–	107	68	57	0,9	36	6
B269A04763HP	4,763	.1875	3/16	–	125	82	69	0,9	36	6
B269A04800HP	4,800	.1890	–	12	125	82	69	0,9	36	6
B269A05000HP	5,000	.1969	–	–	125	83	70	0,9	36	6
B269A05100HP	5,100	.2008	–	–	125	83	70	1,0	36	6
B269A05200HP	5,200	.2047	–	–	125	83	70	1,0	36	6
B269A05300HP	5,300	.2087	–	–	125	84	71	1,0	36	6
B269A05410HP	5,410	.2130	–	3	125	84	71	1,0	36	6
B269A05500HP	5,500	.2165	–	–	125	84	71	1,0	36	6
B269A05558HP	5,558	.2188	7/32	–	125	84	71	1,0	36	6
B269A05600HP	5,600	.2205	–	–	125	85	72	1,1	36	6
B269A05700HP	5,700	.2244	–	–	125	85	72	1,1	36	6
B269A05800HP	5,800	.2283	–	–	125	85	71	1,1	36	6
B269A06000HP	6,000	.2362	–	–	125	86	72	1,1	36	6
B269A06200HP	6,200	.2441	–	–	139	97	82	1,2	36	8
B269A06350HP	6,350	.2500	1/4	E	139	98	83	1,2	36	8
B269A06500HP	6,500	.2559	–	–	139	98	83	1,2	36	8
B269A06528HP	6,528	.2570	–	F	139	98	83	1,2	36	8
B269A06600HP	6,600	.2598	–	–	139	99	84	1,2	36	8
B269A06746HP	6,746	.2656	17/64	–	139	99	83	1,3	36	8
B269A06800HP	6,800	.2677	–	–	139	99	83	1,3	36	8
B269A06909HP	6,909	.2720	–	I	139	100	84	1,3	36	8
B269A07000HP	7,000	.2756	–	–	139	100	84	1,3	36	8
B269A07145HP	7,145	.2813	9/32	–	153	111	94	1,3	36	8
B269A07500HP	7,500	.2953	–	–	153	112	95	1,4	36	8
B269A07541HP	7,541	.2969	19/64	–	153	112	95	1,4	36	8
B269A07700HP	7,700	.3031	–	–	153	113	96	1,4	36	8
B269A07800HP	7,800	.3071	–	–	153	113	95	1,5	36	8
B269A07938HP	7,938	.3125	5/16	–	153	114	96	1,5	36	8
B269A08000HP	8,000	.3150	–	–	153	114	96	1,5	36	8
B269A08100HP	8,100	.3189	–	–	185	136	116	1,5	40	10
B269A08334HP	8,334	.3281	21/64	–	185	137	117	1,6	40	10
B269A08433HP	8,433	.3320	–	Q	185	137	117	1,6	40	10

(continued)

(B269_HP • ~12 x D continued)



KCPK15	D1 diameter mm	in	fraction	wire size	L	L3	L4 max	L5	LS	D
B269A08500HP	8,500	.3346	–	–	185	137	117	1,6	40	10
B269A08700HP	8,700	.3425	–	–	185	138	118	1,6	40	10
B269A08733HP	8,733	.3438	11/32	–	185	138	117	1,6	40	10
B269A09000HP	9,000	.3543	–	–	185	139	118	1,7	40	10
B269A09100HP	9,100	.3583	–	–	185	139	118	1,7	40	10
B269A09129HP	9,129	.3594	23/64	–	185	139	118	1,7	40	10
B269A09500HP	9,500	.3740	–	–	185	140	119	1,8	40	10
B269A09525HP	9,525	.3750	3/8	–	185	140	119	1,8	40	10
B269A09921HP	9,921	.3906	25/64	–	185	142	120	1,9	40	10
B269A10000HP	10,000	.3937	–	–	185	142	120	1,9	40	10
B269A10200HP	10,200	.4016	–	–	218	164	140	1,9	45	12
B269A10300HP	10,300	.4055	–	–	218	165	141	1,9	45	12
B269A10320HP	10,320	.4063	13/32	–	218	165	141	1,9	45	12
B269A10500HP	10,500	.4134	–	–	218	165	141	2,0	45	12
B269A10716HP	10,716	.4219	27/64	–	218	166	142	2,0	45	12
B269A10800HP	10,800	.4252	–	–	218	166	141	2,0	45	12
B269A11000HP	11,000	.4331	–	–	218	167	142	2,1	45	12
B269A11113HP	11,113	.4375	7/16	–	218	167	142	2,1	45	12
B269A11500HP	11,500	.4528	–	–	218	168	143	2,1	45	12
B269A11800HP	11,800	.4646	–	–	218	169	143	2,2	45	12
B269A12000HP	12,000	.4724	–	–	218	170	144	2,2	45	12
B269A12100HP	12,100	.4764	–	–	246	192	164	2,3	45	14
B269A12304HP	12,304	.4844	31/64	–	246	193	165	2,3	45	14
B269A12500HP	12,500	.4921	–	–	246	193	165	2,3	45	14
B269A12700HP	12,700	.5000	1/2	–	246	194	166	2,4	45	14
B269A13000HP	13,000	.5118	–	–	246	195	166	2,4	45	14
B269A13100HP	13,100	.5157	–	–	246	195	166	2,4	45	14
B269A13500HP	13,500	.5315	–	–	246	196	167	2,5	45	14
B269A14000HP	14,000	.5512	–	–	246	198	168	2,6	45	14
B269A14100HP	14,100	.5551	–	–	277	220	188	2,6	48	16
B269A14288HP	14,288	.5625	9/16	–	277	220	188	2,7	48	16
B269A14500HP	14,500	.5709	–	–	277	221	189	2,7	48	16
B269A14684HP	14,684	.5781	37/64	–	277	222	190	2,7	48	16
B269A15000HP	15,000	.5906	–	–	277	223	190	2,8	48	16
B269A15500HP	15,500	.6102	–	–	277	224	191	2,9	48	16
B269A15875HP	15,875	.6250	5/8	–	277	225	192	3,0	48	16
B269A16000HP	16,000	.6299	–	–	277	226	192	3,0	48	16
B269A16500HP	16,500	.6496	–	–	305	249	213	3,1	48	18
B269A17000HP	17,000	.6693	–	–	305	250	214	3,2	48	18
B269A17463HP	17,463	.6875	11/16	–	305	252	215	3,2	48	18
B269A17500HP	17,500	.6890	–	–	305	252	215	3,3	48	18
B269A18000HP	18,000	.7087	–	–	305	253	216	3,3	48	18
B269A18500HP	18,500	.7283	–	–	334	277	237	3,4	50	20
B269A19000HP	19,000	.7480	–	–	334	278	238	3,5	50	20
B269A19050HP	19,050	.7500	3/4	–	334	279	239	3,5	50	20
B269A19500HP	19,500	.7677	–	–	334	280	239	3,6	50	20
B269A20000HP	20,000	.7874	–	–	334	281	240	3,7	50	20

Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance m7	D tolerance h6	nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008	>.1181–.2362	.0002/.0006	.0000/-.0003
>6–10	0,006/0,021	0,000/-0,009	>.2362–.3937	.0002/.0008	.0000/-.0004
>10–18	0,007/0,025	0,000/-0,011	>.3937–.7087	.0003/.0010	.0000/-.0004
>18–25,4	0,008/0,029	0,000/-0,013	>.7087–1.0000	.0003/.0011	.0000/-.0005

HP Drills • B269_HP Series • Grade KCPK15™ • Through Coolant for Drill Diameters 3–20mm



Material Group		Cutting Speed — vc Range — m/min				Metric Recommended Feed Rate (f) by Diameter							
		min	Starting Value	max		3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	100	**140**	150	mm/r	0,12 - 0,17	0,14 - 0,23	0,17 - 0,23	0,20 - 0,29	0,29 - 0,33	0,23 - 0,41	0,27 - 0,50	0,33 - 0,56
	2	70	**100**	110	mm/r	0,12 - 0,17	0,12 - 0,20	0,14 - 0,26	0,23 - 0,32	0,24 - 0,38	0,27 - 0,50	0,33 - 0,63	0,39 - 0,75
	3	70	**90**	110	mm/r	0,12 - 0,17	0,14 - 0,23	0,17 - 0,23	0,20 - 0,29	0,29 - 0,33	0,23 - 0,41	0,27 - 0,50	0,33 - 0,56
	4	60	**70**	90	mm/r	0,09 - 0,14	0,11 - 0,20	0,14 - 0,20	0,17 - 0,23	0,17 - 0,26	0,20 - 0,33	0,23 - 0,41	0,26 - 0,45
M	1	50	**60**	80	mm/r	0,03 - 0,08	0,06 - 0,13	0,08 - 0,10	0,10 - 0,20	0,12 - 0,22	0,13 - 0,23	0,15 - 0,25	0,18 - 0,28
	2	40	**50**	80	mm/r	0,03 - 0,08	0,06 - 0,13	0,08 - 0,10	0,10 - 0,20	0,12 - 0,22	0,13 - 0,23	0,15 - 0,25	0,18 - 0,28
	3	40	**50**	70	mm/r	0,03 - 0,08	0,06 - 0,13	0,08 - 0,10	0,10 - 0,20	0,12 - 0,22	0,13 - 0,23	0,15 - 0,25	0,18 - 0,28
K	1	90	**150**	150	mm/r	0,12 - 0,17	0,21 - 0,30	0,30 - 0,42	0,38 - 0,42	0,38 - 0,53	0,44 - 0,60	0,54 - 0,75	0,60 - 0,83
	2	80	**120**	120	mm/r	0,12 - 0,17	0,20 - 0,26	0,29 - 0,39	0,35 - 0,45	0,38 - 0,54	0,45 - 0,60	0,51 - 0,69	0,56 - 0,75
	3	80	**80**	140	mm/r	0,11 - 0,15	0,15 - 0,21	0,23 - 0,32	0,29 - 0,39	0,33 - 0,45	0,36 - 0,50	0,42 - 0,57	0,45 - 0,62

Material Group		Cutting Speed — vc Range — SFM				Inch Recommended Feed Rate (f) by Diameter							
		min	Starting Value	max		1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
P	1	330	**470**	490	IPR	.005 - .006	.006 - .009	.006 - .009	.008 - .011	.008 - .014	.009 - .017	.011 - .020	.014 - .023
	2	230	**330**	360	IPR	.005 - .006	.005 - .008	.006 - .011	.009 - .012	.009 - .015	.011 - .020	.014 - .026	.015 - .030
	3	230	**300**	360	IPR	.005 - .006	.006 - .009	.006 - .009	.008 - .011	.008 - .014	.009 - .017	.011 - .020	.014 - .023
	4	200	**230**	300	IPR	.003 - .006	.005 - .008	.006 - .008	.006 - .009	.006 - .011	.008 - .014	.009 - .017	.011 - .018
M	1	160	**200**	260	IPR	.001 - .003	.002 - .005	.003 - .004	.004 - .008	.005 - .008	.005 - .009	.006 - .010	.007 - .011
	2	130	**160**	260	IPR	.001 - .003	.002 - .005	.003 - .004	.004 - .008	.005 - .008	.005 - .009	.006 - .010	.007 - .011
	3	130	**160**	230	IPR	.001 - .003	.002 - .005	.003 - .004	.004 - .008	.005 - .008	.005 - .009	.006 - .010	.007 - .011
K	1	300	**490**	490	IPR	.005 - .006	.009 - .012	.012 - .017	.015 - .021	.017 - .024	.020 - .026	.021 - .030	.024 - .032
	2	260	**400**	400	IPR	.005 - .006	.008 - .011	.011 - .015	.014 - .018	.015 - .021	.018 - .024	.020 - .027	.023 - .030
	3	260	**260**	460	IPR	.005 - .006	.006 - .009	.009 - .012	.011 - .015	.014 - .018	.014 - .020	.017 - .023	.018 - .024



HP Solid Carbide Deep-Hole Drills for Steel, Cast Iron, and Non-Ferrous Materials

Primary Application

B27_HPG Series Solid Carbide Drills are the optimum platform for drilling holes up to 30 x D in steel, cast iron, and stainless steel materials. Drill deep holes up to 4x faster than conventional HSS and gun drills. Application of MQL is possible.

The B27_HPS in the new uncoated KN25™ grade now offers the same advantages for drilling in non-ferrous materials such as aluminum, copper, and brass. These series are now available from 2,3–16mm (.09–.63") diameter and in lengths from 15–30 x D.

Features and Benefits

HP Drill-Point Design

- Low thrust.
- Excellent centering capabilities.
- Highest possible feed rates.

Four-Margin Lands

- Improves hole straightness.
- Improves hole alignment when drilling through cross holes.

Unique Flute Design

- Drastically improved chip evacuation.
- Better hole surface quality.

KC7425™ Grade (B27_HPG)

- A multilayer, AlCrN-TiSiN PVD coating provides outstanding wear resistance.
- New ultra-fine-grain carbide ensures process reliability at high feed rates.

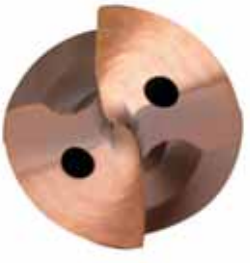
KN25 Grade (B27_HPS)

- The uncoated grade helps to prevent built-up edge when drilling aluminum and high-temp alloys.
- The highly polished surfaces of both grades ensure superior chip evacuation, even when low-pressure coolant or MQL is applied.

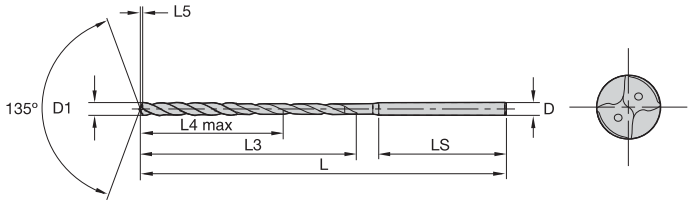
Customization

- Intermediate diameters available as semi-standards.
- Length variations — including even longer versions — available as engineered solutions.





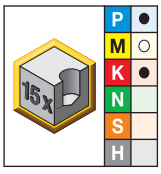


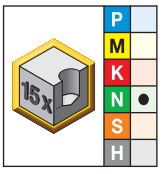




NEW!

B271Z_HPG/HPS • 15 x D



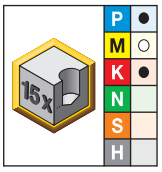


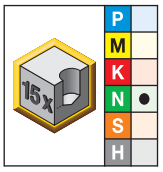
● first choice
○ alternate choice

KC7425	KN25	D1 diameter mm	in	fraction	wire size	L	L3	L4 max	L5	LS	D
B271Z02383KMG	B271Z02383KMS	2,383	.0938	3/32	–	86	51	44	0,4	30	3
B271Z02400KMG	B271Z02400KMS	2,400	.0945	–	–	86	51	44	0,4	30	3
B271Z02439KMG	B271Z02439KMS	2,439	.0960	–	41	86	51	44	0,5	30	3
B271Z02489KMG	B271Z02489KMS	2,489	.0980	–	40	86	51	44	0,5	30	3
B271Z02500KMG	B271Z02500KMS	2,500	.0984	–	–	86	51	44	0,5	30	3
B271Z02578KMG	B271Z02578KMS	2,578	.1015	–	38	86	51	44	0,5	30	3
B271Z02600KMG	B271Z02600KMS	2,600	.1024	–	–	86	51	44	0,5	30	3
B271Z02642KMG	B271Z02642KMS	2,642	.1040	–	37	86	51	44	0,5	30	3
B271Z02705KMG	B271Z02705KMS	2,705	.1065	–	36	86	52	45	0,5	30	3
B271Z02779KMG	B271Z02779KMS	2,779	.1094	7/64	–	86	52	45	0,5	30	3
B271Z02800KMG	B271Z02800KMS	2,800	.1102	–	–	86	52	45	0,5	30	3
B271Z02820KMG	B271Z02820KMS	2,820	.1110	–	34	86	52	45	0,5	30	3
B271Z02870KMG	B271Z02870KMS	2,870	.1130	–	33	86	52	45	0,5	30	3
B271Z02900KMG	B271Z02900KMS	2,900	.1142	–	–	86	52	45	0,5	30	3
B271Z02947KMG	B271Z02947KMS	2,947	.1160	–	32	86	52	45	0,5	30	3
B271Z03000HPG	B271Z03000HPS	3,000	.1181	–	–	86	52	45	0,6	30	3
B271Z03175HPG	B271Z03175HPS	3,175	.1250	1/8	–	105	67	58	0,6	32	4
–	B271Z03200HPS	3,200	.1260	–	–	105	67	58	0,6	32	4
B271Z03500HPG	B271Z03500HPS	3,500	.1378	–	–	105	68	59	0,6	32	4
B271Z03970HPG	B271Z03970HPS	3,970	.1563	5/32	–	105	70	60	0,7	32	4
B271Z04000HPG	B271Z04000HPS	4,000	.1575	–	–	105	70	60	0,7	32	4
B271Z04500HPG	B271Z04500HPS	4,500	.1772	–	–	124	85	74	0,8	34	5
B271Z04623HPG	–	4,623	.1820	–	14	124	86	75	0,9	34	5
B271Z04763HPG	B271Z04763HPS	4,763	.1875	3/16	–	124	86	75	0,9	34	5
B271Z05000HPG	B271Z05000HPS	5,000	.1969	–	–	124	87	75	0,9	34	5
B271Z05260HPG	–	5,260	.2071	–	–	143	102	89	1,0	36	6
B271Z05410HPG	–	5,410	.2130	–	3	143	102	89	1,0	36	6
B271Z05500HPG	B271Z05500HPS	5,500	.2165	–	–	143	102	89	1,0	36	6
B271Z05558HPG	–	5,558	.2188	7/32	–	143	102	89	1,0	36	6
B271Z05800HPG	–	5,800	.2283	–	–	143	103	89	1,1	36	6
B271Z06000HPG	B271Z06000HPS	6,000	.2362	–	–	143	104	90	1,1	36	6
B271Z06200HPG	B271Z06200HPS	6,200	.2441	–	–	162	118	103	1,1	38	7
B271Z06350HPG	B271Z06350HPS	6,350	.2500	1/4	E	162	119	104	1,2	38	7
B271Z06500HPG	B271Z06500HPS	6,500	.2559	–	–	162	119	104	1,2	38	7

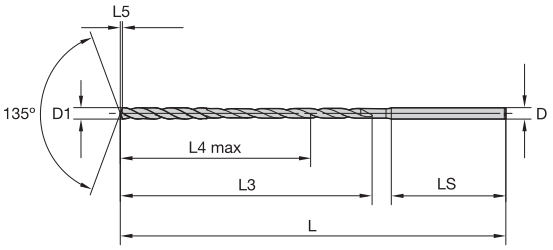
(continued)

(B271Z_HPG/HPS • 15 x D continued)





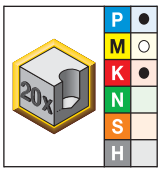
KC7425	KN25	D1 diameter mm	in	fraction	wire size	L	L3	L4 max	L5	LS	D
B271Z06528HPG	–	6,528	.2570	–	F	162	119	104	1,2	38	7
B271Z06746HPG	B271Z06746HPS	6,746	.2656	17/64	–	162	120	104	1,2	38	7
B271Z06909HPG	–	6,909	.2720	–	I	162	121	105	1,3	38	7
B271Z07000HPG	B271Z07000HPS	7,000	.2756	–	–	162	121	105	1,3	38	7
B271Z07145HPG	B271Z07145HPS	7,145	.2813	9/32	–	181	135	118	1,3	40	8
B271Z07500HPG	B271Z07500HPS	7,500	.2953	–	–	181	136	119	1,4	40	8
B271Z07541HPG	–	7,541	.2969	19/64	–	181	136	119	1,4	40	8
B271Z07938HPG	–	7,938	.3125	5/16	–	181	138	120	1,5	40	8
B271Z08000HPG	B271Z08000HPS	8,000	.3150	–	–	181	138	120	1,5	40	8
B271Z08334HPG	–	8,334	.3281	21/64	–	200	153	134	1,5	42	9
B271Z08433HPG	–	8,433	.3320	–	Q	200	153	134	1,6	42	9
B271Z08500HPG	B271Z08500HPS	8,500	.3346	–	–	200	153	134	1,6	42	9
B271Z08733HPG	B271Z08733HPS	8,733	.3438	11/32	–	200	154	134	1,6	42	9
B271Z09000HPG	B271Z09000HPS	9,000	.3543	–	–	200	155	135	1,7	42	9
B271Z09100HPG	–	9,100	.3583	–	–	219	169	148	1,7	44	10
B271Z09500HPG	B271Z09500HPS	9,500	.3740	–	–	219	170	149	1,8	44	10
B271Z09525HPG	B271Z09525HPS	9,525	.3750	3/8	–	219	170	149	1,8	44	10
B271Z09750HPG	–	9,750	.3839	–	–	219	171	149	1,8	44	10
B271Z10000HPG	B271Z10000HPS	10,000	.3937	–	–	219	172	150	1,8	44	10
B271Z10200HPG	B271Z10200HPS	10,200	.4016	–	–	238	186	163	1,9	46	11
B271Z10500HPG	B271Z10500HPS	10,500	.4134	–	–	238	187	164	1,9	46	11
B271Z10720HPG	B271Z10720HPS	10,720	.4220	–	–	238	188	165	2,0	46	11
B271Z11000HPG	B271Z11000HPS	11,000	.4331	–	–	238	189	165	2,0	46	11
B271Z11500HPG	B271Z11500HPS	11,500	.4528	–	–	257	204	179	2,1	48	12
B271Z12000HPG	B271Z12000HPS	12,000	.4724	–	–	257	206	180	2,2	48	12
B271Z12500HPG	B271Z12500HPS	12,500	.4921	–	–	276	221	194	2,3	50	13
B271Z12700HPG	B271Z12700HPS	12,700	.5000	1/2	–	276	222	195	2,3	50	13
B271Z13000HPG	B271Z13000HPS	13,000	.5118	–	–	276	223	195	2,4	50	13
B271Z13100HPG	B271Z13100HPS	13,100	.5157	–	–	295	237	208	2,4	52	14
B271Z13500HPG	B271Z13500HPS	13,500	.5315	–	–	295	238	209	2,5	52	14
B271Z14000HPG	B271Z14000HPS	14,000	.5512	–	–	295	240	210	2,6	52	14
B271Z14290HPG	B271Z14290HPS	14,290	.5626	–	–	314	255	224	2,6	54	15
B271Z14500HPG	B271Z14500HPS	14,500	.5709	–	–	314	255	224	2,7	54	15
B271Z15000HPG	B271Z15000HPS	15,000	.5906	–	–	314	257	225	2,8	54	15
B271Z15500HPG	B271Z15500HPS	15,500	.6102	–	–	333	272	239	2,9	56	16
B271Z15870HPG	B271Z15870HPS	15,870	.6248	–	–	333	273	240	2,9	56	16
B271Z16000HPG	B271Z16000HPS	16,000	.6299	–	–	333	274	240	3,0	56	16

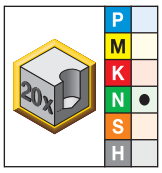




NEW!

B272Z_HPG/HPS • 20 x D



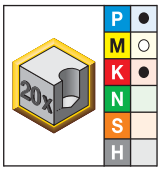


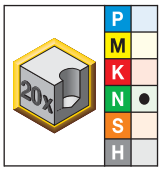
● first choice
○ alternate choice

KC7425	KN25	D1 diameter mm	in	fraction	wire size	L	L3	L4 max	L5	LS	D
B272Z02383KMG	B272Z02383KMS	2,383	.0938	3/32	–	101	63	56	0,4	30	3
B272Z02400KMG	B272Z02400KMS	2,400	.0945	–	–	101	63	56	0,4	30	3
B272Z02439KMG	B272Z02439KMS	2,439	.0960	–	41	101	63	56	0,5	30	3
B272Z02489KMG	B272Z02489KMS	2,489	.0980	–	40	101	63	56	0,5	30	3
B272Z02500KMG	B272Z02500KMS	2,500	.0984	–	–	101	63	56	0,5	30	3
B272Z02578KMG	B272Z02578KMS	2,578	.1015	–	38	101	64	57	0,5	30	3
B272Z02600KMG	B272Z02600KMS	2,600	.1024	–	–	101	64	57	0,5	30	3
B272Z02642KMG	B272Z02642KMS	2,642	.1040	–	37	101	65	58	0,5	30	3
B272Z02705KMG	B272Z02705KMS	2,705	.1065	–	36	101	65	58	0,5	30	3
B272Z02779KMG	B272Z02779KMS	2,779	.1094	7/64	–	101	66	59	0,5	30	3
B272Z02800KMG	B272Z02800KMS	2,800	.1102	–	–	101	66	59	0,5	30	3
B272Z02820KMG	B272Z02820KMS	2,820	.1110	–	34	101	66	59	0,5	30	3
B272Z02870KMG	B272Z02870KMS	2,870	.1130	–	33	101	66	59	0,5	30	3
B272Z02900KMG	B272Z02900KMS	2,900	.1142	–	–	101	67	60	0,5	30	3
B272Z02947KMG	B272Z02947KMS	2,947	.1160	–	32	101	67	60	0,5	30	3
B272Z03000HPG	B272Z03000HPS	3,000	.1181	–	–	101	67	60	0,6	30	3
B272Z03175HPG	B272Z03175HPS	3,175	.1250	1/8	–	125	83	74	0,6	32	4
–	B272Z03300HPS	3,300	.1299	–	–	125	84	75	0,6	32	4
B272Z03500HPG	B272Z03500HPS	3,500	.1378	–	–	125	86	77	0,6	32	4
B272Z03970HPG	B272Z03970HPS	3,970	.1563	5/32	–	125	89	79	0,7	32	4
B272Z04000HPG	B272Z04000HPS	4,000	.1575	–	–	125	90	80	0,7	32	4
B272Z04500HPG	B272Z04500HPS	4,500	.1772	–	–	149	108	97	0,8	34	5
B272Z04623HPG	–	4,623	.1820	–	14	149	109	98	0,9	34	5
B272Z04763HPG	B272Z04763HPS	4,763	.1875	3/16	–	149	110	99	0,9	34	5
B272Z05000HPG	B272Z05000HPS	5,000	.1969	–	–	149	112	100	0,9	34	5
B272Z05260HPG	–	5,260	.2071	–	–	173	128	115	1,0	36	6
B272Z05410HPG	–	5,410	.2130	–	3	173	129	116	1,0	36	6
B272Z05500HPG	B272Z05500HPS	5,500	.2165	–	–	173	130	117	1,0	36	6
B272Z05558HPG	–	5,558	.2188	7/32	–	173	130	117	1,0	36	6
B272Z05800HPG	–	5,800	.2283	–	–	173	132	118	1,1	36	6
B272Z06000HPG	B272Z06000HPS	6,000	.2362	–	–	173	134	120	1,1	36	6
B272Z06200HPG	B272Z06200HPS	6,200	.2441	–	–	197	149	134	1,1	38	7
B272Z06350HPG	B272Z06350HPS	6,350	.2500	1/4	E	197	151	136	1,2	38	7
B272Z06500HPG	B272Z06500HPS	6,500	.2559	–	–	197	152	137	1,2	38	7
B272Z06528HPG	–	6,528	.2570	–	F	197	152	137	1,2	38	7
B272Z06746HPG	B272Z06746HPS	6,746	.2656	17/64	–	197	154	138	1,2	38	7
B272Z06909HPG	–	6,909	.2720	–	I	197	155	139	1,3	38	7
B272Z07000HPG	B272Z07000HPS	7,000	.2756	–	–	197	156	140	1,3	38	7
B272Z07145HPG	B272Z07145HPS	7,145	.2813	9/32	–	221	171	154	1,3	40	8
B272Z07500HPG	B272Z07500HPS	7,500	.2953	–	–	221	174	157	1,4	40	8
B272Z07541HPG	–	7,541	.2969	19/64	–	221	174	157	1,4	40	8
B272Z07938HPG	–	7,938	.3125	5/16	–	221	177	159	1,5	40	8

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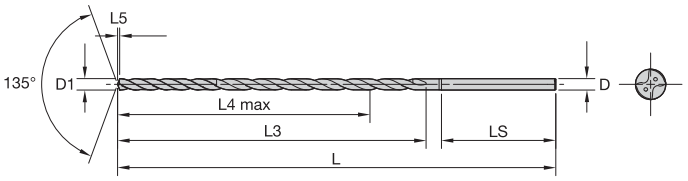
(B272Z_HPG/HPS • 20 x D continued)





KC7425	KN25	D1 diameter mm	in	fraction	wire size	L	L3	L4 max	L5	LS	D
B272Z08000HPG	**B272Z08000HPS**	8,000	.3150	–	–	221	178	160	1,5	40	8
B272Z08334HPG	**–**	8,334	.3281	21/64	–	245	194	175	1,5	42	9
B272Z08433HPG	**–**	8,433	.3320	–	Q	245	195	176	1,6	42	9
B272Z08500HPG	**B272Z08500HPS**	8,500	.3346	–	–	245	196	177	1,6	42	9
B272Z08733HPG	**B272Z08733HPS**	8,733	.3438	11/32	–	245	198	178	1,6	42	9
B272Z09000HPG	**B272Z09000HPS**	9,000	.3543	–	–	245	200	180	1,7	42	9
B272Z09100HPG	**–**	9,100	.3583	–	–	269	215	194	1,7	44	10
B272Z09500HPG	**–**	9,500	.3740	–	–	269	218	197	1,8	44	10
B272Z09525HPG	**B272Z09525HPS**	9,525	.3750	3/8	–	269	218	197	1,8	44	10
B272Z09750HPG	**B272Z09750HPS**	9,750	.3839	–	–	269	220	198	1,8	44	10
B272Z10000HPG	**B272Z10000HPS**	10,000	.3937	–	–	269	222	200	1,8	44	10
B272Z10200HPG	**B272Z10200HPS**	10,200	.4016	–	–	293	237	214	1,9	46	11
B272Z10500HPG	**B272Z10500HPS**	10,500	.4134	–	–	293	240	217	1,9	46	11
B272Z10720HPG	**B272Z10720HPS**	10,720	.4220	–	–	293	242	219	2,0	46	11
B272Z11000HPG	**B272Z11000HPS**	11,000	.4331	–	–	293	244	220	2,0	46	11
B272Z11500HPG	**B272Z11500HPS**	11,500	.4528	–	–	317	262	237	2,1	48	12
B272Z12000HPG	**B272Z12000HPS**	12,000	.4724	–	–	317	266	240	2,2	48	12
B272Z12500HPG	**B272Z12500HPS**	12,500	.4921	–	–	341	284	257	2,3	50	13
B272Z12700HPG	**B272Z12700HPS**	12,700	.5000	1/2	–	341	285	258	2,3	50	13
B272Z13000HPG	**B272Z13000HPS**	13,000	.5118	–	–	341	288	260	2,4	50	13
B272Z13100HPG	**B272Z13100HPS**	13,100	.5157	–	–	365	302	273	2,4	52	14
B272Z13500HPG	**B272Z13500HPS**	13,500	.5315	–	–	365	306	277	2,5	52	14
B272Z14000HPG	**B272Z14000HPS**	14,000	.5512	–	–	365	310	280	2,6	52	14
B272Z14290HPG	**B272Z14290HPS**	14,290	.5626	–	–	389	326	295	2,6	54	15
B272Z14500HPG	**B272Z14500HPS**	14,500	.5709	–	–	389	328	297	2,7	54	15
B272Z15000HPG	**B272Z15000HPS**	15,000	.5906	–	–	389	332	300	2,8	54	15
B272Z15500HPG	**B272Z15500HPS**	15,500	.6102	–	–	413	350	317	2,9	56	16
B272Z15870HPG	**B272Z15870HPS**	15,870	.6248	–	–	413	353	320	2,9	56	16
B272Z16000HPG	**B272Z16000HPS**	16,000	.6299	–	–	413	354	320	3,0	56	16

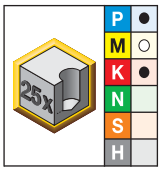


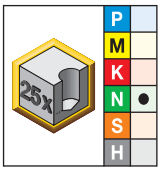




NEW!

B273Z_HPG/HPS • 25 x D



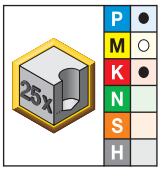


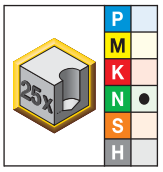
● first choice
○ alternate choice

KC7425	KN25	D1 diameter mm	in	fraction	wire size	L	L3	L4 max	L5	LS	D
B273Z02383KMG	B273Z02383KMS	2,383	.0938	3/32	–	116	74	67	0,4	30	3
B273Z02400KMG	B273Z02400KMS	2,400	.0945	–	–	116	75	68	0,4	30	3
B273Z02439KMG	B273Z02439KMS	2,439	.0960	–	41	116	75	68	0,5	30	3
B273Z02489KMG	B273Z02489KMS	2,489	.0980	–	40	116	76	69	0,5	30	3
B273Z02500KMG	B273Z02500KMS	2,500	.0984	–	–	116	76	69	0,5	30	3
B273Z02578KMG	B273Z02578KMS	2,578	.1015	–	38	116	77	70	0,5	30	3
B273Z02600KMG	B273Z02600KMS	2,600	.1024	–	–	116	77	70	0,5	30	3
B273Z02642KMG	B273Z02642KMS	2,642	.1040	–	37	116	78	71	0,5	30	3
B273Z02705KMG	B273Z02705KMS	2,705	.1065	–	36	116	79	72	0,5	30	3
B273Z02779KMG	B273Z02779KMS	2,779	.1094	7/64	–	116	80	73	0,5	30	3
B273Z02800KMG	B273Z02800KMS	2,800	.1102	–	–	116	80	73	0,5	30	3
B273Z02820KMG	B273Z02820KMS	2,820	.1110	–	34	116	80	73	0,5	30	3
B273Z02870KMG	B273Z02870KMS	2,870	.1130	–	33	116	81	74	0,5	30	3
B273Z02900KMG	B273Z02900KMS	2,900	.1142	–	–	116	81	74	0,5	30	3
B273Z02947KMG	B273Z02947KMS	2,947	.1160	–	32	116	82	75	0,5	30	3
B273Z03000HPG	B273Z03000HPS	3,000	.1181	–	–	116	82	75	0,6	30	3
B273Z03175HPG	B273Z03175HPS	3,175	.1250	1/8	–	145	99	90	0,6	32	4
B273Z03500HPG	B273Z03500HPS	3,500	.1378	–	–	145	103	94	0,6	32	4
B273Z04000HPG	B273Z04000HPS	4,000	.1575	–	–	145	110	100	0,7	32	4
B273Z04500HPG	B273Z04500HPS	4,500	.1772	–	–	174	130	119	0,8	34	5
B273Z05000HPG	B273Z05000HPS	5,000	.1969	–	–	174	137	125	0,9	34	5
B273Z05500HPG	B273Z05500HPS	5,500	.2165	–	–	203	157	144	1,0	36	6
B273Z06000HPG	B273Z06000HPS	6,000	.2362	–	–	203	164	150	1,1	36	6
B273Z06350HPG	B273Z06350HPS	6,350	.2500	1/4	E	232	182	167	1,2	38	7
B273Z06500HPG	B273Z06500HPS	6,500	.2559	–	–	232	184	169	1,2	38	7
B273Z06746HPG	B273Z06746HPS	6,746	.2656	17/64	–	232	187	171	1,2	38	7
B273Z07000HPG	B273Z07000HPS	7,000	.2756	–	–	232	191	175	1,3	38	7
B273Z08000HPG	B273Z08000HPS	8,000	.3150	–	–	261	218	200	1,5	40	8
B273Z08500HPG	B273Z08500HPS	8,500	.3346	–	–	290	238	219	1,6	42	9
B273Z08733HPG	B273Z08733HPS	8,733	.3438	11/32	–	290	241	221	1,6	42	9
B273Z09000HPG	B273Z09000HPS	9,000	.3543	–	–	290	245	225	1,7	42	9
B273Z09100HPG	–	9,100	.3583	–	–	319	260	239	1,7	44	10
B273Z09525HPG	B273Z09525HPS	9,525	.3750	3/8	–	319	266	245	1,8	44	10
B273Z10000HPG	B273Z10000HPS	10,000	.3937	–	–	319	272	250	1,8	44	10

(continued)

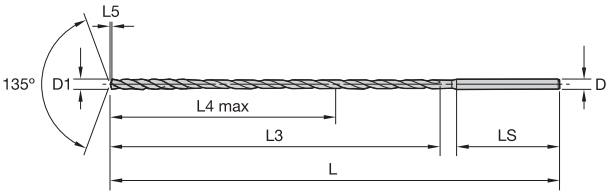
(B273Z_HPG/HPS • 25 x D continued)





KC7425	KN25	D1 diameter				L	L3	L4 max	L5	LS	D
		mm	in	fraction	wire size						
B273Z10200HPG	**B273Z10200HPS**	10,200	.4016	–	–	348	288	265	1,9	46	11
B273Z10500HPG	**B273Z10500HPS**	10,500	.4134	–	–	348	292	269	1,9	46	11
B273Z10720HPG	**B273Z10720HPS**	10,720	.4220	–	–	348	295	272	2,0	46	11
B273Z11000HPG	**B273Z11000HPS**	11,000	.4331	–	–	348	299	275	2,0	46	11
B273Z11500HPG	**B273Z11500HPS**	11,500	.4528	–	–	377	319	294	2,1	48	12
B273Z12000HPG	**B273Z12000HPS**	12,000	.4724	–	–	377	326	300	2,2	48	12
B273Z12500HPG	**B273Z12500HPS**	12,500	.4921	–	–	406	346	319	2,3	50	13
B273Z12700HPG	**B273Z12700HPS**	12,700	.5000	1/2	–	406	349	322	2,3	50	13
B273Z13000HPG	**B273Z13000HPS**	13,000	.5118	–	–	406	353	325	2,4	50	13
B273Z13100HPG	**B273Z13100HPS**	13,100	.5157	–	–	435	368	339	2,4	52	14
B273Z13500HPG	**B273Z13500HPS**	13,500	.5315	–	–	435	373	344	2,5	52	14
B273Z14000HPG	**B273Z14000HPS**	14,000	.5512	–	–	435	380	350	2,6	52	14
B273Z14290HPG	**B273Z14290HPS**	14,290	.5626	–	–	464	397	366	2,6	54	15
B273Z14500HPG	**B273Z14500HPS**	14,500	.5709	–	–	464	400	369	2,7	54	15
B273Z15000HPG	**B273Z15000HPS**	15,000	.5906	–	–	464	407	375	2,8	54	15

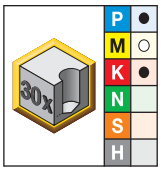


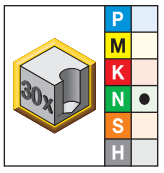




NEW!

B274Z_HPG/HPS • 30 x D



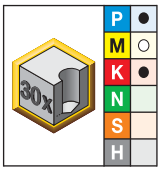


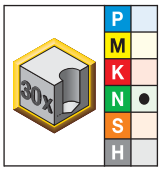
● first choice
○ alternate choice

KC7425	KN25	D1 diameter mm	in	fraction	wire size	L	L3	L4 max	L5	LS	D
B274Z02383KMG	B274Z02383KMS	2,383	.0938	3/32	–	131	86	79	0,4	30	3
B274Z02400KMG	B274Z02400KMS	2,400	.0945	–	–	131	87	80	0,4	30	3
B274Z02439KMG	B274Z02439KMS	2,439	.0960	–	41	131	87	80	0,5	30	3
B274Z02489KMG	B274Z02489KMS	2,489	.0980	–	40	131	88	81	0,5	30	3
B274Z02500KMG	B274Z02500KMS	2,500	.0984	–	–	131	88	81	0,5	30	3
B274Z02578KMG	B274Z02578KMS	2,578	.1015	–	38	131	90	83	0,5	30	3
B274Z02600KMG	B274Z02600KMS	2,600	.1024	–	–	131	90	83	0,5	30	3
B274Z02642KMG	B274Z02642KMS	2,642	.1040	–	37	131	91	84	0,5	30	3
B274Z02705KMG	B274Z02705KMS	2,705	.1065	–	36	131	92	85	0,5	30	3
B274Z02779KMG	B274Z02779KMS	2,779	.1094	7/64	–	131	94	87	0,5	30	3
B274Z02800KMG	B274Z02800KMS	2,800	.1102	–	–	131	94	87	0,5	30	3
B274Z02820KMG	B274Z02820KMS	2,820	.1110	–	34	131	94	87	0,5	30	3
B274Z02870KMG	B274Z02870KMS	2,870	.1130	–	33	131	95	88	0,5	30	3
B274Z02900KMG	B274Z02900KMS	2,900	.1142	–	–	131	96	89	0,5	30	3
B274Z02947KMG	B274Z02947KMS	2,947	.1160	–	32	131	97	90	0,5	30	3
B274Z03000HPG	B274Z03000HPS	3,000	.1181	–	–	131	97	90	0,6	30	3
B274Z03175HPG	B274Z03175HPS	3,175	.1250	1/8	–	165	115	106	0,6	32	4
B274Z03500HPG	B274Z03500HPS	3,500	.1378	–	–	165	121	112	0,6	32	4
B274Z03970HPG	–	3,970	.1563	5/32	–	165	129	119	0,7	32	4
B274Z04000HPG	B274Z04000HPS	4,000	.1575	–	–	165	130	120	0,7	32	4
B274Z04300HPG	–	4,300	.1693	–	–	199	149	138	0,8	34	5
B274Z04500HPG	B274Z04500HPS	4,500	.1772	–	–	199	153	142	0,8	34	5
B274Z04763HPG	–	4,763	.1875	3/16	–	199	157	146	0,9	34	5
B274Z05000HPG	B274Z05000HPS	5,000	.1969	–	–	199	162	150	0,9	34	5
B274Z05500HPG	B274Z05500HPS	5,500	.2165	–	–	233	185	172	1,0	36	6
B274Z06000HPG	B274Z06000HPS	6,000	.2362	–	–	233	194	180	1,1	36	6
B274Z06350HPG	B274Z06350HPS	6,350	.2500	1/4	E	267	214	199	1,2	38	7
B274Z06500HPG	B274Z06500HPS	6,500	.2559	–	–	267	217	202	1,2	38	7
–	B274Z06746HPS	6,746	.2656	17/64	–	267	221	205	1,2	38	7
B274Z06800HPG	–	6,800	.2677	–	–	267	222	206	1,3	38	7
B274Z07000HPG	B274Z07000HPS	7,000	.2756	–	–	267	226	210	1,3	38	7
B274Z07938HPG	–	7,938	.3125	5/16	–	301	257	239	1,5	40	8

(continued)

(B274Z_HPG/HPS • 30 x D continued)





KC7425	KN25	D1 diameter mm	in	fraction	wire size	L	L3	L4 max	L5	LS	D
B274Z08000HPG	B274Z08000HPS	8,000	.3150	–	–	301	258	240	1,5	40	8
B274Z08334HPG	–	8,334	.3281	21/64	–	335	278	259	1,5	42	9
B274Z08500HPG	B274Z08500HPS	8,500	.3346	–	–	335	281	262	1,6	42	9
–	B274Z08733HPS	8,733	.3438	11/32	–	335	285	265	1,6	42	9
B274Z09000HPG	B274Z09000HPS	9,000	.3543	–	–	335	290	270	1,7	42	9
B274Z09100HPG	–	9,100	.3583	–	–	369	306	285	1,7	44	10
B274Z09525HPG	B274Z09525HPS	9,525	.3750	3/8	–	369	313	292	1,8	44	10
B274Z10000HPG	B274Z10000HPS	10,000	.3937	–	–	369	322	300	1,8	44	10
B274Z10200HPG	B274Z10200HPS	10,200	.4016	–	–	403	339	316	1,9	46	11
B274Z10500HPG	B274Z10500HPS	10,500	.4134	–	–	403	345	322	1,9	46	11
B274Z10720HPG	B274Z10720HPS	10,720	.4220	–	–	403	349	326	2,0	46	11
B274Z11000HPG	B274Z11000HPS	11,000	.4331	–	–	403	354	330	2,0	46	11
B274Z11500HPG	–	11,500	.4528	–	–	437	377	363	2,1	48	12
–	B274Z11500HPS	11,500	.4528	–	–	437	377	352	2,1	48	12
B274Z12000HPG	B274Z12000HPS	12,000	.4724	–	–	437	386	360	2,2	48	12
B274Z12500HPG	B274Z12500HPS	12,500	.4921	–	–	471	409	382	2,3	50	13
B274Z12700HPG	B274Z12700HPS	12,700	.5000	1/2	–	471	412	385	2,3	50	13
B274Z13000HPG	B274Z13000HPS	13,000	.5118	–	–	471	418	390	2,4	50	13

Tolerance • Metric				Tolerance • Inch			
nominal size range	D1 HPG tolerance h7	D1HPS tolerance h8	D tolerance h6	nominal size range	D1 HPG tolerance h7	D1HPS tolerance h8	D tolerance h6
1–3	0,000/-0,010	0,000/-0,014	0,000/-0,006	.0394–.1181	.0000/-.0004	.0000/-.0006	.0000/-.0002
>3–6	0,000/-0,012	0,000/-0,018	0,000/-0,008	>.1181–.2362	.0000/-.0005	.0000/-.0007	.0000/-.0003
>6–10	0,000/-0,015	0,000/-0,022	0,000/-0,009	>.2362–.3937	.0000/-.0006	.0000/-.0009	.0000/-.0004
>10–18	0,000/-0,018	0,000/-0,027	0,000/-0,011	>.3937–.7087	.0000/-.0007	.0000/-.0011	.0000/-.0004

The B27_ deep-hole drill series offers an increase of up to 100% in metal removal rates (MRR) compared to competitive gun and HSS drills. It also enables up to 20–30% increased MRR compared to competitive solid carbide products. This MRR increase means bottom-line savings to customers in throughput, machine time, and personnel hours.

Increased Drill Head
Reduces contact with hole wall.



135° HP Point Geometry
Excellent centering ability.

Four-Margin Design
Stability increases tool life.

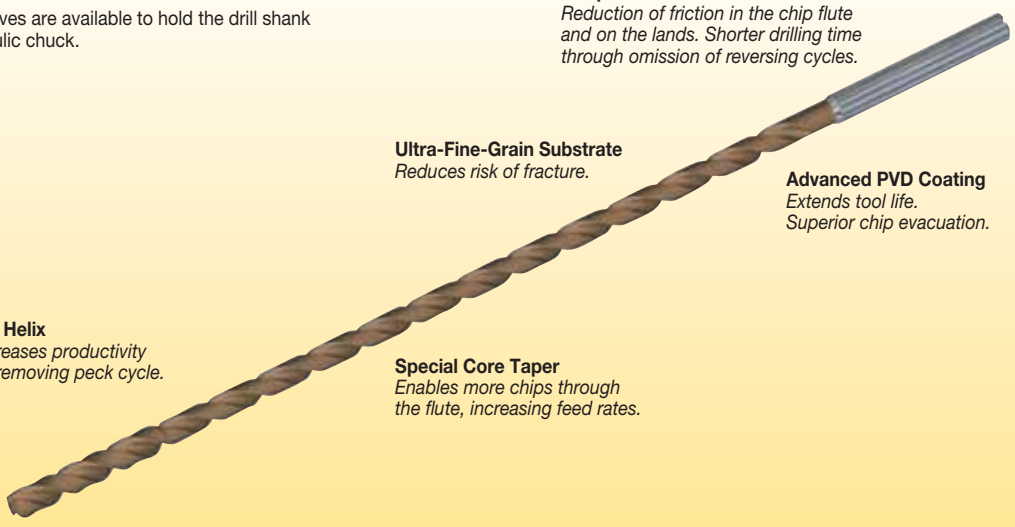
To achieve the best tool performance, we recommend using the deep-hole drill with a hydraulic chuck.

Reduction sleeves are available to hold the drill shank with the hydraulic chuck.

Unique New Polished Surface
Reduction of friction in the chip flute and on the lands. Shorter drilling time through omission of reversing cycles.

Ultra-Fine-Grain Substrate
Reduces risk of fracture.

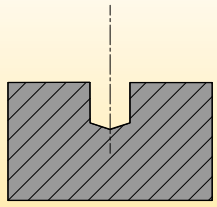
Advanced PVD Coating
Extends tool life.
Superior chip evacuation.



30° Helix
Increases productivity by removing peck cycle.

Special Core Taper
Enables more chips through the flute, increasing feed rates.

	12mm hydraulic reducer sleeve		20mm hydraulic reducer sleeve		25mm hydraulic reducer sleeve		32mm hydraulic reducer sleeve		.500" hydraulic reducer sleeve		.750" hydraulic reducer sleeve	
D1	order number	catalog number	order number	catalog number	order number	catalog number	order number	catalog number	order number	catalog number	order number	catalog number
3	3026450	12MHC030M	3026648	20MHC030M	3026662	25MHC030M	–	–	2248993	50HC030M	2248995	75HC030M
4	3026451	12MHC040M	3026649	20MHC040M	3026663	25MHC040M	–	–	1606050	50HC040M	2248996	75HC040M
5	3026452	12MHC050M	3026650	20MHC050M	3026664	25MHC050M	–	–	2248994	50HC050M	2248997	75HC050M
6	3026643	12MHC060M	3026651	20MHC060M	3026665	25MHC060M	3026675	32MHC060M	1606061	50HC060M	1093271	75HC060M
7	3026644	12MHC070M	3026652	20MHC070M	3026666	25MHC070M	3026676	32MHC070M	–	–	–	–
8	3026645	12MHC080M	3026653	20MHC080M	3026667	25MHC080M	3026677	32MHC080M	1606062	50HC080M	1093272	75HC080M
9	3026646	12MHC090M	3026654	20MHC090M	3026668	25MHC090M	3026678	32MHC090M	–	–	–	–
10	3026647	12MHC100M	3026655	20MHC100M	3026669	25MHC100M	3026679	32MHC100M	1606064	50HC100M	1093273	75HC100M
11	–	–	3026656	20MHC110M	–	–	3026680	32MHC110M	–	–	–	–
12	–	–	3026657	20MHC120M	3026670	25MHC120M	3026681	32MHC120M	–	–	1093524	75HC120M
13	–	–	3026658	20MHC130M	–	–	3026682	32MHC130M	–	–	–	–
14	–	–	3026659	20MHC140M	3026671	25MHC140M	3026683	32MHC140M	–	–	1093525	75HC140M
15	–	–	3026660	20MHC150M	–	–	3026684	32MHC150M	–	–	–	–
16	–	–	3026661	20MHC160M	3026672	25MHC160M	3026685	32MHC160M	–	–	1093526	75HC160M

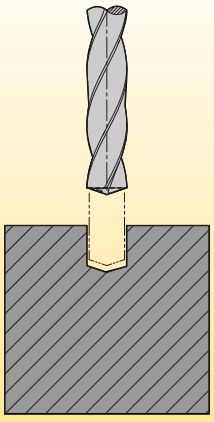


1) Pilot/Pre-Drill Hole

- Drill: B976A… KC7315™ or another drill with a 140° point angle.
- Depth of pilot: minimum 2 x D.
- Drill Ø = nominal Ø up to nominal +0,010mm (+.0004").
- Apply catalog recommended speeds and feeds.

Recommendations:

- Use only a conical (B976A) or split-point drill to pilot (do not use an SE-HP drill).
- Use a hydraulic chuck to achieve minimum tool runout.
- Be sure the machine tool and setup are rigid.
- Check the pilot drill for wear. Excessive wear can lead to premature wear on the B27_ cutting edge and possibly catastrophic failure.



2) Feed B27_ into Pilot Hole:

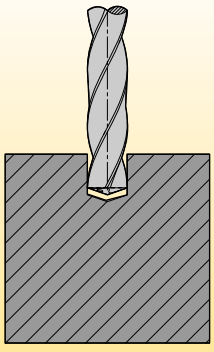
- Drill: B27_
- 1,000 RPM and recommended feed rate, no rapid traverse.
- Depth: 0,25–0,30mm (.010–.012") above the bottom of pilot hole.

Recommendations:

The coolant channels of the B27_ are smaller than typical Kennametal drills. Be sure that a steady supply of coolant is delivered through the coolant channels to the cutting edges. If coolant supply is not steady or is unequal through both channels, check:

1. Coolant filtering system.
2. Sealing of adapter/spindle.
3. Chips blocking the coolant hole on the drill shank.

NOTE: Reduce cutting speed to minimize imbalances in machine spindle/adapter. On MQL applications, make sure that the coolant is directly supplied from the chuck into the back end of the drill shank.



3) Drill Hole:

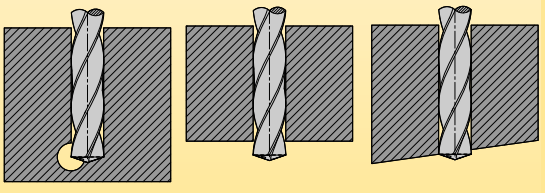
Cutting Parameters: start recommended speed and feed rate at 0,25–0,30mm (.010–.012") from the bottom of the pilot hole.

Recommendations:

DO NOT PECK OR DWELL up to 30 x D!

With long-chipping steel materials, it may be necessary to increase feed rate by 10–20% to provide optimal chip control. For long-chipping aluminum materials, it may be necessary to decrease feed rate and increase speed.

Reduce feed rate on angled exits and crossholes by 50–60%.



NOTE: Feed recommendations are usually higher than with conventional solid carbide drills.

4) Drill Retraction:

Cutting Parameters: 50 RPM and feed rate 2 m/min (40mm/rev or 1.6 IPR).

NOTE: Reduce cutting speed to minimize imbalances in machine spindle/adapter.

Deep-Hole Drills • B27_HPG Series • Grade KC7425™ • Through Coolant for Drill Diameters 3–16mm





Material Group		Cutting Speed – vc Range – m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	14,0	16,0
P	1	70	**80**	90	mm/r	0,15 - 0,18	0,16 - 0,19	0,18 - 0,25	0,22 - 0,30	0,25 - 0,37	0,30 - 0,42	0,35 - 0,48	0,40 - 0,54
	2	70	**80**	90	mm/r	0,15 - 0,18	0,16 - 0,19	0,18 - 0,25	0,22 - 0,30	0,25 - 0,37	0,30 - 0,42	0,35 - 0,48	0,40 - 0,54
	3	60	**75**	90	mm/r	0,15 - 0,18	0,16 - 0,19	0,18 - 0,25	0,22 - 0,30	0,25 - 0,37	0,30 - 0,42	0,35 - 0,48	0,40 - 0,54
	4	60	**70**	80	mm/r	0,15 - 0,18	0,16 - 0,19	0,18 - 0,25	0,22 - 0,30	0,25 - 0,37	0,30 - 0,42	0,35 - 0,48	0,40 - 0,54
M	1	40	**50**	60	mm/r	0,05 - 0,09	0,07- 0,12	0,09 - 0,14	0,10 - 0,15	0,11 - 0,16	0,12 - 0,17	0,13 - 0,18	0,14 - 0,19
	2	30	**40**	50	mm/r	0,04 - 0,08	0,06 - 0,10	0,08 - 0,13	0,09 - 0,14	0,10 - 0,15	0,11 - 0,16	0,12 - 0,17	0,13 - 0,18
	3	30	**40**	50	mm/r	0,04 - 0,08	0,06 - 0,10	0,08 - 0,13	0,09 - 0,14	0,10 - 0,15	0,11 - 0,16	0,12 - 0,17	0,13 - 0,18
K	1	60	**80**	100	mm/r	0,15 - 0,19	0,17 - 0,20	0,19 - 0,26	0,24 - 0,32	0,27 - 0,40	0,32 - 0,45	0,38 - 0,52	0,45 - 0,59
	2	60	**70**	80	mm/r	0,15 - 0,18	0,16 - 0,19	0,18 - 0,25	0,22 - 0,30	0,25 - 0,37	0,30 - 0,42	0,35 - 0,48	0,40 - 0,54
	3	40	**70**	100	mm/r	0,15 - 0,18	0,16 - 0,19	0,18 - 0,25	0,22 - 0,30	0,25 - 0,37	0,30 - 0,42	0,35 - 0,48	0,40 - 0,54

Material Group		Cutting Speed – vc Range – SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	0.551	5/8 .625
P	1	230	**262**	295	IPR	.006 - .007	.006 - .007	.007 - .010	.009 - .012	.010 - .015	.012 - .017	.014 - .019	.016 - .021
	2	230	**262**	295	IPR	.006 - .007	.006 - .007	.007 - .010	.009 - .012	.010 - .015	.012 - .017	.014 - .019	.016 - .021
	3	197	**246**	295	IPR	.006 - .007	.006 - .007	.007 - .010	.009 - .012	.010 - .015	.012 - .017	.014 - .019	.016 - .021
	4	197	**230**	262	IPR	.006 - .007	.006 - .007	.007 - .010	.009 - .012	.010 - .015	.012 - .017	.014 - .019	.016 - .021
M	1	130	**160**	200	IPR	.002 - .004	.003 - .005	.004 - .006	.004 - .006	.004 - .006	.005 - .007	.005 - .007	.006 - .007
	2	100	**130**	160	IPR	.002 - .003	.002 - .004	.003 - .005	.004 - .006	.004 - .007	.004 - .006	.005 - .007	.005 - .007
	3	100	**130**	160	IPR	.002 - .003	.002 - .004	.003 - .006	.004 - .007	.004 - .008	.004 - .007	.005 - .007	.005 - .007
K	1	197	**262**	328	IPR	.006 - .007	.007 - .008	.007 - .010	.009 - .013	.011 - .016	.013 - .018	.015 - .020	.018 - .023
	2	197	**230**	262	IPR	.006 - .007	.006 - .007	.007 - .010	.009 - .012	.010 - .015	.012 - .017	.014 - .019	.016 - .021
	3	131	**230**	328	IPR	.006 - .007	.006 - .007	.007 - .010	.009 - .012	.010 - .015	.012 - .017	.014 - .019	.016 - .021

Deep-Hole Drills • B27_HPS Series • Grade KN25™ • Through Coolant for Drill Diameters 3–16mm





Material Group		Cutting Speed – vc Range – m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	14,0	16,0
N	1	120	**200**	300	mm/r	0,12 - 0,17	0,13 - 0,18	0,15 - 0,24	0,19 - 0,29	0,26 - 0,35	0,31 - 0,40	0,35 - 0,45	0,41 - 0,51
	2	120	**170**	300	mm/r	0,13 - 0,18	0,14 - 0,19	0,16 - 0,25	0,20 - 0,30	0,28 - 0,37	0,33 - 0,42	0,38 - 0,48	0,44 - 0,54
	3	100	**150**	300	mm/r	0,13 - 0,18	0,14 - 0,19	0,16 - 0,25	0,20 - 0,30	0,28 - 0,37	0,33 - 0,42	0,38 - 0,48	0,44 - 0,54
	5	80	**200**	300	mm/r	0,03 - 0,05	0,03 - 0,06	0,03 - 0,06	0,04 - 0,06	0,05 - 0,07	0,05 - 0,08	0,05 - 0,08	0,06 - 0,09

Material Group		Cutting Speed – vc Range – SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	0.551	5/8 .625
N	1	390	**660**	980	IPR	.005 - .007	.005 - .007	.006 - .009	.007 - .011	.010 - .014	.012 - .016	.014 - .018	.016 - .020
	2	390	**560**	980	IPR	.005 - .007	.006 - .007	.006 - .010	.008 - .012	.011 - .015	.013 - .017	.015 - .019	.017 - .021
	3	330	**490**	980	IPR	.005 - .007	.006 - .007	.006 - .010	.008 - .012	.011 - .015	.013 - .017	.015 - .019	.017 - .021
	5	260	**660**	980	IPR	.001 - .002	.001 - .002	.001 - .002	.002 - .003	.002 - .003	.002 - .003	.002 - .003	.002 - .003



HP Drills with Through Coolant for High-Temperature Alloys

Primary Application

B/K28_ Series Solid Carbide Drills offer a material-specific design and grade for machining high-temperature-resistant alloys such as titanium alloys and nickel-based alloys in aerospace applications. This drill minimizes subsurface deformation.

Features and Benefits

HP Drill-Point Design

- Low thrust prevents workpiece flexing.
- Excellent centering capabilities.

Straight Cutting Edge

- Optimized chip formation with less stress and heat generation.
- Rigid wedge at the cutting corner to withstand high thermal and mechanical stress.

Unique Flute Design

- Drastically improved chip evacuation.

K715™ Grade

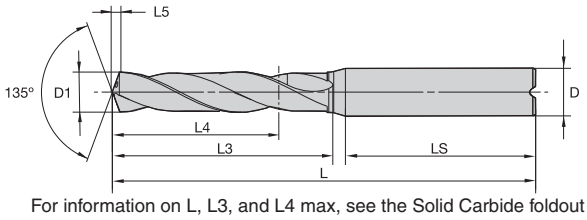
- Specified, uncoated 9% cobalt fine-grain carbide.
- The uncoated grade helps to prevent built-up edge in drilling aluminum and high-temp alloys.

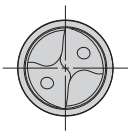
Customization

- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.





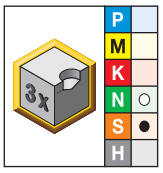


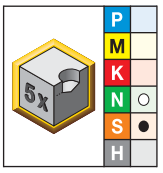




For information on L, L3, and L4 max, see the Solid Carbide foldout table.

B284/B285 • ~3 x D/~5 x D

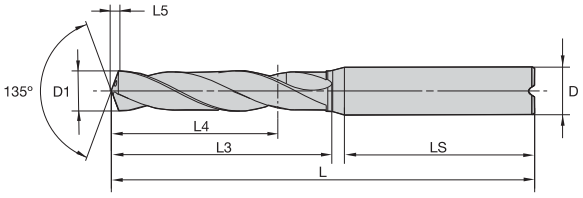


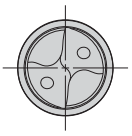


● first choice
○ alternate choice

short • K715	long • K715	D1 diameter mm	in	fraction	wire size	L5	LS	D
B284A04000	–	4,000	.1575	–	–	0,7	36	6
B284A04200	–	4,200	.1654	–	–	0,8	36	6
B284A04500	–	4,500	.1772	–	–	0,8	36	6
B284A05000	**B285A05000**	5,000	.1969	–	–	0,9	36	6
B284A05100	–	5,100	.2008	–	–	0,9	36	6
B284A05500	**B285A05500**	5,500	.2165	–	–	1,0	36	6
–	**B285A05900**	5,900	.2323	–	–	1,1	36	6
B284A06000	**B285A06000**	6,000	.2362	–	–	1,1	36	6
–	**B285A06350**	6,350	.2500	1/4	E	1,2	36	8
B284A06800	–	6,800	.2677	–	–	1,3	36	8
B284A07000	–	7,000	.2756	–	–	1,3	36	8
B284A07500	–	7,500	.2953	–	–	1,4	36	8
–	**B285A08000**	8,000	.3150	–	–	1,5	36	8
B284A08500	–	8,500	.3346	–	–	1,6	40	10
B284A08800	–	8,800	.3465	–	–	1,6	40	10
–	**B285A09540**	9,540	.3756	–	–	1,8	40	10
–	**B285A10000**	10,000	.3937	–	–	1,8	40	10
–	**B285A10500**	10,500	.4134	–	–	1,9	45	12
B284A11700	–	11,700	.4606	–	–	2,2	45	12
–	**B285A12000**	12,000	.4724	–	–	2,2	45	12
B284A15500	–	15,500	.6102	–	–	2,9	48	16
B284A25000	–	25,000	.9843	–	–	4,6	56	25



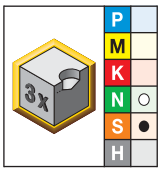


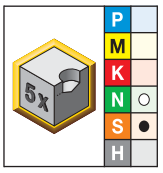




For information on L, L3, and L4 max, see the Solid Carbide foldout table.

K284/K285 • ~3 x D/~5 x D





● first choice
○ alternate choice

short • K715	regular • K715	D1 diameter in	D1 diameter mm	D1 diameter fraction	D1 diameter wire size	L5	LS	D
K284A01563	K285A01563	.1563	3,969	5/32	–	.029	1.44	.1875
–	K285A01590	.1590	4,039	–	21	.029	1.44	.1875
K284A01875	K285A01875	.1875	4,762	3/16	–	.035	1.44	.1875
–	K285A02090	.2090	5,309	–	4	.039	1.44	.2500
K284A02188	–	.2188	5,558	7/32	–	.040	1.44	.2500
–	K285A02194	.2194	5,573	–	–	.041	1.44	.2500
–	K285A02210	.2210	5,614	–	2	.041	1.44	.2500
–	K285A02420	.2420	6,147	–	C	.045	1.44	.2500
K284A02500	K285A02500	.2500	6,350	1/4	E	.046	1.44	.2500
K284A02649	–	.2649	6,729	–	–	.049	1.52	.3125
K284A02656	–	.2656	6,746	17/64	–	.049	1.52	.3125
–	K285A02720	.2720	6,909	–	I	.050	1.52	.3125
K284A02813	–	.2813	7,145	9/32	–	.052	1.52	.3125
K284A02913	–	.2913	7,399	–	–	.054	1.52	.3125
–	K285A03125	.3125	7,938	5/16	–	.058	1.52	.3125
K284A03594	–	.3594	9,129	23/64	–	.066	1.59	.3750
–	K285A03750	.3750	9,525	3/8	–	.069	1.59	.3750
K284A03906	–	.3906	9,921	25/64	–	.072	1.67	.4375
–	K285A04375	.4375	11,113	7/16	–	.081	1.67	.4375
K284A04531	–	.4531	11,509	29/64	–	.084	1.79	.5000
K284A04688	K285A04688	.4688	11,908	15/32	–	.087	1.79	.5000
–	K285A05000	.5000	12,700	1/2	–	.092	1.79	.5000
–	K285A06562	.6563	16,669	21/32	–	.121	1.91	.6875

Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance m7	D tolerance h6	nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008	>.1181–.2362	.0002/.0006	.0000/-.0003
>6–10	0,006/0,021	0,000/-0,009	>.2362–.3937	.0002/.0008	.0000/-.0004
>10–18	0,007/0,025	0,000/-0,011	>.3937–.7087	.0003/.0010	.0000/-.0004
>18–25,4	0,008/0,029	0,000/-0,013	>.7087–1.0000	.0003/.0011	.0000/-.0005

HP Drills • B/K28_Series • Grade K715™ • Through Coolant for Drill Diameters 3–20mm



Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
N	1	120	**200**	400	mm/r	0,13 - 0,19	0,14 - 0,20	0,17 - 0,26	0,21 - 0,32	0,27 - 0,37	0,33 - 0,42	0,37 - 0,47	0,43 - 0,54
	2	120	**170**	400	mm/r	0,14 - 0,20	0,15 - 0,22	0,17 - 0,29	0,22 - 0,35	0,29 - 0,42	0,34 - 0,48	0,39 - 0,54	0,45 - 0,61
	3	100	**150**	400	mm/r	0,13 - 0,18	0,14 - 0,19	0,16 - 0,25	0,20 - 0,30	0,28 - 0,37	0,33 - 0,42	0,38 - 0,48	0,44 - 0,54
	5	80	**200**	300	mm/r	0,03 - 0,05	0,03 - 0,06	0,03 - 0,06	0,04 - 0,06	0,05 - 0,07	0,05 - 0,08	0,05 - 0,08	0,06 - 0,09
S	1	20	**25**	30	mm/r	0,03 - 0,05	0,04 - 0,06	0,06 - 0,09	0,08 - 0,12	0,10 - 0,14	0,11 - 0,16	0,14 - 0,19	0,16 - 0,23
	2	10	**15**	20	mm/r	0,03 - 0,04	0,04 - 0,05	0,06 - 0,08	0,08 - 0,10	0,10 - 0,12	0,11 - 0,13	0,12 - 0,16	0,14 - 0,18
	4	20	**35**	50	mm/r	0,03 - 0,04	0,04 - 0,05	0,06 - 0,08	0,08 - 0,10	0,11 - 0,13	0,13 - 0,15	0,14 - 0,18	0,16 - 0,21

Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
N	1	390	**660**	1310	IPR	.005 - .007	.006 - .008	.006 - .010	.008 - .013	.011 - .014	.013 - .017	.014 - .019	.017 - .021
	2	390	**560**	1310	IPR	.005 - .008	.006 - .009	.007 - .011	.009 - .014	.011 - .017	.013 - .019	.015 - .021	.018 - .024
	3	330	**490**	1310	IPR	.005 - .007	.006 - .008	.006 - .010	.008 - .012	.011 - .015	.013 - .017	.015 - .019	.017 - .021
	5	260	**660**	980	IPR	.001 - .002	.001 - .002	.001 - .002	.002 - .003	.002 - .003	.002 - .003	.002 - .003	.002 - .003
S	1	70	**80**	100	IPR	.001 - .002	.002 - .002	.002 - .004	.003 - .005	.004 - .006	.004 - .006	.006 - .007	.006 - .009
	2	30	**50**	70	IPR	.001 - .001	.002 - .002	.002 - .003	.003 - .004	.004 - .005	.004 - .005	.005 - .006	.006 - .007
	4	70	**110**	160	IPR	.001 - .001	.002 - .002	.002 - .003	.003 - .004	.004 - .005	.005 - .006	.005 - .007	.006 - .008



Y-TECH™ Drills with Through Coolant for Difficult-to-Machine Materials

Primary Application

The B29_YPL Series Solid Carbide Drills are specifically engineered to drill stainless steel, high-temp alloys, and difficult-to-machine materials.

Y-TECH drills deliver best-in-class hole quality and longest tool life in these difficult-to-machine workpiece materials. Operate these drills with standard through coolant or MQL.

Features and Benefits

YPL Drill-Point Design

- Ensures good centering and chip formation.
- No jamming of chips and enables easy reconditioning.

Uneven Flute-to-Flute Angle

- Unbalanced forces by design eliminate chipping on margin lands.

Three-Margin Lands

- Reduce pendulum motion by directing forces towards third margin, which results in superior hole accuracy (cylindricity, constant diameter, hole straightness).

KC7315™ Grade

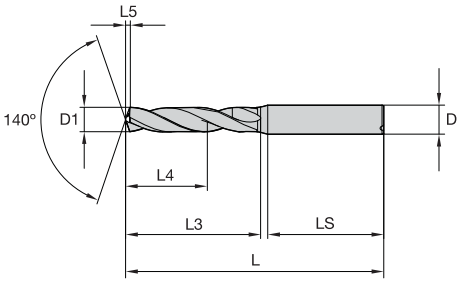
- A multilayer, TiAlN-based coating with high hot hardness enables higher cutting speeds and outstanding wear resistance.
- Optimized surface finish of the tool ensures chip evacuation in high-speed drilling and MQL applications.

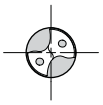
Customization

- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.
- Using Kennametal Slim Line Hydraulic Chucks together with standard B29_YPL is recommended if workpiece contours need to be bypassed.





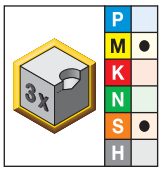


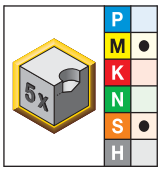




For information on L, L3, and L4 max, see the Solid Carbide foldout table.

B291/B292_YPL • ~3 x D/~5 x D



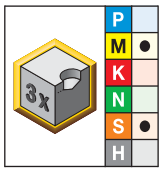


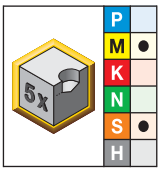
● first choice
○ alternate choice

short • KC7315	long • KC7315	D1 diameter mm	in	fraction	wire size	L5	LS	D
B291A03000YPL	B292A03000YPL	3,000	.1181	–	–	0,6	36	6
B291A03100YPL	B292A03100YPL	3,100	.1220	–	–	0,6	36	6
B291A03175YPL	B292A03175YPL	3,175	.1250	1/8	–	0,6	36	6
B291A03200YPL	B292A03200YPL	3,200	.1260	–	–	0,6	36	6
B291A03300YPL	B292A03300YPL	3,300	.1299	–	–	0,7	36	6
B291A03400YPL	B292A03400YPL	3,400	.1339	–	–	0,7	36	6
B291A03454YPL	B292A03454YPL	3,454	.1360	–	29	0,7	36	6
B291A03500YPL	B292A03500YPL	3,500	.1378	–	–	0,7	36	6
B291A03600YPL	B292A03600YPL	3,600	.1417	–	–	0,7	36	6
B291A03700YPL	B292A03700YPL	3,700	.1457	–	–	0,7	36	6
B291A03800YPL	B292A03800YPL	3,800	.1496	–	–	0,8	36	6
B291A03900YPL	B292A03900YPL	3,900	.1535	–	–	0,8	36	6
B291A03970YPL	B292A03970YPL	3,970	.1563	5/32	–	0,8	36	6
B291A04000YPL	B292A04000YPL	4,000	.1575	–	–	0,8	36	6
B291A04100YPL	B292A04100YPL	4,100	.1614	–	–	0,8	36	6
–	B292A04200YPL	4,200	.1654	–	–	0,8	36	6
B291A04300YPL	B292A04300YPL	4,300	.1693	–	–	0,8	36	6
B291A04400YPL	–	4,400	.1732	–	–	0,9	36	6
B291A04500YPL	B292A04500YPL	4,500	.1772	–	–	0,9	36	6
–	B292A04700YPL	4,700	.1850	–	13	0,9	36	6
B291A04763YPL	B292A04763YPL	4,763	.1875	3/16	–	0,9	36	6
B291A04800YPL	B292A04800YPL	4,800	.1890	–	12	0,9	36	6
B291A04851YPL	B292A04851YPL	4,851	.1910	–	11	0,9	36	6
B291A04900YPL	–	4,900	.1929	–	–	0,9	36	6
B291A04915YPL	B292A04915YPL	4,915	.1935	–	10	1,0	36	6
B291A05000YPL	B292A05000YPL	5,000	.1969	–	–	1,0	36	6
B291A05100YPL	B292A05100YPL	5,100	.2008	–	–	1,0	36	6
B291A05200YPL	B292A05200YPL	5,200	.2047	–	–	1,0	36	6
B291A05410YPL	B292A05410YPL	5,410	.2130	–	3	1,1	36	6
B291A05500YPL	B292A05500YPL	5,500	.2165	–	–	1,1	36	6
–	B292A05558YPL	5,558	.2188	7/32	–	1,1	36	6
B291A05600YPL	B292A05600YPL	5,600	.2205	–	–	1,1	36	6
–	B292A05800YPL	5,800	.2283	–	–	1,1	36	6
B291A05900YPL	–	5,900	.2323	–	–	1,1	36	6
B291A06000YPL	B292A06000YPL	6,000	.2362	–	–	1,2	36	6
B291A06200YPL	B292A06200YPL	6,200	.2441	–	–	1,2	36	8
B291A06350YPL	B292A06350YPL	6,350	.2500	1/4	E	1,2	36	8
B291A06500YPL	B292A06500YPL	6,500	.2559	–	–	1,3	36	8
–	B292A06528YPL	6,528	.2570	–	F	1,3	36	8
–	B292A06600YPL	6,600	.2598	–	–	1,3	36	8

(continued)

(B291/B292_YPL • ~3 x D/~5 x D continued)

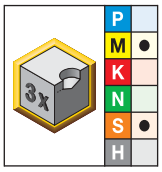


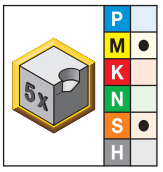


short • KC7315	long • KC7315	D1 diameter mm	in	fraction	wire size	L5	LS	D
–	B292A06746YPL	6,746	.2656	17/64	–	1,3	36	8
B291A06747YPL	–	6,747	.2656	17/64	–	1,3	36	8
B291A06800YPL	B292A06800YPL	6,800	.2677	–	–	1,3	36	8
–	B292A06900YPL	6,900	.2717	–	–	1,3	36	8
B291A07000YPL	B292A07000YPL	7,000	.2756	–	–	1,4	36	8
–	B292A07100YPL	7,100	.2795	–	–	1,4	36	8
B291A07144YPL	–	7,144	.2813	9/32	–	1,4	36	8
–	B292A07145YPL	7,145	.2813	9/32	–	1,4	36	8
B291A07200YPL	B292A07200YPL	7,200	.2835	–	–	1,4	36	8
–	B292A07400YPL	7,400	.2913	–	–	1,4	36	8
B291A07500YPL	B292A07500YPL	7,500	.2953	–	–	1,4	36	8
–	B292A07600YPL	7,600	.2992	–	–	1,5	36	8
–	B292A07900YPL	7,900	.3110	–	–	1,5	36	8
B291A07938YPL	B292A07938YPL	7,938	.3125	5/16	–	1,5	36	8
B291A08000YPL	B292A08000YPL	8,000	.3150	–	–	1,5	36	8
–	B292A08100YPL	8,100	.3189	–	–	1,6	40	10
–	B292A08200YPL	8,200	.3228	–	–	1,6	40	10
B291A08334YPL	B292A08334YPL	8,334	.3281	21/64	–	1,6	40	10
–	B292A08433YPL	8,433	.3320	–	Q	1,6	40	10
B291A08500YPL	B292A08500YPL	8,500	.3346	–	–	1,6	40	10
B291A08600YPL	B292A08600YPL	8,600	.3386	–	–	1,7	40	10
B291A08733YPL	B292A08733YPL	8,733	.3438	11/32	–	1,7	40	10
B291A08800YPL	B292A08800YPL	8,800	.3465	–	–	1,7	40	10
B291A08900YPL	B292A08900YPL	8,900	.3504	–	–	1,7	40	10
B291A09000YPL	B292A09000YPL	9,000	.3543	–	–	1,7	40	10
B291A09129YPL	–	9,129	.3594	23/64	–	1,8	40	10
–	B292A09130YPL	9,130	.3594	23/64	–	1,8	40	10
B291A09200YPL	B292A09200YPL	9,200	.3622	–	–	1,8	40	10
B291A09300YPL	–	9,300	.3661	–	–	1,8	40	10
–	B292A09347YPL	9,347	.3680	–	U	1,8	40	10
B291A09500YPL	B292A09500YPL	9,500	.3740	–	–	1,8	40	10
B291A09525YPL	B292A09525YPL	9,525	.3750	3/8	–	1,8	40	10
–	B292A09600YPL	9,600	.3780	–	–	1,8	40	10
B291A09700YPL	B292A09700YPL	9,700	.3819	–	–	1,9	40	10
B291A09800YPL	B292A09800YPL	9,800	.3858	–	–	1,9	40	10
B291A10000YPL	B292A10000YPL	10,000	.3937	–	–	1,9	40	10
–	B292A10100YPL	10,100	.3976	–	–	1,9	45	12
B291A10200YPL	B292A10200YPL	10,200	.4016	–	–	2,0	45	12
B291A10320YPL	B292A10320YPL	10,320	.4063	13/32	–	2,0	45	12
B291A10500YPL	B292A10500YPL	10,500	.4134	–	–	2,0	45	12
B291A10600YPL	–	10,600	.4173	–	–	2,0	45	12
B291A10716YPL	B292A10716YPL	10,716	.4219	27/64	–	2,0	45	12
B291A11000YPL	B292A11000YPL	11,000	.4331	–	–	2,1	45	12
–	B292A11112YPL	11,112	.4375	7/16	–	2,1	45	12
B291A11113YPL	–	11,113	.4375	7/16	–	2,1	45	12
B291A11500YPL	B292A11500YPL	11,500	.4528	–	–	2,2	45	12
B291A11509YPL	B292A11509YPL	11,509	.4531	29/64	–	2,2	45	12
B291A11800YPL	–	11,800	.4646	–	–	2,2	45	12
B291A11908YPL	B292A11908YPL	11,908	.4688	15/32	–	2,3	45	12
B291A12000YPL	B292A12000YPL	12,000	.4724	–	–	2,3	45	12

(continued)

(B291/B292_YPL • ~3 x D/~5 x D continued)





short • KC7315	long • KC7315	D1 diameter mm	in	fraction	wire size	L5	LS	D
B291A12300YPL	–	12,300	.4843	–	–	2,3	45	14
–	B292A12304YPL	12,304	.4844	31/64	–	2,3	45	14
B291A12500YPL	B292A12500YPL	12,500	.4921	–	–	2,4	45	14
B291A12700YPL	B292A12700YPL	12,700	.5000	1/2	–	2,4	45	14
B291A12900YPL	–	12,900	.5079	–	–	2,5	45	14
B291A13000YPL	B292A13000YPL	13,000	.5118	–	–	2,5	45	14
–	B292A13500YPL	13,500	.5315	–	–	2,6	45	14
–	B292A13650YPL	13,650	.5374	–	–	2,6	45	14
B291A13800YPL	–	13,800	.5433	–	–	2,6	45	14
–	B292A13900YPL	13,900	.5472	–	–	2,6	45	14
B291A14000YPL	B292A14000YPL	14,000	.5512	–	–	2,7	45	14
–	B292A14200YPL	14,200	.5591	–	–	2,7	48	16
B291A14288YPL	B292A14288YPL	14,288	.5625	9/16	–	2,7	48	16
B291A14500YPL	B292A14500YPL	14,500	.5709	–	–	2,8	48	16
B291A14900YPL	–	14,900	.5866	–	–	2,8	48	16
B291A15000YPL	B292A15000YPL	15,000	.5906	–	–	2,8	48	16
–	B292A15500YPL	15,500	.6102	–	–	2,9	48	16
–	B292A15600YPL	15,600	.6142	–	–	3,0	48	16
B291A15800YPL	–	15,800	.6220	–	–	3,0	48	16
B291A15875YPL	B292A15875YPL	15,875	.6250	5/8	–	3,0	48	16
B291A16000YPL	B292A16000YPL	16,000	.6299	–	–	3,0	48	16
B291A16100YPL	B292A16100YPL	16,100	.6339	–	–	3,1	48	18
–	B292A16500YPL	16,500	.6496	–	–	3,1	48	18
B291A17000YPL	B292A17000YPL	17,000	.6693	–	–	3,2	48	18
B291A17463YPL	B292A17463YPL	17,463	.6875	11/16	–	3,3	48	18
B291A17500YPL	B292A17500YPL	17,500	.6890	–	–	3,3	48	18
B291A17900YPL	–	17,900	.7047	–	–	3,4	48	18
B291A18000YPL	B292A18000YPL	18,000	.7087	–	–	3,4	48	18
–	B292A18500YPL	18,500	.7283	–	–	3,5	50	20
–	B292A19000YPL	19,000	.7480	–	–	3,6	50	20
B291A19050YPL	B292A19050YPL	19,050	.7500	3/4	–	3,6	50	20
–	B292A19100YPL	19,100	.7520	–	–	3,6	50	20
–	B292A19446YPL	19,446	.7656	49/64	–	3,7	50	20
–	B292A19500YPL	19,500	.7677	–	–	3,7	50	20
B291A19800YPL	–	19,800	.7795	–	–	3,7	50	20
–	B292A20000YPL	20,000	.7874	–	–	3,8	50	20
–	B292A20500YPL	20,500	.8071	–	–	3,9	50	20
–	B292A21000YPL	21,000	.8268	–	–	4,0	50	20

NOTE: YPL drills are designed specifically for high-temp alloys, duplex stainless steels, and other difficult-to-machine materials.

Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance m7	D tolerance h6	nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008	>.1181–.2362	.0002/.0006	.0000/-.0003
>6–10	0,006/0,021	0,000/-0,009	>.2362–.3937	.0002/.0008	.0000/-.0004
>10–18	0,007/0,025	0,000/-0,011	>.3937–.7087	.0003/.0010	.0000/-.0004
>18–25,4	0,008/0,029	0,000/-0,013	>.7087–1.0000	.0003/.0011	.0000/-.0005

Y-TECH™ Drill • B29_YPL Series • Grade KC7315™ • Through Coolant for Drill Diameters 3–20mm



Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max	Metric Recommended Feed Rate (f) by Diameter		3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	5	45	**65**	80	mm/r	0,04 - 0,08	0,06 - 0,09	0,07 - 0,12	0,09 - 0,16	0,11 - 0,19	0,13 - 0,21	0,15 - 0,26	0,18 - 0,30
M	1	40	**50**	60	mm/r	0,07 - 0,11	0,08 - 0,12	0,13 - 0,17	0,14 - 0,21	0,14 - 0,21	0,17 - 0,23	0,19 - 0,25	0,22 - 0,27
	2	40	**50**	80	mm/r	0,07 - 0,11	0,07 - 0,12	0,08 - 0,17	0,13 - 0,21	0,14 - 0,22	0,17 - 0,28	0,19 - 0,32	0,22 - 0,34
	3	40	**50**	70	mm/r	0,04 - 0,06	0,04 - 0,07	0,04 - 0,07	0,05 - 0,08	0,06 - 0,09	0,06 - 0,10	0,06 - 0,10	0,07 - 0,11
S	1	15	**20**	30	mm/r	0,06 - 0,08	0,06 - 0,08	0,07 - 0,10	0,10 - 0,13	0,11 - 0,14	0,12 - 0,16	0,14 - 0,19	0,17 - 0,22
	2	20	**10**	30	mm/r	0,05 - 0,07	0,05 - 0,07	0,06 - 0,08	0,08 - 0,11	0,09 - 0,12	0,10 - 0,13	0,12 - 0,16	0,14 - 0,18
	3	25	**30**	50	mm/r	0,03 - 0,05	0,03 - 0,05	0,04 - 0,08	0,05 - 0,10	0,05 - 0,10	0,05 - 0,10	0,07 - 0,11	0,08 - 0,12
	4	30	**25**	50	mm/r	0,03 - 0,05	0,03 - 0,05	0,04 - 0,08	0,05 - 0,10	0,05 - 0,10	0,05 - 0,10	0,07 - 0,11	0,08 - 0,12

Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max	Inch Recommended Feed Rate (f) by Diameter		1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
P	5	150	**210**	260	IPR	.002 - .003	.002 - .004	.003 - .005	.004 - .006	.004 - .007	.005 - .008	.006 - .010	.007 - .012
M	1	130	**160**	200	IPR	.003 - .004	.003 - .005	.005 - .007	.006 - .008	.006 - .008	.007 - .009	.007 - .010	.009 - .011
	2	130	**160**	260	IPR	.003 - .004	.003 - .005	.003 - .007	.005 - .008	.006 - .009	.007 - .011	.007 - .013	.009 - .013
	3	130	**160**	230	IPR	.002 - .002	.002 - .003	.002 - .003	.002 - .003	.002 - .004	.002 - .004	.002 - .004	.003 - .004
S	1	50	**70**	100	IPR	.002 - .003	.002 - .003	.003 - .004	.004 - .005	.004 - .006	.005 - .006	.006 - .008	.007 - .009
	2	70	**30**	100	IPR	.002 - .003	.002 - .003	.002 - .003	.003 - .004	.004 - .005	.004 - .005	.005 - .006	.006 - .007
	3	80	**100**	160	IPR	.001 - .002	.001 - .002	.002 - .003	.002 - .004	.002 - .004	.002 - .004	.003 - .004	.003 - .005
	4	100	**80**	160	IPR	.001 - .002	.001 - .002	.002 - .003	.002 - .004	.002 - .004	.002 - .004	.003 - .004	.003 - .005

Carbide Recycling

Help preserve and protect our planet!

It's easy for your company to be environmentally conscious with the Kennametal Carbide Recycling Program.

By sending us your used carbide tools, you help preserve and protect the environment and ensure that these products are recycled responsibly. Kennametal accepts any coated or non-coated carbide items, including inserts, drills, reamers, and taps.



By using the Kennametal Carbide Recycling Program, you will receive:

- A partner who cares about a sustainable environment.
- Easy-to-use web portal to value your used carbide.
- Access to our popular Green Box™ options for carbide collection.
- Systematic and efficient disposal of carbide materials.
- Improved profitability.

Program is not currently available in all geographical areas.
For more information, please visit **www.kennametal.com/carbiderecycling.**



TX Drills with Through Coolant for Close Tolerance Holes

Primary Application

B/K411 Solid Carbide Drills have an X-shaped, free-cutting 130° point design and are designed for gray cast iron, nodular iron, and non-ferrous and aluminum alloy materials. Best suited for high-quality, close tolerance holes that require a very good surface finish.

Features and Benefits

Two Cutting Edges with Straight Flutes

- Precise shape of the hole even if used as platform for complex step drills.
- Can run into cored holes.

X-Shaped Drill Point

- Excellent centering capabilities.

Four-Margin Land Design

- Second set of cutting margin lands improves the surface quality.
- Achieve tight diameter tolerances.
- Can run through cross holes and exit on inclined surfaces.

Wear-Resistant Carbide KF1™ Grade

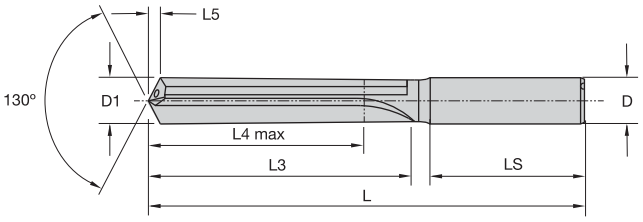
- Long tool life in abrasive materials, such as cast iron and aluminum die cast alloys.
- The uncoated grade KF1 helps to prevent built-up edge in drilling aluminum.

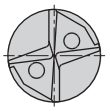
Customization

- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.
- Coated KC7205™ grade delivers high wear resistance with very high diameter accuracy.



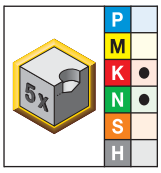








B411 • ~5 x D

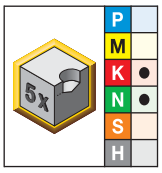


● first choice
○ alternate choice

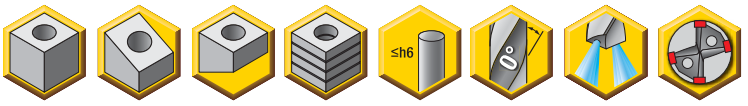
KF1	D1 diameter mm	in	fraction	wire size	L	L4 max	L5	LS	D
B411A03200	3,200	.1260	–	–	66	23	0,7	36	6
B411A03300	3,300	.1299	–	–	66	23	0,8	36	6
B411A03800	3,800	.1496	–	–	74	29	0,9	36	6
B411A04000	4,000	.1575	–	–	74	29	0,9	36	6
B411A04200	4,200	.1654	–	–	74	29	1,0	36	6
B411A04500	4,500	.1772	–	–	74	29	1,0	36	6
B411A04600	4,600	.1811	–	–	74	29	1,1	36	6
B411A04650	4,650	.1831	–	–	74	29	1,1	36	6
B411A04800	4,800	.1890	–	12	82	35	1,1	36	6
B411A04900	4,900	.1929	–	–	82	35	1,1	36	6
B411A05000	5,000	.1969	–	–	82	35	1,2	36	6
B411A05100	5,100	.2008	–	–	82	35	1,2	36	6
B411A05200	5,200	.2047	–	–	82	35	1,2	36	6
B411A05500	5,500	.2165	–	–	82	35	1,3	36	6
B411A05550	5,550	.2185	–	–	82	35	1,3	36	6
B411A05800	5,800	.2283	–	–	82	35	1,4	36	6
B411A06000	6,000	.2362	–	–	82	35	1,4	36	6
B411A06300	6,300	.2480	–	–	91	43	1,5	36	8
B411A06400	6,400	.2520	–	–	91	43	1,5	36	8
B411A06500	6,500	.2559	–	–	91	43	1,5	36	8
B411A06600	6,600	.2598	–	–	91	43	1,5	36	8
B411A06800	6,800	.2677	–	–	91	43	1,6	36	8
B411A07000	7,000	.2756	–	–	91	43	1,6	36	8
B411A07400	7,400	.2913	–	–	91	43	1,7	36	8
B411A07500	7,500	.2953	–	–	91	43	1,7	36	8
B411A07800	7,800	.3071	–	–	91	43	1,8	36	8
B411A08000	8,000	.3150	–	–	91	43	1,9	36	8
B411A08400	8,400	.3307	–	–	103	49	2,0	40	10
B411A08500	8,500	.3346	–	–	103	49	2,0	40	10
B411A09000	9,000	.3543	–	–	103	49	2,1	40	10
B411A09300	9,300	.3661	–	–	103	49	2,2	40	10
B411A09500	9,500	.3740	–	–	103	49	2,2	40	10
B411A09800	9,800	.3858	–	–	103	49	2,3	40	10
B411A10000	10,000	.3937	–	–	103	49	2,3	40	10
B411A10200	10,200	.4016	–	–	118	56	2,4	45	12
B411A10500	10,500	.4134	–	–	118	56	2,4	45	12
B411A11000	11,000	.4331	–	–	118	56	2,6	45	12
B411A11200	11,200	.4409	–	–	118	56	2,6	45	12

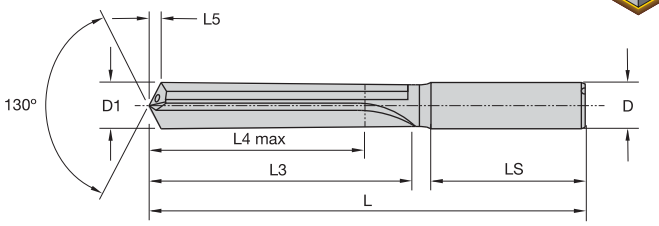
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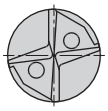
(B411 • ~5 x D continued)



KF1	D1 diameter mm	in	fraction	wire size	L	L4 max	L5	LS	D
B411A11500	11,500	.4528	–	–	118	56	2,7	45	12
B411A11800	11,800	.4646	–	–	118	56	2,8	45	12
B411A12000	12,000	.4724	–	–	118	56	2,8	45	12
B411A12500	12,500	.4921	–	–	124	60	2,9	45	14
B411A13000	13,000	.5118	–	–	124	60	3,0	45	14
B411A13500	13,500	.5315	–	–	124	60	3,1	45	14
B411A13800	13,800	.5433	–	–	124	60	3,2	45	14
B411A14000	14,000	.5512	–	–	124	60	3,3	45	14
B411A14500	14,500	.5709	–	–	133	63	3,4	48	16
B411A15000	15,000	.5906	–	–	133	63	3,5	48	16
B411A15500	15,500	.6102	–	–	133	63	3,6	48	16
B411A16000	16,000	.6299	–	–	133	63	3,7	48	16
B411A16500	16,500	.6496	–	–	143	71	3,8	48	18
B411A17000	17,000	.6693	–	–	143	71	4,0	48	18
B411A17500	17,500	.6890	–	–	143	71	4,1	48	18
B411A18000	18,000	.7087	–	–	143	71	4,2	48	18
B411A19000	19,000	.7480	–	–	153	77	4,4	50	20
B411A19500	19,500	.7677	–	–	153	77	4,5	50	20
B411A20000	20,000	.7874	–	–	153	77	4,7	50	20
B411A21000	21,000	.8268	–	–	167	85	4,9	50	20
B411A22000	22,000	.8661	–	–	167	85	5,1	50	20
B411A23000	23,000	.9055	–	–	184	98	5,4	56	25
B411A24000	24,000	.9449	–	–	184	98	5,6	56	25
B411A25000	25,000	.9843	–	–	184	98	5,8	56	25

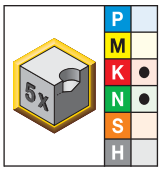








K411 • ~5 x D



● first choice
○ alternate choice

KF1	D1 diameter in	mm	fraction	wire size	L	L4 max	L5	LS	D
K411A01250	.1250	3,175	1/8	–	2.60	.84	.029	1.44	.1875
K411A01406	.1406	3,572	9/64	–	2.60	.84	.033	1.44	.1875
K411A01563	.1563	3,969	5/32	–	2.60	.84	.036	1.44	.1875
K411A01719	.1719	4,366	11/64	–	2.91	1.13	.040	1.44	.1875
K411A01875	.1875	4,762	3/16	–	2.91	1.13	.044	1.44	.1875
K411A02031	.2031	5,159	13/64	–	3.23	1.37	.047	1.44	.2500
K411A02188	.2187	5,556	7/32	–	3.23	1.37	.051	1.44	.2500
K411A02344	.2344	5,953	15/64	–	3.23	1.37	.055	1.44	.2500
K411A02500	.2500	6,350	1/4	E	3.23	1.37	.058	1.44	.2500
K411A02656	.2656	6,747	17/64	–	3.58	1.59	.062	1.52	.3125
K411A02812	.2813	7,144	9/32	–	3.58	1.59	.066	1.52	.3125
K411A02969	.2969	7,541	19/64	–	3.58	1.59	.069	1.52	.3125
K411A03125	.3125	7,938	5/16	–	3.58	1.59	.073	1.52	.3125
K411A03281	.3281	8,334	21/64	–	4.06	1.92	.077	1.59	.3750
K411A03438	.3437	8,731	11/32	–	4.06	1.92	.080	1.59	.3750
K411A03594	.3594	9,128	23/64	–	4.06	1.92	.084	1.59	.3750
K411A03750	.3750	9,525	3/8	–	4.06	1.92	.087	1.59	.3750
K411A03906	.3906	9,922	25/64	–	4.37	2.09	.091	1.67	.4375
K411A04063	.4063	10,319	13/32	–	4.37	2.09	.095	1.67	.4375
K411A04219	.4219	10,716	27/64	–	4.37	2.09	.098	1.67	.4375
K411A04375	.4375	11,112	7/16	–	4.37	2.09	.102	1.67	.4375
K411A04531	.4531	11,509	29/64	–	4.65	2.19	.106	1.79	.5000
K411A04688	.4687	11,906	15/32	–	4.65	2.19	.109	1.79	.5000
K411A04844	.4844	12,303	31/64	–	4.65	2.19	.113	1.79	.5000
K411A05000	.5000	12,700	1/2	–	4.65	2.19	.117	1.79	.5000
K411A05156	.5156	13,097	33/64	–	4.88	2.36	.120	1.79	.5625
K411A05313	.5313	13,494	17/32	–	4.88	2.36	.124	1.79	.5625
K411A05469	.5469	13,891	35/64	–	4.88	2.36	.128	1.79	.5625
K411A05625	.5625	14,288	9/16	–	4.88	2.36	.131	1.79	.5625
K411A05781	.5781	14,684	37/64	–	5.24	2.54	.135	1.91	.6250
K411A05938	.5937	15,081	19/32	–	5.24	2.54	.138	1.91	.6250
K411A06250	.6250	15,875	5/8	–	5.24	2.54	.146	1.91	.6250
K411A06875	.6875	17,463	11/16	–	5.63	2.87	.160	1.91	.6875
K411A07500	.7500	19,050	3/4	–	5.83	2.93	.175	1.99	.7500

Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance k6	D tolerance h6	nominal size range	D1 tolerance k6	D tolerance h6
>3–6	0,001/0,009	0,000/-0,008	>.1181–.2362	.0000/.0004	.0000/-.0003
>6–10	0,001/0,010	0,000/-0,009	>.2362–.3937	.0000/.0004	.0000/-.0004
>10–18	0,001/0,012	0,000/-0,011	>.3937–.7087	.0000/.0005	.0000/-.0004
>18–25,4	0,002/0,015	0,000/-0,013	>.7087–1.0000	.0000/.0006	.0000/-.0005

TX Drills • B/K411 Series • Grade KF1™ • Through Coolant for Drill Diameters 3–20mm

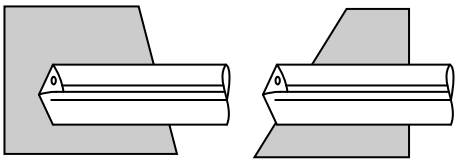


Material Group		Cutting Speed – vc Range – m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0	25,4
K	1	115	**60**	140	mm/r	0,11 - 0,20	0,12 - 0,24	0,15 - 0,28	0,18 - 0,33	0,20 - 0,38	0,23 - 0,44	0,30 - 0,53	0,34 - 0,65	0,40 - 0,76
N	1	100	**250**	450	mm/r	0,16 - 0,25	0,19 - 0,29	0,23 - 0,35	0,27 - 0,42	0,31 - 0,50	0,36 - 0,57	0,44 - 0,69	0,52 - 0,82	0,62 - 0,96
N	2	200	**100**	300	mm/r	0,15 - 0,23	0,17 - 0,28	0,21 - 0,34	0,25 - 0,39	0,30 - 0,46	0,34 - 0,54	0,42 - 0,67	0,52 - 0,82	0,61 - 0,96
N	5	100	**170**	250	mm/r	0,16 - 0,28	0,15 - 0,32	0,19 - 0,36	0,23 - 0,40	0,25 - 0,44	0,28 - 0,48	0,32 - 0,56	0,35 - 0,63	0,42 - 0,72
S	4	20	**40**	50	mm/r	0,04 - 0,07	0,04 - 0,07	0,06 - 0,09	0,08 - 0,10	0,10 - 0,14	0,13 - 0,18	0,18 - 0,26	0,22 - 0,32	0,27 - 0,38

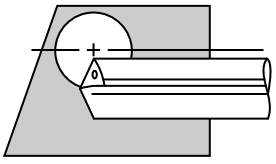
Material Group		Cutting Speed – vc Range – SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750	1/1 1.000
K	1	380	**200**	460	IPR	.004 - .008	.005 - .009	.006 - .011	.007 - .013	.008 - .015	.009 - .017	.012 - .021	.013 - .026	.016 - .030
N	1	330	**820**	1480	IPR	.006 - .010	.007 - .011	.009 - .014	.011 - .017	.012 - .020	.014 - .022	.017 - .027	.020 - .032	.024 - .038
N	2	660	**330**	980	IPR	.006 - .009	.007 - .011	.008 - .013	.010 - .015	.012 - .018	.013 - .021	.017 - .026	.020 - .032	.024 - .038
N	5	330	**560**	820	IPR	.006 - .011	.006 - .013	.007 - .014	.009 - .016	.010 - .017	.011 - .019	.013 - .022	.014 - .025	.017 - .028
S	4	70	**130**	160	IPR	.002 - .003	.002 - .003	.002 - .004	.003 - .004	.004 - .006	.005 - .007	.007 - .010	.009 - .013	.011 - .015

TX Drill Applications

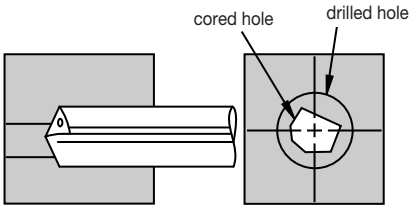
The excellent stability of the TX drill enables it to be used for drilling through inclined planes, intersecting holes, and cored holes:



inclined planes



intersecting holes



cored holes



SPF Drills for Composite (CFRP) Materials

Primary Application

B/K53_ Series Solid Carbide Drills offer a material-specific design and grade to machine carbon fiber-reinforced polymer (CFRP) composite materials by minimizing delamination and increasing tool life.

Features and Benefits

SPF Drill-Point Design

- Special 90° point angle increases centering capability.
- Low thrust and improved hole quality.

Unique Geometry

- Combination of point design, substrate, and coating provides longer tool life and requires substantially less cutting force.

KDF400™ Grade

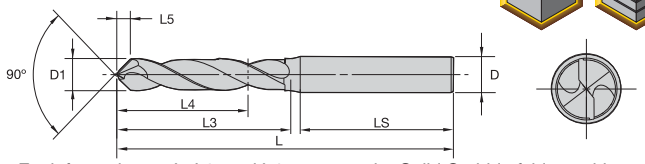
- CVD multilayer diamond coating provides more wear resistance and reduced friction, increasing tool life and improving chip flow.

Customization

- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.



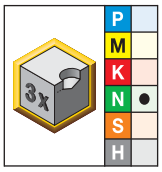


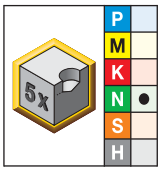


For information on L, L3, and L4 max, see the Solid Carbide foldout table.



B531/B532_SPF • ~3 x D/~5 x D • Metric

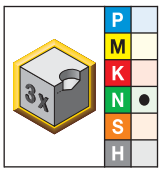


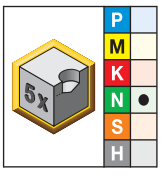


● first choice
○ alternate choice

short • KDF400	long • KDF400	D1 diameter mm	D1 diameter in	D1 diameter fraction	D1 diameter wire size	L5	LS	D
B531A03200SPF	B532A03200SPF	3,200	.1260	–	–	1,5	36	6
B531A03300SPF	B532A03300SPF	3,300	.1299	–	–	1,5	36	6
B531A03600SPF	B532A03600SPF	3,600	.1417	–	–	1,6	36	6
B531A04000SPF	B532A04000SPF	4,000	.1575	–	–	1,8	36	6
B531A04366SPF	B532A04366SPF	4,366	.1719	11/64	–	2,0	36	6
B531A04851SPF	B532A04851SPF	4,851	.1910	–	11	2,2	36	6
B531A04864SPF	B532A04864SPF	4,864	.1915	–	–	2,2	36	6
B531A05100SPF	B532A05100SPF	5,100	.2008	–	–	2,3	36	6
B531A05200SPF	B532A05200SPF	5,200	.2047	–	–	2,4	36	6
B531A06000SPF	B532A06000SPF	6,000	.2362	–	–	2,7	36	6
B531A06375SPF	B532A06375SPF	6,375	.2510	–	–	2,9	36	8
B531A06400SPF	B532A06400SPF	6,400	.2520	–	–	2,9	36	8
B531A06500SPF	B532A06500SPF	6,500	.2559	–	–	3,0	36	8
–	B532A06700SPF	6,700	.2638	–	–	3,0	36	8
–	B532A07200SPF	7,200	.2835	–	–	3,3	36	8
B531A07938SPF	B532A07938SPF	7,938	.3125	5/16	–	3,6	36	8
B531A08153SPF	B532A08153SPF	8,153	.3210	–	–	3,7	40	10
B531A09550SPF	B532A09550SPF	9,550	.3760	–	–	4,3	40	10
B531A09563SPF	B532A09563SPF	9,563	.3765	–	–	4,3	40	10
B531A11125SPF	B532A11125SPF	11,125	.4380	–	–	5,1	45	12
B531A12725SPF	B532A12725SPF	12,725	.5010	–	–	5,8	45	14

K531/K532_SPF • ~3 x D/~5 x D • Inch







● first choice
○ alternate choice

short • KDF400	regular • KDF400	D1 diameter in	D1 diameter mm	D1 diameter fraction	D1 diameter wire size	L5	LS	D
K531A01719SPF	K532A01719SPF	.1719	4,366	11/64	–	.078	1.44	.2500
K531A01915SPF	K532A01915SPF	.1915	4,864	–	–	.087	1.44	.2500
–	K532A02210SPF	.2210	5,613	–	–	.100	1.44	.2500
K531A02510SPF	K532A02510SPF	.2510	6,375	–	–	.114	1.44	.2500
K531A03125SPF	K532A03125SPF	.3125	7,938	5/16	–	.142	1.52	.3125
–	K532A03320SPF	.3320	8,433	–	Q	.151	1.59	.3750
K531A03760SPF	K532A03760SPF	.3760	9,550	–	–	.171	1.59	.3750
K531A03765SPF	K532A03765SPF	.3765	9,563	–	–	.171	1.67	.4375
–	K532A04219SPF	.4219	10,716	27/64	–	.192	1.67	.4375
K531A04380SPF	K532A04380SPF	.4380	11,125	–	–	.199	1.67	.4375
K531A05010SPF	K532A05010SPF	.5010	12,725	–	–	.228	1.79	.5000

Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance m7	D tolerance h6	nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008	>.1181–.2362	.0002/.0006	.0000/-.0003
>6–10	0,006/0,021	0,000/-0,009	>.2362–.3937	.0002/.0008	.0000/-.0004
>10–18	0,007/0,025	0,000/-0,011	>.3937–.7087	.0003/.0010	.0000/-.0004
>18–25,4	0,008/0,029	0,000/-0,013	>.7087–1.0000	.0003/.0011	.0000/-.0005

SPF Drills • B/K531, B/K532 Series • Grade KDF400™ • Dry Applications for Drill Diameters 3–12mm



Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0
N	6	90	120	150	mm/r	0,03 - 0,20	0,03 - 0,20	0,03 - 0,20	0,03 - 0,20	0,03 - 0,20	0,03 - 0,20
Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500
N	6	300	390	490	IPR	.001 - .008	.001 - .008	.001 - .008	.001 - .008	.001 - .008	.001 - .008

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FB Drills with Through Coolant for Flat-Bottom Applications

Primary Application

B707_FB Series Solid Carbide Drills are productivity tools that combine two operations in one:

1) Eliminate the 180° end mill in flat-bottom drilling or when preparing an inclined or curved surface for drilling.
2) After full cylindrical engagement, the drill runs at normal solid carbide drilling parameters.

The B707_FBS Series with the new uncoated KN15™ grade now offers the same advantages for drilling in non-ferrous materials, such as aluminum, copper, and brass. The B707_FBL Series is designed for applications in stainless steel and high-temperature alloys.

Features and Benefits

Unique FB Drill-Point Design

- Two effective cutting edges over center enable high feed rates.
- Creates a true flat-bottom hole from O.D. to center.
- Four-margin land design improves hole straightness and roundness and provides good alignment, even when drilling cross holes.

Straight Cutting Edge

- Guarantees a true 180° hole ground.
- Rake angle correction improves chip control.

KC7315™ Grade on B707_FBG and _FBL

- Enables high drill-like penetration rates and superior tool life.

KN15 Grade on B707_FBS

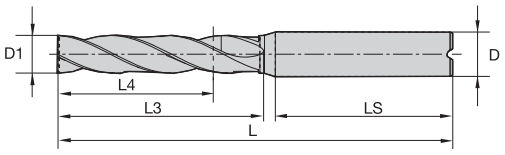
- The uncoated grade prevents built-up edge reducing the risk of fracture.
- The highly polished surfaces ensure superior chip evacuation even when low-pressure coolant or MQL is applied.

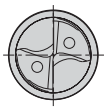
Customization

- Intermediate diameters available as semi-standards.
- Length variations available as semi-standard:
  - B706_ 1.5 x D
  - B708_ 5 x D
  - B709_ 8 x D
- Other length variations and step drills are available as engineered solutions.



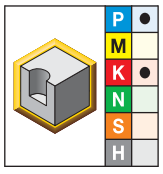


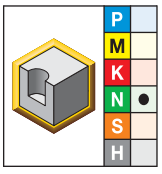


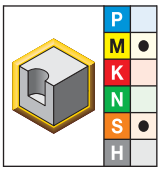




B707_FBG/FBS/FBL • ~3 x D





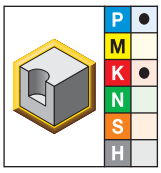


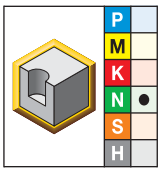
● first choice
○ alternate choice

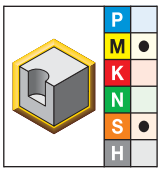
B707A-FBG • KC7315	B707A-FBS • KN15	B707A-FBL • KC7315	D1 diameter mm	in	fraction	wire size	L4 max	L3	L	LS	D
B707A03000FBG	B707A03000FBS	B707A03000FBL	3,000	.1181	–	–	14	20	62	36	6
B707A03175FBG	B707A03175FBS	B707A03175FBL	3,175	.1250	1/8	–	14	20	62	36	6
B707A03500FBG	B707A03500FBS	B707A03500FBL	3,500	.1378	–	–	14	20	62	36	6
B707A03970FBG	–	–	3,970	.1563	5/32	–	17	24	66	36	6
B707A04000FBG	B707A04000FBS	B707A04000FBL	4,000	.1575	–	–	17	24	66	36	6
B707A04200FBG	–	–	4,200	.1654	–	–	17	24	66	36	6
B707A04400FBG	B707A04400FBS	B707A04400FBL	4,400	.1732	–	–	17	24	66	36	6
B707A04500FBG	B707A04500FBS	B707A04500FBL	4,500	.1772	–	–	17	24	66	36	6
B707A04763FBG	–	–	4,763	.1875	3/16	–	20	28	66	36	6
B707A04800FBG	B707A04800FBS	B707A04800FBL	4,800	.1890	–	12	20	28	66	36	6
B707A04900FBG	–	–	4,900	.1929	–	–	20	28	66	36	6
B707A05000FBG	B707A05000FBS	B707A05000FBL	5,000	.1969	–	–	20	28	66	36	6
B707A05560FBG	B707A05560FBS	B707A05560FBL	5,560	.2189	–	–	20	28	66	36	6
B707A05900FBG	B707A05900FBS	B707A05900FBL	5,900	.2323	–	–	20	28	66	36	6
B707A06000FBG	B707A06000FBS	B707A06000FBL	6,000	.2362	–	–	20	28	66	36	6
B707A06350FBG	B707A06350FBS	B707A06350FBL	6,350	.2500	1/4	E	24	34	79	36	8
B707A06500FBG	B707A06500FBS	B707A06500FBL	6,500	.2559	–	–	24	34	79	36	8
B707A06800FBG	B707A06800FBS	B707A06800FBL	6,800	.2677	–	–	24	34	79	36	8
B707A07000FBG	B707A07000FBS	B707A07000FBL	7,000	.2756	–	–	24	34	79	36	8
B707A07145FBG	–	–	7,145	.2813	9/32	–	29	41	79	36	8
B707A07500FBG	B707A07500FBS	B707A07500FBL	7,500	.2953	–	–	29	41	79	36	8
B707A07800FBG	–	–	7,800	.3071	–	–	29	41	79	36	8
B707A07938FBG	B707A07938FBS	B707A07938FBL	7,938	.3125	5/16	–	29	41	79	36	8
B707A08000FBG	B707A08000FBS	B707A08000FBL	8,000	.3150	–	–	29	41	79	36	8
B707A08334FBG	–	–	8,334	.3281	21/64	–	35	47	89	40	10
B707A08500FBG	B707A08500FBS	B707A08500FBL	8,500	.3346	–	–	35	47	89	40	10
B707A08800FBG	B707A08800FBS	B707A08800FBL	8,800	.3465	–	–	35	47	89	40	10
B707A09000FBG	B707A09000FBS	B707A09000FBL	9,000	.3543	–	–	35	47	89	40	10
B707A09129FBG	–	–	9,129	.3594	23/64	–	35	47	89	40	10
B707A09500FBG	B707A09500FBS	B707A09500FBL	9,500	.3740	–	–	35	47	89	40	10
B707A09525FBG	B707A09525FBS	B707A09525FBL	9,525	.3750	3/8	–	35	47	89	40	10
B707A10000FBG	B707A10000FBS	B707A10000FBL	10,000	.3937	–	–	35	47	89	40	10
B707A10320FBG	B707A10320FBS	B707A10320FBL	10,320	.4063	13/32	–	40	55	102	45	12
B707A10500FBG	B707A10500FBS	B707A10500FBL	10,500	.4134	–	–	40	55	102	45	12

(continued)

(B707_FBG/FBS/FBL • ~3 x D continued)







B707A-FBG • KC7315	B707A-FBS • KN15	B707A-FBL • KC7315	D1 diameter mm	in	fraction	wire size	L4 max	L3	L	LS	D
B707A10600FBG	–	–	10,600	.4173	–	–	40	55	102	45	12
B707A11000FBG	B707A11000FBS	B707A11000FBL	11,000	.4331	–	–	40	55	102	45	12
B707A11111FBG	B707A11111FBS	B707A11111FBL	11,111	.4374	–	–	40	55	102	45	12
B707A11509FBG	B707A11509FBS	B707A11509FBL	11,509	.4531	29/64	–	40	55	102	45	12
B707A11570FBG	B707A11570FBS	B707A11570FBL	11,570	.4555	–	–	40	55	102	45	12
B707A11700FBG	B707A11700FBS	B707A11700FBL	11,700	.4606	–	–	40	55	102	45	12
B707A11800FBG	B707A11800FBS	B707A11800FBL	11,800	.4646	–	–	40	55	102	45	12
B707A11908FBG	–	–	11,908	.4688	15/32	–	40	55	102	45	12
B707A12000FBG	B707A12000FBS	B707A12000FBL	12,000	.4724	–	–	40	55	102	45	12
B707A12100FBG	B707A12100FBS	B707A12100FBL	12,100	.4764	–	–	43	60	107	45	14
B707A12500FBG	B707A12500FBS	B707A12500FBL	12,500	.4921	–	–	43	60	107	45	14
B707A12700FBG	B707A12700FBS	B707A12700FBL	12,700	.5000	1/2	–	43	60	107	45	14
B707A12800FBG	B707A12800FBS	B707A12800FBL	12,800	.5039	–	–	43	60	107	45	14
B707A13000FBG	B707A13000FBS	B707A13000FBL	13,000	.5118	–	–	43	60	107	45	14
B707A13500FBG	B707A13500FBS	B707A13500FBL	13,500	.5315	–	–	43	60	107	45	14
B707A14000FBG	B707A14000FBS	B707A14000FBL	14,000	.5512	–	–	43	60	107	45	14
B707A14288FBG	B707A14288FBS	B707A14288FBL	14,288	.5625	9/16	–	45	65	115	48	16
B707A14500FBG	B707A14500FBS	B707A14500FBL	14,500	.5709	–	–	45	65	115	48	16
B707A15000FBG	B707A15000FBS	B707A15000FBL	15,000	.5906	–	–	45	65	115	48	16
B707A15250FBG	B707A15250FBS	B707A15250FBL	15,250	.6004	–	–	45	65	115	48	16
B707A15500FBG	B707A15500FBS	B707A15500FBL	15,500	.6102	–	–	45	65	115	48	16
B707A15875FBG	B707A15875FBS	B707A15875FBL	15,875	.6250	5/8	–	45	65	115	48	16
B707A16000FBG	B707A16000FBS	B707A16000FBL	16,000	.6299	–	–	45	65	115	48	16
B707A16500FBG	B707A16500FBS	B707A16500FBL	16,500	.6496	–	–	51	73	123	48	18
B707A17000FBG	B707A17000FBS	B707A17000FBL	17,000	.6693	–	–	51	73	123	48	18
B707A17463FBG	–	–	17,463	.6875	11/16	–	51	73	123	48	18
B707A17500FBG	B707A17500FBS	B707A17500FBL	17,500	.6890	–	–	51	73	123	48	18
B707A18000FBG	B707A18000FBS	B707A18000FBL	18,000	.7087	–	–	51	73	123	48	18
B707A18500FBG	–	–	18,500	.7283	–	–	55	79	131	50	20
B707A19000FBG	B707A19000FBS	B707A19000FBL	19,000	.7480	–	–	55	79	131	50	20
B707A19050FBG	B707A19050FBS	B707A19050FBL	19,050	.7500	3/4	–	55	79	131	50	20
B707A20000FBG	B707A20000FBS	B707A20000FBL	20,000	.7874	–	–	55	79	131	50	20
B707A21000FBG	B707A21000FBS	B707A21000FBL	21,000	.8268	–	–	60	86	141	50	20

Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance m7	D tolerance h6	nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008	>.1181–.2362	.0002/.0006	.0000/-.0003
>6–10	0,006/0,021	0,000/-0,009	>.2362–.3937	.0002/.0008	.0000/-.0004
>10–18	0,007/0,025	0,000/-0,011	>.3937–.7087	.0003/.0010	.0000/-.0004
>18–25,4	0,008/0,029	0,000/-0,013	>.7087–1.0000	.0003/.0011	.0000/-.0005

Flat-Bottom Drills • B707_FBG Series • Grade KC7315™ • Through Coolant for Drill Diameters 3–20mm



Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	100	**133**	170	mm/r	0,07 - 0,16	0,12 - 0,20	0,10 - 0,23	0,13 - 0,29	0,21 - 0,33	0,17 - 0,37	0,19 - 0,44	0,22 - 0,49
	2	130	**150**	180	mm/r	0,07 - 0,13	0,10 - 0,16	0,16 - 0,19	0,13 - 0,23	0,18 - 0,27	0,17 - 0,30	0,19 - 0,35	0,22 - 0,39
	3	80	**106**	130	mm/r	0,09 - 0,16	0,13 - 0,20	0,13 - 0,23	0,16 - 0,24	0,20 - 0,31	0,21 - 0,37	0,25 - 0,44	0,28 - 0,46
	4	70	**98**	130	mm/r	0,08 - 0,16	0,12 - 0,19	0,11 - 0,22	0,14 - 0,27	0,21 - 0,31	0,18 - 0,35	0,21 - 0,41	0,24 - 0,46
	6	70	**98**	130	mm/r	0,07 - 0,12	0,10 - 0,14	0,10 - 0,16	0,12 - 0,20	0,16 - 0,23	0,16 - 0,26	0,18 - 0,31	0,21 - 0,34
K	1	70	**85**	100	mm/r	0,09 - 0,17	0,13 - 0,21	0,12 - 0,25	0,15 - 0,31	0,23 - 0,35	0,20 - 0,39	0,23 - 0,46	0,26 - 0,52
	2	100	**113**	130	mm/r	0,09 - 0,15	0,12 - 0,18	0,12 - 0,21	0,15 - 0,26	0,21 - 0,30	0,20 - 0,33	0,23 - 0,39	0,26 - 0,44
	3	70	**105**	140	mm/r	0,07 - 0,13	0,10 - 0,16	0,11 - 0,19	0,13 - 0,23	0,18 - 0,27	0,17 - 0,30	0,20 - 0,35	0,22 - 0,37

Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
P	1	330	**440**	560	IPR	.003 - .006	.005 - .008	.004 - .009	.005 - .001	.008 - .013	.007 - .015	.007 - .017	.009 - .019
	2	430	**490**	590	IPR	.003 - .005	.004 - .006	.006 - .007	.005 - .009	.007 - .010	.007 - .012	.007 - .0174	.009 - .015
	3	260	**350**	430	IPR	.004 - .006	.005 - .008	.005 - .009	.006 - .009	.008 - .012	.008 - .015	.010 - .017	.011 - .018
	4	230	**320**	430	IPR	.003 - .006	.005 - .007	.004 - .009	.006 - .011	.008 - .012	.007 - .014	.008 - .016	.009 - .018
	6	230	**320**	430	IPR	.003 - .005	.004 - .006	.004 - .006	.005 - .008	.006 - .009	.006 - .010	.007 - .012	.008 - .013
K	1	230	**280**	330	IPR	.004 - .007	.005 - .008	.005 - .010	.006 - .012	.009 - .014	.008 - .015	.009 - .018	.010 - .020
	2	330	**370**	430	IPR	.004 - .006	.005 - .007	.005 - .008	.006 - .010	.008 - .012	.008 - .013	.009 - .015	.010 - .017
	3	230	**340**	460	IPR	.003 - .005	.004 - .006	.004 - .007	.005 - .009	.007 - .010	.007 - .012	.008 - .014	.009 - .015

Flat-Bottom Drills • B707_FBL Series • Grade KC7315 • Through Coolant for Drill Diameters 3–20mm



Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	45	**65**	60	mm/r	0,04 – 0,08	0,05 – 0,09	0,06 – 0,12	0,09 – 0,15	0,10 – 0,16	0,12 – 0,20	0,14 – 0,23	0,16 – 0,24
M	1	40	**50**	60	mm/r	0,04 – 0,08	0,05 – 0,09	0,06 – 0,12	0,09 – 0,15	0,10 – 0,16	0,12 – 0,20	0,14 – 0,23	0,16 – 0,24
	2	40	**50**	80	mm/r	0,06 – 0,11	0,07 – 0,11	0,08 – 0,16	0,12 – 0,20	0,13 – 0,21	0,16 – 0,27	0,18 – 0,31	0,21 – 0,33
	3	40	**55**	70	mm/r	0,03 – 0,04	0,03 – 0,05	0,04 – 0,06	0,04 – 0,07	0,05 – 0,08	0,06 – 0,10	0,07 – 0,11	0,08 – 0,12
S	1	20	**25**	30	mm/r	0,06 – 0,08	0,06 – 0,08	0,07 – 0,10	0,10 – 0,13	0,11 – 0,14	0,12 – 0,16	0,14 – 0,19	0,17 – 0,22
	2	10	**20**	30	mm/r	0,05 – 0,07	0,05 – 0,07	0,06 – 0,08	0,08 – 0,11	0,09 – 0,12	0,10 – 0,13	0,12 – 0,16	0,14 – 0,18
	3	30	**25**	50	mm/r	0,03 – 0,05	0,03 – 0,05	0,04 – 0,08	0,05 – 0,10	0,05 – 0,10	0,05 – 0,10	0,07 – 0,11	0,08 – 0,12
	4	30	**25**	50	mm/r	0,03 – 0,05	0,03 – 0,05	0,04 – 0,08	0,05 – 0,10	0,05 – 0,10	0,05 – 0,10	0,07 – 0,11	0,08 – 0,12

Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
P	1	150	**210**	200	IPR	.002 - .003	.002 - .003	.002 - .005	.004 - .006	.004 - .006	.005 - .008	.005 - .009	.006 - .010
M	1	130	**160**	200	IPR	.002 - .003	.002 – .003	.002 - .005	.004 - .006	.004 - .006	.005 - .008	.005 - .009	.006 - .010
	2	130	**160**	260	IPR	.002 - .004	.003 - .005	.003 - .006	.005 - .008	.005 - .008	.006 - .011	.007 - .012	.008 - .013
	3	130	**180**	230	IPR	.001 - .002	.001 - .002	.002 - .002	.002 - .003	.002 - .003	.002 - .004	.003 - .005	.003 - .005
S	1	70	**80**	100	IPR	.002 - .003	.002 - .003	.003 - .004	.004 - .005	.004 - .006	.005 - .006	.006 - .007	.007 - .009
	2	30	**70**	100	IPR	.002 - .003	.002 - .003	.002 - .003	.003 - .004	.004 - .005	.004 - .005	.005 - .006	.006 - .007
	3	100	**80**	160	IPR	.001 - .002	.001 - .002	.002 - .003	.002 - .004	.002 - .004	.002 - .004	.003 - .004	.003 - .005
	4	100	**80**	160	IPR	.001 - .002	.001 - .002	.002 - .003	.002 - .004	.002 - .004	.002 - .004	.003 - .004	.003 - .005

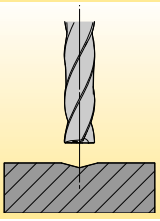
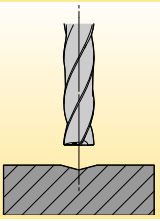
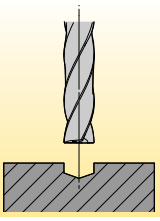
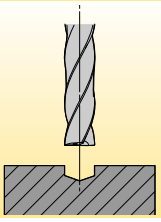
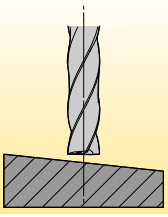
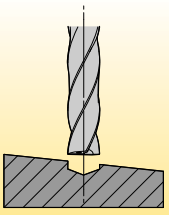
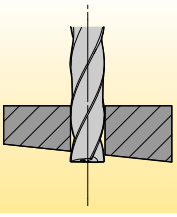
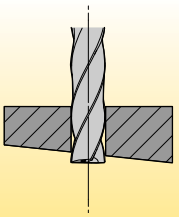
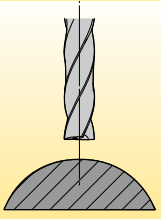
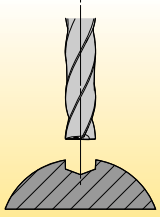
Flat-Bottom Drills • B707_FBS Series • Grade KN15™ • Through Coolant for Drill Diameters 3–20mm



Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
N	1	120	**260**	400	mm/r	0,07 – 0,11	0,08 – 0,12	0,13 – 0,17	0,14 – 0,21	0,15 – 0,22	0,17 – 0,23	0,19 – 0,25	0,22 – 0,27
	2	120	**250**	280	mm/r	0,08 – 0,12	0,08 – 0,13	0,09 - 0,19	0,14 – 0,23	0,15 – 0,24	0,19 – 0,31	0,21 – 0,35	0,24 – 0,37
	3	100	**200**	260	mm/r	0,08 – 0,13	0,08 – 0,14	0,09 – 0,20	0,15 – 0,24	0,16 – 0,26	0,20 – 0,33	0,22 – 0,37	0,26 – 0,40
	5	60	**150**	200	mm/r	0,03 – 0,05	0,03 – 0,06	0,03 – 0,06	0,04 – 0,06	0,05 – 0,07	0,05 – 0,08	0,05 – 0,08	0,06 – 0,09

Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
N	1	390	**850**	1310	IPR	.003 - .004	.003 - .005	.005 - .007	.006 - .008	.006 - .009	.007 - .009	.007 - .010	.009 - .011
	2	390	**820**	920	IPR	.003 - .005	.003 - .005	.003 - .007	.006 - .009	.006 - .010	.007 - .012	.008 - .014	.010 - .015
	3	330	**660**	850	IPR	.003 - .005	.003 - .006	.004 - .008	.006 - .010	.006 - .010	.008 - .013	.009 - .015	.010 - .016
	5	200	**490**	660	IPR	.001 - .002	.001 - .002	.001 - .002	.002 - .003	.002 - .003	.002 - .003	.002 - .003	.002 - .003

The B707_FBG drill eliminates the traditional two-step process to create a flat-bottom hole using a drill and an end mill and can perform the operation 25–40% faster. It also eliminates the two-step process of using an end mill to pre-machine a flat on the workpiece material for inclined surfaces.

Workpiece Application	B707A..FBG Standard Length	B708/B709A...FBG Custom Long Length
• Tapped hole with lead chamfer larger than FBG diameter.	 No feed reduction.	 50% feed reduction.
• Nominal diameter pilot required.	 Rough or hardened surfaces. No feed reduction.	 Pilot on all surfaces. No feed reduction.
• >6° angled entrances.	 Reduce feed by 30% until full diameter, or use pilot.	 Pilot with short FBG on all surfaces. No feed reduction.
• Angled exits.	 30% feed reduction.	 30% feed reduction.
• Round surfaces.	 Reduce feed by 30% until full diameter, or use pilot.	 Pilot with short FBG on all surfaces. No feed reduction.



HP Beyond™ Step Drills with Through Coolant for Steel and Iron

Primary Application

Most tapped holes require a chamfer. The B731_HP and B732_HP Step Drills offer a one-pass solution in steels and irons in traditional tap sizes to reduce cycle time and increase productivity. An extensive range of step drills are available to cover Kennametal's taps products.

Features and Benefits

HP Drill-Point Design

- Low thrust prevents workpiece flexing.
- Excellent centering capabilities.

Unique Flute Design

- Drastically improved chip evacuation.
- Better hole surface quality.

KCPK15™ Beyond Grade

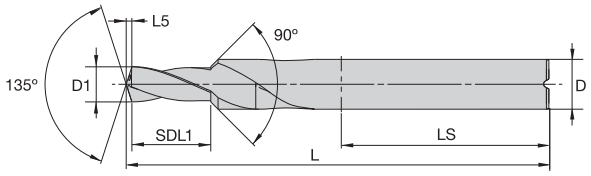
- The grade is a multilayer, TiAlN-based coating with high hot hardness. High cutting speeds enable usage in MQL applications.
- The highly polished surface ensures superior chip evacuation even when low-pressure coolant is applied.
- Improves average metal removal rate and tool life by 10–20%.

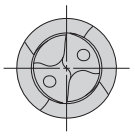
Customization

- Intermediate diameters available as semi-standards.
- Using Kennametal Slim Line Hydraulic Chucks together is recommended if workpiece contours need bypassed.











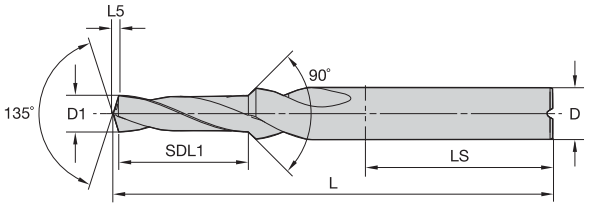
B731_HP • Short



● first choice
○ alternate choice

short • KCPK15	D1 diameter mm	D1 diameter in	L	SDL1	L5	LS	D
B731A03734HP	3,734	.1470	66	10	0,7	36	6
B731A04200HP	4,200	.1654	66	12	0,8	36	6
B731A04496HP	4,496	.1770	79	13	0,9	36	8
B731A05000HP	5,000	.1969	79	13	0,9	36	8
B731A05106HP	5,106	.2010	79	15	1,0	36	8
B731A05410HP	5,410	.2130	79	16	1,0	36	8
B731A06528HP	6,528	.2570	89	17	1,2	40	10
B731A06800HP	6,800	.2677	89	16	1,3	40	10
B731A06909HP	6,909	.2720	89	18	1,3	40	10
B731A07938HP	7,938	.3125	89	19	1,5	45	12
B731A08433HP	8,433	.3320	102	21	1,6	45	12
B731A08500HP	8,500	.3346	102	19	1,6	45	12
B731A09921HP	9,921	.3906	107	23	1,9	45	14
B731A10200HP	10,200	.4016	107	22	1,9	45	14
B731A10500HP	10,500	.4134	107	22	2,0	45	14
B731A10716HP	10,716	.4219	107	27	2,0	45	14
B731A12000HP	12,000	.4724	115	27	2,2	48	16
B731A12304HP	12,304	.4844	115	28	2,3	48	16
B731A12500HP	12,500	.4921	115	27	2,3	48	16
B731A13096HP	13,096	.5156	115	31	2,4	48	16
B731A13495HP	13,495	.5313	123	32	2,5	48	18
B731A14000HP	14,000	.5512	123	29	2,6	48	18
B731A16670HP	16,670	.6563	131	38	3,1	50	20
B731A17463HP	17,463	.6875	131	40	3,2	50	20
B731A19446HP	19,446	.7656	153	43	3,6	56	25







B732_HP • Long



● first choice
○ alternate choice

long • KCPK15	D1 diameter mm	D1 diameter in	L	SDL1	L5	LS	D
B732A03734HP	3,734	.1470	66	16	0,7	36	6
B732A04200HP	4,200	.1654	66	17	0,8	36	6
B732A04496HP	4,496	.1770	79	17	0,9	36	8
B732A05000HP	5,000	.1969	79	20	0,9	36	8
B732A05106HP	5,106	.2010	79	20	1,0	36	8
B732A05410HP	5,410	.2130	79	21	1,0	36	8
B732A06528HP	6,528	.2570	89	24	1,2	40	10
B732A06800HP	6,800	.2677	89	25	1,3	40	10
B732A06909HP	6,909	.2720	89	25	1,3	40	10
B732A07938HP	7,938	.3125	102	27	1,5	45	12
B732A08433HP	8,433	.3320	102	29	1,6	45	12
B732A08500HP	8,500	.3346	102	30	1,6	45	12
B732A09921HP	9,921	.3906	107	33	1,9	45	14
B732A10200HP	10,200	.4016	107	35	1,9	45	14
B732A10500HP	10,500	.4134	107	35	2,0	45	14
B732A10716HP	10,716	.4219	107	37	2,0	45	14
B732A12000HP	12,000	.4724	115	40	2,2	48	16
B732A12304HP	12,304	.4844	115	41	2,3	48	16
B732A12500HP	12,500	.4921	115	40	2,3	48	16
B732A13096HP	13,096	.5156	123	44	2,4	48	16
B732A13495HP	13,495	.5313	123	45	2,5	48	18
B732A14000HP	14,000	.5512	123	43	2,6	48	18
B732A16670HP	16,670	.6563	141	55	3,1	50	20
B732A17463HP	17,463	.6875	141	58	3,2	50	20
B732A19446HP	19,446	.7656	184	76	3,6	56	25

Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance m7	D tolerance h6	nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008	>.1181–.2362	.0002/.0006	.0000/-.0003
>6–10	0,006/0,021	0,000/-0,009	>.2362–.3937	.0002/.0008	.0000/-.0004
>10–18	0,007/0,025	0,000/-0,011	>.3937–.7087	.0003/.0010	.0000/-.0004
>18–25,4	0,008/0,029	0,000/-0,013	>.7087–1.0000	.0003/.0011	.0000/-.0005

HP Step Drills • B73_HP Series • Grade KCPK15™ • Through Coolant for Drill Diameters 3–16mm



Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	140	**220**	240	mm/r	0,07 - 0,17	0,09 - 0,21	0,11 - 0,24	0,14 - 0,30	0,16 - 0,35	0,18 - 0,39	0,20 - 0,46	0,24 - 0,50
	2	180	**210**	240	mm/r	0,07 - 0,14	0,09 - 0,17	0,11 - 0,20	0,14 - 0,24	0,16 - 0,28	0,18 - 0,32	0,20 - 0,37	0,24 - 0,43
	3	120	**150**	180	mm/r	0,09 - 0,17	0,12 - 0,21	0,14 - 0,24	0,17 - 0,30	0,20 - 0,35	0,22 - 0,39	0,26 - 0,46	0,29 - 0,50
	4	100	**140**	180	mm/r	0,08 - 0,17	0,11 - 0,20	0,12 - 0,23	0,15 - 0,28	0,17 - 0,33	0,19 - 0,37	0,22 - 0,43	0,25 - 0,45
	6	140	**100**	180	mm/r	0,07 - 0,13	0,09 - 0,15	0,11 - 0,17	0,13 - 0,21	0,15 - 0,24	0,17 - 0,27	0,19 - 0,33	0,21 - 0,36
K	1	140	**160**	180	mm/r	0,09 - 0,18	0,12 - 0,22	0,13 - 0,26	0,16 - 0,33	0,19 - 0,37	0,21 - 0,41	0,24 - 0,48	0,27 - 0,51
	2	100	**150**	200	mm/r	0,09 - 0,16	0,12 - 0,19	0,13 - 0,22	0,16 - 0,27	0,19 - 0,32	0,21 - 0,35	0,24 - 0,41	0,27- 0,45
	3	100	**140**	180	mm/r	0,07 - 0,14	0,09 - 0,17	0,12 - 0,20	0,14 - 0,24	0,16 - 0,28	0,18 - 0,32	0,21 - 0,37	0,24 - 0,39
Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
P	1	460	**720**	790	IPR	.003 - .007	.004 - .008	.004 - .009	.006 - .012	.006 - .014	.007 - .015	.008 - .018	.009 - .020
	2	590	**690**	790	IPR	.003 - .006	.004 - .007	.004 - .008	.006 - .009	.006 - .011	.007 - .013	.008 - .015	.009 - .017
	3	390	**490**	590	IPR	.004 - .007	.005 - .008	.006 - .009	.007 - .012	.008 - .014	.009 - .015	.010 - .018	.011 - .020
	4	330	**460**	590	IPR	.003 - .007	.004 - .008	.005 - .009	.006 - .011	.007 - .013	.007 - .015	.009 - .017	.010 - .018
	6	460	**330**	590	IPR	.003 - .005	.004 - .006	.004 - .007	.005 - .008	.006 - .009	.007 - .011	.007 - .013	.008 - .014
K	1	460	**520**	590	IPR	.004 - .007	.005 - .009	.005 - .010	.006 - .013	.007 - .015	.008 - .016	.009 - .019	.011 - .020
	2	330	**490**	660	IPR	.004 - .006	.005 - .007	.005 - .009	.006 - .011	.007 - .013	.008 - .014	.009 - .016	.011 - .018
	3	330	**460**	590	IPR	.003 - .006	.004 - .007	.005 - .008	.006 - .009	.006 - .011	.007 - .013	.008 - .015	.009 - .015



Kenna Universal™ Drills

Primary Application

Kenna Universal Drills (B96_B97_Series) are engineered to deliver superior performance in steel, cast iron, and stainless steel applications making it ideal for small- and medium-sized shops. The universal application profile reduces tool change times and the number of drills in inventory. Covering a large spectrum of off-the-shelf diameters and a broad range of applications makes Kenna Universal Drills an excellent alternative to other high-performance products.

The new B976Z series is available from 2,383–3mm (.0938-.1181") making it the first standard offering in less than 3mm. This extended diameter offering covers all common tap drill sizes, including an expanded selection of wire, fractional, and letter sizes.

Use as Pilot Drill

- Ideal point angle and tolerance make the Kenna Universal Drill the preferred pilot drill for B27_ Series Solid Carbide Deep-Hole Drills.

Features and Benefits

Kenna Universal Drill-Point Design

- Low thrust. Works well on a variety of machines.
- Excellent centering capabilities.
- Easy to regrind.

Four-Margin Land Design

- Improves hole straightness and roundness.
- Provides good alignment and stability in tough drilling applications — even when drilling through cross holes.

KC7315™ Grade

- A multilayer, TiAlN-based coating with high hot hardness enables 30% higher cutting speeds and constant tool life.
- Surface finish ensures chip evacuation when drilling deep holes.

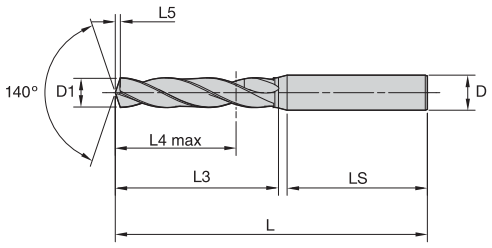
Customization

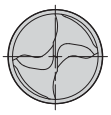
- Intermediate diameters available as semi-standards.
- Length variations and step drills available as engineered solutions.

F-Shank

- For standard line items with F-shank, please refer to the e-catalog on www.kennametal.com.

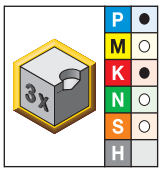








B966 • ~3 x D

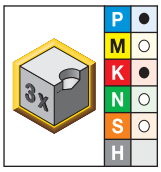


● first choice
○ alternate choice

short • KC7315	D1 diameter mm	in	fraction	wire size	L	L4 max	L5	LS	D
B966A03000	3,000	.1181	–	–	62	14	0,5	36	6
B966A03100	3,100	.1220	–	–	62	14	0,5	36	6
B966A03200	3,200	.1260	–	–	62	14	0,5	36	6
B966A03300	3,300	.1299	–	–	62	14	0,5	36	6
B966A03400	3,400	.1339	–	–	62	14	0,6	36	6
B966A03500	3,500	.1378	–	–	62	14	0,6	36	6
B966A03600	3,600	.1417	–	–	62	14	0,6	36	6
B966A03700	3,700	.1457	–	–	62	14	0,6	36	6
B966A03800	3,800	.1496	–	–	66	17	0,6	36	6
B966A03900	3,900	.1535	–	–	66	17	0,6	36	6
B966A04000	4,000	.1575	–	–	66	17	0,7	36	6
B966A04100	4,100	.1614	–	–	66	17	0,7	36	6
B966A04200	4,200	.1654	–	–	66	17	0,7	36	6
B966A04300	4,300	.1693	–	–	66	17	0,7	36	6
B966A04400	4,400	.1732	–	–	66	17	0,7	36	6
B966A04500	4,500	.1772	–	–	66	17	0,7	36	6
B966A04600	4,600	.1811	–	–	66	17	0,8	36	6
B966A04700	4,700	.1850	–	13	66	17	0,8	36	6
B966A04800	4,800	.1890	–	12	66	20	0,8	36	6
B966A04900	4,900	.1929	–	–	66	20	0,8	36	6
B966A05000	5,000	.1969	–	–	66	20	0,8	36	6
B966A05100	5,100	.2008	–	–	66	20	0,8	36	6
B966A05200	5,200	.2047	–	–	66	20	0,9	36	6
B966A05300	5,300	.2087	–	–	66	20	0,9	36	6
B966A05400	5,400	.2126	–	–	66	20	0,9	36	6
B966A05500	5,500	.2165	–	–	66	20	0,9	36	6
B966A05600	5,600	.2205	–	–	66	20	0,9	36	6
B966A05700	5,700	.2244	–	–	66	20	1,0	36	6
B966A05800	5,800	.2283	–	–	66	20	1,0	36	6
B966A05900	5,900	.2323	–	–	66	20	1,0	36	6
B966A06000	6,000	.2362	–	–	66	20	1,0	36	6
B966A06100	6,100	.2402	–	–	79	24	1,0	36	8
B966A06200	6,200	.2441	–	–	79	24	1,0	36	8
B966A06300	6,300	.2480	–	–	79	24	1,1	36	8
B966A06400	6,400	.2520	–	–	79	24	1,1	36	8
B966A06500	6,500	.2559	–	–	79	24	1,1	36	8

(continued)

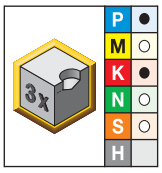
(B966 • ~3 x D continued)



short • KC7315	D1 diameter mm	in	fraction	wire size	L	L4 max	L5	LS	D
B966A06600	6,600	.2598	–	–	79	24	1,1	36	8
B966A06700	6,700	.2638	–	–	79	24	1,1	36	8
B966A06800	6,800	.2677	–	–	79	24	1,1	36	8
B966A06900	6,900	.2717	–	–	79	24	1,2	36	8
B966A07000	7,000	.2756	–	–	79	24	1,2	36	8
B966A07100	7,100	.2795	–	–	79	29	1,2	36	8
B966A07200	7,200	.2835	–	–	79	29	1,2	36	8
B966A07300	7,300	.2874	–	–	79	29	1,2	36	8
B966A07400	7,400	.2913	–	–	79	29	1,3	36	8
B966A07500	7,500	.2953	–	–	79	29	1,3	36	8
B966A07600	7,600	.2992	–	–	79	29	1,3	36	8
B966A07700	7,700	.3031	–	–	79	29	1,3	36	8
B966A07800	7,800	.3071	–	–	79	29	1,3	36	8
B966A07900	7,900	.3110	–	–	79	29	1,3	36	8
B966A08000	8,000	.3150	–	–	79	29	1,4	36	8
B966A08100	8,100	.3189	–	–	89	35	1,4	40	10
B966A08200	8,200	.3228	–	–	89	35	1,4	40	10
B966A08300	8,300	.3268	–	–	89	35	1,4	40	10
B966A08400	8,400	.3307	–	–	89	35	1,4	40	10
B966A08500	8,500	.3346	–	–	89	35	1,4	40	10
B966A08600	8,600	.3386	–	–	89	35	1,5	40	10
B966A08700	8,700	.3425	–	–	89	35	1,5	40	10
B966A08800	8,800	.3465	–	–	89	35	1,5	40	10
B966A08900	8,900	.3504	–	–	89	35	1,5	40	10
B966A09000	9,000	.3543	–	–	89	35	1,5	40	10
B966A09100	9,100	.3583	–	–	89	35	1,5	40	10
B966A09200	9,200	.3622	–	–	89	35	1,6	40	10
B966A09300	9,300	.3661	–	–	89	35	1,6	40	10
B966A09400	9,400	.3701	–	–	89	35	1,6	40	10
B966A09500	9,500	.3740	–	–	89	35	1,6	40	10
B966A09600	9,600	.3780	–	–	89	35	1,6	40	10
B966A09700	9,700	.3819	–	–	89	35	1,7	40	10
B966A09800	9,800	.3858	–	–	89	35	1,7	40	10
B966A09900	9,900	.3898	–	–	89	35	1,7	40	10
B966A10000	10,000	.3937	–	–	89	35	1,7	40	10
B966A10100	10,100	.3976	–	–	102	40	1,7	45	12
B966A10200	10,200	.4016	–	–	102	40	1,7	45	12
B966A10300	10,300	.4055	–	–	102	40	1,8	45	12
B966A10400	10,400	.4094	–	–	102	40	1,8	45	12
B966A10500	10,500	.4134	–	–	102	40	1,8	45	12
B966A10600	10,600	.4173	–	–	102	40	1,8	45	12
B966A10700	10,700	.4213	–	–	102	40	1,8	45	12
B966A10800	10,800	.4252	–	–	102	40	1,8	45	12
B966A10900	10,900	.4291	–	–	102	40	1,9	45	12
B966A11000	11,000	.4331	–	–	102	40	1,9	45	12
B966A11100	11,100	.4370	–	–	102	40	1,9	45	12
B966A11200	11,200	.4409	–	–	102	40	1,9	45	12
B966A11300	11,300	.4449	–	–	102	40	1,9	45	12

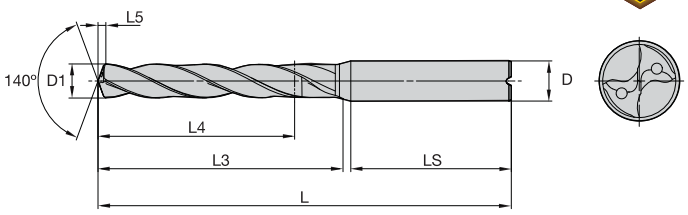
(continued)

(B966 • ~3 x D continued)



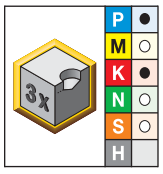
short • KC7315	D1 diameter mm	in	fraction	wire size	L	L4 max	L5	LS	D
B966A11400	11,400	.4488	–	–	102	40	2,0	45	12
B966A11500	11,500	.4528	–	–	102	40	2,0	45	12
B966A11600	11,600	.4567	–	–	102	40	2,0	45	12
B966A11700	11,700	.4606	–	–	102	40	2,0	45	12
B966A11800	11,800	.4646	–	–	102	40	2,0	45	12
B966A11900	11,900	.4685	–	–	102	40	2,0	45	12
B966A12000	12,000	.4724	–	–	102	40	2,1	45	12
B966A12100	12,100	.4764	–	–	107	43	2,1	45	14
B966A12200	12,200	.4803	–	–	107	43	2,1	45	14
B966A12300	12,300	.4843	–	–	107	43	2,1	45	14
B966A12400	12,400	.4882	–	–	107	43	2,1	45	14
B966A12500	12,500	.4921	–	–	107	43	2,1	45	14
B966A12600	12,600	.4961	–	–	107	43	2,2	45	14
B966A12700	12,700	.5000	1/2	–	107	43	2,2	45	14
B966A12800	12,800	.5039	–	–	107	43	2,2	45	14
B966A12900	12,900	.5079	–	–	107	43	2,2	45	14
B966A13000	13,000	.5118	–	–	107	43	2,2	45	14
B966A13100	13,100	.5157	–	–	107	43	2,3	45	14
B966A13200	13,200	.5197	–	–	107	43	2,3	45	14
B966A13300	13,300	.5236	–	–	107	43	2,3	45	14
B966A13500	13,500	.5315	–	–	107	43	2,3	45	14
B966A13700	13,700	.5394	–	–	107	43	2,4	45	14
B966A14000	14,000	.5512	–	–	107	43	2,4	45	14
B966A14200	14,200	.5591	–	–	115	45	2,5	48	16
B966A14300	14,300	.5630	–	–	115	45	2,5	48	16
B966A14500	14,500	.5709	–	–	115	45	2,5	48	16
B966A14700	14,700	.5787	–	–	115	45	2,5	48	16
B966A14800	14,800	.5827	–	–	115	45	2,6	48	16
B966A15000	15,000	.5906	–	–	115	45	2,6	48	16
B966A15500	15,500	.6102	–	–	115	45	2,7	48	16
B966A15700	15,700	.6181	–	–	115	45	2,7	48	16
B966A16000	16,000	.6299	–	–	115	45	2,8	48	16
B966A16500	16,500	.6496	–	–	123	51	2,9	48	18
B966A17000	17,000	.6693	–	–	123	51	2,9	48	18
B966A17500	17,500	.6890	–	–	123	51	3,0	48	18
B966A18000	18,000	.7087	–	–	123	51	3,1	48	18
B966A20000	20,000	.7874	–	–	131	55	3,5	50	20

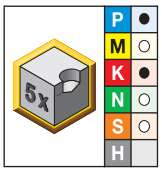


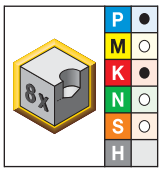




B976/B977/B978 • ~3 x D/~5 x D/~8 x D





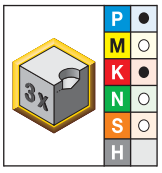


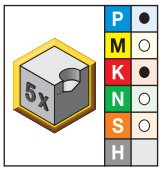
● first choice
○ alternate choice

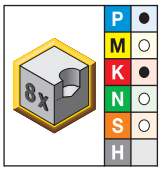
short • KC7315	long • KC7315	extra long • KC7315	D1 diameter mm	in	fraction	wire size	L5	LS	D
B976Z02383	–	–	2,383	.0938	3/32	–	0,4	28	3
B976Z02400	–	–	2,400	.0945	–	–	0,4	28	3
B976Z02439	–	–	2,439	.0960	–	41	0,4	28	3
B976Z02489	–	–	2,489	.0980	–	40	0,4	28	3
B976Z02500	–	–	2,500	.0984	–	–	0,4	28	3
B976Z02578	–	–	2,578	.1015	–	38	0,4	28	3
B976Z02600	–	–	2,600	.1024	–	–	0,4	28	3
B976Z02642	–	–	2,642	.1040	–	37	0,4	28	3
B976Z02705	–	–	2,705	.1065	–	36	0,4	28	3
B976Z02779	–	–	2,779	.1094	7/64	–	0,4	28	3
B976Z02800	–	–	2,800	.1102	–	–	0,5	28	3
B976Z02820	–	–	2,820	.1110	–	34	0,5	28	3
B976Z02870	–	–	2,870	.1130	–	33	0,5	28	3
B976Z02900	–	–	2,900	.1142	–	–	0,5	28	3
B976Z02947	–	–	2,947	.1160	–	32	0,5	28	3
B976A03000	B977A03000	–	3,000	.1181	–	–	0,5	36	6
–	–	B978A03000	3,000	.1181	–	–	0,6	36	6
B976A03100	B977A03100	–	3,100	.1220	–	–	0,5	36	6
B976A03175	B977A03175	–	3,175	.1250	1/8	–	0,5	36	6
B976A03180	–	–	3,180	.1252	–	–	0,5	36	6
B976A03200	B977A03200	–	3,200	.1260	–	–	0,5	36	6
–	B977A03250	–	3,250	.1280	–	–	0,5	36	6
B976A03300	B977A03300	–	3,300	.1299	–	–	0,5	36	6
–	B977A03400	–	3,400	.1339	–	–	0,6	36	6
B976A03454	B977A03454	–	3,454	.1360	–	29	0,6	36	6
B976A03500	B977A03500	–	3,500	.1378	–	–	0,6	36	6
B976A03600	B977A03600	–	3,600	.1417	–	–	0,6	36	6
B976A03700	B977A03700	–	3,700	.1457	–	–	0,6	36	6
B976A03734	B977A03734	–	3,734	.1470	–	26	0,6	36	6
B976A03797	B977A03797	–	3,797	.1495	–	25	0,6	36	6
B976A03800	B977A03800	–	3,800	.1496	–	–	0,6	36	6
–	B977A03900	–	3,900	.1535	–	–	0,6	36	6
B976A03970	B977A03970	–	3,970	.1563	5/32	–	0,7	36	6
–	–	B978A03970	3,970	.1563	5/32	–	0,8	36	6
B976A04000	B977A04000	–	4,000	.1575	–	–	0,7	36	6
–	–	B978A04000	4,000	.1575	–	–	0,8	36	6
B976A04039	B977A04039	–	4,039	.1590	–	21	0,7	36	6
–	B977A04100	–	4,100	.1614	–	–	0,7	36	6
B976A04200	B977A04200	–	4,200	.1654	–	–	0,7	36	6
–	–	B978A04200	4,200	.1654	–	–	0,9	36	6
B976A04300	B977A04300	–	4,300	.1693	–	–	0,7	36	6
B976A04366	B977A04366	–	4,366	.1719	11/64	–	0,7	36	6

(continued)

(B976/B977/B978 • ~3 x D/~5 x D/~8 x D continued)



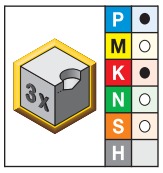


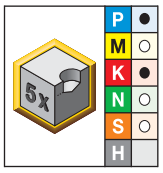


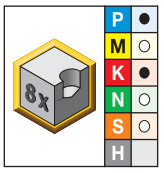
short • KC7315	long • KC7315	extra long • KC7315	D1 diameter mm	in	fraction	wire size	L5	LS	D
–	B977A04400	–	4,400	.1732	–	–	0,7	36	6
B976A04496	B977A04496	–	4,496	.1770	–	16	0,7	36	6
B976A04500	B977A04500	–	4,500	.1772	–	–	0,7	36	6
–	–	B978A04500	4,500	.1772	–	–	0,9	36	6
–	B977A04580	–	4,580	.1803	–	15	0,8	36	6
B976A04600	B977A04600	–	4,600	.1811	–	–	0,8	36	6
B976A04620	–	–	4,620	.1819	–	–	0,8	36	6
–	B977A04623	–	4,623	.1820	–	14	0,8	36	6
–	B977A04650	–	4,650	.1831	–	–	0,8	36	6
B976A04700	B977A04700	–	4,700	.1850	–	13	0,8	36	6
B976A04763	B977A04763	–	4,763	.1875	3/16	–	0,8	36	6
–	–	B978A04763	4,763	.1875	3/16	–	1,0	36	6
B976A04800	B977A04800	–	4,800	.1890	–	12	0,8	36	6
B976A04900	B977A04900	–	4,900	.1929	–	–	0,8	36	6
B976A05000	B977A05000	–	5,000	.1969	–	–	0,8	36	6
–	–	B978A05000	5,000	.1969	–	–	1,0	36	6
B976A05100	B977A05100	–	5,100	.2008	–	–	0,8	36	6
–	–	B978A05100	5,100	.2008	–	–	1,1	36	6
B976A05106	B977A05106	–	5,106	.2010	–	7	0,8	36	6
B976A05200	B977A05200	–	5,200	.2047	–	–	0,9	36	6
–	–	B978A05200	5,200	.2047	–	–	1,1	36	6
B976A05250	–	–	5,250	.2067	–	–	0,9	36	6
B976A05300	B977A05300	–	5,300	.2087	–	–	0,9	36	6
–	–	B978A05300	5,300	.2087	–	–	1,1	36	6
B976A05400	B977A05400	–	5,400	.2126	–	–	0,9	36	6
B976A05410	B977A05410	–	5,410	.2130	–	3	0,9	36	6
B976A05500	B977A05500	–	5,500	.2165	–	–	0,9	36	6
–	–	B978A05500	5,500	.2165	–	–	1,1	36	6
B976A05558	B977A05558	–	5,558	.2188	7/32	–	0,9	36	6
–	–	B978A05558	5,558	.2188	7/32	–	1,2	36	6
B976A05575	–	–	5,575	.2195	–	–	0,9	36	6
B976A05600	B977A05600	–	5,600	.2205	–	–	0,9	36	6
B976A05700	B977A05700	–	5,700	.2244	–	–	1,0	36	6
–	–	B978A05700	5,700	.2244	–	–	1,2	36	6
B976A05791	B977A05791	–	5,791	.2280	–	1	1,0	36	6
B976A05800	B977A05800	–	5,800	.2283	–	–	1,0	36	6
–	B977A05900	–	5,900	.2323	–	–	1,0	36	6
B976A05944	B977A05944	–	5,944	.2340	–	A	1,0	36	6
B976A06000	B977A06000	–	6,000	.2362	–	–	1,0	36	6
–	–	B978A06000	6,000	.2362	–	–	1,2	36	6
–	B977A06100	–	6,100	.2402	–	–	1,0	36	8
–	–	B978A06100	6,100	.2402	–	–	1,3	36	8
B976A06200	B977A06200	–	6,200	.2441	–	–	1,0	36	8
–	–	B978A06200	6,200	.2441	–	–	1,3	36	8
–	B977A06300	–	6,300	.2480	–	–	1,1	36	8
–	–	B978A06300	6,300	.2480	–	–	1,3	36	8
B976A06350	B977A06350	–	6,350	.2500	1/4	E	1,1	36	8
–	–	B978A06350	6,350	.2500	1/4	E	1,3	36	8
–	B977A06400	–	6,400	.2520	–	–	1,1	36	8
–	–	B978A06400	6,400	.2520	–	–	1,3	36	8
B976A06500	B977A06500	–	6,500	.2559	–	–	1,1	36	8
–	–	B978A06500	6,500	.2559	–	–	1,4	36	8

(continued)

(B976/B977/B978 • ~3 x D/~5 x D/~8 x D continued)



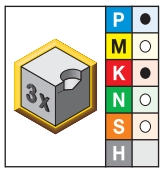


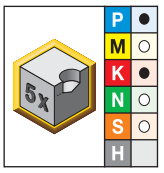


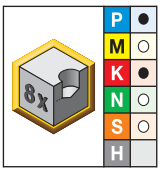
short • KC7315	long • KC7315	extra long • KC7315	D1 diameter mm	in	fraction	wire size	L5	LS	D
B976A06528	B977A06528	–	6,528	.2570	–	F	1,1	36	8
B976A06530	–	–	6,530	.2571	–	–	1,1	36	8
B976A06600	B977A06600	–	6,600	.2598	–	–	1,1	36	8
–	–	B978A06600	6,600	.2598	–	–	1,4	36	8
B976A06700	B977A06700	–	6,700	.2638	–	–	1,1	36	8
–	–	B978A06700	6,700	.2638	–	–	1,4	36	8
B976A06746	–	–	6,746	.2656	17/64	–	1,1	36	8
–	–	B978A06746	6,746	.2656	17/64	–	1,4	36	8
B976A06750	–	–	6,750	.2657	–	–	1,1	36	8
B976A06800	B977A06800	–	6,800	.2677	–	–	1,1	36	8
–	–	B978A06800	6,800	.2677	–	–	1,4	36	8
–	B977A06900	–	6,900	.2717	–	–	1,2	36	8
B976A06909	B977A06909	–	6,909	.2720	–	I	1,2	36	8
B976A07000	B977A07000	–	7,000	.2756	–	–	1,2	36	8
–	–	B978A07000	7,000	.2756	–	–	1,5	36	8
–	B977A07100	–	7,100	.2795	–	–	1,2	36	8
B976A07145	B977A07145	–	7,145	.2813	9/32	–	1,2	36	8
–	–	B978A07145	7,145	.2813	9/32	–	1,5	36	8
B976A07200	B977A07200	–	7,200	.2835	–	–	1,2	36	8
–	B977A07300	–	7,300	.2874	–	–	1,2	36	8
B976A07366	B977A07366	–	7,366	.2900	–	L	1,2	36	8
B976A07400	B977A07400	–	7,400	.2913	–	–	1,3	36	8
B976A07500	B977A07500	–	7,500	.2953	–	–	1,3	36	8
–	–	B978A07500	7,500	.2953	–	–	1,6	36	8
B976A07541	B977A07541	–	7,541	.2969	19/64	–	1,3	36	8
–	–	B978A07541	7,541	.2969	19/64	–	1,6	36	8
–	B977A07600	–	7,600	.2992	–	–	1,3	36	8
–	B977A07700	–	7,700	.3031	–	–	1,3	36	8
–	–	B978A07700	7,700	.3031	–	–	1,6	36	8
B976A07800	B977A07800	–	7,800	.3071	–	–	1,3	36	8
–	–	B978A07800	7,800	.3071	–	–	1,6	36	8
B976A07900	B977A07900	–	7,900	.3110	–	–	1,3	36	8
B976A07938	B977A07938	–	7,938	.3125	5/16	–	1,3	36	8
–	–	B978A07938	7,938	.3125	5/16	–	1,7	36	8
B976A08000	B977A08000	–	8,000	.3150	–	–	1,4	36	8
–	–	B978A08000	8,000	.3150	–	–	1,7	36	8
B976A08100	B977A08100	–	8,100	.3189	–	–	1,4	40	10
–	–	B978A08100	8,100	.3189	–	–	1,7	40	10
B976A08200	B977A08200	–	8,200	.3228	–	–	1,4	40	10
B976A08300	B977A08300	–	8,300	.3268	–	–	1,4	40	10
B976A08334	B977A08334	–	8,334	.3281	21/64	–	1,4	40	10
–	–	B978A08334	8,334	.3281	21/64	–	1,8	40	10
–	B977A08400	–	8,400	.3307	–	–	1,4	40	10
B976A08430	–	–	8,430	.3319	–	–	1,4	40	10
B976A08433	B977A08433	–	8,433	.3320	–	Q	1,4	40	10
B976A08500	B977A08500	–	8,500	.3346	–	–	1,4	40	10
–	–	B978A08500	8,500	.3346	–	–	1,8	40	10
B976A08600	B977A08600	–	8,600	.3386	–	–	1,5	40	10
–	–	B978A08600	8,600	.3386	–	–	1,8	40	10
B976A08700	B977A08700	–	8,700	.3425	–	–	1,5	40	10
–	–	B978A08700	8,700	.3425	–	–	1,8	40	10
B976A08733	B977A08733	–	8,733	.3438	11/32	–	1,5	40	10

(continued)

(B976/B977/B978 • ~3 x D/~5 x D/~8 x D continued)



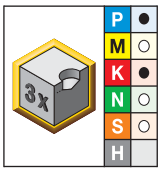
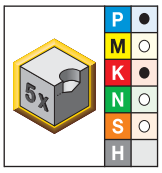
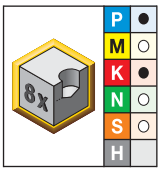




short • KC7315	long • KC7315	extra long • KC7315	D1 diameter mm	in	fraction	wire size	L5	LS	D
–	–	**B978A08733**	8,733	.3438	11/32	–	1,8	40	10
B976A08800	**B977A08800**	–	8,800	.3465	–	–	1,5	40	10
–	–	**B978A08800**	8,800	.3465	–	–	1,9	40	10
B976A08839	**B977A08839**	–	8,839	.3480	–	S	1,5	40	10
–	**B977A08900**	–	8,900	.3504	–	–	1,5	40	10
B976A09000	**B977A09000**	–	9,000	.3543	–	–	1,5	40	10
–	–	**B978A09000**	9,000	.3543	–	–	1,9	40	10
B976A09093	**B977A09093**	–	9,093	.3580	–	T	1,5	40	10
B976A09100	**B977A09100**	–	9,100	.3583	–	–	1,5	40	10
–	–	**B978A09100**	9,100	.3583	–	–	1,9	40	10
B976A09129	**B977A09129**	–	9,129	.3594	23/64	–	1,6	40	10
–	–	**B978A09129**	9,129	.3594	23/64	–	1,9	40	10
B976A09200	**B977A09200**	–	9,200	.3622	–	–	1,6	40	10
B976A09300	**B977A09300**	–	9,300	.3661	–	–	1,6	40	10
–	**B977A09347**	–	9,347	.3680	–	U	1,6	40	10
B976A09400	**B977A09400**	–	9,400	.3701	–	–	1,6	40	10
B976A09500	**B977A09500**	–	9,500	.3740	–	–	1,6	40	10
–	–	**B978A09500**	9,500	.3740	–	–	2,0	40	10
B976A09525	**B977A09525**	–	9,525	.3750	3/8	–	1,6	40	10
–	–	**B978A09525**	9,525	.3750	3/8	–	2,0	40	10
B976A09600	**B977A09600**	–	9,600	.3780	–	–	1,6	40	10
B976A09700	**B977A09700**	–	9,700	.3819	–	–	1,7	40	10
–	–	**B978A09700**	9,700	.3819	–	–	2,0	40	10
–	**B977A09703**	–	9,703	.3820	–	–	1,7	40	10
–	**B977A09746**	–	9,746	.3837	–	–	1,7	40	10
B976A09750	–	–	9,750	.3839	–	–	1,7	40	10
B976A09800	**B977A09800**	–	9,800	.3858	–	–	1,7	40	10
–	–	**B978A09800**	9,800	.3858	–	–	2,1	40	10
–	**B977A09900**	–	9,900	.3898	–	–	1,7	40	10
–	–	**B978A09900**	9,900	.3898	–	–	2,1	40	10
B976A09921	**B977A09921**	–	9,921	.3906	25/64	–	1,7	40	10
–	–	**B978A09921**	9,921	.3906	25/64	–	2,1	40	10
B976A10000	**B977A10000**	–	10,000	.3937	–	–	1,7	40	10
–	–	**B978A10000**	10,000	.3937	–	–	2,1	40	10
–	**B977A10100**	–	10,100	.3976	–	–	1,7	45	12
–	–	**B978A10100**	10,100	.3976	–	–	2,1	45	12
B976A10200	**B977A10200**	–	10,200	.4016	–	–	1,7	45	12
–	–	**B978A10200**	10,200	.4016	–	–	2,2	45	12
B976A10262	**B977A10262**	–	10,262	.4040	–	Y	1,8	45	12
–	**B977A10300**	–	10,300	.4055	–	–	1,8	45	12
–	–	**B978A10300**	10,300	.4055	–	–	2,2	45	12
B976A10320	**B977A10320**	–	10,320	.4063	13/32	–	1,8	45	12
–	–	**B978A10320**	10,320	.4063	13/32	–	2,2	45	12
–	**B977A10400**	–	10,400	.4094	–	–	1,8	45	12
B976A10500	**B977A10500**	–	10,500	.4134	–	–	1,8	45	12
–	–	**B978A10500**	10,500	.4134	–	–	2,2	45	12
–	**B977A10600**	–	10,600	.4173	–	–	1,8	45	12
B976A10700	**B977A10700**	–	10,700	.4213	–	–	1,8	45	12
B976A10716	**B977A10716**	–	10,716	.4219	27/64	–	1,8	45	12
–	–	**B978A10716**	10,716	.4219	27/64	–	2,3	45	12
B976A10800	**B977A10800**	–	10,800	.4252	–	–	1,8	45	12
–	–	**B978A10800**	10,800	.4252	–	–	2,3	45	12
–	**B977A10900**	–	10,900	.4291	–	–	1,9	45	12
B976A11000	**B977A11000**	–	11,000	.4331	–	–	1,9	45	12

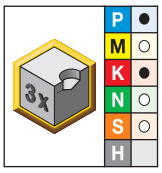
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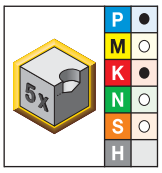
(B976/B977/B978 • ~3 x D/~5 x D/~8 x D continued)

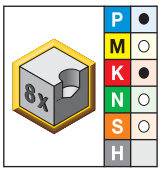
			D1 diameter						
short • KC7315	long • KC7315	extra long • KC7315	mm	in	fraction	wire size	L5	LS	D
–	–	B978A11000	11,000	.4331	–	–	2,3	45	12
–	B977A11100	–	11,100	.4370	–	–	1,9	45	12
B976A11113	B977A11113	–	11,113	.4375	7/16	–	1,9	45	12
–	–	B978A11113	11,113	.4375	7/16	–	2,4	45	12
B976A11200	B977A11200	–	11,200	.4409	–	–	1,9	45	12
–	–	B978A11200	11,200	.4409	–	–	2,4	45	12
B976A11300	B977A11300	–	11,300	.4449	–	–	1,9	45	12
–	–	B978A11300	11,300	.4449	–	–	2,4	45	12
–	B977A11400	–	11,400	.4488	–	–	2,0	45	12
–	–	B978A11400	11,400	.4488	–	–	2,4	45	12
B976A11500	B977A11500	–	11,500	.4528	–	–	2,0	45	12
–	–	B978A11500	11,500	.4528	–	–	2,4	45	12
B976A11509	B977A11509	–	11,509	.4531	29/64	–	2,0	45	12
–	–	B978A11509	11,509	.4531	29/64	–	2,4	45	12
–	B977A11600	–	11,600	.4567	–	–	2,0	45	12
B976A11700	B977A11700	–	11,700	.4606	–	–	2,0	45	12
–	–	B978A11700	11,700	.4606	–	–	2,5	45	12
–	B977A11800	–	11,800	.4646	–	–	2,0	45	12
–	–	B978A11800	11,800	.4646	–	–	2,5	45	12
–	B977A11900	–	11,900	.4685	–	–	2,0	45	12
B976A11908	B977A11908	–	11,908	.4688	15/32	–	2,0	45	12
–	–	B978A11908	11,908	.4688	15/32	–	2,5	45	12
B976A12000	B977A12000	–	12,000	.4724	–	–	2,1	45	12
–	–	B978A12000	12,000	.4724	–	–	2,5	45	12
–	B977A12100	–	12,100	.4764	–	–	2,1	45	14
–	B977A12200	–	12,200	.4803	–	–	2,1	45	14
B976A12300	B977A12300	–	12,300	.4843	–	–	2,1	45	14
B976A12304	B977A12304	–	12,304	.4844	31/64	–	2,1	45	14
–	–	B978A12304	12,304	.4844	31/64	–	2,6	45	14
–	B977A12400	–	12,400	.4882	–	–	2,1	45	14
B976A12500	B977A12500	–	12,500	.4921	–	–	2,1	45	14
–	–	B978A12500	12,500	.4921	–	–	2,7	45	14
–	B977A12600	–	12,600	.4961	–	–	2,2	45	14
B976A12700	B977A12700	–	12,700	.5000	1/2	–	2,2	45	14
–	–	B978A12700	12,700	.5000	1/2	–	2,7	45	14
B976A12800	B977A12800	–	12,800	.5039	–	–	2,2	45	14
–	–	B978A12800	12,800	.5039	–	–	2,7	45	14
–	B977A12900	–	12,900	.5079	–	–	2,2	45	14
–	B977A12903	–	12,903	.5080	–	–	2,2	45	14
B976A13000	B977A13000	–	13,000	.5118	–	–	2,2	45	14
–	–	B978A13000	13,000	.5118	–	–	2,8	45	14
–	B977A13096	–	13,096	.5156	33/64	–	2,3	45	14
–	B977A13100	–	13,100	.5157	–	–	2,3	45	14
B976A13300	B977A13300	–	13,300	.5236	–	–	2,3	45	14
B976A13495	B977A13495	–	13,495	.5313	17/32	–	2,3	45	14
B976A13500	B977A13500	–	13,500	.5315	–	–	2,3	45	14
–	–	B978A13500	13,500	.5315	–	–	2,9	45	14
B976A13700	B977A13700	–	13,700	.5394	–	–	2,4	45	14
–	B977A13800	–	13,800	.5433	–	–	2,4	45	14
B976A14000	B977A14000	–	14,000	.5512	–	–	2,4	45	14
–	–	B978A14000	14,000	.5512	–	–	3,0	45	14
B976A14100	–	–	14,100	.5551	–	–	2,4	48	16
B976A14200	B977A14200	–	14,200	.5591	–	–	2,5	48	16
B976A14288	B977A14288	–	14,288	.5625	9/16	–	2,5	48	16

(continued)

(B976/B977/B978 • ~3 x D/~5 x D/~8 x D continued)



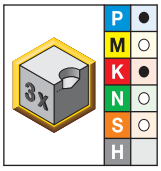


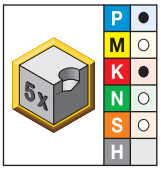


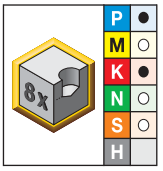
short • KC7315	long • KC7315	extra long • KC7315	D1 diameter mm	in	fraction	wire size	L5	LS	D
–	–	B978A14288	14,288	.5625	9/16	–	3,0	48	16
B976A14500	B977A14500	–	14,500	.5709	–	–	2,5	48	16
–	–	B978A14500	14,500	.5709	–	–	3,1	48	16
–	B977A14600	–	14,600	.5748	–	–	2,5	48	16
B976A14700	B977A14700	–	14,700	.5787	–	–	2,5	48	16
–	B977A14900	–	14,900	.5866	–	–	2,6	48	16
B976A15000	B977A15000	–	15,000	.5906	–	–	2,6	48	16
–	–	B978A15000	15,000	.5906	–	–	3,2	48	16
–	B977A15100	–	15,100	.5945	–	–	2,6	48	16
–	–	B978A15100	15,100	.5945	–	–	3,2	48	16
–	–	B978A15200	15,200	.5984	–	–	3,2	48	16
–	–	B978A15300	15,300	.6024	–	–	3,3	48	16
B976A15500	B977A15500	–	15,500	.6102	–	–	2,7	48	16
–	–	B978A15500	15,500	.6102	–	–	3,3	48	16
–	B977A15700	–	15,700	.6181	–	–	2,7	48	16
–	B977A15800	–	15,800	.6220	–	–	2,7	48	16
–	–	B978A15800	15,800	.6220	–	–	3,4	48	16
B976A15875	B977A15875	–	15,875	.6250	5/8	–	2,7	48	16
–	–	B978A15875	15,875	.6250	5/8	–	3,4	48	16
–	B977A15900	–	15,900	.6260	–	–	2,8	48	16
B976A16000	B977A16000	–	16,000	.6299	–	–	2,8	48	16
–	–	B978A16000	16,000	.6299	–	–	3,4	48	16
–	B977A16078	–	16,078	.6330	–	–	2,8	48	18
–	–	B978A16078	16,078	.6330	–	–	3,4	48	18
–	B977A16200	–	16,200	.6378	–	–	2,8	48	18
–	–	B978A16200	16,200	.6378	–	–	3,5	48	18
–	B977A16400	–	16,400	.6457	–	–	2,8	48	18
B976A16500	B977A16500	–	16,500	.6496	–	–	2,9	48	18
–	–	B978A16500	16,500	.6496	–	–	3,5	48	18
–	B977A16600	–	16,600	.6535	–	–	2,9	48	18
–	B977A16667	–	16,667	.6562	–	–	2,9	48	18
B976A16670	B977A16670	–	16,670	.6563	21/32	–	2,9	48	18
–	B977A16700	–	16,700	.6575	–	–	2,9	48	18
B976A16800	–	–	16,800	.6614	–	–	2,9	48	18
B976A17000	B977A17000	–	17,000	.6693	–	–	2,9	48	18
–	–	B978A17000	17,000	.6693	–	–	3,6	48	18
B976A17100	–	–	17,100	.6732	–	–	3,0	48	18
B976A17463	B977A17463	–	17,463	.6875	11/16	–	3,0	48	18
–	–	B978A17463	17,463	.6875	11/16	–	3,7	48	18
B976A17500	B977A17500	–	17,500	.6890	–	–	3,0	48	18
–	–	B978A17500	17,500	.6890	–	–	3,7	48	18
–	B977A17700	–	17,700	.6969	–	–	3,1	48	18
B976A18000	B977A18000	–	18,000	.7087	–	–	3,1	48	18
–		B978A18000	18,000	.7087	–	–	3,9	48	18
–	B977A18400	–	18,400	.7244	–	–	3,2	50	20
–	B977A18500	–	18,500	.7283	–	–	3,2	50	20

(continued)

(B976/B977/B978 • ~3 x D/~5 x D/~8 x D continued)







short • KC7315	long • KC7315	extra long • KC7315	D1 diameter mm	in	fraction	wire size	L5	LS	D
–	–	**B978A18500**	18,500	.7283	–	–	4,0	50	20
–	**B977A18600**	–	18,600	.7323	–	–	3,2	50	20
–	**B977A18800**	–	18,800	.7402	–	–	3,3	50	20
B976A19000	**B977A19000**	–	19,000	.7480	–	–	3,3	50	20
–	–	**B978A19000**	19,000	.7480	–	–	4,1	50	20
B976A19050	**B977A19050**	–	19,050	.7500	3/4	–	3,3	50	20
–	–	**B978A19050**	19,050	.7500	3/4	–	4,1	50	20
–	**B977A19200**	–	19,200	.7559	–	–	3,3	50	20
–	**B977A19253**	–	19,253	.7580	–	–	3,3	50	20
–	–	**B978A19253**	19,253	.7580	–	–	4,1	50	20
–	**B977A19446**	–	19,446	.7656	49/64	–	3,4	50	20
B976A19500	**B977A19500**	–	19,500	.7677	–	–	3,4	50	20
B976A19700	**B977A19700**	–	19,700	.7756	–	–	3,4	50	20
–	–	**B978A19800**	19,800	.7795	–	–	4,2	50	20
B976A19840	**B977A19840**	–	19,840	.7811	–	–	3,5	50	20
–	–	**B978A19840**	19,840	.7811	–	–	4,3	50	20
B976A20000	**B977A20000**	–	20,000	.7874	–	–	3,5	50	20
–	–	**B978A20000**	20,000	.7874	–	–	4,3	50	20

NOTE: The point angle on B978 Series is 132°.

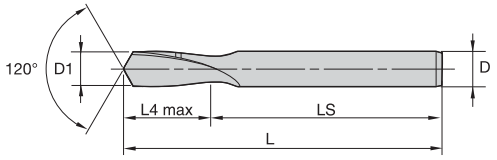
Tolerance • Metric			Tolerance • Inch		
nominal size range	D1 tolerance m7	D tolerance h6	nominal size range	D1 tolerance m7	D tolerance h6
>3–6	0,004/0,016	0,000/-0,008	>3–6	0,004/0,016	0,000/-0,008
>6–10	0,006/0,021	0,000/-0,009	>6–10	0,006/0,021	0,000/-0,009
>10–18	0,007/0,025	0,000/-0,011	>10–18	0,007/0,025	0,000/-0,011
>18–25,4	0,008/0,029	0,000/-0,013	>18–25,4	0,008/0,029	0,000/-0,013

Kenna Universal™ Drills • B97_ Series • Grade KC7315™ • Through Coolant for Drill Diameters 2–20mm



Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 2,0	3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	1	70	**100**	140	mm/r	0,05 - 0,12	0,07 - 0,14	0,08 - 0,16	0,11 - 0,22	0,13 - 0,26	0,15 - 0,31	0,18 - 0,35	0,22 - 0,42	0,28 - 0,54
	2	90	**120**	140	mm/r	0,05 - 0,12	0,07 - 0,14	0,08 - 0,16	0,12 - 0,22	0,14 - 0,26	0,17 - 0,31	0,20 - 0,35	0,24 - 0,42	0,31 - 0,53
	3	60	**80**	100	mm/r	0,06 - 0,13	0,08 - 0,15	0,09 - 0,17	0,13 - 0,23	0,15 - 0,28	0,19 - 0,33	0,22 - 0,38	0,26 - 0,47	0,34 - 0,59
	4	50	**80**	100	mm/r	0,06 - 0,13	0,07 - 0,15	0,08 - 0,17	0,12 - 0,23	0,14 - 0,28	0,17 - 0,33	0,19 - 0,38	0,23 - 0,47	0,29 - 0,59
	6	40	**50**	70	mm/r	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10	0,08 - 0,14	0,10 - 0,18	0,13 - 0,22	0,14 - 0,24	0,18 - 0,32	0,23 - 0,41
M	1	50	**20**	40	mm/r	0,03 - 0,06	0,04 - 0,07	0,05 - 0,09	0,08 - 0,11	0,09 - 0,12	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,16 - 0,20
	2	30	**50**	50	mm/r	0,03 - 0,07	0,04 - 0,08	0,06 - 0,10	0,08 - 0,12	0,09 - 0,14	0,10 - 0,16	0,12 - 0,18	0,14 - 0,20	0,16 - 0,22
	3	20	**55**	40	mm/r	0,03 - 0,06	0,04 - 0,07	0,05 - 0,09	0,08 - 0,11	0,09 - 0,12	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,16 - 0,20
K	1	80	**120**	170	mm/r	0,09 - 0,17	0,11 - 0,22	0,12 - 0,24	0,16 - 0,31	0,20 - 0,38	0,23 - 0,44	0,25 - 0,49	0,31 - 0,60	0,38 - 0,74
	2	80	**110**	140	mm/r	0,11 - 0,15	0,12 - 0,16	0,13 - 0,19	0,16 - 0,25	0,20 - 0,31	0,23 - 0,36	0,25 - 0,40	0,31 - 0,48	0,38 - 0,60
	3	80	**100**	130	mm/r	0,07 - 0,15	0,08 - 0,17	0,09 - 0,19	0,12 - 0,25	0,14 - 0,30	0,17 - 0,35	0,19 - 0,40	0,24 - 0,48	0,30 - 0,60
N	1	90	**230**	315	mm/r	0,06 - 0,13	0,08 - 0,14	0,10 - 0,16	0,12 - 0,20	0,16 - 0,24	0,20 - 0,28	0,24 - 0,32	0,28 - 0,40	0,32 - 0,48
	2	90	**225**	270	mm/r	0,06 - 0,12	0,08 - 0,16	0,10 - 0,20	0,12 - 0,24	0,16 - 0,28	0,20 - 0,32	0,24 - 0,36	0,28 - 0,44	0,32 - 0,52
	3	90	**180**	270	mm/r	0,11 - 0,14	0,12 - 0,14	0,13 - 0,16	0,14 - 0,20	0,16 - 0,24	0,20 - 0,28	0,24 - 0,32	0,28 - 0,40	0,32 - 0,44
	5	90	**135**	180	mm/r	0,06 - 0,12	0,08 - 0,16	0,01 - 0,20	0,12 - 0,24	0,16 - 0,28	0,20 - 0,32	0,24 - 0,36	0,28 - 0,40	0,32 - 0,48
S	1	10	**25**	30	mm/r	0,02 - 0,05	0,03 - 0,06	0,04 - 0,08	0,06 - 0,10	0,08 - 0,12	0,09 - 0,13	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18
	2	10	**20**	25	mm/r	0,02 - 0,03	0,02 - 0,04	0,03 - 0,06	0,05 - 0,08	0,07 - 0,10	0,08 - 0,11	0,09 - 0,12	0,10 - 0,14	0,11 - 0,16
	3	10	**25**	30	mm/r	0,02 - 0,03	0,02 - 0,04	0,02 - 0,05	0,04 - 0,07	0,06 - 0,09	0,07 - 0,10	0,08 - 0,11	0,09 - 0,13	0,10 - 0,15
	4	10	**25**	40	mm/r	0,02 - 0,03	0,02 - 0,04	0,03 - 0,06	0,05 - 0,08	0,07 - 0,10	0,08 - 0,11	0,09 - 0,12	0,10 - 0,14	0,11 - 0,16

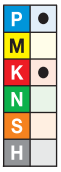
Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 5/64 .078	1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
P	1	230	**330**	460	IPR	.002 - .004	.003 - .005	.004 - .006	.005 - .008	.005 - .010	.006 - .012	.007 - .014	.008 - .017	.011 - .022
	2	300	**390**	460	IPR	.002 - .004	.003 - .005	.004 - .006	.005 - .008	.005 - .010	.006 - .012	.008 - .014	.010 - .017	.012 - .021
	3	200	**260**	330	IPR	.003 - .005	.004 - .006	.004 - .006	.005 - .009	.006 - .011	.007 - .013	.008 - .015	.010 - .018	.014 - .023
	4	160	**260**	330	IPR	.002 - .005	.003 - .006	.004 - .006	.005 - .009	.005 - .011	.006 - .013	.007 - .015	.009 - .018	.012 - .023
	6	130	**160**	230	IPR	.001 - .003	.002 - .004	.002 - .004	.004 - .005	.004 - .007	.005 - .008	.005 - .010	.007 - .013	.009 - .016
M	1	160	**70**	130	IPR	.001 - .002	.002 - .003	.002 - .004	.003 - .004	.004 - .005	.004 - .006	.005 - .006	.006 - .007	.006 - .008
	2	100	**160**	160	IPR	.001 - .002	.002 - .003	.002 - .004	.003 - .005	.004 - .006	.004 - .006	.005 - .007	.006 - .008	.006 - .009
	3	70	**180**	130	IPR	.001 - .002	.002 - .003	.002 - .004	.003 - .004	.004 - .005	.004 - .006	.005 - .006	.006 - .007	.006 - .008
K	1	260	**390**	560	IPR	.003 - .007	.004 - .009	.005 - .009	.006 - .012	.008 - .015	.009 - .017	.010 - .019	.012 - .024	.015 - .029
	2	260	**360**	460	IPR	.003 - .006	.004 - .007	.005 - .007	.006 - .010	.008 - .012	.009 - .014	.010 - .016	.012 - .019	.015 - .024
	3	260	**330**	430	IPR	.002 - .006	.003 - .007	.004 - .007	.005 - .010	.006 - .012	.006 - .014	.007 - .016	.009 - .019	.012 - .024
N	1	300	**750**	1030	IPR	.002 - .005	.003 - .006	.004 - .006	.005 - .008	.006 - .009	.008 - .011	.009 - .013	.011 - .016	.013 - .019
	2	300	**740**	890	IPR	.002 - .006	.003 - .006	.004 - .008	.005 - .009	.006 - .011	.008 - .013	.009 - .014	.011 - .017	.013 - .020
	3	300	**590**	890	IPR	.004 - .005	.005 - .006	.005 - .006	.006 - .008	.006 - .009	.008 - .011	.009 - .013	.011 - .016	.013 - .017
	5	300	**440**	590	IPR	.002 - .005	.003 - .006	.004 - .008	.005 - .009	.006 - .011	.008 - .013	.009 - .014	.011 - .016	.013 - .019
S	1	30	**80**	100	IPR	.001 - .002	.001 - .002	.002 - .003	.002 - .004	.003 - .005	.004 - .005	.004 - .006	.005 - .006	.006 - .007
	2	30	**70**	80	IPR	.001 - .002	.001 - .002	.001 - .002	.002 - .003	.003 - .004	.003 - .004	.004 - .005	.004 - .006	.004 - .006
	3	30	**80**	100	IPR	.001 - .002	.001 - .002	.001 - .002	.002 - .003	.002 - .004	.003 - .004	.003 - .004	.004 - .005	.004 - .006
	4	30	**80**	130	IPR	.001 - .002	.001 - .002	.001 - .002	.002 - .003	.003 - .004	.003 - .004	.004 - .005	.004 - .006	.004 - .006





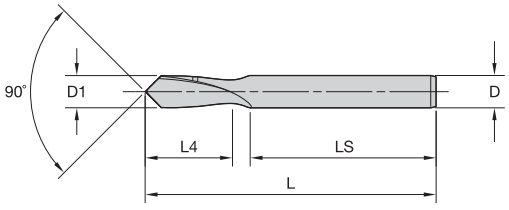


B501 • Z-Shank



● first choice
○ alternate choice

B501 • K10	D1 diameter mm	in	fraction	wire size	L	L4 max	LS	D
B501Z06000	6,000	.2362	–	–	54	9	33	6
B501Z10000	10,000	.3937	–	–	66	12	45	10
B501Z12000	12,000	.4724	–	–	73	14	52	12







B505



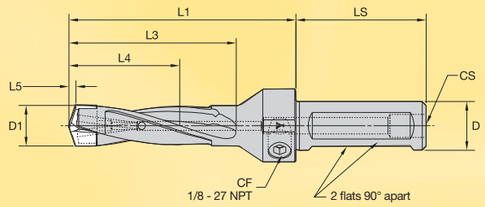
● first choice
○ alternate choice

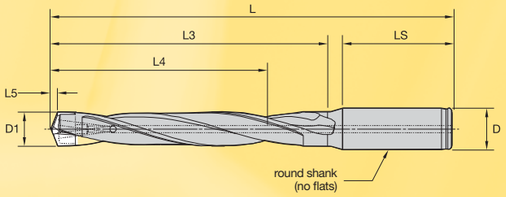
B505 • K10	D1 diameter mm	in	fraction	wire size	L	L4 max	LS	D
B505Z06000	6,000	.2362	–	–	54	9	33	6
B505Z08000	8,000	.3150	–	–	58	11	37	8
B505Z10000	10,000	.3937	–	–	66	12	45	10
B505Z12000	12,000	.4724	–	–	73	14	52	12
B505Z16000	16,000	.6299	–	–	82	16	61	16
B505Z20000	20,000	.7874	–	–	92	18	71	20

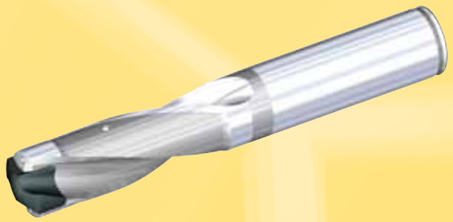
Tolerance • Metric				Tolerance • Inch			
D1	**tolerance h8**	**D**	**tolerance h6**	**D1**	**tolerance h8**	**D**	**tolerance h6**
>3–6	0,000/-0,018	6	0,000/-0,008	>3–6	0,000/-0,018	6	0,000/-0,008
>6–10	0,000/-0,022	8–10	0,000/-0,009	>6–10	0,000/-0,022	8–10	0,000/-0,009
>10–18	0,000/-0,027	12–18	0,000/-0,011	>10–18	0,000/-0,027	12–18	0,000/-0,011
>18–21	0,000/-0,033	20	0,000/-0,013	>18–21	0,000/-0,033	20	0,000/-0,013

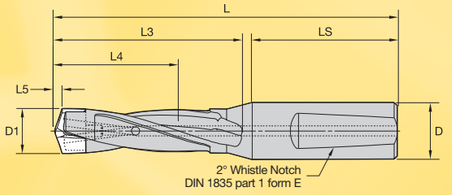


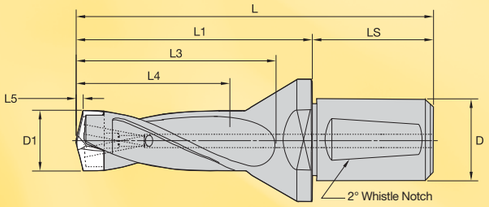
Modular Drills • Dimension Tables











Dimensions for KSEM™ Modular Drills • Inch



Flanged Shank • Inch

D1 mm	D1 in	5 x D L1	L4 max	wrench	8 x D L1	L4 max	wrench
12,700	.5000	3.94	2.50	170.294	–	–	–
12,929	.5090	4.00	2.55	170.294	–	–	–
13,106	.5160	4.00	2.58	170.294	–	–	–
13,487	.5310	4.13	2.66	170.294	–	–	–
13,894	.5470	4.13	2.73	170.289	–	–	–
14,300	.5630	4.25	2.81	170.289	–	–	–
14,681	.5780	4.31	2.89	170.289	–	–	–
15,088	.5940	4.38	2.97	170.289	–	–	–
15,469	.6090	4.5	3.05	170.289	–	–	–
15,875	.6250	4.75	3.15	170.270	6.25	5.00	170.271
17,463	.6875	5.25	3.54	170.270	7.00	5.50	170.271
19,050	.7500	5.88	3.94	170.271	7.50	6.00	170.281
19,050	.7500	6.00	3.94	170.271	7.50	6.00	170.281
20,637	.8125	6.25	4.33	170.273	8.00	6.50	170.282
20,638	.8125	6.25	4.33	170.273	–	–	170.282
22,225	.8750	6.63	4.72	170.273	8.50	7.00	170.282
22,225	.8750	6.75	4.72	170.273	8.50	7.00	170.282
23,813	.9375	6.63	4.72	170.273	9.13	7.50	170.282
24,606	.9688	7.13	5.12	170.275	–	–	–
25,003	.9844	7.13	5.12	170.275	9.50	7.88	170.283
25,400	1.0000	7.25	5.12	170.275	9.63	8.00	170.283
25,400	1.0000	7.25	5.12	170.275	9.63	8.00	170.283
26,988	1.0625	7.63	5.51	170.275	10.25	8.50	170.283
28,575	1.1250	8.13	5.91	170.277	10.75	9.00	170.284
30,163	1.1875	8.50	6.30	170.277	11.38	9.50	170.284
31,750	1.2500	8.50	6.30	170.277	11.88	10.00	170.284
31,750	1.2500	8.75	6.30	170.277	11.88	10.00	170.284



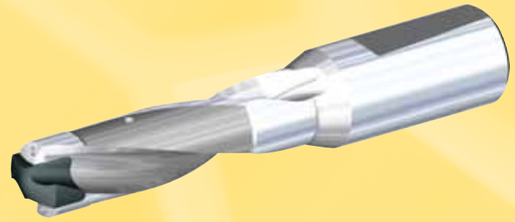
Round Shank • Inch

D1 mm	D1 in	7 x D L	L4 max	wrench	10 x D L	L4 max	wrench
12,70	.5000	5.63	3.50	170.295	7.75	5.00	170.296
12,70	.5000	6.13	3.50	170.295	–	–	–
12,93	.5090	6.25	3.56	170.295	7.88	5.09	170.296
13,10	.5160	6.25	3.61	170.295	8.00	5.16	170.296
13,49	.5310	6.38	3.72	170.295	8.13	5.31	170.296
13,89	.5470	6.50	3.83	170.290	8.25	5.47	170.291
14,29	.5630	6.63	3.94	170.290	8.38	5.63	170.291
14,68	.5780	6.75	4.05	170.290	8.50	5.78	170.291
15,08	.5940	6.88	4.16	170.290	8.75	5.94	170.291
15,48	.6090	7.00	4.27	170.290	8.88	6.09	170.291
15,88	.6250	7.38	4.41	170.270	9.00	6.25	170.281
16,10	.6335	8.00	4.59	170.271	9.13	6.34	170.281
16,67	.6563	8.00	4.96	170.271	9.38	6.56	170.281
17,46	.6875	8.00	4.96	170.271	9.75	6.88	170.281
18,25	.7188	8.88	5.51	170.271	10.25	7.19	170.281
19,05	.7500	8.88	5.51	170.271	10.50	7.50	170.281
19,05	.7500	9.88	5.51	170.281	11.50	7.50	170.281
19,28	.7585	8.88	5.51	170.271	–	–	–
19,28	.7585	–	–	–	11.50	7.59	170.281
19,85	.7813	9.88	5.51	170.281	11.75	7.81	170.281
20.64	.8125	10.25	6.06	170.273	12.13	8.13	170.282
21,43	.8438	10.25	6.06	170.273	12.50	8.44	170.282
22,23	.8750	10.88	6.61	170.282	12.75	8.75	170.282
22,23	.8750	11.13	6.61	170.282	–	–	–
22.45	.8835	10.88	6.61	170.282	12.88	8.84	170.282
23,02	.9063	10.88	6.61	170.282	13.13	9.06	170.282
23,81	.9375	10.88	6.61	170.282	13.44	9.38	170.282
24,61	.9688	11.63	7.17	170.275	13.88	9.69	170.283
25,00	.9844	11.63	7.17	170.283	14.00	9.84	170.283
25,40	1.0000	11.63	7.17	170.283	14.13	10.00	170.283
25,40	1.0000	11.88	7.17	170.283	14.38	10.00	170.283
25,68	1.0105	12.25	7.08	170.283	14.50	10.11	170.283
26,20	1.0313	12.50	7.72	170.283	14.75	10.31	170.283
26,99	1.0625	12.50	7.72	170.283	15.13	10.63	170.283
27,78	1.0938	12.50	7.72	170.283	15.50	10.94	170.283
28,58	1.1250	13.13	8.27	170.284	15.75	11.25	170.284
29,37	1.1563	13.13	8.27	170.284	16.13	11.56	170.284
30,16	1.1875	13.75	8.82	170.284	16.50	11.88	170.284
30,96	1.2188	13.75	8.82	170.284	16.88	12.19	170.284
31,75	1.2500	13.75	8.82	170.284	17.13	12.50	170.284
31,75	1.2500	14.25	8.82	170.284	17.63	12.50	170.284



Round Shank • Inch

D1 mm	D1 in	3 x D L	L4 max	wrench	5 x D L	L4 max	wrench
12,700	.5000	–	–	170.294	4.63	2.50	170.294
12,700	.5000	4.13	1.50	170.294	5.13	2.50	170.294
12,929	.5090	4.25	1.53	170.294	5.25	2.55	170.294
13,106	.5160	–	–	170.294	5.25	2.58	170.294
13,487	.5310	4.25	1.59	170.294	5.38	2.66	170.294
13,894	.5470	4.38	1.64	170.289	5.44	2.73	170.289
14,300	.5630	4.38	1.69	170.289	5.50	2.81	170.289
14,681	.5780	4.50	1.73	170.289	5.63	2.89	170.289
15,088	.5940	4.50	1.78	170.289	5.75	2.97	170.289
15,469	.6090	4.63	1.83	170.289	5.88	3.05	170.289
15,875	.6250	4.63	1.88	170.270	6.00	3.15	170.270
16,091	.6335	–	–	170.270	6.50	3.54	170.270
16,104	.6340	4.75	1.90	170.270	–	–	170.270
16,281	.6410	4.75	1.92	170.270	6.50	3.54	170.270
16,662	.6560	4.88	1.97	170.270	–	–	170.270
16,669	.6563	–	–	170.270	6.50	3.54	170.270
17,069	.6720	4.88	2.02	170.270	6.50	3.54	170.270
17,463	.6875	4.88	2.06	170.270	6.50	3.54	170.270
17,856	.7030	5.00	2.11	170.270	6.50	3.54	170.270
18,256	.7188	–	–	170.270	7.25	3.94	170.270
18,263	.7190	5.00	2.16	170.270	–	–	170.270
18,644	.7340	5.13	2.20	170.270	7.25	3.94	170.270
19,050	.7500	6.13	2.25	170.270	8.25	3.94	170.271
19,050	.7500	5.13	2.25	170.270	7.25	3.94	170.270
19,279	.7585	5.25	2.28	170.270	7.25	3.94	170.270
19,456	.7660	6.25	2.30	170.270	8.25	3.94	170.271
19,845	.7813	6.25	2.34	170.270	8.13	3.94	170.271
19,837	.7810	–	–	–	–	–	170.271
20,244	.7970	6.38	2.39	170.272	8.50	4.33	170.272
20,638	.8125	6.38	2.44	170.272	8.50	4.33	170.272
21,431	.8438	–	–	170.272	8.50	4.33	170.272
21,438	.8440	6.50	2.53	170.272	–	–	170.272
21,829	.8590	6.63	2.58	170.272	8.50	4.33	170.272
21,819	.8590	–	–	170.272	–	–	170.272
22,225	.8750	6.88	2.63	170.272	9.00	4.72	170.273
22,225	.8750	6.63	2.63	170.272	9.25	4.72	170.273
22,454	.8835	6.75	2.65	170.272	9.00	4.72	170.273
22,454	.8840	–	–	170.272	–	–	170.273
23,012	.9060	6.75	2.72	170.272	–	–	170.273
23,019	.9063	–	–	170.272	9.00	4.72	170.273
23,419	.9220	6.88	2.77	170.272	9.00	4.72	170.273
23,813	.9375	6.88	2.81	170.272	9.00	4.72	170.273
24,606	.9688	–	–	170.272	9.50	5.12	170.274
24,613	.9690	7.00	2.91	170.274	–	–	170.274
25,003	.9844	7.13	2.95	170.274	9.50	5.12	170.274
25,400	1.0000	7.13	3.00	170.274	9.75	5.12	170.274
25,400	1.0000	–	–	170.274	9.50	5.12	170.274
25,679	1.0105	–	–	170.274	10.00	5.06	170.274
25,679	1.0110	7.50	3.03	170.274	–	–	–
26,187	1.0310	7.50	3.09	170.274	–	–	–
26,195	1.0313	–	–	170.274	10.25	5.51	170.275
26,594	1.0470	–	–	170.274	10.25	5.51	170.275
26,988	1.0625	7.63	3.19	170.274	10.25	5.51	170.275
27,781	1.0938	–	–	170.274	10.25	5.51	170.275
28,169	1.1090	7.88	3.33	170.274	10.75	5.91	170.276
28,575	1.1250	7.88	3.38	170.276	10.75	5.91	170.276
29,362	1.1560	8.00	3.47	170.276	–	–	–
29,370	1.1563	–	–	170.276	10.75	5.91	170.276
29,769	1.1720	8.13	3.52	170.276	10.75	5.91	170.276
30,163	1.1875	8.13	3.56	170.276	11.25	6.30	170.277
30,556	1.2030	–	–	170.276	11.25	6.30	170.277
30,958	1.2188	–	–	170.276	11.25	6.30	170.277
30,963	1.2190	8.25	3.66	170.276	–	–	–
31,750	1.2500	8.38	3.75	170.276	11.75	6.30	170.277
31,750	1.2500	8.88	3.75	170.276	11.25	6.30	170.277
32,537	1.2810	9.00	3.84	170.276	12.50	6.41	170.277
32,941	1.2970	–	–	170.276	12.50	6.48	170.277
32,944	1.2970	9.13	3.89	170.276	–	–	–
33,350	1.3130	9.13	3.94	170.276	12.50	6.56	170.277
33,731	1.3280	9.25	3.98	170.276	–	–	–
33,734	1.3280	–	–	170.276	12.50	6.64	170.277
34,138	1.3440	–	–	170.276	13.00	6.72	170.277
34,925	1.3750	9.38	4.13	170.276	13.00	6.87	170.277
35,712	1.4060	9.50	4.22	170.276	13.00	7.03	170.277
36,119	1.4220	–	–	170.276	13.50	7.11	170.277
36,513	1.4380	–	–	170.276	13.50	7.19	170.277
36,525	1.4380	9.63	4.31	170.276	–	–	–
37,313	1.4690	–	–	170.276	13.50	7.34	170.277
38,100	1.5000	9.88	4.50	170.276	13.50	7.50	170.277
38,456	1.5140	10.00	4.54	170.276	13.50	7.57	170.277

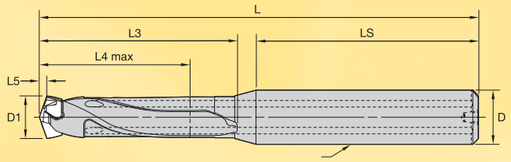


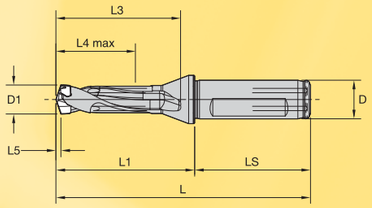
Dimensions for KSEM™ Modular Drills • Metric



D1 mm	D1 inch	WN/WD Shank Metric 3 x D L	L1	L4 max	wrench	5 x D L	L1	L4 max	wrench	WN Shank Metric 7 x D L	L4 max	wrench	10 x D L	L4 max	wrench
12,50	.4921	111	–	42	170.294	139	–	70	170.294	167	98	170.295	195	125	170.296
13,00	.5118	111	–	42	170.294	139	–	70	170.294	167	98	170.295	200	130	170.296
13,50	.5315	111	–	42	170.294	139	–	70	170.294	167	98	170.295	205	135	170.296
13,51	.5319	111	–	42	170.289	139	–	70	170.289	167	98	170.290	205	135	170.291
14,00	.5512	111	–	42	170.289	139	–	70	170.289	167	98	170.290	210	140	170.291
14,50	.5709	122	–	48	170.289	154	–	80	170.289	186	112	170.290	220	145	170.291
14,51	.5713	122	–	48	170.289	154	–	80	170.289	186	112	170.290	220	145	170.291
15,00	.5906	122	–	48	170.289	154	–	80	170.289	186	112	170.290	225	150	170.291
15,50	.6102	122	–	48	170.289	154	–	80	170.289	186	112	170.290	230	155	170.291
16,00	.6299	122	–	48	170.270	154	–	80	170.270	186	112	170.270	234	160	170.271
16,50	.6496	130	–	54	170.270	166	–	90	170.270	202	126	170.271	241	165	170.281
17,00	.6693	130	–	54	170.270	166	–	90	170.270	202	126	170.271	246	170	170.281
17,50	.6890	130	–	54	170.270	166	–	90	170.270	202	126	170.271	251	175	170.281
18,00	.7087	130	–	54	170.270	166	–	90	170.270	202	126	170.271	256	180	170.281
18,01	.7091	–	–	–	–	184	–	100	170.270	–	–	170.271	269	185	170.281
18,50	.7283	144	–	60	170.270	184	–	100	170.270	224	140	170.271	269	185	170.281
19,00	.7480	144	–	60	170.270	184	–	100	170.270	224	140	170.271	274	190	170.281
19,50	.7677	144	–	60	170.270	184	–	100	170.270	224	140	170.271	279	195	170.281
20,00	.7874	153	–	60	170.272	197	–	100	170.272	241	140	170.273	297	200	170.282
20,50	.8071	153	–	66	170.272	197	–	110	170.272	241	154	170.273	297	205	170.282
21,00	.8268	153	–	66	170.272	197	–	110	170.272	241	154	170.273	297	210	170.282
21,50	.8465	153	–	66	170.272	197	–	110	170.272	241	154	170.273	307	215	170.282
22,00	.8661	153	–	66	170.272	197	–	110	170.272	241	154	170.273	307	220	170.282
22,01	.8665	–	–	–	–	209	–	120	170.272	–	–	170.273	319	225	170.282
22,50	.8858	161	–	72	170.272	209	–	120	170.272	257	168	170.273	319	225	170.282
23,00	.9055	161	–	72	170.272	209	–	120	170.272	257	168	170.273	319	230	170.282
23,50	.9252	161	–	72	170.272	209	–	120	170.272	257	168	170.273	329	235	170.282
24,00	.9449	161	–	72	170.272	209	–	120	170.272	257	168	170.273	329	240	170.282
24,01	.9453	–	–	–	–	226	–	130	170.274	–	–	–	346	245	170.283
24,50	.9646	174	–	78	170.274	226	–	130	170.274	278	182	170.275	346	245	170.283
25,00	.9843	174	–	78	170.274	226	–	130	170.274	278	182	170.275	346	250	170.283
25,50	10.039	174	–	78	170.274	226	–	130	170.274	278	182	170.275	356	255	170.283
26,00	10.236	174	–	78	170.274	226	–	130	170.274	278	182	170.275	356	260	170.283
26,01	10.240	–	–	–	–	238	–	140	170.274	–	–	170.275	363	265	170.283
26,50	10.433	182	–	84	170,274	238	–	140	170.274	294	196	170.275	363	265	170.283
27,00	10.630	182	–	84	170.274	238	–	140	170.274	294	196	170.275	368	270	170.283
27,50	10.827	182	–	84	170.274	238	–	140	170.274	294	196	170.275	378	275	170.283
28,00	11.024	182	–	84	170.274	238	–	140	170.274	294	196	170.275	378	280	170.283
28,02	11.028	–	–	–	–	250	–	150	170.276	–	–	–	390	285	170.284
28,50	11.220	190	–	90	170.276	250	–	150	170.276	310	210	170.277	390	285	170.284
29,00	11.417	190	–	90	170.276	250	–	150	170.276	310	210	170.277	390	290	170.284
29,50	11.614	190	–	90	170.276	250	–	150	170.276	310	210	170.277	400	295	170.284
30,00	11.811	190	–	90	170.276	250	–	150	170.276	310	210	170.277	400	300	170.284
30,01	11.815	–	–	–	–	264	–	160	170.276	–	–	170.277	414	305	170.284
30,50	12.008	200	–	96	170.276	264	–	160	170.276	328	224	170.277	–	–	–
31,00	12.205	200	–	96	170.276	264	–	160	170.276	328	224	170.277	414	310	170.284
31,50	12.402	200	–	96	170.276	264	–	160	170.276	328	224	170.277	–	–	–
32,00	12.598	200	–	96	170.276	264	–	160	170.276	328	224	170.277	424	320	170.284
32,01	12.602	220	159	99	170.276	293	225	165	170.277	–	–	–	–	–	–
33,00	12.992	227	159	99	170.276	293	225	165	170.277	–	–	–	–	–	–
34,00	13.386	225	157	102	170.276	293	225	170	170.277	–	–	–	–	–	–
35,00	13.780	235	167	105	170.276	305	237	175	170.277	–	–	–	–	–	–
36,00	14.173	233	165	108	170.276	305	237	180	170.277	–	–	–	–	–	–
36,01	14.177	237	176	111	170.276	318	250	185	170.277	–	–	–	–	–	–
37,00	14.567	244	176	111	170.276	318	250	185	170.277	–	–	–	–	–	–
38,00	14.961	242	174	114	170.276	318	250	190	170.277	–	–	–	–	–	–
39,00	15.354	252	184	117	170.276	330	262	195	170.277	–	–	–	–	–	–
40,00	15.748	250	182	120	170.276	330	262	200	170.277	–	–	–	–	–	–

Modular Drills • Dimension Tables





Dimensions for KenTIP™ Modular Drills • Round Shank • Metric



D1 mm	D1 max	seat	L5	LS	round D	1,5 x D L	L4 max	3 x D L	L4 max	5 x D L	L4 max	8 x D L	L4 max	wrench
8,000	8,490	F	1.4	41	10	67	13	79	26	97	43	123	68	170,306
8,500	8,990	G	1.5	41	10	68	14	81	27	100	45	127	72	170,306
9,000	9,490	H	1.6	41	10	69	14	83	29	103	48	132	76	170,306
9,500	9,990	I	1.6	41	10	70	15	85	30	107	50	137	80	170,306
10.000	10.490	J	1.7	46	12	77	16	92	32	115	53	147	84	170,307
10.500	10.990	K	1.8	46	12	78	17	94	33	118	55	151	88	170,307
11.000	11.490	L	1.9	46	12	79	17	96	35	121	58	156	92	170,307
11.500	11.990	M	2.0	46	12	80	18	98	36	124	60	160	96	170,307
12.000	12.490	N	2.1	46	14	83	19	101	38	127	63	165	100	170,308
12.500	12.990	O	2.2	46	14	84	20	103	39	130	65	169	104	170,308
13.000	13.490	P	2.2	46	14	85	20	105	41	133	68	174	108	170,308
13.500	13.990	Q	2.3	46	14	86	21	107	42	137	70	179	112	170,308
14.000	14.490	R	2.4	49	16	91	22	112	44	143	73	187	116	170,309
14.500	14.990	S	2.5	49	16	92	23	114	45	146	75	191	120	170,309
15.000	15.990	T	2.6	49	16	94	24	118	48	152	80	200	128	170,309
16.000	16.990	U	2.8	49	18	97	26	122	51	158	85	209	136	170,309
17.000	17.990	V	2.9	49	18	100	27	127	54	165	90	219	144	170,314
18.000	18.990	W	3.1	51	20	105	29	133	57	173	95	230	152	170,314
19.000	19.990	X	3.3	51	20	107	30	137	60	179	100	239	160	170,314
20.000	20.990	Y	3.4	57	25	116	32	147	63	191	105	254	168	170,314
21.000	21.990	Z	3.6	56	25	118	33	151	66	198	110	264	176	170,314
22.000	22.990	ZA	3.8	56	25	122	35	156	69	204	115	273	184	170,314
23.000	23.990	ZB	4.0	56	25	124	36	160	72	210	120	282	192	170,314
24.000	24.990	ZC	4.1	56	25	127	38	164	75	216	125	291	200	170,314
25.000	25.990	ZD	4.3	60	32	133	39	172	78	227	130	305	208	170,314
26.000	26.990	ZE	4.5	60	32	138	41	178	81	232	135	315	216	170,314
27.000	27.990	ZE	4.7	61	32	139	42	181	84	239	140	323	224	170,314

Dimensions for KenTIP Modular Drills • Flanged Shank • Metric



D1 mm	D1 max	seat	L5	LS	flanged D	1,5 x D L	L4 max	3 x D L	L4 max	5 x D L	L4 max	8 x D L	L4 max	wrench
8,000	8,490	F	1.4	41	12	73	13	79	26	104	43	129	68	170,306
8,500	8,990	G	1.5	41	12	74	14	81	27	107	45	134	72	170,306
9,000	9,490	H	1.6	41	12	76	14	83	29	110	48	138	76	170,306
9,500	9,990	I	1.6	41	12	77	15	85	30	114	50	144	80	170,306
10.000	10.490	J	1.7	46	16	81	16	92	32	120	53	151	84	170,307
10.500	10.990	K	1.8	46	16	82	17	94	33	123	55	156	88	170,307
11.000	11.490	L	1.9	46	16	84	17	96	35	126	58	160	92	170,307
11.500	11.990	M	2.0	46	16	85	18	98	36	129	60	165	96	170,307
12.000	12.490	N	2.1	46	16	87	19	101	38	132	63	169	100	170,308
12.500	12.990	O	2.2	46	16	88	20	103	39	135	65	174	104	170,308
13.000	13.490	P	2.2	46	16	90	20	105	41	138	68	178	108	170,308
13.500	13.990	Q	2.3	46	16	91	21	107	42	142	70	184	112	170,308
14.000	14.490	R	2.4	49	16	92	22	112	44	145	73	188	116	170,309
14.500	14.990	S	2.5	49	16	93	23	114	45	148	75	193	120	170,309
15.000	15.990	T	2.6	49	20	98	24	118	48	156	80	204	128	170,309
16.000	16.990	U	2.8	49	20	100	26	122	51	162	85	213	136	170,309
17.000	17.990	V	2.9	49	20	104	27	127	54	169	90	223	144	170,314
18.000	18.990	W	3.1	51	25	112	29	133	57	181	95	238	152	170,314
19.000	19.990	X	3.3	51	25	115	30	137	60	187	100	247	160	170,314
20.000	20.990	Y	3.4	57	25	117	32	147	63	193	105	256	168	170,314
21.000	21.990	Z	3.6	56	25	120	33	151	66	200	110	266	176	170,314
22.000	22.990	ZA	3.8	56	25	123	35	156	69	206	115	275	184	170,314
23.000	23.990	ZB	4.0	56	25	126	36	160	72	212	120	284	192	170,314
24.000	24.990	ZC	4.1	56	25	128	38	164	75	218	125	293	200	170,314
25.000	25.990	ZD	4.3	60	25	131	39	172	78	225	130	303	208	170,314
26.000	26.990	ZE	4.5	60	25	135	41	178	81	230	135	313	216	170,314
27.000	27.990	ZE	4.7	61	25	137	42	181	84	237	140	321	224	170,314

Dimensions for KenTIP Modular Drills • Round Shank • Inch



D1 in	D1 max	seat	L5	LS	round D	3 x D L	L4 max	5 x D L	L4 max	8 x D L	L4 max	wrench
.3125	.3343	F	.054	1.59	.3750	3.13	1.00	3.88	1.67	4.88	2.68	170,306
.3346	.3539	G	.058	1.59	.3750	3.25	1.06	4.00	1.77	5.13	2.83	170,306
.3543	.3736	H	.062	1.59	.3750	3.38	1.12	4.13	1.87	5.25	2.99	170,306
.3740	.3933	I	.065	1.59	.3750	3.38	1.18	4.38	1.97	5.38	3.15	170,306
.3740	.3933	I	.065	1.67	.4375	3.38	1.18	4.25	1.97	5.38	3.15	170,306
.3937	.4130	J	.068	1.67	.4375	3.63	1.24	4.63	2.07	5.75	3.31	170,307
.4134	.4327	K	.073	1.67	.4375	3.75	1.30	4.75	2.16	6.00	3.46	170,307
.4331	.4524	L	.075	1.67	.4375	3.88	1.36	4.88	2.26	6.25	3.62	170,307
.4528	.4720	M	.078	1.79	.5000	3.88	1.42	5.00	2.36	6.50	3.78	170,307
.4724	.4917	N	.084	1.79	.5000	4.00	1.48	5.00	2.46	6.75	3.94	170,308
.4921	.5114	O	.086	1.79	.5000	4.13	1.54	5.13	2.56	7.00	4.09	170,308
.4921	.5114	O	.086	1.79	.5625	4.13	1.54	5.13	2.56	7.00	4.09	170,308
.5118	.5311	P	.089	1.79	.5625	4.25	1.60	5.25	2.66	7.13	4.25	170,308
.5315	.5508	Q	.094	1.79	.5625	4.25	1.65	5.50	2.75	7.25	4.41	170,308
.5512	.5705	R	.097	1.79	.5625	4.50	1.71	5.75	2.85	7.38	4.57	170,309
.5709	.5902	S	.100	1.91	.6250	4.50	1.77	5.75	2.95	7.50	4.72	170,309
.5906	.6295	T	.102	1.91	.6250	4.75	1.89	6.00	3.15	7.75	5.04	170,309
.6299	.6689	U	.109	1.91	.6875	4.88	2.01	6.25	3.34	8.00	5.36	170,309
.6693	.7083	V	.120	1.91	.6875	5.00	2.12	6.50	3.54	8.75	5.67	170,314
.7087	.7476	W	.120	2.00	.7500	5.25	2.24	6.88	3.74	9.25	5.98	170,314
.7480	.7870	X	.130	2.00	.7500	5.50	2.36	7.13	3.94	9.63	6.30	170,314
.7874	.8264	Y	.140	2.00	.8125	5.75	2.48	7.50	4.13	10.00	6.61	170,314
.8270	.8660	Z	.143	2.07	.8750	5.88	2.60	7.63	4.33	10.25	6.93	170,314
.8660	.9055	ZA	.149	2.07	.8750	6.00	2.72	7.88	4.53	10.63	7.24	170,314
.9060	.9450	ZB	.156	2.15	.9375	6.25	2.83	8.25	4.72	11.13	7.56	170,314
.9450	.9840	ZC	.163	3.00	1.0000	7.25	2.95	9.38	4.92	12.25	7.87	170,314
.9840	1.0236	ZD	.170	3.00	1.0000	7.38	3.07	9.63	5.12	12.63	8.19	170,314
1.0236	1.1020	ZE	.177	3.25	1.2500	7.86	3.19	9.99	5.32	13.25	8.50	170,314
1.0630	1.1020	ZE	.185	3.25	1.2500	7.98	3.31	10.18	5.51	13.57	8.82	170,314

Modular Drills

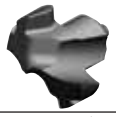
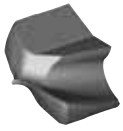
Tool Selection Guide H2–H3

KenTip H4–H15

KSEM H16–H44

KSEM PLUS H46–H59



modular drills with internal coolant channel		grade/series	standard* ● first choice ○ alternate choice P	M	K	N	S	H	hole tolerance	standard range diameter range D1 mm min–max	D1 inch min–max	drilling depth L/D1
KenTIP™ with front clamping mechanism												
	KenTIP inserts	KCP15 HP	●		○				IT9–IT11	7,94–27,99	.3125–1.1020	
		KC7410 HPC			●					7,94–27,99	.3125–1.1020	
		KC7410 HPCCL			●					7,94–26,19	.3125–1.0310	
		KC7320 HPL		●						7,94–27,99	.3125–1.1020	
	chamfering inserts	KC7014 FAS-GD	○	○	○	●	○			12,50–36,01	.4921–1.4177	
		KC7215 FAS GD	●	○	●	○	●					
	KenTIP bodies									7,94≤Ø<9,50	.3125≤Ø<.3740	max 1.5–8 x D
										9,50≤Ø<11,00	.3740≤Ø<.4331	
										11,00≤Ø<12,50	.4331≤Ø<.4921	
										12,50≤Ø<14,00	.4921≤Ø<.5512	
										14,00≤Ø<15,50	.5512≤Ø<.6102	
										15,50≤Ø<16,50	.6102≤Ø<.6496	
										16,50≤Ø<20,50	.6496≤Ø<.8071	
										20,50≤Ø<21,00	.8071≤Ø<.8268	
										21,00≤Ø<27,99	.8268≤Ø<1.1020	
KSEM™ for extended length and drilling diameters												
	KSEM inserts	KC7235 HP	●		○				IT9–IT11	12,50–40,00	.4921–1.5748	
		KC7315 HP/HPG	●		○					12,50–40,00	.4921–1.5748	
		KC7410 HPL			●					12,50–40,00	.4921–1.5748	
		KC7410 HPCCL			●					12,50–32,00	.4921–1.2598	
		KC7320 HPL		●						12,50–40,00	.4921–1.5748	
		KC7135 PC	●		●					12,50–40,00	.4921–1.5748	
	chamfering inserts	KC7015 TPGX-GD		●		○				12,50–40,00	.4921–1.5748	
		KC7140 TPGX-GD	●	○	○	●	○					
		KC7315 TPGX-GD	○	○	●	○	●					
	KSEM bodies	WN								12.50≤Ø<16.50	.4921≤ Ø<.6496	1–10 x D
										16.50≤Ø<20.00	.6496≤ Ø<.7874	
										20.00≤Ø≤32,00	.7874≤ Ø≤1.2598	
		WD								32,00<Ø≤40,00	1.2598< Ø≤1.5748	1–5 x D
		WN chamfer								12.50≤Ø<16.50	.4921≤ Ø<.6496	1 x D
										16.50≤Ø<20.00	.6496≤ Ø<.7874	
										20.00≤Ø≤32,00	.7874< Ø≤1.2598	
		WD chamfer								32,00<Ø≤40,00	1.2598< Ø<1.5748	1 x D
KSEM PLUS™ for largest drilling depths and diameters												
	heads	A1 (regular)							IT9–IT11	28,00–70,00	1.1020–2.7559	
		B1 (guided)							IT9–IT11	**B1 head available in 2012**		
	KSEM PLUS inserts	KC7315 HPG	●	●	○	○	○			14,00 - 34,00 *PDD reference only*		
		KC7410 HPC			●							
	DFR™ inserts	KC7315 DFR-GD	●	○	○	○	●			(28,00–31,00)	(1.1020–1.2210)	
		KC7140 DFR-LD	●	●	○	○	○					
		KC7225 DFR-MD	○	○	●	●	○					
	DFT™ inserts	KC7315 DFT-HP	●	●	●	○	○			(31,75–70,00)	(1.2500–2.7560)	
		KC7140 DFT-MD	●	●	○	○	○					
 *this is a sample picture, actual appearance can differ from picture shown*	DFC inserts for B1 heads only	KCU40 DFC- HP	●	○	○	●	●			(28,00–70,00)	(1.1020–2.7560)	
		KCU25 DFC- HP	○	○	●	○	○					
		KC7140 DFC-MD	●	●	○	○	○					
	guiding pads for B1 heads only	KCU 40 DPT	●	●	●	●	●			**B1 head available in 2012**		
	KSEM PLUS bodies	WD							IT9–IT11	31,75≤Ø<40,00	1.2500≤Ø<2.7560	3–10 x D
										40,00≤Ø≤70,00	1.5748≤Ø≤2.5590	3–10 x D
		SSF							IT9–IT11	31,75≤Ø<40,00	1.2500–1.5748	3–10 x D
										40,00≤Ø≤70,00	1.5748–2.5590	3–10 x D

* Apart from our standard drills, we can offer you a wide variety of special coating solutions and edge preparations to fulfill all your needs. If a specific drill is not suitable for your workpiece material, please contact our **Engineered Solutions Department**.

■ Standard Product
□ Engineered Solutions

engineered solution range diameter range D1 metric min–max	D1 inch min–max	max drilling depth	coolant	drilling	inclined exit	stacked plates	flat bottom	counter-sinking	counter-boring	cross hole	2 flute 2 margin cooled	2 flute 4 margin cooled	corner chamfer	plain shank ≤H6	Whistle Notch™ 2°	WD shank	flat shank	SSF shank	KM™ shank	HSK shank	page(s)
7,94–27,99	.3125–1.1020	–		■	□	■	□				■	□	□								H6
		–		■	□	■	□				■	□	■								
		–		■	■	■	□				□	■	■								
		–		■	□	■	□				□	□	□								
12,50–36,01	.4921–1.4177	–						■													H14
		–						■													
7,94≤Ø<9,50	.3125≤Ø<.3740	12 x D	■	■	■	■		□**	□					■	□	□	■	□	□	□	H12
9,50≤Ø<11,00	.3740≤Ø<.4331	13 x D	■	■	■	■		□**	□					■	□	□	■	□	□	□	
11,00≤Ø<12,50	.5424≤Ø<.4921	14 x D	■	■	■	■		□**	□					■	□	□	■	□	□	□	
12,50≤Ø<14,00	.4921≤Ø<.5512	15 x D	■	■	■	■		□**	□					■	□	□	■	□	□	□	
14,00≤Ø<15,00	.5512≤Ø<.6102	16 x D	■	■	■	■		□**	□					■	□	□	■	□	□	□	
15,50≤Ø<16,50	.6102≤Ø<.6496	17 x D	■	■	■	■		□**	□					■	□	□	■	□	□	□	
16,50≤Ø<20,50	.6496≤Ø<.8070	18 x D	■	■	■	■		□**	□					■	□	□	■	□	□	□	
20,50≤Ø<21,00	.8070≤Ø<.8267	20 x D	■	■	■	■		□**	□					■	□	□	■	□	□	□	
21,00≤Ø<27,99	.8267≤Ø<1.1010	500,0mm	■	■	■	■		□**	□					■	□	□	■	□	□	□	
12,50–40,00	.4921–1.5748	–		■	■	■	□				■/□	■/□	□								H17
		–		■	■	■	□				■/□	■/□	□								
		–		■	■	■	□				■/□	■/□	■								
		–																			
		–		■	■	■	□				■	□	□								
		–		■	■	■	□				■/□	■/□	□								
12,50–40,00	.4921–1.5748	–						■													H36
		–						■													
		–						■													
12.50≤Ø<16.50	.4921≤Ø<.6496	15 x D	■	■	■	■	□	□	□					□	■	□	□	□	□	□	H25
16.50≤Ø<20.00	.6496≤Ø<.7874	18 x D	■	■	■	■	□	□	□					□	■	□	□	□	□	□	
20.00≤Ø≤32,00	.7874≤Ø≤1.2598	20 x D	■	■	■	■	□	□	□					□	■	□	□	□	□	□	
32,00<Ø≤40,00	1.2598<Ø≤1.5748	20 x D (max 750mm)	■	■	■	■	□	□	□					□	□	■	□	□	□	□	
12.50≤Ø<16.50	.4921≤Ø<.6496	1 x D	■	■	■	■	□	■	□					□	■	□	□	□	□	□	
16.50≤Ø<20.00	.6496≤Ø<.7874		■	■	■	■	□	■	□					□	■	□	□	□	□	□	
20.00≤Ø≤32,00	.7874≤Ø≤1.2598		■	■	■	■	□	■	□					□	■	□	□	□	□	□	
32,00<Ø≤40,00	1.2598<Ø≤1.5748	1 x D	■	■	■	■	□	■	□					□	□	■	□	□	□	□	
28,00–70,00	1.1020–2.7560	–	■	■	■	■	□														H50
B1 head available in 2012		–	■	■	■	■	□			■											
14,00–34,00 *PDD reference only*		–		■	■	■	□				■/□	■/□	□								H52
		–		■	■	■	□				■/□	■/□	□								
28,00≤Ø≤31,75	1.1020≤Ø≤1.2500	–		■	■	■	□				■/□	■/□	□								H53
		–		■	■	■	□				■/□	■/□	□								
		–		■	■	■	□				■/□	■/□	□								
31,75<Ø≤70,00	1.2500<Ø≤2.7560	–		■	■	■	□				■/□	■/□	□								
		–		■	■	■	□				■/□	■/□	□								
28,00<Ø≤70,00	1.1020<Ø≤2.7560	–		■	■	■	□			■	■/□	■/□	□								–
70,00<Ø≤127,00	2.7560<Ø≤5.0000	–		■	■	■	□			■	■/□	■/□	□								
diameters >70mm available in 2012		–																			
B1 head available in 2012		–		■	■	■	□			■											
31,75≤Ø<40,00	1.2500≤Ø<2.7560	3–20x (max 750mm)	■	■	■	■		□	□							■	□	□	□	□	H48
40,00≤Ø≤70,00	1.5748≤Ø≤2.5590		■	■	■	■			□							■	□	□	□	□	
70,00≤Ø≤127,00	2.7559≤Ø≤5.0000	3–8 x D						□													
diameters >70mm available in 2012			■	■	■	■		□	□										□	□	
31,75≤Ø<40,00	1.2500≤Ø<2.7560	3–20x (max 750mm)	■	■	■	■		□	□								□	■	□	□	
40,00≤Ø≤70,00	1.5748≤Ø≤2.5590																				
70,0≤Ø≤127,00	2.7559≤Ø≤5.0000	3–8 x D	■	■	■	■		□	□										□	□	
diameters >70mm available in 2012																					

** Alternative chamfering solutions are available in combination with SEFAS™ or BF; see page I1.
Please use this table for orientation purposes only. Detailed information on available products (inserts, toolholders, etc.) can be found on the indicated pages of this catalog.



KenTIP™ Modular Drill System

Primary Application

The KenTIP Modular Drill System offers performance levels commonly achieved with solid carbide drills. The patented locking system enables inserts to be changed inside the machine tool. Use KenTIP in steel, cast iron, ductile iron, and stainless steel applications.

KenTIP Modular Drills are available up to diameter 1.1020" (27,99mm). With the new diameter extensions of KSEM PLUS™ down to 28mm, we offer modular drilling solutions with a front clamping mechanism from diameter 8–70mm. The user can change the drilling inserts in the machine without taking the body off, saving setup time and manufacturing costs.

Introducing the all new KenTIP inserts made of KCP15™ grade especially developed to provide longer tool life for steel applications.

Features and Benefits

Improved Interface

- Stronger pocket seats on all inserts and bodies.
- Longer tip and body life in unstable conditions, especially side loads.
- All new tips and bodies are interchangeable with previous versions.

HP Drill-Point Design

- Low thrust prevents workpiece flexing.
- Excellent centering capabilities.
- **NEW** HPC(M) for cast iron applications.
- **NEW** HPL(M) for stainless steel applications.

Easy Insert Change

- Locking method requires no screws or clamps.
- Insert blades can be changed with a simple provided tool and does not require drill body removal from the machine or holder.

Disposable

- No reconditioning costs.
- Consistent performance.
- Eliminates number of tools waiting for reconditioning, providing significant cost savings.

Tailored Grades and Geometries

- KCP15 grade has a new PVD coating enabling longer tool life in all steel applications.
- KC7320™ grade AlTiN-based PVD coating for the demands of drilling stainless steels.
- KC7410™ grade contains multiple layers of PVD coating offering outstanding wear resistance for the drilling of cast irons. The geometry prevents breakout when drilling through holes.
  - KTIP_HPC inserts are designed for gray cast and low-strength ductile irons (K1).
  - KTIP_HPCL_ inserts are ideal for low- and medium-strength CGI and ductile irons and high-strength ductile and austempered ductile Iron (K2, K3).

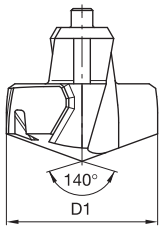


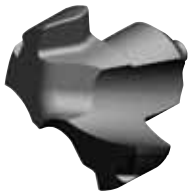
Drill Body Portfolio

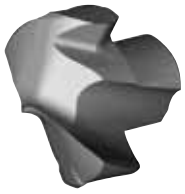
- Standard 3, 5, and 8 x D tool bodies with round and flanged shank available, inch and metric.
- NEW! Standard 1.5 x D bodies available, especially for piloting operations.
- For the latest product list, please refer to the e-catalog at www.kennametal.com.

Customization

- Intermediate diameters available as semi-standards.
- Close tolerance tips available for precision holes.
- Chamfering insert pockets available.
- Multiple steps possible.

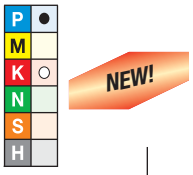



HP


HPC/HPCCL

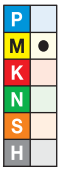

HPL

KTIP Inserts







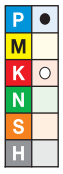
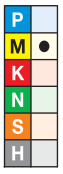


● first choice
○ alternate choice

KCP15	KC7410	KC7410	KC7320	D1 mm	D1 in	seat size
KTIP0794HPM	KTIP0794HPCM	KTIP0794HPCCLM	KTIP0794HPLM	7,938	.3125	F
KTIP0800HPM	KTIP0800HPCM	KTIP0800HPCCLM	KTIP0800HPLM	8,000	.3150	F
KTIP0810HPM	KTIP0810HPCM	KTIP0810HPCCLM	KTIP0810HPLM	8,100	.3189	F
KTIP0816HPM	–	–	KTIP0816HPLM	8,164	.3214	F
KTIP0820HPM	KTIP0820HPCM	KTIP0820HPCCLM	KTIP0820HPLM	8,204	.3230	F
KTIP0830HPM	KTIP0830HPCM	KTIP0830HPCCLM	KTIP0830HPLM	8,300	.3268	F
KTIP0833HPM	KTIP0833HPCM	KTIP0833HPCCLM	KTIP0833HPLM	8,334	.3281	F
KTIP0840HPM	KTIP0840HPCM	KTIP0840HPCCLM	KTIP0840HPLM	8,400	.3307	F
KTIP0843HPM	–	–	–	8,433	.3320	F
KTIP0850HPM	KTIP0850HPCM	KTIP0850HPCCLM	KTIP0850HPLM	8,500	.3346	G
KTIP0860HPM	KTIP0860HPCM	KTIP0860HPCCLM	KTIP0860HPLM	8,600	.3386	G
KTIP0861HPM	–	–	–	8,611	.3390	G
KTIP0870HPM	KTIP0870HPCM	KTIP0870HPCCLM	KTIP0870HPLM	8,700	.3425	G
KTIP0873HPM	KTIP0873HPCM	KTIP0873HPCCLM	–	8,733	.3438	G
KTIP0880HPM	KTIP0880HPCM	KTIP0880HPCCLM	KTIP0880HPLM	8,800	.3465	G
KTIP0884HPM	–	–	–	8,839	.3480	G
KTIP0890HPM	KTIP0890HPCM	KTIP0890HPCCLM	KTIP0890HPLM	8,900	.3504	G
KTIP0900HPM	KTIP0900HPCM	KTIP0900HPCCLM	KTIP0900HPLM	9,000	.3543	H
KTIP0909HPM	–	–	–	9,093	.3580	H
KTIP0910HPM	KTIP0910HPCM	–	KTIP0910HPLM	9,100	.3583	H
KTIP0913HPM	KTIP0913HPCM	KTIP0913HPCCLM	–	9,129	.3594	H
KTIP0920HPM	KTIP0920HPCM	KTIP0920HPCCLM	KTIP0920HPLM	9,200	.3622	H
KTIP0930HPM	KTIP0930HPCM	KTIP0930HPCCLM	KTIP0930HPLM	9,300	.3661	H
KTIP0935HPM	–	–	–	9,347	.3680	H
KTIP0940HPM	KTIP0940HPCM	KTIP0940HPCCLM	KTIP0940HPLM	9,400	.3701	H
KTIP0950HPM	KTIP0950HPCM	KTIP0950HPCCLM	KTIP0950HPLM	9,500	.3740	I
KTIP0953HPM	KTIP0953HPCM	KTIP0953HPCCLM	–	9,525	.3750	I
KTIP0956HPM	KTIP0956HPCM	KTIP0956HPCCLM	KTIP0956HPLM	9,558	.3763	I
KTIP0958HPM	–	–	KTIP0958HPLM	9,576	.3770	I
KTIP0960HPM	KTIP0960HPCM	KTIP0960HPCCLM	KTIP0960HPLM	9,600	.3780	I
KTIP0970HPM	KTIP0970HPCM	KTIP0970HPCCLM	KTIP0970HPLM	9,703	.3820	I
KTIP0980HPM	KTIP0980HPCM	KTIP0980HPCCLM	KTIP0980HPLM	9,804	.3860	I
KTIP0990HPM	KTIP0990HPCM	KTIP0990HPCCLM	KTIP0990HPLM	9,900	.3898	I
KTIP0992HPM	KTIP0992HPCM	KTIP0992HPCCLM	–	9,921	.3906	I
KTIP1000HPM	KTIP1000HPCM	KTIP1000HPCCLM	KTIP1000HPLM	10,000	.3937	J
KTIP1002HPM	KTIP1002HPCM	–	KTIP1002HPLM	10,023	.3946	J
KTIP1008HPM	–	–	–	10,084	.3970	J
KTIP1010HPM	KTIP1010HPCM	KTIP1010HPCCLM	KTIP1010HPLM	10,100	.3976	J
KTIP1020HPM	KTIP1020HPCM	KTIP1020HPCCLM	KTIP1020HPLM	10,200	.4016	J
KTIP1026HPM	KTIP1026HPCM	KTIP1026HPCCLM	–	10,262	.4040	J

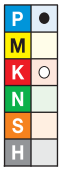
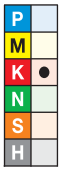
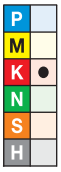
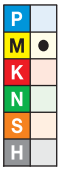
(continued)

(KTIP Inserts continued)

				D1		
KCP15	KC7410	KC7410	KC7320	mm	in	seat size
KTIP1030HPM	KTIP1030HPCM	KTIP1030HPCCLM	KTIP1030HPLM	10,300	.4055	J
KTIP1032HPM	KTIP1032HPCM	KTIP1032HPCCLM	KTIP1032HPLM	10,320	.4063	J
KTIP1040HPM	KTIP1040HPCM	–	KTIP1040HPLM	10,400	.4094	J
KTIP1049HPM	KTIP1049HPCM	KTIP1049HPCCLM	–	10,490	.4130	J
KTIP1050HPM	KTIP1050HPCM	KTIP1050HPCCLM	KTIP1050HPLM	10,500	.4134	K
KTIP1060HPM	KTIP1060HPCM	–	KTIP1060HPLM	10,600	.4173	K
KTIP1070HPM	KTIP1070HPCM	KTIP1070HPCCLM	KTIP1070HPLM	10,700	.4213	K
KTIP1072HPM	KTIP1072HPCM	KTIP1072HPCCLM	–	10,716	.4219	K
KTIP1080HPM	KTIP1080HPCM	KTIP1080HPCCLM	KTIP1080HPLM	10,800	.4252	K
KTIP1090HPM	KTIP1090HPCM	KTIP1090HPCCLM	KTIP1090HPLM	10,900	.4291	K
KTIP1100HPM	KTIP1100HPCM	KTIP1100HPCCLM	KTIP1100HPLM	11,000	.4331	L
KTIP1110HPM	KTIP1110HPCM	–	KTIP1110HPLM	11,100	.4370	L
KTIP1111HPM	KTIP1111HPCM	–	KTIP1111HPLM	11,113	.4375	L
KTIP1120HPM	KTIP1120HPCM	KTIP1120HPCCLM	KTIP1120HPLM	11,200	.4409	L
KTIP1130HPM	KTIP1130HPCM	KTIP1130HPCCLM	–	11,300	.4449	L
KTIP1140HPM	KTIP1140HPCM	KTIP1140HPCCLM	KTIP1140HPLM	11,400	.4488	L
KTIP1150HPM	KTIP1150HPCM	KTIP1150HPCCLM	KTIP1150HPLM	11,500	.4528	M
KTIP1151HPM	KTIP1151HPCM	KTIP1151HPCCLM	–	11,509	.4531	M
KTIP1160HPM	KTIP1160HPCM	KTIP1160HPCCLM	KTIP1160HPLM	11,600	.4567	M
KTIP1161HPM	–	–	KTIP1161HPLM	11,610	.4571	M
KTIP1170HPM	KTIP1170HPCM	KTIP1170HPCCLM	–	11,700	.4606	M
KTIP1180HPM	KTIP1180HPCM	KTIP1180HPCCLM	KTIP1180HPLM	11,800	.4646	M
KTIP1190HPM	KTIP1190HPCM	KTIP1190HPCCLM	KTIP1190HPLM	11,900	.4685	M
KTIP1191HPM	KTIP1191HPCM	KTIP1191HPCCLM	KTIP1191HPLM	11,908	.4688	M
KTIP1200HPM	KTIP1200HPCM	KTIP1200HPCCLM	KTIP1200HPLM	12,000	.4724	N
KTIP1210HPM	KTIP1210HPCM	KTIP1210HPCCLM	KTIP1210HPLM	12,100	.4764	N
KTIP1220HPM	KTIP1220HPCM	KTIP1220HPCCLM	KTIP1220HPLM	12,200	.4803	N
KTIP1230HPM	KTIP1230HPCM	–	KTIP1230HPLM	12,304	.4844	N
KTIP1240HPM	KTIP1240HPCM	KTIP1240HPCCLM	–	12,400	.4882	N
KTIP1247HPM	–	–	–	12,474	.4911	N
KTIP1250HPM	KTIP1250HPCM	KTIP1250HPCCLM	KTIP1250HPLM	12,500	.4921	O
KTIP1260HPM	KTIP1260HPCM	KTIP1260HPCCLM	–	12,600	.4961	O
KTIP1270HPM	KTIP1270HPCM	KTIP1270HPCCLM	KTIP1270HPLM	12,700	.5000	O
KTIP1280HPM	KTIP1280HPCM	KTIP1280HPCCLM	KTIP1280HPLM	12,800	.5039	O
KTIP1290HPM	KTIP1290HPCM	KTIP1290HPCCLM	KTIP1290HPLM	12,903	.5080	O
KTIP1300HPM	KTIP1300HPCM	KTIP1300HPCCLM	KTIP1300HPLM	13,000	.5118	P
KTIP1310HPM	KTIP1310HPCM	KTIP1310HPCCLM	KTIP1310HPLM	13,096	.5156	P
KTIP1320HPM	KTIP1320HPCM	KTIP1320HPCCLM	KTIP1320HPLM	13,200	.5197	P
KTIP1330HPM	KTIP1330HPCM	KTIP1330HPCCLM	–	13,300	.5236	P
KTIP1340HPM	KTIP1340HPCM	KTIP1340HPCCLM	–	13,400	.5276	P
KTIP1349HPM	KTIP1349HPCM	KTIP1349HPCCLM	KTIP1349HPLM	13,494	.5313	P
KTIP1350HPM	KTIP1350HPCM	KTIP1350HPCCLM	KTIP1350HPLM	13,500	.5315	Q
KTIP1360HPM	KTIP1360HPCM	KTIP1360HPCCLM	–	13,600	.5354	Q
KTIP1370HPM	KTIP1370HPCM	KTIP1370HPCCLM	–	13,700	.5394	Q
KTIP1380HPM	KTIP1380HPCM	KTIP1380HPCCLM	KTIP1380HPLM	13,800	.5433	Q
KTIP1389HPM	KTIP1389HPCM	KTIP1389HPCCLM	KTIP1389HPLM	13,891	.5469	Q
KTIP1390HPM	–	–	KTIP1390HPLM	13,896	.5471	Q
KTIP1400HPM	KTIP1400HPCM	KTIP1400HPCCLM	KTIP1400HPLM	14,000	.5512	R
KTIP1410HPM	KTIP1410HPCM	KTIP1410HPCCLM	KTIP1410HPLM	14,100	.5551	R
KTIP1420HPM	KTIP1420HPCM	KTIP1420HPCCLM	KTIP1420HPLM	14,200	.5591	R
KTIP1429HPM	KTIP1429HPCM	KTIP1429HPCCLM	KTIP1429HPLM	14,288	.5625	R
KTIP1430HPM	KTIP1430HPCM	KTIP1430HPCCLM	KTIP1430HPLM	14,300	.5630	R

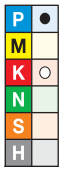
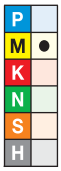
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(KTIP Inserts continued)

				D1		
KCP15	KC7410	KC7410	KC7320	mm	in	seat size
KTIP1440HPM	KTIP1440HPCM	KTIP1440HPCCLM	KTIP1440HPLM	14,400	.5669	R
KTIP1450HPM	KTIP1450HPCM	KTIP1450HPCCLM	KTIP1450HPLM	14,500	.5709	S
KTIP1460HPM	KTIP1460HPCM	KTIP1460HPCCLM	–	14,600	.5748	S
KTIP1467HPM	–	–	KTIP1467HPLM	14,666	.5774	S
KTIP1468HPM	KTIP1468HPCM	KTIP1468HPCCLM	KTIP1468HPLM	14,684	.5781	S
KTIP1470HPM	KTIP1470HPCM	KTIP1470HPCCLM	–	14,700	.5787	S
KTIP1480HPM	KTIP1480HPCM	KTIP1480HPCCLM	KTIP1480HPLM	14,800	.5827	S
KTIP1490HPM	–	–	–	14,900	.5866	S
KTIP1500HPM	KTIP1500HPCM	KTIP1500HPCCLM	KTIP1500HPLM	15,000	.5906	T
KTIP1508HPM	KTIP1508HPCM	KTIP1508HPCCLM	–	15,083	.5938	T
KTIP1510HPM	KTIP1510HPCM	KTIP1510HPCCLM	KTIP1510HPLM	15,100	.5945	T
KTIP1520HPM	KTIP1520HPCM	–	KTIP1520HPLM	15,200	.5984	T
KTIP1530HPM	KTIP1530HPCM	KTIP1530HPCCLM	–	15,300	.6024	T
KTIP1540HPM	KTIP1540HPCM	KTIP1540HPCCLM	–	15,400	.6063	T
KTIP1548HPM	–	–	–	15,479	.6094	T
KTIP1550HPM	KTIP1550HPCM	KTIP1550HPCCLM	KTIP1550HPLM	15,500	.6102	T
KTIP1560HPM	KTIP1560HPCM	KTIP1560HPCCLM	–	15,600	.6142	T
KTIP1570HPM	KTIP1570HPCM	KTIP1570HPCCLM	–	15,700	.6181	T
KTIP1580HPM	KTIP1580HPCM	KTIP1580HPCCLM	–	15,800	.6220	T
KTIP1588HPM	KTIP1588HPCM	KTIP1588HPCCLM	KTIP1588HPLM	15,875	.6250	T
KTIP1600HPM	KTIP1600HPCM	KTIP1600HPCCLM	KTIP1600HPLM	16,000	.6299	U
KTIP1603HPM	–	–	–	16,027	.6310	U
KTIP1608HPM	KTIP1608HPCM	KTIP1608HPCCLM	KTIP1608HPLM	16,078	.6330	U
KTIP1610HPM	KTIP1610HPCM	KTIP1610HPCCLM	KTIP1610HPLM	16,100	.6339	U
KTIP1620HPM	KTIP1620HPCM	KTIP1620HPCCLM	–	16,200	.6378	U
KTIP1627HPM	–	–	–	16,271	.6406	U
KTIP1630HPM	KTIP1630HPCM	KTIP1630HPCCLM	–	16,300	.6417	U
KTIP1640HPM	KTIP1640HPCM	KTIP1640HPCCLM	–	16,400	.6457	U
KTIP1650HPM	KTIP1650HPCM	KTIP1650HPCCLM	KTIP1650HPLM	16,500	.6496	U
KTIP1660HPM	KTIP1660HPCM	KTIP1660HPCCLM	–	16,600	.6535	U
KTIP1667HPM	KTIP1667HPCM	KTIP1667HPCCLM	KTIP1667HPLM	16,670	.6563	U
KTIP1670HPM	KTIP1670HPCM	KTIP1670HPCCLM	–	16,700	.6575	U
KTIP1680HPM	KTIP1680HPCM	KTIP1680HPCCLM	–	16,800	.6614	U
KTIP1687HPM	–	–	–	16,873	.6643	U
KTIP1690HPM	KTIP1690HPCM	KTIP1690HPCCLM		16,900	.6654	U
KTIP1700HPM	KTIP1700HPCM	KTIP1700HPCCLM	KTIP1700HPLM	17,000	.6693	V
KTIP1707HPM	–	–	–	17,066	.6719	V
KTIP1710HPM	KTIP1710HPCM	KTIP1710HPCCLM	–	17,100	.6732	V
KTIP1720HPM	KTIP1720HPCM	–	–	17,200	.6772	V
KTIP1730HPM	KTIP1730HPCM	KTIP1730HPCCLM	–	17,300	.6811	V
KTIP1740HPM	–	–	–	17,400	.6850	V
KTIP1748HPM	–	–	KTIP1748HPLM	17,463	.6875	V
KTIP1750HPM	KTIP1750HPCM	KTIP1750HPCCLM	KTIP1750HPLM	17,500	.6890	V
KTIP1760HPM	KTIP1760HPCM	KTIP1760HPCCLM	–	17,600	.6929	V
KTIP1770HPM	KTIP1770HPCM		KTIP1770HPLM	17,700	.6969	V
KTIP1780HPM	KTIP1780HPCM	KTIP1780HPCCLM	–	17,800	.7008	V
KTIP1786HPM	–	–	–	17,859	.7031	V
KTIP1790HPM	–	–	–	17,900	.7047	V
KTIP1800HPM	KTIP1800HPCM	KTIP1800HPCCLM	KTIP1800HPLM	18,000	.7087	W
KTIP1810HPM	KTIP1810HPCM	KTIP1810HPCCLM	–	18,100	.7126	W
KTIP1820HPM	–	–	–	18,200	.7165	W
KTIP1826HPM	–	–	–	18,258	.7188	W

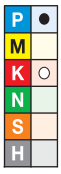
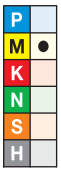
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(KTIP Inserts continued)

 KCP15	 KC7410	 KC7410	 KC7320	D1 mm	D1 in	seat size
KTIP1830HPM	–	–	–	18,300	.7205	W
KTIP1840HPM	–	–	KTIP1840HPLM	18,400	.7244	W
KTIP1850HPM	KTIP1850HPCM	KTIP1850HPCCLM	KTIP1850HPLM	18,500	.7283	W
KTIP1860HPM	–	–	–	18,600	.7323	W
KTIP1865HPM	–	–	KTIP1865HPLM	18,654	.7344	W
KTIP1870HPM	–	–	–	18,700	.7362	W
KTIP1880HPM	KTIP1880HPCM	KTIP1880HPCCLM	–	18,800	.7402	W
KTIP1890HPM	KTIP1890HPCM	KTIP1890HPCCLM	–	18,900	.7441	W
KTIP1900HPM	KTIP1900HPCM	KTIP1900HPCCLM	KTIP1900HPLM	19,000	.7480	X
KTIP1905HPM	KTIP1905HPCM	KTIP1905HPCCLM	KTIP1905HPLM	19,050	.7500	X
KTIP1910HPM	–	–	KTIP1910HPLM	19,100	.7520	X
KTIP1920HPM	KTIP1920HPCM	KTIP1920HPCCLM	KTIP1920HPLM	19,200	.7559	X
KTIP1923HPM	–	–	KTIP1923HPLM	19,228	.7570	X
KTIP1925HPM	–	–	KTIP1925HPLM	19,253	.7580	X
KTIP1928HPM	–	–	KTIP1928HPLM	19,279	.7590	X
KTIP1930HPM	–	–	–	19,300	.7598	X
KTIP1935HPM	–	–	KTIP1935HPLM	19,350	.7620	X
KTIP1940HPM	–	–	–	19,400	.7638	X
KTIP1946HPM	–	–	KTIP1946HPLM	19,446	.7656	X
KTIP1950HPM	KTIP1950HPCM	KTIP1950HPCCLM	KTIP1950HPLM	19,500	.7677	X
KTIP1960HPM	KTIP1960HPCM	KTIP1960HPCCLM	–	19,600	.7717	X
KTIP1970HPM	KTIP1970HPCM	KTIP1970HPCCLM	–	19,700	.7756	X
KTIP1980HPM	KTIP1980HPCM	KTIP1980HPCCLM	–	19,800	.7795	X
KTIP1984HPM	–	–	KTIP1985HPLM	19,844	.7813	X
KTIP1990HPM	–	–	–	19,900	.7835	X
KTIP2000HPM	KTIP2000HPCM	KTIP2000HPCCLM	KTIP2000HPLM	20,000	.7874	Y
KTIP2010HPM	KTIP2010HPCM	KTIP2010HPCCLM	–	20,100	.7913	Y
KTIP2020HPM	–	–	–	20,200	.7953	Y
KTIP2024HPM	–	–	KTIP2024HPLM	20,241	.7969	Y
KTIP2030HPM	KTIP2030HPCM	KTIP2030HPCCLM	–	20,300	.7992	Y
KTIP2040HPM	–	–	–	20,400	.8031	Y
KTIP2050HPM	KTIP2050HPCM	KTIP2050HPCCLM	KTIP2050HPLM	20,500	.8071	Y
KTIP2060HPM	KTIP2060HPCM	KTIP2060HPCCLM	–	20,600	.8110	Y
KTIP2064HPM	–	–	KTIP2064HPLM	20,638	.8125	Y
KTIP2070HPM	–	–	–	20,700	.8150	Y
KTIP2080HPM	–	–	–	20,800	.8189	Y
KTIP2090HPM	–	–	–	20,900	.8228	Y
KTIP2099HPM	KTIP2099HPCM	KTIP2099HPCCLM	KTIP2099HPLM	20,990	.8264	Y
KTIP2100HPM	KTIP2100HPCM	–	KTIP2100HPLM	21,000	.8268	Z
KTIP2143HPM	KTIP2143HPCM	–	–	21,432	.8438	Z
–	–	–	KTIP2143HPLM	21,438	.8440	Z
KTIP2150HPM	KTIP2150HPCM	–	KTIP2150HPLM	21,500	.8465	Z
KTIP2200HPM	KTIP2200HPCM	–	KTIP2200HPLM	22,000	.8661	ZA
KTIP2223HPM	KTIP2223HPCM	–	KTIP2223HPLM	22,225	.8750	ZA
KTIP2244HPM	KTIP2244HPCM	–	KTIP2244HPLM	22,454	.8840	ZA
KTIP2250HPM	KTIP2250HPCM	–	KTIP2250HPLM	22,500	.8858	ZA
KTIP2300HPM	KTIP2300HPCM	–	KTIP2300HPLM	23,000	.9055	ZB
KTIP2350HPM	KTIP2350HPCM	–	KTIP2350HPLM	23,500	.9252	ZB
KTIP2381HPM	KTIP2381HPCM	–	KTIP2381HPLM	23,813	.9375	ZB
KTIP2400HPM	KTIP2400HPCM	–	KTIP2400HPLM	24,000	.9449	ZC
KTIP2450HPM	KTIP2450HPCM	–	KTIP2450HPLM	24,500	.9646	ZC
KTIP2461HPM	KTIP2461HPCM	–	KTIP2461HPLM	24,608	.9688	ZC

(continued)

(KTIP Inserts continued)

 KCP15	 KC7410	 KC7410	 KC7320	D1 mm	D1 in	seat size
KTIP2500HPM	KTIP2500HPCM	–	KTIP2500HPLM	25,000	.9843	ZD
KTIP2540HPM	KTIP2540HPCM	–	KTIP2540HPLM	25,400	1.0000	ZD
KTIP2550HPM	KTIP2550HPCM	–	KTIP2550HPLM	25,500	1.0039	ZD
KTIP2567HPM	KTIP2567HPCM	–	KTIP2567HPLM	25,679	1.0110	ZD
KTIP2581HPM	KTIP2581HPCM	–	KTIP2581HPLM	25,806	1.0160	ZD
KTIP2599HPM	KTIP2599HPCM	–	KTIP2599HPLM	25,990	1.0232	ZD
KTIP2600HPM	KTIP2600HPCM	–	–	26,000	1.0236	ZE
KTIP2619HPM	KTIP2619HPCM	–	–	26,187	1.0310	ZE
KTIP2650HPM	KTIP2650HPCM	–	–	26,500	1.0433	ZE
KTIP2659HPM	KTIP2659HPCM	–	–	26,590	1.0469	ZE
KTIP2700HPM	KTIP2700HPCM	–	–	27,000	1.0630	ZE
KTIP2750HPM	KTIP2750HPCM	–	–	27,500	1.0827	ZE
KTIP2778HPM	KTIP2778HPCM	–	–	27,780	1.0938	ZE
KTIP2799HPM	KTIP2799HPCM	–	–	27,990	1.1020	ZE

KTIP-HP (M), HPC (M), HPL (M) Geometry

Tolerance

D1 metric	tolerance k8	D1 inch	tolerance k8
8–10	0,000/+0,022	.3125–.3906	.000/+.0009
>10–17	0,000/+0,027	>.3906–.6250	.000/+.0011
>17–18	0,000/+0,027	>.6692–.7090	.000/+.0010
>18–28	0,000/+0,033	>.7090–.8228	.000/+.0013

Modular Drill Carbide Insert Blades • KenTIP • HP(M) Geometry • Grade KCP15™ • Through Coolant

Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 8,0	10,0	12,0	14,0	16,0	20,0	24,0	28,0
P	1	90	**130**	180	mm/r	0,12 - 0,21	0,14 - 0,26	0,15 - 0,33	0,18 - 0,41	0,20 - 0,47	0,26 - 0,50	0,27 - 0,51	0,30 - 0,54
P	2	110	**150**	190	mm/r	0,12 - 0,25	0,14 - 0,30	0,15 - 0,35	0,18 - 0,38	0,20 - 0,47	0,26 - 0,50	0,27 - 0,51	0,30 - 0,54
P	3	50	**80**	110	mm/r	0,12 - 0,29	0,13 - 0,37	0,17 - 0,39	0,22 - 0,48	0,24 - 0,48	0,32 - 0,54	0,32 - 0,54	0,35 - 0,56
P	4	50	**80**	110	mm/r	0,12 - 0,29	0,13 - 0,37	0,17 - 0,39	0,18 - 0,48	0,19 - 0,48	0,24 - 0,48	0,35 - 0,46	0,27 - 0,46
K	1	60	**100**	180	mm/r	0,16 - 0,30	0,17 - 0,34	0,18 - 0,37	0,22 - 0,44	0,26 - 0,50	0,33 - 0,62	0,35 - 0,65	0,40 - 0,70
K	2	60	**80**	90	mm/r	0,16 - 0,30	0,17 - 0,32	0,18 - 0,35	0,22 - 0,43	0,26 - 0,50	0,33 - 0,62	0,35 - 0,65	0,40 - 0,70
K	3	40	**70**	90	mm/r	0,17 - 0,32	0,18 - 0,35	0,19 - 0,38	0,21 - 0,43	0,22 - 0,46	0,24 - 0,50	0,25 - 0,51	0,40 - 0,70
Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter .315	.394	.472	.551	.630	.787	.945	1.102
P	1	295	**425**	590	IPR	.005 - .008	.006 - .010	.006 - .013	.007 - .016	.008 - .019	.010 - .020	.011 - .020	.012 - .021
P	2	360	**490**	625	IPR	.005 - .010	.006 - .012	.006 - .014	.007 - .015	.008 - .019	.010 - .020	.011 - .020	.012 - .021
P	3	165	**260**	360	IPR	.005 - .011	.005 - .015	.007 - .015	.009 - .019	.009 - .019	.013 - .021	.013 - .021	.014 - .022
P	4	165	**260**	360	IPR	.005 - .011	.005 - .015	.007 - .015	.007 - .019	.007 - .019	.009 - .019	.014 - .018	.011 - .018
K	1	195	**330**	590	IPR	.006 - .012	.007 - .013	.007 - .015	.009 - .017	.010 - .020	.013 - .024	.014 - .026	.016 - .028
K	2	195	**260**	295	IPR	.006 - .012	.007 - .013	.007 - .014	.009 - .017	.010 - .020	.013 - .024	.014 - .026	.016 - .028
K	3	130	**230**	295	IPR	.007 - .013	.007 - .014	.007 - .015	.008 - .017	.009 - .018	.009 - .020	.010 - .020	.016 - .028

Modular Drill Carbide Insert Blades • KenTIP™ • HPC(M) Geometry • Grade KC7410™ • Through Coolant

Material Group		Cutting Speed – vc Range – m/min min	Starting Value	max	Metric Recommended Feed Rate (f) by Diameter		8,0	10,0	12,0	14,0	16,0	20,0	24,0	28,0
K	1	100	175	200	mm/r		0,14 - 0,32	0,16 - 0,37	0,19 - 0,43	0,23 - 0,48	0,26 - 0,55	0,30 - 0,61	0,33 - 0,65	0,35 - 0,69
	2	100	160	180	mm/r		0,06 - 0,11	0,08 - 0,13	0,09 - 0,14	0,10 - 0,15	0,11 - 0,17	0,13 - 0,20	0,15 - 0,22	0,17 - 0,25
	3	70	85	100	mm/r		0,06 - 0,11	0,08 - 0,13	0,09 - 0,14	0,10 - 0,15	0,11 - 0,17	0,13 - 0,20	0,15 - 0,22	0,17 - 0,25
Material Group		Cutting Speed – vc Range – SFM min	Starting Value	max	Inch Recommended Feed Rate (f) by Diameter		.315	.394	.472	.551	.630	.787	.945	1.102
K	1	328	574	656	IPR		.006 - .013	.006 - .015	.007 - .017	.009 - .019	.010 - .022	.012 - .024	.013 - .026	.014 - .027
	2	328	525	591	IPR		.002 - .004	.003 - .005	.004 - .006	.004 - .006	.004 - .007	.005 - .008	.006 - .009	.007 - .010
	3	230	279	328	IPR		.002 - .004	.003 - .005	.004 - .006	.004 - .006	.004 - .007	.005 - .008	.006 - .009	.007 - .010

Modular Drill Carbide Insert Blades • KenTIP • HPCCL(M) Classic Line Geometry • Grade KC7410 • Through Coolant

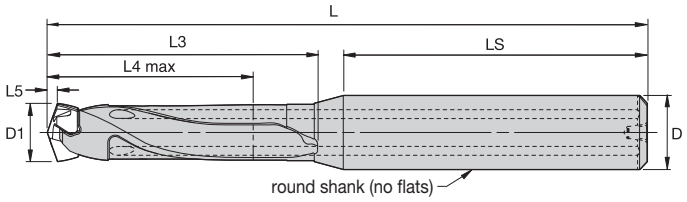
Material Group		Cutting Speed – vc Range – m/min min	Starting Value	max	Metric Recommended Feed Rate (f) by Diameter		8,0	10,0	12,0	14,0	16,0	20,0	24,0	28,0
K	1	100	175	200	mm/r		0,14 - 0,32	0,16 - 0,37	0,19 - 0,43	0,23 - 0,48	0,26 - 0,55	0,30 - 0,61	0,33 - 0,65	0,35 - 0,69
	2	100	160	180	mm/r		0,14 - 0,32	0,16 - 0,37	0,19 - 0,43	0,23 - 0,48	0,26 - 0,55	0,30 - 0,61	0,33 - 0,65	0,35 - 0,69
	3	70	85	100	mm/r		0,13 - 0,26	0,15 - 0,31	0,17 - 0,35	0,19 - 0,40	0,21 - 0,44	0,28 - 0,51	0,31 - 0,57	0,34 - 0,62
Material Group		Cutting Speed – vc Range – SFM min	Starting Value	max	Inch Recommended Feed Rate (f) by Diameter		.315	.394	.472	.551	.630	.787	.945	1.102
K	1	328	574	656	IPR		.006 - .013	.006 - .015	.007 - .017	.009 - .019	.010 - .022	.012 - .024	.013 - .026	.014 - .027
	2	328	525	591	IPR		.006 - .013	.006 - .015	.007 - .017	.009 - .019	.010 - .022	.012 - .024	.013 - .026	.014 - .027
	3	230	279	328	IPR		.005 - .010	.006 - .012	.007 - .014	.007 - .016	.008 - .017	.011 - .020	.012 - .022	.013 - .024

Modular Drill Carbide Insert Blades • KenTIP • HPL(M) Geometry • Grade KC7320™ • Through Coolant

Material Group		Cutting Speed – vc Range – m/min min	Starting Value	max	Metric Recommended Feed Rate (f) by Diameter		8,0	10,0	12,0	14,0	16,0	20,0	24,0	28,0
M	1	50	60	90	mm/r		0,06 - 0,11	0,08 - 0,13	0,09 - 0,14	0,10 - 0,15	0,11 - 0,17	0,13 - 0,20	0,15 - 0,22	0,17 - 0,25
	2	30	50	90	mm/r		0,06 - 0,11	0,08 - 0,13	0,09 - 0,14	0,10 - 0,15	0,11 - 0,17	0,13 - 0,20	0,15 - 0,22	0,17 - 0,25
	3	20	40	60	mm/r		0,06 - 0,11	0,08 - 0,13	0,09 - 0,14	0,10 - 0,15	0,11 - 0,17	0,13 - 0,20	0,15 - 0,22	0,17 - 0,25
Material Group		Cutting Speed – vc Range – SFM min	Starting Value	max	Inch Recommended Feed Rate (f) by Diameter		.315	.394	.472	.551	.630	.787	.945	1.102
M	1	165	180	295	IPR		.002 - .004	.003 - .005	.004 - .006	.004 - .006	.004 - .007	.005 - .008	.006 - .009	.007 - .010
	2	100	150	295	IPR		.002 - .004	.003 - .005	.004 - .006	.004 - .006	.004 - .007	.005 - .008	.006 - .009	.007 - .010
	3	65	120	200	IPR		.002 - .004	.003 - .005	.004 - .006	.004 - .006	.004 - .007	.005 - .008	.006 - .009	.007 - .010

• Tool body shipped with insert wrench.





For information on L, L3, and L4 max, see the Modular Drill foldout table.

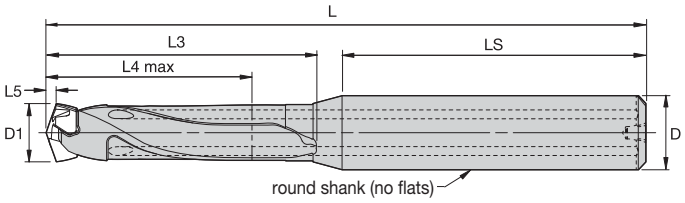


KenTIP Round Shank • 3 x D/5 x D/8 x D • Inch

3x	5x	8x	D1 mm	D1 in	D1 max mm	D1 max in	L5	LS	D	seat size	KenTIP wrench
KTIP0313R3SS038	KTIP0313R5SS038	KTIP0313R8SS038	7,940	.3125	8,490	.3343	.055	1.59	.3750	F	170.306
KTIP0335R3SS038	KTIP0335R5SS038	KTIP0335R8SS038	8,500	.3346	8,990	.3539	.059	1.59	.3750	G	170.306
KTIP0354R3SS038	KTIP0354R5SS038	KTIP0354R8SS038	9,000	.3543	9,490	.3736	.063	1.59	.3750	H	170.306
KTIP0374R3SS038	KTIP0374R5SS038	KTIP0374R8SS038	9,500	.3740	9,990	.3933	.063	1.59	.3750	I	170.306
KTIP0374R3SS044	KTIP0374R5SS044	KTIP0374R8SS044	9,500	.3740	9,990	.3933	.063	1.67	.4375	I	170.306
KTIP0394R3SS044	KTIP0394R5SS044	KTIP0394R8SS044	10,000	.3937	10,490	.4130	.067	1.67	.4375	J	170.307
KTIP0413R3SS044	KTIP0413R5SS044	KTIP0413R8SS044	10,500	.4134	10,990	.4327	.071	1.67	.4375	K	170.307
KTIP0433R3SS044	KTIP0433R5SS044	KTIP0433R8SS044	11,000	.4331	11,490	.4524	.075	1.67	.4375	L	170.307
KTIP0453R3SS050	KTIP0453R5SS050	KTIP0453R8SS050	11,500	.4528	11,990	.4720	.079	1.79	.5000	M	170.307
KTIP0472R3SS050	KTIP0472R5SS050	KTIP0472R8SS050	12,000	.4724	12,490	.4917	.083	1.79	.5000	N	170.308
KTIP0492R3SS050	KTIP0492R5SS050	KTIP0492R8SS050	12,500	.4921	12,990	.5114	.087	1.79	.5000	O	170.308
KTIP0492R3SS056	KTIP0492R5SS056	KTIP0492R8SS056	12,500	.4921	12,990	.5114	.087	1.79	.5625	O	170.308
KTIP0512R3SS056	KTIP0512R5SS056	KTIP0512R8SS056	13,000	.5118	13,490	.5311	.087	1.79	.5625	P	170.308
KTIP0532R3SS056	KTIP0532R5SS056	KTIP0532R8SS056	13,500	.5315	13,990	.5508	.091	1.79	.5625	Q	170.308
KTIP0551R3SS056	KTIP0551R5SS056	KTIP0551R8SS056	14,000	.5512	14,490	.5705	.095	1.79	.5625	R	170.309
KTIP0571R3SS063	KTIP0571R5SS063	KTIP0571R8SS063	14,500	.5709	14,990	.5902	.098	1.91	.6250	S	170.309
KTIP0591R3SS063	KTIP0591R5SS063	KTIP0591R8SS063	15,000	.5906	15,990	.6295	.102	1.91	.6250	T	170.309
KTIP0630R3SS069	KTIP0630R5SS069	KTIP0630R8SS069	16,000	.6299	16,990	.6689	.110	1.91	.6875	U	170.309
KTIP0669R3SS069	KTIP0669R5SS069	KTIP0669R8SS069	17,000	.6693	17,990	.7083	.115	1.91	.6875	V	170.314
KTIP0709R3SS075	KTIP0709R5SS075	KTIP0709R8SS075	18,000	.7087	18,990	.7476	.122	2.00	.7500	W	170.314
KTIP0748R3SS075	KTIP0748R5SS075	KTIP0748R8SS075	19,000	.7480	19,990	.7870	.129	2.00	.7500	X	170.314
KTIP0787R3SS081	KTIP0787R5SS081	KTIP0787R8SS081	20,000	.7874	20,990	.8264	.136	2.00	.8125	Y	170.314
KTIP0827R3SS088	KTIP0827R5SS088	KTIP0827R8SS088	21,000	.8268	21,990	.8657	.142	2.07	.8750	Z	170.314
KTIP0866R3SS088	KTIP0866R5SS088	KTIP0866R8SS088	22,000	.8661	22,990	.9051	.150	2.07	.8750	ZA	170.314
KTIP0906R3SS094	KTIP0906R5SS094	KTIP0906R8SS094	23,000	.9055	23,990	.9445	.158	2.15	.9375	ZB	170.314
KTIP0945R3SS100	KTIP0945R5SS100	KTIP0945R8SS100	24,000	.9449	24,990	.9839	.161	3.00	1.0000	ZC	170.314
KTIP0984R3SS100	KTIP0984R5SS100	KTIP0984R8SS100	25,000	.9843	25,990	1.0232	.169	3.00	1.0000	ZD	170.314
KTIP1024R3SS125	KTIP1024R5SS125	KTIP1024R8SS125	26,000	1.0236	26,990	1.0626	.176	3.25	1.2500	ZE	170.314
KTIP1063R3SS125	KTIP1063R5SS125	KTIP1063R8SS125	26,000	1.0236	27,990	1.1020	.184	3.25	1.2500	ZE	170.314

• Tool body shipped with insert wrench.





For information on L, L3, and L4 max, see the Modular Drill foldout table.

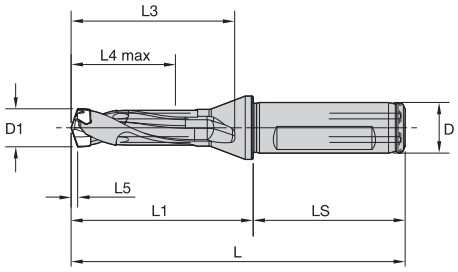


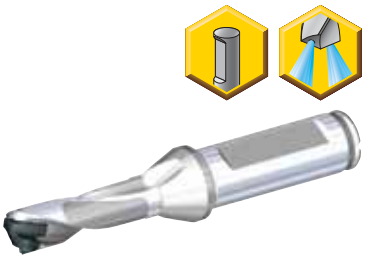
KenTIP Round Shank • 1.5 x D/3 x D/5 x D/8 x D • Metric

NEW!

1.5x	3x	5x	8x	D1 mm	D1 in	D1 max mm	D1 max in	L5 LS D	seat size	KenTIP wrench
KTIP080R1SS10M	KTIP080R3SS10M	KTIP080R5SS10M	KTIP080R8SS10M	8,000	.3150	8,490	.3343	1,4 41 10	F	170.306
KTIP085R1SS10M	KTIP085R3SS10M	KTIP085R5SS10M	KTIP085R8SS10M	8,500	.3346	8,990	.3539	1,5 41 10	G	170.306
KTIP090R1SS10M	KTIP090R3SS10M	KTIP090R5SS10M	KTIP090R8SS10M	9,000	.3543	9,490	.3736	1,6 41 10	H	170.306
KTIP095R1SS10M	KTIP095R3SS10M	KTIP095R5SS10M	KTIP095R8SS10M	9,500	.3740	9,990	.3933	1,6 41 10	I	170.306
KTIP100R1SS12M	KTIP100R3SS12M	KTIP100R5SS12M	KTIP100R8SS12M	10,000	.3937	10,490	.4130	1,7 46 12	J	170.307
KTIP105R1SS12M	KTIP105R3SS12M	KTIP105R5SS12M	KTIP105R8SS12M	10,500	.4134	10,990	.4327	1,8 46 12	K	170.307
KTIP110R1SS12M	KTIP110R3SS12M	KTIP110R5SS12M	KTIP110R8SS12M	11,000	.4331	11,490	.4524	1,9 46 12	L	170.307
KTIP115R1SS12M	KTIP115R3SS12M	KTIP115R5SS12M	KTIP115R8SS12M	11,500	.4528	11,990	.4720	2,0 46 12	M	170.307
KTIP120R1SS14M	KTIP120R3SS14M	KTIP120R5SS14M	KTIP120R8SS14M	12,000	.4724	12,490	.4917	2,1 46 14	N	170.308
KTIP125R1SS14M	KTIP125R3SS14M	KTIP125R5SS14M	KTIP125R8SS14M	12,500	.4921	12,990	.5114	2,2 46 14	O	170.308
KTIP130R1SS14M	KTIP130R3SS14M	KTIP130R5SS14M	KTIP130R8SS14M	13,000	.5118	13,490	.5311	2,2 46 14	P	170.308
KTIP135R1SS14M	KTIP135R3SS14M	KTIP135R5SS14M	KTIP135R8SS14M	13,500	.5315	13,990	.5508	2,3 46 14	Q	170.308
KTIP140R1SS16M	KTIP140R3SS16M	KTIP140R5SS16M	KTIP140R8SS16M	14,000	.5512	14,490	.5705	2,4 49 16	R	170.309
KTIP145R1SS16M	KTIP145R3SS16M	KTIP145R5SS16M	KTIP145R8SS16M	14,500	.5709	14,990	.5902	2,5 49 16	S	170.309
KTIP150R1SS16M	KTIP150R3SS16M	KTIP150R5SS16M	KTIP150R8SS16M	15,000	.5906	15,990	.6295	2,6 49 16	T	170.309
KTIP160R1SS18M	KTIP160R3SS18M	KTIP160R5SS18M	KTIP160R8SS18M	16,000	.6299	16,990	.6689	2,8 49 18	U	170.309
KTIP170R1SS18M	KTIP170R3SS18M	KTIP170R5SS18M	KTIP170R8SS18M	17,000	.6693	17,990	.7083	2,9 49 18	V	170.314
KTIP180R1SS20M	KTIP180R3SS20M	KTIP180R5SS20M	KTIP180R8SS20M	18,000	.7087	18,990	.7476	3,1 51 20	W	170.314
KTIP190R1SS20M	KTIP190R3SS20M	KTIP190R5SS20M	KTIP190R8SS20M	19,000	.7480	19,990	.7870	3,3 51 20	X	170.314
KTIP200R1SS25M	KTIP200R3SS25M	KTIP200R5SS25M	KTIP200R8SS25M	20,000	.7874	20,990	.8264	3,5 57 25	Y	170.314
KTIP210R1SS25M	KTIP210R3SS25M	KTIP210R5SS25M	KTIP210R8SS25M	21,000	.8268	21,990	.8657	3,6 57 25	Z	170.314
KTIP220R1SS25M	KTIP220R3SS25M	KTIP220R5SS25M	KTIP220R8SS25M	22,000	.8661	22,990	.9051	3,8 57 25	ZA	170.314
KTIP230R1SS25M	KTIP230R3SS25M	KTIP230R5SS25M	KTIP230R8SS25M	23,000	.9055	23,990	.9445	4,0 57 25	ZB	170.314
KTIP240R1SS25M	KTIP240R3SS25M	KTIP240R5SS25M	KTIP240R8SS25M	24,000	.9449	24,990	.9839	4,1 57 25	ZC	170.314
KTIP250R1SS32M	KTIP250R3SS32M	KTIP250R5SS32M	KTIP250R8SS32M	25,000	.9843	25,990	1.0232	4,3 61 32	ZD	170.314
KTIP260R1SS32M	KTIP260R3SS32M	KTIP260R5SS32M	KTIP260R8SS32M	26,000	1.0236	26,990	1.0626	4,5 61 32	ZE	170.314
KTIP270R1SS32M	KTIP270R3SS32M	KTIP270R5SS32M	KTIP270R8SS32M	27,000	1.0630	27,990	1.1020	4,7 61 32	ZE	170.314

• Tool body shipped with insert wrench.





For information on L, L3, and L4 max, see the Modular Drill foldout table.

KenTIP Flanged Shank • 1.5 x D/3 x D/5 x D/8 x D • Metric

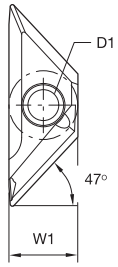
NEW!

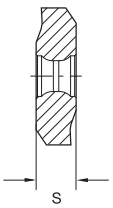
1.5x	3x	5x	8x	D1 mm	D1 in	D1 max mm	D1 max in	L5	LS	D	seat size	KenTIP wrench
KTIP080R1SCF12M	KTIP080R3SCF12M	KTIP080R5SCF12M	KTIP080R8SCF12M	8,000	.3150	8,490	.3343	1,4	45	12	F	170.306
KTIP085R1SCF12M	KTIP085R3SCF12M	KTIP085R5SCF12M	KTIP085R8SCF12M	8,500	.3346	8,990	.3539	1,5	45	12	G	170.306
KTIP090R1SCF12M	KTIP090R3SCF12M	KTIP090R5SCF12M	KTIP090R8SCF12M	9,000	.3543	9,490	.3736	1,6	45	12	H	170.306
KTIP095R1SCF12M	KTIP095R3SCF12M	KTIP095R5SCF12M	KTIP095R8SCF12M	9,500	.3740	9,990	.3933	1,6	45	12	I	170.306
KTIP100R1SCF16M	KTIP100R3SCF16M	KTIP100R5SCF16M	KTIP100R8SCF16M	10,000	.3937	10,490	.4130	1,7	48	16	J	170.307
KTIP105R1SCF16M	KTIP105R3SCF16M	KTIP105R5SCF16M	KTIP105R8SCF16M	10,500	.4134	10,990	.4327	1,8	48	16	K	170.307
KTIP110R1SCF16M	KTIP110R3SCF16M	KTIP110R5SCF16M	KTIP110R8SCF16M	11,000	.4331	11,490	.4524	1,9	48	16	L	170.307
KTIP115R1SCF16M	KTIP115R3SCF16M	KTIP115R5SCF16M	KTIP115R8SCF16M	11,500	.4528	11,990	.4720	2,0	48	16	M	170.307
KTIP120R1SCF16M	KTIP120R3SCF16M	KTIP120R5SCF16M	KTIP120R8SCF16M	12,000	.4724	12,490	.4917	2,1	48	16	N	170.308
KTIP125R1SCF16M	KTIP125R3SCF16M	KTIP125R5SCF16M	KTIP125R8SCF16M	12,500	.4921	12,990	.5114	2,2	48	16	O	170.308
KTIP130R1SCF16M	KTIP130R3SCF16M	KTIP130R5SCF16M	KTIP130R8SCF16M	13,000	.5118	13,490	.5311	2,2	48	16	P	170.308
KTIP135R1SCF16M	KTIP135R3SCF16M	KTIP135R5SCF16M	KTIP135R8SCF16M	13,500	.5315	13,990	.5508	2,3	48	16	Q	170.308
KTIP140R1SCF16M	KTIP140R3SCF16M	KTIP140R5SCF16M	KTIP140R8SCF16M	14,000	.5512	14,490	.5705	2,4	48	16	R	170.309
KTIP145R1SCF16M	KTIP145R3SCF16M	KTIP145R5SCF16M	KTIP145R8SCF16M	14,500	.5709	14,990	.5902	2,5	48	16	S	170.309
KTIP150R1SCF20M	KTIP150R3SCF20M	KTIP150R5SCF20M	KTIP150R8SCF20M	15,000	.5906	15,990	.6295	2,6	50	20	T	170.309
KTIP160R1SCF20M	KTIP160R3SCF20M	KTIP160R5SCF20M	KTIP160R8SCF20M	16,000	.6299	16,990	.6689	2,8	50	20	U	170.309
KTIP170R1SCF20M	KTIP170R3SCF20M	KTIP170R5SCF20M	KTIP170R8SCF20M	17,000	.6693	17,990	.7083	2,9	50	20	V	170.314
KTIP180R1SCF25M	KTIP180R3SCF25M	KTIP180R5SCF25M	KTIP180R8SCF25M	18,000	.7087	18,990	.7476	3,1	56	25	W	170.314
KTIP190R1SCF25M	KTIP190R3SCF25M	KTIP190R5SCF25M	KTIP190R8SCF25M	19,000	.7480	19,990	.7870	3,3	56	25	X	170.314
KTIP200R1SCF25M	KTIP200R3SCF25M	KTIP200R5SCF25M	KTIP200R8SCF25M	20,000	.7874	20,990	.8264	3,5	56	25	Y	170.314
KTIP210R1SCF25M	KTIP210R3SCF25M	KTIP210R5SCF25M	KTIP210R8SCF25M	21,000	.8268	21,990	.8657	3,6	56	25	Z	170.314
KTIP220R1SCF25M	KTIP220R3SCF25M	KTIP220R5SCF25M	KTIP220R8SCF25M	22,000	.8661	22,990	.9051	3,8	56	25	ZA	170.314
KTIP230R1SCF25M	KTIP230R3SCF25M	KTIP230R5SCF25M	KTIP230R8SCF25M	23,000	.9055	23,990	.9445	4,0	56	25	ZB	170.314
KTIP240R1SCF25M	KTIP240R3SCF25M	KTIP240R5SCF25M	KTIP240R8SCF25M	24,000	.9449	24,990	.9839	4,1	56	25	ZC	170.314
KTIP250R1SCF25M	KTIP250R3SCF25M	KTIP250R5SCF25M	KTIP250R8SCF25M	25,000	.9843	25,990	1.0232	4,3	56	25	ZD	170.314
KTIP260R1SCF25M	KTIP260R3SCF25M	KTIP260R5SCF25M	KTIP260R8SCF25M	26,000	1.0236	26,990	1.0626	4,5	56	25	ZE	170.314
KTIP270R1SCF25M	KTIP270R3SCF25M	KTIP270R5SCF25M	KTIP270R8SCF25M	27,000	1.0630	27,990	1.1020	4,7	56	25	ZE	170.314

KenTIP Chamfering Insert

- Drilling and chamfering in one operation.
- No height adjustment required.
- Low setup time.
- Use standard inserts.
- Tool bodies available as custom solutions.









● first choice
○ alternate choice

P	○	●
M	○	○
K	○	●
N	●	○
S	○	●
H		

FAS-GD Geometry

catalog number	W1 mm	W1 in	D1 mm	D1 in	S mm	S in	KC7015	KC7215
FAS100302GD	6,35	.250	2,85	.112	3,48	.137	●	●

Mounting the KenTIP Inserts



1) Fix drill holder on arbor. For insert exchange, fix arbor on the machine or set on tool presetter.



2) Remove dust using air blast.



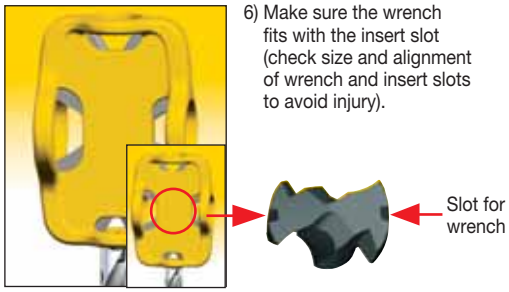
3) Put insert into drill holder (use gloves to protect your hands).



4) Turn lightly in a clockwise direction (use gloves to protect your hands).



5) Set the wrench properly.



6) Make sure the wrench fits with the insert slot (check size and alignment of wrench and insert slots to avoid injury).



7) Slowly turn the wrench in a clockwise direction.



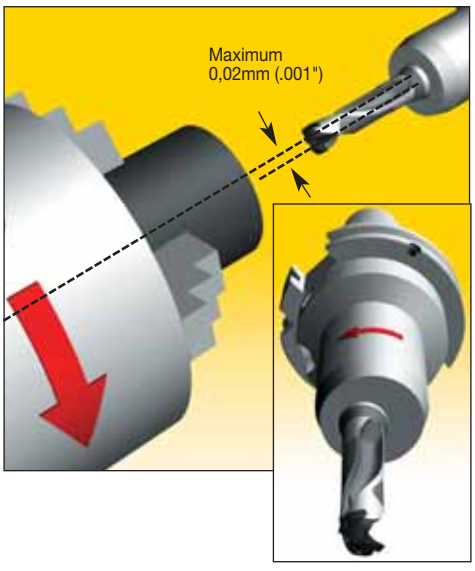
8) Complete.

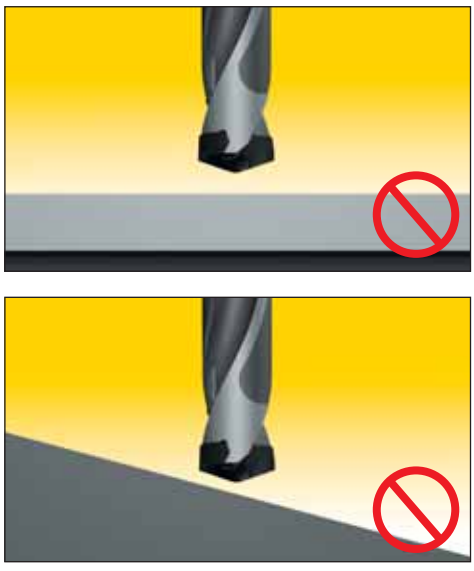
Cooling the KenTIP Drill





Note









KSEM™ Modular Drill System

Primary Application

The KSEM Modular Drill System offers extended length and drilling diameters beyond the KenTIP™ Modular Drill System. Hole depths of 10 x D up to 1.575" (40mm) drilling diameter are standard. Various grades are available for your most demanding applications. The KSEM Modular Drill System covers a diameter range from .4921–1.5748" (12,5–40mm).

Features and Benefits

HP Drill-Point Design

- Low thrust prevents workpiece flexing.
- Excellent centering capabilities.
- HP(M) and HPG(M) for all steel applications.
- **NEW** HPC(M) for cast iron applications.
- **NEW** HPL(M) for stainless steel.

Easy Insert Change

- Robust pocket design requires only a simple wrench for blade removal.
- Selection of grades/geometries available.

Strength of Design

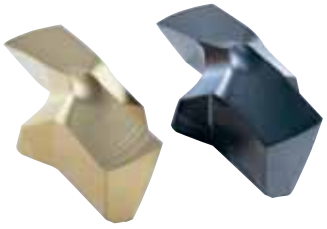
- Accelerated feed rates offer increased productivity.
- Four-wall pocket provides insert stability.
- All geometries except HPL(M) can be reconditioned by Kennametal for added economy.
- Through coolant standard for improved tool life, hole finish, and chip removal.

Tailored Grades and Geometries

- KC7315™ grade is a TiAlN-based PVD grade offering superior performance in all steel applications.
- KC7320™ grade has an AlTiN-based PVD coating developed for the demands of drilling stainless steels.
- KC7410™ grade contains multiple layers of PVD coating offering superior wear resistance when drilling cast irons. The geometry prevents breakout when drilling through holes.
  - KTIP_HPC inserts are designed for gray cast and low-strength ductile irons (K1).
  - KTIP_HPCCL_ inserts are ideal for low- and medium-strength CGI and ductile irons and high-strength ductile and austempered ductile iron (K2, K3).
  - For KSEM_HPCCL_ line items, please refer to the e-catalog at www.kennametal.com.

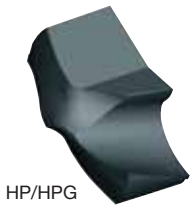
Customization

- Intermediate diameters available as semi-standards.
- Chamfering insert pockets available.
- Multiple steps possible.

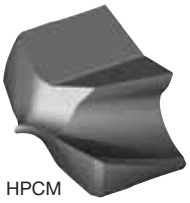




KENNAMETAL®

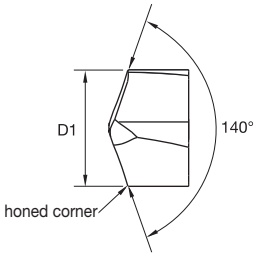

HP/HPG

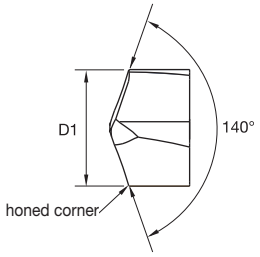

HPL

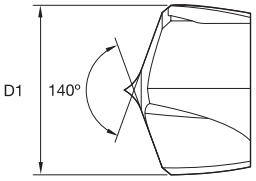

HPCM

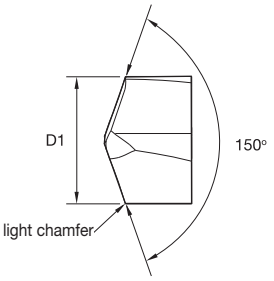

PCM



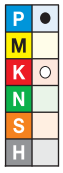


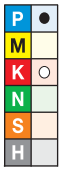


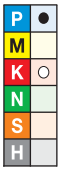


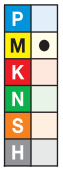


KSEM Inserts













● first choice
○ alternate choice

KC7235	KC7315	KC7315	KC7320	KC7410	KC7135	D1 mm	D1 in	seat size
KSEM1250HPM	KSEM1250HPM	KSEM1250HPGM	KSEM1250HPLM	KSEM1250HPCM	KSEM1250PCM	12,500	.4921	C
KSEM1260HPM	KSEM1260HPM	KSEM1260HPGM	KSEM1260HPLM	–	KSEM1260PCM	12,600	.4961	C
KSEM1270HPM	KSEM1270HPM	KSEM1270HPGM	KSEM1270HPLM	KSEM1270HPCM	–	12,700	.5000	C
KSEM1280HPM	KSEM1280HPM	KSEM1280HPGM	KSEM1280HPLM	–	KSEM1280PCM	12,800	.5039	C
KSEM1293HPM	KSEM1293HPM	KSEM1293HPGM	KSEM1293HPLM	KSEM1293HPCM	–	12,930	.5090	C
KSEM1300HPM	KSEM1300HPM	KSEM1300HPGM	KSEM1300HPLM	KSEM1300HPCM	KSEM1300PCM	13,000	.5118	C
KSEM1310HPM	KSEM1310HPM	KSEM1310HPGM	KSEM1311HPLM	KSEM1310HPCM	–	13,100	.5160	C
–	KSEM1320HPM	KSEM1320HPGM	–	–	–	13,200	.5197	C
KSEM1350HPM	KSEM1350HPM	KSEM1350HPGM	KSEM1350HPLM	KSEM1350HPCM	KSEM1350PCM	13,500	.5310	C
KSEM1360HPM	KSEM1360HPM	KSEM1360HPGM	KSEM1360HPLM	–	–	13,600	.5354	B
KSEM1370HPM	KSEM1370HPM	KSEM1370HPGM	–	–	–	13,700	.5394	B
KSEM1380HPM	KSEM1380HPM	KSEM1380HPGM	KSEM1380HPLM	–	KSEM1380PCM	13,800	.5433	B
KSEM1389HPM	KSEM1389HPM	KSEM1389HPGM	KSEM1389HPLM	KSEM1389HPCM		13,890	.5470	B
KSEM1400HPM	KSEM1400HPM	KSEM1400HPGM	KSEM1400HPLM	KSEM1400HPCM	KSEM1400PCM	14,000	.5512	B
KSEM1410HPM	KSEM1410HPM	KSEM1410HPGM	KSEM1410HPLM	–	KSEM1410PCM	14,100	.5551	B
–	–	–	KSEM1415HPLM	–	–	14,150	.5571	B
KSEM1420HPM	KSEM1420HPM	KSEM1420HPGM	KSEM1420HPLM	–	–	14,200	.5591	B
KSEM1429HPM	KSEM1429HPM	KSEM1429HPGM	KSEM1429HPLM	KSEM1429HPCM	–	14,290	.5630	B
–	KSEM1440HPM	KSEM1440HPGM	–	–	–	14,400	.5669	B
KSEM1450HPM	KSEM1450HPM	KSEM1450HPGM	KSEM1450HPLM	KSEM1450HPCM	KSEM1450PCM	14,500	.5709	B
–	KSEM1460HPM	KSEM1460HPGM	KSEM1460HPLM	–	KSEM1460PCM	14,600	.5748	A
KSEM1468HPM	KSEM1468HPM	KSEM1468HPGM	KSEM1468HPLM	KSEM1468HPCM	–	14,680	.5780	A
KSEM1480HPM	KSEM1480HPM	KSEM1480HPGM	KSEM1480HPLM		KSEM1480PCM	14,800	.5827	A
KSEM1500HPM	KSEM1500HPM	KSEM1500HPGM	KSEM1500HPLM	KSEM1500HPCM	KSEM1500PCM	15,000	.5906	A
KSEM1508HPM	KSEM1508HPM	KSEM1508HPGM	KSEM1508HPLM	–	–	15,080	.5940	A
KSEM1530HPM	KSEM1530HPM	KSEM1530HPGM	–	–	–	15,300	.6024	A
–	KSEM1548HPM	KSEM1548HPGM	KSEM1548HPLM	KSEM1548HPCM	–	15,480	.6090	A
KSEM1550HPM	KSEM1550HPM	KSEM1550HPGM	KSEM1550HPLM	KSEM1550HPCM	KSEM1550PCM	15,500	.6102	A
KSEM1560HPM	KSEM1560HPM	KSEM1560HPGM	KSEM1560HPLM	–	KSEM1560PCM	15,600	.6142	A
–	KSEM1570HPM	KSEM1570HPGM	–	–	–	15,700	.6181	A
KSEM1580HPM	KSEM1580HPM	KSEM1580HPGM	–	–	KSEM1580PCM	15,800	.6220	A
KSEM1588HPM	KSEM1588HPM	KSEM1588HPGM	KSEM1588HPLM	KSEM1588HPCM	–	15,880	.6250	1
KSEM1600HPM	KSEM1600HPM	KSEM1600HPGM	KSEM1600HPLM	KSEM1600HPCM	KSEM1600PCM	16,000	.6299	1
–	–	–	KSEM1610HPLM	–	–	16,100	.6339	1
KSEM1609HPM	KSEM1609HPM	KSEM1609HPGM	KSEM1609HPLM	KSEM1609HPCM	–	16,090	.6340	1
–	–	–	KSEM1615HPLM	–	–	16,150	.6358	1

(continued)

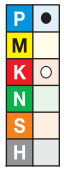
Modular Drills

(KSEM Inserts continued)

KC7235	KC7315	KC7315	KC7320	KC7410	KC7135	D1 mm	D1 in	seat size
—	KSEM1620HPM	KSEM1620HPGM	KSEM1620HPLM	—	KSEM1620PCM	16,200	.6378	1
KSEM1627HPM	KSEM1627HPM	KSEM1627HPGM	KSEM1627HPLM	KSEM1627HPCM	—	16,270	.6410	1
KSEM1650HPM	KSEM1650HPM	KSEM1650HPGM	KSEM1650HPLM	KSEM1650HPCM	KSEM1650PCM	16,500	.6496	1
KSEM1667HPM	KSEM1667HPM	KSEM1667HPGM	KSEM1667HPLM	KSEM1667HPCM	—	16,670	.6560	1
KSEM1700HPM	KSEM1700HPM	KSEM1700HPGM	KSEM1700HPLM	KSEM1700HPCM	KSEM1700PCM	17,000	.6693	1
KSEM1707HPM	KSEM1707HPM	KSEM1707HPGM	KSEM1707HPLM	KSEM1707HPCM	—	17,070	.6720	1
KSEM1746HPM	KSEM1746HPM	KSEM1746HPGM	KSEM1746HPLM	—	—	17,460	.6875	1
—	—	—	—	KSEM1746HPCM	—	17,460	.6880	1
KSEM1750HPM	KSEM1750HPM	KSEM1750HPGM	KSEM1750HPLM	KSEM1750HPCM	KSEM1750PCM	17,500	.6890	1
—	—	KSEM1770HPGM	—	—	—	17,700	.6969	1
—	—	—	KSEM1775HPLM	—	—	17,750	.6988	1
—	—	—	KSEM1780HPLM	—	—	17,800	.7008	1
KSEM1786HPM	KSEM1786HPM	KSEM1786HPGM	KSEM1786HPLM	—	—	17,860	.7030	1
—	—	—	KSEM1790HPLM	—	—	17,900	.7047	1
KSEM1800HPM	KSEM1800HPM	KSEM1800HPGM	KSEM1800HPLM	KSEM1800HPCM	KSEM1800PCM	18,000	.7087	1
KSEM1826HPM	KSEM1826HPM	KSEM1826HPGM	KSEM1826HPLM	KSEM1826HPCM	—	18,260	.7190	2
—	—	—	KSEM1839HPLM	—	—	18,390	.7240	2
KSEM1850HPM	KSEM1850HPM	KSEM1850HPGM	KSEM1850HPLM	KSEM1850HPCM	KSEM1850PCM	18,500	.7283	2
—	—	—	KSEM1860HPLM	—	—	18,600	.7323	2
KSEM1865HPM	KSEM1865HPM	KSEM1865HPGM	KSEM1865HPLM	—	—	18,650	.7340	2
—	—	—	KSEM1890HPLM	—	—	18,900	.7441	2
KSEM1900HPM	KSEM1900HPM	KSEM1900HPGM	KSEM1900HPLM	KSEM1900HPCM	KSEM1900PCM	19,000	.7480	2
KSEM1905HPM	KSEM1905HPM	KSEM1905HPGM	KSEM1905HPLM	KSEM1905HPCM	—	19,050	.7500	2
—	—	—	KSEM1920HPLM	—	—	19,200	.7559	2
KSEM1923HPM	KSEM1923HPM	—	KSEM1923HPLM	—	—	19,228	.7570	2
—	—	KSEM1925HPGM	KSEM1925HPLM	—	—	19,250	.7579	2
KSEM1927HPM	KSEM1927HPM	KSEM1927HPGM	KSEM1927HPLM	KSEM1927HPCM	—	19,270	.7590	2
—	—	—	KSEM1935HPLM	—	—	19,350	.7618	2
—	—	—	KSEM1936HPLM	—	—	19,360	.7622	2
KSEM1945HPM	KSEM1945HPM	KSEM1945HPGM	KSEM1945HPLM	KSEM1945HPCM	—	19,450	.7660	2
KSEM1950HPM	KSEM1950HPM	KSEM1950HPGM	KSEM1950HPLM	KSEM1950HPCM	KSEM1950PCM	19,500	.7677	2
—	—	KSEM1970HPGM	—	—	—	19,700	.7756	3
KSEM1984HPM	KSEM1984HPM	KSEM1984HPGM	KSEM1984HPLM	KSEM1984HPCM	—	19,840	.7810	2
KSEM2000HPM	KSEM2000HPM	KSEM2000HPGM	KSEM2000HPLM	KSEM2000HPCM	KSEM2000PCM	20,000	.7874	3
—	—	—	KSEM2010HPLM	—	—	20,100	.7913	3
KSEM2024HPM	KSEM2024HPM	KSEM2024HPGM	KSEM2024HPLM	KSEM2024HPCM	—	20,240	.7970	3
—	—	—	KSEM2035HPLM	—	—	20,350	.8012	3
KSEM2050HPM	KSEM2050HPM	KSEM2050HPGM	KSEM2050HPLM	KSEM2050HPCM	KSEM2050PCM	20,500	.8071	3
KSEM2064HPM	KSEM2064HPM	KSEM2064HPGM	KSEM2064HPLM	—	—	20,640	.8125	3
—	—	—	—	KSEM2064HPCM	—	20,640	.8130	3
KSEM2100HPM	KSEM2100HPM	KSEM2100HPGM	KSEM2100HPLM	KSEM2100HPCM	KSEM2100PCM	21,000	.8268	3
—	—	—	KSEM2115HPLM	—	—	21,150	.8327	3
—	—	—	KSEM2133HPLM	—	—	21,330	.8398	3
KSEM2143HPM	KSEM2143HPM	KSEM2143HPGM	KSEM2143HPLM	KSEM2143HPCM	—	21,430	.8440	3
KSEM2150HPM	KSEM2150HPM	KSEM2150HPGM	KSEM2150HPLM	KSEM2150HPCM	KSEM2150PCM	21,500	.8460	3
—	—	KSEM2170HPGM	—	—	—	21,700	.8543	3
KSEM2183HPM	KSEM2183HPM	KSEM2183HPGM	KSEM2183HPLM	—	—	21,830	.8590	3
KSEM2200HPM	KSEM2200HPM	KSEM2200HPGM	KSEM2200HPLM	KSEM2200HPCM	KSEM2200PCM	22,000	.8661	3
KSEM2223HPM	KSEM2223HPM	KSEM2223HPGM	KSEM2223HPLM	KSEM2223HPCM	—	22,230	.8750	4
KSEM2244HPM	KSEM2244HPM	KSEM2244HPGM	KSEM2244HPLM	KSEM2244HPCM	—	22,440	.8840	4

(continued)

(KSEM Inserts continued)



KC7235	KC7315	KC7315	KC7320	KC7410	KC7135	D1 mm	D1 in	seat size
KSEM2250HPM	KSEM2250HPM	KSEM2250HPGM	KSEM2250HPLM	KSEM2250HPCM	KSEM2250PCM	22,500	.8858	4
—	—	—	KSEM2277HPLM	—	—	22,770	.8965	4
KSEM2300HPM	KSEM2300HPM	KSEM2300HPGM	KSEM2300HPLM	KSEM2300HPCM	KSEM2300PCM	23,000	.9055	4
—	—	KSEM2310HPGM	—	—	—	23,100	.9094	4
—	—	KSEM2330HPGM	—	—	—	23,300	.9173	4
KSEM2342HPM	KSEM2342HPM	KSEM2342HPGM	KSEM2342HPLM	KSEM2342HPCM	—	23,420	.9220	4
KSEM2350HPM	KSEM2350HPM	KSEM2350HPGM	KSEM2350HPLM	KSEM2350HPCM	KSEM2350PCM	23,500	.9252	4
KSEM2381HPM	KSEM2381HPM	KSEM2381HPGM	KSEM2381HPLM	—	—	23,810	.9375	4
—	—	—	—	KSEM2381HPCM	—	23,810	.9380	4
KSEM2400HPM	KSEM2400HPM	KSEM2400HPGM	KSEM2400HPLM	KSEM2400HPCM	KSEM2400PCM	24,000	.9449	4
—	—	KSEM2430HPGM	—	—	—	24,300	.9567	5
KSEM2450HPM	KSEM2450HPM	KSEM2450HPGM	KSEM2450HPLM	KSEM2450HPCM	KSEM2450PCM	24,500	.9646	5
KSEM2461HPM	KSEM2461HPM	KSEM2461HPGM	KSEM2461HPLM	KSEM2461HPCM	—	24,610	.9690	5
KSEM2500HPM	KSEM2500HPM	KSEM2500HPGM	KSEM2500HPLM	KSEM2500HPCM	KSEM2500PCM	25,000	.9843	5
—	—	—	KSEM2507HPLM	—	—	25,070	.9870	5
KSEM2540HPM	KSEM2540HPM	KSEM2540HPGM	KSEM2540HPLM	KSEM2540HPCM	—	25,400	1.0000	5
KSEM2550HPM	KSEM2550HPM	KSEM2550HPGM	KSEM2550HPLM	KSEM2550HPCM	KSEM2550PCM	25,500	1.0039	5
—	—	KSEM2560HPGM	KSEM2560HPLM	—	—	25,600	1.0080	5
KSEM2560HPM	KSEM2560HPM	—	—	—	—	25,610	1.0080	5
—	—	—	KSEM2565HPLM	—	—	25,650	1.0098	5
—	—	KSEM2565HPGM	—	—	—	25,654	1.0100	5
KSEM2567HPM	KSEM2567HPM	KSEM2567HPGM	KSEM2567HPLM	KSEM2567HPCM	—	25,670	1.0110	5
KSEM2581HPM	—	—	—	—	—	25,806	1.0160	5
KSEM2600HPM	KSEM2600HPM	KSEM2600HPGM	KSEM2600HPLM	KSEM2600HPCM	KSEM2600PCM	26,000	1.0236	5
KSEM2619HPM	KSEM2619HPM	KSEM2619HPGM	KSEM2619HPLM	KSEM2619HPCM	—	26,190	1.0310	6
KSEM2650HPM	KSEM2650HPM	KSEM2650HPGM	KSEM2650HPLM	KSEM2650HPCM	KSEM2650PCM	26,500	1.0433	6
KSEM2659HPM	KSEM2659HPM	KSEM2659HPGM	KSEM2659HPLM	KSEM2659HPCM	—	26,590	1.0470	6
—	—	—	KSEM2670HPLM	—	—	26,700	1.0512	6
—	—	—	KSEM2581HPLM	—	—	25,810	1.0610	5
KSEM2700HPM	KSEM2700HPM	KSEM2700HPGM	KSEM2700HPLM	KSEM2700HPCM	KSEM2700PCM	27,000	1.0630	6
KSEM2750HPM	KSEM2750HPM	KSEM2750HPGM	KSEM2750HPLM	KSEM2750HPCM	—	27,500	1.0827	6
KSEM2778HPM	KSEM2778HPM	KSEM2778HPGM	KSEM2779HPLM	KSEM2778HPCM	—	27,780	1.0940	6
KSEM2800HPM	KSEM2800HPM	KSEM2800HPGM	KSEM2800HPLM	KSEM2800HPCM	KSEM2800PCM	28,000	1.1024	6
—	—	—	KSEM2810HPLM	—	—	28,100	1.1063	7
KSEM2818HPM	KSEM2818HPM	KSEM2818HPGM	KSEM2817HPLM	KSEM2818HPCM	—	28,180	1.1090	7
KSEM2850HPM	KSEM2850HPM	KSEM2850HPGM	KSEM2850HPLM	KSEM2850HPCM	KSEM2850PCM	28,500	1.1220	7
KSEM2858HPM	KSEM2858HPM	KSEM2858HPGM	KSEM2858HPLM	KSEM2858HPCM	—	28,580	1.1250	7
KSEM2900HPM	KSEM2900HPM	KSEM2900HPGM	KSEM2900HPLM	KSEM2900HPCM	KSEM2900PCM	29,000	1.1417	7
KSEM2937HPM	KSEM2937HPM	KSEM2937HPGM	KSEM2937HPLM	KSEM2937HPCM	—	29,730	1.1560	7
KSEM2950HPM	KSEM2950HPM	KSEM2950HPGM	KSEM2950HPLM	KSEM2950HPCM	KSEM2950PCM	29,500	1.1614	7
KSEM2977HPM	KSEM2977HPM	KSEM2977HPGM	KSEM2977HPLM	KSEM2977HPCM	—	29,770	1.1720	7
KSEM3000HPM	KSEM3000HPM	KSEM3000HPGM	KSEM3000HPLM	KSEM3000HPCM	KSEM3000PCM	30,000	1.1811	7
KSEM3016HPM	KSEM3016HPM	KSEM3016HPGM	KSEM3016HPLM	—	—	30,160	1.1875	8
—	—	—	—	KSEM3016HPCM	—	30,160	1.1880	8
KSEM3050HPM	KSEM3050HPM	KSEM3050HPGM	KSEM3050HPLM	KSEM3050HPCM	KSEM3050PCM	30,500	1.2008	8
—	—	KSEM3056HPGM	—	—	—	30,560	1.2030	8
KSEM3096HPM	KSEM3096HPM	KSEM3096HPGM	—	—	—	30,960	1.2190	8
KSEM3100HPM	KSEM3100HPM	KSEM3100HPGM	KSEM3100HPLM	KSEM3100HPCM	KSEM3100PCM	31,000	1.2200	8
KSEM3150HPM	KSEM3150HPM	KSEM3150HPGM	KSEM3150HPLM	—	KSEM3150PCM	31,500	1.2402	8
KSEM3175HPM	KSEM3175HPM	KSEM3175HPGM	KSEM3175HPLM	KSEM3175HPCM	—	31,750	1.2500	8

(continued)

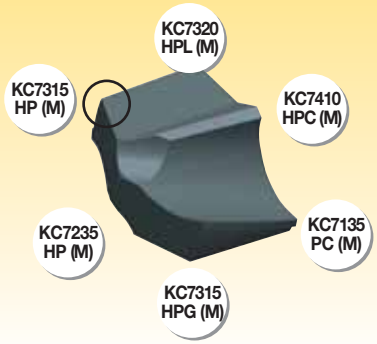
(KSEM Inserts continued)

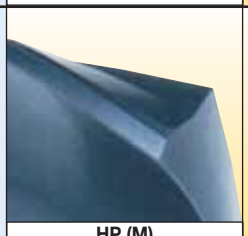
KC7235	KC7315	KC7315	KC7320	KC7410	KC7135	D1 mm	D1 in	seat size
KSEM3200HPM	KSEM3200HPM	KSEM3200HPGM	KSEM3200HPLM	KSEM3200HPCM	KSEM3200PCM	32,000	1.2598	8
KSEM3250HPM	KSEM3250HPM	KSEM3250HPGM	—	—	—	32,500	1.2795	9
KSEM3254HPM	KSEM3254HPM	KSEM3254HPGM	KSEM3254HPLM	—	—	32,540	1.2810	9
—	KSEM3294HPM	KSEM3294HPGM	—	—	—	32,940	1.2970	9
KSEM3300HPM	KSEM3300HPM	KSEM3300HPGM	KSEM3300HPLM	—	—	33,000	1.2992	9
KSEM3334HPM	KSEM3334HPM	KSEM3334HPGM	—	—	—	33,340	1.3130	9
—	—	—	KSEM3335HPLM	—	—	33,400	1.3130	9
KSEM3350HPM	—	KSEM3350HPGM	—	—	—	33,500	1.3189	9
—	—	KSEM3373HPGM	—	—	—	33,730	1.3280	9
KSEM3400HPM	KSEM3400HPM	KSEM3400HPGM	KSEM3400HPLM	—	—	34,000	1.3386	9
—	KSEM3413HPM	KSEM3413HPGM	—	—	—	34,130	1.3440	9
KSEM3450HPM	KSEM3450HPM	KSEM3450HPGM	—	—	—	34,500	1.3583	9
KSEM3493HPM	KSEM3493HPM	KSEM3493HPGM	KSEM3493HPLM	—	—	34,930	1.3750	9
KSEM3500HPM	KSEM3500HPM	KSEM3500HPGM	KSEM3500HPLM	—	—	35,000	1.3780	9
—	KSEM3550HPM	KSEM3550HPGM	—	—	—	35,500	1.3976	9
KSEM3572HPM	KSEM3572HPM	KSEM3572HPGM	KSEM3571HPLM	—	—	35,720	1.4060	9
KSEM3600HPM	KSEM3600HPM	KSEM3600HPGM	KSEM3600HPLM	—	—	36,000	1.4173	9
—	—	KSEM3612HPGM	—	—	—	36,120	1.4220	10
—	—	KSEM3650HPGM	—	—	—	36,500	1.4375	10
KSEM3651HPM	—	KSEM3651HPGM	—	—	—	36,510	1.4375	10
KSEM3700HPM	KSEM3700HPM	KSEM3700HPGM	KSEM3700HPLM	—	—	37,000	1.4567	10
KSEM3731HPM	—	KSEM3731HPGM	—	—	—	37,310	1.4690	10
KSEM3750HPM	KSEM3750HPM	KSEM3750HPGM	KSEM3750HPLM	—	—	37,500	1.4764	10
KSEM3800HPM	KSEM3800HPM	KSEM3800HPGM	KSEM3800HPLM	—	—	38,000	1.4961	10
KSEM3810HPM	KSEM3810HPM	KSEM3810HPGM	KSEM3810HPLM	—	—	38,100	1.5000	10
KSEM3846HPM	—	KSEM3846HPGM	KSEM3846HPLM	—	—	38,460	1.5140	10
—	KSEM3850HPM	KSEM3850HPGM	—	—	—	38,500	1.5157	10
KSEM3900HPM	KSEM3900HPM	KSEM3900HPGM	KSEM3900HPLM	—	—	39,000	1.5354	10
—	KSEM3950HPM	KSEM3950HPGM	KSEM3950HPLM	—	—	39,500	1.5551	10
KSEM4000HPM	KSEM4000HPM	KSEM4000HPGM	KSEM4000HPLM	—	KSEM4000PCM	40,000	1.5748	10

Tolerance HP/HPG/HPL/HPC • Metric		Tolerance PC • Metric	
D1 metric	tolerance h8	D1 metric	tolerance k7
12,5–18	+0,000/-0,027	12,5–18	+0,001/+ 0,019
>18–30	+0,000/-0,033	>18–30	+0,002/+ 0,023
>30–40	+0,000/-0,039	>30–40	+0,002/+ 0,027

Tolerance HP/HPG/HPL/HPC • Inch		Tolerance PC • Inch	
D1 inch	tolerance h8	D1 inch	tolerance k7
.500–.709	+.000/-.0010	.500–.709	+.0000/+.0008
>.709–1.181	+.000/-.0013	>.709–1.181	+.0000/+.0009
>1.181–1.575	+.000/-.0015	>1.181–1.575	+.0000/+.0010

For reconditioning information, please contact our Customer Application Support or visit www.kennametal.com



grade	geometry	composition and application	ISO class
KC7320	 HPL (M)	PVD high Al content TiAlN-coated universal fine-grain grade: • Excellent oxidation stability and adjusted toughness. • High level of wear resistance. • Used for modular drilling of austenitic stainless steel.	M20
KC7410	 HPC (M)	PVD high multilayer AlCr-based coating over fine-grain carbide: • Newly developed unique coating. • Extraordinary wear resistance in drilling of cast iron materials. • High hot hardness enables elevated speeds.	K15
KC7135	 PC (M)	PVD-TiCN-TiN-coated carbide: • Highly wear-resistant grade. • For universal application in steel, stainless steel, and irons. • Specifically used for KSEM PCM precentering inserts.	P40 K35
KC7315	 HPG (M)	PVD-TiAlN-coated universal fine-grain grade: • Highest level of wear resistance for higher cutting speeds. • More efficient than PVD-TiN grades. • First choice for alloyed and high-alloy steel as well as cast iron. • Latest geometry for low thrust and highest speed and feed rates; up to 7 x D no precentering required.	K20 M15 P30
KC7235	 HP (M)	PVD-TiAlN-coated fine-grain carbide: • Tough substrate. • Highly wear-resistant coating. • Suitable for machining steel even in difficult conditions.	K35 M30 P40
KC7315	 HP (M)	PVD-TiAlN-coated universal fine-grain grade: • Highest level of wear resistance for higher cutting speeds. • More efficient than PVD-TiN grades. • First choice for alloyed and high-alloy steel as well as cast iron. • Latest geometry for low thrust and highest speed and feed rates; up to 7 x D no precentering required.	K20 M15 P30

Modular Drill Carbide Insert Blades • KSEM™ • HP(M) Geometry • Grade KC7235™ • Through Coolant

Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 12,5	16,0	20,0	25,4	32,0	40,0
P	1	100	110	120	mm/r	0,15 - 0,31	0,17 - 0,36	0,19 - 0,41	0,25 - 0,53	0,29 - 0,60	0,33 - 0,69
P	2	80	95	110	mm/r	0,15 - 0,31	0,17 - 0,36	0,19 - 0,41	0,25 - 0,53	0,29 - 0,60	0,33 - 0,69
P	3	65	70	80	mm/r	0,15 - 0,31	0,17 - 0,36	0,19 - 0,41	0,25 - 0,53	0,29 - 0,60	0,33 - 0,69
Material Group		Cutting Speed — vc Range – SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 0.462	0.630	0.787	1.000	1.260	1.575
P	1	330	360	390	IPR	.006 - .012	.007 - .014	.007 - .016	.010 - .021	.011 - .024	.013 - .027
P	2	260	310	360	IPR	.006 - .012	.007 - .014	.007 - .016	.010 - .021	.011 - .024	.013 - .027
P	3	210	230	260	IPR	.006 - .012	.007 - .014	.007 - .016	.010 - .021	.011 - .024	.013 - .027

Modular Drill Carbide Insert Blades • KSEM • HP(M) Geometry • Grade KC7315™ • Through Coolant

Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 12,5	16,0	20,0	25,4	32,0	40,0
P	1	70	90	110	mm/r	0,15 - 0,31	0,17 - 0,36	0,19 - 0,41	0,25 - 0,53	0,29 - 0,60	0,33 - 0,69
P	2	80	100	120	mm/r	0,15 - 0,31	0,17 - 0,36	0,19 - 0,41	0,25 - 0,53	0,29 - 0,60	0,33 - 0,69
P	3	65	75	80	mm/r	0,15 - 0,28	0,17 - 0,31	0,19 - 0,36	0,25 - 0,46	0,23 - 0,53	0,33 - 0,60
P	4	50	65	75	mm/r	0,12 - 0,28	0,14 - 0,31	0,16 - 0,36	0,20 - 0,46	0,23 - 0,53	0,30 - 0,60
P	5	45	50	65	mm/r	0,09 - 0,15	0,11 - 0,18	0,12 - 0,21	0,15 -0,25	0,17 - 0,29	0,20 - 0,33
P	6	45	50	65	mm/r	0,12 - 0,23	0,14 - 0,26	0,16 - 0,29	0,20 -0,38	0,23 -0,43	0,26 - 0,54
Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 0.462	0.630	0.787	1.000	1.260	1.575
P	1	230	300	360	IPR	.006 - .012	.007 - .014	.007 - .016	.010 - .021	.011 - .024	.013 - .027
P	2	260	330	390	IPR	.006 - .012	.007 - .014	.007 - .016	.010 - .021	.014 - .024	.016 - .027
P	3	210	250	260	IPR	.006 - .011	.007 - .012	.007 - .014	.010 - .018	.009 - .021	.013 - .024
P	4	150	160	210	IPR	.005 - .011	.006 - .012	.006 - .014	.008 - .018	.009 - .021	.012 - .024
P	5	150	160	210	IPR	.004 - .006	.004 - .007	.005 - .008	.006 - .010	.007 - .011	.008 - .013
P	6	150	160	210	IPR	.005 - .009	.006 - .010	.006 - .011	.008 - .015	.009 - .017	.010 - .021

Modular Drill Carbide Insert Blades • KSEM• HPG(M) Geometry • Grade KC7315 • Through Coolant

Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 12,5	16,0	20,0	25,4	32,0	40,0
P	1	75	110	140	mm/r	0,15 - 0,34	0,17 - 0,40	0,19 - 0,45	0,25 - 0,58	0,29 - 0,66	0,33 - 0,76
P	2	90	120	150	mm/r	0,15 - 0,34	0,17 - 0,40	0,19 - 0,45	0,25 - 0,58	0,29 - 0,66	0,33 - 0,76
P	3	50	75	100	mm/r	0,15 - 0,28	0,17 - 0,34	0,19 - 0,40	0,25 - 0,51	0,29 - 0,58	0,33 - 0,66
P	4	55	75	95	mm/r	0,12 - 0,31	0,14 - 0,34	0,16 - 0,40	0,20 - 0,51	0,23 - 0,58	0,26 - 0,66
P	5	50	65	80	mm/r	0,09 - 0,17	0,11 - 0,20	0,12 - 0,23	0,15 - 0,28	0,17 - 0,32	0,20 - 0,36
P	6	50	65	80	mm/r	0,12 - 0,25	0,14 - 0,29	0,16 - 0,32	0,20 - 0,42	0,23 - 0,47	0,26 - 0,54
K	1	90	135	175	mm/r	0,17 - 0,35	0,21 - 0,42	0,25 - 0,48	0,31 - 0,59	0,37 - 0,70	0,43 - 0,81
K	2	90	110	125	mm/r	0,17 - 0,33	0,21 - 0,41	0,25 - 0,48	0,31 - 0,59	0,37 - 0,70	0,43 - 0,81
K	3	40	95	125	mm/r	0,18 - 0,36	0,20 - 0,41	0,21 - 0,44	0,23 - 0,48	0,25 - 0,53	0,27 - 0,57
Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 0.462	0.630	0.787	1.000	1.260	1.575
P	1	250	360	460	IPR	.006 - .013	.007 - .016	.007 - .018	.010 - .023	.011 - .026	.013 - .030
P	2	300	390	490	IPR	.006 - .013	.007 - .016	.007 - .018	.010 - .023	.011 - .026	.013 - .030
P	3	160	250	330	IPR	.006 - .011	.007 - .013	.007 - .016	.010 - .020	.011 - .023	.013 - .026
P	4	160	210	260	IPR	.005 - .012	.006 - .011	.006 - .016	.008 - .020	.009 - .023	.010 - .026
P	5	160	210	260	IPR	.004 - .007	.004 - .008	.005 - .009	.006 - .011	.007 - .013	.008 - .014
P	6	160	210	260	IPR	.005 - .010	.006 - .011	.006 - .013	.008 - .017	.009 - .019	.010 - .021
K	1	300	440	570	IPR	.007 - .014	.008 - .017	.010 - .019	.012 - .023	.015 - .028	.017 - .032
K	2	300	360	410	IPR	.007 - .013	.008 - .016	.010 - .019	.012 - .023	.015 - .028	.017 - .032
K	3	130	310	410	IPR	.007 - .014	.008 - .016	.008 - .017	.009 - .019	.010 - .021	.011 - .022

Modular Drill Carbide Insert Blades • KSEM™ • HPC(M) Geometry • Grade KC7410™ • Through Coolant

Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 12,5	16,0	20,0	25,4	32,0	40,0
K	1	100	**175**	200	mm/r	0,17 - 0,35	0,21 - 0,42	0,25 - 0,48	0,31 - 0,59	0,37 - 0,70	0,43 - 0,81
	2	100	**160**	180	mm/r	0,09 - 0,14	0,11 - 0,17	0,13 - 0,20	0,16 -0,25	0,18 - 0,28	0,21 - 0,31
	3	70	**85**	100	mm/r	0,09 - 0,14	0,11 - 0,17	0,13 - 0,20	0,16 -0,25	0,18 - 0,28	0,21 - 0,31
Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 0.462	0.630	0.787	1.000	1.260	1.575
K	1	330	**570**	660	IPR	.007 - .014	.008 - .017	.010 - .019	.012 - .023	.015 - .028	.017 - .032
	2	330	**520**	590	IPR	.004 - .006	.004 - .007	.005 - .008	.006 - .010	.007 - .011	.008 - .012
	3	230	**280**	330	IPR	.004 - .006	.004 - .007	.005 - .008	.006 - .010	.007 - .011	.008 - .012

Modular Drill Carbide Insert Blades • KSEM • HPC(M) Classic Line Geometry • Grade KC7410 • Through Coolant

Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 12,5	16,0	20,0	25,4	32,0	40,0
K	1	100	**175**	200	mm/r	0,17 - 0,35	0,21 - 0,42	0,25 - 0,48	0,31 - 0,59	0,37 - 0,70	0,43 - 0,81
	2	100	**160**	180	mm/r	0,17 - 0,33	0,21 - 0,41	0,25 - 0,48	0,31 - 0,59	0,37 - 0,70	0,43 - 0,81
	3	70	**85**	100	mm/r	0,18 - 0,36	0,20 - 0,41	0,21 - 0,44	0,23 - 0,48	0,25 - 0,53	0,27 - 0,57
Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 0.462	0.630	0.787	1.000	1.260	1.575
K	1	330	**570**	660	IPR	.007 - .014	.008 - .017	.010 - .019	.012 - .023	.015 - .028	.017 - .032
	2	330	**520**	590	IPR	.007 - .013	.008 - .016	.010 - .019	.012 - .023	.015 - .028	.017 - .032
	3	230	**280**	330	IPR	.007 - .014	.008 - .016	.008 - .017	.009 - .019	.010 - .021	.011 - .022

Modular Drill Carbide Insert Blades • KSEM • HPL(M) Geometry • Grade KC7320™ • Through Coolant

Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 12,5	16,0	20,0	25,4	32,0	40,0
M	1	30	**60**	90	mm/r	0,09 - 0,14	0,11 - 0,17	0,13 - 0,20	0,16 -0,25	0,18 - 0,28	0,21 - 0,31
	2	30	**50**	90	mm/r	0,09 - 0,14	0,11 - 0,17	0,13 - 0,20	0,16 -0,25	0,18 - 0,28	0,21 - 0,31
	3	20	**40**	60	mm/r	0,09 - 0,14	0,11 - 0,17	0,13 - 0,20	0,16 -0,25	0,18 - 0,28	0,21 - 0,31
Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 0.462	0.630	0.787	1.000	1.260	1.575
M	1	100	**200**	300	IPR	.004 - .006	.004 - .007	.005 - .008	.006 - .010	.007 - .011	.008 - .012
	2	100	**160**	300	IPR	.004 - .006	.004 - .007	.005 - .008	.006 - .010	.007 - .011	.008 - .012
	3	70	**130**	200	IPR	.004 - .006	.004 - .007	.005 - .008	.006 - .010	.007 - .011	.008 - .012

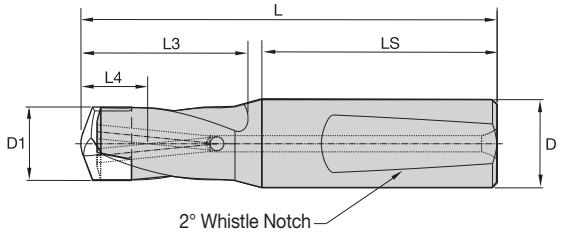
Modular Drill Carbide Insert Blades • KSEM™ • PC(M) Geometry • Grade KC7135™ • Through Coolant

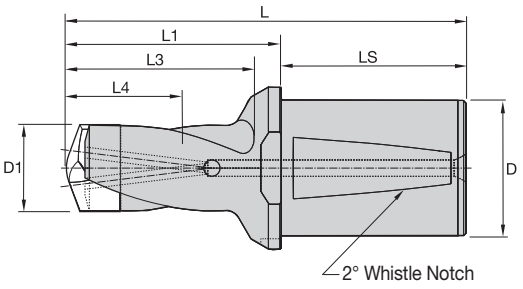
Material Group		Cutting Speed — vc Range — m/min			Metric					
					Recommended Feed Rate (f) by Diameter					
		min	Starting Value	max		12,5	16,0	20,0	25,4	32,0
P	1	90	**100**	110	mm/r	0,14 - 0,23	0,17 - 0,25	0,19 - 0,29	0,23 - 0,38	0,26 - 0,43
	2	80	**90**	100	mm/r	0,17 - 0,23	0,19 - 0,25	0,22 - 0,29	0,29 - 0,38	0,32 - 0,43
	3	55	**65**	75	mm/r	0,14 - 0,20	0,15 - 0,23	0,17 - 0,25	0,23 - 0,34	0,26 - 0,38
	4	50	**60**	70	mm/r	0,11 - 0,20	0,13 - 0,23	0,14 - 0,25	0,18 - 0,34	0,21 - 0,38
	5	45	**50**	60	mm/r	0,08 - 0,11	0,10 - 0,13	0,11 - 0,14	0,14 - 0,18	0,15 - 0,20
	6	45	**55**	65	mm/r	0,11 - 0,17	0,13 - 0,18	0,14 - 0,20	0,18 - 0,28	0,21 - 0,31
K	1	60	**60**	90	mm/r	0,08 - 0,24	0,09 - 0,28	0,11 - 0,31	0,14 - 0,43	0,15 - 0,48
	2	60	**60**	75	mm/r	0,18 - 0,24	0,21 - 0,28	0,23 - 0,31	0,28 - 0,37	0,32 - 0,42
	3	40	**40**	75	mm/r	0,15 - 0,24	0,18 - 0,26	0,21 - 0,29	0,23 - 0,37	0,25 - 0,42

Material Group		Cutting Speed — vc Range — SFM			Inch					
					Recommended Feed Rate (f) by Diameter					
		min	Starting Value	max		0.462	0.630	0.787	1.000	1.260
P	1	300	**330**	360	IPR	.006 - .009	.007 - .010	.007 - .011	.009 - .015	.010 - .017
	2	260	**300**	330	IPR	.007 - .009	.007 - .010	.009 - .011	.011 - .015	.013 - .017
	3	180	**210**	250	IPR	.006 - .008	.006 - .009	.007 - .010	.009 - .013	.010 - .015
	4	150	**160**	200	IPR	.004 - .008	.005 - .009	.006 - .010	.007 - .013	.008 - .015
	5	150	**180**	210	IPR	.003 - .004	.004 - .005	.004 - .006	.006 - .007	.006 - .008
	6	150	**180**	210	IPR	.004 - .007	.005 - .007	.006 - .008	.007 - .011	.008 - .012
K	1	200	**200**	300	IPR	.003 - .009	.004 - .011	.004 - .012	.006 - .017	.006 - .019
	2	200	**200**	250	IPR	.007 - .009	.008 - .011	.009 - .012	.011 - .015	.013 - .017
	3	130	**130**	250	IPR	.006 - .009	.007 - .010	.008 - .011	.009 - .015	.010 - .017

- Use insert blade diameter within the designated seat size.
- Drill shipped with central lock screw and wrench.
- Order insert blades separately; see pages H42–H43.







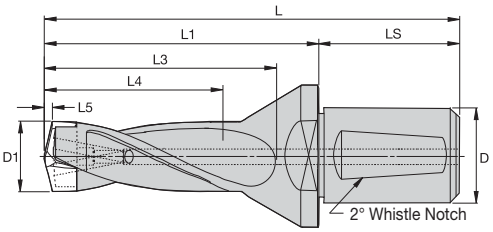


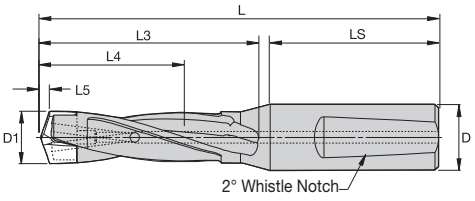
KSEM WN/WD Shank • 1 x D • Metric

	D1		D1 max								seat size	central lock screw	wrench
	mm	in	mm	in	L	L1	L4 max	L5	LS	D			
KSEM125R1WN16M	12,500	.4921	13,500	.5314	78	–	14	2,0	48	16	C	**364.017**	**170.294**
KSEM136R1WN16M	13,510	.5319	14,500	.5708	81	–	15	2,2	48	16	B	**364.016**	**170.289**
KSEM146R1WN20M	14,510	.5713	15,874	.6249	85	–	16	2,3	50	20	A	**364.016**	**170.289**
KSEM160R1WN20M	16,000	.6299	18,000	.7086	88	–	18	2,5	50	20	1	**364.010**	**170.270**
KSEM181R1WN25M	18,010	.7091	19,999	.7873	99	–	20	2,9	56	25	2	**364.010**	**170.270**
KSEM200R1WN25M	20,000	.7874	22,000	.8661	102	–	22	3,2	56	25	3	**364.011**	**170.272**
KSEM221R1WN25M	22,010	.8665	24,000	.9448	107	–	24	3,5	56	25	4	**364.011**	**170.272**
KSEM241R1WN32M	24,010	.9453	26,000	1.0236	115	–	26	3,8	60	32	5	**364.012**	**170.274**
KSEM261R1WN32M	26,010	1.0240	28,000	1.1023	119	–	28	4,0	60	32	6	**364.012**	**170.274**
KSEM281R1WN32M	28,016	1.1028	30,000	1.1811	123	–	30	4,3	60	32	7	**364.013**	**170.276**
KSEM301R1WN32M	30,010	1.1815	32,000	1.2598	127	–	32	4,6	60	32	8	**364.013**	**170.276**
KSEM321R1WD50M	32,010	1.2602	36,000	1.4173	147	79	36	4,9	68	50	9	**364.015**	**170.276**
KSEM361R1WD50M	36,010	1.4177	40,000	1.5748	155	87	40	5,5	68	50	10	**364.015**	**170.276**

- Use designated insert blade with each drill body.
- Drill shipped with central lock screw and wrench.
- Order insert blade separately; see pages H42–H43.









for diameters >16mm, DIN 1835 part 1 form E
for diameters <6mm, DIN 6535 — HE

For information on L, L3, and L4 max, see the Modular Drill foldout table.

KSEM WN/WD Shank • 3 x D/5 x D • Metric

3x	5x	D1		D1 max						
		mm	in	mm	in	L5	LS	D	seat size	central lock screw
KSEM125R3WN16M	**KSEM125R5WN16M**	12,500	.4921	13,000	.5118	2,0	48	16	C	**364.017**
KSEM130R3WN16M	**KSEM130R5WN16M**	13,000	.5118	13,500	.5314	2,1	48	16	C	**364.017**
KSEM135R3WN16M	**KSEM135R5WN16M**	13,500	.5315	13,500	.5314	2,1	48	16	C	**364.017**
KSEM136R3WN16M	**KSEM136R5WN16M**	13,510	.5319	14,000	.5512	2,2	48	16	B	**364.016**
KSEM140R3WN16M	**KSEM140R5WN16M**	14,000	.5512	14,500	.5708	2,2	48	16	B	**364.016**
KSEM145R3WN20M	**KSEM145R5WN20M**	14,500	.5709	14,500	.5708	2,3	50	20	B	**364.016**
KSEM146R3WN20M	**KSEM146R5WN20M**	14,510	.5713	15,000	.5906	2,3	50	20	A	**364.016**
KSEM150R3WN20M	**KSEM150R5WN20M**	15,000	.5906	15,500	.6102	2,4	50	20	A	**364.016**
KSEM155R3WN20M	**KSEM155R5WN20M**	15,500	.6102	15,874	.6249	2,5	50	20	A	**364.016**
KSEM160R3WN20M	**KSEM160R5WN20M**	16,000	.6299	16,500	.6496	2,5	50	20	1	**364.010**
KSEM165R3WN20M	**KSEM165R5WN20M**	16,500	.6496	17,000	.6693	2,6	50	20	1	**364.010**
KSEM170R3WN20M	**KSEM170R5WN20M**	17,000	.6693	17,500	.6890	2,7	50	20	1	**364.010**
KSEM175R3WN20M	**KSEM175R5WN20M**	17,500	.6890	18,000	.7086	2,8	50	20	1	**364.010**
KSEM180R3WN20M	**KSEM180R5WN20M**	18,000	.7087	18,000	.7086	2,9	50	20	1	**364.010**
—	**KSEM181R5WN25M**	18,010	.7091	18,500	.7283	2,9	56	25	2	**364.010**
KSEM185R3WN25M	**KSEM185R5WN25M**	18,500	.7283	19,000	.7480	2,9	56	25	2	**364.010**
KSEM190R3WN25M	**KSEM190R5WN25M**	19,000	.7480	19,500	.7677	3,0	56	25	2	**364.010**
KSEM195R3WN25M	**KSEM195R5WN25M**	19,500	.7677	19,999	.7873	3,1	56	25	2	**364.010**
KSEM200R3WN25M	**KSEM200R5WN25M**	20,000	.7874	20,500	.8071	3,2	56	25	3	**364.011**
KSEM205R3WN25M	**KSEM205R5WN25M**	20,500	.8071	21,000	.8268	3,3	56	25	3	**364.011**
KSEM210R3WN25M	**KSEM210R5WN25M**	21,000	.8268	21,500	.8465	3,3	56	25	3	**364.011**
KSEM215R3WN25M	**KSEM215R5WN25M**	21,500	.8465	22,000	.8661	3,4	56	25	3	**364.011**
KSEM220R3WN25M	**KSEM220R5WN25M**	22,000	.8661	22,000	.8661	3,5	56	25	3	**364.011**
—	**KSEM221R5WN25M**	22,010	.8665	22,500	.8858	3,5	56	25	4	**364.011**
KSEM225R3WN25M	**KSEM225R5WN25M**	22,500	.8858	23,000	.9055	3,6	56	25	4	**364.011**
KSEM230R3WN25M	**KSEM230R5WN25M**	23,000	.9055	23,500	.9252	3,7	56	25	4	**364.011**
KSEM235R3WN25M	**KSEM235R5WN25M**	23,500	.9252	24,000	.9448	3,7	56	25	4	**364.011**
KSEM240R3WN25M	**KSEM240R5WN25M**	24,000	.9449	24,000	.9448	3,8	56	25	4	**364.011**
—	**KSEM241R5WN32M**	24,010	.9453	24,500	.9646	3,8	60	32	5	**364.012**
KSEM245R3WN32M	**KSEM245R5WN32M**	24,500	.9646	25,000	.9843	3,9	60	32	5	**364.012**
KSEM250R3WN32M	**KSEM250R5WN32M**	25,000	.9843	25,500	1.0039	3,8	60	32	5	**364.012**
KSEM255R3WN32M	**KSEM255R5WN32M**	25,500	1.0039	26,000	1.0236	3,9	60	32	5	**364.012**
KSEM260R3WN32M	**KSEM260R5WN32M**	26,000	1.0236	26,000	1.0236	4,0	60	32	5	**364.012**
—	**KSEM261R5WN32M**	26,010	1.0240	26,500	1.0433	4,0	60	32	6	**364.012**

(continued)

(KSEM WN/WD Shank • 3 x D/5 x D • Metric continued)

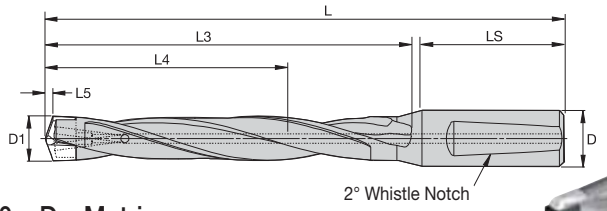
		D1		D1 max						
		mm	in	mm	in	L5	LS	D	seat size	central lock screw
KSEM265R3WN32M	KSEM265R5WN32M	26,500	1.0433	27,000	1.0630	4,1	60	32	6	364.012
KSEM270R3WN32M	KSEM270R5WN32M	27,000	1.0630	27,500	1.0827	4,2	60	32	6	364.012
KSEM275R3WN32M	KSEM275R5WN32M	27,500	1.0827	28,000	1.1023	4,2	60	32	6	364.012
KSEM280R3WN32M	KSEM280R5WN32M	28,000	1.1024	28,000	1.1023	4,3	60	32	6	364.012
–	KSEM281R5WN32M	28,016	1.1028	28,500	1.1220	4,3	60	32	7	364.013
KSEM285R3WN32M	KSEM285R5WN32M	28,500	1.1220	29,000	1.1417	4,4	60	32	7	364.013
KSEM290R3WN32M	KSEM290R5WN32M	29,000	1.1417	29,500	1.1614	4,5	60	32	7	364.013
KSEM295R3WN32M	KSEM295R5WN32M	29,500	1.1614	30,000	1.1811	4,5	60	32	7	364.013
KSEM300R3WN32M	KSEM300R5WN32M	30,000	1.1811	30,000	1.1811	4,6	60	32	7	364.013
–	KSEM301R5WN32M	30,010	1.1815	30,500	1.2008	4,6	60	32	8	364.013
KSEM305R3WN32M	KSEM305R5WN32M	30,500	1.2008	31,000	1.2205	4,7	60	32	8	364.013
KSEM310R3WN32M	KSEM310R5WN32M	31,000	1.2205	31,500	1.2402	4,8	60	32	8	364.013
KSEM315R3WN32M	KSEM315R5WN32M	31,500	1.2402	32,000	1.2598	4,8	60	32	8	364.013
KSEM320R3WN32M	KSEM320R5WN32M	32,000	1.2598	32,000	1.2598	4,9	60	32	8	364.013
KSEM321R3WD50M	KSEM321R5WD50M	32,010	1.2602	33,000	1.2992	4,9	68	50	9	364.015
KSEM330R3WD50M	KSEM330R5WD50M	33,000	1.2992	34,000	1.3386	5,1	68	50	9	364.015
KSEM340R3WD50M	KSEM340R5WD50M	34,000	1.3386	35,000	1.3780	5,2	68	50	9	364.015
KSEM350R3WD50M	KSEM350R5WD50M	35,000	1.3780	36,000	1.4173	5,4	68	50	9	364.015
KSEM360R3WD50M	KSEM360R5WD50M	36,000	1.4173	36,000	1.4173	5,5	68	50	9	364.015
KSEM361R3WD50M	KSEM361R5WD50M	36,010	1.4177	37,000	1.4567	5,5	68	50	10	364.015
KSEM370R3WD50M	KSEM370R5WD50M	37,000	1.4567	38,000	1.4961	5,7	68	50	10	364.015
KSEM380R3WD50M	KSEM380R5WD50M	38,000	1.4961	39,000	1.5354	5,8	68	50	10	364.015
KSEM390R3WD50M	KSEM390R5WD50M	39,000	1.5354	40,000	1.5748	6,0	68	50	10	364.015
KSEM400R3WD50M	KSEM400R5WD50M	40,000	1.5748	40,000	1.5748	6,2	68	50	10	364.015

- Use designated insert blade with each drill body.
- Drill shipped with central lock screw and wrench.
- Order insert blade separately; see pages H42–H43.



for diameter <16mm DIN 6535 — HE
for diameter >16mm DIN 1835 part 1 form E

For information on L, L3, and L4 max, see the Modular Drill foldout table.





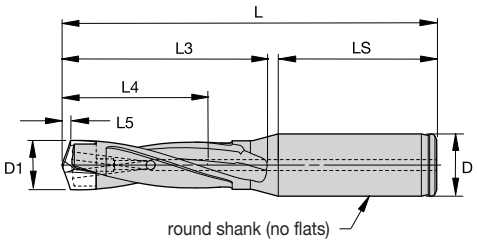
KSEM WN Shank • 7 x D/10 x D • Metric

7x	10x	D1		D1 max						
		mm	in	mm	in	L5	LS	D	seat size	central lock screw
KSEM125R7WN16M	KSEM125R10WN16M	12,500	.4921	13,000	.5118	2,0	48	16	C	364.017
KSEM130R7WN16M	KSEM130R10WN16M	13,000	.5118	13,500	.5314	2,1	48	16	C	364.017
KSEM135R7WN16M	KSEM135R10WN16M	13,500	.5315	13,500	.5314	2,1	48	16	C	364.017
KSEM136R7WN16M	KSEM136R10WN16M	13,510	.5319	14,000	.5512	2,2	48	16	B	364.016
KSEM140R7WN16M	KSEM140R10WN16M	14,000	.5512	14,500	.5708	2,2	48	16	B	364.016
KSEM145R7WN20M	KSEM145R10WN20M	14,500	.5709	14,500	.5708	2,3	50	20	B	364.016
KSEM146R7WN20M	KSEM146R10WN20M	14,510	.5713	15,000	.5906	2,3	50	20	A	364.016
KSEM150R7WN20M	KSEM150R10WN20M	15,000	.5906	15,500	.6102	2,4	50	20	A	364.016
KSEM155R7WN20M	KSEM155R10WN20M	15,500	.6102	15,874	.6249	2,5	50	20	A	364.016
KSEM160R7WN20M	KSEM160R10WN20M	16,000	.6299	16,500	.6496	2,5	50	20	1	364.010
KSEM165R7WN20M	KSEM165R10WN20M	16,500	.6496	17,000	.6693	2,6	50	20	1	364.010
KSEM170R7WN20M	KSEM170R10WN20M	17,000	.6693	17,500	.6890	2,7	50	20	1	364.010
KSEM175R7WN20M	KSEM175R10WN20M	17,500	.6890	18,000	.7086	2,8	50	20	1	364.010
KSEM180R7WN20M	KSEM180R10WN20M	18,000	.7087	18,000	.7086	2,9	50	20	1	364.010
–	KSEM181R10WN25M	18,010	.7091	18,500	.7283	2,9	56	25	2	364.010
KSEM185R7WN25M	KSEM185R10WN25M	18,500	.7283	19,000	.7480	2,9	56	25	2	364.010
KSEM190R7WN25M	KSEM190R10WN25M	19,000	.7480	19,500	.7677	3,0	56	25	2	364.010
KSEM195R7WN25M	KSEM195R10WN25M	19,500	.7677	19,999	.7873	3,1	56	25	2	364.010
KSEM200R7WN25M	KSEM200R10WN25M	20,000	.7874	20,500	.8071	3,2	56	25	3	364.011
KSEM205R7WN25M	KSEM205R10WN25M	20,500	.8071	21,000	.8268	3,3	56	25	3	364.011
KSEM210R7WN25M	KSEM210R10WN25M	21,000	.8268	21,500	.8465	3,3	56	25	3	364.011
KSEM215R7WN25M	KSEM215R10WN25M	21,500	.8465	22,000	.8661	3,4	56	25	3	364.011
KSEM220R7WN25M	KSEM220R10WN25M	22,000	.8661	22,000	.8661	3,5	56	25	3	364.011
–	KSEM221R10WN25M	22,010	.8665	22,500	.8858	3,5	56	25	4	364.011
KSEM225R7WN25M	KSEM225R10WN25M	22,500	.8858	23,000	.9055	3,6	56	25	4	364.011
KSEM230R7WN25M	KSEM230R10WN25M	23,000	.9055	23,500	.9252	3,7	56	25	4	364.011
KSEM235R7WN25M	KSEM235R10WN25M	23,500	.9252	24,000	.9448	3,7	56	25	4	364.011
KSEM240R7WN25M	KSEM240R10WN25M	24,000	.9449	24,000	.9448	3,8	56	25	4	364.011
–	KSEM241R10WN32M	24,010	.9453	24,500	.9646	3,8	60	32	5	364.012
KSEM245R7WN32M	KSEM245R10WN32M	24,500	.9646	25,000	.9843	3,9	60	32	5	364.012
KSEM250R7WN32M	KSEM250R10WN32M	25,000	.9843	25,500	1.0039	3,8	60	32	5	364.012
KSEM255R7WN32M	KSEM255R10WN32M	25,500	1.0039	26,000	1.0236	3,9	60	32	5	364.012
KSEM260R7WN32M	KSEM260R10WN32M	26,000	1.0236	26,000	1.0236	4,0	60	32	5	364.012
–	KSEM261R10WN32M	26,010	1.0240	26,500	1.0433	4,0	60	32	6	364.012
KSEM265R7WN32M	KSEM265R10WN32M	26,500	1.0433	27,000	1.0630	4,1	60	32	6	364.012
KSEM270R7WN32M	KSEM270R10WN32M	27,000	1.0630	27,500	1.0827	4,2	60	32	6	364.012
KSEM275R7WN32M	KSEM275R10WN32M	27,500	1.0827	28,000	1.1023	4,2	60	32	6	364.012
KSEM280R7WN32M	KSEM280R10WN32M	28,000	1.1024	28,000	1.1023	4,3	60	32	6	364.012
–	KSEM281R10WN32M	28,016	1.1028	28,500	1.1220	4,3	60	32	7	364.013
KSEM285R7WN32M	KSEM285R10WN32M	28,500	1.1220	29,000	1.1417	4,4	60	32	7	364.013
KSEM290R7WN32M	KSEM290R10WN32M	29,000	1.1417	29,500	1.1614	4,5	60	32	7	364.013
KSEM295R7WN32M	KSEM295R10WN32M	29,500	1.1614	30,000	1.1811	4,5	60	32	7	364.013
KSEM300R7WN32M	KSEM300R10WN32M	30,000	1.1811	30,000	1.1811	4,6	60	32	7	364.013
–	KSEM301R10WN32M	30,010	1.1815	30,500	1.2008	4,6	60	32	8	364.013
KSEM305R7WN32M	–	30,500	1.2008	31,000	1.2205	4,7	60	32	8	364.013
KSEM310R7WN32M	KSEM310R10WN32M	31,000	1.2205	31,500	1.2402	4,8	60	32	8	364.013
KSEM315R7WN32M	–	31,500	1.2402	32,000	1.2598	4,8	60	32	8	364.013
KSEM320R7WN32M	KSEM320R10WN32M	32,000	1.2598	32,000	1.2598	4,9	60	32	8	364.013

- Use designated insert blade with each drill body.
- For alternatives, see insert blade fitment chart on page H44.
- Drill shipped with central lock screw and wrench.
- Order insert blade separately; see pages H42–H43.



For information on L, L3, and L4 max, see the Modular Drill foldout table.





KSEM Round Shank • 3 x D/5 x D • Inch

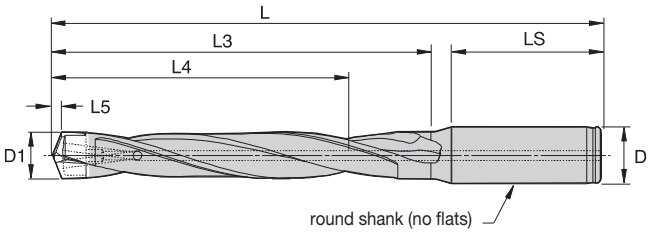
3x	5x	D1		D1 max						
		mm	in	mm	in	L5	LS	D	seat size	central lock screw
–	KSEM0500R5SS050	12,700	.5000	13,200	.5197	.079	1.50	.5000	C	364.017
KSEM0500R3SS075	KSEM0500R5SS075	12,700	.5000	13,200	.5197	.079	2.00	.7500	C	364.017
KSEM0509R3SS075	KSEM0509R5SS075	12,929	.5090	13,429	.5287	.081	2.00	.7500	C	364.017
–	KSEM0516R5SS075	13,106	.5160	13,500	.5314	.082	2.00	.7500	C	364.017
KSEM0531R3SS075	KSEM0531R5SS075	13,494	.5313	13,500	.5314	.084	2.00	.7500	C	364.017
KSEM0547R3SS075	–	13,891	.5470	14,394	.5667	.087	2.00	.7500	B	364.016
–	KSEM0547R5SS075	13,894	.5470	14,394	.5667	.087	2.00	.7500	B	364.016
KSEM0563R3SS075	KSEM0563R5SS075	14,300	.5630	14,500	.5708	.089	2.00	.7500	B	364.016
KSEM0578R3SS075	KSEM0578R5SS075	14,681	.5780	15,181	.5977	.092	2.00	.7500	A	364.016
KSEM0594R3SS075	KSEM0594R5SS075	15,088	.5940	15,588	.6137	.094	2.00	.7500	A	364.016
KSEM0609R3SS075	KSEM0609R5SS075	15,469	.6090	15,874	.6249	.097	2.00	.7500	A	364.016
KSEM0625R3SS075	KSEM0625R5SS075	15,875	.6250	16,375	.6447	.099	2.00	.7500	1	364.010
KSEM0634R3SS075	KSEM0634R5SS075	16,104	.6340	16,604	.6537	.101	2.00	.7500	1	364.010
KSEM0641R3SS075	KSEM0641R5SS075	16,281	.6410	16,781	.6607	.102	2.00	.7500	1	364.010
KSEM0656R3SS075	KSEM0656R5SS075	16,670	.6563	17,170	.6760	.104	2.00	.7500	1	364.010
KSEM0672R3SS075	KSEM0672R5SS075	17,069	.6720	17,569	.6917	.107	2.00	.7500	1	364.010
KSEM0688R3SS075	KSEM0688R5SS075	17,463	.6875	17,963	.7072	.109	2.00	.7500	1	364.010
KSEM0703R3SS075	KSEM0703R5SS075	17,856	.7030	18,000	.7086	.112	2.00	.7500	1	364.010
KSEM0719R3SS075	KSEM0719R5SS075	18,256	.7188	18,756	.7384	.114	2.00	.7500	2	364.010
KSEM0734R3SS075	KSEM0734R5SS075	18,644	.7340	19,144	.7537	.117	2.00	.7500	2	364.010
KSEM0750R3SS075	KSEM0750R5SS075	19,050	.7500	19,550	.7502	.119	2.00	.7500	2	364.010
KSEM0750R3SS100	KSEM0750R5SS100	19,050	.7500	19,550	.7502	.119	3.00	1.0000	2	364.010
KSEM0759R3SS075	KSEM0759R5SS075	19,279	.7585	19,779	.7787	.121	2.00	.7500	2	364.010
KSEM0766R3SS100	KSEM0766R5SS100	19,456	.7660	19,956	.7857	.122	3.00	1.0000	2	364.010
KSEM0781R3SS100	KSEM0781R5SS100	19,844	.7813	19,999	.7873	.124	3.00	1.0000	2	364.010
KSEM0797R3SS100	KSEM0797R5SS100	20,244	.7970	20,744	.8167	.127	3.00	1.0000	3	364.011
KSEM0813R3SS100	KSEM0813R5SS100	20,638	.8125	21,138	.8322	.129	3.00	1.0000	3	364.011
KSEM0844R3SS100	KSEM0844R5SS100	21,431	.8438	21,931	.8634	.134	3.00	1.0000	3	364.011
KSEM0859R3SS100	KSEM0859R5SS100	21,819	.8590	22,000	.8661	.136	3.00	1.0000	3	364.011
KSEM0875R3SS100	KSEM0875R5SS100	22,225	.8750	22,725	.8947	.139	3.00	1.0000	4	364.011
KSEM0875R3SS125	KSEM0875R5SS125	22,225	.8750	22,725	.8947	.139	3.25	1.2500	4	364.011
KSEM0884R3SS100	KSEM0884R5SS100	22,454	.8840	22,954	.9037	.140	3.00	1.0000	4	364.011
KSEM0906R3SS100	KSEM0906R5SS100	23,019	.9063	23,519	.9260	.144	3.00	1.0000	4	364.011
KSEM0922R3SS100	KSEM0922R5SS100	23,419	.9220	23,919	.9417	.146	3.00	1.0000	4	364.011
KSEM0938R3SS100	KSEM0938R5SS100	23,813	.9375	24,000	.9448	.149	3.00	1.0000	4	364.011
KSEM0969R3SS100	KSEM0969R5SS100	24,606	.9688	25,106	.9884	.154	3.00	1.0000	5	364.012
KSEM0984R3SS100	KSEM0984R5SS100	25,003	.9844	25,503	1.0041	.151	3.00	1.0000	5	364.012
KSEM1000R3SS100	KSEM1000R5SS100	25,400	1.0000	25,900	1.0197	.154	3.00	1.0000	5	364.012

(continued)

(KSEM Round Shank • 3 x D/5 x D • Inch continued)

		D1		D1 max						
		mm	in	mm	in	L5	LS	D	seat size	central lock screw
–	**KSEM1000R5SS125**	25,400	1.0000	25,900	1.0197	.154	3.25	1.2500	5	**364.012**
KSEM1011R3SS125	**KSEM1011R5SS125**	25,679	1.0110	26,000	1.0236	.156	3.25	1.2500	5	**364.012**
KSEM1031R3SS125	**KSEM1031R5SS125**	26,195	1.0313	26,695	1.0510	.159	3.25	1.2500	6	**364.012**
–	**KSEM1047R5SS125**	26,594	1.0470	27,094	1.0667	.161	3.25	1.2500	6	**364.012**
KSEM1063R3SS125	**KSEM1063R5SS125**	26,988	1.0625	27,488	1.0822	.164	3.25	1.2500	6	**364.012**
–	**KSEM1094R5SS125**	27,781	1.0938	28,000	1.1023	.168	3.25	1.2500	6	**364.012**
KSEM1109R3SS125	**KSEM1109R5SS125**	28,169	1.1090	28,669	1.1287	.171	3.25	1.2500	7	**364.013**
KSEM1125R3SS125	**KSEM1125R5SS125**	28,575	1.1250	29,075	1.1447	.173	3.25	1.2500	7	**364.013**
KSEM1156R3SS125	**KSEM1156R5SS125**	29,370	1.1563	29,870	1.1760	.178	3.25	1.2500	7	**364.013**
KSEM1172R3SS125	**KSEM1172R5SS125**	29,769	1.1720	30,000	1.1811	.180	3.25	1.2500	7	**364.013**
KSEM1188R3SS125	**KSEM1188R5SS125**	30,163	1.1875	30,663	1.2072	.183	3.25	1.2500	8	**364.013**
–	**KSEM1203R5SS125**	30,556	1.2030	31,056	1.2227	.185	3.25	1.2500	8	**364.013**
KSEM1219R3SS125	**KSEM1219R5SS125**	30,958	1.2188	31,458	1.2385	.188	3.25	1.2500	8	**364.013**
KSEM1250R3SS125	**KSEM1250R5SS125**	31,750	1.2500	32,000	1.2598	.192	3.25	1.2500	8	**364.013**
KSEM1250R3SS150	**KSEM1250R5SS150**	31,750	1.2500	32,000	1.2598	.192	3.75	1.5000	8	**364.013**
KSEM1281R3SS150	**KSEM1281R5SS150**	32,537	1.2810	33,537	1.3204	.197	3.75	1.5000	9	**364.015**
KSEM1297R3SS150	**KSEM1297R5SS150**	32,941	1.2970	33,941	1.3363	.200	3.75	1.5000	9	**364.015**
KSEM1313R3SS150	**KSEM1313R5SS150**	33,350	1.3130	34,350	1.3524	.202	3.75	1.5000	9	**364.015**
KSEM1328R3SS150	**KSEM1328R5SS150**	33,731	1.3280	34,731	1.3674	.204	3.75	1.5000	9	**364.015**
–	**KSEM1344R5SS150**	34,138	1.3440	35,138	1.3834	.207	3.75	1.5000	9	**364.015**
KSEM1375R3SS150	**KSEM1375R5SS150**	34,925	1.3750	35,925	1.4144	.212	3.75	1.5000	9	**364.015**
KSEM1406R3SS150	**KSEM1406R5SS150**	35,712	1.4060	36,000	1.4173	.216	3.75	1.5000	9	**364.015**
–	**KSEM1422R5SS150**	36,119	1.4220	37,119	1.4614	.219	3.75	1.5000	10	**364.015**
KSEM1438R3SS150	**KSEM1438R5SS150**	36,513	1.4380	37,513	1.4769	.221	3.75	1.5000	10	**364.015**
–	**KSEM1469R5SS150**	37,313	1.4690	38,313	1.5084	.226	3.75	1.5000	10	**364.015**
KSEM1500R3SS150	**KSEM1500R5SS150**	38,100	1.5000	39,100	1.5394	.231	3.75	1.5000	10	**364.015**
KSEM1514R3SS150	**KSEM1514R5SS150**	38,456	1.5140	39,456	1.5534	.233	3.75	1.5000	10	**364.015**

- Use designated insert blade with each drill body.
- For alternatives, see insert blade fitment chart on page H44.
- Drill shipped with central lock screw and wrench.
- Order insert blade separately; see pages H42–H43.



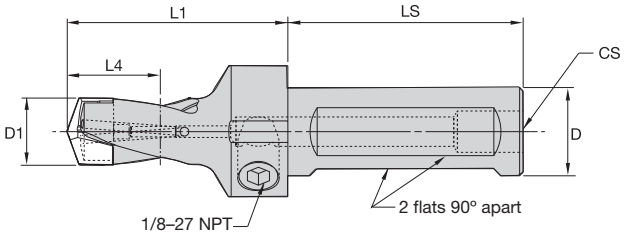
For information on L, L3, and L4 max, see the Modular Drill foldout table.



KSEM Round Shank • 7 x D/10 x D • Inch

7x	10x	D1		D1 max						
		mm	in	mm	in	L5	LS	D	seat size	central lock screw
KSEM0500R7SS050	–	12,700	.5000	13,200	.5197	.079	1.50	.5000	C	364.017
KSEM0500R7SS075	KSEM0500R10SS075	12,700	.5000	13,200	.5197	.079	2.00	.7500	C	364.017
KSEM0509R7SS075	KSEM0509R10SS075	12,929	.5090	13,429	.5287	.081	2.00	.7500	C	364.017
KSEM0516R7SS075	KSEM0516R10SS075	13,096	.5160	13,500	.5314	.082	2.00	.7500	C	364.017
KSEM0531R7SS075	KSEM0531R10SS075	13,494	.5313	13,500	.5314	.084	2.00	.7500	C	364.017
KSEM0547R7SS075	KSEM0547R10SS075	13,891	.5470	14,394	.5667	.087	2.00	.7500	B	364.016
KSEM0563R7SS075	KSEM0563R10SS075	14,288	.5630	14,500	.5708	.089	2.00	.7500	B	364.016
KSEM0578R7SS075	KSEM0578R10SS075	14,681	.5780	15,181	.5977	.092	2.00	.7500	A	364.016
KSEM0594R7SS075	KSEM0594R10SS075	15,083	.5940	15,588	.6137	.094	2.00	.7500	A	364.016
KSEM0609R7SS075	KSEM0609R10SS075	15,479	.6090	15,874	.6249	.097	2.00	.7500	A	364.016
KSEM0625R7SS075	KSEM0625R10SS075	15,875	.6250	16,375	.6447	.099	2.00	.7500	1	364.010
KSEM0634R7SS075	KSEM0634R10SS075	16,104	.6340	16,604	.6537	.101	2.00	.7500	1	364.010
KSEM0656R7SS075	KSEM0656R10SS075	16,670	.6563	17,170	.6760	.104	2.00	.7500	1	364.010
KSEM0688R7SS075	KSEM0688R10SS075	17,463	.6875	17,963	.7072	.109	2.00	.7500	1	364.010
KSEM0719R7SS075	KSEM0719R10SS075	18,256	.7188	18,756	.7384	.114	2.00	.7500	2	364.010
KSEM0750R7SS075	KSEM0750R10SS075	19,050	.7500	19,550	.7502	.119	2.00	.7500	2	364.010
KSEM0750R7SS100	KSEM0750R10SS100	19,050	.7500	19,550	.7502	.119	3.00	1.0000	2	364.010
KSEM0759R7SS075	–	19,279	.7585	19,779	.7787	.121	2.00	.7500	2	364.010
–	KSEM0759R10SS100	19,279	.7585	19,779	.7787	.121	3.00	1.0000	2	364.010
KSEM0781R7SS100	KSEM0781R10SS100	19,844	.7813	19,999	.7873	.124	3.00	1.0000	2	364.010
KSEM0813R7SS100	KSEM0813R10SS100	20,638	.8125	21,138	.8322	.129	3.00	1.0000	3	364.011
KSEM0844R7SS100	KSEM0844R10SS100	21,431	.8438	21,931	.8634	.134	3.00	1.0000	3	364.011
KSEM0875R7SS100	KSEM0875R10SS100	22,225	.8750	22,725	.8947	.139	3.00	1.0000	4	364.011
KSEM0875R7SS125	–	22,225	.8750	22,725	.8947	.139	3.25	1.2500	4	364.011
KSEM0884R7SS100	KSEM0884R10SS100	22,454	.8840	22,954	.9037	.140	3.00	1.0000	4	364.011
KSEM0906R7SS100	KSEM0906R10SS100	23,019	.9063	23,519	.9260	.144	3.00	1.0000	4	364.011
KSEM0938R7SS100	KSEM0938R10SS100	23,813	.9375	24,000	.9448	.149	3.00	1.0000	4	364.011
KSEM0969R7SS100	KSEM0969R10SS100	24,606	.9688	25,106	.9884	.154	3.00	1.0000	5	364.012
KSEM0984R7SS100	KSEM0984R10SS100	25,003	.9844	25,503	1.0041	.151	3.00	1.0000	5	364.012
KSEM1000R7SS100	KSEM1000R10SS100	25,400	1.0000	25,900	1.0197	.154	3.00	1.0000	5	364.012
KSEM1000R7SS125	KSEM1000R10SS125	25,400	1.0000	25,900	1.0197	.154	3.25	1.2500	5	364.012
KSEM1011R7SS125	KSEM1011R10SS125	25,679	1.0110	26,000	1.0236	.156	3.25	1.2500	5	364.012
KSEM1031R7SS125	KSEM1031R10SS125	26,195	1.0313	26,695	1.0510	.159	3.25	1.2500	6	364.012
KSEM1063R7SS125	KSEM1063R10SS125	26,988	1.0625	27,488	1.0822	.164	3.25	1.2500	6	364.012
KSEM1094R7SS125	KSEM1094R10SS125	27,781	1.0938	28,000	1.1023	.168	3.25	1.2500	6	364.012
KSEM1125R7SS125	KSEM1125R10SS125	28,575	1.1250	29,075	1.1447	.173	3.25	1.2500	7	364.013
KSEM1156R7SS125	KSEM1156R10SS125	29,370	1.1563	29,870	1.1760	.178	3.25	1.2500	7	364.013
KSEM1188R7SS125	KSEM1188R10SS125	30,163	1.1875	30,663	1.2072	.183	3.25	1.2500	8	364.013
KSEM1219R7SS125	KSEM1219R10SS125	30,958	1.2188	31,458	1.2385	.188	3.25	1.2500	8	364.013
KSEM1250R7SS125	KSEM1250R10SS125	31,750	1.2500	32,000	1.2598	.192	3.25	1.2500	8	364.013
KSEM1250R7SS150	KSEM1250R10SS150	31,750	1.2500	32,000	1.2598	.192	3.75	1.5000	8	364.013

- Use any insert blade diameter within the designated seat size.
- Drill shipped with central lock screw, wrench, and side pipe plug (inch only).
- Order insert blades separately; see pages H42–H43.

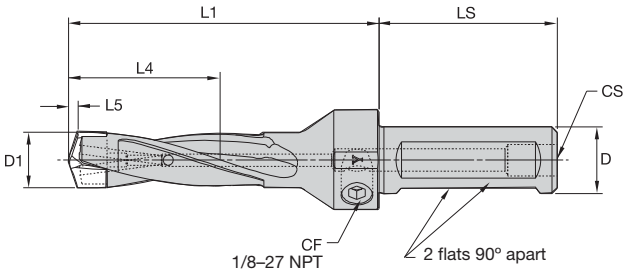




KSEM Flanged Shank • 1 x D • Inch

	D1		D1 max											
	mm	in	mm	in	L	L1	L4 max	L5	LS	D	seat size	CS	central lock screw	wrench
KSEM0493R1SSF075	12,522	.4930	13,500	.5314	3.94	1.94	.53	.07	2.00	.750	C	1/8-27 NPT	**364.017**	**170.294**
KSEM0532R1SSF075	13,513	.5320	14,500	.5708	4.00	2.00	.61	.08	2.00	.750	B	1/8-27 NPT	**364.016**	**170.289**
KSEM0571R1SSF075	14,503	.5710	15,874	.6249	4.00	2.00	.63	.09	2.00	.750	A	1/8-27 NPT	**364.016**	**170.289**
KSEM0625R1SSF075	15,875	.6250	18,000	.7086	4.19	2.19	.71	.10	2.00	.750	1	1/8-27 NPT	**364.010**	**170.270**
KSEM0709R1SSF075	18,009	.7090	19,999	.7873	4.25	2.25	.78	.11	2.00	.750	2	1/8-27 NPT	**364.010**	**170.270**
KSEM0788R1SSF100	20,015	.7880	22,000	.8661	5.50	2.50	.87	.13	3.00	1.000	3	1/4-18 NPT	**364.011**	**170.272**
KSEM0867R1SSF100	22,022	.8670	24,000	.9448	5.56	2.56	.95	.14	3.00	1.000	4	1/4-18 NPT	**364.011**	**170.272**
KSEM0945R1SSF100	24,003	.9450	26,000	1.0236	5.63	2.63	1.02	.15	3.00	1.000	5	1/4-18 NPT	**364.012**	**170.274**
KSEM1024R1SSF125	26,010	1.0240	28,000	1.1023	6.13	2.88	1.11	.16	3.25	1.250	6	1/4-18 NPT	**364.012**	**170.274**
KSEM1103R1SSF125	28,016	1.1030	30,000	1.1811	6.19	2.94	1.18	.17	3.25	1.250	7	1/4-18 NPT	**364.013**	**170.276**
KSEM1182R1SSF125	30,023	1.1820	32,000	1.2598	6.25	3.00	1.27	.18	3.25	1.250	8	1/4-18 NPT	**364.013**	**170.276**
KSEM1260R1SSF125	32,004	1.2600	36,000	1.4173	6.50	3.25	1.42	.19	3.25	1.250	9	1/4-18 NPT	**364.015**	**170.276**
KSEM1418R1SSF125	36,017	1.4180	40,000	1.5748	6.63	3.38	1.57	.22	3.25	1.250	10	1/4-18 NPT	**364.015**	**170.276**

- Use designated insert blade with each drill body.
- For alternatives, see insert blade fitment chart on page H44.
- Drill shipped with central lock screw, wrench, and side pipe plug.
- Order insert blade separately; see pages H42–H43.





KSEM Flanged Shank • 3 x D • Inch

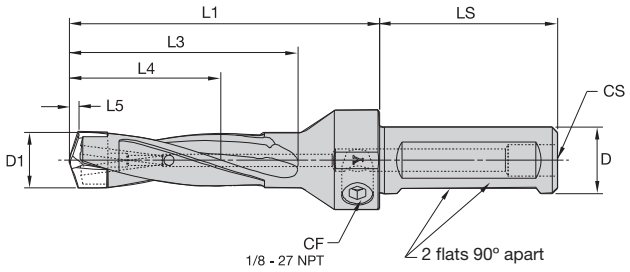
	D1		D1 max										
	mm	in	mm	in	L1	L4 max	L5	LS	D	seat size	CS	central lock screw	wrench
KSEM0500R3SSF075	12,700	.5000	13,200	.5197	2.88	1.50	.08	2.00	.750	C	1/8-27 NPT	**364.017**	**170.294**
KSEM0509R3SSF075	12,929	.5090	13,429	.5287	2.88	1.53	.08	2.00	.750	C	1/8-27 NPT	**364.017**	**170.294**
KSEM0516R3SSF075	13,106	.5160	13,500	.5314	2.88	1.55	.08	2.00	.750	C	1/8-27 NPT	**364.017**	**170.294**
KSEM0531R3SSF075	13,487	.5310	13,500	.5314	2.94	1.59	.08	2.00	.750	C	1/8-27 NPT	**364.017**	**170.294**
KSEM0547R3SSF075	13,894	.5470	14,394	.5667	3.00	1.64	.09	2.00	.750	B	1/8-27 NPT	**364.016**	**170.289**
KSEM0563R3SSF075	14,300	.5630	14,500	.5708	3.06	1.69	.09	2.00	.750	B	1/8-27 NPT	**364.016**	**170.289**
KSEM0578R3SSF075	14,681	.5780	15,181	.5977	3.13	1.73	.09	2.00	.750	A	1/8-27 NPT	**364.016**	**170.289**
KSEM0594R3SSF075	15,088	.5940	15,588	.6137	3.19	1.78	.09	2.00	.750	A	1/8-27 NPT	**364.016**	**170.289**
KSEM0609R3SSF075	15,469	.6090	15,874	.6249	3.25	1.83	.10	2.00	.750	A	1/8-27 NPT	**364.016**	**170.289**
KSEM0625R3SSF075	15,875	.6250	16,375	.6447	3.50	1.89	.10	2.00	.750	1	1/8-27 NPT	**364.010**	**170.270**
KSEM0634R3SSF075	16,104	.6340	16,604	.6537	3.50	2.05	.10	2.00	.750	1	1/8-27 NPT	**364.010**	**170.270**
KSEM0641R3SSF075	16,281	.6410	16,781	.6607	3.63	2.05	.10	2.00	.750	1	1/8-27 NPT	**364.010**	**170.270**
KSEM0672R3SSF075	17,069	.6720	17,569	.6917	3.63	2.05	.11	2.00	.750	1	1/8-27 NPT	**364.010**	**170.270**
KSEM0688R3SSF075	17,463	.6875	17,963	.7072	3.75	2.13	.11	2.00	.750	1	1/8-27 NPT	**364.010**	**170.270**
KSEM0703R3SSF075	17,856	.7030	18,000	.7086	3.75	2.13	.11	2.00	.750	1	1/8-27 NPT	**364.010**	**170.270**
KSEM0734R3SSF075	18,644	.7340	19,144	.7537	4.25	2.36	.12	2.00	.750	2	1/8-27 NPT	**364.010**	**170.270**
KSEM0750R3SSF075	19,050	.7500	19,550	.7502	4.25	2.36	.12	2.00	.750	2	1/8-27 NPT	**364.010**	**170.270**
KSEM0750R3SSF100	19,050	.7500	19,550	.7502	4.50	2.36	.12	3.00	1.000	2	1/4-18 NPT	**364.010**	**170.270**
KSEM0759R3SSF100	19,279	.7590	19,779	.7787	4.50	2.36	.12	3.00	1.000	2	1/4-18 NPT	**364.010**	**170.270**
KSEM0766R3SSF100	19,456	.7660	19,956	.7857	4.50	2.36	.12	3.00	1.000	2	1/4-18 NPT	**364.010**	**170.270**
KSEM0781R3SSF100	19,844	.7813	19,999	.7873	4.50	2.36	.12	3.00	1.000	2	1/4-18 NPT	**364.010**	**170.270**
KSEM0797R3SSF100	20,244	.7970	20,744	.8167	4.50	2.36	.13	3.00	1.000	3	1/4-18 NPT	**364.011**	**170.272**
KSEM0813R3SSF100	20,638	.8125	21,138	.8322	4.50	2.60	.13	3.00	1.000	3	1/4-18 NPT	**364.011**	**170.272**
KSEM0859R3SSF100	21,819	.8590	22,000	.8661	4.63	2.60	.14	3.00	1.000	3	1/4-18 NPT	**364.011**	**170.272**
KSEM0875R3SSF100	22,225	.8750	22,725	.8947	4.75	2.83	.14	3.00	1.000	4	1/4-18 NPT	**364.011**	**170.272**
KSEM0875R3SSF125	22,225	.8750	22,725	.8947	5.00	2.83	.14	3.25	1.250	4	1/4-18 NPT	**364.011**	**170.272**
KSEM0884R3SSF100	22,454	.8840	22,954	.9037	4.75	2.83	.14	3.00	1.000	4	1/4-18 NPT	**364.011**	**170.272**
KSEM0906R3SSF100	23,019	.9063	23,519	.9260	4.75	2.83	.14	3.00	1.000	4	1/4-18 NPT	**364.011**	**170.272**
KSEM0922R3SSF100	23,419	.9220	23,919	.9417	4.75	2.83	.15	3.00	1.000	4	1/4-18 NPT	**364.011**	**170.272**
KSEM0938R3SSF100	23,813	.9375	24,000	.9448	4.75	2.83	.15	3.00	1.000	4	1/4-18 NPT	**364.011**	**170.272**
KSEM0969R3SSF100	24,606	.9688	25,106	.9884	5.13	3.07	.15	3.00	1.000	5	1/4-18 NPT	**364.012**	**170.274**
KSEM0984R3SSF100	25,003	.9844	25,503	1.0041	5.13	3.07	.15	3.00	1.000	5	1/4-18 NPT	**364.012**	**170.274**
KSEM1000R3SSF100	25,400	1.0000	25,900	1.0197	5.13	3.07	.15	3.00	1.000	5	1/4-18 NPT	**364.012**	**170.274**
KSEM1000R3SSF125	25,400	1.0000	25,900	1.0197	5.25	3.07	.15	3.25	1.250	5	1/4-18 NPT	**364.012**	**170.274**
KSEM1011R3SSF100	25,679	1.0110	26,000	1.0236	5.13	3.07	.16	3.00	1.000	5	1/4-18 NPT	**364.012**	**170.274**
KSEM1031R3SSF125	26,195	1.0313	26,695	1.0510	5.50	3.31	.16	3.25	1.250	6	1/4-18 NPT	**364.012**	**170.274**

(continued)

(KSEM Flanged Shank • 3 x D • Inch continued)

	D1		D1 max										
	mm	in	mm	in	L1	L4 max	L5	LS	D	seat size	CS	central lock screw	wrench
KSEM1047R3SSF125	26,594	1.0470	27,094	1.0667	5.50	3.31	.16	3.25	1.250	6	1/4-18 NPT	**364.012**	**170.274**
KSEM1063R3SSF125	26,988	1.0625	27,488	1.0822	5.50	3.31	.16	3.25	1.250	6	1/4-18 NPT	**364.012**	**170.274**
KSEM1094R3SSF125	27,781	1.0938	28,000	1.1023	5.50	3.31	.17	3.25	1.250	6	1/4-18 NPT	**364.012**	**170.274**
KSEM1109R3SSF125	28,169	1.1090	28,669	1.1287	5.75	3.54	.17	3.25	1.250	7	1/4-18 NPT	**364.013**	**170.276**
KSEM1125R3SSF125	28,575	1.1250	29,075	1.1447	5.75	3.54	.17	3.25	1.250	7	1/4-18 NPT	**364.013**	**170.276**
KSEM1156R3SSF125	29,370	1.1563	29,870	1.1760	5.75	3.54	.18	3.25	1.250	7	1/4-18 NPT	**364.013**	**170.276**
KSEM1188R3SSF125	30,163	1.1875	30,663	1.2072	6.00	3.78	.18	3.25	1.250	8	1/4-18 NPT	**364.013**	**170.276**
KSEM1203R3SSF125	30,556	1.2030	31,056	1.2227	6.00	3.78	.19	3.25	1.250	8	1/4-18 NPT	**364.013**	**170.276**
KSEM1250R3SSF125	31,750	1.2500	32,000	1.2598	6.00	3.78	.19	3.25	1.250	8	1/4-18 NPT	**364.013**	**170.276**
KSEM1250R3SSF150	31,750	1.2500	32,000	1.2598	6.25	3.78	.19	3.75	1.500	8	1/4-18 NPT	**364.013**	**170.276**
KSEM1281R3SSF150	32,537	1.2810	33,537	1.3204	7.00	3.90	.20	3.75	1.500	9	1/4-18 NPT	**364.015**	**170.276**
KSEM1297R3SSF150	32,941	1.2970	33,941	1.3363	7.00	3.90	.20	3.75	1.500	9	1/4-18 NPT	**364.015**	**170.276**
KSEM1313R3SSF150	33,350	1.3130	34,350	1.3524	7.13	4.02	.20	3.75	1.500	9	1/4-18 NPT	**364.015**	**170.276**
KSEM1328R3SSF150	33,731	1.3280	34,731	1.3674	7.13	4.02	.20	3.75	1.500	9	1/4-18 NPT	**364.015**	**170.276**
KSEM1344R3SSF150	34,138	1.3440	35,138	1.3834	7.25	4.13	.21	3.75	1.500	9	1/4-18 NPT	**364.015**	**170.276**
KSEM1375R3SSF150	34,925	1.3750	35,925	1.4144	7.25	4.13	.21	3.75	1.500	9	1/4-18 NPT	**364.015**	**170.276**
KSEM1406R3SSF150	35,712	1.4060	36,000	1.4173	7.38	4.25	.22	3.75	1.500	9	1/4-18 NPT	**364.015**	**170.276**
KSEM1422R3SSF150	36,119	1.4220	37,119	1.4614	7.50	4.37	.22	3.75	1.500	10	1/4-18 NPT	**364.015**	**170.276**
KSEM1438R3SSF150	36,513	1.4380	37,513	1.4769	7.50	4.37	.22	3.75	1.500	10	1/4-18 NPT	**364.015**	**170.276**
KSEM1469R3SSF150	37,313	1.4690	38,313	1.5084	7.63	4.49	.23	3.75	1.500	10	1/4-18 NPT	**364.015**	**170.276**
KSEM1500R3SSF150	38,100	1.5000	39,100	1.5394	7.75	4.61	.23	3.75	1.500	10	1/4-18 NPT	**364.015**	**170.276**
KSEM1514R3SSF150	38,456	1.5140	39,456	1.5534	7.75	4.61	.23	3.75	1.500	10	1/4-18 NPT	**364.015**	**170.276**

- Use designated insert blade with each drill body.
- For alternatives, see insert blade fitment chart on page H44.
- Drill shipped with central lock screw, wrench, and side pipe plug.
- Order insert blade separately; see pages H42–H43.





For information on L, L3, and L4 max, see the Modular Drill foldout table.

KSEM Flanged Shank • 5 x D/8 x D • Inch

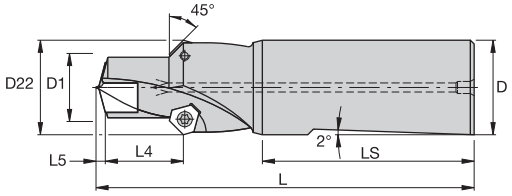
5x	8x	D1 mm	D1 in	D1 max mm	D1 max in	L5	LS	D	seat size	CS	central lock screw
KSEM0500R5SSF075	**–**	12,700	.5000	13,200	.5197	.079	2.00	.7500	C	1/8-27 NPT	**364.017**
KSEM0509R5SSF075	**–**	12,929	.5090	13,429	.5287	.081	2.00	.7500	C	1/8-27 NPT	**364.017**
KSEM0516R5SSF075	**–**	13,106	.5160	13,500	.5314	.082	2.00	.7500	C	1/8-27 NPT	**364.017**
KSEM0531R5SSF075	**–**	13,487	.5310	13,500	.5314	.084	2.00	.7500	C	1/8-27 NPT	**364.017**
KSEM0547R5SSF075	**–**	13,894	.5470	14,394	.5667	.087	2.00	.7500	B	1/8-27 NPT	**364.016**
KSEM0563R5SSF075	**–**	14,300	.5630	14,500	.5708	.089	2.00	.7500	B	1/8-27 NPT	**364.016**
KSEM0578R5SSF075	**–**	14,681	.5780	15,181	.5977	.092	2.00	.7500	A	1/8-27 NPT	**364.016**
KSEM0594R5SSF075	**–**	15,088	.5940	15,588	.6137	.094	2.00	.7500	A	1/8-27 NPT	**364.016**
KSEM0609R5SSF075	**–**	15,469	.6090	15,874	.6249	.097	2.00	.7500	A	1/8-27 NPT	**364.016**
KSEM0625R5SSF075	**KSEM0625R8SSF075**	15,875	.6250	16,375	.6447	.099	2.00	.7500	1	1/8-27 NPT	**364.010**
KSEM0688R5SSF075	**KSEM0688R8SSF075**	17,463	.6875	17,963	.7072	.109	2.00	.7500	1	1/8-27 NPT	**364.010**
KSEM0750R5SSF075	**KSEM0750R8SSF075**	19,050	.7500	19,550	.7502	.119	2.00	.7500	2	1/8-27 NPT	**364.010**
KSEM0750R5SSF100	**KSEM0750R8SSF100**	19,050	.7500	19,550	.7502	.119	3.00	1.0000	2	1/4-18 NPT	**364.010**
KSEM0813R5SSF100	**KSEM0813R8SSF100**	20,638	.8125	21,138	.8322	.129	3.00	1.0000	3	1/4-18 NPT	**364.011**
KSEM0875R5SSF100	**KSEM0875R8SSF100**	22,225	.8750	22,725	.8947	.139	3.00	1.0000	4	1/4-18 NPT	**364.011**
KSEM0875R5SSF125	**KSEM0875R8SSF125**	22,225	.8750	22,725	.8947	.139	3.25	1.2500	4	1/4-18 NPT	**364.011**
KSEM0938R5SSF100	**KSEM0938R8SSF100**	23,813	.9375	24,000	.9448	.149	3.00	1.0000	4	1/4-18 NPT	**364.011**
KSEM0969R5SSF100	**–**	24,606	.9688	25,106	.9884	.154	3.00	1.0000	5	1/4-18 NPT	**364.012**
KSEM0984R5SSF100	**KSEM0984R8SSF100**	25,003	.9844	25,503	1.0041	.151	3.00	1.0000	5	1/4-18 NPT	**364.012**
KSEM1000R5SSF100	**KSEM1000R8SSF100**	25,400	1.0000	25,900	1.0197	.154	3.00	1.0000	5	1/4-18 NPT	**364.012**
KSEM1000R5SSF125	**KSEM1000R8SSF125**	25,400	1.0000	25,900	1.0197	.154	3.25	1.2500	5	1/4-18 NPT	**364.012**
KSEM1063R5SSF125	**KSEM1063R8SSF125**	26,988	1.0625	27,488	1.0822	.164	3.25	1.2500	6	1/4-18 NPT	**364.012**
KSEM1125R5SSF125	**KSEM1125R8SSF125**	28,575	1.1250	29,075	1.1447	.173	3.25	1.2500	7	1/4-18 NPT	**364.013**
KSEM1188R5SSF125	**KSEM1188R8SSF125**	30,163	1.1875	30,663	1.2072	.183	3.25	1.2500	8	1/4-18 NPT	**364.013**
KSEM1250R5SSF125	**KSEM1250R8SSF125**	31,750	1.2500	32,000	1.2598	.192	3.25	1.2500	8	1/4-18 NPT	**364.013**
KSEM1250R5SSF150	**KSEM1250R8SSF150**	31,750	1.2500	32,000	1.2598	.192	3.75	1.5000	8	1/4-18 NPT	**364.013**

KSEM Chamfering Solutions

- Drilling and chamfering in one operation.
- No height adjustment required.
- Low setup time.
- Use standard inserts.
- Tool bodies available as standard.

- Use any KSEM insert blade diameter within the designated seat size.
- Drill shipped with central lock screw, insert screw, and wrenches.
- Order insert blades separately; see pages H42–H43.
- Order TPGX chamfering insert separately; see page H36.

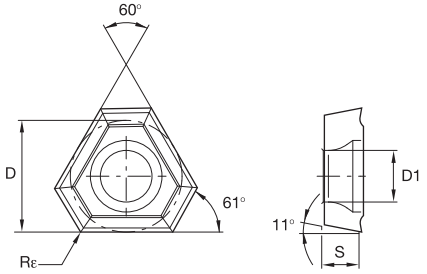






KSEM Bodies • WN/WD Shank with Chamfer • 1 x D • Metric

	D1		D1 max										
	mm	in	mm	in	D22	L	L4 max	L5	LS	D	seat size	chamfer insert	central lock screw	wrench
KSEM125R1WN16F45M	12,500	.4921	13,500	.5314	18	107	14	2,0	48,0	16	C	TPGX0902ZPR	**364.017**	**170.051**
KSEM136R1WN16F45M	13,510	.5319	14,500	.5708	19	107	15	2,2	48,0	16	B	TPGX0902ZPR	**364.016**	**170.289**
KSEM146R1WN20F45M	14,510	.5713	15,874	.6249	20	109	16	2,3	50,0	20	A	TPGX0902ZPR	**364.016**	**170.289**
KSEM160R1WN20F45M	16,000	.6299	18,000	.7086	22	110	18	2,5	50,0	20	1	TPGX1102ZPR	**364.010**	**170.270**
KSEM181R1WN25F45M	18,010	.7091	19,999	.7873	25	118	20	2,9	56,0	25	2	TPGX1102ZPR	**364.010**	**170.270**
KSEM200R1WN25F45M	20,000	.7874	22,000	.8661	28	120	22	3,2	56,0	25	3	TPGX1303ZPR	**364.011**	**170.272**
KSEM221R1WN25F45M	22,010	.8665	24,000	.9448	30	123	24	3,5	56,0	25	4	TPGX1303ZPR	**364.011**	**170.272**
KSEM241R1WN32F45M	24,010	.9453	26,000	1.0236	34	129	26	3,8	60,0	32	5	TPGX1603ZPR	**364.012**	**170.055**
KSEM261R1WN32F45M	26,010	1.0240	28,000	1.1023	36	131	28	4,0	60,0	32	6	TPGX1603ZPR	**364.012**	**170.055**
KSEM281R1WN32F45M	28,016	1.1028	30,000	1.1811	38	134	30	4,3	60,0	32	7	TPGX1603ZPR	**364.013**	**170.276**
KSEM301R1WN32F45M	30,010	1.1815	32,000	1.2598	40	136	32	4,6	60,0	32	8	TPGX1603ZPR	**364.013**	**170.276**
KSEM321R1WD50F45M	32,010	1.2602	36,000	1.4173	42	155	36	4,9	68,0	50	9	TPGX1603ZPR	**364.015**	**170.276**
KSEM361R1WD50F45M	36,010	1.4177	40,000	1.5748	46	165	40	5,5	68,0	50	10	TPGX1603ZPR	**364.015**	**170.276**





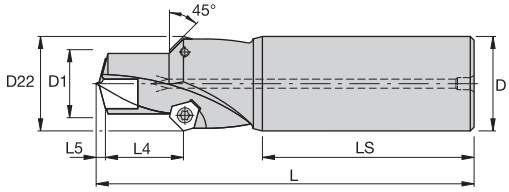
● first choice
○ alternate choice

P		●	○
M	●	○	○
K		○	●
N	○	●	○
S		○	●
H			

TPGX-GD Geometry

	D		S		Rε		D1				
catalog number	mm	in	mm	in	mm	in	mm	in	KC7015	KC7140	KC7315
TPGX0902ZPRGD	5,56	.219	2,38	.094	0,20	.008	2,50	.098	●	●	●
TPGX1102ZPRGD	6,35	.250	2,38	.094	0,20	.008	2,85	.112	●	●	●
TPGX1303ZPRGD	7,94	.313	3,18	.125	0,20	.008	3,40	.134	●	●	●
TPGX1603ZPRGD	9,52	.375	3,18	.125	0,20	.008	4,40	.173	●	●	●

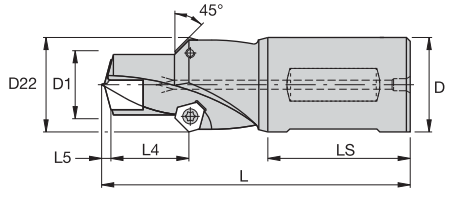
- Use any KSEM insert blade diameter within the designated seat size.
- Drill shipped with central lock screw, insert screw, and wrenches.
- Order insert blade separately; see pages H42–H43.
- Order TPGX chamfering insert separately; see page H36.





KSEM Bodies • Round Shank with Chamfer • 1 x D • Inch

	D1		D1 max										
	mm	in	mm	in	D22	L	L4 max	L5	LS	D	seat size	chamfer insert	central lock screw	wrench
KSEM0493R1SS075F45	12,500	.4921	13,500	.5314	.70	3.75	.53	.08	2.00	.750	C	TPGX0902ZPR	**364.017**	**170.051**
KSEM0532R1SS075F45	13,600	.5350	14,500	.5708	.74	3.75	.57	.08	2.00	.750	B	TPGX0902ZPR	**364.016**	**170.289**
KSEM0571R1SS075F45	14,600	.5750	15,874	.6249	.77	3.75	.62	.09	2.00	.750	A	TPGX0902ZPR	**364.016**	**170.289**
KSEM0625R1SS075F45	15,880	.6250	18,000	.7086	.88	3.75	.71	.10	2.00	.750	1	TPGX1102ZPR	**364.010**	**170.270**
KSEM0709R1SS075F45	18,260	.7190	19,999	.7873	.96	3.75	.78	.11	2.00	.750	2	TPGX1102ZPR	**364.010**	**170.270**
KSEM0788R1SS100F45	20,000	.7870	22,000	.8661	1.11	5.00	.87	.13	3.00	1.000	3	TPGX1303ZPR	**364.011**	**170.272**
KSEM0867R1SS100F45	22,230	.8750	24,000	.9448	1.19	5.00	.94	.14	3.00	1.000	4	TPGX1303ZPR	**364.011**	**170.272**
KSEM0945R1SS100F45	24,500	.9650	26,000	1.0236	1.34	5.25	1.02	.15	3.00	1.000	5	TPGX1603ZPR	**364.012**	**170.055**
KSEM1024R1SS125F45	26,187	1.0310	28,000	1.1023	1.42	5.75	1.10	.16	3.25	1.250	6	TPGX1603ZPR	**364.012**	**170.055**
KSEM1103R1SS125F45	28,169	1.1090	30,000	1.1811	1.50	5.75	1.18	.17	3.25	1.250	7	TPGX1603ZPR	**364.013**	**170.276**
KSEM1182R1SS125F45	30,160	1.1880	32,000	1.2598	1.58	5.75	1.26	.18	3.25	1.250	8	TPGX1603ZPR	**364.013**	**170.276**
KSEM1260R1SS125F45	32,500	1.2800	36,000	1.4173	1.66	6.00	1.42	.19	3.25	1.250	9	TPGX1603ZPR	**364.015**	**170.276**
KSEM1418R1SS125F45	36,119	1.4220	40,000	1.5748	1.82	6.00	1.57	.22	3.25	1.250	10	TPGX1603ZPR	**364.015**	**170.276**

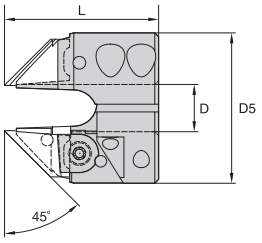




KSEM Bodies • Flanged Shank with Chamfer • 1 x D • Inch

	D1		D1 max											
	mm	in	mm	in	D22	L	L4 max	L5	LS	D	seat size	chamfer insert	central lock screw	pipe plug	wrench
KSEM0493R1SSF075F45	12,500	.4921	13,500	.5314	.70	4.00	.53	.08	2.00	.750	C	TPGX0902ZPR	**364.017**	**HSFS0125**	**170.051**
KSEM0532R1SSF075F45	13,600	.5350	14,500	.5708	.74	4.25	.57	.08	2.00	.750	B	TPGX0902ZPR	**364.016**	**HSFS0125**	**170.289**
KSEM0571R1SSF075F45	14,600	.5750	15,874	.6249	.77	4.25	.62	.09	2.00	.750	A	TPGX0902ZPR	**364.016**	**HSFS0125**	**170.289**
KSEM0625R1SSF075F45	15,880	.6250	18,000	.7086	.88	4.25	.71	.10	2.00	.750	1	TPGX1102ZPR	**364.010**	**HSFS0125**	**170.270**
KSEM0709R1SSF075F45	18,260	.7190	19,999	.7873	.96	4.25	.78	.11	2.00	.750	2	TPGX1102ZPR	**364.010**	**HSFS0125**	**170.270**
KSEM0788R1SSF100F45	20,000	.7870	22,000	.8661	1.11	5.50	.87	.13	3.00	1.000	3	TPGX1303ZPR	**364.011**	**HSFS0125**	**170.272**
KSEM0867R1SSF100F45	22,230	.8750	24,000	.9448	1.19	5.50	.94	.14	3.00	1.000	4	TPGX1303ZPR	**364.011**	**HSFS0125**	**170.272**
KSEM0945R1SSF100F45	24,500	.9650	26,000	1.0236	1.34	5.75	1.02	.15	3.00	1.000	5	TPGX1603ZPR	**364.012**	**HSFS0125**	**170.055**
KSEM1024R1SSF125F45	26,187	1.0310	28,000	1.1023	1.42	5.75	1.10	.16	3.25	1.250	6	TPGX1603ZPR	**364.012**	**HSFS0125**	**170.055**
KSEM1103R1SSF125F45	28,169	1.1090	30,000	1.1811	1.50	6.25	1.18	.17	3.25	1.250	7	TPGX1603ZPR	**364.013**	**HSFS0125**	**170.276**
KSEM1182R1SSF125F45	30,160	1.1880	32,000	1.2598	1.58	6.25	1.26	.18	3.25	1.250	8	TPGX1603ZPR	**364.013**	**HSFS0125**	**170.276**
KSEM1260R1SSF125F45	32,500	1.2800	36,000	1.4173	1.66	6.25	1.42	.19	3.25	1.250	9	TPGX1603ZPR	**364.015**	**HSFS0125**	**170.276**
KSEM1418R1SSF125F45	36,119	1.4220	40,000	1.5748	1.82	6.25	1.57	.22	3.25	1.250	10	TPGX1603ZPR	**364.015**	**HSFS0125**	**170.276**

- The NEW chamfering rings for KSEM are available in a diameter range of 12,5–32mm.
- The KSEM SEF ring is double-edged, features a more rigid design to withstand high feed rates, and reduces time-consuming deburring and small chamfer operations.
- Reduce machining time — combine drilling and chamfering in one operation.
- Short-term availability — standard tooling off-the-shelf — KSEM body and inserts, SEF ring, and SEFAS™ inserts.
- Flexibility — adjustable drilling depth.
- For speed and feed recommendations, please refer to catalog recommendations based on geometry and tool body length of the carrying KSEM tool.
- Small chamfers up to 1mm do not need further feed reduction.
- At deeper chamfers, a feed rate reduction of 50% is highly recommended to avoid vibrations and movement of the ring during operation.
- For inserts, please refer to SEFAS System on page I26, insert 3.42807R021.

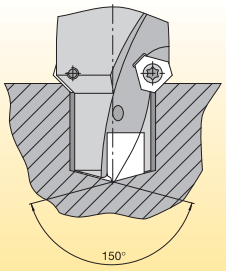




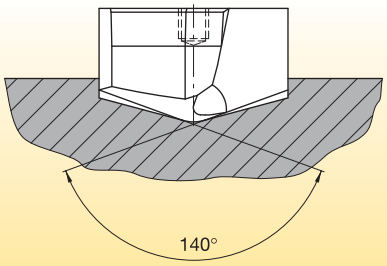
Chamfer Rings

	D		L		D5						
catalog number	mm	in	mm	in	mm	in	clamp assy	chip deflector	chip deflector screw	drill clamp screw	socket-head cap screw
KSEM125SEFM	12,5	.4921	40	1.57	39	1.54	360.551	360.660	128.508	191.726	–
KSEM130SEFM	13,0	.5118	40	1.57	39	1.54	360.551	360.660	128.508	191.726	–
KSEM135SEFM	13,5	.5315	40	1.57	39	1.54	360.551	360.660	128.508	191.726	–
KSEM140SEFM	14,0	.5512	40	1.57	40	1.57	360.551	360.661	128.508	199.123	–
KSEM145SEFM	14,5	.5709	40	1.57	40	1.57	360.551	360.661	128.508	199.123	–
KSEM150SEFM	15,0	.5906	40	1.57	40	1.57	360.551	360.662	128.508	199.123	–
KSEM155SEFM	15,5	.6102	40	1.57	40	1.57	360.551	360.662	128.508	199.123	–
KSEM160SEFM	16,0	.6299	42	1.65	43	1.69	360.551	360.663	128.508	199.123	–
KSEM165SEFM	16,5	.6496	42	1.65	43	1.69	360.551	360.663	128.508	199.123	–
KSEM170SEFM	17,0	.6693	42	1.65	43	1.69	360.551	360.663	128.508	199.123	–
KSEM175SEFM	17,5	.6890	42	1.65	43	1.69	360.551	360.663	128.508	199.123	–
KSEM180SEFM	18,0	.7087	42	1.65	43	1.69	360.551	360.663	128.508	199.123	–
KSEM185SEFM	18,5	.7283	42	1.65	43	1.69	360.551	360.664	128.508	199.123	–
KSEM190SEFM	19,0	.7480	42	1.65	43	1.69	360.551	360.664	128.508	199.123	–
KSEM195SEFM	19,5	.7677	42	1.65	43	1.69	360.551	360.664	128.508	199.123	–
KSEM200SEFM	20,0	.7874	48	1.89	50	1.97	360.551	360.665	128.510	199.123	–
KSEM205SEFM	20,5	.8071	48	1.89	50	1.97	360.551	360.665	128.510	199.123	–
KSEM210SEFM	21,0	.8268	48	1.89	50	1.97	360.551	360.665	128.510	199.123	–
KSEM215SEFM	21,5	.8465	48	1.89	50	1.97	360.551	360.665	128.510	199.123	–
KSEM220SEFM	22,0	.8661	48	1.89	50	1.97	360.551	360.665	128.510	199.123	–
KSEM225SEFM	22,5	.8858	50	1.97	50	1.97	360.551	360.666	128.510	–	125.516
KSEM230SEFM	23,0	.9055	50	1.97	50	1.97	360.551	360.666	128.510	–	125.516
KSEM235SEFM	23,5	.9252	50	1.97	50	1.97	360.551	360.666	128.510	–	125.516
KSEM240SEFM	24,0	.9449	50	1.97	50	1.97	360.551	360.666	128.510	–	125.516
KSEM245SEFM	24,5	.9646	54	2.13	55	2.17	360.551	360.667	128.510	–	125.620
KSEM250SEFM	25,0	.9843	54	2.13	55	2.17	360.551	360.667	128.510	–	125.620
KSEM255SEFM	25,5	1.0039	54	2.13	55	2.17	360.551	360.667	128.510	–	125.620
KSEM260SEFM	26,0	1.0236	54	2.13	55	2.17	360.551	360.667	128.510	–	125.620
KSEM265SEFM	26,5	1.0433	56	2.20	55	2.17	360.551	360.668	128.510	–	125.620
KSEM270SEFM	27,0	1.0630	56	2.20	55	2.17	360.551	360.668	128.510	–	125.620
KSEM275SEFM	27,5	1.0827	56	2.20	55	2.17	360.551	360.668	128.510	–	125.620
KSEM280SEFM	28,0	1.1024	56	2.20	55	2.17	360.551	360.668	128.510	–	125.620
KSEM285SEFM	28,5	1.1220	61	2.40	60	2.36	360.551	360.669	128.510	–	125.620
KSEM290SEFM	29,0	1.1417	61	2.40	60	2.36	360.551	360.669	128.510	–	125.620
KSEM295SEFM	29,5	1.1614	61	2.40	60	2.36	360.551	360.669	128.510	–	125.620
KSEM300SEFM	30,0	1.1811	61	2.40	60	2.36	360.551	360.669	128.510	–	125.620
KSEM305SEFM	30,5	1.2008	61	2.40	60	2.36	360.551	360.670	128.510	–	125.620
KSEM310SEFM	31,0	1.2205	61	2.40	60	2.36	360.551	360.670	128.510	–	125.620
KSEM315SEFM	31,5	1.2402	61	2.40	60	2.36	360.551	360.670	128.510	–	125.620
KSEM320SEFM	32,0	1.2598	61	2.40	60	2.36	360.551	360.670	128.510	–	125.620

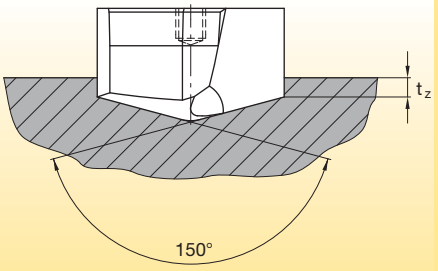
NOTE: Order inserts separately; see the SEFAS system, page I26, insert 3.42807R021.



Centering using PCM inserts



HPM inserts of the follower drill



Precentering with FAS centering tool

Why is precentering necessary?

- Generally speaking, for drilling depths 5x the nominal diameter and above (5 x D).
- In unstable conditions (workpiece and tool clamping).

Why precenter using PCM inserts?

- Soft-cut entry of follower drill due to 150° point angle of the PCM insert.
- No extension of the follower drill in the entry area.
- No breaks at the cutting edges.

What happens if...

...a center cannot be used for technical reasons?

- Spot drill with normal insert at normal and reduced cutting data (approximately 1/2 vc and approximately 1/2 vf), then continue drilling with regular cutting data without lifting off/stopping.

...there is no suitable PCM cutting insert in the standard range (ø)?

- Manufacture to order using PCM geometry and k7 tolerance.
  or
- Center using the same cutter insert as for the follower drill but without the cutting edges penetrating the workpiece (spot drill ø approximately 90% of drill ø D1).

...only one tool body is required?

- Enter the workpiece with 50% feed until the cutting edges and the heels have penetrated the hole, then continue drilling without lifting off/stopping using regular cutting data.

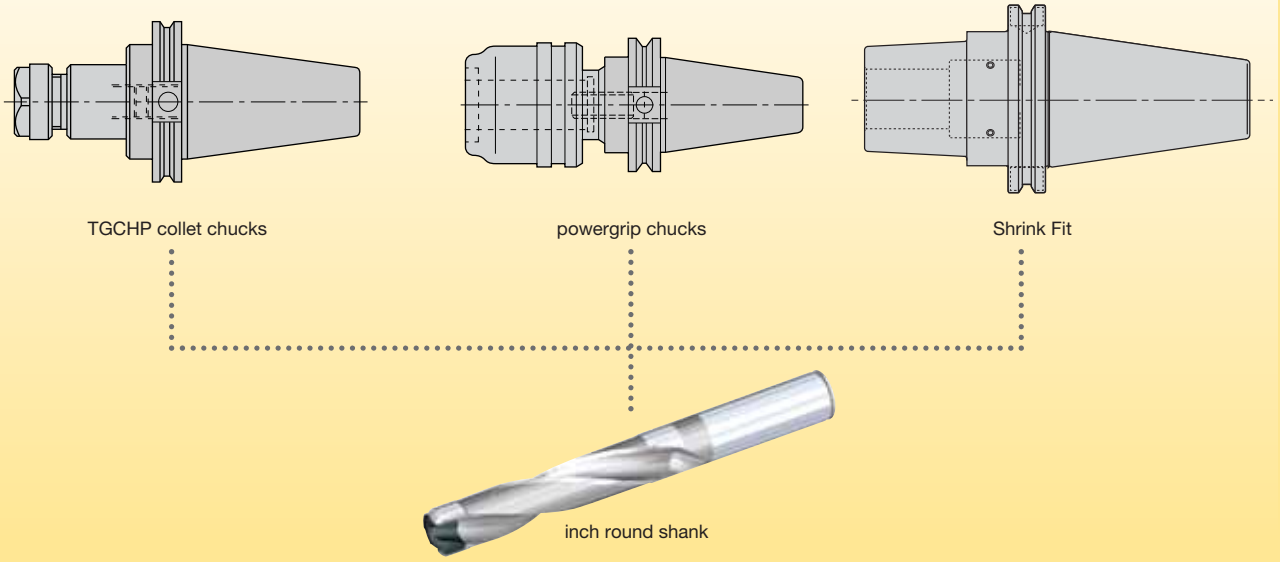
Other problems

Short hole drilling with precentering support tool?

- Up to 1x nominal diameter (1 x D) possible.

Rotating Applications

KSEM inch drills with round shanks (no flats) are specifically designed for rotating applications where the drill rotates and the workpiece remains stationary. The shank to drill-point location of these drills is held to an extremely close tolerance. To maintain accuracy, and get maximum performance from the KSEM drill, use only the approved toolholding method shown below.



TGCHP collet chucks | powergrip chucks | Shrink Fit

inch round shank

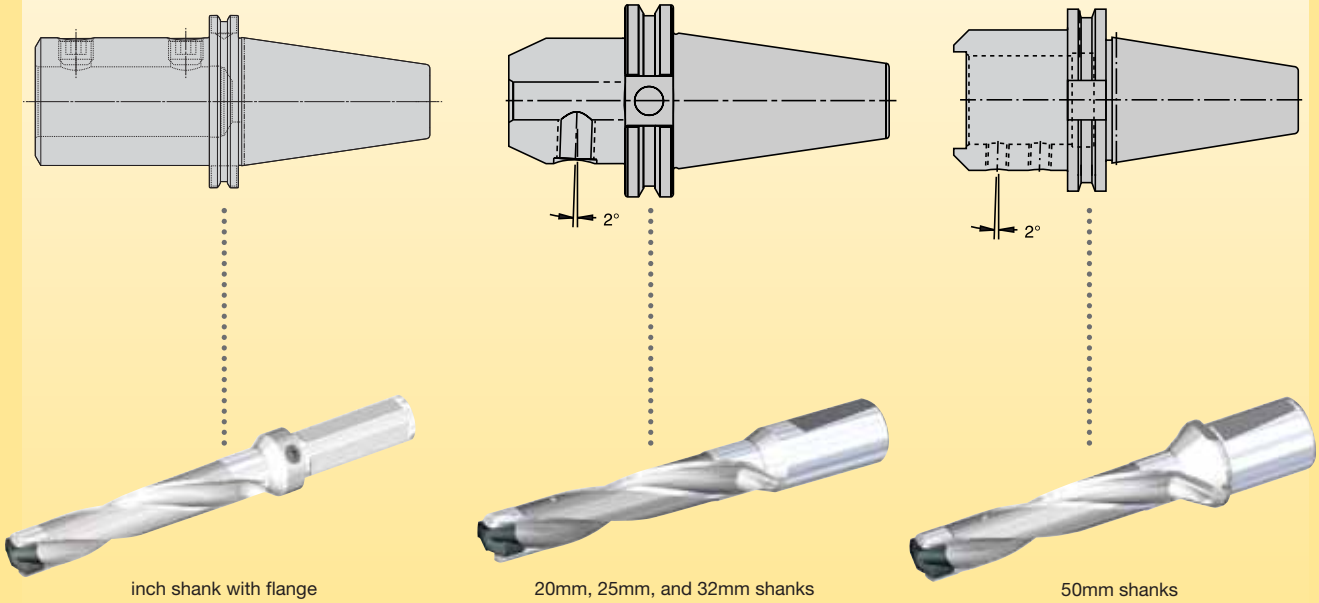
Inch Drill Bodies with Flange

KSEM inch drills with a flange can be used in rotating applications where the drill rotates and the workpiece remains stationary. To maintain accuracy and get maximum performance from the drill, use only the approved toolholding method shown here.

Metric Drill Bodies with a 2° Whistle Notch™

KSEM metric drills come equipped with 2° Whistle Notch shanks. The 20mm, 25mm, and 32mm diameter shanks use WN adapters. The 50mm shank uses a WD adapter. Choose the correct adapter to minimize runout and securely hold the drill.

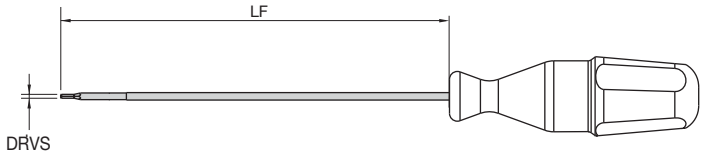
SSF straight-shank flanged adapter | WN adapters | WD adapters

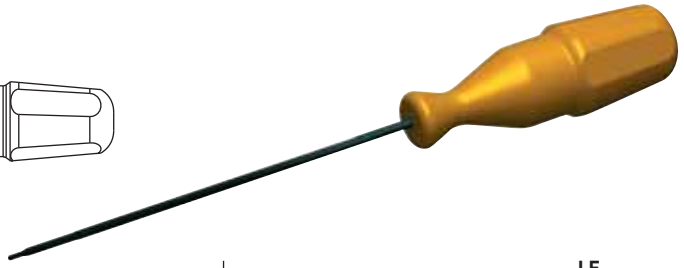


inch shank with flange

20mm, 25mm, and 32mm shanks
(DIN 1835, Form E)

50mm shanks



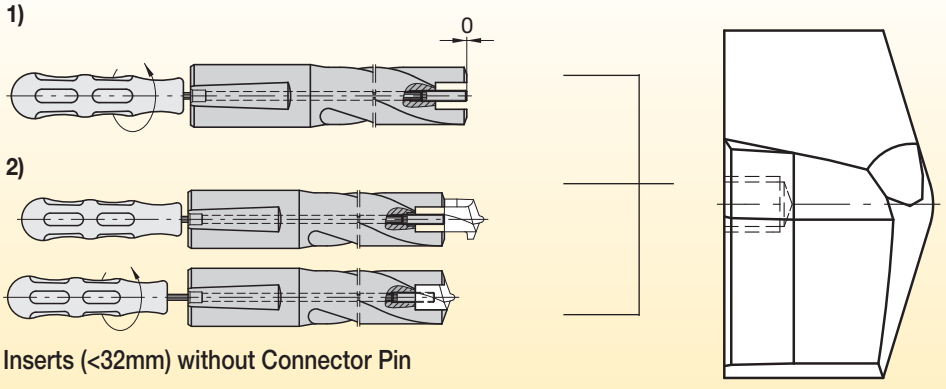


KSEM Spare Wrenches

order number	catalog number	DRVS	LF mm	LF in
1126021	**170.270**	1.5mm	185,00	7
1126032	**170.271**	1.5mm	225,00	9
1510773	**170.281**	1.5mm	297,00	12
1255899	**170.285**	1.5mm	351,00	14
1126040	**170.272**	2mm	210,00	8
1126049	**170.273**	2mm	260,00	10
1510776	**170.282**	2mm	343,00	14
1255900	**170.286**	2mm	405,00	16
1126066	**170.274**	2.5mm	240,00	9
1126072	**170.275**	2.5mm	295,00	12
1510779	**170.283**	2.5mm	393,00	15
1255901	**170.287**	2.5mm	459,00	18
1126079	**170.276**	3mm	265,00	10
1126088	**170.277**	3mm	330,00	13
1510781	**170.284**	3mm	439,00	17
1255902	**170.288**	3mm	513,00	20
1834819	**170.294**	T5	156,00	6
1836470	**170.295**	T5	188,00	7
1836471	**170.296**	T5	290,00	11
1795811	**170.289**	T6	156,00	6
1795956	**170.290**	T6	188,00	7
1795960	**170.291**	T6	290,00	11

Mounting the Inserts

1)



Inserts (<32mm) without Connector Pin

1) Use the screwdriver to set the threaded pin:
- for inserts up to Ø 32mm, flush with the drill face.
- for inserts bigger Ø 32mm, set 2mm below the drill face.

2) Tighten the insert using the screwdriver to fit securely in the insert seat.

To change the insert, turn the clamping screw counter-clockwise until the insert is released.

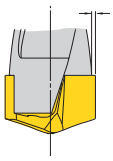
Repair of Damaged Threaded Pin

In the event that the central threaded pin becomes damaged, it can be removed after severing it in the tool body. To do this, drill beneath the insert seat in the tool body. The insert and threaded pin can then be removed. For information regarding the position and diameter of this repair hole, please refer to the manual (sheet **290.001 D/GB**) supplied with the tool body.

NOTE: For inserts without a connector pin, avoid jamming during mounting through precise positioning.

Insert blades may be used, within limits, on different drill bodies. The insert blade must be of the same seat size. Overhang (see Figure 1) must be kept under .0098" (0,250mm) per side. For best drilling performance, rigidity, and efficient chip evacuation, always use the first-choice steel body. Performance may be compromised by using alternatives. In some applications, chips may bind between the drill body and the hole wall — especially when machining long-chipping materials like austenitic stainless steel and low-carbon steel.

(does not apply to stub length drills)



.0098" (0,250mm) maximum overhang

Figure 1

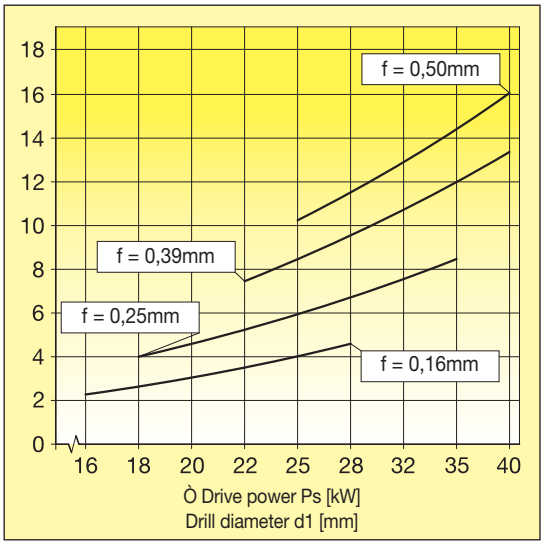
diameter D								
inch	**mm**	**insert blade**	**seat size**	**first choice**	**alternate body 1**	**alternate body 2**	**alternate body 3**	**alternate body 4**
.492	12,50	KSEM1250	C	KSEM125..M	–	–	–	–
.500	12,70	KSEM0500	C	KSEM0500..	KSEM125..M	–	–	–
.509	12,93	KSEM0509	C	KSEM0509..	KSEM0500..	KSEM125..M	–	–
.512	13,00	KSEM1300	C	KSEM130..M	KSEM0509..	KSEM0500..	KSEM125..M	–
.516	13,10	KSEM0516	C	KSEM0516..	KSEM130..M	KSEM0509..	KSEM0500..	–
.531	13,50	KSEM1350	C	KSEM135..M	KSEM0531..	KSEM0516..	KSEM130..M	–
.547	13.89	KSEM0547	B	KSEM0547..	KSEM136..M	–	–	–
.551	14,00	KSEM1400	B	KSEM140..M	KSEM136..M	KSEM0547..	–	–
.563	14,29	KSEM0563	B	KSEM0563..	KSEM140..M	KSEM0547..	–	–
.571	14,50	KSEM1450	B	KSEM145..M	KSEM0563..	KSEM140..M	–	–
.578	14,68	KSEM0578	A	KSEM0578..	KSEM146..M	–	–	–
.591	15,00	KSEM1500	A	KSEM150..M	KSEM146..M	KSEM0578..	–	–
.594	15,08	KSEM0594	A	KSEM0594..	KSEM150..M	KSEM0578..	–	–
.609	15,48	KSEM0609	A	KSEM0609..	KSEM0594..	KSEM150..M	–	–
.610	15,50	KSEM1550	A	KSEM155..M	KSEM0609..	KSEM0594..	KSEM150..M	–
.625	15,88	KSEM0625	1	KSEM0625..	–	–	–	–
.630	16,00	KSEM1600	1	KSEM160..M	KSEM0625..	–	–	–
.634	16,09	KSEM0634	1	KSEM0634..	KSEM160..M	KSEM0625..	–	–
.641	16,27	KSEM0641	1	KSEM0641..	KSEM0634..	KSEM160..M	KSEM0625..	–
.650	16,50	KSEM1650	1	KSEM165..M	KSEM0641..	KSEM0634..	–	–
.656	16,67	KSEM0656	1	KSEM0656..	KSEM165..M	KSEM0641..	–	–
.669	17,00	KSEM1700	1	KSEM170..M	KSEM0656..	KSEM165..M	–	–
.672	17,07	KSEM0672	1	KSEM0672..	KSEM170..M	KSEM0656..	–	–
.688	17,46	KSEM0688	1	KSEM0688..	KSEM0672..	KSEM170..M	–	–
.689	17,50	KSEM1750	1	KSEM175..M	KSEM0688..	KSEM0672..	KSEM170..M	–
.700	17,78	KSEM0700	1	N/A	KSEM175..M	KSEM0688..	–	–
.703	17,86	KSEM0703	1	KSEM0703..	KSEM175..M	KSEM0688..	–	–
.709	18,00	KSEM1800	1	KSEM180..M	KSEM0703..	KSEM175..M	–	–
.719	18,26	KSEM0719	2	KSEM0719..	KSEM181..M	–	–	–
.728	18,50	KSEM1850	2	KSEM185..M	KSEM0719..	KSEM181..M	–	–
.734	18,65	KSEM0734	2	KSEM0734..	KSEM185..M	KSEM0719..	–	–
.748	19,00	KSEM1900	2	KSEM190..M	KSEM0734..	KSEM185..M	–	–
.750	19,05	KSEM0750	2	KSEM0750..	KSEM190..M	KSEM0734..	–	–
.759	19,27	KSEM0759	2	KSEM0759..	KSEM0750..	KSEM190..M	–	–
.766	19,45	KSEM0766	2	KSEM0766..	KSEM0759..	KSEM0750..	KSEM190..M	–
.768	19,50	KSEM1950	2	KSEM195..M	KSEM0766..	KSEM0759..	KSEM0750..	KSEM190..M
.781	19,84	KSEM0781	2	KSEM0781..	KSEM195..M	KSEM0766..	–	–
.787	20,00	KSEM2000	3	KSEM200..M	–	–	–	–
.797	20,24	KSEM0797	3	KSEM0797..	KSEM200..M	–	–	–
.800	20,32	KSEM0800	3	N/A	KSEM0797..	KSEM200..M	–	–
.807	20,50	KSEM2050	3	KSEM205..M	KSEM0797..	KSEM200..M	–	–
.813	20,64	KSEM0813	3	KSEM0813..	KSEM205..M	KSEM0797..	–	–
.827	21,00	KSEM2100	3	KSEM210..M	KSEM0813..	KSEM205..M	–	–
.844	21,43	KSEM0844	3	KSEM0844..	KSEM210..M	–	–	–
.847	21,50	KSEM2150	3	KSEM215..M	KSEM0844..	KSEM210..M	–	–
.859	21,83	KSEM0859	3	KSEM0859..	KSEM215..M	KSEM0844..	–	–
.866	22,00	KSEM2200	3	KSEM220..M	KSEM0859..	KSEM215..M	–	–
.875	22,23	KSEM0875	4	KSEM0875..	KSEM221..M	–	–	–
.884	22,44	KSEM0884	4	KSEM0884..	KSEM0875..	KSEM221..M	–	–
.886	22,50	KSEM2250	4	KSEM225..M	KSEM0884..	KSEM0875..	KSEM221..M	–
.906	23,00	KSEM2300	4	KSEM230..M	KSEM0906..	KSEM225..M	–	–
.922	23,42	KSEM0922	4	KSEM0922..	KSEM230..M	–	–	–
.925	23,50	KSEM2350	4	KSEM235..M	KSEM0922..	KSEM230..M	–	–
.938	23,81	KSEM0938	4	KSEM0938..	KSEM235..M	KSEM0922..	–	–
.945	24,00	KSEM2400	4	KSEM240..M	KSEM0938..	KSEM235..M	–	–

(continued)

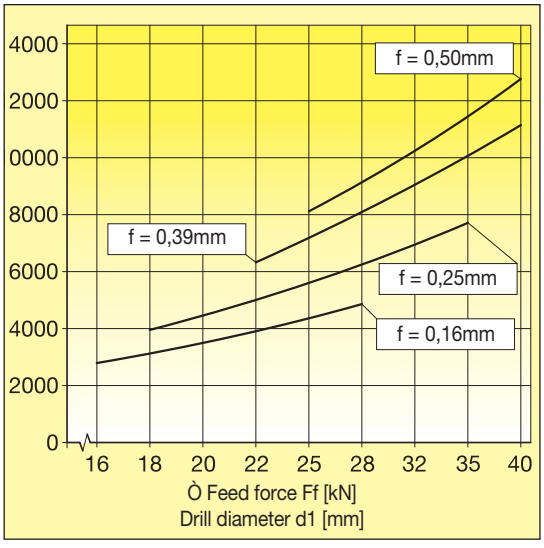
(continued)

diameter D inch	mm	insert blade	seat size	first choice	alternate body 1	alternate body 2	alternate body 3	alternate body 4
.965	24,50	KSEM2450	5	KSEM245..M	KSEM241..M	–	–	–
.969	24,61	KSEM0969	5	KSEM0969..	KSEM245..M	–	–	–
.984	25,00	KSEM2500	5	KSEM250..M	KSEM0984..	KSEM0969..	KSEM245..M	–
1.000	25,40	KSEM1000	5	KSEM1000..	KSEM250..M	–	–	–
1.004	25,50	KSEM2550	5	KSEM255..M	KSEM1000..	KSEM250..M	–	–
1.011	25,67	KSEM1011	5	KSEM1011..	KSEM255..M	–	–	–
1.024	26,00	KSEM2600	5	KSEM260..M	KSEM1011..	KSEM255..M	–	–
1.031	26,19	KSEM1031	6	KSEM1031..	KSEM261..M	–	–	–
1.043	26,50	KSEM2650	6	KSEM265..M	KSEM1031..	KSEM261..M	–	–
1.047	26,59	KSEM1047	6	KSEM1047..	KSEM265..M	KSEM1031..	KSEM261..M	–
1.063	27,00	KSEM2700	6	KSEM270..M	KSEM1063..	KSEM1047..	KSEM265..M	–
1.083	27,50	KSEM2750	6	KSEM275..M	KSEM270..M	KSEM1063..	–	–
1.094	27,78	KSEM1094	6	KSEM1094..	KSEM275..M	–	–	–
1.102	28,00	KSEM2800	6	KSEM280..M	KSEM1094..	KSEM275..M	–	–
1.109	28,18	KSEM1109	7	KSEM1109..	KSEM281..M	–	–	–
1.122	28,50	KSEM2850	7	KSEM285..M	KSEM1109..	KSEM281..M	–	–
1.125	28,58	KSEM1125	7	KSEM1125..	KSEM285..M	KSEM1109..	KSEM281..M	–
1.142	29,00	KSEM2900	7	KSEM290..M	KSEM1125..	KSEM285..M	–	–
1.156	29,37	KSEM1156	7	KSEM1156..	KSEM290..M	–	–	–
1.161	29,50	KSEM2950	7	KSEM295..M	KSEM1156..	KSEM290..M	–	–
1.172	29,77	KSEM1172	7	KSEM1172..	KSEM295..M	KSEM1156..	–	–
1.181	30,00	KSEM3000	7	KSEM300..M	KSEM1172..	KSEM295..M	–	–
1.188	30,16	KSEM1188	8	KSEM1188..	KSEM301..M	–	–	–
1.201	30,50	KSEM3050	8	KSEM305..M	KSEM1188..	KSEM301..M	–	–
1.203	30,56	KSEM1203	8	KSEM1203..	KSEM305..M	KSEM1188..	KSEM301..M	–
1.219	30,96	KSEM1219	8	KSEM1219..	KSEM1203..	KSEM305..M	–	–
1.220	31,00	KSEM3100	8	KSEM310..M	KSEM1219..	KSEM1203..	KSEM305..M	–
1.240	31,50	KSEM3150	8	KSEM315..M	KSEM310..M	–	–	–
1.250	31,75	KSEM1250	8	KSEM1250..	KSEM315..M	–	–	–
1.260	32,00	KSEM3200	8	KSEM320..M	KSEM1250..	KSEM315..M	–	–
1.280	32,50	KSEM3250	9	–	KSEM321..M	–	–	–
1.281	32,54	KSEM1281	9	KSEM1281..	KSEM321..M	–	–	–
1.297	32,94	KSEM1297	9	KSEM1297..	KSEM1281..	–	–	–
1.299	33,00	KSEM3300	9	KSEM330..M	KSEM1297..	KSEM1281..	–	–
1.313	33,34	KSEM1313	9	KSEM1313..	KSEM330..M	KSEM1297..	–	–
1.319	33,50	KSEM3350	9	–	–	KSEM1313..	KSEM330..M	–
1.328	33,73	KSEM1328	9	KSEM1328..	KSEM1313..	–	–	–
1.339	34,00	KSEM3400	9	KSEM340..M	KSEM1328..	–	–	–
1.344	34,13	KSEM1344	9	KSEM1344..	KSEM340..M	KSEM1328..	–	–
1.358	34,50	KSEM3450	9	–	–	KSEM1344..	KSEM340..M	–
1.375	34,93	KSEM1375	9	KSEM1375..	–	–	–	–
1.378	35,00	KSEM3500	9	KSEM350..M	KSEM1375..	–	–	–
1.398	35,50	KSEM3550	9	–	–	KSEM350..M	–	–
1.406	35,72	KSEM1406	9	KSEM1406..	–	–	–	–
1.417	36,00	KSEM3600	9	KSEM360..M	KSEM1406..	–	–	–
1.422	36,12	KSEM1422	10	KSEM1422..	KSEM361..M	–	–	–
1.437	36,50	KSEM3650	10	–	–	KSEM1422..	KSEM361..M	–
1.438	36,51	KSEM1438	10	KSEM1438..	KSEM1422..	KSEM361..M	–	–
1.457	37,00	KSEM3700	10	KSEM370..M	KSEM1438..	–	–	–
1.469	37,31	KSEM1469	10	KSEM1469..	KSEM370..M	–	–	–
1.476	37,50	KSEM3750	10	–	–	KSEM1469..	KSEM370..M	–
1.496	38,00	KSEM3800	10	KSEM380..M	–	–	–	–
1.500	38,10	KSEM1500	10	KSEM1500..	KSEM380..M	–	–	–
1.514	38,46	KSEM1514	10	KSEM1514..	KSEM1500..	KSEM380..M	–	–
1.516	38,50	KSEM3850	10	–	–	KSEM1514..	KSEM1500..	KSEM380..M
1.535	39,00	KSEM3900	10	KSEM390..M	–	–	–	–
1.555	39,50	KSEM3950	10	–	–	KSEM390..M	–	–
1.575	40,00	KSEM4000	10	KSEM400..M	–	–	–	–

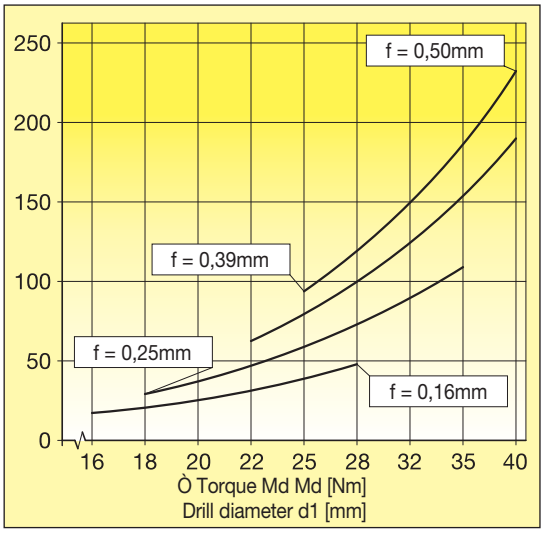
Drive Power (kW)



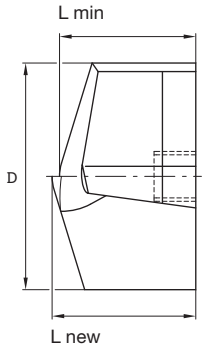
Feed Force (kN)



Torque (Nm)



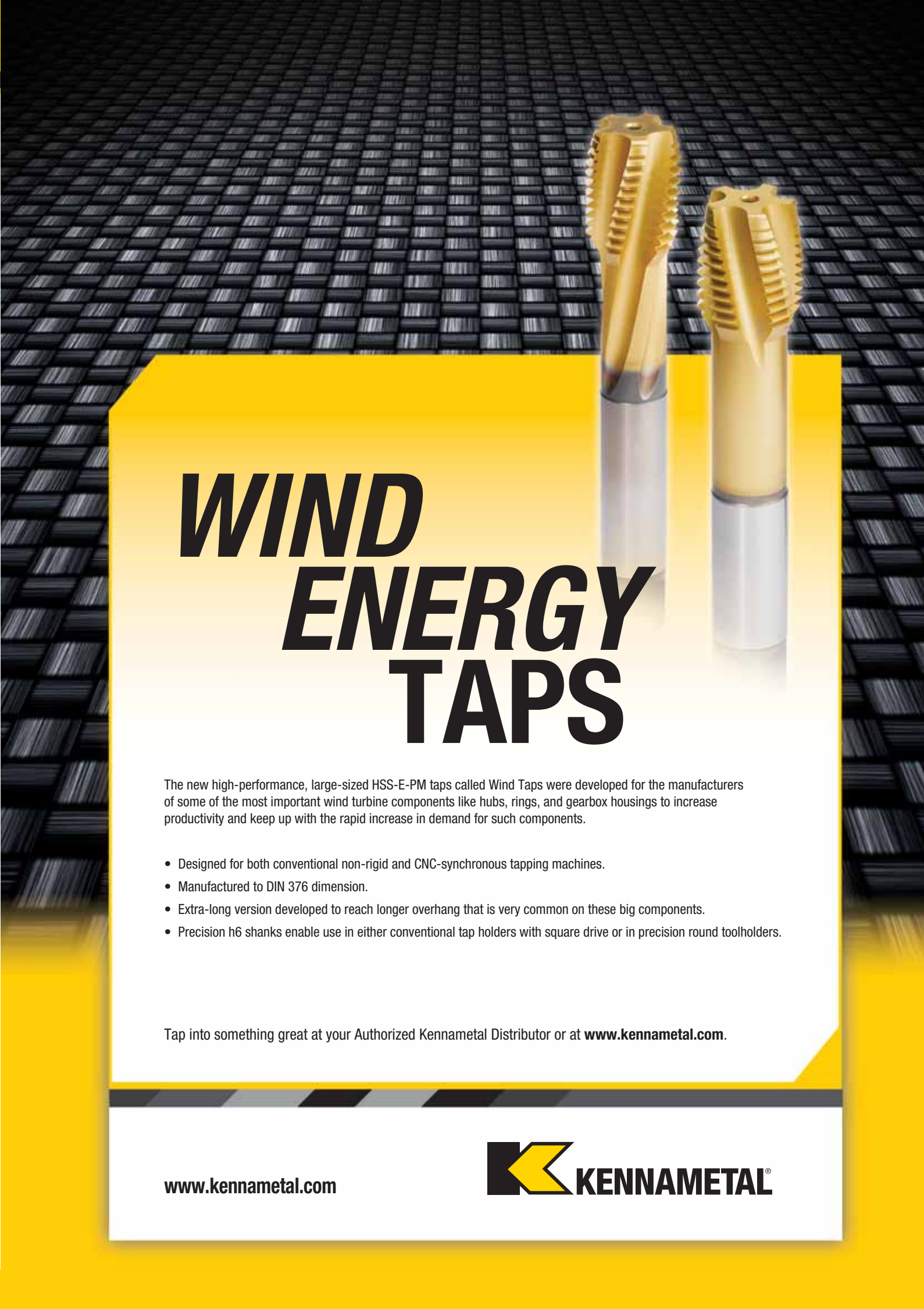
NOTE: The diagrams above are used to determine the drive power, feed force, and torque. They are based on cutting force measurement in tempered steels in Cgr. 6. Tensile strength: Rm = 600 N/mm2. The base cutting speed used is: vc = 80 m/min.



The following coolant pressure is recommended:

relative drilling depth	coolant pressure
1–3 x D	8 bars
5 x D	12 bars
7 x D	20 bars
10 x D	30 bars

insert seat size	diameter range D (mm)	L min (mm)	L new (mm)
C	12,50–13,50	8,5	9,6
B	13,51–14,50	8,9	10,1
A	14,51–15,88	9,4	10,6
1	15,88–18,00	10,3	11,6
2	18,01–19,99	11,2	12,6
3	20,00–22,00	12,1	13,6
4	22,01–24,00	13,0	14,6
5	24,01–26,00	13,9	15,6
6	26,01–28,00	14,8	16,6
7	28,01–30,00	15,7	17,6
8	30,01–32,00	16,6	18,6
9	32,01–36,00	18,4	20,6
10	36,01–40,00	20,2	22,6



WIND ENERGY TAPS

The new high-performance, large-sized HSS-E-PM taps called Wind Taps were developed for the manufacturers of some of the most important wind turbine components like hubs, rings, and gearbox housings to increase productivity and keep up with the rapid increase in demand for such components.

- Designed for both conventional non-rigid and CNC-synchronous tapping machines.
- Manufactured to DIN 376 dimension.
- Extra-long version developed to reach longer overhang that is very common on these big components.
- Precision h6 shanks enable use in either conventional tap holders with square drive or in precision round toolholders.

Tap into something great at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

KENNAMETAL®



KSEM PLUS™ Modular Drill System

The KSEM PLUS drill concept is simple but effective. It combines the benefits of the KSEM modular drill (high feeds and length-to-diameter [L/D] ratios) with the benefits of an indexable drill (high speeds and low consumable costs).

Primary Application

The KSEM PLUS modular drill in steel, cast iron, and stainless steel materials replaces HSS or indexable drilling tool solutions in the diameter range of 1.102–2.756" (28–70mm) from 3–10 x D. For applications within the energy market (e.g., bearing rings for windmills), this tool delivers vast improvements in productivity and capacity.

Features and Benefits

Replaceable Head with Newly Developed FDS-Interface Coupling

- Quickly and easily replace inserts or drill heads without the need to remove the complete tool body from the machine.
- Save money and reduce tool stock by changing just the drill head and not the complete tool body if the front section wears out.
- Use one tool body for different sizes of drill heads.

Two Effective Cutting Edges

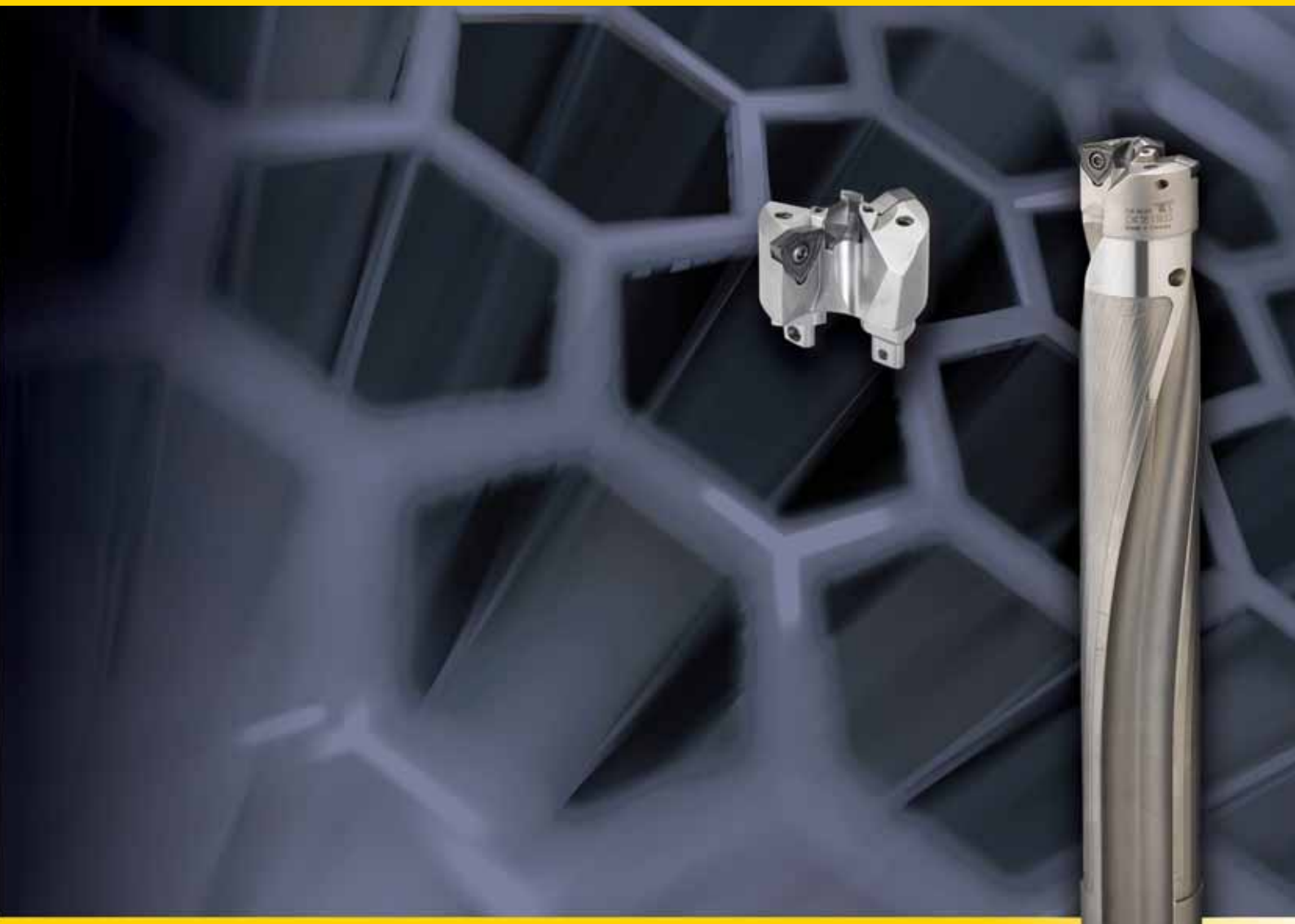
- Higher metal removal rates than indexable drills.
- Up to 100% increased productivity.
- L/D ratio capabilities from 3–10 x D.

KSEM PLUS Center Insert with HP

- Feed rate capabilities of modular drills.
- Longer life of KSEM PLUS inserts and no chip flow obstruction.
- No precentering at L/D less than 8 x D.

DFT™/DFR™ Outboard Inserts

- Higher speeds than modular drills.
- More stable cutting conditions.
- Improved surface finish and hole diameter accuracy.



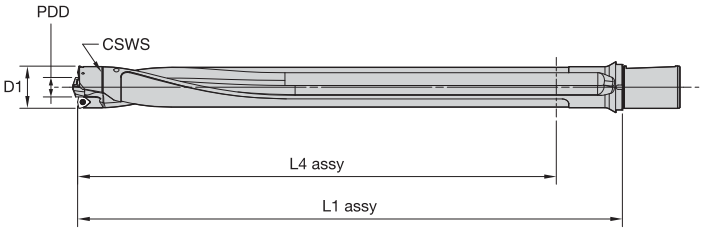
Tailored Grades and Geometries

- KC7315™ grade is a TiAlN-based PVD grade, offering superior performance in all steel applications.
- KC7410™ grade contains multiple layers of PVD coating, offering outstanding wear-resistance when drilling cast irons.
- KC7140™ grade is a TiCN-based PVD grade, offering excellent toughness in unstable conditions and is the first choice in stainless steel.

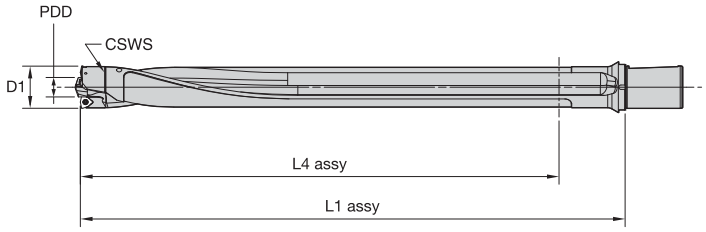
Customization

- Heads are available in intermediate diameters and up to Ø 76mm available as semi-standards.
- Tool bodies are available with different shank styles and up to 20x drill Ø as long as total length including shank <920mm.
- Heads for reground inserts are available as semi-standards.
- Tool bodies are available with different shank styles.
- B1 style heads with DFC outboard inserts are available for machining stacked plates, cross hole applications, and situations with inclined exits.

*To learn more, **scan here**.*
For instructions on how to scan, please see page xxix.

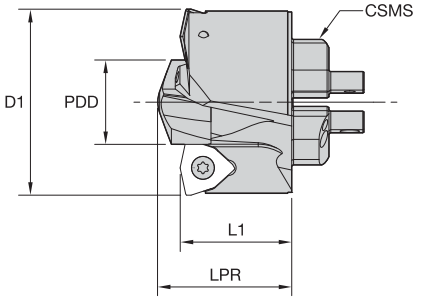


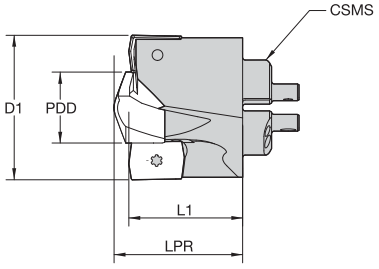
available KSEM PLUS heads				requested insert size reference per head			available tool bodies per CSWS connecting size 3 x D, 5 x D, 8 x D, 10 x D (metric and inch bodies)				
D1 mm	D1 in	KSEM PLUS head order number	KSEM PLUS head ANSI catalog number	PDD (mm) center insert size reference	outboard gage insert DFR/DFT	CSWS	KSEM PLUS body order number	KSEM PLUS ANSI catalog number	L/D ratio	L4 assembly (mm)	L1 assembly (mm)
28,00	1.102	**4000408**	**KSEMP2800FDS28A1M**	14,00	DFR040304D28	28	**4000409**	**WD32FDS28128M**	3 x D	93	150
28,58	1.125	**4047811**	**KSEMP1125FDS28A1**	15,00	DFR040304D28		**4051136**	**WD32FDS28190M**	5 x D	155	212
29,00	1.142	**4047812**	**KSEMP2900FDS28A1M**	15,00	DFR040304D28		**4051137**	**WD32FDS28283M**	8 x D	248	305
29,36	1.156	**4047823**	**KSEMP1156FDS28A1**	16,00	DFR040304D28		**4000411**	**WD32FDS28345M**	10 x D	310	367
30,00	1.181	**4047824**	**KSEMP3000FDS28A1M**	16,00	DFR040304D28		**4051138**	**SSF150FDS280502**	3 x D	93	150
30,18	1.188	**4047825**	**KSEMP1188FDS28A1**	17,00	DFR040304D28		**4051139**	**SSF150FDS280746**	5 x D	155	212
30,96	1.219	**4047826**	**KSEMP1219FDS28A1**	17,00	DFR040304D28		**4051140**	**SSF150FDS281112**	8 x D	248	305
31,00	1.221	**4047827**	**KSEMP3100FDS28A1M**	17,00	DFR040304D28		**4051141**	**SSF150FDS281356**	10 x D	310	367
31,75	1.250	**3794916**	**KSEMP1250FDS32A1**	15,00	DFT05T308D32	32	**3950219**	**WD32FDS32146M**	3 x D	105	166
32,00	1.260	**3794291**	**KSEMP3200FDS32A1M**	15,00	DFT05T308D32		**3794428**	**WD32FDS32216M**	5 x D	175	236
33,00	1.299	**3742210**	**KSEMP3300FDS32A1M**	16,00	DFT05T308D33		**3742293**	**WD32FDS32321M**	8 x D	280	341
33,20	1.307	**3793949**	**KSEMP3320FDS32A1M**	16,00	DFT05T308D33		**3794429**	**WD32FDS32391M**	10 x D	350	411
33,35	1.313	**3794917**	**KSEMP1313FDS32A1**	17,00	DFT05T308D33		**3952192**	**SSF150FDS320573**	3 x D	105	166
34,00	1.339	**3794292**	**KSEMP3400FDS32A1M**	17,00	DFT05T308D33		**3794835**	**SSF150FDS320850**	5 x D	175	236
34,93	1.375	**3794918**	**KSEMP1375FDS32A1**	18,00	DFT05T308D33		**3794836**	**SSF150FDS321263**	8 x D	280	341
35,00	1.378	**3794393**	**KSEMP3500FDS32A1M**	18,00	DFT05T308D33		**3794837**	**SSF150FDS321539**	10 x D	350	411
36,00	1.417	**3794394**	**KSEMP3600FDS36A1M**	13,00	DFT06T308D36	36	**3950220**	**WD32FDS36166M**	3 x D	117	186
36,53	1.438	**3794919**	**KSEMP1438FDS36A1**	14,00	DFT06T308D36		**3794430**	**WD32FDS36244M**	5 x D	195	264
37,00	1.457	**3794395**	**KSEMP3700FDS36A1M**	14,00	DFT06T308D36		**3794431**	**WD32FDS36361M**	8 x D	312	381
37,50	1.476	**3794427**	**KSEMP3750FDS36A1M**	15,00	DFT06T308D36		**3794432**	**WD32FDS36439M**	10 x D	390	459
38,00	1.496	**3794396**	**KSEMP3800FDS36A1M**	15,00	DFT06T308D36		**3952343**	**SSF150FDS360652**	3 x D	117	186
38,10	1.500	**3794920**	**KSEMP1500FDS36A1**	15,00	DFT06T308D36		**3794838**	**SSF150FDS360960**	5 x D	195	264
39,00	1.535	**3794397**	**KSEMP3900FDS36A1M**	16,00	DFT06T308D39		**3794839**	**SSF150FDS361421**	8 x D	312	381
39,20	1.543	**3793950**	**KSEMP3920FDS36A1M**	16,00	DFT06T308D39		**3794840**	**SSF150FDS361728**	10 x D	390	459
39,70	1.563	**3794921**	**KSEMP1563FDS36A1**	17,00	DFT06T308D39						
40,00	1.575	**3794398**	**KSEMP4000FDS40A1M**	17,00	DFT06T308D39	40	**3872075**	**WD50FDS40183M**	3 x D	132	208
41,00	1.614	**3794399**	**KSEMP4100FDS40A1M**	18,00	DFT06T308D39		**3794443**	**WD50FDS40271M**	5 x D	220	296
41,28	1.625	**3794922**	**KSEMP1625FDS40A1**	18,00	DFT06T308D39		**3794444**	**WD50FDS40403M**	8 x D	352	428
42,00	1.654	**3794400**	**KSEMP4200FDS40A1M**	19,00	DFT06T308D39		**3794445**	**WD50FDS40491M**	10 x D	440	516
43,00	1.693	**3794401**	**KSEMP4300FDS40A1M**	20,00	DFT06T308D39		**3952344**	**SSF200FDS400721**	3 x D	132	208
44,00	1.732	**3794402**	**KSEMP4400FDS40A1M**	21,00	DFT06T308D44		**3794841**	**SSF200FDS401066**	5 x D	220	296
44,45	1.750	**3794933**	**KSEMP1750FDS40A1**	22,00	DFT06T308D44		**3794842**	**SSF200FDS401586**	8 x D	352	428
							3794843	**SSF200FDS401933**	10 x D	440	516

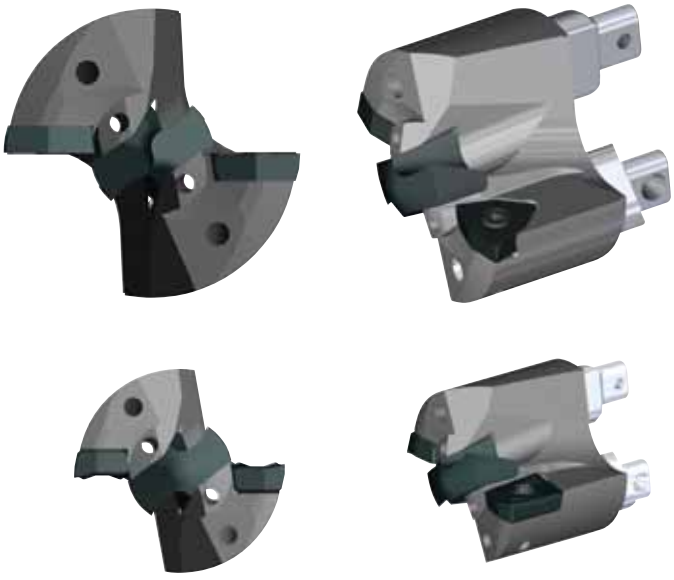


available KSEM PLUS heads			requested insert size reference per head			available tool bodies per CSWS connecting size 3 x D, 5 x D, 8 x D, 10 x D (metric and inch bodies)				
D1 mm in	KSEM PLUS head order number	KSEM PLUS head ANSI catalog number	PDD (mm) center insert size reference	outboard gage insert DFR/DFT	CSWS	KSEM PLUS body order number	KSEM PLUS ANSI catalog number	L/D ratio	L4 assembly (mm)	L1 assembly (mm)
					45	**3872709**	**WD50FDS45206M**	3 x D	147	231
45,00 1.772	**3794403**	**KSEMP4500FDS45A1M**	18,00	DFT070408D45		**3794446**	**WD50FDS45304M**	5 x D	245	329
46,00 1.811	**3794404**	**KSEMP4600FDS45A1M**	19,00	DFT070408D45		**3794447**	**WD50FDS45451M**	8 x D	392	476
47,00 1.850	**3794405**	**KSEMP4700FDS45A1M**	20,00	DFT070408D45		**3794448**	**WD50FDS45549M**	10 x D	490	574
47,63 1.875	**3794934**	**KSEMP1875FDS45A1**	21,00	DFT070408D45		**3952345**	**SSF200FDS450809**	3 x D	147	231
48,00 1.890	**3794406**	**KSEMP4800FDS45A1M**	21,00	DFT070408D45		**3794904**	**SSF200FDS451196**	5 x D	245	329
49,00 1.929	**3794407**	**KSEMP4900FDS45A1M**	22,00	DFT070408D45		**3794905**	**SSF200FDS451775**	8 x D	392	476
						3794906	**SSF200FDS452161**	10 x D	490	574
50,00 1.969	**3742211**	**KSEMP5000FDS50A1M**	23,00	DFT070408D50	50	**3950221**	**WD50FDS50228M**	3 x D	165	258
50,80 2.000	**3794935**	**KSEMP2000FDS50A1**	24,00	DFT070408D50		**3794449**	**WD50FDS50338M**	5 x D	275	368
51,00 2.008	**3794408**	**KSEMP5100FDS50A1M**	24,00	DFT070408D50		**3742294**	**WD50FDS50503M**	8 x D	440	533
52,00 2.047	**3794409**	**KSEMP5200FDS50A1M**	25,00	DFT070408D50		**3794450**	**WD50FDS50613M**	10 x D	550	643
53,00 2.087	**3794410**	**KSEMP5300FDS50A1M**	26,00	DFT070408D50		**3952346**	**SSF200FDS500896**	3 x D	165	258
53,98 2.125	**3794936**	**KSEMP2125FDS50A1**	27,00	DFT070408D50		**3794907**	**SSF200FDS501330**	5 x D	275	368
54,00 2.126	**3794411**	**KSEMP5400FDS50A1M**	27,00	DFT070408D50		**3794908**	**SSF200FDS501980**	8 x D	440	533
55,00 2.165	**3794412**	**KSEMP5500FDS50A1M**	28,00	DFT070408D50		**3794908**	**SSF200FDS502413**	10 x D	550	643
56,00 2.205	**3794413**	**KSEMP5600FDS56A1M**	20,00	DFT090508D56	56	**3950222**	**WD50FDS56259M**	3 x D	186	289
57,00 2.244	**3794414**	**KSEMP5700FDS56A1M**	21,00	DFT090508D56		**3794451**	**WD50FDS56383M**	5 x D	310	413
57,15 2.250	**3794937**	**KSEMP2250FDS56A1**	21,00	DFT090508D56		**3794452**	**WD50FDS56569M**	8 x D	496	599
58,00 2.284	**3794415**	**KSEMP5800FDS56A1M**	22,00	DFT090508D56		**3794453**	**WD50FDS56693M**	10 x D	620	723
59,00 2.323	**3794416**	**KSEMP5900FDS56A1M**	23,00	DFT090508D56		**3952347**	**SSF200FDS561020**	3 x D	186	289
60,00 2.362	**3794417**	**KSEMP6000FDS56A1M**	24,00	DFT090508D56		**3794910**	**SSF200FDS561507**	5 x D	310	413
60,33 2.375	**3794938**	**KSEMP2375FDS56A1**	24,00	DFT090508D56		**3794911**	**SSF200FDS562240**	8 x D	496	599
61,00 2.402	**3794418**	**KSEMP6100FDS56A1M**	25,00	DFT090508D56		**3794912**	**SSF200FDS562783**	10 x D	620	723
62,00 2.441	**3794419**	**KSEMP6200FDS56A1M**	26,00	DFT090508D56						
63,00 2.480	**3794420**	**KSEMP6300FDS63A1M**	27,00	DFT090508D63	63					
63,50 2.500	**3794939**	**KSEMP2500FDS63A1**	28,00	DFT090508D63		**3950333**	**WD50FDS63289M**	3 x D	210	325
64,00 2.520	**3794421**	**KSEMP6400FDS63A1M**	28,00	DFT090508D63		**3794454**	**WD50FDS63429M**	5 x D	350	465
65,00 2.559	**3794422**	**KSEMP6500FDS63A1M**	29,00	DFT090508D63		**3794455**	**WD50FDS63639M**	8 x D	560	675
66,00 2.598	**3794423**	**KSEMP6600FDS63A1M**	30,00	DFT090508D63		**3742296**	**WD50FDS63779M**	10 x D	700	815
66,68 2.625	**3794940**	**KSEMP2625FDS63A1**	31,00	DFT090508D63		**3952348**	**SSF200FDS631138**	3 x D	210	325
67,00 2.638	**3794424**	**KSEMP6700FDS63A1M**	31,00	DFT090508D63		**3794913**	**SSF200FDS631688**	5 x D	350	465
68,00 2.677	**3794425**	**KSEMP6800FDS63A1M**	32,00	DFT090508D63		**3794914**	**SSF200FDS632515**	8 x D	560	675
69,00 2.717	**3794426**	**KSEMP6900FDS63A1M**	33,00	DFT090508D63		**3794915**	**SSF200FDS633066**	10 x D	700	815
69,85 2.750	**3794941**	**KSEMP2750FDS63A1**	34,00	DFT090508D63						
70,00 2.756	**3742212**	**KSEMP7000FDS63A1M**	34,00	DFT090508D63						

- To ensure 100% system stability, KSEM™ inserts used for KSEM PLUS should not be reground.
- KSEM PLUS heads are shipped with all insert screws.
- KSEM PLUS heads are shipped with two wrenches: one for the KSEM insert and one to be used for the DFT™/DFR™ inserts as well as for the assembly of the body to the head.
- Order KSEM PLUS shanks using connection coupling size (CSMS) to determine which heads go with each shank.
- PDD in the callout drawing refers to the D1 of the HPGM and HPCM inserts for use with KSEM PLUS.
- Order inserts (KSEM, DFT, and DFR) for KSEM PLUS separately.

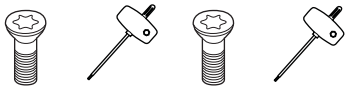






NEW!

KSEM PLUS Heads 28–70mm



order number	ISO catalog number	ANSI catalog number	D1 mm	D1 in	PDD mm	PDD in	LPR mm	LPR in	L1 mm	L1 in	CSMS system size	KSEM insert screw	KSEM wrench	Drill Fix insert screw	Drill Fix wrench
4000408	KSEMP2800FDS28A1M	KSEMP2800FDS28A1M	28,00	1.102	14,00	.5512	24,9	.980	22,0	.866	FDS28	364.016	170.350	192.432	170.352
4047811	KSEMP2858FDS28A1M	KSEMP1125FDS28A1	28,58	1.125	15,00	.5906	25,0	.984	22,0	.866	FDS28	364.016	170.350	192.432	170.352
4047812	KSEMP2900FDS28A1M	KSEMP2900FDS28A1M	29,00	1.142	15,00	.5906	25,0	.984	22,0	.866	FDS28	364.016	170.350	192.432	170.352
4047823	KSEMP2937FDS28A1M	KSEMP1156FDS28A1	29,36	1.156	16,00	.6299	25,2	.992	22,0	.866	FDS28	364.010	170.345	192.432	170.352
4047824	KSEMP3000FDS28A1M	KSEMP3000FDS28A1M	30,00	1.181	16,00	.6299	25,2	.992	22,0	.866	FDS28	364.010	170.345	192.432	170.352
4047825	KSEMP3017FDS28A1M	KSEMP1188FDS28A1	30,18	1.188	17,00	.6693	25,4	1.000	22,0	.866	FDS28	364.010	170.345	192.432	170.352
4047826	KSEMP3096FDS28A1M	KSEMP1219FDS28A1	30,96	1.219	17,00	.6693	25,4	1.000	22,0	.866	FDS28	364.010	170.345	192.432	170.352
4047827	KSEMP3100FDS28A1M	KSEMP3100FDS28A1M	31,00	1.221	17,00	.6693	25,4	1.000	22,0	.866	FDS28	364.010	170.345	192.432	170.352
3794916	KSEMP3175FDS32A1M	KSEMP1250FDS32A1	31,75	1.250	15,00	.5906	23,0	.907	20,0	.787	FDS32	364.016	170.350	191.924	170.353
3794291	KSEMP3200FDS32A1M	KSEMP3200FDS32A1M	32,00	1.260	15,00	.5906	23,0	.907	20,0	.787	FDS32	364.016	170.350	191.924	170.353
3742210	KSEMP3300FDS32A1M	KSEMP3300FDS32A1M	33,00	1.299	16,00	.6299	23,2	.913	20,0	.787	FDS32	364.010	170.345	191.924	170.353
3793949	KSEMP3320FDS32A1M	KSEMP3320FDS32A1M	33,20	1.307	16,00	.6299	23,2	.913	20,0	.787	FDS32	364.010	170.345	191.924	170.353
3794917	KSEMP3334FDS32A1M	KSEMP1313FDS32A1	33,35	1.313	17,00	.6693	23,4	.920	20,0	.787	FDS32	364.010	170.345	191.924	170.353
3794292	KSEMP3400FDS32A1M	KSEMP3400FDS32A1M	34,00	1.339	17,00	.6693	23,4	.920	20,0	.787	FDS32	364.010	170.345	191.924	170.353
3794918	KSEMP3493FDS32A1M	KSEMP1375FDS32A1	34,93	1.375	18,00	.7087	23,6	.928	20,0	.787	FDS32	364.010	170.345	191.924	170.353
3794393	KSEMP3500FDS32A1M	KSEMP3500FDS32A1M	35,00	1.378	18,00	.7087	23,6	.928	20,0	.787	FDS32	364.010	170.345	191.924	170.353
3794394	KSEMP3600FDS36A1M	KSEMP3600FDS36A1M	36,00	1.417	13,00	.5118	22,7	.893	20,0	.787	FDS36	364.016	170.350	191.916	170.355
3794919	KSEMP3651FDS36A1M	KSEMP1438FDS36A1	36,53	1.438	14,00	.5512	22,9	.900	20,0	.787	FDS36	364.016	170.350	191.916	170.355
3794395	KSEMP3700FDS36A1M	KSEMP3700FDS36A1M	37,00	1.457	14,00	.5512	22,9	.900	20,0	.787	FDS36	364.016	170.350	191.916	170.355
3794427	KSEMP3750FDS36A1M	KSEMP3750FDS36A1M	37,50	1.476	15,00	.5906	23,0	.907	20,0	.787	FDS36	364.016	170.350	191.916	170.355
3794396	KSEMP3800FDS36A1M	KSEMP3800FDS36A1M	38,00	1.496	15,00	.5906	23,0	.907	20,0	.787	FDS36	364.016	170.350	191.916	170.355
3794920	KSEMP3810FDS36A1M	KSEMP1500FDS36A1	38,10	1.500	15,00	.5906	23,0	.907	20,0	.787	FDS36	364.016	170.350	191.916	170.355
3794397	KSEMP3900FDS36A1M	KSEMP3900FDS36A1M	39,00	1.535	16,00	.6299	23,2	.913	20,0	.787	FDS36	364.010	170.345	191.916	170.355
3793950	KSEMP3920FDS36A1M	KSEMP3920FDS36A1M	39,20	1.543	16,00	.6299	23,2	.913	20,0	.787	FDS36	364.010	170.345	191.916	170.355

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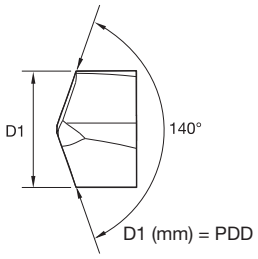
(KSEM PLUS Heads 28–70mm continued)



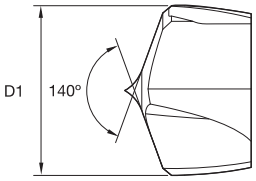



order number	ISO catalog number	ANSI catalog number	D1 mm	D1 in	PDD mm	PDD in	LPR mm	LPR in	L1 mm	L1 in	CSMS system size	KSEM insert screw	KSEM wrench	Drill Fix insert screw	Drill Fix wrench
3794921	KSEMP3970FDS36A1M	KSEMP1563FDS36A1	39,70	1.563	17,00	.6693	23,4	.920	20,0	.787	FDS36	364.010	170.345	191.916	170.355
3794398	KSEMP4000FDS40A1M	KSEMP4000FDS40A1M	40,00	1.575	17,00	.6693	28,6	1.125	25,0	.984	FDS40	364.010	170.345	191.916	170.355
3794399	KSEMP4100FDS40A1M	KSEMP4100FDS40A1M	41,00	1.614	18,00	.7087	28,8	1.132	25,0	.984	FDS40	364.010	170.345	191.916	170.355
3794922	KSEMP4128FDS40A1M	KSEMP1625FDS40A1	41,28	1.625	18,00	.7087	28,8	1.132	25,0	.984	FDS40	364.010	170.345	191.916	170.355
3794400	KSEMP4200FDS40A1M	KSEMP4200FDS40A1M	42,00	1.654	19,00	.7480	28,9	1.139	25,0	.984	FDS40	364.010	170.345	191.916	170.355
3794401	KSEMP4300FDS40A1M	KSEMP4300FDS40A1M	43,00	1.693	20,00	.7874	29,1	1.146	25,0	.984	FDS40	364.011	170.346	191.916	170.355
3794402	KSEMP4400FDS40A1M	KSEMP4400FDS40A1M	44,00	1.732	21,00	.8268	29,3	1.153	25,0	.984	FDS40	364.011	170.346	191.916	170.355
3794933	KSEMP4445FDS40A1M	KSEMP1750FDS40A1	44,45	1.750	22,00	.8661	29,5	1.160	25,0	.984	FDS40	364.011	170.346	191.916	170.355
3794403	KSEMP4500FDS45A1M	KSEMP4500FDS45A1M	45,00	1.772	18,00	.7087	28,8	1.132	25,0	.984	FDS45	364.010	170.345	191.698	170.355
3794404	KSEMP4600FDS45A1M	KSEMP4600FDS45A1M	46,00	1.811	19,00	.7480	28,9	1.139	25,0	.984	FDS45	364.010	170.345	191.698	170.355
3794405	KSEMP4700FDS45A1M	KSEMP4700FDS45A1M	47,00	1.850	20,00	.7874	29,1	1.146	25,0	.984	FDS45	364.011	170.346	191.698	170.355
3794934	KSEMP4763FDS45A1M	KSEMP1875FDS45A1	47,63	1.875	21,00	.8268	29,3	1.153	25,0	.984	FDS45	364.011	170.346	191.698	170.355
3794406	KSEMP4800FDS45A1M	KSEMP4800FDS45A1M	48,00	1.890	21,00	.8268	29,3	1.153	25,0	.984	FDS45	364.011	170.346	191.698	170.355
3794407	KSEMP4900FDS45A1M	KSEMP4900FDS45A1M	49,00	1.929	22,00	.8661	29,5	1.160	25,0	.984	FDS45	364.011	170.346	191.698	170.355
3742211	KSEMP5000FDS50A1M	KSEMP5000FDS50A1M	50,00	1.969	23,00	.9055	34,8	1.372	30,0	1.181	FDS50	364.011	170.346	191.698	170.355
3794935	KSEMP5080FDS50A1M	KSEMP2000FDS50A1	50,80	2.000	24,00	.9449	35,0	1.379	30,0	1.181	FDS50	364.011	170.346	191.698	170.355
3794408	KSEMP5100FDS50A1M	KSEMP5100FDS50A1M	51,00	2.008	24,00	.9449	35,0	1.379	30,0	1.181	FDS50	364.011	170.346	191.698	170.355
3794409	KSEMP5200FDS50A1M	KSEMP5200FDS50A1M	52,00	2.047	25,00	.9843	35,2	1.386	30,0	1.181	FDS50	364.012	170.347	191.698	170.355
3794410	KSEMP5300FDS50A1M	KSEMP5300FDS50A1M	53,00	2.087	26,00	1.0236	35,4	1.392	30,0	1.181	FDS50	364.012	170.347	191.698	170.355
3794936	KSEMP5398FDS50A1M	KSEMP2125FDS50A1	53,98	2.125	27,00	1.0630	35,6	1.399	30,0	1.181	FDS50	364.012	170.347	191.698	170.355
3794411	KSEMP5400FDS50A1M	KSEMP5400FDS50A1M	54,00	2.126	27,00	1.0630	35,6	1.399	30,0	1.181	FDS50	364.012	170.347	191.698	170.355
3794412	KSEMP5500FDS50A1M	KSEMP5500FDS50A1M	55,00	2.165	28,00	1.1024	35,7	1.406	30,0	1.181	FDS50	364.012	170.347	191.698	170.355
3794413	KSEMP5600FDS56A1M	KSEMP5600FDS56A1M	56,00	2.205	20,00	.7874	34,3	1.351	30,0	1.181	FDS56	364.011	170.346	191.726	170.356
3794414	KSEMP5700FDS56A1M	KSEMP5700FDS56A1M	57,00	2.244	21,00	.8268	34,5	1.358	30,0	1.181	FDS56	364.011	170.346	191.726	170.356
3794937	KSEMP5715FDS56A1M	KSEMP2250FDS56A1	57,15	2.250	21,00	.8268	34,5	1.358	30,0	1.181	FDS56	364.011	170.346	191.726	170.356
3794415	KSEMP5800FDS56A1M	KSEMP5800FDS56A1M	58,00	2.284	22,00	.8661	34,7	1.365	30,0	1.181	FDS56	364.011	170.346	191.726	170.356
3794416	KSEMP5900FDS56A1M	KSEMP5900FDS56A1M	59,00	2.323	23,00	.9055	34,8	1.372	30,0	1.181	FDS56	364.011	170.346	191.726	170.356
3794417	KSEMP6000FDS56A1M	KSEMP6000FDS56A1M	60,00	2.362	24,00	.9449	35,0	1.379	30,0	1.181	FDS56	364.011	170.346	191.726	170.356
3794938	KSEMP6033FDS56A1M	KSEMP2375FDS56A1	60,33	2.375	24,00	.9449	35,0	1.379	30,0	1.181	FDS56	364.011	170.346	191.726	170.356
3794418	KSEMP6100FDS56A1M	KSEMP6100FDS56A1M	61,00	2.402	25,00	.9843	35,2	1.386	30,0	1.181	FDS56	364.012	170.347	191.726	170.356
3794419	KSEMP6200FDS56A1M	KSEMP6200FDS56A1M	62,00	2.441	26,00	1.0236	35,4	1.392	30,0	1.181	FDS56	364.012	170.347	191.726	170.356
3794420	KSEMP6300FDS63A1M	KSEMP6300FDS63A1M	63,00	2.480	27,00	1.0630	41,8	1.643	36,0	1.417	FDS63	364.012	170.347	191.726	170.356
3794939	KSEMP6350FDS63A1M	KSEMP2500FDS63A1	63,50	2.500	28,00	1.1024	41,9	1.650	36,0	1.417	FDS63	364.012	170.347	191.726	170.356
3794421	KSEMP6400FDS63A1M	KSEMP6400FDS63A1M	64,00	2.520	28,00	1.1024	41,9	1.650	36,0	1.417	FDS63	364.012	170.347	191.726	170.356
3794422	KSEMP6500FDS63A1M	KSEMP6500FDS63A1M	65,00	2.559	29,00	1.1417	42,1	1.657	36,0	1.417	FDS63	364.013	170.348	191.726	170.356
3794423	KSEMP6600FDS63A1M	KSEMP6600FDS63A1M	66,00	2.598	30,00	1.1811	42,3	1.664	36,0	1.417	FDS63	364.013	170.348	191.726	170.356
3794940	KSEMP6668FDS63A1M	KSEMP2625FDS63A1	66,68	2.625	31,00	1.2205	42,5	1.671	36,0	1.417	FDS63	364.013	170.348	191.726	170.356
3794424	KSEMP6700FDS63A1M	KSEMP6700FDS63A1M	67,00	2.638	31,00	1.2205	42,5	1.671	36,0	1.417	FDS63	364.013	170.348	191.726	170.356
3794425	KSEMP6800FDS63A1M	KSEMP6800FDS63A1M	68,00	2.677	32,00	1.2598	42,6	1.678	36,0	1.417	FDS63	364.013	170.348	191.726	170.356
3794426	KSEMP6900FDS63A1M	KSEMP6900FDS63A1M	69,00	2.717	33,00	1.2992	42,8	1.685	36,0	1.417	FDS63	364.015	170.348	191.726	170.356
3794941	KSEMP6985FDS63A1M	KSEMP2750FDS63A1	69,85	2.750	34,00	1.3386	43,0	1.692	36,0	1.417	FDS63	364.015	170.348	191.726	170.356
3742212	KSEMP7000FDS63A1M	KSEMP7000FDS63A1M	70,00	2.756	34,00	1.3386	43,0	1.692	36,0	1.417	FDS63	364.015	170.348	191.726	170.356

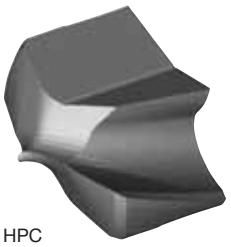
- To ensure 100% system stability, KSEM™ inserts used for KSEM PLUS should not be reground.
- The callout D1 (mm) = PDD. PDD is used in reference to the KSEM PLUS heads.



D1 (mm) = PDD

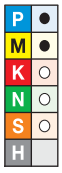


D1 (mm) = PDD


HPC


HPG

KSEMP Inserts

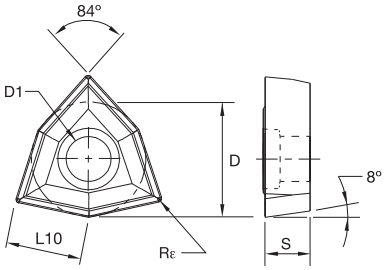




● first choice
○ alternate choice

HPGM • KC7315	HPCM • KC7410	D1 mm	D1 in	seat size
KSEMP1300HPGM	**KSEM1300HPCM**	13,000	.5118	C
KSEMP1400HPGM	**KSEM1400HPCM**	14,000	.5512	B
KSEMP1500HPGM	**KSEM1500HPCM**	15,000	.5906	A
KSEMP1600HPGM	**KSEM1600HPCM**	16,000	.6299	1
KSEMP1700HPGM	**KSEM1700HPCM**	17,000	.6693	1
KSEMP1800HPGM	**KSEM1800HPCM**	18,000	.7087	1
KSEMP1900HPGM	**KSEM1900HPCM**	19,000	.7480	2
KSEMP2000HPGM	**KSEM2000HPCM**	20,000	.7874	3
KSEMP2100HPGM	**KSEM2100HPCM**	21,000	.8268	3
KSEMP2200HPGM	**KSEM2200HPCM**	22,000	.8661	3
KSEMP2300HPGM	**KSEM2300HPCM**	23,000	.9055	4
KSEMP2400HPGM	**KSEM2400HPCM**	24,000	.9449	4
KSEMP2500HPGM	**KSEM2500HPCM**	25,000	.9843	5
KSEMP2600HPGM	**KSEM2600HPCM**	26,000	1.0236	5
KSEMP2700HPGM	**KSEM2700HPCM**	27,000	1.0630	6
KSEMP2800HPGM	**KSEM2800HPCM**	28,000	1.1024	6
KSEMP2900HPGM	**KSEM2900HPCM**	29,000	1.1417	7
KSEMP3000HPGM	**KSEM3000HPCM**	30,000	1.1811	7
KSEMP3100HPGM	**KSEM3100HPCM**	31,000	1.2205	8
KSEMP3200HPGM	**KSEM3200HPCM**	32,000	1.2598	8
KSEMP3300HPGM	–	33,000	1.2992	9
KSEMP3400HPGM	–	34,000	1.3386	9

Tolerance HPG • Metric		Tolerance HPC • Metric		Tolerance HPG • Inch		Tolerance HPC • Inch	
D1	**tolerance h8**	**D1**	**tolerance k8**	**D1**	**tolerance h8**	**D1**	**tolerance k8**
12,5–18	+0,000/-0,027	12,5–18	+0,027/0,000	.500–.709	+.000/-.0010	.500–.709	+0.0010/-0.0000
>18–30	+0,000/-0,033	>18–30	+0,033/0,000	>.709–1.181	+.000/-.0013	>.709–1.181	+0.0013/-0.0000
>30–40	+0,000/-0,039	>30–40	+0,039/0,000	>1.181–1.575	+.000/-.0015	>1.181–1.575	+0.0015/-0.0000





● first choice
○ alternate choice

P	●
M	●
K	●
N	○
S	○
H	

DFT-HP

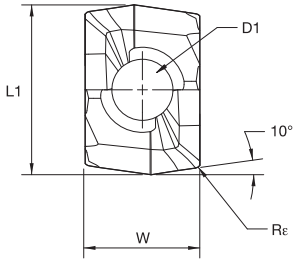
outboard insert size reference (DFT)	order number	catalog number	L10 mm	L10 in	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	KC7315
DFT05T308D32	**3648429**	**DFT05T308D32HP**	5,29	.208	8,00	.315	3,40	.134	3,75	.148	0,80	.031	●
DFT05T308D33	**3668995**	**DFT05T308D33HP**	5,29	.208	8,00	.315	3,40	.134	3,75	.148	0,80	.031	●
DFT06T308D36	**3648427**	**DFT06T308D36HP**	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031	●
DFT06T308D39	**3668996**	**DFT06T308D39HP**	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031	●
DFT06T308D44	**3668997**	**DFT06T308D44HP**	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031	●
DFT070408D45	**3648432**	**DFT070408D45HP**	7,94	.313	12,00	.472	4,40	.173	4,75	.187	0,80	.031	●
DFT070408D50	**3668998**	**DFT070408D50HP**	7,94	.313	12,00	.472	4,40	.173	4,75	.187	0,80	.031	●
DFT090508D56	**3648476**	**DFT090508D56HP**	9,92	.391	15,00	.591	5,50	.217	5,25	.207	0,80	.031	●
DFT090508D63	**3668999**	**DFT090508D63HP**	9,92	.391	15,00	.591	5,50	.217	5,25	.207	0,80	.031	●

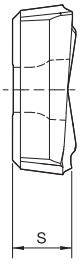
● first choice
○ alternate choice

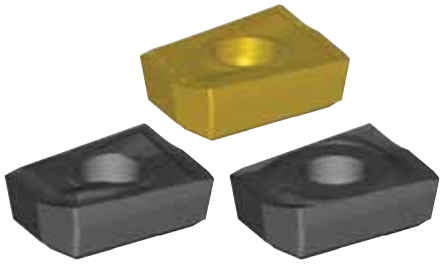
P	●
M	●
K	○
N	○
S	○
H	

DFT-MD

outboard insert size reference (DFT)	order number	catalog number	L10 mm	L10 in	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	KC7140
DFT05T308D32	**3648430**	**DFT05T308D32MD**	5,29	.208	8,00	.315	3,40	.134	3,75	.148	0,80	.031	●
DFT05T308D33	**3669000**	**DFT05T308D33MD**	5,29	.208	8,00	.315	3,40	.134	3,75	.148	0,80	.031	●
DFT06T308D36	**3648428**	**DFT06T308D36MD**	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031	●
DFT06T308D39	**3669001**	**DFT06T308D39MD**	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031	●
DFT06T308D44	**3669002**	**DFT06T308D44MD**	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031	●
DFT070408D45	**3648474**	**DFT070408D45MD**	7,94	.313	12,00	.472	4,40	.173	4,75	.187	0,80	.031	●
DFT070408D50	**3669083**	**DFT070408D50MD**	7,94	.313	12,00	.472	4,40	.173	4,75	.187	0,80	.031	●
DFT090508D56	**3648478**	**DFT090508D56MD**	9,92	.391	15,00	.591	5,50	.217	5,25	.207	0,80	.031	●
DFT090508D63	**3669084**	**DFT090508D63MD**	9,92	.391	15,00	.591	5,50	.217	5,25	.207	0,80	.031	●







● first choice
○ alternate choice

P	●	○	●
M	●	○	○
K	○	●	○
N	○	●	○
S	○	○	●
H			

DFR Inserts

catalog number	L1 mm	L1 in	W mm	W in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	KC7140	KC7225	KC7315
DFR040304D28GD	10,76	.4236	7,26	.2860	2,85	.1122	3,79	.1492	0,40	.0156			●
DFR040304D28LD	10,76	.4236	7,26	.2860	2,85	.1122	3,78	.1490	0,40	.0156		●	
DFR040304D28MD	10,76	.4236	7,26	.2860	2,85	.1122	3,79	.1490	0,40	.0156	●		

Modular Drill • KSEM PLUS™ • Metric

Material Group		Condition	Cutting Speed — vc Range — m/min			Metric					
						Recommended Feed Rate (f) by Diameter					
			min	Starting Value	max		KSEM 14....17 DFR04... 28,00-31,74	KSEM 15....18 DFT05.. 31,75-35,99	KSEM 13....22 DFT06... 36,00-44,99	KSEM 18....28 DFT07... 45,00-55,99	KSEM 20....34 DFT09... 56,00-70,00
P	2	S	90	190	230	mm/r	0,160 - 0,280	0,160 - 0,280	0,200 - 0,360	0,200 - 0,400	0,200 - 0,450
		U	71	130	170	mm/r	0,160 - 0,280	0,160 - 0,280	0,200 - 0,360	0,200 - 0,400	0,200 - 0,450
		I	50	80	110	mm/r	0,160 - 0,280	0,160 - 0,280	0,200 - 0,320	0,200 - 0,400	0,200 - 0,450
	3	S	90	180	230	mm/r	0,160 - 0,280	0,160 - 0,280	0,200 - 0,320	0,200 - 0,400	0,200 - 0,450
		U	70	120	170	mm/r	0,160 - 0,280	0,160 - 0,280	0,200 - 0,320	0,200 - 0,400	0,200 - 0,450
		I	50	70	106	mm/r	0,160 - 0,280	0,160 - 0,280	0,200 - 0,320	0,200 - 0,400	0,200 - 0,450
	4	S	90	140	220	mm/r	0,160 - 0,280	0,160 - 0,280	0,200 - 0,320	0,200 - 0,400	0,200 - 0,450
		U	70	110	160	mm/r	0,160 - 0,280	0,160 - 0,280	0,200 - 0,320	0,200 - 0,400	0,200 - 0,450
		I	50	80	110	mm/r	0,160 - 0,280	0,160 - 0,280	0,200 - 0,320	0,200 - 0,400	0,200 - 0,450
	5	S	90	130	210	mm/r	0,160 - 0,280	0,160 - 0,280	0,200 - 0,320	0,200 - 0,400	0,200 - 0,450
		U	70	100	150	mm/r	0,160 - 0,280	0,160 - 0,280	0,200 - 0,320	0,200 - 0,400	0,200 - 0,450
		I	50	70	100	mm/r	0,160 - 0,280	0,160 - 0,280	0,200 - 0,320	0,200 - 0,400	0,200 - 0,450
	6	S	70	90	180	mm/r	0,160 - 0,280	0,160 - 0,280	0,200 - 0,320	0,200 - 0,400	0,200 - 0,450
		U	50	75	120	mm/r	0,160 - 0,280	0,160 - 0,280	0,200 - 0,320	0,200 - 0,400	0,200 - 0,450
		I	40	60	100	mm/r	0,160 - 0,280	0,160 - 0,280	0,200 - 0,320	0,200 - 0,400	0,200 - 0,450
M	1	S	60	110	135	mm/r	0,130 - 0,250	0,130 - 0,250	0,160 - 0,280	0,160 - 0,320	0,200 - 0,360
		U	40	70	90	mm/r	0,130 - 0,250	0,130 - 0,250	0,160 - 0,280	0,160 - 0,320	0,200 - 0,360
		I	30	50	65	mm/r	0,130 - 0,250	0,130 - 0,250	0,160 - 0,280	0,160 - 0,320	0,200 - 0,360
	2	S	60	100	135	mm/r	0,130 - 0,250	0,130 - 0,250	0,160 - 0,280	0,160 - 0,320	0,200 - 0,360
		U	40	60	90	mm/r	0,130 - 0,250	0,130 - 0,250	0,160 - 0,280	0,160 - 0,320	0,200 - 0,360
		I	30	50	65	mm/r	0,130 - 0,250	0,130 - 0,250	0,160 - 0,280	0,160 - 0,320	0,200 - 0,360
	3	S	50	90	135	mm/r	0,130 - 0,250	0,130 - 0,250	0,160 - 0,280	0,160 - 0,320	0,200 - 0,360
		U	40	60	90	mm/r	0,130 - 0,250	0,130 - 0,250	0,160 - 0,280	0,160 - 0,320	0,200 - 0,360
		I	25	40	65	mm/r	0,130 - 0,250	0,130 - 0,250	0,160 - 0,280	0,160 - 0,320	0,200 - 0,360
K	1	S	90	170	230	mm/r	0,180 - 0,300	0,180 - 0,300	0,216 - 0,360	0,240 - 0,420	0,300 - 0,480
		U	60	120	160	mm/r	0,180 - 0,300	0,180 - 0,300	0,216 - 0,360	0,240 - 0,420	0,300 - 0,480
		I	40	70	90	mm/r	0,180 - 0,300	0,180 - 0,300	0,216 - 0,360	0,240 - 0,420	0,300 - 0,480
	2	S	90	160	220	mm/r	0,180 - 0,300	0,180 - 0,300	0,216 - 0,360	0,240 - 0,420	0,300 - 0,480
		U	60	110	160	mm/r	0,180 - 0,300	0,180 - 0,300	0,216 - 0,360	0,240 - 0,420	0,300 - 0,480
		I	40	70	100	mm/r	0,180 - 0,300	0,180 - 0,300	0,216 - 0,360	0,240 - 0,420	0,300 - 0,480
	3	S	90	150	210	mm/r	0,180 - 0,300	0,180 - 0,300	0,216 - 0,360	0,240 - 0,420	0,300 - 0,480
		U	60	100	150	mm/r	0,180 - 0,300	0,180 - 0,300	0,216 - 0,360	0,240 - 0,420	0,300 - 0,480
		I	35	60	90	mm/r	0,180 - 0,300	0,180 - 0,300	0,216 - 0,360	0,240 - 0,420	0,300 - 0,480
N	1	S	150	240	360	mm/r	0,120 - 0,200	0,120 - 0,200	0,144 - 0,280	0,160 - 0,320	0,200 - 0,400
		U	100	160	240	mm/r	0,120 - 0,200	0,120 - 0,200	0,144 - 0,280	0,160 - 0,320	0,200 - 0,400
		I	60	100	160	mm/r	0,120 - 0,200	0,120 - 0,200	0,144 - 0,280	0,160 - 0,320	0,200 - 0,400
	2	S	150	220	360	mm/r	0,120 - 0,200	0,120 - 0,200	0,144 - 0,280	0,160 - 0,320	0,200 - 0,400
		U	100	150	240	mm/r	0,120 - 0,200	0,120 - 0,200	0,144 - 0,280	0,160 - 0,320	0,200 - 0,400
		I	60	100	160	mm/r	0,120 - 0,200	0,120 - 0,200	0,144 - 0,280	0,160 - 0,320	0,200 - 0,400
	3	S	150	200	360	mm/r	0,120 - 0,200	0,120 - 0,200	0,144 - 0,280	0,160 - 0,320	0,200 - 0,400
		U	100	140	240	mm/r	0,120 - 0,200	0,120 - 0,200	0,144 - 0,280	0,160 - 0,320	0,200 - 0,400
		I	60	90	160	mm/r	0,120 - 0,200	0,120 - 0,200	0,144 - 0,280	0,160 - 0,320	0,200 - 0,400
	4	S	110	220	260	mm/r	0,120 - 0,200	0,120 - 0,200	0,144 - 0,280	0,160 - 0,320	0,200 - 0,400
		U	70	140	170	mm/r	0,120 - 0,200	0,120 - 0,200	0,144 - 0,280	0,160 - 0,320	0,200 - 0,400
		I	45	90	110	mm/r	0,120 - 0,200	0,120 - 0,200	0,144 - 0,280	0,160 - 0,320	0,200 - 0,400

Insert Recommendation

Material Group	Outboard/ Inboard	Insert Style	Grade
P	O	DFR-GD	KC7315
		DFT-HP	
	I	KSEMP-HPG	
M	O	DFR-MD	KC7315
		DFT-MD	
	I	KSEM-HPG	
K	O	DFR-LD	KC7215
		DFT-HP	KC7315
	I	KSEM-HPC	KC7410
N	O	DFR-GD	KC7315
		DFT-HP	
	I	KSEMP-HPG	

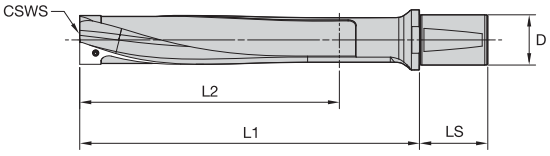
Modular Drill • KSEM PLUS™ • Inch

Material Group		Condition	Cutting Speed — vc Range — SFM			Inch					
						Recommended Feed Rate (f) by Diameter					
			min	Starting Value	max		KSEM 14....17 DFR04... 1.102-1.249	KSEM 15....18 DFT05.. 1.250-1.416	KSEM 13....22 DFT06... 1.417-1.771	KSEM 18....28 DFT07... 1.772-2.204	KSEM 20....34 DFT09... 2.205-2.756
P	2	S	295	623	755	IPR	.006 - .011	.006 - .011	.008 - .014	.008 - .016	.008 - .018
		U	233	427	558	IPR	.006 - .011	.006 - .011	.008 - .014	.008 - .016	.008 - .018
		I	164	262	361	IPR	.006 - .011	.006 - .011	.008 - .014	.008 - .016	.008 - .018
	3	S	295	591	755	IPR	.006 - .011	.006 - .011	.008 - .014	.008 - .016	.008 - .018
		U	230	394	558	IPR	.006 - .011	.006 - .011	.008 - .014	.008 - .016	.008 - .018
		I	164	230	361	IPR	.006 - .011	.006 - .011	.008 - .014	.008 - .016	.008 - .018
	4	S	295	459	722	IPR	.006 - .011	.006 - .011	.008 - .014	.008 - .016	.008 - .018
		U	230	361	525	IPR	.006 - .011	.006 - .011	.008 - .014	.008 - .016	.008 - .018
		I	264	262	361	IPR	.006 - .011	.006 - .011	.008 - .014	.008 - .016	.008 - .018
	5	S	295	427	689	IPR	.006 - .011	.006 - .011	.008 - .014	.008 - .016	.008 - .018
		U	230	328	689	IPR	.006 - .011	.006 - .011	.008 - .014	.008 - .016	.008 - .018
		I	164	230	492	IPR	.006 - .011	.006 - .011	.008 - .014	.008 - .016	.008 - .018
	6	S	230	295	591	IPR	.006 - .011	.006 - .011	.008 - .014	.008 - .016	.008 - .018
		U	164	246	394	IPR	.006 - .011	.006 - .011	.008 - .014	.008 - .016	.008 - .018
		I	131	197	328	IPR	.006 - .011	.006 - .011	.008 - .014	.008 - .016	.008 - .018
M	1	S	197	361	443	IPR	.005 - .010	.005 - .010	.006 - .011	.006 - .013	.008 - .014
		U	131	230	295	IPR	.005 - .010	.005 - .010	.006 - .011	.006 - .013	.008 - .014
		I	98	164	213	IPR	.005 - .010	.005 - .010	.006 - .011	.006 - .013	.008 - .014
	2	S	197	328	443	IPR	.005 - .010	.005 - .010	.006 - .011	.006 - .013	.008 - .014
		U	131	197	295	IPR	.005 - .010	.005 - .010	.006 - .011	.006 - .013	.008 - .014
		I	98	164	213	IPR	.005 - .010	.005 - .010	.006 - .011	.006 - .013	.008 - .014
	3	S	164	295	443	IPR	.005 - .010	.005 - .010	.006 - .011	.006 - .013	.008 - .014
		U	131	197	295	IPR	.005 - .010	.005 - .010	.006 - .011	.006 - .013	.008 - .014
		I	82	131	213	IPR	.005 - .010	.005 - .010	.006 - .011	.006 - .013	.008 - .014
K	1	S	295	558	755	IPR	.007 - .012	.007 - .012	.009 - .014	.009 - .017	.012 - .019
		U	197	394	525	IPR	.007 - .012	.007 - .012	.009 - .014	.009 - .017	.012 - .019
		I	131	230	295	IPR	.007 - .012	.007 - .012	.009 - .014	.009 - .017	.012 - .019
	2	S	295	525	722	IPR	.007 - .012	.007 - .012	.009 - .014	.009 - .017	.012 - .019
		U	197	361	525	IPR	.007 - .012	.007 - .012	.009 - .014	.009 - .017	.012 - .019
		I	131	230	328	IPR	.007 - .012	.007 - .012	.009 - .014	.009 - .017	.012 - .019
	3	S	295	492	689	IPR	.007 - .012	.007 - .012	.009 - .014	.009 - .017	.012 - .019
		U	197	328	492	IPR	.007 - .012	.007 - .012	.009 - .014	.009 - .017	.012 - .019
		I	115	197	295	IPR	.007 - .012	.007 - .012	.009 - .014	.009 - .017	.012 - .019
N	1	S	492	787	1181	IPR	.005 - .008	.005 - .008	.006 - .011	.006 - .013	.008 - .016
		U	328	525	787	IPR	.005 - .008	.005 - .008	.006 - .011	.006 - .013	.008 - .016
		I	197	328	525	IPR	.005 - .008	.005 - .008	.006 - .011	.006 - .013	.008 - .016
	2	S	492	722	1181	IPR	.005 - .008	.005 - .008	.006 - .011	.006 - .013	.008 - .016
		U	328	492	787	IPR	.005 - .008	.005 - .008	.006 - .011	.006 - .013	.008 - .016
		I	197	328	525	IPR	.005 - .008	.005 - .008	.006 - .011	.006 - .013	.008 - .016
	3	S	492	656	1181	IPR	.005 - .008	.005 - .008	.006 - .011	.006 - .013	.008 - .016
		U	328	459	787	IPR	.005 - .008	.005 - .008	.006 - .011	.006 - .013	.008 - .016
		I	197	295	525	IPR	.005 - .008	.005 - .008	.006 - .011	.006 - .013	.008 - .016
	4	S	361	722	853	IPR	.005 - .008	.005 - .008	.006 - .011	.006 - .013	.008 - .016
		U	230	459	558	IPR	.005 - .008	.005 - .008	.006 - .011	.006 - .013	.008 - .016
		I	148	295	361	IPR	.005 - .008	.005 - .008	.006 - .011	.006 - .013	.008 - .016

Insert Recommendation

Material Group	Outboard/ Inboard	Insert Style	Grade
P	O	DFR-GD	KC7315
		DFT-HP	
	I	KSEMP-HPG	
M	O	DFR-MD	KC7315
		DFT-MD	
	I	KSEM-HPG	
K	O	DFR-LD	KC7215
		DFT-HP	KC7315
	I	KSEM-HPC	KC7410
N	O	DFR-GD	KC7315
		DFT-HP	
	I	KSEMP-HPG	

- Order KSEM PLUS heads according to the connection coupling size (CSWS).
- Order KSEM PLUS heads separately; see page H50–H51.
- Wrench will be shipped with KSEM PLUS head.





KSEM PLUS WD Shanks • 3 x D • Metric

catalog number	CSWS system size	D	L1	L2	LS	clamp screw
WD32FDS28128M	FDS28	32	128	71	58	**193.537**
WD32FDS32146M	FDS32	32	146	85	58	**193.523**
WD32FDS36166M	FDS36	32	166	97	58	**193.524**
WD50FDS40183M	FDS40	50	183	107	68	**193.524**
WD50FDS45206M	FDS45	50	206	122	68	**193.525**
WD50FDS50228M	FDS50	50	228	135	68	**193.525**
WD50FDS56259M	FDS56	50	259	156	68	**193.526**
WD50FDS63289M	FDS63	50	289	174	68	**193.526**

KSEM PLUS WD Shanks • 5 x D • Metric

catalog number	CSWS system size	D	L1	L2	LS	clamp screw
WD32FDS28190M	FDS28	32	190	133	58	**193.537**
WD32FDS32216M	FDS32	32	216	155	58	**193.523**
WD32FDS36244M	FDS36	32	244	175	58	**193.524**
WD50FDS40271M	FDS40	32	271	195	68	**193.524**
WD50FDS45304M	FDS45	50	304	220	68	**193.525**
WD50FDS50338M	FDS50	50	338	245	68	**193.525**
WD50FDS56383M	FDS56	50	383	280	68	**193.526**
WD50FDS63429M	FDS63	50	429	314	68	**193.526**

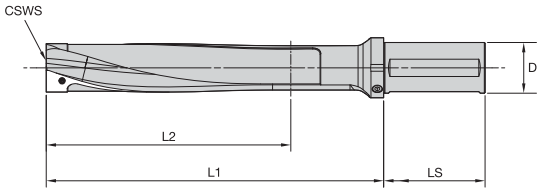
KSEM PLUS WD Shanks • 8 x D • Metric

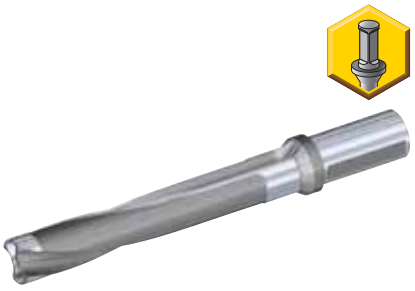
catalog number	CSWS system size	D	L1	L2	LS	clamp screw
WD32FDS28283M	FDS28	32	283	226	58	**193.537**
WD32FDS32321M	FDS32	32	321	260	58	**193.523**
WD32FDS36361M	FDS36	32	361	292	58	**193.524**
WD50FDS40403M	FDS40	50	403	327	68	**193.524**
WD50FDS45451M	FDS45	50	451	367	68	**193.525**
WD50FDS50503M	FDS50	50	503	410	68	**193.525**
WD50FDS56569M	FDS56	50	569	466	68	**193.526**
WD50FDS63639M	FDS63	50	639	524	68	**193.526**

KSEM PLUS WD Shanks • 10 x D • Metric

catalog number	CSWS system size	D	L1	L2	LS	clamp screw
WD32FDS28345M	FDS28	32	345	288	58	**193.537**
WD32FDS32391M	FDS32	32	391	330	58	**193.523**
WD32FDS36439M	FDS36	32	439	370	58	**193.524**
WD50FDS40491M	FDS40	50	491	415	68	**193.524**
WD50FDS45549M	FDS45	50	549	465	68	**193.525**
WD50FDS50613M	FDS50	50	613	520	68	**193.525**
WD50FDS56693M	FDS56	50	693	590	68	**193.526**
WD50FDS63779M	FDS63	50	779	664	68	**193.526**

- Order KSEM PLUS heads according to the connection coupling size (CSWS).
- Order KSEM PLUS heads separately; see pages H50–H51.
- Wrench will be shipped with KSEM PLUS head.





KSEM PLUS SSF Shanks • 3 x D • Inch

catalog number	CSWS system size	D	L1	L2	LS	clamp screw	pipe plug
SSF150FDS280502	FDS28	1.5000	5.04	2.80	3.75	193.537	HSFS0125
SSF150FDS320573	FDS32	1.5000	5.75	3.35	3.75	193.523	HSFS0125
SSF150FDS360652	FDS36	1.5000	6.54	3.82	3.75	193.524	HSFS0125
SSF200FDS400721	FDS40	2.0000	7.20	4.21	3.75	193.524	HSFS0125
SSF200FDS450809	FDS45	2.0000	8.11	4.80	4.00	193.525	HSFS0125
SSF200FDS500896	FDS50	2.0000	8.98	5.32	4.00	193.525	HSFS0125
SSF200FDS561020	FDS56	2.0000	10.20	6.14	4.00	193.526	HSFS0125
SSF200FDS631138	FDS63	2.0000	11.38	6.85	4.00	193.526	HSFS0125

KSEM PLUS SSF Shanks • 5 x D • Inch

catalog number	CSWS system size	D	L1	L2	LS	clamp screw	pipe plug
SSF150FDS280746	FDS28	1.5000	7.48	5.24	3.75	193.537	HSFS0125
SSF150FDS320850	FDS32	1.5000	8.50	6.10	3.75	193.523	HSFS0125
SSF150FDS360960	FDS36	1.5000	9.61	6.89	3.75	193.524	HSFS0125
SSF200FDS401066	FDS40	2.0000	10.67	7.68	4.00	193.524	HSFS0125
SSF200FDS451196	FDS45	2.0000	11.97	8.66	4.00	193.525	HSFS0125
SSF200FDS501330	FDS50	2.0000	13.31	9.65	4.00	193.525	HSFS0125
SSF200FDS561507	FDS56	2.0000	15.08	11.02	4.00	193.526	HSFS0125
SSF200FDS631688	FDS63	2.0000	16.89	12.36	4.00	193.526	HSFS0125

KSEM PLUS SSF Shanks • 8 x D • Inch

catalog number	CSWS system size	D	L1	L2	LS	clamp screw	pipe plug
SSF150FDS281112	FDS28	1.5000	11.14	8.90	3.75	193.537	HSFS0125
SSF150FDS321263	FDS32	1.5000	12.64	10.24	3.75	193.523	HSFS0125
SSF150FDS361421	FDS36	1.5000	14.21	11.50	3.75	193.524	HSFS0125
SSF200FDS401586	FDS40	2.0000	15.87	12.87	4.00	193.524	HSFS0125
SSF200FDS451775	FDS45	2.0000	17.76	14.45	4.00	193.525	HSFS0125
SSF200FDS501980	FDS50	2.0000	19.80	16.14	4.00	193.525	HSFS0125
SSF200FDS562240	FDS56	2.0000	22.40	18.35	4.00	193.526	HSFS0125
SSF200FDS632515	FDS63	2.0000	25.16	20.63	4.00	193.526	HSFS0125

KSEM PLUS SSF Shanks • 10 x D • Inch

catalog number	CSWS system size	D	L1	L2	LS	clamp screw	pipe plug
SSF150FDS281356	FDS28	1.5000	13.58	11.34	3.75	193.537	HSFS0125
SSF150FDS321539	FDS32	1.5000	15.39	12.99	3.75	193.523	HSFS0125
SSF150FDS361728	FDS36	1.5000	17.28	14.57	3.75	193.524	HSFS0125
SSF200FDS401933	FDS40	2.0000	19.33	16.34	4.00	193.524	HSFS0125
SSF200FDS452161	FDS45	2.0000	21.61	18.31	4.00	193.525	HSFS0125
SSF200FDS502413	FDS50	2.0000	24.13	20.47	4.00	193.525	HSFS0125
SSF200FDS562783	FDS56	2.0000	27.28	23.23	4.00	193.526	HSFS0125
SSF200FDS633066	FDS63	2.0000	30.67	26.14	4.00	193.526	HSFS0125

KSEM PLUS™ Application Cautions and Hints



Half cylindrical holes



Cored holes



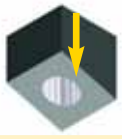
Hole expansion
on the center axis

Coolant Recommendations

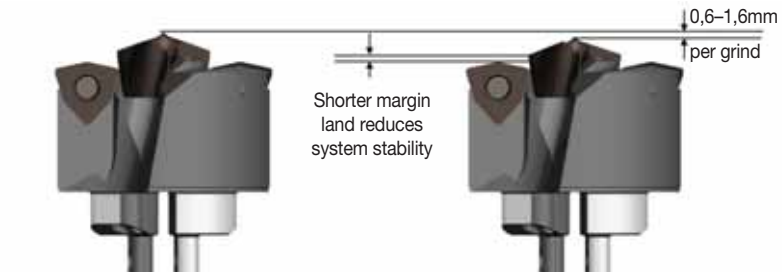


Internal coolant is recommended for optimum chip flow and tool life.

KSEM PLUS Application Cautions and Piloting

Application		L/D<6 x D	L/D<8 x D	L/D>8 x D
	Regular Entrance Exit	Piloting Not Required	Reduce Feed by 50%	KSEM™ Pilot Drill
	Angled Entrance <3°	KSEM Pilot Drill	KSEM Pilot Drill	KSEM Pilot Drill
	Angled and Concave Entrance >3°	Face Mill and KSEM Pilot Drill	Face Mill and KSEM Pilot Drill	Face Mill and KSEM Pilot Drill
	Angled Exit	Regular Entrance Exit	Reduce Feed by 75%	Not Recommended
	Stacked Material	Stacked material requires a custom solution head using S2S inserts.		

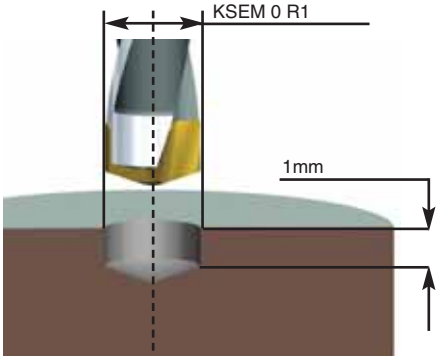
The KSEM PLUS Piloting Insert SHOULD NOT be Reground:



Only new KSEM PLUS inserts will provide consistency and process security of the KSEM PLUS modular drill system.

NOTE: Reground KSEM PLUS inserts can be used in KSEM drills.

Piloting Instructions:



1. KSEM....PCM
   Pilot drill Ø equal KSEMP Ø PDD

2. Drill 1mm deep from full diameter



New KSEM PLUS B1 Head

Discover *New* Dimensions with

KSEM PLUS™ Extensions

KSEM PLUS is the industry benchmark when drilling large diameter applications. With significantly reduced cost per hole, KSEM PLUS now extends its range.

Diameter Extension:

- New generation of large heads featuring diameters above 70mm and up to 127mm in 10 x D*.

Application Extension:

- New KSEM PLUS B1 heads for difficult applications using new DFC inserts and guiding pads.
- Drilling through inclined exits up to 15°.
- Perfect guidance of head when drilling through cross holes with widths up to 50% of drill diameter.
- Works great in stacked materials.
- Standard range of KSEM PLUS B1 heads available from 28–70mm*.

"This is not drilling, this is more like punching! Surfaces and accuracy are fully compliant with our requirements. We have been waiting a long time for such a drill!"
Customer, Germany

*NOTE: Please contact our engineered solution team for available offers.

www.kennametal.com

KENNAMETAL®



Combination Tools

Tool Selection Guide **I2–I3**

BF Combination Drilling System **I5–I18**

B343_HPG Drill for BF I5–I8

KenTIP for BF I9–I11

BF Bodies I12–I13

BF Inserts I14–I15

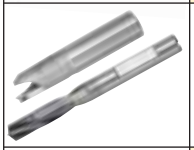
SEFAS Combination Drilling System **I19–I26**

SEFAS Bodies I21–I24

SEFAS Hardware I25

SEFAS Chamfering Inserts I26



		standard							standard range			customized solution range			
		● first choice ○ alternate choice							diameter range			diameter range			
		P	M	K	N	S	H	hole tolerance	D1 mm min - max	D1 inch min - max	drilling depth L/D1	D1 mm min - max	D1 inch min - max	drilling depth	
	**BF with Solid Carbide Drill** Combination Tool	●		●	●			IT7-11	3,4–18 (B343 drill)	.134–.709 (B343 drill)	approx. 3 x D	3,4–22,5	.134–.885	.1–5 x D	
	**BF with KenTIP**™ Combination Tool	●	●	●				IT7-11	8–18,99	.313–.826	3 x D 4 x D 5 x D	8–25,99	.313–1.023	3–5 x D	
	**SEFAS**™ Combination Tool	●	●	●	●	●		IT7-11	4–20	.157–.787	approx. 3 x D 5 x D 8 x D 12 x D	3,4–25	.134–1.039	1–5 x D	

* In regard to insert and drill coatings, anything is possible. If a specific insert or drill is not suitable for your workpiece material, please contact our Engineered Solutions Department for an offer about special coatings and edge preparations.

**Except for L/D 5 x D.

[1] Other shank styles available as customized solution.

■ standard capabilities [1)]

■ standard and □ customized solution capabilities

coolant															page(s)
■		■ ■			■			□		■	□		■		I6–I8
■		■ ■			■			□		■	□		■		I9–I8
■		■ ■		■	■			□		■			■		I21–I26

Combination Tools

Combination Drilling Tools are customizable using standard components and combine centering, drilling, and countersinking into a single operation, increasing productivity by reducing cycle time and tool changes.

Both the BF and SEFAS™ combination systems provide high flexibility to adapt the tool to varying hole geometries and provide full through-coolant capabilities.

BF Combination Drilling System

- Drilling, chamfering, and countersinking in one tool.
- Uses solid carbide and modular KenTIP™ drills.
- Covered drill diameter range .125–.750" (3,4–18mm).
- A specific range of drill diameters can be applied for each drill body based upon drill shank size.
- Highly flexible system:
  - Chamfer insert with different angles.
  - Insert design enables for special geometrical shapes.
  - Inserts can be easily interchanged.

SEFAS™ Combination Drilling System

- High-performance, self-centering drill and chamfer in one tool.
- Drill diameter range .156–.750" (4–18mm).
- Uses standard solid carbide drills in HP and TX styles as well as modular KenTIP drills.
- 90° and 82° angles available for chamfer inserts.
- Various shanks can be used with metric and inch diameter drills.

NOTE: TF drills may be used with one insert in limited applications.
Consult your Kennametal Sales Representative for more information.





BF Combination Drilling System

Primary Application

Combines centering, drilling, and countersinking into a single operation, increasing productivity by reducing cycle time and number of tool changes. The modular design provides flexibility to adapt the tool to varying hole geometries in small- and medium-lot-size manufacturing.

With its slim design and full-through-coolant capabilities, the BF combination system can be used even for deeper holes, critical materials, and with restricted workspace.

Features and Benefits

Productivity

- Reduce the number of tool changes and your cycle time by combining drilling and countersinking into one operation.
- Use high-performance solid carbide drills and KenTIP™ drill bodies to achieve high speeds and feeds.
- Avoid the need for reconditioning by using KenTIP blades.

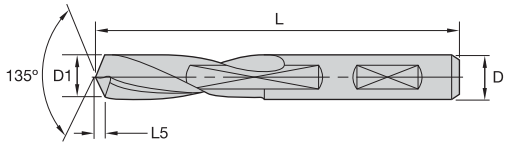
Versatility

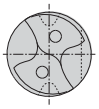
- Choose between solid carbide drills and KenTIP drill bodies.
- Various grades and insert styles.
- Benefit from the modular system when adjusting the drill length or insert style to manufacture different geometries.

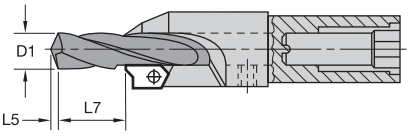
Customization

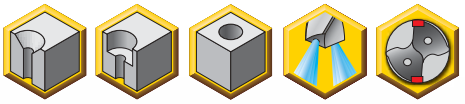
- Length variations available as engineered solutions.
- TX drills for aluminum are available as engineered solutions.
- BF inserts can be customized to almost any required geometry.













B343_HPG



● first choice
○ alternate choice

KC7315	D1 diameter mm	D1 diameter in	wire size	D	L	L7 min mm	L7 min in	L7 max mm	L7 max in	L5
B343S03175HPG	3,18	.125	–	–	4,00	55,00	1,00	.039	10,00	.394	0,60
B343S03400HPG	3,40	.134	–	–	4,00	55,00	1,00	.039	10,00	.394	0,63
B343S03500HPG	3,50	.138	–	–	4,00	55,00	1,60	.063	10,60	.417	0,65
B343S03797HPG	3,80	.150	–	25	4,00	55,00	3,30	.130	12,30	.484	0,70
B343S03800HPG	3,80	.150	–	–	4,00	55,00	3,30	.130	12,30	.484	0,70
B343S03970HPG	3,97	.156	5/32	–	4,00	55,00	4,20	.165	13,20	.520	0,73
B343S04000HPG	4,00	.158	–	–	4,00	55,00	4,40	.173	13,40	.528	0,74
B343S04100HPG	4,10	.161	–	–	5,00	62,00	3,70	.146	13,70	.539	0,76
B343S04200HPG	4,20	.165	–	–	5,00	62,00	4,20	.165	14,20	.559	0,78
B343S04300HPG	4,30	.169	–	–	5,00	62,00	4,70	.185	14,70	.579	0,79
B343S04500HPG	4,50	.177	–	–	5,00	62,00	5,60	.221	15,60	.614	0,83
B343S04600HPG	4,60	.181	–	–	5,00	62,00	5,80	.228	15,80	.622	0,85
B343S04623HPG	4,62	.182	–	14	5,00	62,00	5,90	.232	15,90	.626	0,85
B343S04763HPG	4,76	.188	3/16	–	5,00	62,00	6,60	.260	16,60	.654	0,88
B343S04900HPG	4,90	.193	–	–	5,00	62,00	7,20	.284	17,20	.677	0,90
B343S05000HPG	5,00	.197	–	–	5,00	62,00	7,60	.299	17,60	.693	0,92
B343S05100HPG	5,10	.201	–	–	6,00	66,00	6,80	.268	17,80	.701	0,94
B343S05200HPG	5,20	.205	–	–	6,00	66,00	7,20	.284	18,20	.717	0,96
B343S05300HPG	5,30	.209	–	–	6,00	66,00	7,60	.299	18,60	.732	0,98
B343S05400HPG	5,40	.213	–	–	6,00	66,00	8,00	.315	19,00	.748	1,00
B343S05410HPG	5,41	.213	–	–	6,00	66,00	8,00	.315	19,00	.748	1,00
B343S05500HPG	5,50	.217	–	–	6,00	66,00	8,40	.331	19,40	.764	1,02
B343S05550HPG	5,55	.219	–	–	6,00	66,00	8,30	.327	19,30	.760	1,02
B343S05558HPG	5,56	.219	7/32	–	6,00	66,00	8,40	.331	19,40	.764	1,03
B343S05600HPG	5,60	.221	–	–	6,00	66,00	8,50	.335	19,50	.768	1,03
B343S05800HPG	5,80	.228	–	–	6,00	66,00	9,30	.366	20,30	.799	1,07
B343S06000HPG	6,00	.236	–	–	6,00	66,00	10,00	.394	21,00	.827	1,11
B343S06100HPG	6,10	.240	–	–	7,00	74,00	9,10	.358	21,10	.831	1,13
B343S06200HPG	6,20	.244	–	–	7,00	74,00	9,50	.374	21,50	.847	1,14
B343S06300HPG	6,30	.248	–	–	7,00	74,00	9,80	.386	21,80	.858	1,16
B343S06350HPG	6,35	.250	1/4	–	7,00	74,00	10,00	.394	22,00	.866	1,17
B343S06400HPG	6,40	.252	–	–	7,00	74,00	10,20	.402	22,20	.874	1,18
B343S06500HPG	6,50	.256	–	–	7,00	74,00	10,50	.413	22,50	.886	1,20
B343S06528HPG	6,53	.257	–	F	7,00	74,00	10,60	.417	22,60	.890	1,21
B343S06600HPG	6,60	.260	–	–	7,00	74,00	10,90	.429	22,90	.902	1,22
B343S06700HPG	6,70	.264	–	–	7,00	74,00	11,20	.441	23,20	.913	1,24
B343S06746HPG	6,75	.266	17/64	–	7,00	74,00	11,40	.449	23,40	.921	1,25
B343S06800HPG	6,80	.268	–	–	7,00	74,00	11,50	.453	23,50	.925	1,26
B343S06900HPG	6,90	.272	–	–	7,00	74,00	11,90	.469	23,90	.941	1,27
B343S06909HPG	6,91	.272	–	–	7,00	74,00	11,90	.469	23,90	.941	1,28
B343S07000HPG	7,00	.276	–	–	7,00	74,00	12,20	.480	24,20	.953	1,29
B343S07145HPG	7,14	.281	9/32	–	8,00	79,00	11,10	.437	24,10	.949	1,32

(continued)

(B343_HPG continued)



KC7315	D1 diameter mm	D1 diameter in	wire size	D	L	L7 min mm	L7 min in	L7 max mm	L7 max in	L5
B343S07300HPG	7,30	.287	–	–	8,00	79,00	11,60	.457	24,60	.969	1,35
B343S07400HPG	7,40	.291	–	–	8,00	79,00	11,90	.469	24,90	.980	1,37
B343S07500HPG	7,50	.295	–	–	8,00	79,00	12,30	.484	25,30	.996	1,38
B343S07541HPG	7,54	.297	19/64	–	8,00	79,00	12,40	.488	25,40	1.000	1,39
B343S07700HPG	7,70	.303	–	–	8,00	79,00	12,90	.508	25,90	1.020	1,42
B343S07800HPG	7,80	.307	–	–	8,00	79,00	13,20	.520	26,20	1.032	1,44
B343S07900HPG	7,90	.311	–	–	8,00	79,00	13,50	.532	26,50	1.043	1,46
B343S07938HPG	7,94	.313	5/16	–	8,00	79,00	13,60	.535	26,60	1.047	1,47
B343S08000HPG	8,00	.315	–	–	8,00	79,00	13,80	.543	26,80	1.055	1,48
B343S08100HPG	8,10	.319	–	–	9,00	84,00	12,60	.496	26,60	1.047	1,50
B343S08200HPG	8,20	.323	–	–	9,00	84,00	12,80	.504	26,80	1.055	1,51
B343S08300HPG	8,30	.327	–	–	9,00	84,00	13,10	.516	27,10	1.067	1,53
B343S08334HPG	8,33	.328	21/64	–	9,00	84,00	13,20	.520	27,20	1.071	1,54
B343S08400HPG	8,40	.331	–	–	9,00	84,00	13,40	.528	27,40	1.079	1,55
B343S08433HPG	8,43	.332	–	Q	9,00	84,00	13,50	.532	27,50	1.083	1,56
B343S08500HPG	8,50	.335	–	–	9,00	84,00	13,70	.539	27,70	1.091	1,57
B343S08600HPG	8,60	.339	–	–	9,00	84,00	14,00	.551	28,00	1.102	1,59
B343S08700HPG	8,70	.343	–	–	9,00	84,00	14,30	.563	28,30	1.114	1,61
B343S08733HPG	8,73	.344	11/32	–	9,00	84,00	14,40	.567	28,40	1.118	1,61
B343S08800HPG	8,80	.347	–	–	9,00	84,00	14,50	.571	28,50	1.122	1,62
B343S08900HPG	8,90	.350	–	–	9,00	84,00	14,80	.583	28,80	1.134	1,64
B343S09000HPG	9,00	.354	–	–	9,00	84,00	15,10	.595	29,10	1.146	1,66
B343S09100HPG	9,10	.358	–	–	10,00	89,00	14,30	.563	28,80	1.134	1,68
B343S09129HPG	9,13	.359	23/64	–	10,00	89,00	14,40	.567	28,90	1.138	1,69
B343S09347HPG	9,35	.368	–	U	10,00	89,00	15,00	.591	29,50	1.161	1,73
B343S09400HPG	9,40	.370	–	–	10,00	89,00	15,10	.595	29,60	1.165	1,74
B343S09500HPG	9,50	.374	–	–	10,00	89,00	15,40	.606	29,90	1.177	1,75
B343S09525HPG	9,53	.375	3/8	–	10,00	89,00	15,40	.606	29,90	1.177	1,76
B343S09600HPG	9,60	.378	–	–	10,00	89,00	15,60	.614	30,10	1.185	1,77
B343S09700HPG	9,70	.382	–	–	10,00	89,00	15,90	.626	30,40	1.197	1,79
B343S09800HPG	9,80	.386	–	–	10,00	89,00	16,20	.638	30,70	1.209	1,81
B343S09921HPG	9,92	.391	25/64	–	10,00	89,00	16,50	.650	31,00	1.221	1,83
B343S10000HPG	10,00	.394	–	–	10,00	89,00	16,70	.658	31,20	1.228	1,85
B343S10100HPG	10,10	.398	–	–	11,00	95,00	15,90	.626	30,90	1.217	1,86
B343S10200HPG	10,20	.402	–	–	11,00	95,00	16,20	.638	31,20	1.228	1,88
B343S10300HPG	10,30	.406	–	–	11,00	95,00	16,40	.646	31,40	1.236	1,90
B343S10320HPG	10,32	.406	13/32	–	11,00	95,00	16,50	.650	31,50	1.240	1,91
B343S10400HPG	10,40	.409	–	–	11,00	95,00	16,70	.658	31,70	1.248	1,92
B343S10500HPG	10,50	.413	–	–	11,00	95,00	16,90	.665	31,90	1.256	1,94
B343S10600HPG	10,60	.417	–	–	11,00	95,00	17,20	.677	32,20	1.268	1,96

(continued)

(B343_HPG continued)

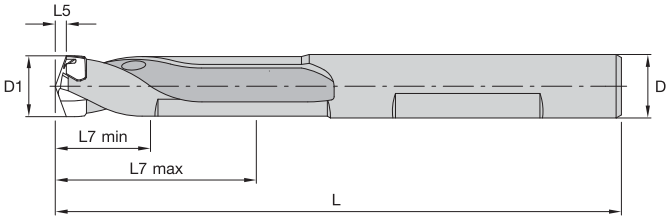
KC7315	D1 diameter mm	D1 diameter in	D1 diameter in	D1 diameter wire size	D	L	L7 min mm	L7 min in	L7 max mm	L7 max in	L5
B343S10700HPG	10,70	.421	–	–	11,00	95,00	17,40	.685	32,40	1.276	1,98
B343S10710HPG	10,71	.422	27/64	–	11,00	95,00	17,40	.685	32,40	1.276	1,98
B343S10800HPG	10,80	.425	–	–	11,00	95,00	17,70	.697	32,70	1.287	1,99
B343S11000HPG	11,00	.433	–	–	11,00	95,00	18,10	.713	33,10	1.303	2,03
B343S11100HPG	11,10	.437	–	–	12,00	102,00	17,40	.685	32,90	1.295	2,05
B343S11110HPG	11,11	.438	7/16	–	12,00	102,00	17,40	.685	32,90	1.295	2,05
B343S11200HPG	11,20	.441	–	–	12,00	102,00	17,60	.693	33,10	1.303	2,07
B343S11300HPG	11,30	.445	–	–	12,00	102,00	17,90	.705	33,40	1.315	2,09
B343S11500HPG	11,50	.453	–	–	12,00	102,00	18,30	.721	33,80	1.331	2,12
B343S11508HPG	11,51	.453	29/64	–	12,00	102,00	18,30	.721	33,80	1.331	2,12
B343S11700HPG	11,70	.461	–	–	12,00	102,00	18,80	.740	34,30	1.350	2,16
B343S11800HPG	11,80	.465	–	–	12,00	102,00	19,00	.748	34,50	1.358	2,18
B343S11900HPG	11,90	.469	15/32	–	12,00	102,00	19,30	.760	34,80	1.370	2,20
B343S12000HPG	12,00	.472	–	–	12,00	102,00	19,50	.768	35,00	1.378	2,22
B343S12200HPG	12,20	.480	–	–	13,00	102,00	18,90	.744	34,90	1.374	2,25
B343S12300HPG	12,30	.484	31/64	–	13,00	102,00	19,20	.756	35,31	1.390	2,27
B343S12500HPG	12,50	.492	–	–	13,00	102,00	19,60	.772	35,56	1.400	2,31
B343S12700HPG	12,70	.500	1/2	–	13,00	102,00	20,10	.791	36,10	1.421	2,34
B343S12800HPG	12,80	.504	–	–	13,00	102,00	20,30	.799	36,30	1.429	2,36
B343S13000HPG	13,00	.512	–	–	13,00	102,00	20,70	.815	36,70	1.445	2,40
B343S13096HPG	13,10	.516	33/64	–	14,00	107,00	20,20	.795	36,70	1.445	2,42
B343S13100HPG	13,10	.516	–	–	14,00	107,00	20,20	.795	36,70	1.445	2,42
B343S13200HPG	13,20	.520	–	–	14,00	107,00	20,40	.803	36,90	1.453	2,44
B343S13500HPG	13,50	.532	–	–	14,00	107,00	21,10	.831	37,60	1.480	2,49
B343S14000HPG	14,00	.551	–	–	14,00	107,00	22,10	.870	38,60	1.520	2,58
B343S14100HPG	14,10	.555	–	–	15,00	111,00	21,30	.839	38,30	1.508	2,60
B343S14200HPG	14,20	.559	–	–	15,00	111,00	21,50	.847	38,50	1.516	2,62
B343S14280HPG	14,28	.563	9/16	–	15,00	111,00	21,70	.854	38,70	1.524	2,64
B343S15000HPG	15,00	.591	–	–	15,00	111,00	23,20	.913	40,20	1.583	2,77
B343S15500HPG	15,50	.610	–	–	16,00	115,00	23,20	.913	40,70	1.602	2,86
B343S15870HPG	15,87	.625	5/8	–	16,00	115,00	23,90	.941	41,40	1.630	2,93
B343S16000HPG	16,00	.630	–	–	16,00	115,00	24,20	.953	41,70	1.642	2,95
B343S16500HPG	16,50	.650	–	–	17,00	115,00	24,20	.953	42,20	1.661	3,05
B343S16670HPG	16,67	.656	21/32	–	17,00	115,00	24,50	.965	42,50	1.673	3,08
B343S17000HPG	17,00	.669	–	–	17,00	115,00	25,10	.988	43,10	1.697	3,14
B343S17460HPG	17,46	.688	11/16	–	18,00	117,00	25,00	.984	43,50	1.713	3,22
B343S17500HPG	17,50	.689	–	–	18,00	117,00	25,10	.988	43,60	1.717	3,23
B343S17700HPG	17,70	.697	–	–	18,00	117,00	25,50	1.004	44,00	1.732	3,27
B343S18000HPG	18,00	.709	–	–	18,00	117,00	26,00	1.024	44,50	1.752	3,32

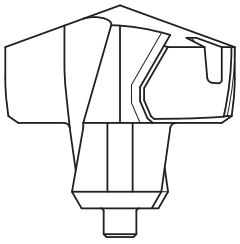
Tolerance • Metric

D1	tolerance h7	D	tolerance h6
>3–6	0,000/-0,012	6	0,000/-0,008
>6–10	0,000/-0,016	8–10	0,000/-0,009
>10–18	0,000/-0,018	12–18	0,000/-0,011

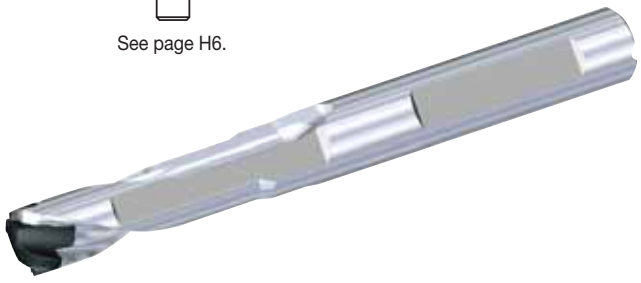
- Tool body with insert wrench included.
- Order KenTIP blades separately.







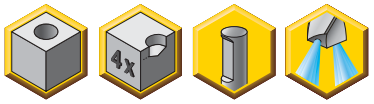
See page H6.

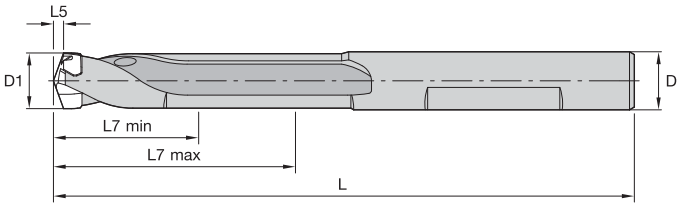


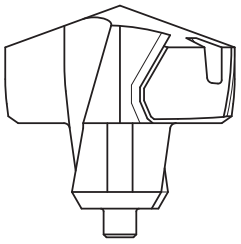
KenTIP • 3 x D • Metric

catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D	L	L7 min	L7 max	L5	insert blade seat size
KTIP080R3BF08M	7,94	.313	8,49	.334	8,0	80,0	11,5	25,5	1,4	F
KTIP080R3BF09M	7,94	.313	8,49	.334	9,0	81,0	11,5	25,5	1,4	F
KTIP085R3BF09M	8,50	.335	8,99	.354	9,0	82,0	12,5	27,0	1,5	G
KTIP090R3BF09M	9,00	.354	9,49	.374	9,0	82,0	13,5	28,5	1,6	H
KTIP090R3BF10M	9,00	.354	9,49	.374	10,0	91,0	13,5	28,5	1,6	H
KTIP095R3BF10M	9,50	.374	9,99	.393	10,0	92,0	15,0	30,0	1,6	I
KTIP100R3BF10M	10,00	.394	10,49	.413	10,0	93,0	16,0	31,5	1,7	J
KTIP100R3BF11M	10,00	.394	10,49	.413	11,0	94,0	16,0	31,5	1,7	J
KTIP105R3BF11M	10,50	.413	10,99	.433	11,0	94,0	17,0	33,0	1,8	K
KTIP110R3BF11M	11,00	.433	11,49	.452	11,0	96,0	18,5	34,5	1,9	L
KTIP110R3BF12M	11,00	.433	11,49	.452	12,0	106,0	18,5	34,5	1,9	L
KTIP115R3BF12M	11,50	.453	11,99	.472	12,0	107,0	19,5	36,0	2,0	M
KTIP120R3BF12M	12,00	.472	12,49	.492	12,0	108,0	20,5	37,5	2,1	N
KTIP120R3BF13M	12,00	.472	12,49	.492	13,0	108,0	20,5	37,5	2,1	N
KTIP125R3BF13M	12,50	.492	12,99	.511	13,0	110,0	22,0	39,0	2,2	O
KTIP130R3BF13M	13,00	.512	13,49	.531	13,0	111,0	23,0	40,5	2,2	P
KTIP130R3BF14M	13,00	.512	13,49	.531	14,0	111,0	23,0	40,5	2,2	P
KTIP135R3BF14M	13,50	.532	13,99	.551	14,0	112,0	24,5	42,0	2,3	Q
KTIP140R3BF14M	14,00	.551	14,49	.571	14,0	113,0	25,5	43,5	2,4	R
KTIP140R3BF15M	14,00	.551	14,49	.571	15,0	118,0	25,5	43,5	2,4	R
KTIP145R3BF15M	14,50	.571	14,99	.590	15,0	118,0	26,5	45,0	2,5	S
KTIP150R3BF15M	15,00	.591	15,99	.630	15,0	121,0	29,0	48,0	2,6	T
KTIP150R3BF16M	15,00	.591	15,99	.630	16,0	121,0	29,0	48,0	2,6	T
KTIP160R3BF16M	16,00	.630	16,99	.669	16,0	123,0	31,5	51,0	2,8	U
KTIP160R3BF17M	16,00	.630	16,99	.669	17,0	124,0	31,5	51,0	2,8	U
KTIP170R3BF17M	17,00	.669	17,99	.708	17,5	127,0	34,0	54,0	2,9	V
KTIP170R3BF18M	17,00	.669	17,99	.708	18,0	127,0	34,0	54,0	2,9	V
KTIP180R3BF18M	18,00	.709	18,99	.748	18,0	130,0	36,5	57,0	3,1	W

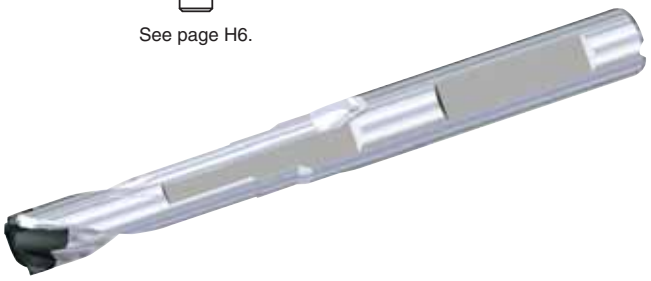
- Tool body with insert wrench included.
- Order KenTIP blades separately.







See page H6.

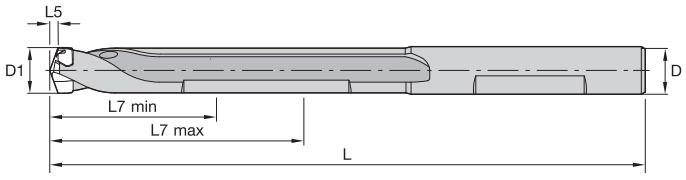


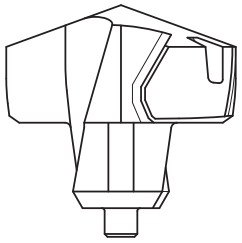
KenTIP • 4 x D • Metric

catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D	L	L7 min	L7 max	L5	insert blade seat size
KTIP080R4BF09M	8,00	.315	8,49	.334	12,0	89,5	20,0	34,0	1,4	F
KTIP085R4BF09M	8,50	.335	8,99	.354	10,0	91,0	21,5	36,0	1,5	G
KTIP090R4BF10M	9,00	.354	9,49	.374	10,0	100,5	23,0	38,0	1,6	H
KTIP095R4BF10M	9,50	.374	9,99	.393	12,0	102,0	25,0	40,0	1,6	I
KTIP100R4BF11M	10,00	.394	10,49	.413	12,0	104,5	26,5	42,0	1,7	J
KTIP105R4BF11M	10,50	.413	10,99	.433	12,0	105,0	28,0	44,0	1,8	K
KTIP110R4BF12M	11,00	.433	11,49	.452	12,0	117,5	30,0	46,0	1,9	L
KTIP115R4BF12M	11,50	.453	11,99	.472	12,0	119,0	31,5	48,0	2,0	M
KTIP120R4BF13M	12,00	.472	12,49	.492	13,0	120,5	33,0	50,0	2,1	N
KTIP125R4BF13M	12,50	.492	12,99	.511	13,0	123,0	35,0	52,0	2,2	O
KTIP130R4BF14M	13,00	.512	13,49	.531	14,0	124,5	36,5	54,0	2,2	P
KTIP135R4BF14M	13,50	.532	13,99	.551	14,0	126,0	38,5	56,0	2,3	Q
KTIP140R4BF15M	14,00	.551	14,49	.571	15,0	132,5	40,0	58,0	2,4	R
KTIP145R4BF15M	14,50	.571	14,99	.590	15,0	133,0	41,5	60,0	2,5	S
KTIP150R4BF16M	15,00	.591	16,00	.630	16,0	137,0	45,0	64,0	2,6	T
KTIP160R4BF17M	16,00	.630	16,99	.669	17,0	141,0	48,5	68,0	2,8	U
KTIP170R4BF18M	17,00	.669	17,99	.708	18,0	145,0	52,0	72,0	2,9	V
KTIP180R4BF18M	18,00	.709	18,99	.748	18,0	149,0	55,5	76,0	3,1	W

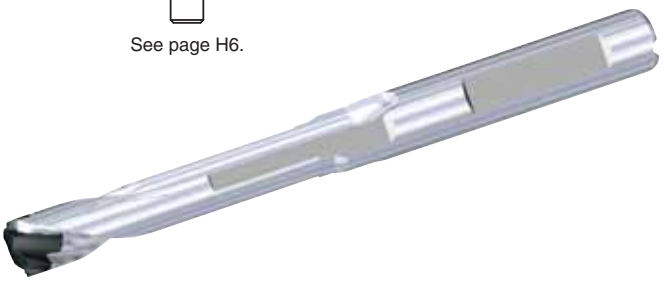
- Tool body with insert wrench included.
- Order KenTIP blades separately.







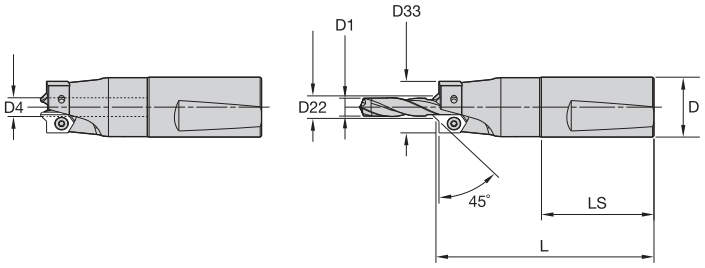
See page H6.



KenTIP • 5 x D • Metric

catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D	L	L7 min	L7 max	L5	insert blade seat size
KTIP080R5BF09M	8,00	.315	8,49	.334	12,0	98,0	28,5	42,5	1,4	F
KTIP085R5BF09M	8,50	.335	8,99	.354	9,0	100,0	30,5	45,0	1,5	G
KTIP090R5BF10M	9,00	.354	9,49	.374	12,0	110,0	32,5	47,5	1,6	H
KTIP095R5BF10M	9,50	.374	9,99	.393	12,0	112,0	35,0	50,0	1,6	I
KTIP100R5BF11M	10,00	.394	10,49	.413	10,0	115,0	37,0	52,5	1,7	J
KTIP105R5BF11M	10,50	.413	10,99	.433	12,0	116,0	39,0	55,0	1,8	K
KTIP110R5BF12M	11,00	.433	11,49	.452	12,0	129,0	41,5	57,5	1,9	L
KTIP115R5BF12M	11,50	.453	11,99	.472	12,0	131,0	43,5	60,0	2,0	M
KTIP120R5BF13M	12,00	.472	12,49	.492	13,0	133,0	45,5	62,5	2,1	N
KTIP125R5BF13M	12,50	.492	12,99	.511	13,0	136,0	48,0	65,0	2,2	O
KTIP130R5BF14M	13,00	.512	13,49	.531	14,0	138,0	50,0	67,5	2,2	P
KTIP135R5BF14M	13,50	.532	13,99	.551	14,0	140,0	52,5	70,0	2,3	Q
KTIP140R5BF15M	14,00	.551	14,49	.571	15,0	147,0	54,5	72,5	2,4	R
KTIP145R5BF15M	14,50	.571	14,99	.590	15,0	148,0	56,5	75,0	2,5	S
KTIP150R5BF16M	15,00	.591	16,00	.630	16,0	153,0	61,0	80,0	2,6	T
KTIP160R5BF17M	16,00	.630	16,99	.669	17,0	158,0	65,5	85,0	2,8	U
KTIP170R5BF18M	17,00	.669	17,99	.708	18,0	163,0	70,0	90,0	2,9	V
KTIP180R5BF18M	18,00	.709	18,99	.748	18,0	168,0	74,5	95,0	3,1	W

- Drill body shipped with all screws and wrenches.
- Order the inserts and drills separately.
- Drills with shanks up to and including 9,10mm use only one insert.





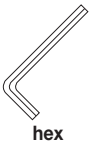
Round Shank • 2° Whistle Notch™ Shank • Metric




DIN 1835 Form A	DIN 1835 Form E	D1	D1 max	D4	D	D22	D33	L	LS	insert
3.37042R320	**3.37042R820**	3,40	4,000	4,00	20,0	9,0	14,9	85,0	50,0	3.41020..
3.37051R320	**3.37051R820**	4,10	4,500	5,00	20,0	9,5	15,4	85,0	50,0	3.41020..
3.37052R320	**3.37052R820**	4,60	5,000	5,00	20,0	10,0	15,9	85,0	50,0	3.41020..
3.37061R320	**3.37061R820**	5,10	5,500	6,00	20,0	10,5	16,4	85,0	50,0	3.41020..
3.37062R320	**3.37062R820**	5,55	6,000	6,00	20,0	11,0	16,9	85,0	50,0	3.41020..
3.37071R320	**3.37071R820**	6,10	7,000	7,00	20,0	11,5	17,4	95,0	50,0	3.41020..
3.37081R320	**3.37081R820**	7,30	8,000	8,00	20,0	12,6	18,4	95,0	50,0	3.41020..
3.37091R320	**3.37091R820**	8,10	9,000	9,00	20,0	13,6	19,4	95,0	50,0	3.41020..
3.37092R320	**3.37092R820**	8,10	9,000	9,00	20,0	13,7	19,4	97,3	50,0	3.41020..
3.37101R332	**3.37101R832**	9,10	10,000	10,00	32,0	14,7	27,9	115,0	60,0	3.41220..
3.37111R332	**3.37111R832**	10,10	11,000	11,00	32,0	15,7	28,9	115,0	60,0	3.41220..
3.37121R332	**3.37121R832**	11,10	12,000	12,00	32,0	16,7	29,9	125,0	60,0	3.41220..
3.37131R332	**3.37131R832**	12,20	13,000	13,00	32,0	17,7	31,0	125,0	60,0	3.41220..
3.37141R332	**3.37141R832**	13,10	14,000	14,00	32,0	18,2	31,5	125,0	60,0	3.41220..
3.37151R332	**3.37151R832**	14,10	15,000	15,00	32,0	19,3	32,5	125,0	60,0	3.41220..
3.37161R332	**3.37161R832**	15,50	16,000	16,00	32,0	20,3	33,5	125,0	60,0	3.41220..
3.37171R332	**3.37171R832**	16,50	17,000	17,00	32,0	21,3	34,5	125,0	60,0	3.41220..
3.37181R332	**3.37181R832**	17,50	18,000	18,00	32,0	22,3	35,5	125,0	60,0	3.41220..

Spare Parts



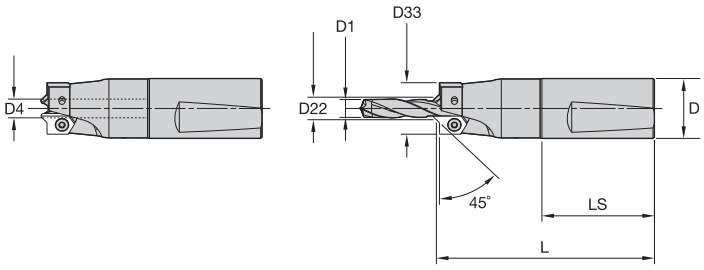




D1	back-up screw	drill clamp screw	hex wrench	insert screw	wrench
3,40	**192.888**	**192.718**	**170.003**	**192.432**	**170.028**
4,10	**192.888**	**192.718**	**170.003**	**192.432**	**170.028**
4,60	**192.888**	**192.718**	**170.003**	**192.432**	**170.028**
5,10	**192.888**	**192.718**	**170.003**	**192.432**	**170.028**
5,55	**192.888**	**192.718**	**170.003**	**192.432**	**170.028**
6,10	**192.888**	**192.718**	**170.003**	**192.432**	**170.028**
7,30	**192.888**	**192.718**	**170.003**	**192.432**	**170.028**
8,10	**192.888**	**192.718**	**170.003**	**192.432**	**170.028**
8,10	**192.888**	**192.718**	**170.003**	**192.432**	**170.028**
9,10	**192.889**	**192.720**	**170.005**	**191.725**	**170.025**
10,10	**192.889**	**192.720**	**170.005**	**191.725**	**170.025**
11,10	**192.889**	**192.720**	**170.005**	**191.725**	**170.025**
12,20	**192.889**	**192.720**	**170.005**	**191.725**	**170.025**
13,10	**192.889**	**192.720**	**170.005**	**191.725**	**170.025**
14,10	**192.887**	**192.720**	**170.005**	**191.725**	**170.025**
15,50	**192.887**	**192.720**	**170.005**	**191.725**	**170.025**
16,50	**192.887**	**192.720**	**170.005**	**191.725**	**170.025**
17,50	**192.887**	**192.720**	**170.005**	**191.725**	**170.025**

NOTE: Dimensions are factored with a 45° insert positioned in insert pocket.

- Drill body shipped with all screws and wrenches.
- Order the inserts and drills separately.
- Drills up to and including .359" shanks use only one insert.





Round Shank • Inch



catalog number	D1	D1 max	D4	D	D22	D33	L	LS	insert
KBFI4	.125	.156	4,0	.75	.36	.59	3.34	1.97	3.41020..
KBFI5B	.182	.188	5,0	.75	.40	.62	3.34	1.97	3.41020..
KBFI6B	.213	.230	6,0	.75	.44	.66	3.34	1.97	3.41020..
KBFI7	.250	.266	7,0	.75	.46	.68	3.73	1.97	3.41020..
KBFI8	.281	.313	8,0	.75	.50	.72	3.74	1.97	3.41020..
KBFI9	.328	.344	9,0	1.00	.54	.76	4.21	2.20	3.41020..
KBFI10	.359	.391	10,0	1.00	.58	1.10	4.53	2.20	3.41220..
KBFI11	.406	.430	11,0	1.00	.62	1.14	4.53	2.20	3.41220..
KBFI12	.438	.469	12,0	1.00	.66	1.18	4.92	2.20	3.41220..
KBFI13	.484	.510	13,0	1.00	.70	1.22	4.91	2.20	3.41220..
KBFI14	.516	.550	14,0	1.25	.72	1.24	4.91	2.40	3.41220..
KBFI15	.563	.590	15,0	1.25	.76	1.28	4.91	2.36	3.41220..
KBFI16	.625	.630	16,0	1.25	.80	1.32	5.06	2.36	3.41220..
KBFI17	.656	.670	17,0	1.25	.84	1.36	4.91	2.40	3.41220..
KBFI18	.688	.700	18,0	1.25	.88	1.40	4.91	2.36	3.41220..

Spare Parts

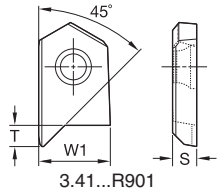




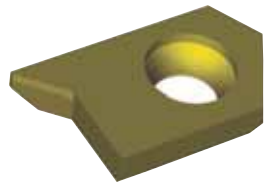

D1	back-up screw	drill clamp screw	insert screw	wrench
.125	**192.888**	**192.718**	**192.432**	**170.028**
.182	**192.888**	**192.718**	**192.432**	**170.028**
.213	**192.888**	**192.718**	**192.432**	**170.028**
.250	**192.888**	**192.718**	**192.432**	**170.028**
.281	**192.888**	**192.718**	**192.432**	**170.028**
.328	**192.889**	**192.718**	**192.432**	**170.028**
.359	**192.889**	**192.720**	**191.725**	**170.025**
.406	**192.889**	**192.720**	**191.725**	**170.025**
.438	**192.889**	**192.720**	**191.725**	**170.025**
.484	**192.889**	**192.720**	**191.725**	**170.025**
.516	**192.889**	**192.720**	**191.725**	**170.025**
.563	**192.887**	**192.720**	**191.725**	**170.025**
.625	**192.887**	**192.720**	**191.725**	**170.025**
.656	**192.887**	**192.720**	**191.725**	**170.025**
.688	**192.887**	**192.720**	**191.725**	**170.025**

NOTE: Dimensions are factored with a 45° insert positioned in insert pocket.

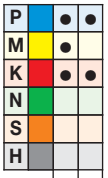
• Standard steel drill bodies are designed for inserts with 41° and 45° chamfers.



3.41...R901

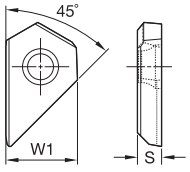


● first choice
○ alternate choice

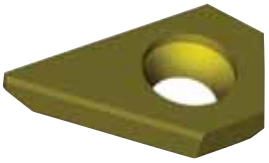


BF Insert R901 • 45° with Spot Face

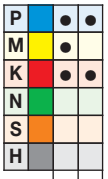
	S		W1		T			
catalog number	mm	in	mm	in	mm	in	CS5	KC7315
3.41020R901	3,00	.118	6,10	.240	2,90	.114	●	●
3.41220R901	3,50	.138	10,10	.398	3,05	.120	●	●



3.41...R902



● first choice
○ alternate choice

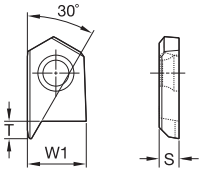


BF Insert R902 • 45°

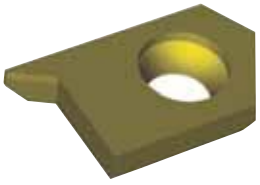
	S		W1			
catalog number	mm	in	mm	in	CS5	KC7315
3.41020R902	3,00	.118	6,10	.240	●	●
3.41220R902	3,50	.138	10,10	.398	●	●

• When using the 60° insert or special insert, the assembled tool should be inspected.

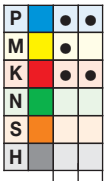
• These insert combinations require that the steel body be altered to provide insert coverage.



3.41...R903



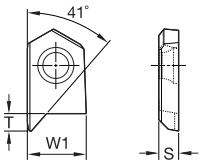
● first choice
○ alternate choice



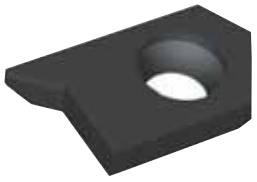
BF Insert R903 • 60° with Spot Face

	S		W1		T			
catalog number	mm	in	mm	in	mm	in	CS5	KC7315
3.41020R903	3,00	.118	6,10	.240	2,90	.114	●	●
3.41220R903	3,50	.138	10,10	.398	3,05	.120	●	●

• Standard steel drill bodies are designed for inserts with 41° and 45° chamfers.



3.41...R904

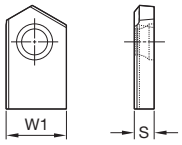


● first choice
○ alternate choice

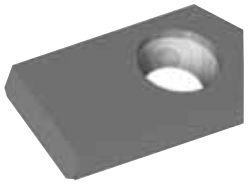


BF Insert R904 • 41° with Spot Face

	S		W1		T		
catalog number	mm	in	mm	in	mm	in	KC7315
3.41020R904	3,00	.118	6,10	.240	2,90	.114	●
3.41220R904	3,50	.138	10,10	.398	3,05	.120	●



3.41...R900

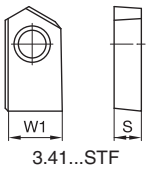


● first choice
○ alternate choice

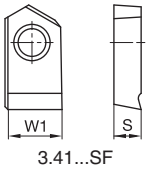


BF Insert R900 • Semi-Finished

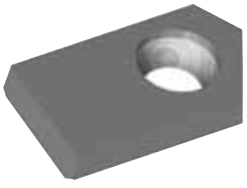
	S		W1		
catalog number	mm	in	mm	in	KMF
3.41020R900	3,00	.118	6,10	.240	●
3.41220R900	3,50	.138	10,10	.398	●

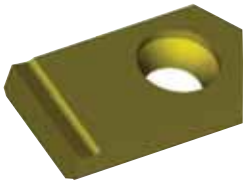


3.41...STF



3.41...SF





● first choice
○ alternate choice



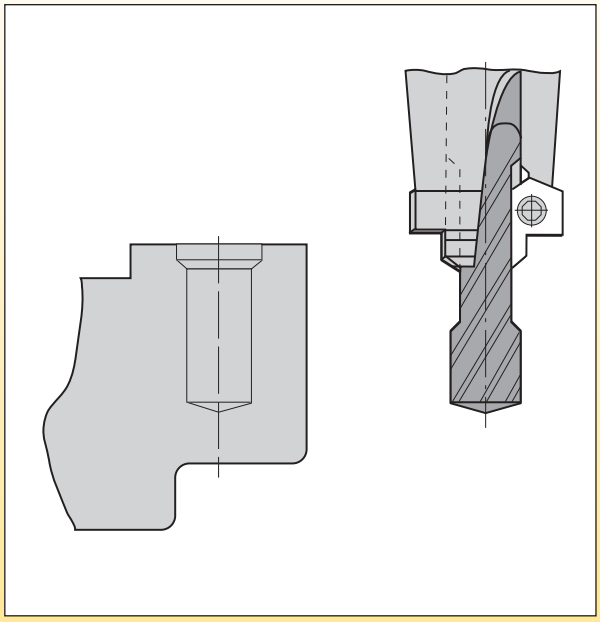
BF Insert R900 S(T)F • Semi-Finished

	S		W1			
catalog number	mm	in	mm	in	CS5	KMF
3.41020R900STF	3,00	.118	6,10	.240	●	
3.41220R900SF	3,50	.138	10,10	.398		●
3.41220R900STF	3,50	.138	10,10	.398	●	

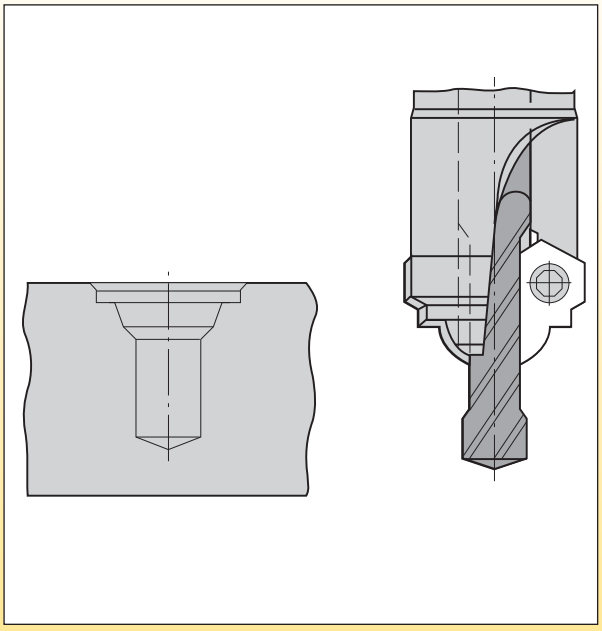
Engineered Solutions Available!



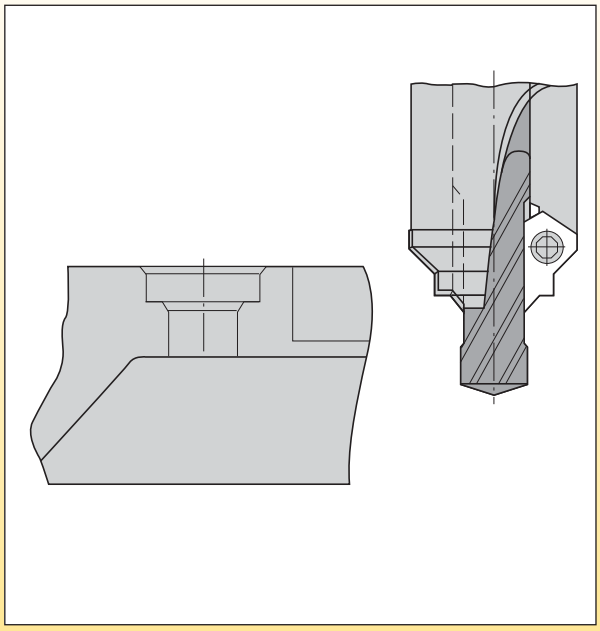
Tapped Hole with Protection Countersinking



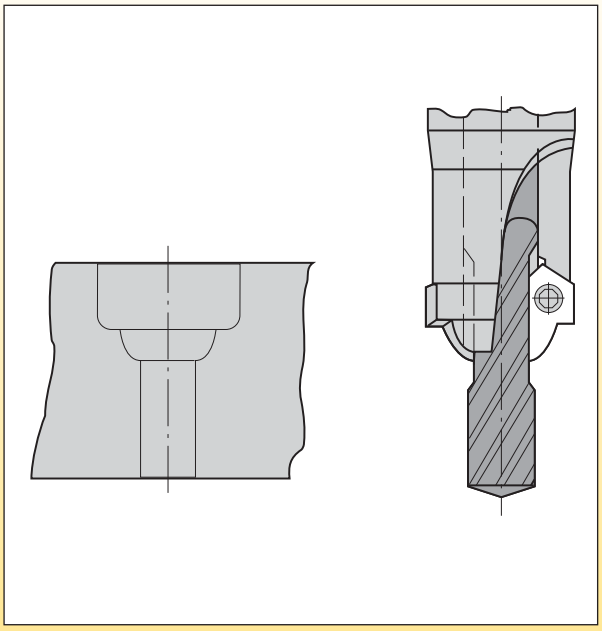
Countersinking for Round Sealing Rings



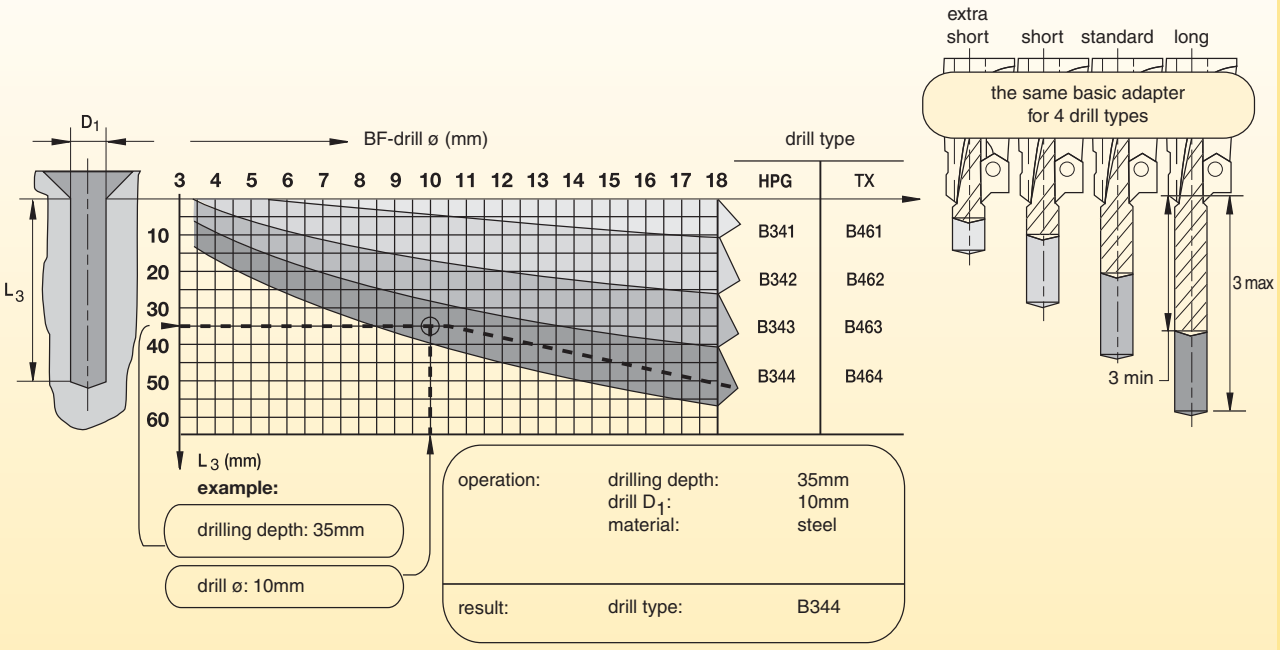
Countersinking for Countersunk Head Screws



Countersinking for Aluminum Rim



Possible Drilling Depths • Semi-Standard Series

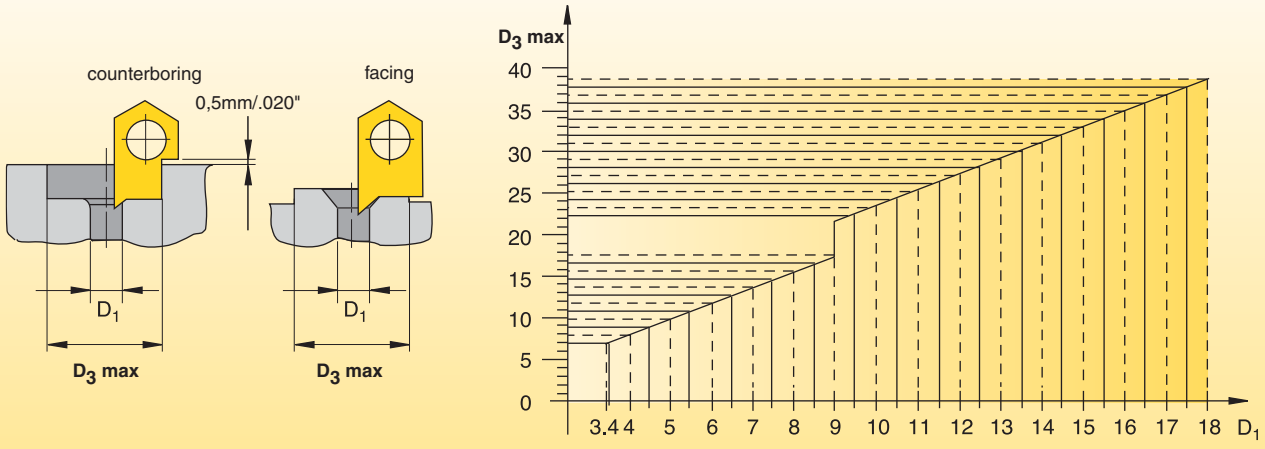


Possible Facing and Counterboring Diameters

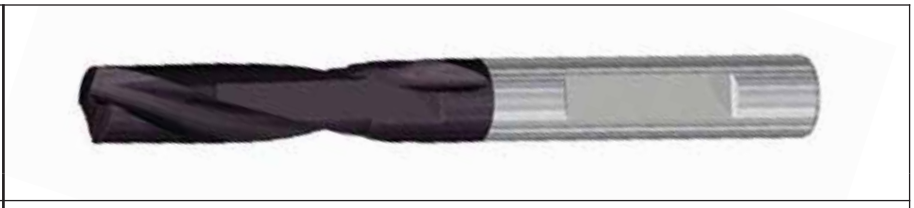
90° insert blanks are available to grind special geometry forms for other multiprofile applications. Contact your local Kennametal Representative for special insert profile designs and quoting.

Use the table below to determine the maximum facing or counterboring diameter for a given BF drill diameter. Reference your chosen drill diameter across the bottom axis of the table and then read up and across to the left axis to find the maximum facing or counterboring diameter.

Possible Facing and Countersinking Diameter • Machining Steel



HP Drills • B343HPG Series • Grade KC7315™ • Through Coolant



Material Group		Cutting Speed — vc Range — m/min min	Starting Value	max		Metric Recommended Feed Rate (f) by Diameter 3,0	4,0	6,0	8,0	10,0	12,0	16,0	18,0
P	1	100	**140**	180	mm/r	0,07 - 0,16	0,08 - 0,19	0,10 - 0,23	0,13 - 0,29	0,15 - 0,33	0,17 - 0,37	0,19 - 0,44	0,22 - 0,44
	2	90	**115**	140	mm/r	0,07 - 0,13	0,08 - 0,17	0,10 - 0,19	0,13 - 0,23	0,15 - 0,27	0,17 - 0,30	0,19 - 0,35	0,22 - 0,39
	3	80	**100**	120	mm/r	0,10 - 0,16	0,11 - 0,19	0,13 - 0,23	0,16 - 0,29	0,19 - 0,33	0,21 - 0,37	0,25 - 0,44	0,28 - 0,49
	4	70	**90**	110	mm/r	0,08 - 0,16	0,10 - 0,19	0,11 - 0,22	0,12 - 0,25	0,14 - 0,29	0,16 - 0,32	0,21 - 0,41	0,24 - 0,46
	5	70	**85**	110	mm/r	0,07 - 0,12	0,08 - 0,14	0,10 - 0,16	0,12 - 0,20	0,14 - 0,23	0,16 - 0,26	0,18 - 0,31	0,21 - 0,34
K	1	100	**120**	140	mm/r	0,09 - 0,17	0,10 - 0,21	0,12 - 0,25	0,15 - 0,31	0,17 - 0,35	0,20 - 0,39	0,23 - 0,46	0,26 - 0,52
	2	80	**105**	130	mm/r	0,09 - 0,15	0,10 - 0,18	0,12 - 0,21	0,15 - 0,26	0,18 - 0,30	0,20 - 0,33	0,23 - 0,39	0,26 - 0,44
	3	70	**85**	100	mm/r	0,08 - 0,13	0,10 - 0,15	0,11 - 0,19	0,14 - 0,23	0,16 - 0,26	0,18 - 0,30	0,21 - 0,35	0,23 - 0,39

Material Group		Cutting Speed — vc Range — SFM min	Starting Value	max		Inch Recommended Feed Rate (f) by Diameter 1/8 .125	3/16 .188	1/4 .250	5/16 .313	3/8 .375	1/2 .500	5/8 .625	3/4 .750
P	1	328	**459**	591	IPR	.003 - .006	.003 - .007	.004 - .009	.005 - .011	.006 - .013	.007 - .015	.007 - .017	.009 - .017
	2	295	**377**	459	IPR	.003 - .005	.003 - .007	.004 - .007	.005 - .009	.006 - .011	.007 - .012	.007 - .014	.009 - .017
	3	262	**328**	394	IPR	.004 - .006	.004 - .007	.005 - .009	.006 - .011	.007 - .013	.008 - .015	.010 - .017	.011 - .019
	4	230	**295**	361	IPR	.003 - .006	.004 - .007	.004 - .009	.005 - .010	.006 - .011	.006 - .013	.008 - .016	.009 - .018
	5	230	**279**	361	IPR	.003 - .005	.003 - .006	.004 - .006	.005 - .008	.006 - .009	.006 - .010	.007 - .012	.008 - .013
K	1	328	**394**	459	IPR	.004 - .007	.004 - .008	.005 - .011	.005 - .010	.007 - .014	.008 - .015	.009 - .018	.010 - .020
	2	262	**345**	427	IPR	.004 - .006	.004 - .007	.005 - .008	.006 - .010	.007 - .012	.008 - .013	.009 - .015	.010 - .017
	3	230	**279**	328	IPR	.003 - .005	.004 - .006	.004 - .007	.006 - .009	.006 - .010	.007 - .012	.008 - .014	.009 - .015

NOTE: When using BF bodies with KTIP, please refer to the recommended cutting data for KTIP tools on pages H10–H11.
Please be aware that the values mentioned are only guidelines.
It is highly recommended to adjust cutting data according to your specific application in order to achieve best drilling results.

SEFAS™ Combination Drilling System

Primary Application

Combines centering, drilling, and chamfering into a single operation, increasing productivity by reducing cycle time and number of tool changes.

These productivity gains can be achieved by still using standard solid carbide or KenTIP™ drills. The system provides full through coolant capabilities.

Features and Benefits

Productivity

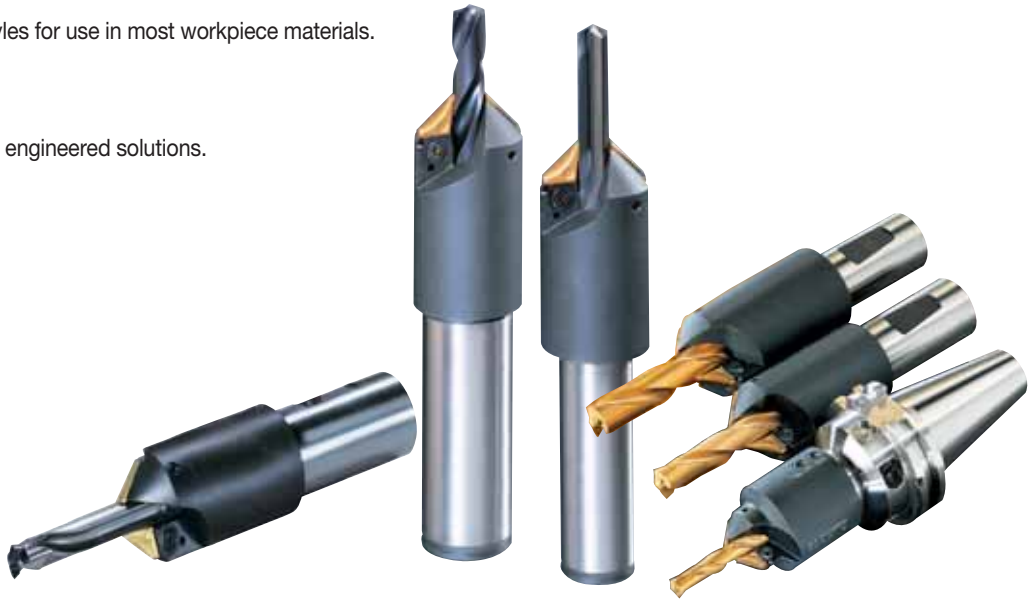
- Reduce the number of tool changes and your cycle time by combining drilling and countersinking into one operation.
- Achieve highest metal removal rates by applying a HP-style drill.
- Reduce your inventory and avoid reconditioning by using KenTIP blades.
- Easily change tool within the machine by applying KenTIP.

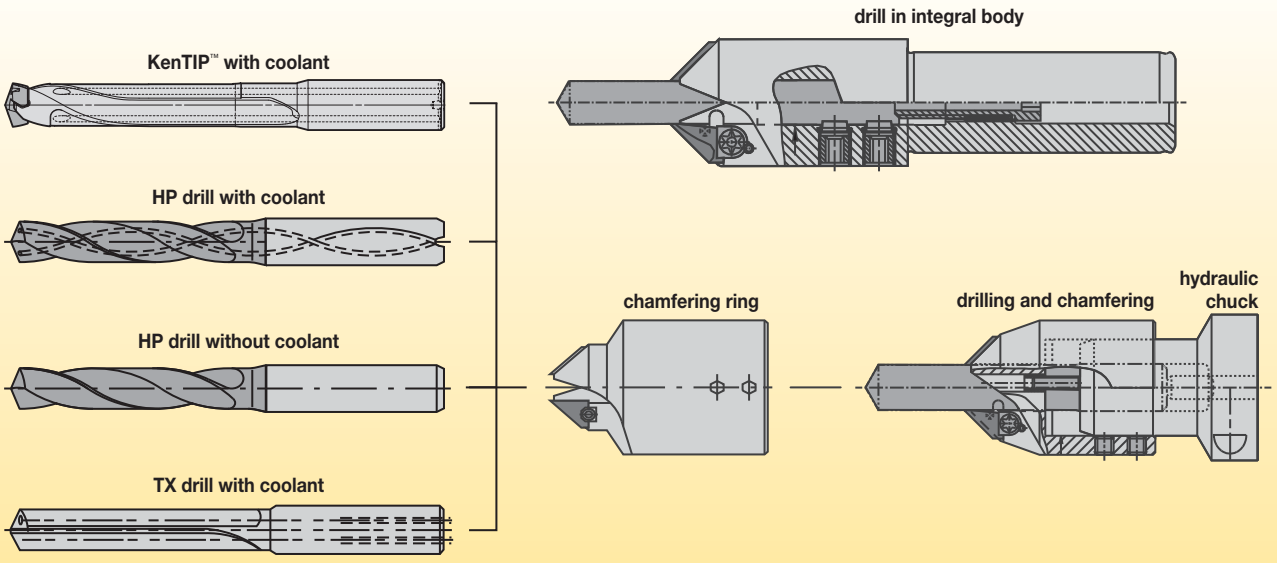
Versatility

- Any style of standard HP drill can be used, achieving highest metal removal rates.
- Use TX drills to achieve excellent hole quality and tool life in non-ferrous materials.
- For increased accuracy and tool life, use the Kennametal hydraulic chuck recommended for cylindrical tool shanks.
- Benefit from various insert styles for use in most workpiece materials.

Customization

- Length variations available as engineered solutions.





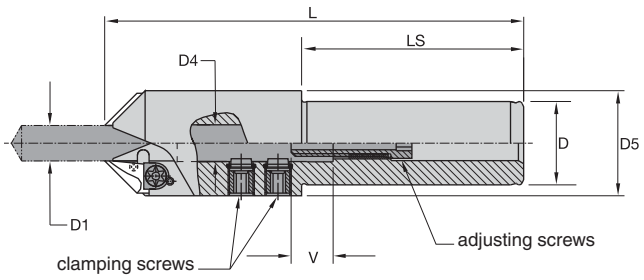
The SEFAS combination drilling system may be used in most workpiece materials. The design and flexibility of the system can be used with a wide variety of solid carbide drills.

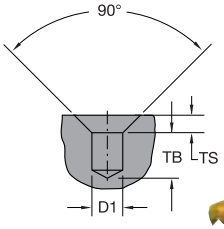
Three types of SEFAS chamfering tools are offered: (1) integral bodies with a compact design that provides additional workpiece and work-holding clearance; (2) chamfering rings that may be mounted to Kennametal hydraulic chucks for optimal drill performance and increased productivity; and (3) high-performance HSK bodies for new machine spindles and high-output applications.



- Drill body shipped with all screws, clamps, and wrenches.
- Order the inserts and drills separately.
- Two chamfer inserts required per body.









Round Shank • For Use with Inch Drills • Inch

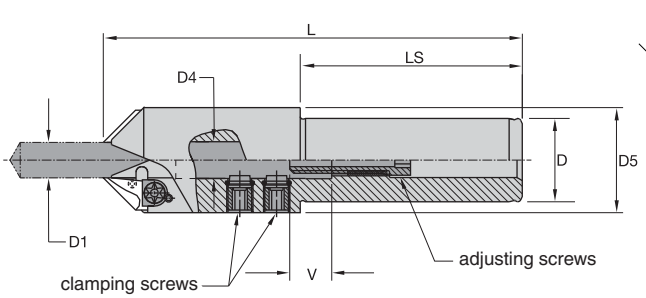
catalog number	D1	D1 max	D	D4	D5	L	LS	V	gage insert	insert clamp	Torx wrench	drill clamp screw	adjusting screw
SEF156187RSS075	.1560	.188	.75	.19	.94	4.06	2.00	.71	3.42805..	**360.550**	**170.024**	**360.650**	**360.516**
SEF218250RSS075	>0.1880	.250	.75	.25	.97	4.13	2.00	.71	3.42805..	**360.550**	**170.024**	**360.651**	**360.510**
SEF265312RSS075	>0.2500	.313	.75	.31	1.03	4.31	2.00	.71	3.42805..	**360.550**	**170.024**	**360.652**	**360.510**
SEF328375RSS075	>0.3130	.375	.75	.38	1.16	4.63	2.00	.67	3.42805..	**360.550**	**170.024**	**360.653**	**360.510**
SEF390437RSS100	>0.3750	.438	1.00	.44	1.47	5.75	3.00	.75	3.42807..	**360.551**	**170.025**	**360.654**	**360.513**
SEF453500RSS100	>0.4380	.500	1.00	.50	1.53	5.88	3.00	.83	3.42807..	**360.551**	**170.025**	**360.655**	**360.513**
SEF500562RSS100	>0.5000	.563	1.00	.56	1.59	6.06	3.00	.63	3.42807..	**360.551**	**170.025**	**360.656**	**360.511**
SEF562625RSS125	>0.5630	.625	1.25	.63	1.66	6.44	3.25	.75	3.42807..	**360.551**	**170.025**	**360.657**	**360.511**
SEF625687RSS125	>0.6250	.688	1.25	.69	1.81	6.50	3.25	.59	3.42807..	**360.551**	**170.025**	**360.658**	**360.511**
SEF687750RSS125	>0.6880	.750	1.25	.75	1.88	6.56	3.25	.67	3.42807..	**360.551**	**170.025**	**360.659**	**360.511**
SEF750812RSS125	>0.7500	.813	1.25	.81	1.94	6.63	3.25	.67	3.42807..	**360.551**	**170.025**	**360.679**	**360.511**
SEF812875RSS150	>0.8130	.875	1.50	.88	2.09	7.25	3.75	.63	3.42807..	**360.551**	**170.025**	**360.680**	**360.511**
SEF875937RSS150	>0.8750	.938	1.50	.94	2.16	7.38	3.75	.71	3.42807..	**360.551**	**170.025**	**360.681**	**360.511**
SEF9371010RSS150	>0.9380	1.010	1.50	1.00	2.25	7.50	3.75	.71	3.42807..	**360.551**	**170.025**	**360.682**	**360.511**

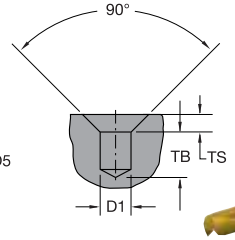
Achievable Drilling (TB) and Sink Depths (TS)

drill diameter D1	K210, K254, K284		K211, K222, K255, K285, K411		K212, K256		unalloyed and low-alloy steel; unalloyed and alloy steel and cast iron; high-alloy steel and stainless steel		
	TB_{min}	TB_{max}	TB_{min}	TB_{max}	TB_{min}	TB_{max}	TS_{100}	TS_{80}	TS_{max}
.156-.188	.236	.866	.472	1.102	.866	1.102	.047	.071	.098
>.188-.250	.354	1.024	.709	1.378	1.220	1.890	.059	.087	.118
>.250-.266	.433	1.102	.906	1.575	1.654	2.323	.079	.118	.157
>.266-.313	.433	1.102	.906	1.575	1.654	2.323	.098	.157	.197
>.313-.375	.512	1.142	1.063	1.693	1.929	2.559	.118	.197	.236
>.375-.438	.551	1.260	1.142	1.850	2.008	2.717	.138	.197	.276
>.438-.500	.591	1.378	1.220	2.008	2.205	2.992	.157	.236	.315
>.500-.563	.827	1.417	1.496	2.087	2.717	3.307	.157	.236	.315
>.563-.625	.866	1.575	1.575	2.283	3.071	3.780	.157	.236	.315
>.625-.688	1.299	1.850	2.087	2.638	3.740	4.291	.157	.236	.315
>.688-.750	1.378	2.008	2.126	2.756	4.055	4.685	.157	.236	.315
>.750-.813	1.552	2.181	2.260	2.890	4.386	5.016	.157	.236	.315
>.813-.875	1.702	2.293	2.726	3.317	4.694	5.285	.157	.236	.315
>.875-.938	1.735	2.404	2.876	3.546	4.884	5.554	.157	.236	.315
>.938-1.010	1.846	2.515	3.067	3.736	5.193	5.862	.157	.236	.315

NOTE: TS_{100}: maximum sink depths at which the full feed values can be maintained during chamfering and sinking.
TS_{80}: maximum sink depths that can be achieved without chipbreak cycles and at a 20% feed reduction.
TS_{max}: maximum sink depths that can be achieved without chipbreak cycles and at a 50% feed reduction.

- Drill body shipped with all screws, clamps, and wrenches.
- Order the inserts and drills separately.
- Two chamfer inserts required per body.







Round Shank • For Use with Metric Drills • Metric

catalog number	D1	D1 max	D4	D	D5	L	LS	V	gage insert	insert clamp	Torx wrench	drill clamp screw	adjusting screw
SEF040060RSS075M	4,000	6,0	6,0	.75	.94	4.06	2.00	.71	3.42805..	**360.550**	**170.024**	**360.630**	**360.510**
SEF060080RSS075M	>6,000	8,0	8,0	.75	1.02	4.31	2.00	.71	3.42805..	**360.550**	**170.024**	**360.634**	**360.510**
SEF080100RSS100M	>8,000	10,0	10,0	1.00	1.14	5.63	3.00	.67	3.42805..	**360.550**	**170.024**	**360.631**	**360.510**
SEF100120RSS125M	>10,000	12,0	12,0	1.25	1.50	6.13	3.25	.83	3.42807..	**360.551**	**170.025**	**360.635**	**360.513**
SEF120140RSS125M	>12,000	14,0	14,0	1.25	1.57	6.31	3.25	.63	3.42807..	**360.551**	**170.025**	**360.636**	**360.511**
SEF140160RSS125M	>14,000	16,0	16,0	1.25	1.63	6.44	3.25	.75	3.42807..	**360.551**	**170.025**	**360.632**	**360.511**
SEF160180RSS125M	>16,000	18,0	18,0	1.25	1.85	6.56	3.25	.59	3.42807..	**360.551**	**170.025**	**360.633**	**360.511**
SEF180200RSS125M	>18,000	20,0	20,0	1.25	1.93	6.69	3.25	.67	3.42807..	**360.551**	**170.025**	**360.637**	**360.511**

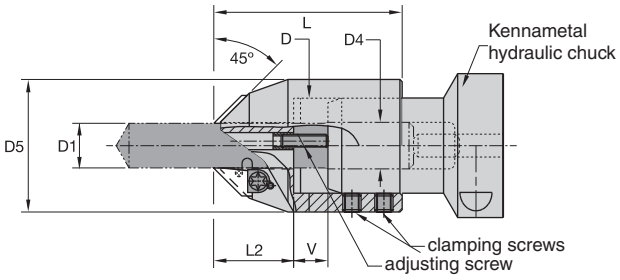
2° Whistle Notch™ (WN) Shank • For Use with Metric Drills • Metric

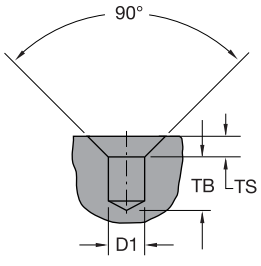
catalog number	D1	D1 max	D	D4	D5	L	LS	V	gage insert	insert clamp	Torx wrench	drill clamp screw	adjusting screw
3.37060R720	4,000	6,0	20,0	6,0	24,0	102,0	52,0	18,0	3.42805..	**360.550**	**170.024**	**360.630**	**360.510**
3.37080R720	>6,000	8,0	20,0	8,0	26,0	108,0	52,0	18,0	3.42805..	**360.550**	**170.024**	**360.634**	**360.510**
3.37100R720	>8,000	10,0	20,0	10,0	29,0	122,0	52,0	17,0	3.42805..	**360.550**	**170.024**	**360.631**	**360.510**
3.37120R732	>10,000	12,0	32,0	12,0	38,0	133,0	62,0	21,0	3.42807..	**360.551**	**170.025**	**360.635**	**360.513**
3.37140R732	>12,000	14,0	32,0	14,0	40,0	137,0	62,0	16,0	3.42807..	**360.551**	**170.025**	**360.636**	**360.511**
3.37160R732	>14,000	16,0	32,0	16,0	41,5	141,0	62,0	19,0	3.42807..	**360.551**	**170.025**	**360.632**	**360.511**
3.37180R732	>16,000	18,0	32,0	18,0	47,0	144,0	62,0	15,0	3.42807..	**360.551**	**170.025**	**360.633**	**360.511**

HSK Shank • For Use with Metric Drills • Metric

catalog number	D1	D1 max	D	D4	D5	L1	L4 max	V	gage insert	insert clamp	Torx wrench	drill clamp screw	adjusting screw
SEF040060RHSK63AM	4,000	6,00	63,0	6,0	24,0	95,0	51,0	18,0	3.42805..	**360.550**	**170.024**	**360.630**	**360.510**
SEF060080RHSK63AM	>6,000	8,00	63,0	8,0	26,0	102,0	57,0	18,0	3.42805..	**360.550**	**170.024**	**360.634**	**360.510**
SEF080100RHSK63AM	>8,000	10,00	63,0	10,0	29,0	111,0	68,0	17,0	3.42805..	**360.550**	**170.024**	**360.631**	**360.510**
SEF100120RHSK63AM	>10,000	12,00	63,0	12,0	38,0	122,0	89,0	21,0	3.42807..	**360.551**	**170.025**	**360.635**	**360.517**
SEF120140RHSK63AM	>12,000	14,00	63,0	14,0	40,0	126,0	94,0	16,0	3.42807..	**360.551**	**170.025**	**360.636**	**360.517**
SEF140160RHSK63AM	>14,000	16,00	63,0	16,0	42,0	130,0	99,0	19,0	3.42807..	**360.551**	**170.025**	**360.632**	**360.517**

- Drill body shipped with all screws, clamps, and wrenches.
- Order the inserts and drills separately.
- Use only with hydraulic chucks.







Chamfer Rings • For Use with Metric Kennametal Hydraulic Chucks • For Use with Inch or Metric Drills

catalog number	D1	D1 max	D	D4	D5	L	LS	V	gage insert	insert clamp	Torx wrench	drill clamp screw	adjusting screw
3.37526R006	4,000	6,0	25,7	6,0	38,0	49,5	21,0	5,0	3.42805..	**360.550**	**170.024**	**190.195**	**192.057**
3.37528R008	>6,000	8,0	27,7	8,0	40,0	50,0	21,0	6,0	3.42805..	**360.550**	**170.024**	**190.195**	**190.371**
3.37530R010	>8,000	10,0	29,7	10,0	41,5	56,5	22,0	8,0	3.42805..	**360.550**	**170.024**	**190.195**	**193.113**
3.37532R012	>10,000	12,0	31,6	12,0	48,0	68,0	29,0	12,0	3.42807..	**360.551**	**170.025**	**190.076**	**193.114**
3.37534R014	>12,000	14,0	33,6	14,0	50,0	70,5	29,0	12,0	3.42807..	**360.551**	**170.025**	**190.076**	**193.114**
3.37538R016	>14,000	16,0	37,6	16,0	54,0	78,0	32,0	12,0	3.42807..	**360.551**	**170.025**	**190.076**	**193.115**
3.37540R018	>16,000	18,0	39,6	18,0	56,0	80,5	34,0	15,0	3.42807..	**360.551**	**170.025**	**190.076**	**193.116**
3.37542R020	>18,000	20,0	41,6	20,0	58,0	82,5	35,0	15,0	3.42807..	**360.551**	**170.025**	**190.076**	**193.116**

Achievable Drilling (TB) and Sink Depths (TS)

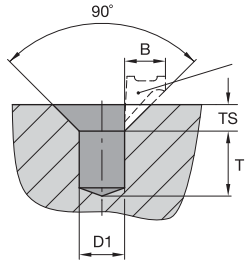
drill diameter D1	B210, B221, B224, B254, B284, B291, B707, B966, B976		B211, B222, B225, B285, B292, B411, B708, B977		B212, B256, B709, B978		B269		unalloyed and low-alloy steel; unalloyed and alloy steel and cast iron; high-alloy steel and stainless steel		
	TB_{min}	TB_{max}	TB_{min}	TB_{max}	TB_{min}	TB_{max}	TB_{min}	TB_{max}	TS_{100}	TS_{80}	TS_{max}
4,0-4,7	4	17	12	29	20	36	45	62	1,2	1,8	2,5
>4,7-6,0	4	20	20	35	27	43	63	80	1,5	2,2	3,0
>6,0-7,0	11	24	23	40	32	49	71	88	2	3,0	4,0
>7,0-8,0	11	28	23	40	42	59	85	102	2,5	4,0	5,0
>8,0-10,0	13	29	27	43	46	62	109	125	2,5	4,0	5,0
>10,0-12,0	15	35	31	51	54	74	131	151	3,5	5,0	7,0
>12,0-14,0	21	36	38	53	69	84	160	175	4,0	6,0	8,0
>14,0-16,0	22	40	40	58	78	96	184	202	4,0	6,0	8,0
>16,0-18,0	31	45	51	65	93	107	213	227	4,0	6,0	8,0
>18,0-20,0	34	50	56	72	103	119	237	253	4,0	6,0	8,0

(continued)

(continued)

drill diameter D1	K210, K254, K284		K211, K222, K255, K285, K411		K212, K256		unalloyed and low-alloy steel; unalloyed and alloy steel and cast iron; high-alloy steel and stainless steel		
	TB_{min}	TB_{max}	TB_{min}	TB_{max}	TB_{min}	TB_{max}	TS_{100}	TS_{80}	TS_{max}
.156-.250	not applicable (drill shank diameter > chamfer ring inside diameter) not applicable (metric ring and hydraulic chuck are not interchangeable)								
>.250-.313									
>.313-.375	.748	1.339	1.229	1.890	2.165	2.756	.098	.157	.197
>.375-.500	not applicable (drill shank diameter > chamfer ring inside diameter), not applicable (metric ring and hydraulic chuck are not interchangeable)								
>.500-.563	not applicable (drill shank diameter > chamfer ring inside diameter), not applicable (metric ring and hydraulic chuck are not interchangeable)								
>.563-.625	.906	1.732	1.614	2.441	3.110	3.937	.157	.236	.315
>.625-.709	not applicable (metric ring and hydraulic chuck are not interchangeable)								
>.709-.750	1.142	2.087	1.890	2.835	3.819	4.764	.157	.236	.315

NOTE: TS_{100}: maximum sink depths at which the full feed values can be maintained during chamfering and sinking.
TS_{80}: maximum sink depths that can be achieved without chipbreak cycles and at a 20% feed reduction.
TS_{max}: maximum sink depths that can be achieved without chipbreak cycles and at a 50% feed reduction.
When using SEFAS with GOdrill™, please contact your Kennametal representative for application support.

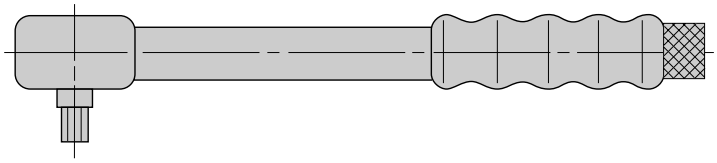




Achievable Drilling (T) and Sink Depths (TS) with KenTIP Tool Bodies

D1 mm	D1 in	drilling depths (T) with SEFAS compact tools 3x T	3x T_{max}	5x T	5x T_{max}	8x T	8x T_{max}	drilling depths (T) with SEFAS chamfer rings 3x T	3x T_{max}	5x T	5x T_{max}	8x T	8x T_{max}	sink depths (TS) TS_{100}	TS_{80}	TS_{max}
8,00-8,49	.3125-.3343	11	19	21	37	47	63	11	22	22	40	48	66	2,5	4,0	5,0
8,50-8,99	.3346-.3539	12	21	24	40	51	67	12	24	25	43	52	70	2,5	4,0	5,0
9,00-9,49	.3543-.3736	12	23	27	43	56	72	12	26	28	46	57	75	2,5	4,0	5,0
9,50-9,99	.3740-.3933	13	25	31	47	61	77	13	28	32	50	62	80	2,5	4,0	5,0
10,00-10,49	.3937-.4130	13	26	28	49	60	81	13	28	29	51	61	83	3,5	5,0	7,0
10,50-10,99	.4134-.4327	14	28	31	52	64	85	14	30	32	54	65	87	3,5	5,0	7,0
11,00-11,49	.4331-.4524	14	30	34	55	69	90	14	32	35	57	70	92	3,5	5,0	7,0
11,50-11,99	.4528-.4720	15	32	37	58	73	94	15	34	38	60	74	96	3,5	5,0	7,0
12,00-12,49	.4724-.4917	15	30	41	56	79	94	15	32	36	58	74	96	4,0	6,0	8,0
12,50-12,99	.4921-.5114	17	32	44	59	83	98	16	34	39	61	78	100	4,0	6,0	8,0
13,00-13,49	.5118-.5311	19	34	47	62	88	103	16	36	42	64	83	105	4,0	6,0	8,0
13,50-13,99	.5315-.5508	21	36	51	66	93	108	17	38	46	68	88	110	4,0	6,0	8,0
14,00-14,49	.5512-.5705	19	37	50	68	94	112	18	40	49	71	93	115	4,0	6,0	8,0
14,50-14,99	.5709-.5902	21	39	53	71	98	116	20	42	52	74	97	119	4,0	6,0	8,0
15,00-15,99	.5906-.6295	25	43	59	77	107	125	24	46	58	80	106	128	4,0	6,0	8,0
16,00-16,99	.6299-6689	29	47	65	83	117	135	28	50	64	85	115	136	4,0	6,0	8,0
17,00-17,99	.6693-.7083	35	49	73	87	127	141	30	54	68	92	122	146	4,0	6,0	8,0
18,00-18,99	.7087-.7476	36	52	76	92	133	149	33	57	73	97	130	154	4,0	6,0	8,0
19,00-19,99	.7480-.7870	40	56	82	98	142	158	37	61	79	103	139	163	4,0	6,0	8,0

NOTE: TS_{100}: maximum sink depths at which the full feed values can be maintained during chamfering and sinking.
TS_{80}: maximum sink depths that can be achieved without chipbreak cycles and at a 20% feed reduction.
TS_{max}: maximum sink depths that can be achieved without chipbreak cycles and at a 50% feed reduction.
T: minimum drilling depth that can be achieved due to the protruded length of the drill.
T_{max}: maximum drilling depth that can be achieved due to the protruded length of the drill.

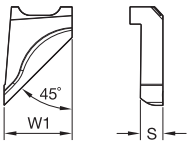


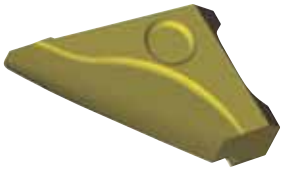
Torque Wrench • Metric

drill diameter D1	torque wrench	tightening torque Nm	SW	drill clamp screw	wrench adapter
4,0-6,0	170.190	7	3	**360.630**	**170.240**
>6,0-8,0	170.190	8	3	**360.635**	**170.240**
>8,0-10,0	170.190	10	4	**360.631**	**170.232**
>10,0-12,0	170.190	15	4	**360.635**	**170.232**
>12,0-14,0	170.190	20	5	**360.636**	**170.233**
>14,0-16,0	170.190	30	5	**360.632**	**170.233**
>16,0-18,0	170.190	45	6	**360.633**	**170.234**
>18,0-20,0	170.190	45	6	**360.637**	**170.234**

Torque Wrench • Inch

drill diameter D1	torque wrench	tightening torque ft. lbs.	SW	drill clamp screw	wrench adapter
.156-.188	170.190	5.2	3	**360.650**	**170.240**
>.188-.250	170.190	5.9	3	**360.651**	**170.240**
>.250-.313	170.190	5.9	3	**360.652**	**170.240**
>.313.-.375	170.190	7.4	4	**360.653**	**170.232**
>.375-.438	170.190	11.1	4	**360.654**	**170.232**
>.438-.500	170.190	11.1	4	**360.655**	**170.232**
>.500-.563	170.190	14.8	5	**360.656**	**170.233**
>.563-.625	170.190	22.1	5	**360.657**	**170.233**
>.625-.688	170.190	33.2	6	**360.658**	**170.234**
>.688-.750	170.190	33.2	6	**360.659**	**170.234**
>.750-.813	170.190	35.4	6	**360.679**	**170.234**
>.813-.875	170.190	44.3	8	**360.680**	**170.229**
>.875-.938	170.190	47.9	8	**360.681**	**170.229**
>.938-1.010	170.190	51.6	8	**360.682**	**170.229**



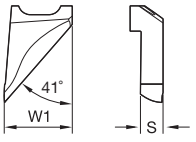


● first choice
○ alternate choice

P		●	
M			
K		●	●
N			● ●
S			
H			

SEFAS Chamfering Inserts for Solid Carbide Drills • 45°

catalog number	angle	S mm	S in	W1 mm	W1 in	CS5	KC7215	KMF
3.42805R001	45	2,83	.111	8,00	.315	●	●	●
3.42807R001	45	3,98	.157	12,00	.472	●	●	●



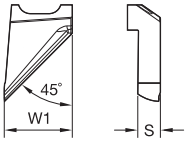


● first choice
○ alternate choice

P		
M		
K		●
N		●
S		
H		

SEFAS Chamfering Inserts for Solid Carbide Drills • 41°

catalog number	angle	S mm	S in	W1 mm	W1 in	KC7215
3.42805R081	41	2,83	.111	8,00	.315	●
3.42807R081	41	3,98	.157	12,00	.472	●





● first choice
○ alternate choice

P		●	
M		●	
K			●
N			●
S			
H			

SEFAS Chamfering Inserts for KenTIP™ and KSEM™ Drills • 45°

catalog number	angle	S mm	S in	W1 mm	W1 in	KC7015	KC7315	KMF
3.42805R021	45	2,83	.111	8,00	.315	●	●	●
3.42807R021	45	3,98	.157	12,00	.472	●	●	●

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KENNAMETAL



Indexable Drills

Tool Selection Guide J2–J3

Drill Fix DFR, DFS, and DFT J4–J49

Drill Fix DFR J7–J18

Drill Fix DFS J19–J35

Drill Fix DFT J36–J49

HTS Series Indexable Deep-Hole Drilling System J50–J94

HTS-C Indexable Drill System J52–J61

HTS and HTS-R Indexable Drill System J62–J94

Indexable Drill Inserts

Drill Fix DFR Inserts J95–J97

Drill Fix DFT Inserts J96–J99

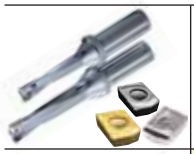
Drill Fix DFS Inserts J100–J103

HTS-C Drilling Inserts J102–J103

CTR Counterboring Tools J104–J105

Counterboring Inserts J106–J107



		standard							standard range			customized solution range			
		● first choice ○ alternate choice							diameter range			diameter range			
		P	M	K	N	S	H	hole tolerance	D1 mm min–max	D1 inch min–max	drilling depth L/D1	D1 mm min–max	D1 inch min–max	drilling depth	
	**DFR**™ Indexable Drill Body *Short-Hole Drilling*	●	●	●	●	●		IT9-11	12,5–25	.500–1.039	2 x D 3 x D 4 x D	12,5–26	.500–1.023	1–5 x D	
	**DFS**™ Indexable Drill Body *Short-Hole Drilling*	●	●	●	●	●		IT9-11	24–55	.945–2.165	2 x D 3 x D 4 x D 5 x D	18–55	.708–2.165	1–5 x D	
	**DFT**™ Indexable Drill Body *Short-Hole Drilling*	●	●	●	●	●		IT9-11	16–83mm	.625–3.250	2.5 x D 4 x D	15,8–83	.622–3.250	1–5 x D	
	**HTS-C** Indexable Drilling Tool *Deep-Hole Drilling*	●	●	●	●	●		IT9-11	20–45	.750–1.750	5 x D 8 x D	19,05–45	.749–1.750	1–20 x D	
	**HTS-R** Indexable Drilling Tool *Deep-Hole Drilling*	●	●	●	●	●		IT9-11	40–55	1.574–2.165	10 x D	40–55	1.574–2.165	1–10 x D	
	**HTS** Indexable Drilling Tool *Deep-Hole Drilling*	●	●	●	●	●		IT9-11	45–270	1.772–10.630	10 x D	45–540	1.772–21.259	1–10 x D	
	**S2 S Countersinking** Countersinking Tool	●	●	●	●	●		IT9-11	15,1–46,2	.813–3.125	1 x D	11,5–150	.452–5.905	1–5 x D	

In regard to insert and drill coatings, anything is possible. If a specific insert or drill is not suitable for your workpiece material, please contact our Engineered Solutions Department for an offer about special coatings and edge preparations.

*Except for L/D 5 x D.

[1] Other shank styles available as customized solution.

	■ standard capabilities [1]								■ standard and □ customized solution capabilities									
	coolant																	
																			page(s)
		■		■ ■	■					■	■	■	■	■	□	□			J8–J18
		■		■ ■	■	■				■	■	■	■	■*	□	□		□	J20–J35
		■		■ ■	■	■				■	■	■	■	■	□	□			J37–J49
		■		■ ■						■						□			J53–J61
		■			■		■	■	■	■									J73–J79
		■			■		■	■	■	■									J80–J94
		■	■													■	□		J105–J107



Drill Fix™ DFR™, DFS™, and DFT™

Primary Application

Drill short holes up to 5 x D with DFR, DFS, and DFT indexable drills in steel, cast iron, ductile iron, stainless steel, and non-ferrous materials. The Drill Fix portfolio covers the diameter range .500–3.250" (12,5–82mm).

Apply where speed and economy are prime considerations.

Features and Benefits

Drill Fix DFR

- Diameter range of 12,5–24mm in 2 x D, 3 x D, and 4 x D.
- Rectangular-shaped inserts offer the highest stability and feed rates at smaller sizes.
- Long body tool life due to soft starting cut, short chips, and low cutting forces.
- X-offset design to adjust diameter size on turning machines and optimize tolerances on machining centers.

Drill Fix DFS

- Combines the benefits of a trigon-style DFT inboard insert and a square-style SP..X outboard insert.
- Standard diameter range from 1.000–2.500" (24–55mm) in 2 x D, 3 x D, 4 x D, and new 5 x D.
- Drill Fix DFT insert has inner insert for best centering capabilities.
- Squared-outboard insert offering four economic cutting edges.
- Highest feed rates and cutting speeds applicable due to highly stable tool body design.
- X-offset design to adjust diameter size on turning machines and optimize tolerances on machining centers.
- Beyond™ grades to achieve highest productivity, achieving outstanding results in steel, stainless steel, and cast iron.

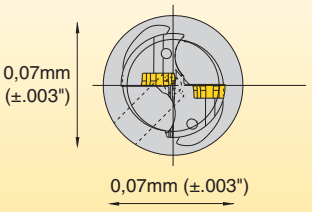


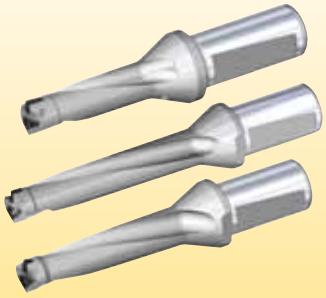
Drill Fix™ DFT™

- One drill system that covers a large diameter range, from 1.000–3.250" (24–82mm) in 2.5 x D and 4 x D.
- Best centering capabilities due to trigon-shaped inserts used as inboard and outboard insert.
- Various insert grades and geometries available.
- Balanced cutting forces in the shank center for highest tool body stability.
- X-offset design to adjust diameter size on turning machines and optimize tolerances on machining centers.

Stationary Applications

Metric Drill Bodies with 2° Whistle Notch™





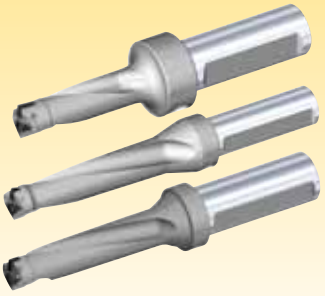
Metric shank drills with a 2° Whistle Notch shank are easily mounted into inch turrets using a WD adaptor. Align the X-axis of the drill with the X-axis of the machine tool as described above. Accurate alignment is absolutely essential for good performance. The drill must be on center within the tolerance shown above. Angularity must not exceed 0,07mm (.003").

Inch Bodies • Flange

Drill Fix™ inch drills, with a flange, were designed for use on lathes or any machine where the tool remains stationary and the workpiece rotates.

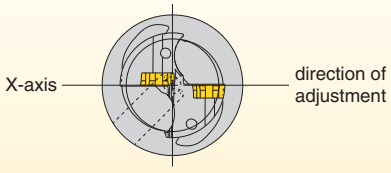
An "x" is marked on the flat of the X-axis of the drill to aid insert orientation on the machine tool.

It is important to align the X-axis of the drill with the X-axis on the machine tool. Accurate alignment is absolutely essential for good performance. The drill must be on center, within the tolerance shown here. Angularity must not exceed 0,07mm (.003") within the designated drill depth.



Drill Fix X-Adjustment

Applications Examples

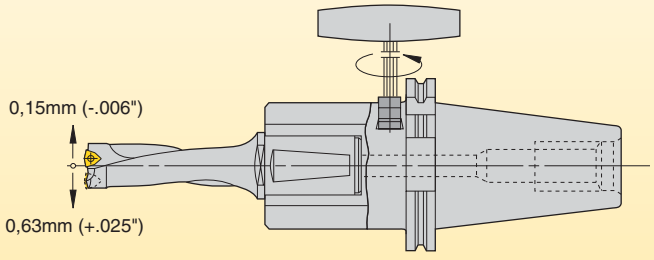


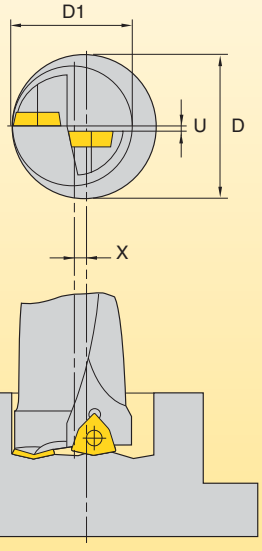
Stationary Tool

The X-adjustment must be made at the outer cutting edge, parallel to the surface of the outer insert when the turret of the turning machine is offset along the X-axis.

Rotating Tool • Straight Shank

Use an adjustable eccentric chuck with a steep taper to help offset the drill along the X-axis when machining with a rotating tool on a machining center.





X-Adjustment Description

Different diameter holes can be drilled using the same Drill Fix drill. Holes with a diameter greater than the nominal diameter can be drilled directly into a solid. Intermediate dimensions are produced by means of the X-adjustment.

Benefits

- Eliminates the need for special tools for intermediate dimensions.
- Just a few drills cover a wide application range.
- Once precise adjustment of the desired diameter is made, tolerances of 0,05mm (± .002") are achieved.

Additional information on X-adjustment, as well as additional information to Drill Fix tools, is available on the Kennametal website, www.kennametal.com.



Drill Fix™ DFR™

Drill Fix DFR offers maximum feed rates at diameter range 12,5–24mm at 2 x D, 3 x D, and 4 x D applications. Using rectangular-shaped inboard and outboard inserts enables soft starting cuts and short chips as well as enabling higher feed rates than small-size symmetrical-trigon or square inserts. Drill Fix DFR's low cutting forces provide long tool body life and highest stability at smallest sizes.

Furthermore, these inserts enable soft starting cuts and short chips. The low cutting forces of a Drill Fix DFR provide long tool body life and highest stability at smallest sizes.

Features and Benefits

Productivity and Profitability

- Achieve highest feed rates with rectangular-shaped inserts that offer a soft starting cut and highest stability.
- Use X-offset on turning machines to adjust the drill diameter, eliminating the need for specials in many applications and on machining centers, to reach tolerance optimization.
- Same insert size is used in each pocket, reducing inventory costs.

Versatility

- Diameter range covering .500–1.000" (12,5–24mm).
- 2 x D, 3 x D, and 4 x D L/D ratios as standard.
- Various shanks as standard available: WD, SSF, and new KM-TS™.
- Multiple insert grades and geometries available.
- Use where feed rates are the limiting factor.
- Apply at straight holes, inclined entries and exits, interrupted cuts, and rough or welded entry surfaces.
- Eccentric chuck available as standard.



Reliability

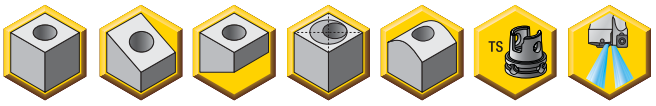
- Highest stability at smaller sizes due to rectangular-shaped insert.
- Same insert can be used as inboard or outboard insert. No risk of mixing up inner and outer insert.
- Low cutting forces resulting in long body tool life.

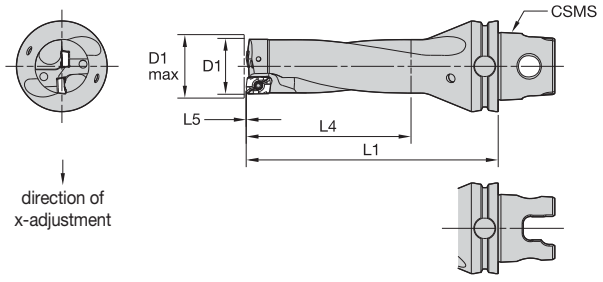
Customization

- Intermediate diameters available as semi-standards.
- Engineered solutions available.
- Multistep drills available upon request.
- Left-hand version available.

*To learn more, **scan here**.*
For instructions on how to scan, please see page xxix.

- Drill shipped with insert screws and Torx wrench.
- See page J95 for inserts.







KM32TS, KM40TS, and KM50TS Shanks • 3 x D • Metric

KM32TS	KM40TS	KM50TS	D1 mm	D1 in	D1 max	L1	L4 max	L5	gage insert
KM32TSDFR125R3M	KM40TSDFR125R3M	KM50TSDFR125R3M	12,50	.492	13,50	67,9	37,5	0,5	DFR0202..
KM32TSDFR130R3M	KM40TSDFR130R3M	KM50TSDFR130R3M	13,00	.512	14,00	69,4	39,0	0,5	DFR0202..
KM32TSDFR140R3M	KM40TSDFR140R3M	KM50TSDFR140R3M	14,00	.551	15,00	72,4	42,0	0,5	DFR0202..
KM32TSDFR150R3M	KM40TSDFR150R3M	KM50TSDFR150R3M	15,00	.591	16,00	75,4	45,0	0,5	DFR0202..
KM32TSDFR160R3M	KM40TSDFR160R3M	KM50TSDFR160R3M	16,00	.630	17,00	78,4	48,0	0,5	DFR0202..
KM32TSDFR170R3M	KM40TSDFR170R3M	KM50TSDFR170R3M	17,00	.669	18,00	82,4	51,0	0,6	DFR0302..
KM32TSDFR180R3M	KM40TSDFR180R3M	KM50TSDFR180R3M	18,00	.709	19,00	85,4	54,0	0,6	DFR0302..
KM32TSDFR190R3M	KM40TSDFR190R3M	KM50TSDFR190R3M	19,00	.748	20,00	89,4	57,0	0,6	DFR0302..
KM32TSDFR200R3M	KM40TSDFR200R3M	KM50TSDFR200R3M	20,00	.787	21,00	92,4	60,0	0,6	DFR0302..
KM32TSDFR210R3M	KM40TSDFR210R3M	KM50TSDFR210R3M	21,00	.827	22,00	96,6	63,0	0,8	DFR0403..
KM32TSDFR220R3M	KM40TSDFR220R3M	KM50TSDFR220R3M	22,00	.866	23,00	99,6	66,0	0,8	DFR0403..
KM32TSDFR230R3M	KM40TSDFR230R3M	KM50TSDFR230R3M	23,00	.906	24,00	103,6	69,0	0,8	DFR0403..
KM32TSDFR240R3M	KM40TSDFR240R3M	KM50TSDFR240R3M	24,00	.945	25,00	106,6	72,0	0,8	DFR0403..

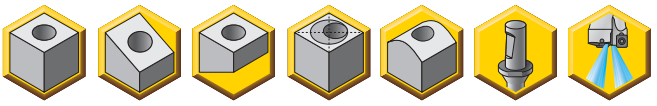
KM32TS, KM40TS, and KM50TS Shanks • 3 x D • Inch

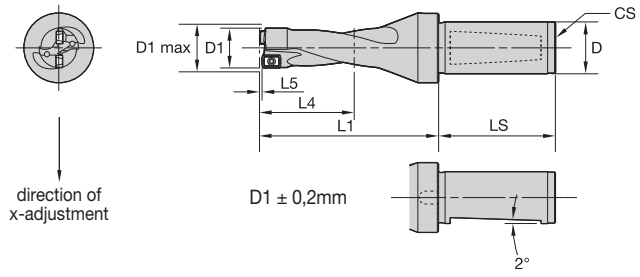
KM32TS	KM40TS	KM50TS	D1 in	D1 mm	D1 max	L1	L4 max	L5	gage insert
KM32TSDFR0500R3	KM40TSDFR0500R3	KM50TSDFR0500R3	.500	12,70	.540	2.64	1.50	.02	DFR0202..
KM32TSDFR0531R3	KM40TSDFR0531R3	KM50TSDFR0531R3	.531	13,49	.571	2.76	1.59	.02	DFR0202..
KM32TSDFR0563R3	KM40TSDFR0563R3	KM50TSDFR0563R3	.563	14,30	.603	2.89	1.69	.02	DFR0202..
KM32TSDFR0594R3	KM40TSDFR0594R3	KM50TSDFR0594R3	.594	15,09	.634	3.01	1.78	.02	DFR0202..
KM32TSDFR0625R3	KM40TSDFR0625R3	KM50TSDFR0625R3	.625	15,88	.665	3.14	1.88	.02	DFR0202..
KM32TSDFR0656R3	KM40TSDFR0656R3	KM50TSDFR0656R3	.656	16,66	.696	3.27	1.97	.02	DFR0302..
KM32TSDFR0688R3	KM40TSDFR0688R3	KM50TSDFR0688R3	.688	17,48	.728	3.39	2.06	.02	DFR0302..
KM32TSDFR0734R3	KM40TSDFR0734R3	KM50TSDFR0734R3	.734	18,64	.774	3.52	2.20	.02	DFR0302..
KM32TSDFR0750R3	KM40TSDFR0750R3	KM50TSDFR0750R3	.750	19,05	.790	3.52	2.25	.02	DFR0302..
KM32TSDFR0781R3	KM40TSDFR0781R3	KM50TSDFR0781R3	.781	19,84	.821	3.64	2.34	.02	DFR0302..
KM32TSDFR0813R3	KM40TSDFR0813R3	KM50TSDFR0813R3	.813	20,65	.853	3.77	2.44	.03	DFR0403..
KM32TSDFR0844R3	KM40TSDFR0844R3	KM50TSDFR0844R3	.844	21,44	.884	3.90	2.53	.03	DFR0403..
KM32TSDFR0875R3	KM40TSDFR0875R3	KM50TSDFR0875R3	.875	22,23	.915	4.02	2.63	.03	DFR0403..
KM32TSDFR0906R3	KM40TSDFR0906R3	KM50TSDFR0906R3	.906	23,01	.946	4.15	2.72	.03	DFR0403..
KM32TSDFR0938R3	KM40TSDFR0938R3	KM50TSDFR0938R3	.938	23,83	.978	4.27	2.81	.03	DFR0403..
KM32TSDFR0969R3	KM40TSDFR0969R3	KM50TSDFR0969R3	.969	24,61	1.009	4.40	2.91	.03	DFR0403..

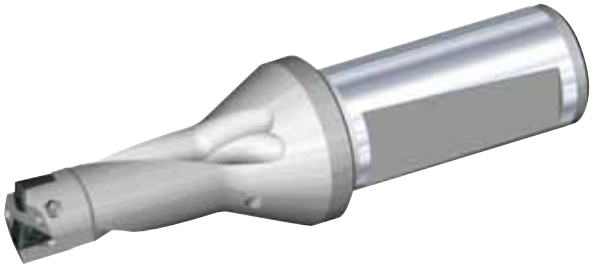
WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

gage insert	insert screw	Torx wrench	Torx size
DFR0202..	**193.281**	**170.027**	T6
DFR0302..	**192.416**	**170.023**	T7
DFR0403..	**192.432**	**170.025**	T8

- Drill shipped with insert screws and Torx wrench.
- See page J95 for inserts.







WN/WD Shank • 2 x D • Metric

D		D1						gage
20	32	mm	in	D1 max	L1	L4 max	L5	insert
DFR125R2WD20M	—	12,50	.492	13,50	47,4	25,0	0,5	DFR0202..
DFR127R2WD20M	—	12,70	.500	13,70	47,8	25,4	0,5	DFR0202..
DFR130R2WD20M	—	13,00	.512	14,00	48,4	26,0	0,5	DFR0202..
DFR135R2WD20M	—	13,50	.532	14,50	49,4	27,0	0,5	DFR0202..
DFR140R2WD20M	—	14,00	.551	15,00	50,4	28,0	0,5	DFR0202..
DFR145R2WD20M	—	14,50	.571	15,50	53,4	29,0	0,5	DFR0202..
DFR150R2WD20M	—	15,00	.591	16,00	54,4	30,0	0,5	DFR0202..
DFR155R2WD20M	—	15,50	.610	16,50	55,4	31,0	0,5	DFR0202..
DFR160R2WD20M	—	16,00	.630	17,00	56,4	32,0	0,5	DFR0202..
—	**DFR165R2WD32M**	16,50	.650	17,50	62,4	33,0	0,6	DFR0302..
—	**DFR170R2WD32M**	17,00	.669	18,00	63,4	34,0	0,6	DFR0302..
—	**DFR175R2WD32M**	17,50	.689	18,50	64,4	35,0	0,6	DFR0302..
—	**DFR180R2WD32M**	18,00	.709	19,00	65,4	36,0	0,6	DFR0302..
—	**DFR185R2WD32M**	18,50	.728	19,50	66,4	37,0	0,6	DFR0302..
—	**DFR190R2WD32M**	19,00	.748	20,00	67,4	38,0	0,6	DFR0302..
—	**DFR195R2WD32M**	19,50	.768	20,50	68,4	39,0	0,6	DFR0302..
—	**DFR200R2WD32M**	20,00	.787	21,00	72,4	40,0	0,6	DFR0302..
—	**DFR205R2WD32M**	20,50	.807	21,50	73,6	41,0	0,8	DFR0403..
—	**DFR210R2WD32M**	21,00	.827	22,00	74,6	42,0	0,8	DFR0403..
—	**DFR220R2WD32M**	22,00	.866	23,00	76,6	44,0	0,8	DFR0403..
—	**DFR230R2WD32M**	23,00	.906	24,00	78,6	46,0	0,8	DFR0403..
—	**DFR240R2WD32M**	24,00	.945	25,00	80,6	48,0	0,8	DFR0403..

WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

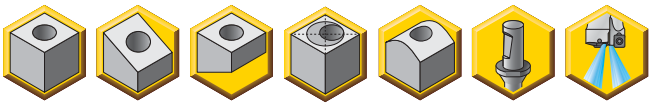


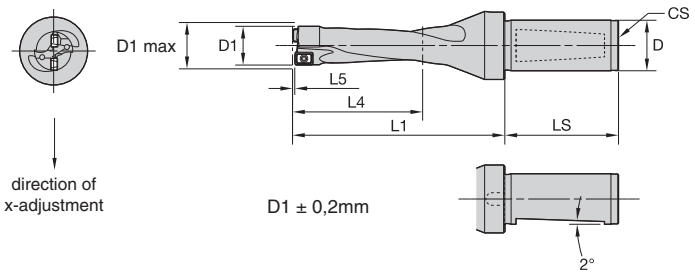


gage insert	insert screw	Torx wrench	Torx size
DFR0202..	**193.281**	**170.027**	6
DFR0302..	**192.416**	**170.023**	7
DFR0403..	**192.432**	**170.028**	8

D	LS	CS
20	45	R 1/8 BSP
32	58	R 1/4 BSP

- Drill shipped with insert screws and Torx wrench.
- See page J95 for inserts.







WN/WD Shank • 3 x D • Metric

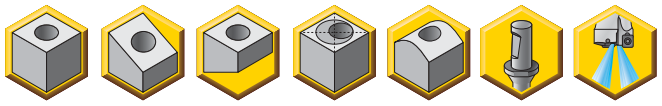
D			D1						gage insert
20	25	32	mm	in	D1 max	L1	L4 max	L5	
DFR125R3WD20M	**–**	**–**	12,50	.492	13,50	59,9	37,5	0,5	DFR0202..
DFR127R3WD20M	**–**	**–**	12,70	.500	13,70	60,5	38,1	0,5	DFR0202..
DFR130R3WD20M	**–**	**–**	13,00	.512	14,00	61,4	39,0	0,5	DFR0202..
DFR135R3WD20M	**–**	**–**	13,50	.532	14,50	62,9	40,5	0,5	DFR0202..
DFR140R3WD20M	**–**	**–**	14,00	.551	15,00	64,4	42,0	0,5	DFR0202..
DFR145R3WD20M	**–**	**–**	14,50	.571	15,50	67,9	43,5	0,5	DFR0202..
DFR150R3WD20M	**–**	**–**	15,00	.591	16,00	69,4	45,0	0,5	DFR0202..
DFR155R3WD20M	**–**	**–**	15,50	.610	16,50	70,9	46,5	0,5	DFR0202..
DFR160R3WD20M	**–**	**–**	16,00	.630	17,00	72,4	48,0	0,5	DFR0202..
–	**–**	**DFR165R3WD32M**	16,50	.650	17,50	78,9	49,5	0,6	DFR0302..
–	**–**	**DFR170R3WD32M**	17,00	.669	18,00	80,4	51,0	0,6	DFR0302..
–	**DFR175R3WD25M**	**DFR175R3WD32M**	17,50	.689	18,50	81,9	52,5	0,6	DFR0302..
–	**DFR180R3WD25M**	**DFR180R3WD32M**	18,00	.709	19,00	83,4	54,0	0,6	DFR0302..
–	**DFR185R3WD25M**	**DFR185R3WD32M**	18,50	.728	19,50	84,9	55,5	0,6	DFR0302..
–	**DFR190R3WD25M**	**DFR190R3WD32M**	19,00	.748	20,00	86,4	57,0	0,6	DFR0302..
–	**DFR195R3WD25M**	**DFR195R3WD32M**	19,50	.768	20,50	87,9	58,5	0,6	DFR0302..
–	**DFR200R3WD25M**	**DFR200R3WD32M**	20,00	.787	21,00	92,4	60,0	0,6	DFR0302..
–	**DFR205R3WD25M**	**DFR205R3WD32M**	20,50	.807	21,50	94,1	61,5	0,8	DFR0403..
–	**DFR210R3WD25M**	**DFR210R3WD32M**	21,00	.827	22,00	95,6	63,0	0,8	DFR0403..
–	**DFR220R3WD25M**	**DFR220R3WD32M**	22,00	.866	23,00	98,6	66,0	0,8	DFR0403..
–	**DFR230R3WD25M**	**DFR230R3WD32M**	23,00	.906	24,00	101,6	69,0	0,8	DFR0403..
–	**DFR240R3WD25M**	**DFR240R3WD32M**	24,00	.945	25,00	104,6	72,0	0,8	DFR0403..

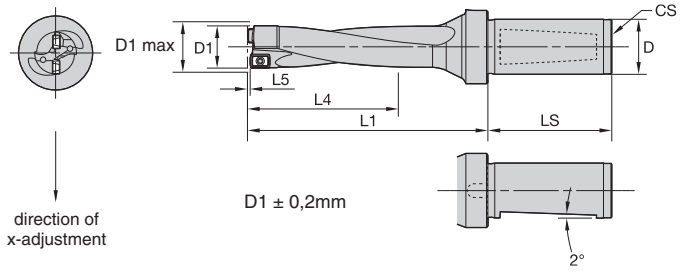
WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

gage insert	insert screw	Torx wrench	Torx size
DFR0202..	**193.281**	**170.027**	6
DFR0302..	**192.416**	**170.023**	7
DFR0403..	**192.432**	**170.028**	8

D	LS	CS
20	45	R 1/8 BSP
25	45	R 1/4 BSP
32	58	R 1/4 BSP

- Drill shipped with insert screws and Torx wrench.
- See page J95 for inserts.







WN/WD Shank • 4 x D • Metric

D		D1						gage
20	32	mm	in	D1 max	L1	L4 max	L5	insert
DFR125R4WD20M	–	12,50	.492	13,50	72,4	50,0	0,5	DFR0202..
DFR127R4WD20M	–	12,70	.500	13,70	73,2	50,8	0,5	DFR0202..
DFR130R4WD20M	–	13,00	.512	14,00	74,4	52,0	0,5	DFR0202..
DFR135R4WD20M	–	13,50	.532	14,50	76,4	54,0	0,5	DFR0202..
DFR140R4WD20M	–	14,00	.551	15,00	78,4	56,0	0,5	DFR0202..
DFR145R4WD20M	–	14,50	.571	15,50	82,4	58,0	0,5	DFR0202..
DFR150R4WD20M	–	15,00	.591	16,00	84,4	60,0	0,5	DFR0202..
DFR155R4WD20M	–	15,50	.610	16,50	86,4	62,0	0,5	DFR0202..
DFR160R4WD20M	–	16,00	.630	17,00	88,4	64,0	0,5	DFR0202..
–	**DFR165R4WD32M**	16,50	.650	17,50	95,4	66,0	0,6	DFR0302..
–	**DFR170R4WD32M**	17,00	.669	18,00	97,4	68,0	0,6	DFR0302..
–	**DFR175R4WD32M**	17,50	.689	18,50	99,4	70,0	0,6	DFR0302..
–	**DFR180R4WD32M**	18,00	.709	19,00	101,4	72,0	0,6	DFR0302..
–	**DFR185R4WD32M**	18,50	.728	19,50	103,4	74,0	0,6	DFR0302..
–	**DFR190R4WD32M**	19,00	.748	20,00	105,4	76,0	0,6	DFR0302..
–	**DFR195R4WD32M**	19,50	.768	20,50	107,4	78,0	0,6	DFR0302..
–	**DFR200R4WD32M**	20,00	.787	21,00	109,4	80,0	0,6	DFR0302..
–	**DFR205R4WD32M**	20,50	.807	21,50	111,6	82,0	0,8	DFR0403..
–	**DFR210R4WD32M**	21,00	.827	22,00	113,6	84,0	0,8	DFR0403..
–	**DFR220R4WD32M**	22,00	.866	23,00	117,6	88,0	0,8	DFR0403..
–	**DFR230R4WD32M**	23,00	.906	24,00	121,6	92,0	0,8	DFR0403..
–	**DFR240R4WD32M**	24,00	.945	25,00	125,6	96,0	0,8	DFR0403..

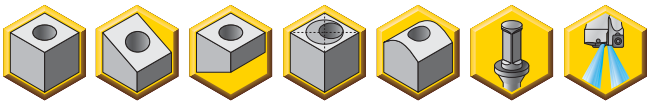
WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

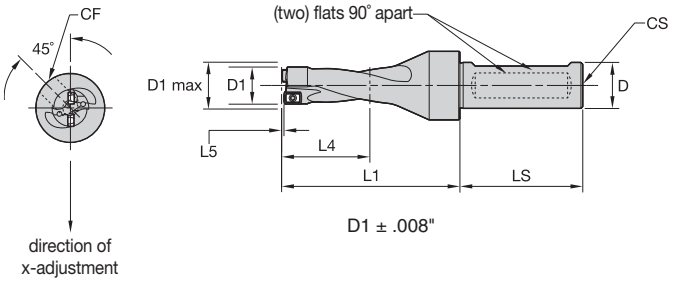


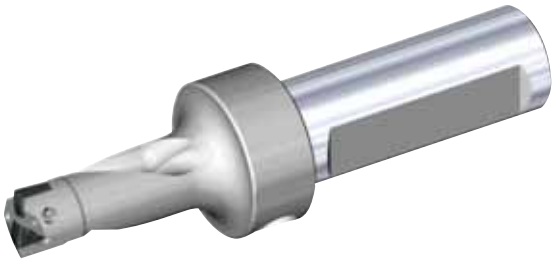

gage insert	insert screw	Torx wrench	Torx size
DFR0202..	**193.281**	**170.027**	6
DFR0302..	**192.416**	**170.023**	7
DFR0403..	**192.432**	**170.028**	8

D	LS	CS
20	45	R 1/8 BSP
32	58	R 1/4 BSP

- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- See page J95 for inserts.







Flange Shank • 2 x D • Inch

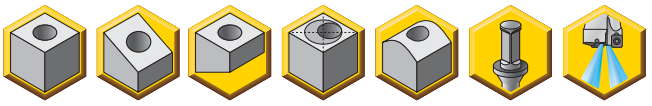
D		D1						gage
0.750	1.000	in	mm	D1 max	L1	L4 max	L5	insert
DFR0500R2SSF075	**–**	.500	12,70	.539	1.95	1.00	.02	DFR0202..
DFR0563R2SSF075	**–**	.563	14,30	.602	2.08	1.13	.02	DFR0202..
DFR0625R2SSF075	**–**	.625	15,88	.664	2.20	1.25	.02	DFR0202..
DFR0688R2SSF075	**–**	.688	17,48	.727	2.33	1.38	.02	DFR0302..
–	**DFR0750R2SSF100**	.750	19,05	.789	2.52	1.50	.02	DFR0302..
–	**DFR0813R2SSF100**	.813	20,65	.852	2.65	1.63	.03	DFR0403..
–	**DFR0875R2SSF100**	.875	22,23	.914	2.87	1.75	.03	DFR0403..
–	**DFR0938R2SSF100**	.938	23,83	.977	2.99	1.88	.03	DFR0403..
–	**DFR1000R2SSF100**	1.000	25,40	1.039	3.12	2.00	.03	DFR0403..

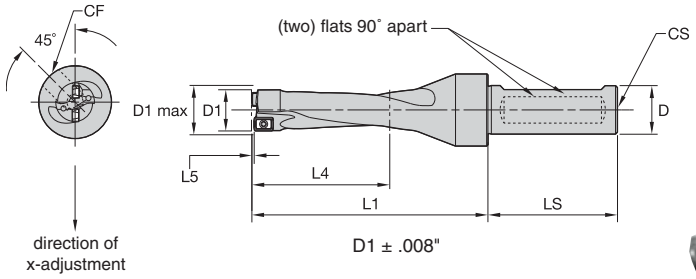
WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

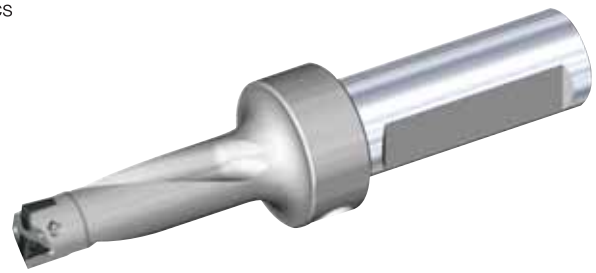
gage insert	insert screw	Torx wrench	Torx size
DFR0202..	**193.281**	**170.027**	6
DFR0302..	**192.416**	**170.023**	7
DFR0403..	**192.432**	**170.028**	8

D	LS	CF	CS	pipe plug
0.75	2.00	1/8-27 NPT	1/8-27 NPT	**HSFS0125**
1.00	3.00	1/8-27 NPT	1/4-18 NPT	**HSFS0125**

- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- See page J95 for inserts.







Flange Shank • 3 x D • Inch

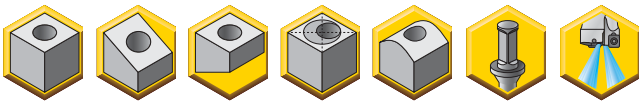
D			D1						gage
0.750	1.000	1.250	in	mm	D1 max	L1	L4 max	L5	insert
DFR0500R3SSF075	—	—	.500	12,70	.539	2.44	1.59	.02	DFR0202..
DFR0531R3SSF075	—	—	.531	13,49	.571	2.50	1.69	.02	DFR0202..
DFR0563R3SSF075	—	—	.563	14,30	.602	2.64	1.69	.02	DFR0202..
DFR0594R3SSF075	—	—	.594	15,09	.633	2.70	1.78	.02	DFR0202..
DFR0625R3SSF075	**DFR0625R3SSF100**	—	.625	15,88	.664	2.83	1.88	.02	DFR0202..
DFR0656R3SSF075	**DFR0656R3SSF100**	—	.656	16,66	.695	2.92	1.97	.02	DFR0302..
DFR0688R3SSF075	**DFR0688R3SSF100**	—	.688	17,48	.727	3.02	2.06	.02	DFR0302..
DFR0703R3SSF075	**DFR0703R3SSF100**	—	.703	17,86	.742	3.13	2.11	.02	DFR0302..
DFR0734R3SSF075	**DFR0734R3SSF100**	—	.734	18,64	.773	3.22	2.20	.02	DFR0302..
DFR0750R3SSF075	**DFR0750R3SSF100**	—	.750	19,05	.789	3.27	2.25	.02	DFR0302..
DFR0781R3SSF075	**DFR0781R3SSF100**	—	.781	19,84	.820	3.36	2.34	.02	DFR0302..
DFR0813R3SSF075	**DFR0813R3SSF100**	—	.813	20,65	.852	3.46	2.44	.03	DFR0403..
DFR0844R3SSF075	**DFR0844R3SSF100**	—	.844	21,44	.883	3.65	2.53	.03	DFR0403..
DFR0875R3SSF075	**DFR0875R3SSF100**	—	.875	22,23	.914	3.74	2.63	.03	DFR0403..
—	**DFR0906R3SSF100**	—	.906	23,01	.945	3.83	2.72	.03	DFR0403..
—	**DFR0938R3SSF100**	—	.938	23,83	.977	3.93	2.81	.03	DFR0403..
—	**DFR0969R3SSF100**	—	.969	24,61	1.008	4.02	2.91	.03	DFR0403..
—	**DFR0984R3SSF100**	—	.984	24,99	1.023	4.07	2.95	.03	DFR0403..
—	**DFR1000R3SSF100**	**DFR1000R3SSF125**	1.000	25,40	1.039	4.12	3.00	.03	DFR0403..

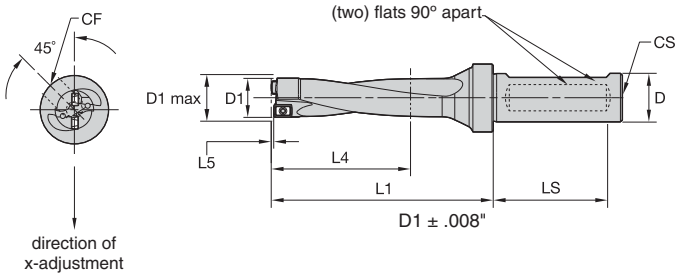
WARNING
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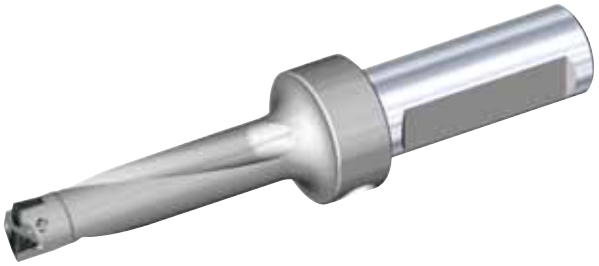
gage insert	insert screw	Torx wrench	Torx size
DFR0202..	**193.281**	**170.027**	6
DFR0302..	**192.416**	**170.023**	7
DFR0403..	**192.432**	**170.028**	8

D	LS	CF	CS	pipe plug
0.75	2.00	1/8-27 NPT	1/8-27 NPT	**HSFS0125**
1.00	3.00	1/8-27 NPT	1/4-18 NPT	**HSFS0125**
1.25	3.25	1/8-27 NPT	1/4-18 NPT	**HSFS0125**

- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- See page J95 for inserts.







Flange Shank • 4 x D • Inch

D			D1						gage
0.750	1.000	1.250	in	mm	D1 max	L1	L4 max	L5	insert
DFR0500R4SSF075	**–**	**–**	.500	12,70	.540	2.95	2.00	.02	DFR0202..
DFR0531R4SSF075	**–**	**–**	.531	13,49	.571	3.05	2.12	.02	DFR0202..
DFR0563R4SSF075	**–**	**–**	.563	14,30	.603	3.21	2.25	.02	DFR0202..
DFR0594R4SSF075	**–**	**–**	.594	15,09	.633	3.30	2.38	.02	DFR0202..
DFR0625R4SSF075	**DFR0625R4SSF100**	**–**	.625	15,88	.664	3.45	2.50	.02	DFR0202..
–	**DFR0656R4SSF100**	**–**	.656	16,66	.695	3.58	2.62	.02	DFR0302..
–	**DFR0688R4SSF100**	**–**	.688	17,48	.727	3.71	2.75	.02	DFR0302..
–	**DFR0703R4SSF100**	**–**	.703	17,86	.742	3.83	2.81	.02	DFR0302..
–	**DFR0734R4SSF100**	**–**	.734	18,64	.773	3.95	2.94	.02	DFR0302..
–	**DFR0750R4SSF100**	**–**	.750	19,05	.789	4.02	3.00	.02	DFR0302..
–	**DFR0781R4SSF100**	**–**	.781	19,84	.820	4.14	3.12	.02	DFR0302..
–	**DFR0813R4SSF100**	**–**	.813	20,65	.852	4.27	3.25	.03	DFR0403..
–	**DFR0844R4SSF100**	**–**	.844	21,44	.883	4.49	3.38	.03	DFR0403..
–	**DFR0875R4SSF100**	**–**	.875	22,23	.914	4.62	3.50	.03	DFR0403..
–	**DFR0906R4SSF100**	**–**	.906	23,01	.945	4.74	3.62	.03	DFR0403..
–	**DFR0938R4SSF100**	**–**	.938	23,83	.977	4.87	3.75	.03	DFR0403..
–	**DFR0969R4SSF100**	**–**	.969	24,61	1.008	4.99	3.88	.03	DFR0403..
–	**DFR0984R4SSF100**	**–**	.984	24,99	1.023	5.05	3.84	.03	DFR0403..
–	**DFR1000R4SSF100**	**DFR1000R4SSF125**	1.000	25,40	1.039	5.12	4.00	.03	DFR0403..

WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

gage insert	insert screw	Torx wrench	Torx size
DFR0202..	**193.281**	**170.027**	6
DFR0302..	**192.416**	**170.023**	7
DFR0403..	**192.432**	**170.028**	8

D	LS	CF	CS	pipe plug
0.75	2.00	1/8-27 NPT	1/8-27 NPT	**HSFS0125**
1.00	3.00	1/8-27 NPT	1/4-18 NPT	**HSFS0125**
1.25	3.25	1/8-27 NPT	1/4-18 NPT	**HSFS0125**

DFR™ • Metric

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric			
									Recommended Feed Rate (f) by Diameter			
						min	Starting Value	max	Ø (mm)	DFR02... 12,50-16,00	DFR03... 16,50-20,00	DFR04 20,50-24,00
P	1	S	O	MD	KCU25	310	**325**	360	mm/r	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25
			I	MD	KC7140							
		U	O	MD	KCU40	200	**215**	230	mm/r	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25
			I	MD	KC7140							
		I	O	MD	KC7140	130	**135**	150	mm/r	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25
			I	MD	KC7140							
	2	S	O	GD	KCPK10	310	**325**	360	mm/r	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25
			I	LD	KC7140							
		U	O	GD	KCU40	200	**215**	230	mm/r	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25
			I	LD	KC7140							
		I	O	MD	KC7140	130	**135**	150	mm/r	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25
			I	LD	KC7140							
	3	S	O	GD	KCPK10	260	**285**	320	mm/r	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25
			I	LD	KC7140							
		U	O	GD	KCU40	180	**195**	220	mm/r	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25
			I	LD	KC7140							
		I	O	GD	KC7140	110	**120**	140	mm/r	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25
			I	LD	KC7140							
	4	S	O	GD	KCU25	220	**250**	300	mm/r	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25
			I	LD	KC7140							
		U	O	GD	KCU40	150	**180**	220	mm/r	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25
			I	LD	KC7140							
		I	O	GD	KC7140	90	**110**	140	mm/r	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25
			I	LD	KC7140							
	5	S	O	GD	KCU25	180	**200**	220	mm/r	0,07 - 0,13	0,09 - 0,15	0,11 - 0,18
			I	LD	KC7140							
		U	O	GD	KCU40	120	**135**	150	mm/r	0,07 - 0,13	0,09 - 0,15	0,11 - 0,18
			I	LD	KC7140							
		I	O	GD	KC7140	70	**85**	100	mm/r	0,07 - 0,13	0,09 - 0,15	0,11 - 0,18
			I	LD	KC7140							
	6	S	O	GD	KCU25	180	**200**	220	mm/r	0,07 - 0,13	0,09 - 0,15	0,11 - 0,18
			I	LD	KC7140							
		U	O	GD	KCU40	120	**135**	150	mm/r	0,07 - 0,13	0,09 - 0,15	0,11 - 0,18
			I	LD	KC7140							
		I	O	GD	KC7140	70	**85**	100	mm/r	0,07 - 0,13	0,09 - 0,15	0,11 - 0,18
			I	LD	KC7140							
M	1	S	O	MD	KC7140	150	**190**	230	mm/r	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18
			I	MD	KC7140							
		U	O	MD	KC7140	100	**130**	160	mm/r	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18
			I	MD	KC7140							
		I	O	MD	KC7140	60	**80**	100	mm/r	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18
			I	MD	KC7140							
	2	S	O	MD	KC7140	150	**180**	210	mm/r	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18
			I	MD	KC7140							
		U	O	MD	KC7140	100	**130**	160	mm/r	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18
			I	MD	KC7140							
		I	O	MD	KC7140	60	**80**	100	mm/r	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18
			I	MD	KC7140							
	3	S	O	MD	KC7140	100	**130**	160	mm/r	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18
			I	MD	KC7140							
		U	O	MD	KC7140	80	**110**	140	mm/r	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18
			I	MD	KC7140							
		I	O	MD	KC7140	50	**70**	90	mm/r	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18
			I	MD	KC7140							

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

DFR™ • Metric

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric			
									Recommended Feed Rate (f) by Diameter			
						min	Starting Value	max	Ø (mm)	DFR02... 12,50-16,00	DFR03... 16,50-20,00	DFR04 20,50-24,00
K	1	S	O	GD	KCPK10	200	**240**	300	mm/r	0,10 - 0,18	0,12 - 0,20	0,14 - 0,24
			I	LD	KCU40							
		U	O	GD	KCU25	120	**155**	200	mm/r	0,10 - 0,18	0,12 - 0,20	0,14 - 0,24
			I	LD	KC7140							
		I	O	GD	KCU40	80	**100**	125	mm/r	0,10 - 0,18	0,12 - 0,20	0,14 - 0,24
			I	LD	KC7140							
	2	S	O	GD	KCPK10	180	**220**	260	mm/r	0,10 - 0,18	0,12 - 0,20	0,14 - 0,24
			I	LD	KCU40							
		U	O	GD	KCU25	110	**140**	170	mm/r	0,10 - 0,18	0,12 - 0,20	0,14 - 0,24
			I	LD	KC7140							
		I	O	GD	KCU40	80	**100**	120	mm/r	0,10 - 0,18	0,12 - 0,20	0,14 - 0,24
			I	LD	KC7140							
	3	S	O	GD	KCPK10	180	**220**	260	mm/r	0,10 - 0,18	0,12 - 0,20	0,14 - 0,24
			I	LD	KCU40							
		U	O	GD	KCU25	110	**140**	170	mm/r	0,10 - 0,18	0,12 - 0,20	0,14 - 0,24
			I	LD	KC7140							
		I	O	GD	KCU40	80	**100**	120	mm/r	0,10 - 0,18	0,12 - 0,20	0,14 - 0,24
			I	LD	KC7140							
N	1	S	O	ST	KD1425	400	**600**	800	mm/r	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16
			I	ST	KD1425							
		U	O	LD	KCU40	300	**400**	500	mm/r	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16
			I	LD	KCU40							
		I	O	LD	KCU40	200	**300**	400	mm/r	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16
			I	LD	KCU40							
	2	S	O	ST	KD1425	375	**550**	775	mm/r	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16
			I	ST	KD1425							
		U	O	LD	KCU40	250	**350**	450	mm/r	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16
			I	LD	KCU40							
		I	O	LD	KCU40	175	**250**	325	mm/r	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16
			I	LD	KCU40							
	3	S	O	ST	KD1425	350	**500**	650	mm/r	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16
			I	ST	KD1425							
		U	O	LD	KCU40	250	**350**	450	mm/r	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16
			I	LD	KCU40							
		I	O	LD	KCU40	150	**250**	350	mm/r	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16
			I	LD	KCU40							
	4	S	O	ST	KD1425	400	**600**	800	mm/r	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16
			I	ST	KD1425							
		U	O	LD	KCU40	250	**350**	450	mm/r	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16
			I	LD	KCU40							
		I	O	LD	KCU40	200	**300**	400	mm/r	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16
			I	LD	KCU40							
	5	S	O	ST	KD1425	400	**600**	800	mm/r	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16
			I	ST	KD1425							
		U	O	HP	KCU40	250	**350**	450	mm/r	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16
			I	HP	KCU40							
		I	O	HP	KMF	200	**300**	400	mm/r	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16
			I	HP	KMF							
S	1	S	O	GD	KCU40	60	**70**	75	mm/r	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10
			I	LD	KCU40							
		U	O	GD	KCU40	40	**50**	60	mm/r	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10
			I	LD	KC7140							
		I	O	MD	KC7140	25	**30**	40	mm/r	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10
			I	MD	KC7140							
	2	S	O	GD	KCU40	50	**60**	70	mm/r	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10
			I	LD	KCU40							
		U	O	GD	KCU40	30	**40**	50	mm/r	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10
			I	LD	KC7140							
		I	O	MD	KC7140	25	**30**	40	mm/r	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10
			I	MD	KC7140							
	3	S	O	GD	KCU40	70	**80**	90	mm/r	0,05 - 0,08	0,06 - 0,10	0,06 - 0,10
			I	LD	KCU40							
		U	O	GD	KCU40	50	**60**	70	mm/r	0,05 - 0,08	0,06 - 0,10	0,06 - 0,10
			I	LD	KC7140							
		I	O	MD	KC7140	30	**40**	50	mm/r	0,05 - 0,08	0,06 - 0,10	0,06 - 0,10
			I	MD	KC7140							
	4	S	O	GD	KCU40	70	**80**	90	mm/r	0,05 - 0,08	0,06 - 0,10	0,06 - 0,10
			I	LD	KCU40							
		U	O	GD	KCU40	50	**60**	70	mm/r	0,05 - 0,08	0,06 - 0,10	0,06 - 0,10
			I	LD	KC7140							
		I	O	MD	KC7140	30	**40**	50	mm/r	0,05 - 0,08	0,06 - 0,10	0,06 - 0,10
			I	MD	KC7140							

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

DFR™ • Inch

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — SFM			Inch			
									Recommended Feed Rate (f) by Diameter			
						min	Starting Value	max	Ø (in)	DFR02... .500-.625	DFR03... .688-.750	DFR04... .813-1.00
P	1	S	O	MD	KCU25	1017	**1066**	1181	IPR	.004 - .006	.004 - .007	.006 - .010
			I	MD	KC7140							
		U	O	MD	KCU40	656	**705**	754	IPR	.004 - .006	.004 - .007	.006 - .010
			I	MD	KC7140							
		I	O	MD	KC7140	426	**443**	492	IPR	.004 - .006	.004 - .007	.006 - .010
			I	MD	KC7140							
	2	S	O	GD	KCPK10	1017	**1066**	979	IPR	.004 - .006	.004 - .007	.006 - .010
			I	LD	KC7140							
		U	O	GD	KCU40	656	**705**	754	IPR	.004 - .006	.004 - .007	.006 - .010
			I	LD	KC7140							
		I	O	MD	KC7140	426	**443**	492	IPR	.004 - .006	.004 - .007	.006 - .010
			I	LD	KC7140							
	3	S	O	GD	KCPK10	853	**935**	1050	IPR	.004 - .006	.004 - .007	.006 - .010
			I	LD	KC7140							
		U	O	GD	KCU40	590	**640**	722	IPR	.004 - .006	.004 - .007	.006 - .010
			I	LD	KC7140							
		I	O	GD	KC7140	361	**394**	459	IPR	.004 - .006	.004 - .007	.006 - .010
			I	LD	KC7140							
	4	S	O	GD	KCU25	722	**820**	984	IPR	.004 - .006	.004 - .007	.006 - .010
			I	LD	KC7140							
		U	O	GD	KCU40	492	**590**	722	IPR	.004 - .006	.004 - .007	.006 - .010
			I	LD	KC7140							
		I	O	GD	KC7140	295	**361**	459	IPR	.004 - .006	.004 - .007	.006 - .010
			I	LD	KC7140							
	5	S	O	GD	KCU25	590	**656**	722	IPR	.003 - .005	.004 - .006	.004 - .007
			I	LD	KC7140							
		U	O	GD	KCU40	394	**443**	492	IPR	.003 - .005	.004 - .006	.004 - .007
			I	LD	KC7140							
		I	O	GD	KC7140	230	**279**	328	IPR	.003 - .005	.004 - .006	.004 - .007
			I	LD	KC7140							
	6	S	O	GD	KCU25	590	**656**	722	IPR	.004 - .006	.004 - .007	.006 - .010
			I	LD	KC7140							
		U	O	GD	KCU40	394	**443**	492	IPR	.004 - .006	.004 - .007	.006 - .010
			I	LD	KC7140							
		I	O	GD	KC7140	230	**279**	328	IPR	.004 - .006	.004 - .007	.006 - .010
			I	LD	KC7140							
M	1	S	O	MD	KC7140	492	**623**	754	IPR	.003 - .005	.003 - .006	.004 - .007
			I	MD	KC7140							
		U	O	MD	KC7140	328	**426**	525	IPR	.003 - .005	.003 - .006	.004 - .007
			I	MD	KC7140							
		I	O	MD	KC7140	197	**262**	328	IPR	.003 - .005	.003 - .006	.004 - .007
			I	MD	KC7140							
	2	S	O	MD	KC7140	492	**590**	689	IPR	.003 - .005	.003 - .006	.004 - .007
			I	MD	KC7140							
		U	O	MD	KC7140	328	**426**	525	IPR	.003 - .005	.003 - .006	.004 - .007
			I	MD	KC7140							
		I	O	MD	KC7140	197	**262**	328	IPR	.003 - .005	.003 - .006	.004 - .007
			I	MD	KC7140							
	3	S	O	MD	KC7140	328	**426**	525	IPR	.003 - .005	.003 - .006	.004 - .007
			I	MD	KC7140							
		U	O	MD	KC7140	262	**361**	459	IPR	.003 - .005	.003 - .006	.004 - .007
			I	MD	KC7140							
		I	O	MD	KC7140	164	**230**	295	IPR	.003 - .005	.003 - .006	.004 - .007
			I	MD	KC7140							

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

DFR™ • Inch

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — SFM			Inch			
									Recommended Feed Rate (f) by Diameter			
						min	Starting Value	max	Ø (in)	DFR02... .500-.625	DFR03... .688-.750	DFR04... .813-1.00
K	1	S	O	GD	KCPK10	656	**787**	984	IPR	.004 - .007	.005 - .008	.006 - .009
			I	LD	KCU40							
		U	O	GD	KCU25	394	**508**	656	IPR	.004 - .007	.005 - .008	.006 - .009
			I	LD	KCU40							
		I	O	GD	KCU40	262	**328**	410	IPR	.004 - .007	.005 - .008	.005 - .009
			I	LD	KC7140							
	2	S	O	GD	KCPK10	590	**722**	853	IPR	.004 - .007	.005 - .008	.006 - .009
			I	LD	KCU40							
		U	O	GD	KCU25	361	**459**	558	IPR	.004 - .007	.005 - .008	.005 - .009
			I	LD	KCU40							
		I	O	GD	KCU40	262	**328**	394	IPR	.004 - .007	.005 - .008	.006 - .009
			I	LD	KC7140							
	3	S	O	GD	KCPK10	590	**722**	853	IPR	.004 - .007	.005 - .008	.005 - .009
			I	LD	KCU40							
		U	O	GD	KCU25	361	**459**	558	IPR	.004 - .007	.005 - .008	.006 - .009
			I	LD	KC7140							
		I	O	GD	KCU40	262	**328**	394	IPR	.004 - .007	.005 - .008	.005 - .009
			I	LD	KC7140							
N	1	S	O	ST	KD1425	1312	**1968**	2624	IPR	.003 - .004	.004 - .006	.005 - .006
			I	ST	KD1425							
		U	O	LD	KCU40	984	**1312**	1640	IPR	.003 - .004	.004 - .006	.005 - .006
			I	LD	KCU40							
		I	O	LD	KCU40	656	**984**	1312	IPR	.003 - .004	.004 - .006	.005 - .006
			I	LD	KCU40							
	2	S	O	ST	KD1425	1230	**1804**	2542	IPR	.003 - .004	.004 - .006	.005 - .006
			I	ST	KD1425							
		U	O	LD	KCU40	820	**1148**	1476	IPR	.003 - .004	.004 - .006	.005 - .006
			I	LD	KCU40							
		I	O	LD	KCU40	574	**820**	1066	IPR	.003 - .004	.004 - .006	.005 - .006
			I	LD	KCU40							
	3	S	O	ST	KD1425	1148	**1640**	2132	IPR	.003 - .004	.004 - .006	.005 - .006
			I	ST	KD1425							
		U	O	LD	KCU40	820	**1148**	1476	IPR	.003 - .004	.004 - .006	.005 - .006
			I	LD	KCU40							
		I	O	LD	KCU40	492	**820**	1148	IPR	.003 - .004	.004 - .006	.005 - .006
			I	LD	KCU40							
	4	S	O	ST	KD1425	1312	**1968**	2624	IPR	.003 - .004	.004 - .006	.005 - .006
			I	ST	KD1425							
		U	O	LD	KCU40	820	**1148**	1476	IPR	.003 - .004	.004 - .006	.005 - .006
			I	LD	KCU40							
		I	O	LD	KCU40	656	**984**	1312	IPR	.003 - .004	.004 - .006	.005 - .006
			I	LD	KCU40							
S	1	S	O	GD	KCU40	197	**230**	246	IPR	.002 - .002	.002 - .003	.002 - .004
			I	LD	KCU40							
		U	O	GD	KCU40	131	**164**	197	IPR	.002 - .002	.002 - .003	.002 - .004
			I	LD	KC7140							
		I	O	MD	KC7140	82	**98**	131	IPR	.002 - .002	.002 - .003	.002 - .004
			I	MD	KC7140							
	2	S	O	GD	KCU40	164	**197**	230	IPR	.002 - .002	.002 - .003	.002 - .004
			I	LD	KCU40							
		U	O	GD	KCU40	98	**131**	164	IPR	.002 - .002	.002 - .003	.002 - .004
			I	LD	KC7140							
		I	O	MD	KC7140	82	**98**	131	IPR	.002 - .002	.002 - .003	.002 - .004
			I	MD	KC7140							
	3	S	O	GD	KCU40	230	**262**	295	IPR	.002 - .004	.002 - .003	.002 - .004
			I	LD	KCU40							
		U	O	GD	KCU40	164	**197**	230	IPR	.002 - .003	.002 - .004	.002 - .004
			I	LD	KC7140							
		I	O	MD	KC7140	98	**131**	164	IPR	.002 - .003	.002 - .004	.002 - .004
			I	MD	KC7140							
	4	S	O	GD	KCU40	230	**262**	295	IPR	.002 - .003	.002 - .004	.002 - .004
			I	LD	KCU40							
		U	O	GD	KCU40	164	**197**	230	IPR	.002 - .003	.002 - .004	.002 - .004
			I	LD	KC7140							
		I	O	MD	KC7140	98	**131**	164	IPR	.002 - .003	.002 - .004	.002 - .004
			I	MD	KC7140							

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions; Pocket seat: I = Inboard insert; O = Outboard insert



Drill Fix™ DFS™

Drill Fix DFS combines the economical squared outboard insert with the superior centering capabilities of the trigon inboard insert. The DFS indexable drills offer increased metal removal rates combined with high surface quality and hole straightness.

Available in a diameter range of 24–48mm (1–2.5"), the Drill Fix DFS provides the highest cutting data capabilities, even under difficult conditions, offering long tool body life and excellent chip evacuation. DFS indexable drills are now available as standard up to 5 x D supplementing the portfolio of 2 x D, 3 x D, and 4 x D.

Boost your productivity even further and achieve outstanding results in steel, stainless steel, and cast iron with the new Beyond™ DFS outboard inserts in KCPK10™, KCU25™, and KCU40™.

Features and Benefits

Higher Productivity and Profitability

- Achieve highest metal removal rates and excellent chip evacuation due to advanced chip flutes and non-central and increased cooling channels.
- Make use of squared outboard inserts that offer four economic cutting edges where needed.
- Benefit from a complete product portfolio offering standard L/D ratios up to 5 x D.

Versatility

- Drill holes up to 5 x D in steel, cast iron, ductile iron, stainless steel, and non-ferrous materials.
- Use where speed and economy are prime considerations.
- Apply DFS drills to straight holes, inclined entries and exits, interrupted cuts, and rough or welded entry surfaces.
- Use X-offset on turning machines to adjust the drill diameter, eliminating the need for specials in many applications and on machining centers to reach tolerance optimization.
- Eccentric chuck available as standard.

Reliability

- Benefit from high accuracy holes independently from feed rates applied.
- Gain outstanding results by applying the Beyond DFS inserts.
- High wear resistance at interrupted cuts due to squared outboard insert.

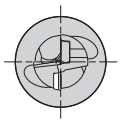
Customization

- Intermediate diameters, multistep drills, and other non-standard shanks are available.
- Smaller and larger diameters available.

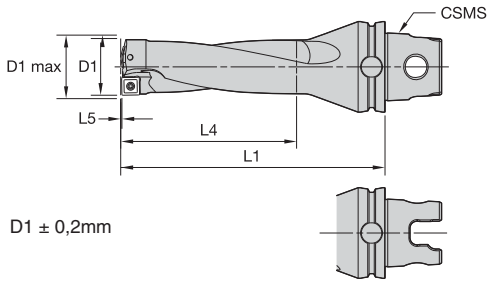


- Drill shipped with insert screws and Torx wrench.
- See pages J100–J103 for inserts.





direction of
X-adjustment



D1 ± 0,2mm



KM40TS, KM50TS, KM63TS, and KM63XMZ Shanks • 3 x D • Metric

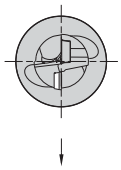
KM40TS	KM50TS	KM63TS	KM63XMZ	D1 mm	D1 in	D1 max	L1	L4 max	gage insert outside	gage insert inside
KM40TSDFS250R3M	**KM50TSDFS250R3M**	**KM63TSDFS250R3M**	**KM63XMZDFS250R3YM**	25,00	.984	26,00	119,0	75,0	SPGX0703..	DFT05T3..
KM40TSDFS270R3M	**KM50TSDFS270R3M**	**KM63TSDFS270R3M**	**KM63XMZDFS270R3YM**	27,00	1.063	28,00	126,0	81,0	SPPX09T3..	DFT05T3..
KM40TSDFS290R3M	**KM50TSDFS290R3M**	**KM63TSDFS290R3M**	**KM63XMZDFS290R3YM**	29,00	1.142	30,00	133,0	87,0	SPPX09T3..	DFT05T3..
KM40TSDFS310R3M	**KM50TSDFS310R3M**	**KM63TSDFS310R3M**	**KM63XMZDFS310R3YM**	31,00	1.221	32,00	140,0	93,0	SPPX09T3..	DFT05T3..
–	**KM50TSDFS330R3M**	**KM63TSDFS330R3M**	**KM63XMZDFS330R3YM**	33,00	1.299	34,00	147,0	99,0	SPPX1204..	DFT06T3..
–	**KM50TSDFS350R3M**	**KM63TSDFS350R3M**	**KM63XMZDFS350R3YM**	35,00	1.378	36,00	154,0	105,0	SPPX1204..	DFT06T3..
–	**KM50TSDFS380R3M**	**KM63TSDFS380R3M**	**KM63XMZDFS380R3YM**	38,00	1.496	39,00	164,0	114,0	SPPX1204..	DFT06T3..
–	–	**KM63TSDFS410R3M**	**KM63XMZDFS410R3YM**	41,00	1.614	42,00	175,0	123,0	SPPX1204..	DFT0704..
–	–	**KM63TSDFS440R3M**	**KM63XMZDFS440R3YM**	44,00	1.732	45,00	185,0	132,0	SPPX15T5..	DFT0704..
–	–	**KM63TSDFS470R3M**	**KM63XMZDFS470R3YM**	47,00	1.850	48,00	196,0	141,0	SPPX15T5..	DFT0704..

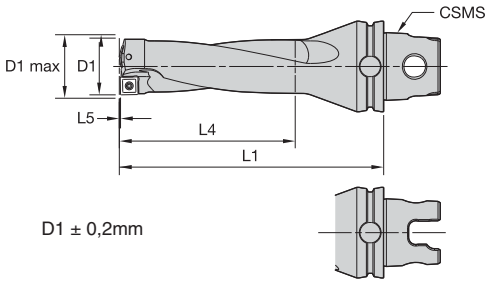
WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

D1 mm	 inboard insert screw	 outboard insert screw	 Torx wrench	Torx size
24–25,9	**193.491**	**192.432**	**170.028**	8
26–32,9	**191.924**	**191.924**	**170.024**	9
33–43,9	**191.916**	**191.916**	**170.025**	15
44–49,9	**191.698**	**192.433**	**170.025**	15
50–56	**192.433**	**192.433**	**170.025**	15

- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- See pages J100–J103 for inserts.









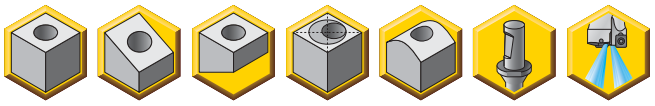
KM40TS, KM50TS, KM63TS, and KM63XMZ Shanks • 3 x D • Inch

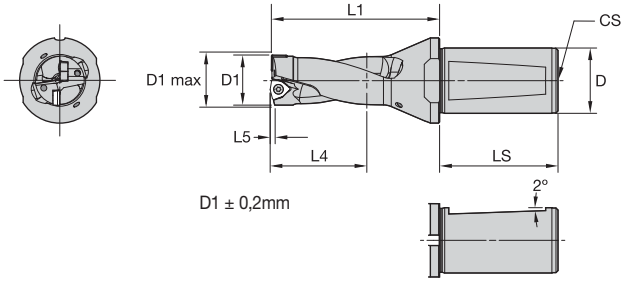
KM40TS	KM50TS	KM63TS	KM63XMZ	D1 in	D1 mm	D1 max	L4 L1	L4 max	L4 L5	gage insert outside	gage insert inside
KM40TSDFS1000R3	**KM50TSDFS1000R3**	**KM63TSDFS1000R3**	**KM63XMZDFS1000R3Y**	1.000	25,40	1.040	4.75	3.00	.02	SPGX0703..	DFT05T3..
KM40TSDFS1125R3	**KM50TSDFS1125R3**	**KM63TSDFS1125R3**	**KM63XMZDFS1125R3Y**	1.125	28,58	1.165	5.25	3.38	.03	SPPX09T3..	DFT05T3..
KM40TSDFS1250R3	**KM50TSDFS1250R3**	**KM63TSDFS1250R3**	**KM63XMZDFS1250R3Y**	1.250	31,75	1.290	5.63	3.75	.03	SPPX09T3..	DFT05T3..
–	**KM50TSDFS1313R3**	**KM63TSDFS1313R3**	**KM63XMZDFS1313R3Y**	1.313	33,35	1.353	5.94	3.94	.03	SPPX1204..	DFT06T3..
–	**KM50TSDFS1375R3**	**KM63TSDFS1375R3**	**KM63XMZDFS1375R3Y**	1.375	34,93	1.415	6.13	4.13	.03	SPPX1204..	DFT06T3..
–	**KM50TSDFS1438R3**	**KM63TSDFS1438R3**	**KM63XMZDFS1438R3Y**	1.438	36,53	1.478	6.31	4.31	.04	SPPX1204..	DFT06T3..
–	**KM50TSDFS1500R3**	**KM63TSDFS1500R3**	**KM63XMZDFS1500R3Y**	1.500	38,10	1.540	6.50	4.50	.04	SPPX1204..	DFT06T3..
–	**KM50TSDFS1563R3**	**KM63TSDFS1563R3**	**KM63XMZDFS1563R3Y**	1.563	39,70	1.603	6.81	4.69	.04	SPPX1204..	DFT06T3..
–	–	**KM63TSDFS1625R3**	**KM63XMZDFS1625R3Y**	1.625	41,28	1.665	7.00	4.88	.04	SPPX1204..	DFT0704..
–	–	**KM63TSDFS1688R3**	**KM63XMZDFS1688R3Y**	1.688	42,88	1.728	7.19	5.06	.04	SPPX1204..	DFT0704..
–	–	**KM63TSDFS1750R3**	**KM63XMZDFS1750R3Y**	1.750	44,45	1.790	7.38	5.25	.04	SPPX15T5..	DFT0704..
–	–	**KM63TSDFS1875R3**	**KM63XMZDFS1875R3Y**	1.875	47,63	1.915	7.88	5.63	.05	SPPX15T5..	DFT0704..

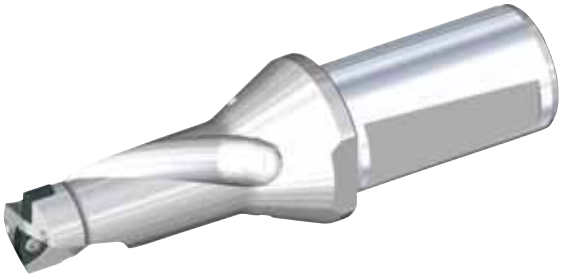
WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

D1 in	 inboard insert screw	 outboard insert screw	 Torx wrench	Torx size
1–1.030	**193.491**	**192.432**	**170.028**	8
1.031–1.312	**191.924**	**191.924**	**170.024**	9
1.313–1.749	**191.916**	**191.916**	**170.025**	15
1.750–1.937	**191.698**	**192.433**	**170.025**	15
1.938–2.156	**192.433**	**192.433**	**170.025**	15

- Drill shipped with insert screws and Torx wrench.
- See pages J100–J103 for inserts.







WN/WD Shank • 2 x D • Metric

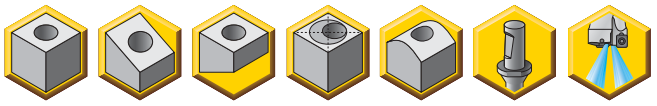
D 32	D 40	D 50	D1 mm	D1 in	D1 max	L4 max	L1	L5	gage insert outside	gage insert inside
DFS240R2WD32M	–	–	24,00	.945	25,00	48,0	80,0	0,5	SPGX0703..	DFT05T3..
DFS250R2WD32M	–	–	25,00	.984	26,00	50,0	83,0	0,6	SPGX0703..	DFT05T3..
DFS310R2WD32M	–	–	25,00	.984	26,00	50,0	83,0	0,6	SPPX09T3..	DFT05T3..
DFS260R2WD32M	–	–	26,00	1.024	27,00	52,0	86,0	0,6	SPPX09T3..	DFT05T3..
DFS270R2WD32M	–	–	27,00	1.063	28,00	54,0	89,0	0,7	SPPX09T3..	DFT05T3..
DFS280R2WD32M	–	–	28,00	1.102	29,00	56,0	91,0	0,7	SPPX09T3..	DFT05T3..
DFS290R2WD32M	–	–	29,00	1.142	30,00	58,0	94,0	0,8	SPPX09T3..	DFT05T3..
DFS300R2WD32M	–	–	30,00	1.181	31,00	60,0	97,0	0,8	SPPX09T3..	DFT05T3..
DFS320R2WD32M	–	–	32,00	1.260	33,00	64,0	103,0	0,9	SPPX09T3..	DFT05T3..
DFS330R2WD32M	–	–	33,00	1.299	34,00	66,0	105,0	0,8	SPPX1204..	DFT06T3..
DFS340R2WD32M	–	–	34,00	1.339	35,00	68,0	108,0	0,8	SPPX1204..	DFT06T3..
DFS350R2WD32M	–	–	35,00	1.378	36,00	70,0	111,0	0,9	SPPX1204..	DFT06T3..
DFS360R2WD32M	–	–	36,00	1.417	37,00	72,0	114,0	0,9	SPPX1204..	DFT06T3..
DFS370R2WD32M	–	–	37,00	1.457	38,00	74,0	117,0	0,9	SPPX1204..	DFT06T3..
DFS380R2WD32M	–	–	38,00	1.496	39,00	76,0	119,0	1,0	SPPX1204..	DFT06T3..
DFS390R2WD32M	–	–	39,00	1.535	40,00	78,0	122,0	1,0	SPPX1204..	DFT06T3..
DFS400R2WD32M	–	–	40,00	1.575	41,00	80,0	125,0	1,0	SPPX1204..	DFT06T3..
DFS410R2WD32M	–	–	41,00	1.614	42,00	82,0	128,0	1,0	SPPX1204..	DFT0704..
DFS420R2WD32M	–	–	42,00	1.654	43,00	84,0	131,0	1,1	SPPX1204..	DFT0704..
DFS430R2WD32M	–	–	43,00	1.693	44,00	86,0	133,0	1,1	SPPX1204..	DFT0704..
DFS440R2WD32M	–	–	44,00	1.732	45,00	88,0	135,0	1,1	SPPX15T5..	DFT0704..
–	**DFS450R2WD40M**	–	45,00	1.772	46,00	90,0	137,0	1,1	SPPX15T5..	DFT0704..
–	**DFS460R2WD40M**	–	46,00	1.811	47,00	92,0	140,0	1,1	SPPX15T5..	DFT0704..
–	**DFS470R2WD40M**	–	47,00	1.850	48,00	94,0	142,0	1,2	SPPX15T5..	DFT0704..
–	**DFS480R2WD40M**	–	48,00	1.890	49,00	96,0	144,0	1,2	SPPX15T5..	DFT0704..
–	**DFS490R2WD40M**	–	49,00	1.929	50,00	98,0	146,0	1,2	SPPX15T5..	DFT0905..
–	**DFS500R2WD40M**	–	50,00	1.969	51,00	100,0	148,0	1,2	SPPX15T5..	DFT0905..
–	**DFS510R2WD40M**	–	51,00	2.008	52,00	102,0	150,0	1,3	SPPX15T5..	DFT0905..
–	**DFS520R2WD40M**	–	52,00	2.047	53,00	104,0	152,0	1,3	SPPX15T5..	DFT0905..
–	**DFS530R2WD40M**	–	53,00	2.087	54,00	106,0	154,0	1,3	SPPX15T5..	DFT0905..
–	**DFS540R2WD40M**	–	54,00	2.126	55,00	108,0	156,0	1,3	SPPX15T5..	DFT0905..
–	–	**DFS550R2WD50M**	55,00	2.165	56,00	110,0	158,0	1,4	SPPX15T5..	DFT0905..

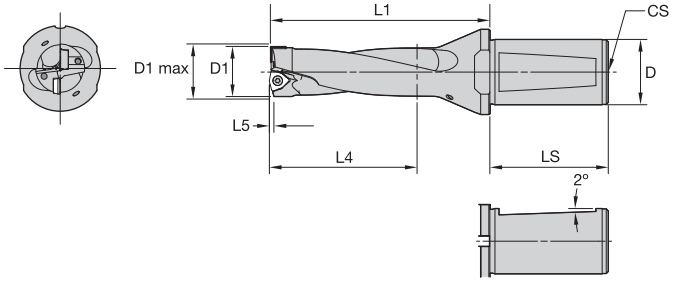
WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

D1 mm	inboard insert screw	outboard insert screw	Torx wrench	Torx size
24–25,9	**193.491**	**192.432**	**170.028**	8
26–32,9	**191.924**	**191.924**	**170.024**	9
33–43,9	**191.916**	**191.916**	**170.025**	15
44–49,9	**191.698**	**192.433**	**170.025**	15
50–56	**192.433**	**192.433**	**170.025**	15

D	LS	CS
32	58	R 1/4 BSP
40	68	R 1/4 BSP
50	68	R 1/4 BSP

- Drill shipped with insert screws and Torx wrench.
- See pages J100–J103 for inserts.







Whistle Notch™ WD Shank • 3 x D • Metric

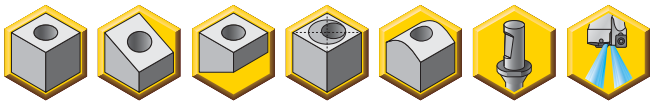
D 32	D 40	D 50	D1 mm	D1 in	D1 max	L1	L4 max	L5	gage insert outside	gage insert inside
DFS240R3WD32M	–	–	24,00	.945	25,00	104,0	72,0	0,5	SPGX0703..	DFT05T3..
DFS250R3WD32M	–	–	25,00	.984	26,00	108,0	75,0	0,6	SPGX0703..	DFT05T3..
DFS260R3WD32M	–	–	26,00	1.024	27,00	112,0	78,0	0,6	SPPX09T3..	DFT05T3..
DFS270R3WD32M	–	–	27,00	1.063	28,00	116,0	81,0	0,7	SPPX09T3..	DFT05T3..
DFS280R3WD32M	–	–	28,00	1.102	29,00	119,0	84,0	0,7	SPPX09T3..	DFT05T3..
DFS290R3WD32M	–	–	29,00	1.142	30,00	123,0	87,0	0,8	SPPX09T3..	DFT05T3..
DFS300R3WD32M	–	–	30,00	1.181	31,00	127,0	90,0	0,8	SPPX09T3..	DFT05T3..
DFS310R3WD32M	–	–	31,00	1.221	32,00	131,0	93,0	0,8	SPPX09T3..	DFT05T3..
DFS320R3WD32M	–	–	32,00	1.260	33,00	135,0	96,0	0,9	SPPX09T3..	DFT05T3..
DFS330R3WD32M	–	–	33,00	1.299	34,00	138,0	99,0	0,8	SPPX1204..	DFT06T3..
DFS340R3WD32M	–	–	34,00	1.339	35,00	142,0	102,0	0,8	SPPX1204..	DFT06T3..
DFS350R3WD32M	–	–	35,00	1.378	36,00	146,0	105,0	0,9	SPPX1204..	DFT06T3..
DFS360R3WD32M	–	–	36,00	1.417	37,00	150,0	108,0	0,9	SPPX1204..	DFT06T3..
DFS370R3WD32M	–	–	37,00	1.457	38,00	154,0	111,0	0,9	SPPX1204..	DFT06T3..
DFS380R3WD32M	–	–	38,00	1.496	39,00	157,0	114,0	1,0	SPPX1204..	DFT06T3..
DFS390R3WD32M	–	–	39,00	1.535	40,00	161,0	117,0	1,0	SPPX1204..	DFT06T3..
DFS400R3WD32M	–	–	40,00	1.575	41,00	165,0	120,0	1,0	SPPX1204..	DFT06T3..
DFS410R3WD32M	–	–	41,00	1.614	42,00	169,0	123,0	1,0	SPPX1204..	DFT0704..
DFS420R3WD32M	–	–	42,00	1.654	43,00	173,0	126,0	1,1	SPPX1204..	DFT0704..
DFS430R3WD32M	–	–	43,00	1.693	44,00	176,0	129,0	1,1	SPPX1204..	DFT0704..
DFS440R3WD32M	–	–	44,00	1.732	45,00	179,0	132,0	1,1	SPPX15T5..	DFT0704..
–	**DFS450R3WD40M**	–	45,00	1.772	46,00	182,0	135,0	1,1	SPPX15T5..	DFT0704..
–	**DFS460R3WD40M**	–	46,00	1.811	47,00	186,0	138,0	1,1	SPPX15T5..	DFT0704..
–	**DFS470R3WD40M**	–	47,00	1.850	48,00	189,0	141,0	1,2	SPPX15T5..	DFT0704..
–	**DFS480R3WD40M**	–	48,00	1.890	49,00	192,0	144,0	1,2	SPPX15T5..	DFT0704..
–	**DFS490R3WD40M**	–	49,00	1.929	50,00	195,0	147,0	1,2	SPPX15T5..	DFT0905..
–	**DFS500R3WD40M**	–	50,00	1.969	51,00	198,0	150,0	1,2	SPPX15T5..	DFT0905..
–	**DFS510R3WD40M**	–	51,00	2.008	52,00	201,0	153,0	1,3	SPPX15T5..	DFT0905..
–	**DFS520R3WD40M**	–	52,00	2.047	53,00	204,0	156,0	1,3	SPPX15T5..	DFT0905..
–	**DFS530R3WD40M**	–	53,00	2.087	54,00	207,0	159,0	1,3	SPPX15T5..	DFT0905..
–	**DFS540R3WD40M**	–	54,00	2.126	55,00	210,0	162,0	1,3	SPPX15T5..	DFT0905..
–	–	**DFS550R3WD50M**	55,00	2.165	56,00	213,0	165,0	1,4	SPPX15T5..	DFT0905..

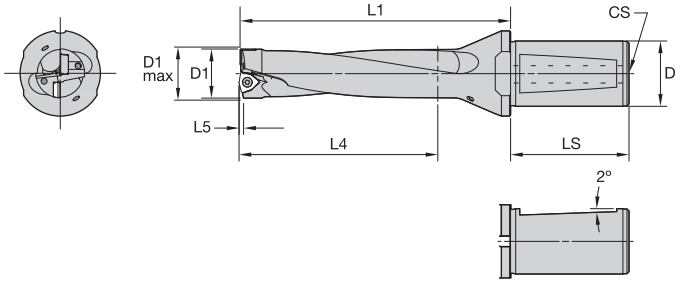
WARNING
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D1 mm	inboard insert screw	outboard insert screw	Torx wrench	Torx size
24–25,9	**193.491**	**192.432**	**170.028**	8
26–32,9	**191.924**	**191.924**	**170.024**	9
33–43,9	**191.916**	**191.916**	**170.025**	15
44–49,9	**191.698**	**192.433**	**170.025**	15
50–56	**192.433**	**192.433**	**170.025**	15

D	LS	CS
32	58	R 1/4 BSP
40	68	R 1/4 BSP
50	68	R 1/4 BSP

- Drill shipped with insert screws and Torx wrench.
- See pages J100–J103 for inserts.







WN/WD Shank • 4 x D • Metric

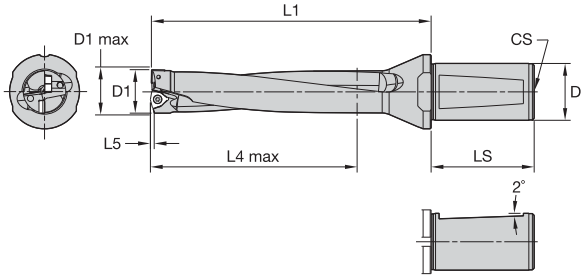
D		D1		D1		L4			
32	40	mm	in	max	L1	max	L5	gage insert outside	gage insert inside
DFS240R4WD32M	–	24,00	.945	25,00	128,0	96,0	0,5	SPGX0703..	DFT05T3..
DFS250R4WD32M	–	25,00	.984	26,00	133,0	100,0	0,6	SPGX0703..	DFT05T3..
DFS260R4WD32M	–	26,00	1.024	27,00	138,0	104,0	0,6	SPPX09T3..	DFT05T3..
DFS270R4WD32M	–	27,00	1.063	28,00	143,0	108,0	0,7	SPPX09T3..	DFT05T3..
DFS280R4WD32M	–	28,00	1.102	29,00	147,0	112,0	0,7	SPPX09T3..	DFT05T3..
DFS290R4WD32M	–	29,00	1.142	30,00	152,0	116,0	0,8	SPPX09T3..	DFT05T3..
DFS300R4WD32M	–	30,00	1.181	31,00	157,0	120,0	0,8	SPPX09T3..	DFT05T3..
DFS310R4WD32M	–	31,00	1.221	32,00	162,0	124,0	0,8	SPPX09T3..	DFT05T3..
DFS320R4WD32M	–	32,00	1.260	33,00	167,0	128,0	0,9	SPPX09T3..	DFT05T3..
DFS330R4WD32M	–	33,00	1.299	34,00	171,0	132,0	0,8	SPPX1204..	DFT06T3..
DFS340R4WD32M	–	34,00	1.339	35,00	176,0	136,0	0,8	SPPX1204..	DFT06T3..
DFS350R4WD32M	–	35,00	1.378	36,00	181,0	140,0	0,9	SPPX1204..	DFT06T3..
DFS360R4WD32M	–	36,00	1.417	37,00	186,0	144,0	0,9	SPPX1204..	DFT06T3..
DFS370R4WD32M	–	37,00	1.457	38,00	191,0	148,0	0,9	SPPX1204..	DFT06T3..
DFS380R4WD32M	–	38,00	1.496	39,00	195,0	152,0	1,0	SPPX1204..	DFT06T3..
DFS390R4WD32M	–	39,00	1.535	40,00	200,0	156,0	1,0	SPPX1204..	DFT06T3..
DFS400R4WD32M	–	40,00	1.575	41,00	205,0	160,0	1,0	SPPX1204..	DFT06T3..
DFS410R4WD32M	–	41,00	1.614	42,00	210,0	164,0	1,0	SPPX1204..	DFT0704..
DFS420R4WD32M	–	42,00	1.654	43,00	215,0	168,0	1,1	SPPX1204..	DFT0704..
DFS430R4WD32M	–	43,00	1.693	44,00	219,0	172,0	1,1	SPPX1204..	DFT0704..
DFS440R4WD32M	–	44,00	1.732	45,00	223,0	176,0	1,1	SPPX15T5..	DFT0704..
–	**DFS450R4WD40M**	45,00	1.772	46,00	227,0	180,0	1,1	SPPX15T5..	DFT0704..
–	**DFS460R4WD40M**	46,00	1.811	47,00	232,0	184,0	1,1	SPPX15T5..	DFT0704..
–	**DFS470R4WD40M**	47,00	1.850	48,00	236,0	188,0	1,2	SPPX15T5..	DFT0704..
–	**DFS480R4WD40M**	48,00	1.890	49,00	240,0	192,0	1,2	SPPX15T5..	DFT0704..

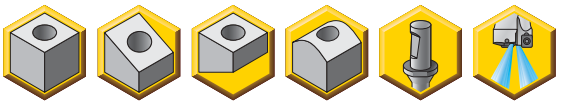
WARNING
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D1 mm	inboard insert screw	outboard insert screw	Torx wrench	Torx size
24–25,9	**193.491**	**192.432**	**170.028**	8
26–32,9	**191.924**	**191.924**	**170.024**	9
33–43,9	**191.916**	**191.916**	**170.025**	15
44–49,9	**191.698**	**192.433**	**170.025**	15
50–56	**192.433**	**192.433**	**170.025**	15

D	LS	CS
32	58	R 1/4 BSP
40	68	R 1/4 BSP

- Drill shipped with insert screws and Torx wrench.
- See pages J100–J103 for inserts.







WN/WD Shank • 5 x D • Metric

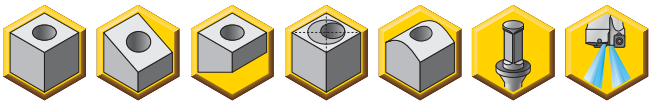
D		D1		D1		L4			
32	40	mm	in	max	L1	max	L5	gage insert outside	gage insert inside
DFS240R5WD32M	–	24,00	.945	24,00	152,0	120,0	0,5	SPGX0703..	DFT05T3..
DFS250R5WD32M	–	25,00	.984	25,00	158,0	125,0	0,6	SPGX0703..	DFT05T3..
DFS260R5WD32M	–	26,00	1.024	26,00	164,0	130,0	0,6	SPPX09T3..	DFT05T3..
DFS270R5WD32M	–	27,00	1.063	27,00	170,0	135,0	0,7	SPPX09T3..	DFT05T3..
DFS280R5WD32M	–	28,00	1.102	28,00	175,0	140,0	0,7	SPPX09T3..	DFT05T3..
DFS290R5WD32M	–	29,00	1.142	29,00	181,0	145,0	0,8	SPPX09T3..	DFT05T3..
DFS300R5WD32M	–	30,00	1.181	30,00	187,0	150,0	0,8	SPPX09T3..	DFT05T3..
DFS310R5WD32M	–	31,00	1.221	31,00	193,0	155,0	0,8	SPPX09T3..	DFT05T3..
DFS320R5WD32M	–	32,00	1.260	32,00	199,0	160,0	0,9	SPPX09T3..	DFT05T3..
DFS330R5WD32M	–	33,00	1.299	33,00	204,0	165,0	0,8	SPPX1204..	DFT06T3..
DFS340R5WD32M	–	34,00	1.339	34,00	210,0	170,0	0,8	SPPX1204..	DFT06T3..
DFS350R5WD32M	–	35,00	1.378	35,00	216,0	175,0	0,9	SPPX1204..	DFT06T3..
DFS360R5WD32M	–	36,00	1.417	36,00	222,0	180,0	0,9	SPPX1204..	DFT06T3..
DFS370R5WD32M	–	37,00	1.457	37,00	228,0	185,0	0,9	SPPX1204..	DFT06T3..
DFS380R5WD32M	–	38,00	1.496	38,00	233,0	190,0	1,0	SPPX1204..	DFT06T3..
DFS390R5WD32M	–	39,00	1.535	39,00	239,0	195,0	1,0	SPPX1204..	DFT06T3..
DFS400R5WD32M	–	40,00	1.575	40,00	245,0	200,0	1,0	SPPX1204..	DFT06T3..
DFS410R5WD32M	–	41,00	1.614	41,00	251,0	205,0	1,0	SPPX1204..	DFT0704..
DFS420R5WD32M	–	42,00	1.654	42,00	257,0	210,0	1,1	SPPX1204..	DFT0704..
DFS430R5WD32M	–	43,00	1.693	43,00	262,0	215,0	1,1	SPPX1204..	DFT0704..
DFS440R5WD32M	–	44,00	1.732	44,00	267,0	220,0	1,1	SPPX15T5..	DFT0704..
–	**DFS450R5WD40M**	45,00	1.772	45,00	272,0	225,0	1,1	SPPX15T5..	DFT0704..
–	**DFS460R5WD40M**	46,00	1.811	46,00	278,0	230,0	1,1	SPPX15T5..	DFT0704..
–	**DFS470R5WD40M**	47,00	1.850	47,00	283,0	235,0	1,2	SPPX15T5..	DFT0704..
–	**DFS480R5WD40M**	48,00	1.890	48,00	288,0	240,0	1,2	SPPX15T5..	DFT0704..

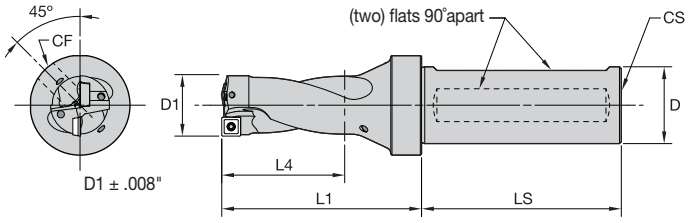
WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

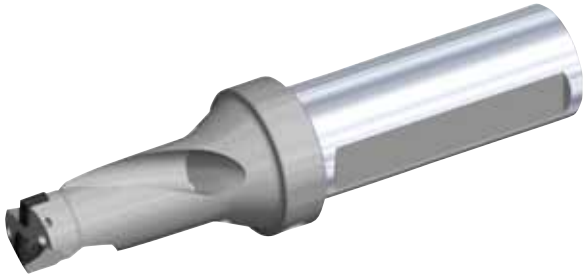
D1 mm	 inboard insert screw	 outboard insert screw	 Torx wrench	Torx size
24–25,9	**192.432**	**192.432**	**170.028**	8
26–32,9	**191.924**	**191.924**	**170.024**	9
33–43,9	**191.916**	**191.916**	**170.025**	15
44–49,9	**192.433**	**192.433**	**170.025**	15
50–56	**192.433**	**192.433**	**170.025**	15

D	LS	CS
32	58	R 1/4 BSP
40	68	R 1/4 BSP

- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- See pages J100–J103 for inserts.







Flange Shank • 2 x D • Inch

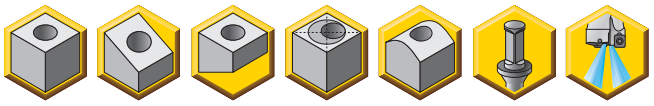
D			D1		D1	L1	L4	L5	gage insert	gage insert
1.250	1.500	2.000	in	mm	max		max		outside	inside
DFS1000R2SSF125	DFS1000R2SSF150	–	1.000	25,40	1.040	3.25	2.00	.02	SPGX0703..	DFT05T3..
DFS1031R2SSF125	–	–	1.031	26,19	1.071	3.44	2.06	.03	SPPX09T3..	DFT05T3..
DFS1063R2SSF125	–	–	1.063	27,00	1.103	3.50	2.13	.03	SPPX09T3..	DFT05T3..
DFS1094R2SSF125	–	–	1.094	27,79	1.134	3.56	2.19	.03	SPPX09T3..	DFT05T3..
DFS1125R2SSF125	–	–	1.125	28,58	1.165	3.75	2.25	.03	SPPX09T3..	DFT05T3..
DFS1156R2SSF125	–	–	1.156	29,36	1.196	3.81	2.31	.03	SPPX09T3..	DFT05T3..
DFS1188R2SSF125	–	–	1.188	30,18	1.228	3.88	2.38	.03	SPPX09T3..	DFT05T3..
DFS1219R2SSF125	DFS1219R2SSF150	–	1.219	30,96	1.259	4.06	2.44	.03	SPPX09T3..	DFT05T3..
DFS1250R2SSF125	DFS1250R2SSF150	–	1.250	31,75	1.290	4.13	2.50	.03	SPPX09T3..	DFT05T3..
DFS1281R2SSF125	DFS1281R2SSF150	–	1.281	32,54	1.321	4.19	2.56	.03	SPPX09T3..	DFT05T3..
DFS1313R2SSF125	DFS1313R2SSF150	–	1.313	33,35	1.353	4.25	2.63	.03	SPPX1204..	DFT06T3..
DFS1375R2SSF125	DFS1375R2SSF150	–	1.375	34,93	1.415	4.38	2.75	.03	SPPX1204..	DFT06T3..
DFS1406R2SSF125	DFS1406R2SSF150	–	1.406	35,71	1.446	4.44	2.81	.04	SPPX1204..	DFT06T3..
DFS1438R2SSF125	DFS1438R2SSF150	–	1.438	36,53	1.478	4.63	2.88	.04	SPPX1204..	DFT06T3..
DFS1469R2SSF125	DFS1469R2SSF150	–	1.469	37,31	1.509	4.69	2.94	.04	SPPX1204..	DFT06T3..
DFS1500R2SSF125	DFS1500R2SSF150	–	1.500	38,10	1.540	4.75	3.00	.04	SPPX1204..	DFT06T3..
DFS1531R2SSF125	DFS1531R2SSF150	–	1.531	38,89	1.571	4.81	3.06	.04	SPPX1204..	DFT06T3..
DFS1563R2SSF125	DFS1563R2SSF150	–	1.563	39,70	1.603	4.88	3.13	.04	SPPX1204..	DFT06T3..
DFS1625R2SSF125	DFS1625R2SSF150	–	1.625	41,28	1.665	5.00	3.25	.04	SPPX1204..	DFT0704..
DFS1688R2SSF125	DFS1688R2SSF150	–	1.688	42,88	1.728	5.13	3.38	.04	SPPX1204..	DFT0704..
–	DFS1750R2SSF150	–	1.750	44,45	1.790	5.25	3.50	.04	SPPX15T5..	DFT0704..
–	DFS1813R2SSF150	–	1.813	46,05	1.853	5.50	3.63	.04	SPPX15T5..	DFT0704..
–	DFS1875R2SSF150	–	1.875	47,63	1.915	5.63	3.75	.05	SPPX15T5..	DFT0704..
–	DFS1938R2SSF150	–	1.938	49,23	1.978	5.88	3.88	.05	SPPX15T5..	DFT0905..
–	DFS2000R2SSF150	DFS2000R2SSF200	2.000	50,80	2.040	6.00	4.00	.05	SPPX15T5..	DFT0905..
–	DFS2125R2SSF150	DFS2125R2SSF200	2.125	53,98	2.165	6.38	4.25	.05	SPPX15T5..	DFT0905..

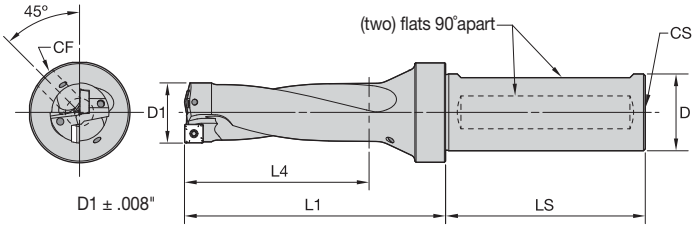
WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

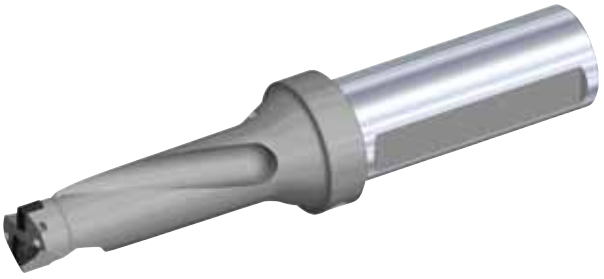
D1 in	 inboard insert screw	 outboard insert screw	 Torx wrench	Torx size
1.000–1.030	**193.491**	**192.432**	**170.028**	8
1.031–1.312	**191.924**	**191.924**	**170.024**	9
1.313–1.749	**191.916**	**191.916**	**170.025**	15
1.750–1.937	**191.698**	**192.433**	**170.025**	15
1.938–2.165	**192.433**	**192.433**	**170.025**	15

D	LS	CF	CS
1.25	3.25	1/8-27 NPT	R 1/4-18 NPT
1.50	3.75	1/8-27 NPT	R 1/4-18 NPT
2.00	4.00	1/8-27 NPT	R 1/4-18 NPT

- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- See pages J100–J103 for inserts. for inserts.







Flange Shank • 3 x D • Inch

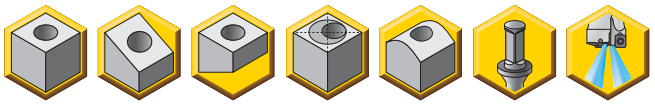
D			D1		D1		L4		gage insert	gage insert
1.250	1.500	2.000	in	mm	max	L1	max	L5	outside	inside
DFS1000R3SSF125	DFS1000R3SSF150	–	1.000	25,40	1.040	4.25	3.00	.02	SPGX0703..	DFT05T3..
DFS1031R3SSF125	–	–	1.031	26,19	1.071	4.47	3.09	.03	SPPX09T3..	DFT05T3..
DFS1063R3SSF125	–	–	1.063	27,00	1.103	4.56	3.19	.03	SPPX09T3..	DFT05T3..
DFS1094R3SSF125	–	–	1.094	27,79	1.134	4.66	3.28	.03	SPPX09T3..	DFT05T3..
DFS1125R3SSF125	–	–	1.125	28,58	1.165	4.88	3.38	.03	SPPX09T3..	DFT05T3..
DFS1156R3SSF125	–	–	1.156	29,36	1.196	4.97	3.47	.03	SPPX09T3..	DFT05T3..
DFS1188R3SSF125	–	–	1.188	30,18	1.228	5.06	3.56	.03	SPPX09T3..	DFT05T3..
DFS1219R3SSF125	DFS1219R3SSF150	–	1.219	30,96	1.259	5.28	3.66	.03	SPPX09T3..	DFT05T3..
DFS1250R3SSF125	DFS1250R3SSF150	–	1.250	31,75	1.290	5.38	3.75	.03	SPPX09T3..	DFT05T3..
DFS1281R3SSF125	DFS1281R3SSF150	–	1.281	32,54	1.321	5.47	3.84	.03	SPPX09T3..	DFT05T3..
DFS1313R3SSF125	DFS1313R3SSF150	–	1.313	33,35	1.353	5.56	3.94	.03	SPPX1204..	DFT06T3..
DFS1375R3SSF125	DFS1375R3SSF150	–	1.375	34,93	1.415	5.75	4.13	.03	SPPX1204..	DFT06T3..
DFS1406R3SSF125	DFS1406R3SSF150	–	1.406	35,71	1.446	5.84	4.22	.04	SPPX1204..	DFT06T3..
DFS1438R3SSF125	DFS1438R3SSF150	–	1.438	36,53	1.478	6.06	4.31	.04	SPPX1204..	DFT06T3..
DFS1469R3SSF125	DFS1469R3SSF150	–	1.469	37,31	1.509	6.16	4.41	.04	SPPX1204..	DFT06T3..
DFS1500R3SSF125	DFS1500R3SSF150	–	1.500	38,10	1.540	6.25	4.50	.04	SPPX1204..	DFT06T3..
DFS1531R3SSF125	DFS1531R3SSF150	–	1.531	38,89	1.571	6.34	4.59	.04	SPPX1204..	DFT06T3..
DFS1563R3SSF125	DFS1563R3SSF150	–	1.563	39,70	1.603	6.44	4.69	.04	SPPX1204..	DFT06T3..
DFS1625R3SSF125	DFS1625R3SSF150	–	1.625	41,28	1.665	6.63	4.88	.04	SPPX1204..	DFT0704..
DFS1688R3SSF125	DFS1688R3SSF150	–	1.688	42,88	1.728	6.81	5.06	.04	SPPX1204..	DFT0704..
–	DFS1750R3SSF150	–	1.750	44,45	1.790	7.00	5.25	.04	SPPX15T5..	DFT0704..
–	DFS1813R3SSF150	–	1.813	46,05	1.853	7.31	5.44	.04	SPPX15T5..	DFT0704..
–	DFS1875R3SSF150	–	1.875	47,63	1.915	7.50	5.63	.05	SPPX15T5..	DFT0704..
–	DFS1938R3SSF150	–	1.938	49,23	1.978	7.81	5.81	.05	SPPX15T5..	DFT0905..
–	DFS2000R3SSF150	DFS2000R3SSF200	2.000	50,80	2.040	8.00	6.00	.05	SPPX15T5..	DFT0905..
–	DFS2125R3SSF150	DFS2125R3SSF200	2.125	53,98	2.165	8.50	6.38	.05	SPPX15T5..	DFT0905..

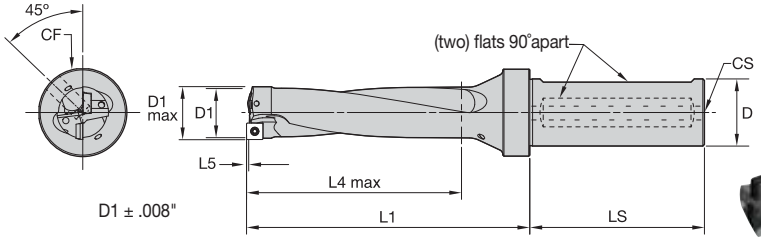
WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

D1 in	inboard insert screw	outboard insert screw	Torx wrench	Torx size
1.000–1.030	**193.491**	**192.432**	**170.028**	8
1.031–1.312	**191.924**	**191.924**	**170.024**	9
1.313–1.749	**191.916**	**191.916**	**170.025**	15
1.750–1.937	**191.698**	**192.433**	**170.025**	15
1.938–2.165	**192.433**	**192.433**	**170.025**	15

D	LS	CF	CS
1.25	3.25	1/8-27 NPT	R 1/4-18 NPT
1.50	3.75	1/8-27 NPT	R 1/4-18 NPT
2.00	4.00	1/8-27 NPT	R 1/4-18 NPT

- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- See pages J100–J103 for inserts.







Flange Shank • 4 x D • Inch

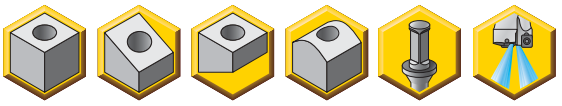
D			D1		D1		L4		gage insert	gage insert
1.250	1.500	2.000	in	mm	max	L1	max	L5	outside	inside
DFS1000R4SSF125	DFS1000R4SSF150	–	1.000	25,40	1.040	5.25	4.00	.02	SPGX0703..	DFT05T3..
DFS1031R4SSF125	–	–	1.031	26,19	1.071	5.50	4.12	.03	SPPX09T3..	DFT05T3..
DFS1063R4SSF125	–	–	1.063	27,00	1.103	5.63	4.25	.03	SPPX09T3..	DFT05T3..
DFS1094R4SSF125	–	–	1.094	27,79	1.134	5.75	4.38	.03	SPPX09T3..	DFT05T3..
DFS1125R4SSF125	–	–	1.125	28,58	1.165	6.00	4.50	.03	SPPX09T3..	DFT05T3..
DFS1156R4SSF125	–	–	1.156	29,36	1.196	6.12	4.62	.03	SPPX09T3..	DFT05T3..
DFS1188R4SSF125	–	–	1.188	30,18	1.228	6.25	4.75	.03	SPPX09T3..	DFT05T3..
DFS1219R4SSF125	DFS1219R4SSF150	–	1.219	30,96	1.259	6.50	4.88	.03	SPPX09T3..	DFT05T3..
DFS1250R4SSF125	DFS1250R4SSF150	–	1.250	31,75	1.290	6.63	5.00	.03	SPPX09T3..	DFT05T3..
DFS1281R4SSF125	DFS1281R4SSF150	–	1.281	32,54	1.321	6.75	5.12	.03	SPPX09T3..	DFT05T3..
DFS1313R4SSF125	DFS1313R4SSF150	–	1.313	33,35	1.353	6.88	5.25	.03	SPPX1204..	DFT06T3..
DFS1375R4SSF125	DFS1375R4SSF150	–	1.375	34,93	1.415	7.13	5.50	.03	SPPX1204..	DFT06T3..
DFS1406R4SSF125	DFS1406R4SSF150	–	1.406	35,71	1.446	7.25	5.62	.04	SPPX1204..	DFT06T3..
DFS1438R4SSF125	DFS1438R4SSF150	–	1.438	36,53	1.478	7.50	5.75	.04	SPPX1204..	DFT06T3..
DFS1469R4SSF125	DFS1469R4SSF150	–	1.469	37,31	1.509	7.63	5.88	.04	SPPX1204..	DFT06T3..
DFS1500R4SSF125	DFS1500R4SSF150	–	1.500	38,10	1.540	7.75	6.00	.04	SPPX1204..	DFT06T3..
DFS1531R4SSF125	DFS1531R4SSF150	–	1.531	38,89	1.571	7.87	6.12	.04	SPPX1204..	DFT06T3..
DFS1563R4SSF125	DFS1563R4SSF150	–	1.563	39,70	1.603	8.00	6.25	.04	SPPX1204..	DFT06T3..
DFS1625R4SSF125	DFS1625R4SSF150	–	1.625	41,28	1.665	8.25	6.50	.04	SPPX1204..	DFT0704..
DFS1688R4SSF125	DFS1688R4SSF150	–	1.688	42,88	1.728	8.50	6.75	.04	SPPX1204..	DFT0704..
–	DFS1750R4SSF150	–	1.750	44,45	1.790	8.75	7.00	.04	SPPX15T5..	DFT0704..
–	DFS1813R4SSF150	–	1.813	46,05	1.853	9.13	7.25	.04	SPPX15T5..	DFT0704..
–	DFS1875R4SSF150	–	1.875	47,63	1.915	9.38	7.50	.05	SPPX15T5..	DFT0704..
–	DFS1938R4SSF150	–	1.938	49,23	1.978	9.75	7.75	.05	SPPX15T5..	DFT0905..
–	DFS2000R4SSF150	DFS2000R4SSF200	2.000	50,80	2.040	10.00	8.00	.05	SPPX15T5..	DFT0905..
–	DFS2125R4SSF150	DFS2125R4SSF200	2.125	53,98	2.165	10.63	8.50	.05	SPPX15T5..	DFT0905..

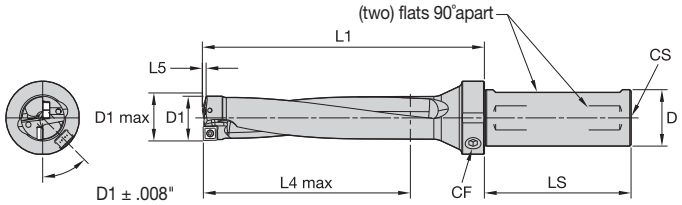
WARNING
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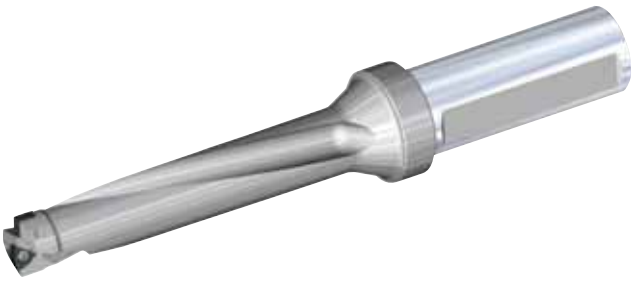
D1 in	inboard insert screw	outboard insert screw	Torx wrench	Torx size
1.000–1.030	**193.491**	**192.432**	**170.028**	8
1.031–1.312	**191.924**	**191.924**	**170.024**	9
1.313–1.749	**191.916**	**191.916**	**170.025**	15
1.750–1.937	**191.698**	**192.433**	**170.025**	15
1.938–2.165	**192.433**	**192.433**	**170.025**	15

D	LS	CF	CS
1.25	3.25	1/8-27 NPT	R 1/4-18 NPT
1.50	3.75	1/8-27 NPT	R 1/4-18 NPT
2.00	4.00	1/8-27 NPT	R 1/4-18 NPT

- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- See pages J100–J103 for inserts.







Flange Shank • Right Hand • 5 x D • Inch

D				D1		D1		L4			
1.000	1.250	1.500	2.000	in	mm	max	L1	max	L5	gage insert outside	gage insert inside
DFS1000R5SSF100	DFS1000R5SSF125	DFS1000R5SSF150		1.000	25,40	1.00	6.25	5.00	.02	SPGX0703..	DFT05T3..
–	DFS1031R5SSF125	–	–	1.031	26,19	1.03	6.53	5.16	.03	SPPX09T3..	DFT05T3..
–	DFS1063R5SSF125	–	–	1.063	27,00	1.06	6.69	5.32	.03	SPPX09T3..	DFT05T3..
–	DFS1094R5SSF125	–	–	1.094	27,79	1.09	6.85	5.47	.03	SPPX09T3..	DFT05T3..
–	DFS1125R5SSF125	–	–	1.125	28,58	1.13	7.13	5.63	.03	SPPX09T3..	DFT05T3..
–	DFS1156R5SSF125	–	–	1.156	29,36	1.16	7.28	5.78	.03	SPPX09T3..	DFT05T3..
–	DFS1188R5SSF125	–	–	1.188	30,18	1.19	7.44	5.94	.03	SPPX09T3..	DFT05T3..
–	DFS1219R5SSF125	DFS1219R5SSF150	–	1.219	30,96	1.22	7.55	5.92	.03	SPPX09T3..	DFT05T3..
–	DFS1250R5SSF125	DFS1250R5SSF150	–	1.250	31,75	1.25	7.88	6.25	.03	SPPX09T3..	DFT05T3..
–	DFS1281R5SSF125	DFS1281R5SSF150	–	1.281	32,54	1.28	8.03	6.41	.03	SPPX09T3..	DFT05T3..
–	DFS1313R5SSF125	DFS1313R5SSF150	–	1.313	33,35	1.31	8.19	6.57	.03	SPPX1204..	DFT06T3..
–	DFS1375R5SSF125	DFS1375R5SSF150	–	1.375	34,93	1.38	8.50	6.88	.03	SPPX1204..	DFT06T3..
–	DFS1406R5SSF125	DFS1406R5SSF150	–	1.406	35,71	1.41	8.66	7.03	.04	SPPX1204..	DFT06T3..
–	DFS1438R5SSF125	DFS1438R5SSF150	–	1.438	36,53	1.44	8.94	7.19	.04	SPPX1204..	DFT06T3..
–	DFS1469R5SSF125	DFS1469R5SSF150	–	1.469	37,31	1.47	9.09	7.34	.04	SPPX1204..	DFT06T3..
–	DFS1500R5SSF125	DFS1500R5SSF150	–	1.500	38,10	1.50	9.25	7.50	.04	SPPX1204..	DFT06T3..
–	DFS1531R5SSF125	DFS1531R5SSF150	–	1.531	38,89	1.53	9.41	7.66	.04	SPPX1204..	DFT06T3..
–	DFS1563R5SSF125	DFS1563R5SSF150	–	1.563	39,70	1.56	9.57	7.82	.04	SPPX1204..	DFT06T3..
–	DFS1625R5SSF125	DFS1625R5SSF150	–	1.625	41,28	1.63	9.88	8.13	.04	SPPX1204..	DFT0704..
–	DFS1688R5SSF125	DFS1688R5SSF150	–	1.688	42,88	1.69	10.19	8.44	.04	SPPX1204..	DFT0704..
–	–	DFS1750R5SSF150	–	1.750	44,45	1.75	10.50	8.75	.04	SPPX15T5..	DFT0704..
–	–	DFS1813R5SSF150	–	1.813	46,05	1.81	10.94	9.07	.04	SPPX15T5..	DFT0704..
–	–	DFS1875R5SSF150	–	1.875	47,63	1.88	11.25	9.38	.05	SPPX15T5..	DFT0704..
–	–	DFS1938R5SSF150	–	1.938	49,23	1.94	11.69	9.69	.05	SPPX15T5..	DFT0905..
–	–	DFS2000R5SSF150	DFS2000R5SSF200	2.000	50,80	2.00	12.00	10.00	.05	SPPX15T5..	DFT0905..
–	–	DFS2125R5SSF150	DFS2125R5SSF200	2.125	53,98	2.13	12.75	10.63	.05	SPPX15T5..	DFT0905..

WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

D1 in	 inboard insert screw	 outboard insert screw	 Torx wrench	Torx size
1.000–1.030	**193.491**	**192.432**	**170.028**	8
1.031–1.312	**191.924**	**191.924**	**170.024**	9
1.313–1.749	**191.916**	**191.916**	**170.025**	15
1.750–1.937	**191.698**	**192.433**	**170.025**	15
1.938–2.165	**192.433**	**192.433**	**170.025**	15

D	LS	CF	CS
1.00	3.00	1/8-27 NPT	R 1/4-18 NPT
1.25	3.25	1/8-27 NPT	R 1/4-18 NPT
1.50	3.75	1/8-27 NPT	R 1/4-18 NPT
2.00	4.00	1/8-27 NPT	R 1/4-18 NPT

DFS™ • Metric

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric				
									Recommended Feed Rate (f) by Diameter				
						min	Starting Value	max	Ø (mm)	SPGX07 DFT05 22,00-25,99	SPGX09 DFT05 26,00-32,99	SPGX12 DFT06/..07 33,00-43,99	SPGX15 DFT07/..09 44,00-55,00
P	1	S	O	MD	KCPK10	310	**325**	360	mm/r	0,100 - 0,180	0,140 - 0,250	0,160 - 0,300	0,180 - 0,300
			I	MD	KC7140								
		U	O	FP	KCU25	200	**215**	230	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	MD	KC7140								
		I	O	HP	KCU40	130	**135**	150	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	MD	KC7140								
	2	S	O	MD	KCPK10	310	**325**	360	mm/r	0,100 - 0,180	0,140 - 0,250	0,160 - 0,300	0,180 - 0,300
			I	MD	KC7140								
		U	O	FP	KCU25	200	**215**	230	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	MD	KC7140								
		I	O	HP	KCU40	130	**135**	150	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	MD	KC7140								
	3	S	O	MD	KCPK10	260	**285**	320	mm/r	0,100 - 0,180	0,140 - 0,250	0,160 - 0,300	0,180 - 0,300
			I	MD	KC7140								
		U	O	FP	KCU25	180	**195**	220	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	MD	KC7140								
		I	O	HP	KCU40	110	**120**	140	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	MD	KC7140								
	4	S	O	FP	KCPK10	220	**250**	300	mm/r	0,100 - 0,180	0,140 - 0,250	0,160 - 0,300	0,180 - 0,300
			I	MD	KC7140								
		U	O	HP	KCU25	150	**180**	220	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	MD	KC7140								
		I	O	HP	KCU40	90	**110**	140	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	MD	KC7140								
	5	S	O	HP	KCU25	180	**200**	220	mm/r	0,100 - 0,180	0,140 - 0,250	0,160 - 0,300	0,180 - 0,300
			I	MD	KC7140								
		U	O	HP	KCU40	120	**135**	150	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	MD	KC7140								
		I	O	HP	KC7140	70	**85**	100	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	MD	KC7140								
	6	S	O	HP	KCU25	180	**200**	220	mm/r	0,100 - 0,180	0,140 - 0,250	0,160 - 0,300	0,180 - 0,300
			I	MD	KC7140								
		U	O	HP	KCU40	120	**135**	150	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	MD	KC7140								
		I	O	HP	KC7140	70	**85**	100	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	MD	KC7140								
M	1	S	O	FP	KCU25	150	**190**	230	mm/r	0,080 - 0,150	0,120 - 0,200	0,140 - 0,250	0,160 - 0,280
			I	MD	KC7140								
		U	O	MD	KCU40	100	**130**	160	mm/r	0,050 - 0,090	0,070 - 0,130	0,080 - 0,160	0,100 - 0,200
			I	MD	KC7140								
		I	O	MD	KC7140	60	**80**	100	mm/r	0,050 - 0,090	0,070 - 0,130	0,080 - 0,160	0,100 - 0,180
			I	MD	KC7140								
	2	S	O	FP	KCU25	150	**180**	210	mm/r	0,080 - 0,150	0,120 - 0,200	0,140 - 0,250	0,160 - 0,280
			I	MD	KC7140								
		U	O	MD	KCU40	100	**130**	160	mm/r	0,050 - 0,090	0,070 - 0,130	0,080 - 0,160	0,100 - 0,200
			I	MD	KC7140								
		I	O	MD	KC7140	60	**80**	100	mm/r	0,050 - 0,090	0,070 - 0,130	0,080 - 0,160	0,100 - 0,180
			I	MD	KC7140								
	3	S	O	HP	KCU25	100	**130**	160	mm/r	0,080 - 0,150	0,120 - 0,200	0,140 - 0,250	0,160 - 0,280
			I	HP	KC7140								
		U	O	HP	KCU40	80	**110**	140	mm/r	0,050 - 0,090	0,070 - 0,130	0,080 - 0,160	0,100 - 0,200
			I	HP	KC7140								
		I	O	MD	KC7140	50	**70**	90	mm/r	0,050 - 0,090	0,070 - 0,130	0,080 - 0,160	0,100 - 0,180
			I	MD	KC7140								

NOTE: Applying Drill Fix™ DFS 5 x D requires high stability. It is highly recommended to be conservative in regard to speeds and feeds, and start with minimum values indicated.

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions

Pocket seat: I = Inboard insert; O = Outboard insert

DFS™ • Metric

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric				
									Recommended Feed Rate (f) by Diameter				
						min	Starting Value	max	Ø (mm)	SPGX07 DFT05 22,00-25,99	SPGX09 DFT05 26,00-32,99	SPGX12 DFT06/..07 33,00-43,99	SPGX15 DFT07/..09 44,00-55,00
K	1	S	O	FP	KCPK10	200	**240**	300	mm/r	0,120 - 0,200	0,160 - 0,280	0,180 - 0,320	0,200 - 0,340
			I	HP	KCU40								
		U	O	FP	KCU25	120	**155**	200	mm/r	0,080 - 0,150	0,120 - 0,200	0,140 - 0,250	0,160 - 0,280
			I	HP	KC7140								
		I	O	FP	KC7140	80	**100**	125	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	HP	KC7140								
	2	S	O	FP	KCPK10	180	**220**	260	mm/r	0,120 - 0,200	0,160 - 0,280	0,180 - 0,320	0,200 - 0,340
			I	HP	KCU40								
		U	O	HP	KCU25	110	**140**	170	mm/r	0,080 - 0,150	0,120 - 0,200	0,140 - 0,250	0,160 - 0,280
			I	HP	KC7140								
		I	O	HP	KC7140	80	**100**	120	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	HP	KC7140								
	3	S	O	HP	KCPK10	180	**220**	260	mm/r	0,120 - 0,200	0,160 - 0,280	0,180 - 0,320	0,200 - 0,340
			I	HP	KCU40								
		U	O	HP	KCU25	110	**140**	170	mm/r	0,080 - 0,150	0,120 - 0,200	0,140 - 0,250	0,160 - 0,280
			I	HP	KC7140								
		I	O	HP	KC7140	80	**100**	120	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	HP	KC7140								
N	1	S	O	HP	KCPK10	350	**500**	650	mm/r	0,120 - 0,200	0,160 - 0,280	0,180 - 0,320	0,200 - 0,340
			I	HP	KMF								
		U	O	HP	KCU40	300	**400**	500	mm/r	0,080 - 0,150	0,120 - 0,200	0,140 - 0,250	0,160 - 0,280
			I	HP	KMF								
		I	O	HP	KCU40	200	**300**	400	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	HP	KMF								
	2	S	O	HP	KCPK10	300	**400**	500	mm/r	0,120 - 0,200	0,160 - 0,280	0,180 - 0,320	0,200 - 0,340
			I	HP	KMF								
		U	O	HP	KCU40	250	**350**	450	mm/r	0,080 - 0,150	0,120 - 0,200	0,140 - 0,250	0,160 - 0,280
			I	HP	KMF								
		I	O	HP	KCU40	175	**250**	325	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	HP	KMF								
	3	S	O	HP	KCPK10	300	**400**	500	mm/r	0,120 - 0,200	0,160 - 0,280	0,180 - 0,320	0,200 - 0,340
			I	HP	KMF								
		U	O	HP	KCU40	250	**350**	450	mm/r	0,080 - 0,150	0,120 - 0,200	0,140 - 0,250	0,160 - 0,280
			I	HP	KMF								
		I	O	HP	KCU40	150	**250**	350	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	HP	KMF								
	4	S	O	HP	KCU25	300	**400**	500	mm/r	0,120 - 0,200	0,160 - 0,280	0,180 - 0,320	0,200 - 0,340
			I	HP	KC7140								
		U	O	HP	KCU40	250	**350**	450	mm/r	0,080 - 0,150	0,120 - 0,200	0,140 - 0,250	0,160 - 0,280
			I	HP	KC7140								
		I	O	HP	KCU40	200	**300**	400	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	HP	KC7140								
	5	S	O	HP	KCU40	400	**450**	500	mm/r	0,120 - 0,200	0,160 - 0,280	0,180 - 0,320	0,200 - 0,340
			I	HP	KMF								
		U	O	HP	KCU40	250	**350**	450	mm/r	0,080 - 0,150	0,120 - 0,200	0,140 - 0,250	0,160 - 0,280
			I	HP	KMF								
		I	O	HP	KCU40	200	**300**	400	mm/r	0,060 - 0,100	0,090 - 0,150	0,110 - 0,180	0,130 - 0,250
			I	HP	KMF								

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Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions

Pocket seat: I = Inboard insert; O = Outboard insert

DFS™ • Metric

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric				
									Recommended Feed Rate (f) by Diameter				
						min	Starting Value	max	Ø (mm)	SPGX07 DFT05 22,00-25,99	SPGX09 DFT05 26,00-32,99	SPGX12 DFT06/..07 33,00-43,99	SPGX15 DFT07/..09 44,00-55,00
S	1	S	O	HP	KCU40	60	**70**	75	mm/r	0,050 - 0,100	0,080 - 0,120	0,100 - 0,150	0,120 - 0,180
			I	MD	KC7140								
		U	O	HP	KCU40	40	**50**	60	mm/r	0,030 - 0,050	0,040 - 0,060	0,050 - 0,080	0,060 - 0,100
			I	MD	KC7140								
		I	O	HP	KCU40	25	**30**	40	mm/r	0,030 - 0,050	0,040 - 0,060	0,050 - 0,080	0,060 - 0,100
			I	MD	KC7140								
	2	S	O	HP	KCU40	50	**60**	70	mm/r	0,050 - 0,100	0,080 - 0,120	0,100 - 0,150	0,120 - 0,180
			I	MD	KC7140								
		U	O	HP	KCU40	30	**40**	50	mm/r	0,030 - 0,050	0,040 - 0,060	0,050 - 0,080	0,060 - 0,100
			I	MD	KC7140								
		I	O	HP	KCU40	25	**30**	40	mm/r	0,030 - 0,050	0,040 - 0,060	0,050 - 0,080	0,060 - 0,100
			I	MD	KC7140								
	3	S	O	HP	KCU40	70	**80**	90	mm/r	0,050 - 0,100	0,080 - 0,120	0,100 - 0,150	0,120 - 0,180
			I	MD	KCU40								
		U	O	HP	KCU40	50	**60**	70	mm/r	0,030 - 0,050	0,040 - 0,060	0,050 - 0,080	0,060 - 0,100
			I	MD	KCU40								
		I	O	HP	KCU40	30	**40**	50	mm/r	0,030 - 0,050	0,040 - 0,060	0,050 - 0,080	0,060 - 0,100
			I	MD	KCU40								
	4	S	O	HP	KCU40	70	**80**	90	mm/r	0,050 - 0,100	0,080 - 0,120	0,100 - 0,150	0,120 - 0,180
			I	MD	KCU40								
		U	O	HP	KCU40	50	**60**	70	mm/r	0,030 - 0,050	0,040 - 0,060	0,050 - 0,080	0,060 - 0,100
			I	MD	KCU40								
		I	O	HP	KCU40	30	**40**	50	mm/r	0,030 - 0,050	0,040 - 0,060	0,050 - 0,080	0,060 - 0,100
			I	MD	KCU40								

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Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions

Pocket seat: I = Inboard insert; O = Outboard insert

DFS™ • Inch

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — SFM			Inch				
									Recommended Feed Rate (f) by Diameter				
						min	Starting Value	max	Ø (in)	SPGX07 DFT05 .866-1.023	SPGX09 DFT05 1.024-1.299	SPGX12 DFT06/..07 1.300-1.732	SPGX15 DFT07/..09 1.733-2.165
P	1	S	O	MD	KCPK10	1017	**1066**	1181	IPR	0.004 - 0.007	0.006 - 0.010	0.006 - 0.012	0.007 - 0.012
			I	MD	KC7140								
		U	O	FP	KCU25	656	**705**	755	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	MD	KC7140								
		I	O	HP	KCU40	427	**443**	492	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	MD	KC7140								
	2	S	O	MD	KCPK10	1017	**1066**	1181	IPR	0.004 - 0.007	0.006 - 0.010	0.006 - 0.012	0.007 - 0.012
			I	MD	KC7140								
		U	O	FP	KCU25	656	**705**	755	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	MD	KC7140								
		I	O	HP	KCU40	427	**443**	492	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	MD	KC7140								
	3	S	O	MD	KCPK10	853	**935**	1050	IPR	0.004 - 0.007	0.006 - 0.010	0.006 - 0.012	0.007 - 0.012
			I	MD	KC7140								
		U	O	FP	KCU25	591	**640**	722	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	MD	KC7140								
		I	O	HP	KCU40	361	**394**	459	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	MD	KC7140								
	4	S	O	FP	KCPK10	722	**820**	984	IPR	0.004 - 0.007	0.006 - 0.010	0.006 - 0.012	0.007 - 0.012
			I	MD	KC7140								
		U	O	HP	KCU25	492	**591**	722	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	MD	KC7140								
		I	O	HP	KCU40	295	**361**	459	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	MD	KC7140								
	5	S	O	HP	KCU25	591	**656**	722	IPR	0.004 - 0.007	0.006 - 0.010	0.006 - 0.012	0.007 - 0.012
			I	MD	KC7140								
		U	O	HP	KCU40	394	**443**	492	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	MD	KC7140								
		I	O	HP	KC7140	230	**279**	328	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	MD	KC7140								
	6	S	O	HP	KCU25	590	**656**	722	IPR	0.004 - 0.007	0.006 - 0.010	0.006 - 0.012	0.007 - 0.012
			I	MD	KC7140								
		U	O	HP	KCU40	394	**443**	492	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	MD	KC7140								
		I	O	HP	KC7140	230	**279**	328	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	MD	KC7140								
M	1	S	O	FP	KCU25	492	**623**	754	IPR	0.003 - 0.006	0.005 - 0.008	0.006 - 0.010	0.006 - 0.011
			I	MD	KC7140								
		U	O	MD	KCU40	328	**426**	525	IPR	0.002 - 0.004	0.003 - 0.005	0.003 - 0.006	0.004 - 0.008
			I	MD	KC7140								
		I	O	MD	KC7140	197	**262**	328	IPR	0.002 - 0.004	0.003 - 0.005	0.003 - 0.006	0.004 - 0.007
			I	MD	KC7140								
	2	S	O	FP	KCU25	492	**590**	689	IPR	0.003 - 0.006	0.005 - 0.008	0.006 - 0.010	0.006 - 0.011
			I	MD	KC7140								
		U	O	MD	KCU40	328	**426**	525	IPR	0.002 - 0.004	0.003 - 0.005	0.003 - 0.006	0.004 - 0.008
			I	MD	KC7140								
		I	O	MD	KC7140	197	**262**	328	IPR	0.002 - 0.004	0.003 - 0.005	0.003 - 0.006	0.004 - 0.007
			I	MD	KC7140								
	3	S	O	HP	KCU25	328	**426**	525	IPR	0.003 - 0.006	0.005 - 0.008	0.006 - 0.010	0.006 - 0.011
			I	HP	KC7140								
		U	O	HP	KCU40	262	**361**	459	IPR	0.002 - 0.004	0.003 - 0.005	0.003 - 0.006	0.004 - 0.008
			I	HP	KC7140								
		I	O	MD	KC7140	164	**230**	295	IPR	0.002 - 0.004	0.003 - 0.005	0.003 - 0.006	0.004 - 0.007
			I	MD	KC7140								

NOTE: Applying Drill Fix™ DFS 5 x D requires high stability. It is highly recommended to be conservative in regard to speeds and feeds, and start with minimum values indicated.

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions

Pocket seat: I = Inboard insert; O = Outboard insert

DFS™ • Inch

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — SFM			Inch				
									Recommended Feed Rate (f) by Diameter				
						min	Starting Value	max	Ø (in)	SPGX07 DFT05 .866-1.023	SPGX09 DFT05 1.024-1.299	SPGX12 DFT06/..07 1.300-1.732	SPGX15 DFT07/..09 1.733-2.165
K	1	S	O	FP	KCPK10	656	**787**	984	IPR	0.005 - 0.008	0.006 - 0.011	0.007 - 0.013	0.008 - 0.013
			I	HP	KCU40								
		U	O	FP	KCU25	394	**509**	656	IPR	0.003 - 0.006	0.005 - 0.008	0.006 - 0.010	0.006 - 0.011
			I	HP	KC7140								
		I	O	FP	KC7140	262	**328**	410	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	HP	KC7140								
	2	S	O	FP	KCPK10	591	**722**	853	IPR	0.005 - 0.008	0.006 - 0.011	0.007 - 0.013	0.008 - 0.013
			I	HP	KCU40								
		U	O	HP	KCU25	361	**459**	558	IPR	0.003 - 0.006	0.005 - 0.008	0.006 - 0.010	0.006 - 0.011
			I	HP	KC7140								
		I	O	HP	KC7140	262	**328**	394	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	HP	KC7140								
	3	S	O	HP	KCPK10	591	**722**	853	IPR	0.005 - 0.008	0.006 - 0.011	0.007 - 0.013	0.008 - 0.013
			I	HP	KCU40								
		U	O	HP	KCU25	361	**459**	558	IPR	0.003 - 0.006	0.005 - 0.008	0.006 - 0.010	0.006 - 0.011
			I	HP	KC7140								
		I	O	HP	KC7140	262	**328**	394	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	HP	KC7140								
N	1	S	O	HP	KCPK10	1148	**1640**	2132	IPR	0.005 - 0.008	0.006 - 0.011	0.007 - 0.013	0.008 - 0.013
			I	HP	KMF								
		U	O	HP	KCU40	984	**1312**	1640	IPR	0.003 - 0.006	0.005 - 0.008	0.006 - 0.010	0.006 - 0.011
			I	HP	KMF								
		I	O	HP	KCU40	656	**984**	1312	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	HP	KMF								
	2	S	O	HP	KCPK10	984	**1312**	1640	IPR	0.005 - 0.008	0.006 - 0.011	0.007 - 0.013	0.008 - 0.013
			I	HP	KMF								
		U	O	HP	KCU40	820	**1148**	1476	IPR	0.003 - 0.006	0.005 - 0.008	0.006 - 0.010	0.006 - 0.011
			I	HP	KMF								
		I	O	HP	KCU40	574	**820**	1066	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	HP	KMF								
	3	S	O	HP	KCPK10	984	**1312**	1640	IPR	0.005 - 0.008	0.006 - 0.011	0.007 - 0.013	0.008 - 0.013
			I	HP	KMF								
		U	O	HP	KCU40	820	**1148**	1476	IPR	0.003 - 0.006	0.005 - 0.008	0.006 - 0.010	0.006 - 0.011
			I	HP	KMF								
		I	O	HP	KCU40	492	**820**	1148	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	HP	KMF								
	4	S	O	HP	KCU25	984	**1312**	1640	IPR	0.005 - 0.008	0.006 - 0.011	0.007 - 0.013	0.008 - 0.013
			I	HP	KC7140								
		U	O	HP	KCU40	820	**1148**	1476	IPR	0.003 - 0.006	0.005 - 0.008	0.006 - 0.010	0.006 - 0.011
			I	HP	KC7140								
		I	O	HP	KCU40	656	**984**	1312	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	HP	KC7140								
	5	S	O	HP	KCU40	1312	**1476**	1640	IPR	0.005 - 0.008	0.006 - 0.011	0.007 - 0.013	0.008 - 0.013
			I	HP	KMF								
		U	O	HP	KCU40	820	**1148**	1476	IPR	0.003 - 0.006	0.005 - 0.008	0.006 - 0.010	0.006 - 0.011
			I	HP	KMF								
		I	O	HP	KCU40	656	**984**	1312	IPR	0.002 - 0.004	0.004 - 0.006	0.004 - 0.007	0.005 - 0.010
			I	HP	KMF								

NOTE: Applying Drill Fix™ DFS 5 x D requires high stability. It is highly recommended to be conservative in regard to speeds and feeds, and start with minimum values indicated.

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions

Pocket seat: I = Inboard insert; O = Outboard insert

DFS™ • Inch

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — SFM			Inch				
									Recommended Feed Rate (f) by Diameter				
						min	Starting Value	max	Ø (in)	SPGX07 DFT05 .866-1.023	SPGX09 DFT05 1.024-1.299	SPGX12 DFT06/..07 1.300-1.732	SPGX15 DFT07/..09 1.733-2.165
S	1	S	O	HP	KCU40	197	**230**	246	IPR	0.002 - 0.004	0.003 - 0.005	0.004 - 0.006	0.005 - 0.007
			I	MD	KC7140								
		U	O	HP	KCU40	131	**164**	197	IPR	0.001 - 0.002	0.002 - 0.002	0.002 - 0.003	0.002 - 0.004
			I	MD	KC7140								
		I	O	HP	KCU40	82	**98**	131	IPR	0.001 - 0.002	0.002 - 0.002	0.002 - 0.003	0.002 - 0.004
			I	MD	KC7140								
	2	S	O	HP	KCU40	164	**197**	230	IPR	0.002 - 0.004	0.003 - 0.005	0.004 - 0.006	0.005 - 0.007
			I	MD	KC7140								
		U	O	HP	KCU40	98	**131**	164	IPR	0.001 - 0.002	0.002 - 0.002	0.002 - 0.003	0.002 - 0.004
			I	MD	KC7140								
		I	O	HP	KCU40	82	**98**	131	IPR	0.001 - 0.002	0.002 - 0.002	0.002 - 0.003	0.002 - 0.004
			I	MD	KC7140								
	3	S	O	HP	KCU40	230	**262**	295	IPR	0.002 - 0.004	0.003 - 0.005	0.004 - 0.006	0.005 - 0.007
			I	MD	KC7140								
		U	O	HP	KCU40	164	**197**	230	IPR	0.001 - 0.002	0.002 - 0.002	0.002 - 0.003	0.002 - 0.004
			I	MD	KC7140								
		I	O	HP	KCU40	98	**131**	164	IPR	0.001 - 0.002	0.002 - 0.002	0.002 - 0.003	0.002 - 0.004
			I	MD	KC7140								
	4	S	O	HP	KCU40	230	**262**	295	IPR	0.002 - 0.004	0.003 - 0.005	0.004 - 0.006	0.005 - 0.007
			I	MD	KC7140								
		U	O	HP	KCU40	164	**197**	230	IPR	0.001 - 0.002	0.002 - 0.002	0.002 - 0.003	0.002 - 0.004
			I	MD	KC7140								
		I	O	HP	KCU40	98	**131**	164	IPR	0.001 - 0.002	0.002 - 0.002	0.002 - 0.003	0.002 - 0.004
			I	MD	KC7140								

NOTE: Applying Drill Fix™ DFS 5 x D requires high stability. It is highly recommended to be conservative in regard to speeds and feeds, and start with minimum values indicated.

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions

Pocket seat: I = Inboard insert; O = Outboard insert



Drill Fix™ DFT™

Drill Fix DFT is available in the diameter range .625–3.250" (24–82mm) as a versatile and reliable tool solution with a large portfolio of lengths, insert geometries, and grades.

Balanced cutting forces, improved chip flute, and coolant-channel design enable high metal removal rates and long tool body life. The trigon-shaped DFT inserts are used for both inboard and outboard inserts and offer the highest centering capabilities and three cutting edges each.

Features and Benefits

Productivity and Profitability

- Achieve high hole accuracy with trigon-shaped inboard inserts that offer the highest centering capabilities.
- Use X-offset on turning machines to adjust the drill diameter, eliminating the need for specials in many applications and on machining centers to reach tolerance optimization.
- Same insert size is used in each pocket reducing inventory costs.

Versatility

Use Drill Fix DFT as most versatile and reliable indexable drilling tool:

- Diameter range covering .625–3.250" (24–82mm).
- 2.5 x D and 4 x D L/D ratios are standard.
- Various shanks available as standard: WD, SSF, and new KM-TS™.
- Trigon-shaped inserts offer three cutting edges.
- Large variety of DFT insert grades and geometries available.
- Apply DFT drills to straight holes, inclined entries and exits, interrupted cuts, and rough or welded entry surfaces.
- Eccentric chuck available as standard.

Reliability

- Highest centering capabilities due to trigon-shaped insert.
- Same insert can be used as inboard or outboard insert — no risk of mixing up inner and outer inserts.
- Benefit from improved chip flute and coolant-channel design resulting in long tool body life and excellent chip evacuation.

Customization

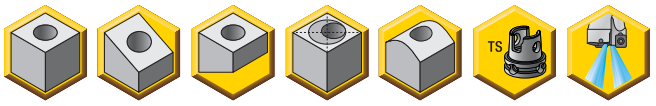
- Intermediate diameters available as semi-standards.
- Engineered solutions available.
- Multistep drills available upon request.
- Stacked material version.

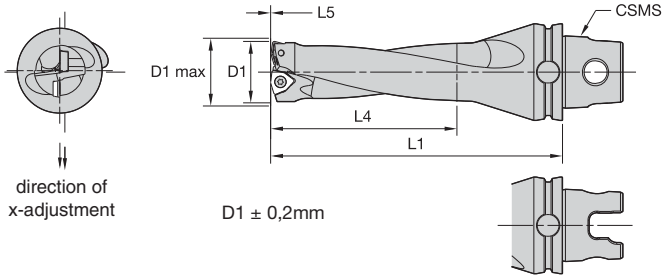


*To learn more, **scan here**.*

For instructions on how to scan, please see page xxix.

- Drill shipped with insert screws and Torx wrench.
- See pages J96–J99 for inserts.







KM40TS, KM50TS, KM63TS, and KM63XMZ Shanks • 3 x D • Metric

KM40TS	KM50TS	KM63TS	KM63XMZ	D1 mm	D1 in	D1 max	L1	L4 max	L5	gage insert
KM40TSDFT250R3M	KM50TSDFT250R3M	KM63TSDFT250R3M	KM63XMZDFT250R3YM	25,00	.984	27,00	119,0	75,0	0,9	DFT05T3..
KM40TSDFT270R3M	KM50TSDFT270R3M	KM63TSDFT270R3M	KM63XMZDFT270R3YM	27,00	1.063	29,00	126,0	81,0	1,1	DFT05T3..
KM40TSDFT290R3M	KM50TSDFT290R3M	KM63TSDFT290R3M	KM63XMZDFT290R3YM	29,00	1.142	31,00	133,0	87,0	1,2	DFT05T3..
KM40TSDFT310R3M	KM50TSDFT310R3M	KM63TSDFT310R3M	KM63XMZDFT310R3YM	31,00	1.221	33,00	140,0	93,0	1,3	DFT05T3..
–	KM50TSDFT330R3M	KM63TSDFT330R3M	KM63XMZDFT330R3YM	33,00	1.299	35,00	147,0	99,0	1,3	DFT06T3..
–	KM50TSDFT350R3M	KM63TSDFT350R3M	KM63XMZDFT350R3YM	35,00	1.378	37,00	154,0	105,0	1,5	DFT06T3..
–	KM50TSDFT380R3M	KM63TSDFT380R3M	KM63XMZDFT380R3YM	38,00	1.496	40,00	164,0	114,0	1,7	DFT06T3..
–	–	KM63TSDFT410R3M	KM63XMZDFT410R3YM	41,00	1.614	43,00	175,0	123,0	1,8	DFT0704..
–	–	KM63TSDFT440R3M	KM63XMZDFT440R3YM	44,00	1.732	46,00	185,0	132,0	2,0	DFT0704..
–	–	KM63TSDFT470R3M	KM63XMZDFT470R3YM	47,00	1.850	49,00	196,0	141,0	2,2	DFT0704..

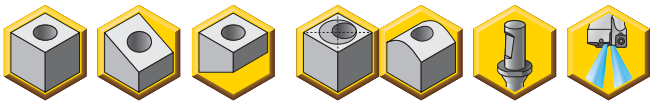
KM40TS, KM50TS, KM63TS, and KM63XMZ Shanks • 3 x D • Inch

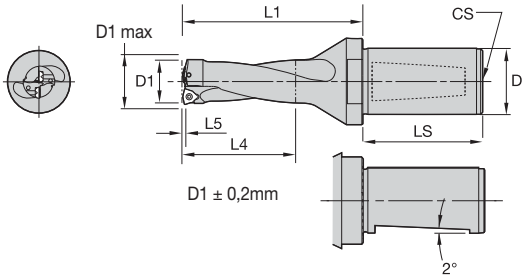
KM40TS	KM50TS	KM63TS	KM63XMZ	D1 in	D1 mm	D1 max	L1	L4 max	L5	gage insert
KM40TSDFT1000R3	KM50TSDFT1000R3	KM63TSDFT1000R3	KM63XMZDFT1000R3Y	1.000	25,40	1.040	4.75	3.00	.04	DFT05T3..
KM40TSDFT1125R3	KM50TSDFT1125R3	KM63TSDFT1125R3	–	1.125	28,58	1.165	5.25	3.38	.05	DFT05T3..
KM40TSDFT1250R3	KM50TSDFT1250R3	KM63TSDFT1250R3	–	1.250	31,75	1.290	5.63	3.75	.05	DFT05T3..
–	KM50TSDFT1313R3	KM63TSDFT1313R3	KM63XMZDFT1313R3Y	1.313	33,35	1.353	5.88	3.94	.05	DFT06T3..
–	KM50TSDFT1438R3	KM63TSDFT1438R3	KM63XMZDFT1438R3Y	1.438	36,53	1.478	6.38	4.31	.06	DFT06T3..
–	KM50TSDFT1500R3	–	–	1.500	38,10	1.540	6.50	4.50	.07	DFT06T3..
–	KM50TSDFT1563R3	KM63TSDFT1563R3	KM63XMZDFT1563R3Y	1.563	39,70	1.603	6.75	4.69	.07	DFT06T3..
–	–	KM63TSDFT1688R3	KM63XMZDFT1688R3Y	1.688	42,88	1.728	7.25	5.06	.07	DFT0704..
–	–	KM63TSDFT1750R3	–	1.750	44,45	1.790	7.38	5.25	.08	DFT0704..
–	–	KM63TSDFT1875R3	KM63XMZDFT1875R3Y	1.875	47,63	1.915	7.88	5.63	.09	DFT0704..

WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

gage insert	insert screw	Torx wrench	Torx size
DFT05T3..	**191.924**	**170.024**	9
DFT06T3..	**191.848**	**170.025**	15
DFT0704..	**191.698**	**170.025**	15

- Drill shipped with insert screws and Torx wrench.
- See pages J96–J99 for inserts.







WN/WD Shank • 2.5 x D • Metric

D			D1		D1				
32	40	50	mm	in	max	L1	L4 max	L5	gage insert
DFT250R2WD32M	DFT250R2WD40M	–	25,00	.984	27,00	90,0	58,9	0,9	DFT05T3..
DFT260R2WD32M	DFT260R2WD40M	–	26,00	1.024	27,00	90,0	59,1	1,1	DFT05T3..
DFT270R2WD32M	DFT270R2WD40M	–	27,00	1.063	29,00	100,0	66,1	1,1	DFT05T3..
DFT280R2WD32M	DFT280R2WD40M	–	28,00	1.102	29,00	100,0	66,3	1,3	DFT05T3..
DFT290R2WD32M	DFT290R2WD40M	–	29,00	1.142	31,00	100,0	66,3	1,3	DFT05T3..
DFT300R2WD32M	DFT300R2WD40M	–	30,00	1.181	31,00	115,0	76,4	1,4	DFT05T3..
DFT310R2WD32M	DFT310R2WD40M	–	31,00	1.221	33,00	115,0	76,4	1,4	DFT05T3..
DFT320R2WD32M	DFT320R2WD40M	–	32,00	1.260	33,00	115,0	76,5	1,5	DFT05T3..
DFT330R2WD32M	DFT330R2WD40M	–	33,00	1.299	35,00	115,0	76,4	1,4	DFT06T3..
DFT340R2WD32M	DFT340R2WD40M	–	34,00	1.339	35,00	115,0	76,5	1,5	DFT06T3..
DFT350R2WD32M	DFT350R2WD40M	–	35,00	1.378	38,00	115,0	76,6	1,6	DFT06T3..
DFT360R2WD32M	DFT360R2WD40M	–	36,00	1.417	37,00	115,0	76,8	1,8	DFT06T3..
DFT370R2WD32M	DFT370R2WD40M	–	37,00	1.457	38,00	135,0	96,7	1,7	DFT06T3..
DFT380R2WD32M	DFT380R2WD40M	–	38,00	1.496	41,00	135,0	96,8	1,8	DFT06T3..
DFT390R2WD32M	DFT390R2WD40M	–	39,00	1.535	40,00	135,0	96,9	1,9	DFT06T3..
DFT400R2WD32M	DFT400R2WD40M	–	40,00	1.575	41,00	135,0	97,0	2,0	DFT06T3..
DFT410R2WD32M	DFT410R2WD40M	–	41,00	1.614	44,00	135,0	96,9	1,9	DFT0704..
DFT420R2WD32M	DFT420R2WD40M	–	42,00	1.654	43,00	135,0	96,9	2,0	DFT0704..
DFT430R2WD32M	DFT430R2WD40M	–	43,00	1.693	44,00	150,0	112,1	2,1	DFT0704..
DFT440R2WD32M	DFT440R2WD40M	–	44,00	1.732	47,00	150,0	112,1	2,1	DFT0704..
–	DFT450R2WD40M	DFT450R2WD50M	45,00	1.772	46,00	150,0	112,2	2,2	DFT0704..
–	DFT460R2WD40M	DFT460R2WD50M	46,00	1.811	47,00	150,0	112,0	2,3	DFT0704..
–	DFT470R2WD40M	DFT470R2WD50M	47,00	1.850	50,00	150,0	111,5	2,4	DFT0704..
–	DFT480R2WD40M	DFT480R2WD50M	48,00	1.890	49,00	150,0	111,0	2,4	DFT0704..
–	DFT490R2WD40M	DFT490R2WD50M	49,00	1.929	50,00	165,0	117,2	2,2	DFT0905..
–	DFT500R2WD40M	DFT500R2WD50M	50,00	1.969	54,00	165,0	117,2	2,2	DFT0905..
–	DFT510R2WD40M	DFT510R2WD50M	51,00	2.008	52,00	165,0	117,4	2,5	DFT0905..
–	DFT520R2WD40M	DFT520R2WD50M	52,00	2.047	53,00	165,0	117,5	2,6	DFT0905..
–	DFT530R2WD40M	DFT530R2WD50M	53,00	2.087	54,00	165,0	117,6	2,6	DFT0905..
–	DFT540R2WD40M	DFT540R2WD50M	54,00	2.126	58,00	165,0	117,7	2,7	DFT0905..
–	–	DFT550R2WD50M	55,00	2.165	56,00	180,0	125,0	2,7	DFT0905..
–	–	DFT560R2WD50M	56,00	2.205	57,00	180,0	125,0	2,8	DFT0905..
–	–	DFT570R2WD50M	57,00	2.244	58,00	180,0	125,0	2,9	DFT0905..
–	–	DFT580R2WD50M	58,00	2.284	62,00	180,0	125,0	3,0	DFT0905..
–	–	DFT590R2WD50M	59,00	2.323	60,00	180,0	125,0	3,0	DFT0905..
–	–	DFT600R2WD50M	60,00	2.362	61,00	180,0	125,0	3,1	DFT0905..
–	–	DFT610R2WD50M	61,00	2.402	62,00	180,0	125,0	3,2	DFT0905..
–	–	DFT620R2WD50M	62,00	2.441	65,00	180,0	125,0	3,2	DFT0905..
–	–	DFT630R2WD50M	63,00	2.480	64,00	180,0	125,0	3,3	DFT0905..
–	–	DFT640R2WD50M	64,00	2.520	65,00	180,0	125,0	3,4	DFT0905..

(continued)

(WN/WD Shank • 2.5 x D • Metric continued)

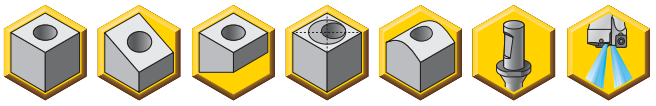
D			D1		D1				
32	40	50	mm	in	max	L1	L4 max	L5	gage insert
–	–	**DFT650R2WD50M**	65,00	2.559	66,00	180,0	125,0	3,4	DFT0905..
–	–	**DFT660R2WD50M**	66,00	2.598	69,00	180,0	125,0	3,5	DFT0905..
–	–	**DFT670R2WD50M**	67,00	2.638	67,00	180,0	125,0	3,5	DFT0905..
–	–	**DFT680R2WD50M**	68,00	2.677	69,00	180,0	125,0	3,6	DFT0905..
–	–	**DFT690R2WD50M**	69,00	2.717	73,00	205,0	140,0	3,6	DFT1105..
–	–	**DFT700R2WD50M**	70,00	2.756	71,00	205,0	140,0	3,6	DFT1105..
–	–	**DFT710R2WD50M**	71,00	2.795	72,00	205,0	140,0	3,9	DFT1105..
–	–	**DFT720R2WD50M**	72,00	2.835	73,00	205,0	140,0	3,9	DFT1105..
–	–	**DFT730R2WD50M**	73,00	2.874	79,00	205,0	140,0	4,0	DFT1105..
–	–	**DFT740R2WD50M**	74,00	2.913	75,00	205,0	140,0	4,1	DFT1105..
–	–	**DFT750R2WD50M**	75,00	2.953	76,00	205,0	140,0	4,2	DFT1105..
–	–	**DFT760R2WD50M**	76,00	2.992	77,00	205,0	140,0	4,2	DFT1105..
–	–	**DFT770R2WD50M**	77,00	3.032	78,00	205,0	140,0	4,3	DFT1105..
–	–	**DFT780R2WD50M**	78,00	3.071	79,00	205,0	140,0	4,3	DFT1105..
–	–	**DFT790R2WD50M**	79,00	3.110	82,00	205,0	140,0	4,4	DFT1105..
–	–	**DFT800R2WD50M**	80,00	3.150	81,00	205,0	140,0	4,5	DFT1105..
–	–	**DFT810R2WD50M**	81,00	3.189	82,00	205,0	140,0	4,5	DFT1105..
–	–	**DFT820R2WD50M**	82,00	3.228	83,00	205,0	140,0	4,5	DFT1105..

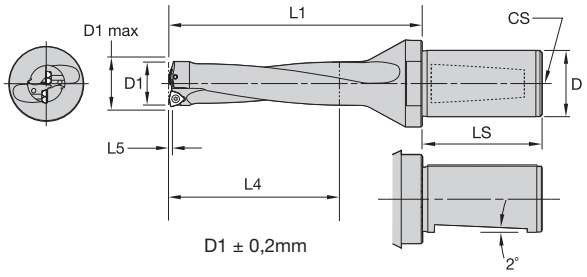
WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

gage insert	 insert screw	 Torx wrench	Torx size
DFT05T3..	**191.924**	**170.024**	9
DFT06T3..	**191.848**	**170.025**	15
DFT0704..	**191.698**	**170.025**	15
DFT0905..	**191.726**	**170.026**	20
DFT1105..	**191.375**	**170.026**	20

D	LS	CS
32	58	R 1/4 BSP
40	68	R 1/4 BSP
50	68	R 1/4 BSP

- Drill shipped with insert screws and Torx wrench.
- See pages J96–J99 for inserts.







WN/WD Shank • 4 x D • Metric

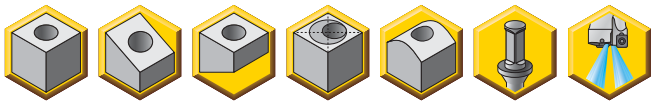
D		D1		D1				gage
32	40	mm	in	max	L1	L4 max	L5	insert
DFT250R4WD32M	**DFT250R4WD40M**	25,00	.984	27,00	135,0	100,0	0,8	DFT05T3..
DFT260R4WD32M	**DFT260R4WD40M**	26,00	1.024	27,00	139,0	104,0	0,9	DFT05T3..
DFT270R4WD32M	**DFT270R4WD40M**	27,00	1.063	29,00	143,0	108,0	1,0	DFT05T3..
DFT280R4WD32M	**DFT280R4WD40M**	28,00	1.102	29,00	156,0	112,0	1,1	DFT05T3..
DFT290R4WD32M	**DFT290R4WD40M**	29,00	1.142	31,00	151,0	116,0	1,1	DFT05T3..
DFT300R4WD32M	**DFT300R4WD40M**	30,00	1.181	31,00	160,0	120,0	1,2	DFT05T3..
DFT310R4WD32M	**DFT310R4WD40M**	31,00	1.221	33,00	164,0	124,0	1,3	DFT05T3..
DFT320R4WD32M	**DFT320R4WD40M**	32,00	1.260	33,00	168,0	128,0	1,3	DFT05T3..
–	**DFT330R4WD40M**	33,00	1.299	35,00	177,0	132,0	1,1	DFT06T3..
–	**DFT340R4WD40M**	34,00	1.339	35,00	181,0	136,0	1,3	DFT06T3..
–	**DFT350R4WD40M**	35,00	1.378	38,00	185,0	140,0	1,3	DFT06T3..
–	**DFT360R4WD40M**	36,00	1.417	37,00	189,0	144,0	1,4	DFT06T3..
–	**DFT370R4WD40M**	37,00	1.457	38,00	198,0	148,0	1,5	DFT06T3..
–	**DFT380R4WD40M**	38,00	1.496	41,00	202,0	152,0	1,5	DFT06T3..
–	**DFT390R4WD40M**	39,00	1.535	40,00	206,0	156,0	1,6	DFT06T3..
–	**DFT400R4WD40M**	40,00	1.575	41,00	210,0	160,0	1,7	DFT06T3..
–	**DFT410R4WD40M**	41,00	1.614	44,00	214,0	164,0	1,6	DFT0704..
–	**DFT420R4WD40M**	42,00	1.654	43,00	223,0	168,0	1,7	DFT0704..
–	**DFT430R4WD40M**	43,00	1.693	44,00	227,0	172,0	1,7	DFT0704..
–	**DFT440R4WD40M**	44,00	1.732	47,00	231,0	176,0	1,8	DFT0704..
–	**DFT450R4WD40M**	45,00	1.772	46,00	240,0	180,0	1,9	DFT0704..
–	**DFT460R4WD40M**	46,00	1.811	47,00	244,0	184,0	1,9	DFT0704..
–	**DFT470R4WD40M**	47,00	1.850	50,00	248,0	188,0	2,0	DFT0704..
–	**DFT480R4WD40M**	48,00	1.890	49,00	252,0	192,0	2,0	DFT0704..

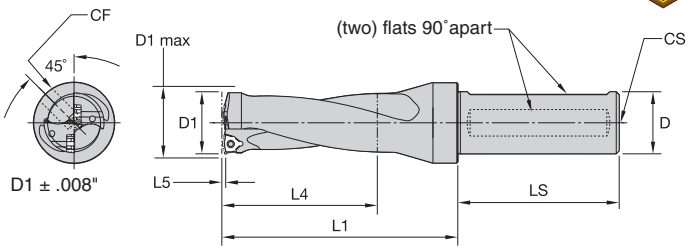
WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

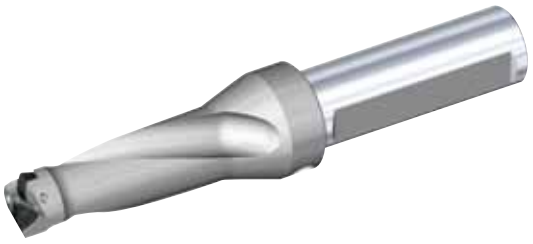
gage insert	 insert screw	 Torx wrench	Torx size
DFT05T3..	**191.924**	**170.024**	9
DFT06T3..	**191.848**	**170.025**	15
DFT0704..	**191.698**	**170.025**	15

D	LS	CS
32	58	R 1/4 BSP
40	68	R 1/4 BSP

- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- See pages J96–J99 for inserts.







Flange Shank • 2.5 x D • Inch

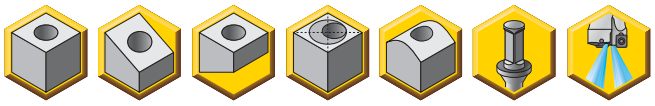
D			D1		D1				
1.250	1.500	2.000	in	mm	max	L1	L4 max	L5	gage insert
DFT0984R2SSF125	–	–	.984	25,00	1.109	3.88	2.50	.04	DFT05T3..
DFT1000R2SSF125	DFT1000R2SSF150	–	1.000	25,40	1.125	4.00	2.50	.04	DFT05T3..
DFT1031R2SSF125	–	–	1.031	26,20	1.156	4.00	2.60	.04	DFT05T3..
DFT1063R2SSF125	–	–	1.063	26,99	1.188	4.13	2.65	.04	DFT05T3..
DFT1094R2SSF125	–	–	1.094	27,79	1.219	4.13	2.70	.05	DFT05T3..
DFT1125R2SSF125	–	–	1.125	28,58	1.250	4.38	2.85	.05	DFT05T3..
DFT1156R2SSF125	–	–	1.156	29,36	1.281	4.38	2.89	.05	DFT05T3..
DFT1188R2SSF125	–	–	1.188	30,16	1.288	4.50	3.00	.05	DFT05T3..
DFT1219R2SSF125	DFT1219R2SSF150	–	1.219	30,96	1.319	4.63	3.05	.06	DFT05T3..
DFT1250R2SSF125	DFT1250R2SSF150	–	1.250	31,75	1.325	4.75	3.13	.06	DFT05T3..
DFT1281R2SSF125	DFT1281R2SSF150	–	1.281	32,55	1.345	4.75	3.20	.06	DFT05T3..
DFT1313R2SSF125	DFT1313R2SSF150	–	1.313	33,34	1.438	4.88	3.30	.05	DFT06T3..
DFT1375R2SSF125	DFT1375R2SSF150	–	1.375	34,93	1.500	5.13	3.45	.06	DFT06T3..
DFT1406R2SSF125	DFT1406R2SSF150	–	1.406	35,71	1.531	5.13	3.50	.06	DFT06T3..
DFT1438R2SSF125	DFT1438R2SSF150	–	1.438	36,51	1.563	5.25	3.60	.07	DFT06T3..
DFT1469R2SSF125	DFT1469R2SSF150	–	1.469	37,31	1.594	5.38	3.70	.07	DFT06T3..
DFT1500R2SSF125	DFT1500R2SSF150	–	1.500	38,10	1.625	5.50	3.75	.07	DFT06T3..
DFT1531R2SSF125	DFT1531R2SSF150	–	1.531	38,89	1.656	5.50	3.85	.07	DFT06T3..
DFT1563R2SSF125	DFT1563R2SSF150	–	1.563	39,69	1.688	5.63	3.90	.07	DFT06T3..
DFT1625R2SSF125	DFT1625R2SSF150	–	1.625	41,28	1.750	5.88	4.10	.07	DFT0704..
DFT1688R2SSF125	DFT1688R2SSF150	–	1.688	42,86	1.813	6.00	4.25	.08	DFT0704..
–	DFT1750R2SSF150	–	1.750	44,45	1.875	6.25	4.38	.08	DFT0704..
–	DFT1813R2SSF150	–	1.813	46,04	1.938	6.38	4.55	.09	DFT0704..
–	DFT1875R2SSF150	–	1.875	47,63	2.000	6.63	4.70	.09	DFT0704..
–	DFT1938R2SSF150	–	1.938	49,21	2.188	6.75	4.85	.08	DFT0905..
–	DFT2000R2SSF150	DFT2000R2SSF200	2.000	50,80	2.250	7.00	5.00	.09	DFT0905..
–	DFT2125R2SSF150	DFT2125R2SSF200	2.125	53,98	2.375	7.38	5.35	.10	DFT0905..
–	–	DFT2250R2SSF200	2.250	57,15	2.500	7.75	5.63	.11	DFT0905..
–	–	DFT2375R2SSF200	2.375	60,33	2.590	8.13	5.95	.12	DFT0905..
–	–	DFT2500R2SSF200	2.500	63,50	2.650	8.50	6.25	.12	DFT0905..
–	–	DFT2750R2SSF200	2.750	69,85	3.050	9.13	6.88	.00	DFT1105..
–	–	DFT3000R2SSF200	3.000	76,20	3.150	10.00	7.50	.15	DFT1105..
–	–	DFT3250R2SSF200	3.250	82,55	3.260	10.26	8.13	.16	DFT1105..

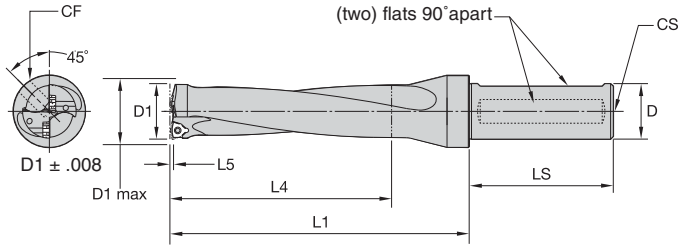
WARNING
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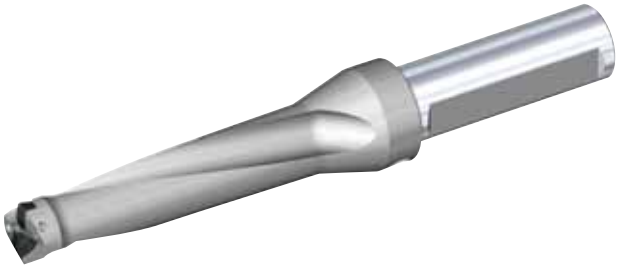
gage insert	insert screw	Torx wrench	Torx size
DFT05T3..	191.924	170.024	9
DFT06T3..	191.848	170.025	15
DFT0704..	191.698	170.025	15
DFT0905..	191.726	170.026	20
DFT1105..	191.375	170.026	20

D	LS	CF	CS	pipe plug
1.25	3.25	1/8-27 NPT	R 1/4-18 NPT	HSFS0125
1.50	3.75	1/8-27 NPT	R 1/4-18 NPT	HSFS0125
2.00	4.00	1/8-27 NPT	R 1/4-18 NPT	HSFS0125

- Drill shipped with insert screws, side pipe plug, and Torx wrench.
- See pages J96–J99 for inserts.







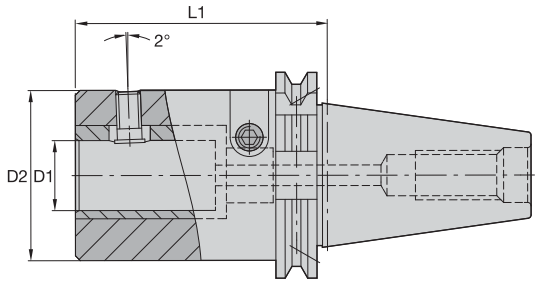
Flange Shank • 4 x D • Inch

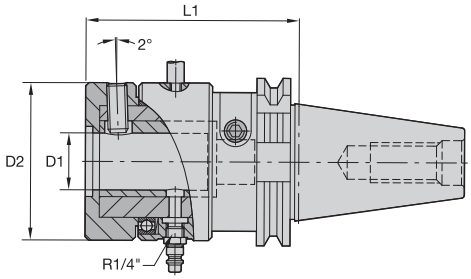
D 1.000	D 1.250	D 1.500	D 2.000	D1 in	D1 mm	D1 max	L1	L4 max	L5	gage insert
DFT0984R4SSF100	–	–	–	.984	25,00	1.109	5.50	3.94	.03	DFT05T3..
DFT1000R4SSF100	**DFT1000R4SSF125**	**DFT1000R4SSF150**	–	1.000	25,40	1.125	5.63	4.00	.03	DFT05T3..
–	**DFT1031R4SSF125**	–	–	1.031	26,20	1.156	5.75	4.13	.04	DFT05T3..
–	**DFT1063R4SSF125**	–	–	1.063	26,99	1.188	5.88	4.25	.04	DFT05T3..
–	**DFT1094R4SSF125**	–	–	1.094	27,78	1.219	5.88	4.38	.04	DFT05T3..
–	**DFT1125R4SSF125**	**DFT1125R4SSF150**	–	1.125	28,58	1.250	6.13	4.50	.04	DFT05T3..
–	**DFT1156R4SSF125**	–	–	1.156	29,37	1.281	6.13	4.63	.05	DFT05T3..
–	**DFT1188R4SSF125**	–	–	1.188	30,16	1.288	6.50	4.75	.05	DFT05T3..
–	**DFT1219R4SSF125**	–	–	1.219	30,96	1.319	6.63	4.88	.05	DFT05T3..
–	**DFT1250R4SSF125**	**DFT1250R4SSF150**	–	1.250	31,75	1.325	6.75	5.00	.05	DFT05T3..
–	**DFT1281R4SSF125**	–	–	1.281	32,55	1.345	6.88	5.13	.05	DFT05T3..
–	**DFT1313R4SSF125**	–	–	1.313	33,34	1.438	7.00	5.25	.05	DFT06T3..
–	**DFT1375R4SSF125**	**DFT1375R4SSF150**	–	1.375	34,93	1.500	7.25	5.50	.05	DFT06T3..
–	**DFT1406R4SSF125**	–	–	1.406	35,72	1.531	7.25	5.63	.05	DFT06T3..
–	**DFT1438R4SSF125**	**DFT1438R4SSF150**	–	1.438	36,51	1.563	7.63	5.75	.06	DFT06T3..
–	**DFT1469R4SSF125**	–	–	1.469	37,31	1.594	7.75	5.88	.06	DFT06T3..
–	**DFT1500R4SSF125**	**DFT1500R4SSF150**	–	1.500	38,10	1.625	7.88	6.00	.06	DFT06T3..
–	**DFT1531R4SSF125**	**DFT1531R4SSF150**	–	1.531	38,90	1.656	7.88	6.13	.06	DFT06T3..
–	**DFT1563R4SSF125**	**DFT1563R4SSF150**	–	1.563	39,69	1.688	8.13	6.25	.06	DFT06T3..
–	**DFT1625R4SSF125**	**DFT1625R4SSF150**	–	1.625	41,28	1.750	8.38	6.50	.06	DFT0704..
–	**DFT1688R4SSF125**	**DFT1688R4SSF150**	–	1.688	42,86	1.813	8.75	6.75	.07	DFT0704..
–	–	**DFT1750R4SSF150**	–	1.750	44,45	1.875	9.00	7.00	.07	DFT0704..
–	–	**DFT1813R4SSF150**	–	1.813	46,04	1.938	9.25	7.25	.08	DFT0704..
–	–	**DFT1875R4SSF150**	–	1.875	47,63	2.000	9.50	7.50	.08	DFT0704..
–	–	**DFT1938R4SSF150**	–	1.938	49,21	2.188	9.88	7.75	.07	DFT0905..
–	–	**DFT2000R4SSF150**	**DFT2000R4SSF200**	2.000	50,80	2.250	10.13	8.00	.07	DFT0905..
–	–	**DFT2125R4SSF150**	**DFT2125R4SSF200**	2.125	53,98	2.375	10.63	8.50	.09	DFT0905..

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gage insert	insert screw	Torx wrench	Torx size
DFT05T3..	**191.924**	**170.024**	9
DFT06T3..	**191.848**	**170.025**	15
DFT0704..	**191.698**	**170.025**	15
DFT0905..	**191.726**	**170.026**	20

D	LS	CF	CS	pipe plug
1.00	3.00	1/8-27 NPT	R 1/4-18 NPT	**HSFS0125**
1.25	3.25	1/8-27 NPT	R 1/4-18 NPT	**HSFS0125**
1.50	3.75	1/8-27 NPT	R 1/4-18 NPT	**HSFS0125**
2.00	4.00	1/8-27 NPT	R 1/4-18 NPT	**HSFS0125**





catalog number	D1	D2	L1	SK 40 DIN 69871 A	SK 40 MAS 403 BT	SK 50 DIN 69871 A	SK 50 MAS 403 BT	coolant ring	kg	lbs
BT40BEWD20096M	20,00	63,0	96,0	–	●	–	–	–	3,0	6.6
DV40BEWD20090M	20,00	63,0	96,0	●	–	–	–	–	3,0	6.6
DV50BEWD32108M	32,00	63,0	108,0	–	–	●	–	–	4,3	9.5
DV40RMEWD32108M	32,00	90,0	108,0	●	–	–	–	●	4,0	8.8
BT50BEWD32127M	32,00	63,0	108,0	–	–	–	●	–	4,3	9.5
DV40BEWD32108M	32,00	63,0	108,0	●	–	–	–	–	4,0	8.8
BT40BEWD32114M	32,00	63,0	114,0	–	●	–	–	–	3,4	7.5
BT40RMEWD32114M	32,00	90,0	114,0	–	●	–	–	●	4,0	8.8
DV50RMEWD32108M	32,00	90,0	108,0	–	–	●	–	●	6,9	15.2

NOTE: $n$max: 4800 U/min; Pmax: 20 bar

With Coolant Ring

D1	clamping screw	adjusting screw	bumper bar	eccentric bushing	dial key
32	**192.941**	**570.850**	**169.974**	**536.088**	**170.236**

Without Coolant Ring

D1	clamping screw	adjusting screw	eccentric bushing	dial key
20	**193.203**	**570.850**	**536.090**	**170.236**
32	**193.204**	**570.850**	**536.091**	**170.236**

SAFETY NOTE: Use only the supplied plug-in nipple with nominal breakage point: R 1/4" (6,35mm), catalog number 191.469.
Intermediate sleeve with dial key included (for coolant ring version, use dial key, bumper bar, and plug-in nipple with predetermined breaking point).

DFT™ • Metric

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric						
									Recommended Feed Rate (f) by Diameter						
						min	Starting Value	max	Ø (mm)	DFT03... 16,00-24,00	DFT05... 25,00-32,00	DFT06... 33,00-40,00	DFT07... 41,00-48,00	DFT09... 49,00-68,00	DFT11... 69,00-82,00
P	1	S	O	MD	KCU25	310	**325**	360	mm/r	0,06 - 0,10	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25	0,19 - 0,31	0,19 - 0,31
			I	MD	KC7140										
		U	O	MD	KCU25	200	**215**	230	mm/r	0,06 - 0,10	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25	0,19 - 0,31	0,19 - 0,31
			I	MD	KC7140										
		I	O	MD	KCU40	130	**135**	150	mm/r	0,06 - 0,10	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25	0,19 - 0,31	0,19 - 0,31
			I	MD	KC7140										
	2	S	O	HP	KCPK10	310	**325**	360	mm/r	0,06 - 0,10	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25	0,19 - 0,31	0,19 - 0,31
			I	HP	KC7140										
		U	O	HP	KCU25	200	**215**	230	mm/r	0,06 - 0,10	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25	0,19 - 0,31	0,19 - 0,31
			I	HP	KC7140										
		I	O	HP	KCU40	130	**135**	150	mm/r	0,06 - 0,10	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25	0,19 - 0,31	0,19 - 0,31
			I	HP	KC7140										
	3	S	O	HP	KCPK10	260	**285**	320	mm/r	0,06 - 0,10	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25	0,19 - 0,31	0,19 - 0,31
			I	HP	KC7140										
		U	O	HP	KCU25	180	**195**	220	mm/r	0,06 - 0,10	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25	0,19 - 0,31	0,19 - 0,31
			I	HP	KC7140										
		I	O	HP	KCU40	110	**120**	140	mm/r	0,06 - 0,10	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25	0,19 - 0,31	0,19 - 0,31
			I	HP	KC7140										
	4	S	O	HP	KCU25	220	**250**	300	mm/r	0,06 - 0,10	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25	0,19 - 0,31	0,19 - 0,31
			I	HP	KC7140										
		U	O	HP	KCU40	150	**180**	220	mm/r	0,06 - 0,10	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25	0,19 - 0,31	0,19 - 0,31
			I	HP	KC7140										
		I	O	HP	KC7140	90	**110**	140	mm/r	0,06 - 0,10	0,09 - 0,15	0,11 - 0,18	0,15 - 0,25	0,19 - 0,31	0,19 - 0,31
			I	HP	KC7140										
	5	S	O	HP	KCU25	180	**200**	220	mm/r	0,05 - 0,10	0,07 - 0,13	0,09 - 0,15	0,11 - 0,18	0,12 - 0,23	0,12 - 0,23
			I	HP	KC7140										
		U	O	HP	KCU40	120	**135**	150	mm/r	0,05 - 0,10	0,07 - 0,13	0,09 - 0,15	0,11 - 0,18	0,12 - 0,23	0,12 - 0,23
			I	HP	KC7140										
		I	O	HP	KC7140	70	**85**	100	mm/r	0,05 - 0,10	0,07 - 0,13	0,09 - 0,15	0,11 - 0,18	0,12 - 0,23	0,12 - 0,23
			I	HP	KC7140										
	6	S	O	HP	KCU25	180	**200**	220	mm/r	0,05 - 0,10	0,07 - 0,13	0,09 - 0,15	0,11 - 0,18	0,12 - 0,23	0,12 - 0,23
			I	HP	KC7140										
		U	O	HP	KCU40	120	**135**	150	mm/r	0,05 - 0,10	0,07 - 0,13	0,09 - 0,15	0,11 - 0,18	0,12 - 0,23	0,12 - 0,23
			I	HP	KC7140										
		I	O	HP	KC7140	70	**85**	100	mm/r	0,05 - 0,10	0,07 - 0,13	0,09 - 0,15	0,11 - 0,18	0,12 - 0,23	0,12 - 0,23
			I	HP	KC7140										
M	1	S	O	MD	KC7140	150	**190**	230	mm/r	0,05 - 0,09	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18	0,11 - 0,21	0,11 - 0,21
			I	MD	KC7140										
		U	O	MD	KC7140	100	**130**	160	mm/r	0,05 - 0,09	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18	0,11 - 0,21	0,11 - 0,21
			I	MD	KC7140										
		I	O	MD	KC7140	60	**80**	100	mm/r	0,05 - 0,09	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18	0,11 - 0,21	0,11 - 0,21
			I	MD	KC7140										
	2	S	O	MD	KC7140	150	**180**	210	mm/r	0,05 - 0,09	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18	0,11 - 0,21	0,11 - 0,21
			I	MD	KC7140										
		U	O	MD	KC7140	100	**130**	160	mm/r	0,05 - 0,09	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18	0,11 - 0,21	0,11 - 0,21
			I	MD	KC7140										
		I	O	MD	KC7140	60	**80**	100	mm/r	0,05 - 0,09	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18	0,11 - 0,21	0,11 - 0,21
			I	MD	KC7140										
	3	S	O	MD	KC7140	100	**130**	160	mm/r	0,05 - 0,09	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18	0,11 - 0,21	0,11 - 0,21
			I	MD	KC7140										
		U	O	MD	KC7140	80	**110**	140	mm/r	0,05 - 0,09	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18	0,11 - 0,21	0,11 - 0,21
			I	MD	KC7140										
		I	O	MD	KC7140	50	**70**	90	mm/r	0,05 - 0,09	0,07 - 0,13	0,08 - 0,16	0,10 - 0,18	0,11 - 0,21	0,11 - 0,21
			I	MD	KC7140										

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

DFT™ • Metric

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric						
									Recommended Feed Rate (f) by Diameter						
						min	Starting Value	max	Ø (mm)	DFT03... 16,00-24,00	DFT05... 25,00-32,00	DFT06... 33,00-40,00	DFT07... 41,00-48,00	DFT09... 49,00-68,00	DFT11... 69,00-82,00
K	1	S	O	HP	KCPK10	200	**240**	300	mm/r	0,07 - 0,13	0,10 - 0,18	0,14 - 0,26	0,18 - 0,33	0,21 - 0,39	0,21 - 0,39
			I	HP	KCU40										
		U	O	HP	KCU25	120	**155**	200	mm/r	0,07 - 0,13	0,10 - 0,18	0,14 - 0,26	0,18 - 0,33	0,21 - 0,39	0,21 - 0,39
			I	HP	KCU40										
		I	O	HP	KCU40	80	**100**	125	mm/r	0,07 - 0,13	0,10 - 0,18	0,14 - 0,26	0,18 - 0,33	0,21 - 0,39	0,21 - 0,39
			I	HP	KC7140										
	2	S	O	HP	KCPK10	180	**220**	260	mm/r	0,07 - 0,13	0,10 - 0,18	0,14 - 0,26	0,18 - 0,33	0,21 - 0,39	0,21 - 0,39
			I	HP	KCU40										
		U	O	HP	KCU25	110	**140**	170	mm/r	0,07 - 0,13	0,10 - 0,18	0,14 - 0,26	0,18 - 0,33	0,21 - 0,39	0,21 - 0,39
			I	HP	KC7140										
		I	O	HP	KCU40	80	**100**	120	mm/r	0,07 - 0,13	0,10 - 0,18	0,14 - 0,26	0,18 - 0,33	0,21 - 0,39	0,21 - 0,39
			I	HP	KC7140										
	3	S	O	HP	KCPK10	180	**220**	260	mm/r	0,07 - 0,13	0,10 - 0,18	0,14 - 0,26	0,18 - 0,33	0,21 - 0,39	0,21 - 0,39
			I	HP	KCU40										
		U	O	HP	KCU25	110	**140**	170	mm/r	0,07 - 0,13	0,10 - 0,18	0,14 - 0,26	0,18 - 0,33	0,21 - 0,39	0,21 - 0,39
			I	HP	KC7140										
		I	O	HP	KCU40	80	**100**	120	mm/r	0,07 - 0,13	0,10 - 0,18	0,14 - 0,26	0,18 - 0,33	0,21 - 0,39	0,21 - 0,39
			I	HP	KC7140										
N	1	S	O	ST	KD1425	400	**600**	800	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	ST	KD1425										
		U	O	HP	KCU40	300	**400**	500	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	HP	KCU40										
		I	O	HP	KMF	200	**300**	400	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	HP	KMF										
	2	S	O	ST	KD1425	375	**550**	775	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	ST	KD1425										
		U	O	HP	KCU40	250	**350**	450	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	HP	KCU40										
		I	O	HP	KMF	175	**250**	325	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	HP	KMF										
	3	S	O	ST	KD1425	350	**500**	650	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	ST	KD1425										
		U	O	HP	KCU40	250	**350**	450	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	HP	KCU40										
		I	O	HP	KMF	150	**250**	350	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	HP	KMF										
	4	S	O	ST	KD1425	400	**600**	800	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	ST	KD1425										
		U	O	HP	KCU40	250	**350**	450	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	HP	KCU40										
		I	O	HP	KMF	200	**300**	400	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	HP	KMF										
	5	S	O	ST	KD1425	400	**600**	800	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	ST	KD1425										
		U	O	HP	KCU40	250	**350**	450	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	HP	KCU40										
		I	O	HP	KMF	200	**300**	400	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	HP	KMF										

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

DFT™ • Metric

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric						
									Recommended Feed Rate (f) by Diameter						
						min	Starting Value	max	Ø (mm)	DFT03... 16,00-24,00	DFT05... 25,00-32,00	DFT06... 33,00-40,00	DFT07... 41,00-48,00	DFT09... 49,00-68,00	DFT11... 69,00-82,00
S	1	S	O	HP	KCU40	60	**70**	75	mm/r	0,03 - 0,05	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10	0,08 - 0,13	0,08 - 0,13
			I	HP	KCU40										
		U	O	HP	KCU40	40	**50**	60	mm/r	0,03 - 0,05	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10	0,08 - 0,13	0,08 - 0,13
			I	HP	KC7140										
		I	O	MD	KC7140	25	**30**	40	mm/r	0,03 - 0,05	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10	0,08 - 0,13	0,08 - 0,13
			I	MD	KC7140										
	2	S	O	HP	KCU40	50	**60**	70	mm/r	0,03 - 0,05	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10	0,08 - 0,13	0,08 - 0,13
			I	HP	KCU40										
		U	O	HP	KCU40	30	**40**	50	mm/r	0,03 - 0,05	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10	0,08 - 0,13	0,08 - 0,13
			I	HP	KC7140										
		I	O	MD	KC7140	25	**30**	40	mm/r	0,03 - 0,05	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10	0,08 - 0,13	0,08 - 0,13
			I	MD	KC7140										
	3	S	O	HP	KCU40	70	**80**	90	mm/r	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10	0,06 - 0,10	0,09 - 0,15	0,09 - 0,15
			I	HP	KCU40										
		U	O	HP	KCU40	50	**60**	70	mm/r	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10	0,06 - 0,10	0,09 - 0,15	0,09 - 0,15
			I	HP	KC7140										
		I	O	MD	KC7140	30	**40**	50	mm/r	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10	0,06 - 0,10	0,09 - 0,15	0,09 - 0,15
			I	MD	KC7140										
	4	S	O	HP	KCU40	70	**80**	90	mm/r	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10	0,06 - 0,10	0,09 - 0,15	0,09 - 0,15
			I	HP	KCU40										
		U	O	HP	KCU40	50	**60**	70	mm/r	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10	0,06 - 0,10	0,09 - 0,15	0,09 - 0,15
			I	HP	KC7140										
		I	O	MD	KC7140	30	**40**	50	mm/r	0,04 - 0,06	0,05 - 0,08	0,06 - 0,10	0,06 - 0,10	0,09 - 0,15	0,09 - 0,15
			I	MD	KC7140										

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

DFT™ • Inch

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — SFM			Inch						
									Recommended Feed Rate (f) by Diameter						
						min	Starting Value	max	Ø (in)	DFT03... .625-.969	DFT05... .984-1.250	DFT06... 1.313-1.563	DFT07... 1.625 - 1.875	DFT09... 1.938-2.125	DFT011... 2.750-3.250
P	1	S	O	MD	KCU25	1017	**1066**	1181	IPR	.002 - .004	.004 - .006	.004 - .007	.006 - .010	.007 - .012	.007 - .012
			I	MD	KC7140										
		U	O	MD	KCU25	656	**705**	754	IPR	.002 - .004	.004 - .006	.004 - .007	.006 - .010	.007 - .012	.007 - .012
			I	MD	KC7140										
		I	O	MD	KCU40	426	**443**	492	IPR	.002 - .004	.004 - .006	.004 - .007	.006 - .010	.007 - .012	.007 - .012
			I	MD	KC7140										
	2	S	O	HP	KCPK10	1017	**1066**	1181	IPR	.002 - .004	.004 - .006	.004 - .007	.006 - .010	.007 - .012	.007 - .012
			I	HP	KC7140										
		U	O	HP	KCU25	656	**705**	754	IPR	.002 - .004	.004 - .006	.004 - .007	.006 - .010	.007 - .012	.007 - .012
			I	HP	KC7140										
		I	O	HP	KCU40	426	**443**	492	IPR	.002 - .004	.004 - .006	.004 - .007	.006 - .010	.007 - .012	.007 - .012
			I	HP	KC7140										
	3	S	O	HP	KCPK10	853	**935**	1050	IPR	.002 - .004	.004 - .006	.004 - .007	.006 - .010	.007 - .012	.007 - .012
			I	HP	KC7140										
		U	O	HP	KCU25	590	**640**	722	IPR	.002 - .004	.004 - .006	.004 - .007	.006 - .010	.007 - .012	.007 - .012
			I	HP	KC7140										
		I	O	HP	KCU40	361	**394**	459	IPR	.002 - .004	.004 - .006	.004 - .007	.006 - .010	.007 - .012	.007 - .012
			I	HP	KC7140										
	4	S	O	HP	KCU25	722	**820**	984	IPR	.002 - .004	.004 - .006	.004 - .007	.006 - .010	.007 - .012	.007 - .012
			I	HP	KC7140										
		U	O	HP	KCU40	492	**590**	722	IPR	.002 - .004	.004 - .006	.004 - .007	.006 - .010	.007 - .012	.007 - .012
			I	HP	KC7140										
		I	O	HP	KC7140	295	**361**	459	IPR	.002 - .004	.004 - .006	.004 - .007	.006 - .010	.007 - .012	.007 - .012
			I	HP	KC7140										
	5	S	O	HP	KCU25	590	**656**	722	IPR	.002 - .004	.003 - .005	.004 - .006	.004 - .007	.005 - .009	.005 - .009
			I	HP	KC7140										
		U	O	HP	KCU40	394	**443**	492	IPR	.002 - .004	.003 - .005	.004 - .006	.004 - .007	.005 - .009	.005 - .009
			I	HP	KC7140										
		I	O	HP	KC7140	230	**279**	328	IPR	.002 - .004	.003 - .005	.004 - .006	.004 - .007	.005 - .009	.005 - .009
			I	HP	KC7140										
	6	S	O	HP	KCU25	590	**656**	722	IPR	.002 - .004	.004 - .006	.004 - .007	.006 - .010	.007 - .012	.007 - .012
			I	HP	KC7140										
		U	O	HP	KCU40	394	**443**	492	IPR	.002 - .004	.004 - .006	.004 - .007	.006 - .010	.007 - .012	.007 - .012
			I	HP	KC7140										
		I	O	HP	KC7140	230	**279**	328	IPR	.002 - .004	.004 - .006	.004 - .007	.006 - .010	.007 - .012	.007 - .012
			I	HP	KC7140										
M	1	S	O	MD	KC7140	492	**623**	754	IPR	.002 - .004	.003 - .005	.003 - .006	.004 - .007	.004 - .008	.004 - .008
			I	MD	KC7140										
		U	O	MD	KC7140	328	**426**	525	IPR	.002 - .004	.003 - .005	.003 - .006	.004 - .007	.004 - .008	.004 - .008
			I	MD	KC7140										
		I	O	MD	KC7140	197	**262**	328	IPR	.002 - .004	.003 - .005	.003 - .006	.004 - .007	.004 - .008	.004 - .008
			I	MD	KC7140										
	2	S	O	MD	KC7140	492	**590**	689	IPR	.002 - .004	.003 - .005	.003 - .006	.004 - .007	.004 - .008	.004 - .008
			I	MD	KC7140										
		U	O	MD	KC7140	328	**426**	525	IPR	.002 - .004	.003 - .005	.003 - .006	.004 - .007	.004 - .008	.004 - .008
			I	MD	KC7140										
		I	O	MD	KC7140	197	**262**	328	IPR	.002 - .004	.003 - .005	.003 - .006	.004 - .007	.004 - .008	.004 - .008
			I	MD	KC7140										
	3	S	O	MD	KC7140	328	**426**	525	IPR	.002 - .004	.003 - .005	.003 - .006	.004 - .007	.004 - .008	.004 - .008
			I	MD	KC7140										
		U	O	MD	KC7140	262	**361**	459	IPR	.002 - .004	.003 - .005	.003 - .006	.004 - .007	.004 - .008	.004 - .008
			I	MD	KC7140										
		I	O	MD	KC7140	164	**230**	295	IPR	.002 - .004	.003 - .005	.003 - .006	.004 - .007	.004 - .008	.004 - .008
			I	MD	KC7140										

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

DFT™ • Inch

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — SFM			Inch						
									Recommended Feed Rate (f) by Diameter						
						min	Starting Value	max	Ø (in)	DFT03... .625-.969	DFT05... .984-1.250	DFT06... 1.313-1.563	DFT07... 1.625-1.875	DFT09... 1.938-2.125	DFT011... 2.750-3.250
K	1	S	O	HP	KCPK10	656	**787**	984	IPR	.003 - .005	.004 - .007	.006 - .010	.007 - .013	.008 - .015	.008 - .015
			I	HP	KCU40										
		U	O	HP	KCU25	394	**508**	656	IPR	.003 - .005	.004 - .007	.006 - .010	.007 - .013	.008 - .015	.008 - .015
			I	HP	KCU40										
		I	O	HP	KC7225	262	**328**	410	IPR	.003 - .005	.004 - .007	.006 - .010	.007 - .013	.008 - .015	.008 - .015
			I	HP	KC7140										
	2	S	O	HP	KCPK10	590	**722**	853	IPR	.003 - .005	.004 - .007	.006 - .010	.007 - .013	.008 - .015	.008 - .015
			I	HP	KCU40										
		U	O	HP	KCU25	361	**459**	558	IPR	.003 - .005	.004 - .007	.006 - .010	.007 - .013	.008 - .015	.008 - .015
			I	HP	KCU40										
		I	O	HP	KC7225	262	**328**	394	IPR	.003 - .005	.004 - .007	.006 - .010	.007 - .013	.008 - .015	.008 - .015
			I	HP	KC7140										
	3	S	O	HP	KCPK10	590	**722**	853	IPR	.003 - .005	.004 - .007	.006 - .010	.007 - .013	.008 - .015	.008 - .015
			I	HP	KCU40										
		U	O	HP	KCU25	361	**459**	558	IPR	.003 - .005	.004 - .007	.006 - .010	.007 - .013	.008 - .015	.008 - .015
			I	HP	KCU40										
		I	O	HP	KC7225	262	**328**	394	IPR	.003 - .005	.004 - .007	.006 - .010	.007 - .013	.008 - .015	.008 - .015
			I	HP	KC7140										
N	1	S	O	ST	KD1425	1312	**1968**	2624	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	ST	KD1425										
		U	O	HP	KCU40	984	**1312**	1640	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	HP	KCU40										
		I	O	HP	KMF	656	**984**	1312	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	HP	KMF										
	2	S	O	ST	KD1425	1230	**1804**	2542	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	ST	KD1425										
		U	O	HP	KCU40	820	**1148**	1476	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	HP	KCU40										
		I	O	HP	KMF	574	**820**	1066	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	HP	KMF										
	3	S	O	ST	KD1425	1148	**1640**	2132	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	ST	KD1425										
		U	O	HP	KCU40	820	**1148**	1476	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	HP	KCU40										
		I	O	HP	KMF	492	**820**	1148	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	HP	KMF										
	4	S	O	ST	KD1425	1312	**1968**	2624	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	ST	KD1425										
		U	O	HP	KCU40	820	**1148**	1476	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	HP	KCU40										
		I	O	HP	KMF	656	**984**	1312	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	HP	KMF										
	5	S	O	ST	KD1425	1312	**1968**	2624	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	ST	KD1425										
		U	O	HP	KCU40	820	**1148**	1476	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	HP	KCU40										
		I	O	HP	KMF	656	**984**	1312	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	HP	KMF										

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions

Pocket seat: I = Inboard insert; O = Outboard insert

DFT™ • Inch

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — SFM			Inch						
									Recommended Feed Rate (f) by Diameter						
						min	Starting Value	max	Ø (in)	DFT03... .625-.969	DFT05... .984-1.250	DFT06... 1.313-1.563	DFT07... 1.625-1.875	DFT09... 1.938-2.125	DFT011... 2.750-3.250
S	1	S	O	HP	KCU40	197	**230**	246	IPR	.001 - .002	.002 - .002	.002 - .003	.002 - .004	.003 - .005	.003 - .005
			I	HP	KCU40										
		U	O	HP	KCU40	131	**164**	197	IPR	.001 - .002	.002 - .002	.002 - .003	.002 - .004	.003 - .005	.003 - .005
			I	HP	KC7140										
		I	O	MD	KC7140	82	**98**	131	IPR	.001 - .002	.002 - .002	.002 - .003	.002 - .004	.003 - .005	.003 - .005
			I	MD	KC7140										
	2	S	O	HP	KCU40	164	**197**	230	IPR	.001 - .002	.002 - .002	.002 - .003	.002 - .004	.003 - .005	.003 - .005
			I	HP	KCU40										
		U	O	HP	KCU40	98	**131**	164	IPR	.001 - .002	.002 - .002	.002 - .003	.002 - .004	.003 - .005	.003 - .005
			I	HP	KC7140										
		I	O	MD	KC7140	82	**98**	131	IPR	.001 - .002	.002 - .002	.002 - .003	.002 - .004	.003 - .005	.003 - .005
			I	MD	KC7140										
	3	S	O	HP	KCU40	230	**262**	295	IPR	.002 - .002	.002 - .004	.002 - .003	.002 - .004	.004 - .006	.004 - .006
			I	HP	KCU40										
		U	O	HP	KCU40	164	**197**	230	IPR	.002 - .002	.002 - .003	.002 - .004	.002 - .004	.004 - .006	.004 - .006
			I	HP	KC7140										
		I	O	MD	KC7140	98	**131**	164	IPR	.002 - .002	.002 - .003	.002 - .004	.002 - .004	.004 - .006	.004 - .006
			I	MD	KC7140										
	4	S	O	HP	KCU40	230	**262**	295	IPR	.002 - .002	.002 - .003	.002 - .004	.002 - .004	.004 - .006	.004 - .006
			I	HP	KCU40										
		U	O	HP	KCU40	164	**197**	230	IPR	.002 - .002	.002 - .003	.002 - .004	.002 - .004	.004 - .006	.004 - .006
			I	HP	KC7140										
		I	O	MD	KC7140	98	**131**	164	IPR	.002 - .002	.002 - .003	.002 - .004	.002 - .004	.004 - .006	.004 - .006
			I	MD	KC7140										

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert



HTS Series Indexable Deep-Hole Drilling System

Primary Application

HTS series indexable drills are designed for deep-hole drilling up to 10 x D in steel, stainless steel, ductile iron, cast iron, and non-ferrous materials. The three HTS systems — HTS-C, HTS, HTS-R — cover a diameter range of .787–10.629" (20–270mm).

Features and Benefits

HTS-C Indexable Drill System

- Diameter range .750–1.750" (20–45mm) in 5 x D and 8 x D ratios.
- Used with pilot drills for best centering possibilities.
- Trigon-shaped inboard insert with three cutting edges, available in various geometries and grades.
- Up to four economic cutting edges with the squared-outboard insert.
- Variable flute helix provides excellent chip evacuation.
- Customized body design available.

HTS Indexable Drill System

- Large diameter range from 1.750–10.629" (45–270mm) with standard drill heads.
- Drill Fix™ DFT™ trigon inserts as outboard and inboard insert offer the best centering capabilities as well as square-outboard insert cartridges for increased surface and hole quality.
- Various insert geometries and grades available as standard.
- Adjust drilling depth and diameter range with suitable extensions and reducers.
- Diameter adjustment by shortening outer cartridge.
- Customized drilling heads up to 21.259" (540mm).



HTS-R Indexable Drill System

- Modular system that uses drill heads equipped with DFR™ insert cartridges.
- Five drill heads cover the diameter range 1.575–2.165" (40–55mm).
- Drill Fix™ DFR rectangular inboard and outboard inserts offer the highest feed rates at small diameters.
- Various insert geometries and grades available as standard.
- Adjustable drilling depth and diameters by using extensions and reducers.
- Diameter adjustment by shortening outer cartridge.



HTS-C Indexable Drill System

HTS-C indexable drills are designed for drilling 5 x D and 8 x D in steel, stainless steel, ductile iron, cast iron, and non-ferrous materials. The HTS-C covers a diameter range from 20–45mm (.750–1.750").

When using reduced feeds and cutting speeds, HTS-C can easily be applied on older or low-power machines.

Features and Benefits

Productivity

- Achieve high stability and hole straightness due to the pilot drill that offers the best centering capabilities.
- Benefit from flute helix design that provides excellent chip evacuation resulting in long tool body life.
- Suitable for older or low-power machines due to reduced feed and cutting speed capabilities.

Versatility

- Diameter range of 20–45mm (.750–1.750").
- 5 x D and 8 x D L/D ratio as standard.
- Inserts and pilot drills can be applied in various diameters and L/D ratios.
- Carbide and HSS pilot drills available for optimized productivity.

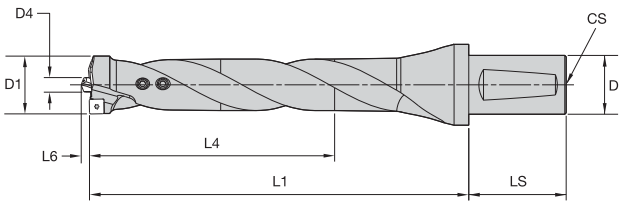
Customization

- Intermediate diameters available.
- Engineered solutions L/D up to 15 x D available.
- Carbide guidepads available.



- Drills shipped with insert, clamping, and adjusting screws and Torx wrench.
- Order pilot drills separately; see page J57.
- Order inserts separately; see pages J98–J103.







WN/WD Shank • 5 x D • Metric

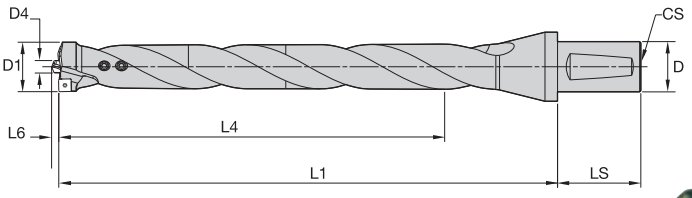
catalog number	D1 mm	D1 in	D	D4	L1	L4 max	L6	exterior insert	interior insert	adjusting screw	clamping screw	insert screw	wrench	Torx size
3.75200R215	20,00	.787	20,0	5,0	130,0	100,0	2,3	SPGX / SPHX0602..	WOGX0302..	**128.406**	**191.720**	**192.432**	**170.028**	T8
3.75210R215	21,00	.827	20,0	5,0	130,0	105,0	2,3	SPGX / SPHX0602..	WOGX0302..	**128.406**	**191.720**	**192.432**	**170.028**	T8
3.75220R215	22,00	.866	20,0	5,0	144,0	110,0	2,5	SPGX / SPHX0602..	WOGX0302..	**128.408**	**191.720**	**192.432**	**170.028**	T8
3.75230R215	23,00	.906	20,0	5,0	144,0	115,0	2,5	SPGX / SPHX0602..	WOGX0302..	**128.408**	**192.057**	**192.432**	**170.028**	T8
3.75240R215	24,00	.945	20,0	5,0	144,0	120,0	2,5	SPGX / SPHX0602..	WOGX0302..	**128.408**	**192.057**	**192.432**	**170.028**	T8
3.75250R215	25,00	.984	25,0	6,0	164,0	125,0	3,0	SPGX / SPHX0703..	DFT0303..	**128.508**	**190.114**	**192.432**	**170.028**	T8
3.75260R215	26,00	1.024	25,0	6,0	164,0	130,0	3,0	SPGX / SPHX0703..	DFT0303..	**128.508**	**190.114**	**192.432**	**170.028**	T8
3.75270R215	27,00	1.063	25,0	6,0	164,0	135,0	3,0	SPGX / SPHX0703..	DFT0303..	**128.510**	**190.114**	**192.432**	**170.028**	T8
3.75280R215	28,00	1.102	25,0	6,0	184,0	140,0	3,2	SPGX / SPHX0703..	DFT0303..	**128.510**	**190.125**	**192.432**	**170.028**	T8
3.75290R215	29,00	1.142	25,0	6,0	184,0	145,0	3,2	SPGX / SPHX0703..	DFT0303..	**128.510**	**190.125**	**192.432**	**170.028**	T8
3.75300R215	30,00	1.181	25,0	6,0	184,0	150,0	3,2	SPGX / SPHX0703..	DFT0303..	**128.510**	**190.125**	**192.432**	**170.028**	T8
3.75310R215	31,00	1.221	32,0	8,0	206,0	155,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.610**	**SS03M012**	**191.924**	**170.024**	T9
3.75320R215	32,00	1.260	32,0	8,0	206,0	160,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.610**	**SS03M012**	**191.924**	**170.024**	T9
3.75330R215	33,00	1.299	32,0	8,0	206,0	165,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.610**	**SS03M012**	**191.924**	**170.024**	T9
3.75340R215	34,00	1.339	32,0	8,0	206,0	170,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
3.75350R215	35,00	1.378	32,0	8,0	228,0	175,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
3.75360R215	36,00	1.417	32,0	8,0	228,0	180,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
3.75370R215	37,00	1.457	32,0	8,0	228,0	185,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
3.75380R215	38,00	1.496	32,0	8,0	228,0	190,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
3.75390R215	39,00	1.535	32,0	8,0	228,0	195,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
3.75400R215	40,00	1.575	40,0	10,0	258,0	200,0	4,5	SPGX / SPHX1204..	DFT06T3..	**128.812**	**SS03M014**	**191.916**	**170.025**	T15
3.75410R215	41,00	1.614	40,0	10,0	258,0	205,0	4,5	SPGX / SPHX1204..	DFT06T3..	**128.812**	**SS03M014**	**191.916**	**170.025**	T15
3.75420R215	42,00	1.654	40,0	10,0	258,0	210,0	4,5	SPGX / SPHX1204..	DFT06T3..	**128.812**	**SS03M014**	**191.916**	**170.025**	T15
3.75430R215	43,00	1.693	40,0	10,0	258,0	215,0	4,5	SPGX / SPHX1204..	DFT06T3..	**128.816**	**SS03M014**	**191.916**	**170.025**	T15
3.75440R215	44,00	1.732	40,0	10,0	258,0	220,0	4,5	SPGX / SPHX1204..	DFT06T3..	**128.816**	**SS03M014**	**191.916**	**170.025**	T15
3.75450R215	45,00	1.771	40,0	10,0	258,0	225,0	4,5	SPGX / SPHX1204..	DFT06T3..	**128.816**	**SS03M014**	**191.916**	**170.025**	T15

WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

D	LS	CS
20	45	4
25	45	5
32	58	6
40	68	6

- Drills shipped with insert, clamping, and adjusting screws and Torx wrench.
- Order pilot drills separately; see page J57.
- Order inserts separately; see pages J98–J103.







WN/WD Shank • 8 x D • Metric

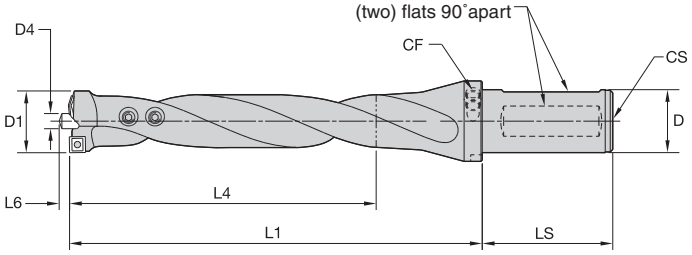
catalog number	D1 mm	D1 in	D	D4	L1	L4 max	L6	exterior insert	interior insert	adjusting screw	clamping screw	insert screw	wrench	Torx size
3.75200R218	20,00	.787	20	5,0	202,0	160,0	2,3	SPGX / SPHX0602..	WOGX0302..	**128.406**	**191.720**	**192.432**	**170.028**	T8
3.75210R218	21,00	.827	20	5,0	202,0	168,0	2,3	SPGX / SPHX0602..	WOGX0302..	**128.406**	**191.720**	**192.432**	**170.028**	T8
3.75220R218	22,00	.866	20	5,0	224,0	176,0	2,5	SPGX / SPHX0602..	WOGX0302..	**128.408**	**191.720**	**192.432**	**170.028**	T8
3.75230R218	23,00	.906	20	5,0	224,0	184,0	2,5	SPGX / SPHX0602..	WOGX0302..	**128.408**	**192.057**	**192.432**	**170.028**	T8
3.75240R218	24,00	.945	20	5,0	224,0	192,0	2,5	SPGX / SPHX0602..	WOGX0302..	**128.408**	**192.057**	**192.432**	**170.028**	T8
3.75250R218	25,00	.984	25	6,0	250,0	200,0	3,0	SPGX / SPHX0703..	DFT0303..	**128.508**	**190.114**	**192.432**	**170.028**	T8
3.75260R218	26,00	1.024	25	6,0	250,0	208,0	3,0	SPGX / SPHX0703..	DFT0303..	**128.508**	**190.114**	**192.432**	**170.028**	T8
3.75270R218	27,00	1.063	25	6,0	250,0	216,0	3,0	SPGX / SPHX0703..	DFT0303..	**128.510**	**190.114**	**192.432**	**170.028**	T8
3.75280R218	28,00	1.102	25	6,0	279,0	224,0	3,2	SPGX / SPHX0703..	DFT0303..	**128.510**	**190.125**	**192.432**	**170.028**	T8
3.75290R218	29,00	1.142	25	6,0	279,0	232,0	3,2	SPGX / SPHX0703..	DFT0303..	**128.510**	**190.125**	**192.432**	**170.028**	T8
3.75300R218	30,00	1.181	25	6,0	279,0	240,0	3,2	SPGX / SPHX0703..	DFT0303..	**128.510**	**190.125**	**192.432**	**170.028**	T8
3.75310R218	31,00	1.221	32	8,0	316,0	248,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.610**	**SS03M012**	**191.924**	**170.024**	T9
3.75320R218	32,00	1.260	32	8,0	316,0	256,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.610**	**SS03M012**	**191.924**	**170.024**	T9
3.75330R218	33,00	1.299	32	8,0	316,0	264,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.610**	**SS03M012**	**191.924**	**170.024**	T9
3.75340R218	34,00	1.339	32	8,0	316,0	272,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
3.75350R218	35,00	1.378	32	8,0	351,0	280,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
3.75360R218	36,00	1.417	32	8,0	351,0	288,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
3.75370R218	37,00	1.457	32	8,0	351,0	296,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
3.75380R218	38,00	1.496	32	8,0	351,0	304,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
3.75390R218	39,00	1.535	32	8,0	351,0	312,0	4,0	SPGX / SPHX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
3.75400R218	40,00	1.575	40	10,0	397,0	320,0	4,5	SPGX / SPHX1204..	DFT06T3..	**128.812**	**SS03M014**	**191.916**	**170.025**	T15
3.75410R218	41,00	1.614	40	10,0	397,0	328,0	4,5	SPGX / SPHX1204..	DFT06T3..	**128.812**	**SS03M014**	**191.916**	**170.025**	T15
3.75420R218	42,00	1.654	40	10,0	397,0	336,0	4,5	SPGX / SPHX1204..	DFT06T3..	**128.812**	**SS03M014**	**191.916**	**170.025**	T15
3.75430R218	43,00	1.693	40	10,0	397,0	344,0	4,5	SPGX / SPHX1204..	DFT06T3..	**128.816**	**SS03M014**	**191.916**	**170.025**	T15
3.75440R218	44,00	1.732	40	10,0	397,0	352,0	4,5	SPGX / SPHX1204..	DFT06T3..	**128.812**	**SS03M014**	**191.916**	**170.025**	T15
3.75450R218	45,00	1.771	40	10,0	397,0	360,0	4,5	SPGX / SPHX1204..	DFT06T3..	**128.816**	**SS03M014**	**191.916**	**170.025**	T15

WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

D	LS	CS
20	45	4
25	45	5
32	58	6
40	68	6

- Drills shipped with insert, clamping, and adjusting screws and Torx wrench.
- Order pilot drills separately; see page J57.
- Order inserts separately; see pages J98–J103.







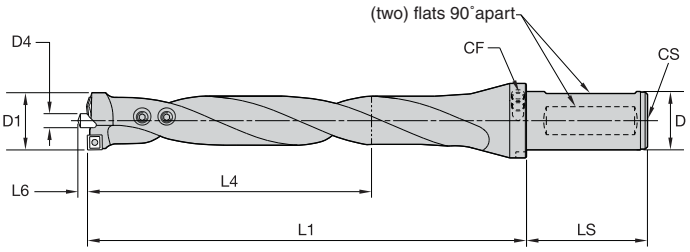
Flanged Shank • 5 x D • Inch

catalog number	D1 in	D1 mm	D	D4	L1	L4 max	L6	exterior insert	interior insert	adjusting screw	clamping screw	insert screw	wrench	Torx size
HTSC0750R5SSF125	.750	19,05	1.25	.16	5.13	3.75	.07	SPGX0603..	DFT0303..	**128.406**	**191.720**	**MS1152**	**170.023**	T7
HTSC0813R5SSF125	.813	20,64	1.25	.16	5.13	4.06	.07	SPGX0603..	DFT0303..	**128.406**	**191.720**	**MS1152**	**170.023**	T7
HTSC0875R5SSF125	.875	22,23	1.25	.20	5.75	4.38	.08	SPGX0603..	DFT0303..	**128.408**	**191.720**	**MS1152**	**170.023**	T7
HTSC0938R5SSF125	.938	23,81	1.25	.20	5.75	4.69	.08	SPGX0603..	DFT0303..	**128.408**	**191.720**	**MS1152**	**170.023**	T7
HTSC1000R5SSF125	1.000	25,40	1.25	.24	6.50	5.00	.12	SPGX / SPHX0703..	DFT0303..	**128.508**	**190.114**	**192.432**	**170.028**	T8
HTSC1063R5SSF150	1.063	26,99	1.50	.24	6.50	5.31	.12	SPGX / SPHX0703..	DFT0303..	**128.508**	**190.114**	**192.432**	**170.028**	T8
HTSC1125R5SSF150	1.125	28,58	1.50	.24	7.25	5.63	.12	SPGX / SPHX0703..	DFT0303..	**128.510**	**190.125**	**192.432**	**170.028**	T8
HTSC1188R5SSF150	1.188	30,16	1.50	.24	7.25	5.94	.12	SPGX / SPHX0703..	DFT0303..	**128.510**	**190.125**	**192.432**	**170.028**	T8
HTSC1250R5SSF150	1.250	28,58	1.50	.32	8.13	6.25	.16	SPGX0903..	DFT05T3..	**128.610**	**SS03M012**	**191.924**	**170.024**	T9
HTSC1313R5SSF200	1.313	33,34	2.00	.32	8.13	6.56	.16	SPGX0903..	DFT05T3..	**128.610**	**SS03M012**	**191.924**	**170.024**	T9
HTSC1375R5SSF200	1.375	34,93	2.00	.32	9.00	6.88	.16	SPGX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
HTSC1438R5SSF200	1.438	36,51	2.00	.32	9.00	7.19	.16	SPGX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
HTSC1500R5SSF200	1.500	38,10	2.00	.32	9.00	7.50	.16	SPGX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
HTSC1563R5SSF200	1.563	39,69	2.00	.39	10.25	7.81	.18	SPGX / SPHX1204..	DFT06T3..	**128.812**	**SS03M014**	**191.916**	**170.025**	T15
HTSC1625R5SSF200	1.625	41,28	2.00	.39	10.25	8.13	.18	SPGX / SPHX1204..	DFT06T3..	**128.812**	**SS03M014**	**191.916**	**170.025**	T15
HTSC1688R5SSF200	1.688	42,86	2.00	.39	10.25	8.44	.18	SPGX / SPHX1204..	DFT06T3..	**128.816**	**SS03M014**	**191.916**	**170.025**	T15
HTSC1750R5SSF200	1.750	44,45	2.00	.39	10.25	8.75	.18	SPGX / SPHX1204..	DFT06T3..	**128.816**	**SS03M014**	**191.916**	**170.025**	T15

WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

D	LS	CF	CS
1.250	3.25	1/8-27 NPT	1/4-18NPT
1.500	3.75	1/8-27 NPT	1/4-18NPT
2.000	4.00	1/8-27 NPT	1/4-18NPT

- Drills shipped with insert, clamping, and adjusting screws and Torx wrench.
- Order pilot drills separately; see page J57.
- Order inserts separately; see pages J98–J103.





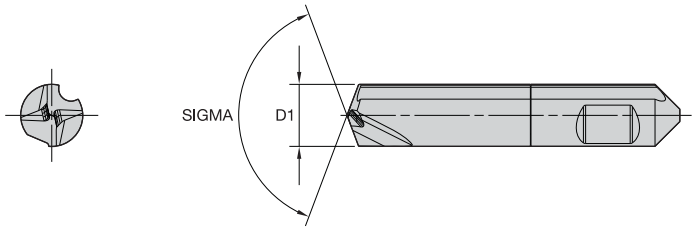
Flanged Shank • 8 x D • Inch

catalog number	D1 in	D1 mm	D	D4	L1	L4 max	L6	exterior insert	interior insert	adjusting screw	clamping screw	insert screw	wrench	Torx size
HTSC0750R8SSF125	.750	19,05	1.250	.16	8.00	6.00	.07	SPGX0603..	DFT0303..	**128.406**	**191.720**	**MS1152**	**170.023**	T7
HTSC0813R8SSF125	.813	20,64	1.250	.16	8.00	6.50	.07	SPGX0603..	DFT0303..	**128.406**	**191.720**	**MS1152**	**170.023**	T7
HTSC0875R8SSF125	.875	22,23	1.250	.20	8.88	7.00	.08	SPGX0603..	DFT0303..	**128.408**	**191.720**	**MS1152**	**170.023**	T7
HTSC0938R8SSF125	.938	23,81	1.250	.20	8.88	7.50	.08	SPGX0603..	DFT0303..	**128.408**	**191.720**	**MS1152**	**170.023**	T7
HTSC1000R8SSF125	1.000	25,40	1.250	.24	9.88	8.00	.12	SPGX / SPHX0703..	DFT0303..	**128.508**	**190.114**	**192.432**	**170.028**	T8
HTSC1063R8SSF150	1.063	26,99	1.500	.24	9.88	8.50	.12	SPGX / SPHX0703..	DFT0303..	**128.508**	**190.114**	**192.432**	**170.028**	T8
HTSC1125R8SSF150	1.125	28,58	1.500	.24	11.00	9.00	.12	SPGX / SPHX0703..	DFT0303..	**128.510**	**190.125**	**192.432**	**170.028**	T8
HTSC1188R8SSF150	1.188	30,16	1.500	.24	11.00	9.50	.12	SPGX / SPHX0703..	DFT0303..	**128.510**	**190.125**	**192.432**	**170.028**	T8
HTSC1250R8SSF150	1.250	31,75	1.500	.32	12.50	10.00	.16	SPGX0903..	DFT05T3..	**128.610**	**SS03M012**	**191.924**	**170.024**	T9
HTSC1313R8SSF200	1.313	33,34	2.000	.32	12.50	10.50	.16	SPGX0903..	DFT05T3..	**128.610**	**SS03M012**	**191.924**	**170.024**	T9
HTSC1375R8SSF200	1.375	34,93	2.000	.32	13.88	11.00	.16	SPGX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
HTSC1438R8SSF200	1.438	36,51	2.000	.32	13.88	11.50	.16	SPGX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
HTSC1500R8SSF200	1.500	38,10	2.000	.32	13.88	12.00	.16	SPGX0903..	DFT05T3..	**128.612**	**SS03M012**	**191.924**	**170.024**	T9
HTSC1563R8SSF200	1.563	39,69	2.000	.39	15.63	12.50	.18	SPGX / SPHX1204..	DFT06T3..	**128.812**	**SS03M014**	**191.916**	**170.025**	T15
HTSC1625R8SSF200	1.625	41,28	2.000	.39	15.63	13.00	.18	SPGX / SPHX1204..	DFT06T3..	**128.812**	**SS03M014**	**191.916**	**170.025**	T15
HTSC1688R8SSF200	1.688	42,86	2.000	.39	15.63	13.50	.18	SPGX / SPHX1204..	DFT06T3..	**128.816**	**SS03M014**	**191.916**	**170.025**	T15
HTSC1750R8SSF200	1.750	44,45	2.000	.39	15.63	14.00	.18	SPGX / SPHX1204..	DFT06T3..	**128.816**	**SS03M014**	**191.916**	**170.025**	T15

WARNING
During through-hole operations, a slug or disc is produced as the tool breaks through the workpiece. When the drill is stationary and the workpiece is rotating, this slug may be hurled from the chuck by centrifugal force. Provide adequate shielding to protect bystanders.

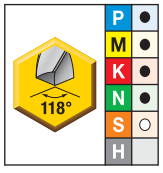
D	LS	CF	CS
1.250	3.25	1/8-27 NPT	1/4-18NPT
1.500	3.75	1/8-27 NPT	1/4-18NPT
2.000	4.00	1/8-27 NPT	1/4-18NPT

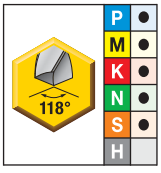
• Use in metric and inch drill bodies; see pages J53–J56.

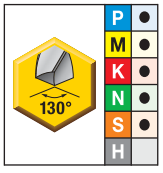


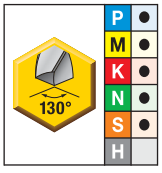


HTS-C • Pilot Drills









high-speed steel uncoated A30	high-speed steel coated AS3	solid carbide uncoated G13	solid carbide coated CS3	D1 mm	D1 in
B503S04000	B503S04000	–	–	4,00	.158
B503S05000	B503S05000	–	–	5,00	.197
B503S06000	B503S06000	–	–	6,00	.236
B503S08000	B503S08000	–	–	8,00	.315
B503S10000	B503S10000	–	–	10,00	.394
–	–	B504S04000	B504S04000	4,00	.158
–	–	B504S05000	B504S05000	5,00	.197
–	–	B504S06000	B504S06000	6,00	.236
–	–	B504S08000	B504S08000	8,00	.315
–	–	B504S10000	B504S10000	10,00	.394

Diameter Reference for Pilot Drill

D1		reference drill diameter min		reference drill diameter max	
mm	in	mm	in	mm	in
4	.158	–	.750	–	.812
5	.197	20	.787	24	.945
6	.236	25	.984	30	1.181
8	.315	31	1.220	39	1.535
10	.394	40	1.575	45	1.772

HTS-C • Metric

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric				
									Recommended Feed Rate (f) by Diameter				
						min	Starting Value	max	Ø (mm)	20,00-24,00	25,00-30,00	31,00-39,00	40,00-45,00
P	1	S	O	SPHX...R-20	KC7215	107	**200**	244	mm/r	0,04 - 0,06	0,05 - 0,07	0,08 - 0,12	0,08 - 0,12
			I	DFT-HP	KCU40								
		U	O	SPHX...R-20	KC7140	74	**140**	170	mm/r	0,04 - 0,06	0,05 - 0,07	0,08 - 0,12	0,08 - 0,12
			I	DFT-HP	KCU40								
	2	S	O	SPHX...R-20	KC7215	101	**170**	232	mm/r	0,04 - 0,06	0,05 - 0,07	0,08 - 0,12	0,10 - 0,16
			I	DFT-HP	KCU40								
		U	O	SPHX...R-20	KC7140	69	**119**	158	mm/r	0,04 - 0,06	0,05 - 0,07	0,08 - 0,12	0,10 - 0,16
			I	DFT-HP	KC7140								
	3	S	O	SPHX...R-20	KC7215	96	**150**	220	mm/r	0,05 - 0,08	0,06 - 0,1	0,08 - 0,13	0,09 - 0,17
			I	DFT-HP	KCU40								
		U	O	SPHX...R-20	KC7140	64	**105**	146	mm/r	0,05 - 0,08	0,06 - 0,1	0,08 - 0,13	0,09 - 0,17
			I	DFT-HP	KC7140								
	4	S	O	SPHX...R-20	KC7215	75	**130**	172	mm/r	0,04 - 0,07	0,05 - 0,08	0,07 - 0,12	0,08 - 0,13
			I	DFT-HP	KCU40								
		U	O	SPHX...R-20	KC7140	52	**89**	120	mm/r	0,04 - 0,07	0,05 - 0,08	0,07 - 0,12	0,08 - 0,13
			I	DFT-HP	KC7140								
	5	S	O	SPHX...R-20	KC7215	58	**100**	132	mm/r	0,04 - 0,06	0,04 - 0,07	0,06 - 0,10	0,06 - 0,11
			I	DFT-HP	KCU40								
		U	O	SPHX...R-20	KC7140	35	**60**	79	mm/r	0,04 - 0,06	0,04 - 0,07	0,06 - 0,10	0,06 - 0,11
			I	DFT-HP	KC7140								
	6	S	O	SPHX...R-20	KC7215	75	**95**	172	mm/r	0,04 - 0,06	0,05 - 0,07	0,06 - 0,10	0,07 - 0,11
			I	DFT-HP	KCU40								
		U	O	SPHX...R-20	KC7140	52	**75**	120	mm/r	0,04 - 0,06	0,05 - 0,07	0,06 - 0,10	0,07 - 0,11
			I	DFT-HP	KC7140								
M	1	S	O	SPGX...-31	KC7140	55	**112**	137	mm/r	0,03 - 0,05	0,03 - 0,05	0,05 - 0,07	0,05 - 0,07
			I	DFT-HP	KC7140								
		U	O	SPGX...-31	KC7140	41	**84**	103	mm/r	0,03 - 0,05	0,03 - 0,05	0,05 - 0,07	0,05 - 0,07
			I	DFT-HP	KC7140								
	2	S	O	SPGX...-31	KC7140	55	**101**	116	mm/r	0,03 - 0,05	0,03 - 0,05	0,05 - 0,07	0,05 - 0,07
			I	DFT-HP	KC7140								
		U	O	SPGX...-31	KC7140	41	**76**	87	mm/r	0,03 - 0,05	0,03 - 0,05	0,05 - 0,07	0,05 - 0,07
			I	DFT-HP	KC7140								
	3	S	O	SPGX...-31	KC7140	55	**90**	107	mm/r	0,03 - 0,05	0,03 - 0,05	0,05 - 0,07	0,05 - 0,07
			I	DFT-HP	KC7140								
		U	O	SPGX...-31	KC7140	41	**67**	80	mm/r	0,03 - 0,05	0,03 - 0,05	0,05 - 0,07	0,05 - 0,07
			I	DFT-HP	KC7140								

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

HTS-C • Metric

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric				
									Recommended Feed Rate (f) by Diameter				
						min	Starting Value	max	Ø (mm)	20,00-24,00	25,00-30,00	31,00-39,00	40,00-45,00
K	1	S	O	SPHX...R-21	KC7215	106	**190**	230	mm/r	0,08 - 0,13	0,09 - 0,15	0,10 - 0,16	0,12 - 0,20
			I	DFT-GD	KCU40								
		U	O	SPHX...R-21	KC7215	74	**130**	160	mm/r	0,08 - 0,13	0,09 - 0,15	0,10 - 0,16	0,12 - 0,20
			I	DFT-GD	KCU40								
	2	S	O	SPHX...R-21	KC7215	106	**171**	230	mm/r	0,08 - 0,13	0,09 - 0,15	0,10 - 0,16	0,12 - 0,20
			I	DFT-GD	KCU40								
		U	O	SPHX...R-21	KC7215	74	**117**	160	mm/r	0,08 - 0,13	0,09 - 0,15	0,10 - 0,16	0,12 - 0,20
			I	DFT-GD	KCU40								
	3	S	O	SPHX...R-21	KC7215	101	**152**	218	mm/r	0,06 - 0,13	0,08 - 0,15	0,10 - 0,16	0,11 - 0,2
			I	DFT-GD	KCU40								
		U	O	SPHX...R-21	KC7215	67	**104**	145	mm/r	0,60 - 0,13	0,08 - 0,15	0,10 - 0,16	0,11 - 0,2
			I	DFT-GD	KCU40								
N	1	S	O	SPHX...R-22	KM1	183	**294**	457	mm/r	0,04 - 0,06	0,04 - 0,06	0,09 - 0,12	0,10 - 0,14
			I	DFT-HP	KMF								
		U	O	SPHX...R-20	KM1	121	**196**	304	mm/r	0,04 - 0,06	0,04 - 0,06	0,09 - 0,12	0,10 - 0,14
			I	DFT-HP	KMF								
	2	S	O	SPHX...R-22	KM1	183	**365**	457	mm/r	0,04 - 0,06	0,04 - 0,06	0,09 - 0,12	0,10 - 0,14
			I	DFT-HP	KMF								
		U	O	SPHX...R-22	KM1	121	**176**	304	mm/r	0,04 - 0,06	0,04 - 0,06	0,09 - 0,12	0,10 - 0,14
			I	DFT-HP	KMF								
	3	S	O	SPHX...R-22	KM1	113	**235**	283	mm/r	0,04 - 0,06	0,04 - 0,06	0,09 - 0,12	0,10 - 0,14
			I	DFT-HP	KMF								
		U	O	SPHX...R-22	KM1	79	**157**	198	mm/r	0,04 - 0,06	0,04 - 0,06	0,09 - 0,12	0,10 - 0,14
			I	DFT-HP	KMF								
	4	S	O	SPHX...R-22	KM1	113	**235**	283	mm/r	0,04 - 0,06	0,04 - 0,06	0,09 - 0,12	0,10 - 0,14
			I	DFT-HP	KMF								
		U	O	SPHX...R-22	KM1	79	**157**	198	mm/r	0,04 - 0,06	0,04 - 0,06	0,09 - 0,12	0,10 - 0,14
			I	DFT-HP	KMF								
	5	S	O	SPHX...R-20	KM1	137	**265**	360	mm/r	0,04 - 0,06	0,04 - 0,06	0,09 - 0,12	0,10 - 0,14
			I	DFT-HP	KMF								
		U	O	SPHX...R-20	KM1	92	**176**	242	mm/r	0,04 - 0,06	0,04 - 0,06	0,09 - 0,12	0,10 - 0,14
			I	DFT-HP	KMF								
S	1	S	O	SPGX...-31	KC7215	21	**40**	49	mm/r	0,03 - 0,05	0,03 - 0,05	0,04 - 0,06	0,04 - 0,06
			I	DFT-GD	KCU40								
		U	O	SPGX...-31	KC7215	18	**30**	37	mm/r	0,03 - 0,05	0,03 - 0,05	0,04 - 0,06	0,04 - 0,06
			I	DFT-GD	KC7140								
	2	S	O	SPGX...-31	KC7215	19	**35**	42	mm/r	0,03 - 0,05	0,03 - 0,05	0,04 - 0,06	0,04 - 0,06
			I	DFT-GD	KCU40								
		U	O	SPGX...-31	KC7215	18	**25**	34	mm/r	0,03 - 0,05	0,03 - 0,05	0,04 - 0,06	0,04 - 0,06
			I	DFT-GD	KC7140								

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

HTS-C • Inch

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — SFM			Inch				
									Recommended Feed Rate (f) by Diameter				
						min	Starting Value	max	Ø (in)	.750-.945	.984-1.345	1.313-1.688	1.625-2.000
P	1	S	O	SPHX…R-20	KC7215	350	**656**	800	IPR	.002 - .002	.002 - .003	.003 - .005	.003 - .005
			I	DFT-HP	KCU40								
		U	O	SPHX…R-20	KC7140	244	**459**	558	IPR	.002 - .002	.002 - .003	.003 - .005	.003 - .005
			I	DFT-HP	KCU40								
	2	S	O	SPHX…R-20	KC7215	333	**558**	760	IPR	.002 - .002	.002 - .003	.003 - .005	.004 - .006
			I	DFT-HP	KCU40								
		U	O	SPHX…R-20	KC7140	226	**390**	517	IPR	.002 - .002	.002 - .003	.003 - .005	.004 - .006
			I	DFT-HP	KC7140								
	3	S	O	SPHX…R-20	KC7215	316	**492**	722	IPR	.002 - .003	.002 - .003	.003 - .005	.004 - .007
			I	DFT-HP	KCU40								
		U	O	SPHX…R-20	KC7140	210	**345**	479	IPR	.002 - .003	.002 - .003	.003 - .005	.004 - .007
			I	DFT-HP	KC7140								
	4	S	O	SPHX…R-20	KC7215	246	**427**	563	IPR	.002 - .003	.002 - .003	.003 - .005	.003 - .005
			I	DFT-HP	KCU40								
		U	O	SPHX…R-20	KC7140	172	**293**	393	IPR	.002 - .003	.002 - .003	.003 - .005	.003 - .005
			I	DFT-HP	KC7140								
	5	S	O	SPHX…R-20	KC7215	190	**328**	434	IPR	.002 - .002	.002 - .003	.002 - .004	.002 - .004
			I	DFT-HP	KCU40								
		U	O	SPHX…R-20	KC7140	114	**197**	260	IPR	.002 - .002	.002 - .003	.002 - .004	.002 - .004
			I	DFT-HP	KC7140								
	6	S	O	SPHX…R-20	KC7215	146	**312**	563	IPR	.002 - .002	.002 - .003	.002 - .004	.003 - .004
			I	DFT-HP	KCU40								
		U	O	SPHX…R-20	KC7140	172	**246**	393	IPR	.002 - .002	.002 - .003	.002 - .004	.003 - .004
			I	DFT-HP	KC7140								
M	1	S	O	SPGX…-31	KC7140	180	**367**	450	IPR	.001 - .002	.001 - .002	.002 - .003	.002 - .003
			I	DFT-HP	KC7140								
		U	O	SPGX…-31	KC7140	135	**276**	337	IPR	.001 - .002	.001 - .002	.002 - .003	.002 - .003
			I	DFT-HP	KC7140								
	2	S	O	SPGX…-31	KC7140	180	**331**	380	IPR	.001 - .002	.001 - .002	.002 - .003	.002 - .003
			I	DFT-HP	KC7140								
		U	O	SPGX…-31	KC7140	135	**248**	284	IPR	.001 - .002	.001 - .002	.002 - .003	.002 - .003
			I	DFT-HP	KC7140								
	3	S	O	SPGX…-31	KC7140	180	**394**	350	IPR	.001 - .002	.001 - .002	.002 - .003	.002 - .003
			I	DFT-HP	KC7140								
		U	O	SPGX…-31	KC7140	135	**220**	262	IPR	.001 - .002	.001 - .002	.002 - .003	.002 - .003
			I	DFT-HP	KC7140								
K	1	S	O	SPHX…R-21	KC7215	348	**623**	754	IPR	.003 - .005	.004 - .006	.004 - .006	.005 - .008
			I	DFT-GD	KCU40								
		U	O	SPHX…R-21	KC7215	243	**427**	527	IPR	.003 - .005	.004 - .006	.004 - .006	.005 - .008
			I	DFT-GD	KCU40								
	2	S	O	SPHX…R-21	KC7215	348	**561**	754	IPR	.003 - .005	.004 - .006	.004 - .006	.005 - .008
			I	DFT-GD	KCU40								
		U	O	SPHX…R-21	KC7215	243	**384**	527	IPR	.003 - .005	.004 - .006	.004 - .006	.005 - .008
			I	DFT-GD	KCU40								
	3	S	O	SPHX…R-21	KC7215	331	**499**	716	IPR	.002 - .005	.003 - .006	.004 - .006	.004 - .008
			I	DFT-GD	KCU40								
		U	O	SPHX…R-21	KC7215	220	**341**	476	IPR	.002 - .005	.003 - .006	.004 - .006	.004 - .008
			I	DFT-GD	KCU40								

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

HTS-C • Inch

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — SFM			Inch				
									Recommended Feed Rate (f) by Diameter				
						min	Starting Value	max	Ø (in)	.750-.945	.984-1.345	1.313-1.688	1.625-2.000
N	1	S	O	SPHX...R-22	KM1	600	**965**	1500	IPR	.002 - .003	.002 - .003	.004 - .005	.004 - .006
			I	DFT-HP	KMF								
		U	O	SPHX...R-20	KM1	398	**643**	996	IPR	.002 - .003	.002 - .003	.004 - .005	.004 - .006
			I	DFT-HP	KMF								
	2	S	O	SPHX...R-22	KM1	600	**868**	1500	IPR	.002 - .003	.002 - .003	.004 - .005	.004 - .006
			I	DFT-HP	KMF								
		U	O	SPHX...R-22	KM1	398	**579**	996	IPR	.002 - .003	.002 - .003	.004 - .005	.004 - .006
			I	DFT-HP	KMF								
	3	S	O	SPHX...R-22	KM1	372	**772**	930	IPR	.002 - .003	.002 - .003	.004 - .005	.004 - .006
			I	DFT-HP	KMF								
		U	O	SPHX...R-22	KM1	259	**514**	648	IPR	.002 - .003	.002 - .003	.004 - .005	.004 - .006
			I	DFT-HP	KMF								
	4	S	O	SPHX...R-22	KM1	372	**772**	930	IPR	.002 - .003	.002 - .003	.004 - .005	.004 - .006
			I	DFT-HP	KMF								
		U	O	SPHX...R-22	KM1	259	**514**	648	IPR	.002 - .003	.002 - .003	.004 - .005	.004 - .006
			I	DFT-HP	KMF								
	5	S	O	SPHX...R-20	KM1	450	**868**	1181	IPR	.001 - .002	.001 - .002	.004 - .005	.004 - .006
			I	DFT-HP	KMF								
		U	O	SPHX...R-20	KM1	302	**579**	793	IPR	.001 - .002	.001 - .002	.004 - .005	.004 - .006
			I	DFT-HP	KMF								
S	1	S	O	SPGX...-31	KC7215	70	**131**	160	IPR	.001 - .002	.001 - .002	.002 - .002	.002 - .002
			I	DFT-GD	KCU40								
		U	O	SPGX...-31	KC7215	60	**98**	120	IPR	.001 - .002	.001 - .002	.002 - .002	.002 - .002
			I	DFT-GD	KC7140								
	2	S	O	SPGX...-31	KC7215	61	**115**	139	IPR	.001 - .002	.001 - .002	.002 - .002	.002 - .002
			I	DFT-GD	KCU40								
		U	O	SPGX...-31	KC7215	58	**82**	112	IPR	.001 - .002	.001 - .002	.002 - .002	.002 - .002
			I	DFT-GD	KC7140								

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert



HTS Indexable Drill System

The HTS indexable drill system is one of the most reliable deep-hole drilling systems available. Drilling up to 10 x D can be easily achieved in materials like steel, stainless steel, ductile iron, cast iron, and non-ferrous materials. Various drilling heads cover the diameter range 1.77–10.63" (45–270mm).

HTS drill heads are equipped with pilot drills and cartridges using trigon-shaped Drill Fix™ DFT™ inserts. Use HTS extensions and reducers to achieve various diameters and depths of drilling.

For improved surface qualities and increased reliability, finishing HTS cartridges with a squared-outboard insert are available as standard.

Features and Benefits

Productivity

- Achieve high hole accuracy by using pilot drills and trigon-shaped inserts.
- Benefit from improved surface qualities using finishing cartridges with squared-outboard inserts.
- Adjust outer cartridge to produce the desired cutting diameter, reducing inventory.
- Same insert size is used in each insert cartridge, reducing inventory costs.

Versatility

- Diameter range covering 1.77–10.63" (45–270mm).
- L/D ratio up to 10 x D as standard.
- Inserts and pilot drills can be applied in various heads and cartridges, covering various diameters.
- Large variety of DFT insert grades and geometries available.
- Finishing cartridge with squared-outboard insert offering four cutting edges for high process stability.
- Carbide pilot drills are available upon request.

Customization

- Wear pads can be added for increased stability.
- Fully engineered solutions available.
- Custom solutions covering diameter range up to 21.259" (540mm) are possible.





HTS-R Indexable Drill System

The HTS-R extends the HTS system by covering diameters between 1.575–2.165" (40–55mm).

Up to 30% higher feed rates achievable with rectangular-shaped Drill Fix™ DFR™ inserts with the added benefit of improved chip control.

Features and Benefits

Productivity

- Benefit from better chip control and higher insert stability for longer tool body life.
- Same insert size is used in each insert cartridge.

Versatility

- Diameter range covering 1.575–2.165" (40–55mm) with five drilling heads.
- Large variety of DFR insert grades and geometries available.
- Outer cartridges can be adjusted to produce the desired cutting diameter.
- Extensions and reducers are available as standard.
- Solid carbide and HSS pilot drills are available to match the cutting conditions to your specific applications.

Customization

- Wear pads can be added for increased stability.
- Fully engineered solutions available.





Pilot drill should be installed and set to the proper length before installing the inner cartridge.



Install inner cartridge, then the outer insert.



Install inner insert into cartridge.

HTS-R


inner cartridge


pilot drill


outer cartridge

HTS Ø 45–102mm/1.77–4.02"


inner cartridge*


pilot drill


outer cartridge*

HTS Ø 102–170mm/4.02–6.69"


inner cartridge


pilot drill


outer cartridge

HTS Ø 195–270mm/7.68–10.63"


inner cartridge


pilot drill


outer cartridge

HTS with SPHX outboard insert


inner cartridge


pilot drill


outer cartridge**

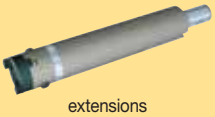
*for Ø 180–186mm/ 7.09–7.32": 2 inner and outer cartridges are used

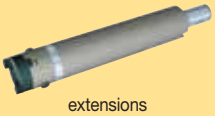
HTS-R head

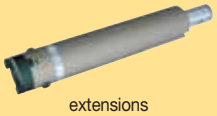


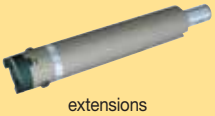
HTS head




extensions


extensions


extensions


extensions


reducer


reducer

WARNING
- **DO NOT exceed 2 extensions or 1 extension plus reducer.**


DV


BT


CV with rotary ring


CV


HSK


KM


HTS coolant coupling

****for Ø 102–170mm/4.02–6.69" & Ø 195–240mm/ 7.68–9.45": the outer cartridge uses 3 inserts**

HTS-R


inner cartridge


pilot drill


outer cartridge

HTS-R head



HTS Ø 45–102mm/1.77–4.02"


inner cartridge*


pilot drill


outer cartridge*

*for Ø 180–186mm/ 7.09–7.32": 2 inner and outer cartridges are used

HTS Ø 102–170mm/4.02–6.69"


inner cartridge


pilot drill


outer cartridge

HTS Ø 195–270mm/7.68–10.63"


inner cartridge


pilot drill


outer cartridge

HTS with SPHX outboard insert

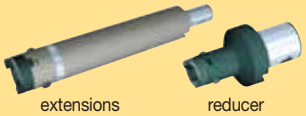

inner cartridge

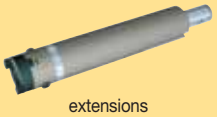

pilot drill


outer cartridge**

HTS head




extensions reducer


extensions


reducer


basic shanks


DV


BT


BT with coolant ring


CV


CV with coolant ring

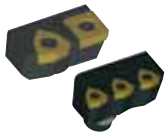

HSK

**for Ø 102–170mm/4.02–6.69" & Ø 195–240mm/ 7.68–9.45": the outer cartridge uses 3 inserts

To assemble your HTS(-R) head, choose the desired drill diameter range from the left-hand column.
Next, follow the columns to the right, and select the appropriate component from each column to complete your HTS(-R) head.

						HTS(-R) head with DFR/ DFT inserts								
						inner cartridge				outer cartridge				
	drilling range			L1										
	mm	in	HTS head	mm	in	cartridge	n	insert	n	cartridge	n	insert	n	pilot drill
HTS heads with DFR™ inserts	40–43	1.57–1.69	HTSR040R025M	60	2.36	HTSR10CI	1	DFR0302.	2	HTSR10CE	1	DFR0302.	2	B513S08.
	43–46	1.69–1.81	HTSR043R025M	70	2.76	HTSR11CI	1	DFR0302.	2	HTSR11CE	1	DFR0302.	2	B513S10.
	46–49	1.81–1.93	HTSR046R028M			HTSR12CI	1	DFR0403.	2	HTSR12CE	1	DFR0403.	2	B513S10.
	49–52	1.93–2.05	HTSR049R028M			HTSR13CI	1	DFR0403.	2	HTSR13CE	1	DFR0403..	2	B513S10.
	52–55	2.05–2.17	HTSR052R028M			HTSR14CI	1	DFR0403.	2	HTSR14CE	1	DFR0403..	2	B513S10.
HTS heads with DFT™/SPHX inserts	45–50	1.77–1.97	3.76045R028V	50	1.97	3.77000R050V	1	DFT0303.	2	3.77000R051V	1	DFT0303.	2	B510S08.
	50–55	1.97–2.17	3.76050R028V			3.77000R052V	1	DFT0303.	2	3.77000R053V	1	DFT0303.	2	B510S08.
	55–58	2.17–2.28	3.76055R032V	60	2.36	3.77000R038V	1	DFT05T3.	2	3.77000R039V	1	DFT05T3.	2	B510S08.
	58–63	2.28–2.48	3.76058R032V			3.77000R023V	1	DFT05T3.	2	3.77000R024V	1	DFT05T3.	2	B510S10.
	63–68	2.48–2.68	3.76063R032V			3.77000R025V	1	DFT05T3.	2	3.77000R024V	1	DFT05T3.	2	B510S10.
	63–68	2.48–2.68	**3.76063R040V***	70	2.76	3.77000R025V	1	DFT05T3.	2	3.77000R024V	1	DFT05T3.	2	B510S10.
	68–73	2.68–2.87	3.76068R040V			3.77000R026V	1	DFT05T3.	2	3.77000R027V	1	DFT05T3.	2	B510S10.
	73–78	2.87–3.07	3.76073R040V			3.77000R026V	1	DFT05T3.	2	3.77000R027V	1	DFT05T3.	2	B510S15.
	78–84	3.07–3.31	3.76078R040V			3.77000R028V	1	DFT06T3.	2	3.77000R029V	1	DFT06T3.	2	B510S15.
	78–84	3.07–3.31	**3.76078R048V***	70	2.76	3.77000R028V	1	DFT06T3.	2	3.77000R029V	1	DFT06T3.	2	B510S15.
	84–90	3.31–3.54	3.76084R048V			3.77000R028V	1	DFT06T3.	2	3.77000R029V	1	DFT06T3.	2	B510S15.
	90–94°	3.54–3.70	3.76090R048V			–		–		–		–		–
	90–96	3.54–3.78	3.76090R048V			3.77000R030V	1	DFT06T3.	2	3.77000R031V	1	DFT06T3.	2	B510S15.
	96–100°	3.78–3.93	3.76096R048V			–		–		–		–		–
	96–102	3.78–4.02	3.76096R048V			3.77000R030V	1	DFT06T3.	2	3.77000R031V	1	DFT06T3.	2	B510S20.
	96–100°	3.78–3.93	**3.76096R058V***	80	3.15	–		–		–		–		–
	96–102	3.78–4.02	**3.76096R058V***			3.77000R030V	1	DFT06T3.	2	3.77000R031V	1	DFT06T3.	2	B510S20.
	102–108	4.02–4.25	3.76102R058V			3.77000R081V	1	DFT05T3.	3	3.77000R082V	1	DFT05T3.	3	B510S20.
	108–115	4.25–4.53	3.76108R058V			3.77000R083V	1	DFT06T3.	3	3.77000R084V	1	DFT06T3.	3	B510S20.
	115–122	4.53–4.80	3.76115R070V	90	3.54	3.77000R085V	1	DFT06T3.	3	3.77000R086V	1	DFT06T3.	3	B510S25.
	122–130	4.80–5.12	3.76122R070V			3.77000R079V	1	DFT06T3.	3	3.77000R080V	1	DFT06T3.	3	B510S25.
	130–140	5.12–5.51	3.76130R070V			3.77000R087V	1	DFT06T3.	3	3.77000R088V	1	DFT06T3.	3	B510S25.
	140–150	5.51–5.91	3.76140R080V	100	3.94	3.77000R077V	1	DFT0704.	3	3.77000R078V	1	DFT0704.	3	B510S25.
	150–158	5.91–6.22	3.76150R080V			3.77000R075V	1	DFT0704.	3	3.77000R076V	1	DFT0704.	3	B510S25.
	158–162	6.22–6.38	3.76158R080V			3.77000R073V	1	DFT0704.	3	3.77000R074V	1	DFT0704.	3	B510S25.
	162–170	6.38–6.70	3.76162R080V			3.77000R048V	1	DFT0704.	3	3.77000R049V	1	DFT0704.	3	B510S30.
	180–184°	7.08–7.24	3.76180R110	125	4.92	–		–		–		–		–
	180–186	7.08–7.32	3.76180R110			3.77000R030V	3	DFT06T3.	4	3.77000R031V	1	DFT06T3.	4	B510S30.
	195–201	7.68–7.91	3.76195R110			3.77000R081V	3	DFT05T3.	6	3.77000R082V	1	DFT05T3.	6	B510S30.
	213–220	8.39–8.66	3.76213R125			3.77000R083V	3	DFT06T3.	6	3.77000R084V	1	DFT06T3.	6	B510S30.
	230–240	9.06–9.45	3.76230R160	150	5.91	3.77000R079V	2	DFT06T3.	6	3.77000R080V	2	DFT06T3.	6	B510S30.
	260–270	10.24–10.63	3.76260R160			3.77000R077V	2	DFT06T3.	6	3.77000R078V	2	DFT06T3.	6	B510S30.

° Decreased diameter range by using SPHX insert in exterior cartridge.
* Drill heads with reinforced body for short-chipping materials.
n = Required quantity.

	HTS head with DFT inserts and SPHX outboard insert												
	inner cartridge						outer cartridge						
													
	cartridge	n	cartridge	n	insert	n	cartridge	n	insert	n	insert	n	pilot drill
	–		–		–		–		–		–		–
	–		–		–		–		–		–		–
	–		–		–		–		–		–		–
	–		–		–		–		–		–		–
	–		–		–		–		–		–		–
	3.77000R250V	1	–		DFT0303.	2	3.77000R251V	1	DFT0303.	1	SPHX0703.	1	B510S08.
	3.77000R252V	1	–		DFT0303.	2	3.77000R253V	1	DFT0303.	1	SPHX0703.	1	B510S08.
	3.77000R038V	1	–		DFT05T3.	2	3.77000R239V	1	DFT05T3.	1	SPHX0903.	1	B510S08.
	3.77000R023V	1	–		DFT05T3.	2	3.77000R224V	1	DFT05T3.	1	SPHX0903.	1	B510S10.
	3.77000R025V	1	–		DFT05T3.	2	3.77000R224V	1	DFT05T3.	1	SPHX0903.	1	B510S10.
	3.77000R025V	1	–		DFT05T3.	2	3.77000R224V	1	DFT05T3.	1	SPHX0903.	1	B510S10.
	3.77000R026V	1	–		DFT05T3.	2	3.77000R227V	1	DFT05T3.	1	SPHX0903.	1	B510S10.
	3.77000R026V	1	–		DFT05T3.	2	3.77000R227V	1	DFT05T3.	1	SPHX0903.	1	B510S15.
	3.77000R028V	1	–		DFT06T3.	2	3.77000R229V	1	DFT06T3.	1	SPHX0903.	1	B510S15.
	3.77000R028V	1	–		DFT06T3.	2	3.77000R229V	1	DFT06T3.	1	SPHX0903.	1	B510S15.
	3.77000R228V	1	–		DFT06T3.	2	3.77000R229V	1	DFT06T3.	1	SPHX0903.	1	B510S15.
	3.77000R230V	1	–		DFT06T3.	2	3.77000R231V	1	DFT06T3.	1	SPHX0903.	1	B510S15.
	–		–		–		–		–		–		–
	3.77000R230V	1	–		DFT06T3.	2	3.77000R231V	1	DFT06T3.	1	SPHX0903.	1	B510S20.
	–		–		–		–		–		–		–
	3.77000R230V	1	–		DFT06T3.	2	3.77000R231V	1	DFT06T3.	1	SPHX0903.	1	B510S20.
	–		–		–		–		–		–		–
	3.77000R081V	1	–		DFT05T3.	3	3.77000R282V	1	DFT05T3.	2	SPHX0903.	1	B510S20.
	3.77000R083V	1	–		DFT06T3.	3	3.77000R284V	1	DFT06T3.	2	SPHX1204.	1	B510S20.
	3.77000R085V	1	–		DFT06T3.	3	3.77000R286V	1	DFT06T3.	2	SPHX1204.	1	B510S25.
	3.77000R079V	1	–		DFT06T3.	3	3.77000R280V	1	DFT06T3.	2	SPHX1204.	1	B510S25.
	3.77000R087V	1	–		DFT06T3.	3	3.77000R288V	1	DFT06T3.	2	SPHX1204.	1	B510S25.
	3.77000R077V	1	–		DFT0704.	3	3.77000R278V	1	DFT0704.	2	SPHX1505.	1	B510S25.
	3.77000R075V	1	–		DFT0704.	3	3.77000R276V	1	DFT0704.	2	SPHX1204.	1	B510S25.
	3.77000R073V	1	–		DFT0704.	3	3.77000R274V	1	DFT0704.	2	SPHX1204.	1	B510S25.
	3.77000R248V	1	–		DFT0704.	3	3.77000R249V	1	DFT0704.	2	SPHX1505.	1	B510S30.
	3.77000R230V	3	–		DFT06T3.	4	3.77000R231V	1	DFT06T3.	3	SPHX0903.	1	B510S30.
	–		–		–		–		–		–		–
	3.77000R081V	3	–		DFT05T3.	9	3.77000R282V	1	DFT05T3.	2	SPHX0903.	1	B510S30.
	3.77000R083V	3	–		DFT06T3.	9	3.77000R284V	1	DFT06T3.	2	SPHX1204.	1	B510S30.
	3.77000R079V	2	3.77000R080V	1	DFT06T3.	9	3.77000R280V	1	DFT06T3.	2	SPHX1204.	1	B510S30.
	–		–		–		–		–		–		B510S30

HTS tool assembly combinations

- Select your appropriate drill diameter range.
- Choose the appropriate adaptor and shank size.
- Follow the columns to the right, and select the appropriate components from each column to complete your HTS(-R) tool.

	drilling range		shank		DV		BT		CV		HSK	
					 assembly details		 assembly details		 assembly details		 assembly details	
	mm	in		D1	40	50	40	50	40	50	50/63/100	
HTS heads with DFR™ inserts	40–43 43–46	1.57–1.69 1.69–1.81	WD/WN	32	DV40BWD32075M **DV40RMWD32115M****	DV50BWD32060M **DV50RMWD32140M****	BT40BWD32070M	BT50BWD32080M	CV40BWD32M343 **CV40RMWD32M453****	CV50BWD32M343 **CV50RMWD32M453****	HSK50ASWN32110M HSK63ASWN32090M HSK100ASWN32100M	
				50	–	DV50BWD50075M **DV50RMWD50144M****	–	BT50BWD50085M **BT50RMWD50162M****	–	CV50BWD50M343 **CV50RMWD50M472****	–	
			SS(F)	1.50	–	–	–	–	CV40BSSF150575	CV50SS150400 (AD) CV50SS150600 (AD) CV50SS150800 (AD) CV50BSSF150450	–	
	46–49 49–52 52–55	1.81–1.93 1.93–2.05 2.05–2.17	WD/WN	32	DV40BWD32075M **DV40RMWD32115M****	DV50BWD32060M **DV50RMWD32140M****	–	BT50BWD32080M	CV40BWD32M343 **CV40RMWD32M453****	CV50BWD32M343 **CV50RMWD32M453****	–	
				50	–	DV50BWD50075M **DV50RMWD50144M****	–	BT50BWD50085M **BT50RMWD50162M****	–	CV50BWD50M343 **CV50RMWD50M472****	–	
			SS(F)	2.00	–	–	–	–	–	CV50SS200562 (AD) CV50SS200762 (AD) CV50BSSF200550	–	
			HTS	50	–	5.36050-154050	–	BT50BHTS50080M	–	CV50BHTS50M314 **CV50RMHTS50M413****	–	
HTS heads with DFT™/SPHX inserts	45–50 50–55	1.77–1.97 1.97–2.17	WD/WN	32	DV40BWD32075M **DV40RMWD32115M****	DV50BWD32060M **DV50RMWD32140M****	BT40BWD32070M	BT50BWD32080M	CV40BWD32M343 **CV40RMWD32M453****	CV50BWD32M343 **CV50RMWD32M453****	HSK50ASWN32110M HSK63ASWN32090M HSK100ASWN32100M	
				50	–	DV50BWD50075M **DV50RMWD50144M****	–	BT50BWD50085M **BT50RMWD50162M****	–	CV50BWD50M343 **CV50RMWD50M472****	HSK100ASWN50110M	
			SS(F)	2.00	–	–	–	–	–	CV50SS200562 (AD) CV50SS200762 (AD) CV50BSSF200550	–	
			HTS	50	–	5.36050-154050	–	BT50BHTS50080M	–	CV50BHTS50M314 **CV50RMHTS50M413****	–	
	55–58 58–63 63–68	2.17–2.28 2.28–2.48 2.48–2.68	WD/WN	32	DV40BWD32075M **DV40RMWD32115M****	DV50BWD32060M **DV50RMWD32140M****	BT40BWD32070	BT50BWD32080M	CV40BWD32M343 **CV40RMWD32M453****	CV50BWD32M343 **CV50RMWD32M453****	HSK50ASWN32110M HSK63ASWN32090M HSK100ASWN32100M	
				50	–	DV50BWD50075M **DV50RMWD50144M****	–	BT50BWD50085M **BT50RMWD50162M****	–	CV50BWD50M343 **CV50RMWD50M472****	HSK100ASWN50110M	
			SS(F)	2.00	–	–	–	–	–	CV50SS200562 (AD) CV50SS200762 (AD) CV50BSSF200550	–	
			HTS	50	–	5.36050-154050	–	BT50BHTS50080M	–	CV50BHTS50M314 **CV50RMHTS50M413****	–	
	63–68* 68–73 73–78 78–84	2.48–2.68 2.68–2.87 2.87–3.07 3.07–3.31	WD/WN	50	–	DV50BWD50075M **DV50RMWD50144M****	–	BT50BWD50085M **BT50RMWD50162M****	–	CV50BWD50M343 **CV50RMWD50M472****	HSK100ASWN50110M	
			SS(F)	2.00	–	–	–	–	–	V50SS200562 (AD) CV50SS200762 (AD) CV50BSSF200550	–	
			HTS	50	–	5.36050-154050	–	BT50BHTS50080M	–	CV50BHTS50M314 **CV50RMHTS50M413****	–	

* HTS drilling head with reinforced body for short-chipping materials.
** Adapter with coolant ring.
The shown combinations are not complete. Ask your Kennametal representative to get the most reasonable solution for your application.
Please note that the assembled total length of the drilling tool is not necessarily the total achievable drilling depth.

	KM	basic shank				reducer					extension			HTS head
														
	assembly details		L4		L4		L1		for use with coolant adapter			L1		
	80	metric	mm	inch	in		mm	in	coolant adapter	shell mill DV/BT		mm	in	
	–	5.34032-025115 5.34032-025200	110 195	–	–	–	–	–	–	–	5.34125R025150	160	6.30	HTSR040R025M HTSR043R025M
	–	5.34050-025300 5.34050-025450	270 420	–	–	–		–	–	–				
	–	–	–	SSF150HTS130239 SSF150HTS130664 SSF150HTS131114 SSF150HTS131764	.39 4.65 9.14 15.64	–	–	–	–	–				
	–	5.34032-028115 5.34032-028200	110 195	–	–	–	–	–	–	–	5.34128R028150	160	6.30	HTSR046R028M HTSR049R028M HTSR052R028M
	–	.34050-028300 5.34050-028450	265 415	–	–	–		–	–	–				
	–	–	–	SSF200HTS130239 SSF200HTS130664 SSF200HTS131114 SSF200HTS131764	.39 4.65 9.14 15.64	–	–	–	–	–				
	KM80ATCHTS50085M KM80ATCHTS50100M	–	–	–	–	5.34280R028080	90	3.54	5.34350-090100	DV50SM60070M BT50SM60090M				
	–	5.34032-028115 5.34032-028200	110 195	–	–	–	–	–	–	–	5.34128R028150	160	6.30	3.76045R028V 3.76050R028V
	–	5.34050-028300 5.34050-028450	265 415	–	–	–		–	–	–				
	–	–	–	SSF200HTS130239 SSF200HTS130664 SSF200HTS131114 SSF200HTS131764	39 4.65 9.14 15.64	–	–	–	–	–				
	KM80ATCHTS50085M KM80ATCHTS50100M	–	–	–	–	5.34280R028080	90	3.54	5.34350-090100	DV50SM60070M BT50SM60090M				
	–	5.34032-032125	120	–	–	–	–	–	–	–	5.34132R032100 5.34132R032200	110 210	4.33 8.27	3.76055R032V 3.76058R032V 3.76063R032V
	–	5.34050-032500 5.34050032350 5.34050032350	165 315 465	–	–	–		–	–	–				
	–	–	–	SSF200HTS160239 SSF200HTS160714 SSF200HTS161214 SSF200HTS161964	.39 5.14 10.14 17.64	–	–	–	–	–				
	KM80ATCHTS50085M KM80ATCHTS50100M	–	–	–	–	5.34280R032080	90	3.5	5.34350-090100	DV50SM60070M BT50SM60090M				
	–	5.34050-040148 5.34050-040300 5.34050-040450 5.34050-040600	140 267 417 567	–	–	–	–	–	–	–	5.34140R040200	212	8.35	**3.76063R040V*** 3.76068R040V 3.76073R040V 3.76078R040V
	–	–	–	SSF200HTS220297 SSF200HTS220922 SSF200HTS221572 SSF200HTS222572	.47 7.22 13.72 23.72	–	–	–	–	–				
	KM80ATCHTS50085M KM80ATCHTS50100M	–	–	–	–	5.34280R040080	92	3.62	5.34350-090100	DV50SM60070M BT50SM60090M				

(continued)

(continued)

HTS Tool Assembly Combinations

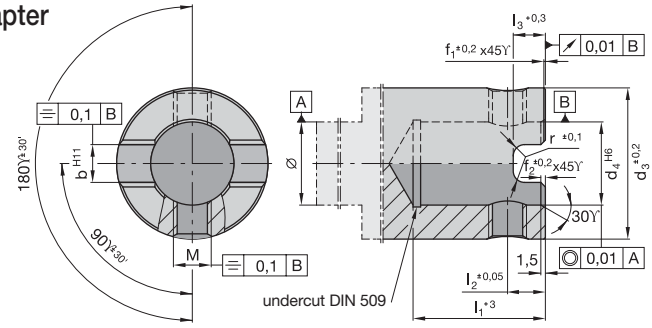
- Select your appropriate drill diameter range.
- Choose the appropriate adaptor and shank size.
- Follow the columns to the right, and select the appropriate components from each column to complete your HTS(-R) tool.

	drilling range		shank		DV		BT		CV		HSK	
												
					assembly details		assembly details		assembly details		assembly details	
	mm	in		D1	40	50	40	50	40	50	50/63/100	
HTS heads with DFT™ /SPHX inserts	78–84* 84–90 90–96 96–102	3.07–3.31 3.31–3.54 3.54–3.70 3.78–4.02	WD / WN	50	–	DV50BWD50075M **DV50RMWD50144M****	–	BT50BWD50085M **BT50RMWD50162M****	–	CV50BWD50M343 **CV50RMWD50M472****	HSK100ASWN50110M	
			SS(F)	2.00	–	–	–	–	–	CV50SS200562 (AD) CV50SS200762 (AD) CV50BSSF200550	–	
			HTS	50	–	5.36050-154050	–	BT50BHTS50080M	–	V50BHTS50M314 **CV50RMHTS50M413****	–	
	96–102* 102–108 108–115	3.78–4.02 4.02–4.25 4.25–4.53	WD / WN	50	–	DV50BWD50075M **DV50RMWD50144M****	–	BT50BWD50085M **BT50RMWD50162M****	–	CV50BWD50M343 **CV50RMWD50M472****	HSK100ASWN50110M	
			SS(F)	2.00	–	–	–	–	–	50SS200562 (AD) CV50SS200762 (AD) CV50BSSF200550	–	
			HTS	50	–	5.36050-154050		BT50BHTS50080M	–	CV50BHTS50M314 **CV50RMHTS50M413****	–	
	115–122 122–130 130–140	4.53–4.80 4.80–5.12 5.12–5.51	SS(F)	40	–	–	–	–	–	CV50SS250800	–	
			HTS	40	5.36050154040	–	BT50BHTS40080M	–	V50BHTS40M314 **CV50RMHTS40M412****		HSK100AHTS40085M	
				50	–	5.36050-154050	–	BT50BHTS50080M	–	CV50BHTS50M314 **CV50RMHTS50M413****	HSK100AHTS50090M	
	140–150 150–158 158–162 162–170	5.51–5.91 5.91–6.22 6.22–6.38 6.38–6.70	HTS	50	–	5.36050-154050	–	BT50BHTS50080M	–	CV50BHTS50M314 **CV50RMHTS50M413****	HSK100AHTS50090M	
	180–186 195–201 213–220	7.08–7.32 7.68–7.91 8.39–8.66	customized solutions available upon request									
	230–240 260–270	9.06–9.45 10.24–10.63	customized solutions available upon request									

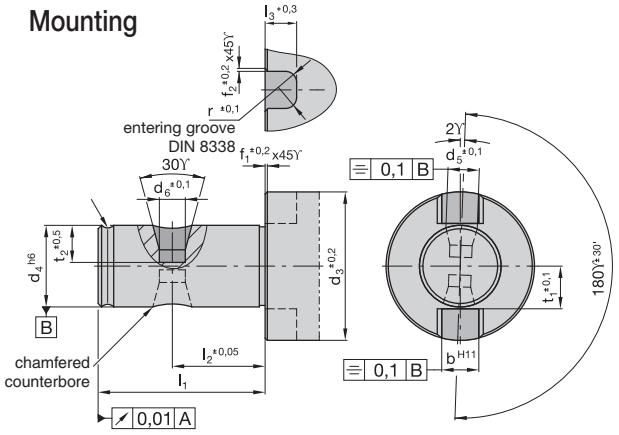
* HTS drilling head with reinforced body for short-chipping materials.
** Adapter with coolant ring.
The shown combinations are not complete. Ask your Kennametal representative to get the most reasonable solution for your application.
Please note that the assembled total length of the drilling tool is not necessarily the total achievable drilling depth.

KM	basic shank				reducer					extension			HTS head
 assembly details		L4		L4		L1		 for use with coolant adapter			L1		
80	metric	mm	inch	in		mm	in	coolant adapter	shell mill DV/BT		mm	in	
–	5.34050-048168 5.34050-048300 5.34050-048450 5.34050-048600	160 267 417 567	–	–	–	–	–	–	–	5.34140R048200	212	8.35	**3.76078R048V*** 3.76084R048V 3.76090R048V 3.76096R048V
–	–	–	SSF200HTS270297 SSF200HTS271122 SSF200HTS271922 SSF200HTS273122	1.47 9.22 17.22 29.22	–	–	–	–	–				
KM80ATCHTS50085M KM80ATCHTS50100M	–	–	–	–	5.34280R048080	92	3.62	5.34350-090100	DV50SM60070M BT50SM60090M				
–	5.34050-058186 5.34050-058300 5.34050-058450 5.34050-058600	180 254 404 554	–	–	–	–	–	–	–	5.34158R058300	314	12.36	**3.76096R058V*** 3.76102R058V 3.76108R058V
–	–	–	SSF200HTS160239 SSF200HTS160714 SSF200HTS161214 SSF200HTS161964	.39 5.14 10.14 17.64	–	–	–	–	–				
KM80ATCHTS50085M KM80ATCHTS50100M	–	–	–	–	5.34280R058080	94	3.70	5.34350-090100	DV50SM60070M BT50SM60090M				
–	–	–	SSF250HTS400355 SSF250HTS401055 SSF250HTS401555 SSF250HTS402555	1.63 8.21 13.21 23.21	–	–	–	–	–	–	–	–	3.76115R070V 3.76122R070V 3.76130R070V
KM80ATCHTS40085M KM80ATCHTS40100M	–	–	–	–	5.34280R070150	164	6.45	5.34350-090100	DV50SM60070M BT50SM60090M	5.34170R070300 5.34170R070500	314 514	12.36 20.24	
KM80ATCHTS50085M KM80ATCHTS50100M	–	–	–		–	–	—	–	–				
KM80ATCHTS50085M KM80ATCHTS50100M	–	–	SSF300HTS500413 SSF300HTS501313 SSF300HTS502113 SSF300HTS503113	1.87 10.55 18.55 28.55	–	–	–	5.34350-090100	DV50SM60070M BT50SM60090M	5.34180R080204 5.34180R080300 5.34180R080500	220 316 516	8.66 12.44 20.32	3.76140R080V 3.76150R080V 3.76158R080V 3.76162R080V
customized solution available upon request													3.76180R110 3.76195R110 3.76213R125
customized solution available upon request													3.76230R160 3.76260R160

Adapter



Mounting



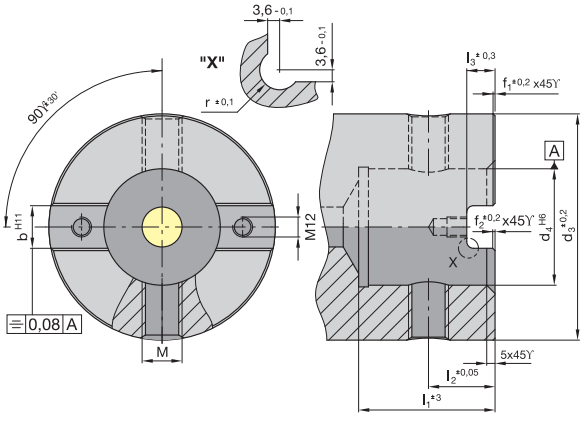
Adapter Dimensions

d3	d4	l1	l2	l3	M	b	r	f1	f2	drive ring	clamping screw	thread	MAn* Nm	sliding block	clamping screw M 12 x 25 for sliding block
25	13	28	12,4	7,0	M 8 x 1,0	8,0	3	0,5	0,5	193.371	193.372	M 8 x 1,0	10	–	–
28	13	28	12,4	7,0	M 8 x 1,0	8,0	3	0,5	0,5	192.419	193.372	M 8 x 1,0	10	–	–
32	16	32	14,4	7,5	M 8 x 1,0	8,0	3	0,5	0,5	192.420	192.156	M 8 x 1,0	10	–	–
40	22	35	13,4	8,5	M 10 x 1,0	10,0	3	0,5	0,5	192.421	192.157	M 10 x 1,0	16	–	–
48	27	40	15,4	9,0	M 12 x 1,0	12,0	3	1,0	1,0	192.422	191.727	M 10 x 1,0	16	–	–
58	32	38	15,4	10,0	M 12 x 1,0	14,0	3	1,0	1,0	192.423	191.727	M 12 x 1,0	20	–	–
70	40	43	16,4	10,0	M 16 x 1,5	16,0	3	1,0	1,0	192.424	191.728	M 16 x 1,5	34	–	–
80	50	46	20,4	12,5	M 16 x 1,5	18,0	4	1,0	1,0	192.425	191.728	M 16 x 1,5	34	–	–
90	50	46	20,4	12,5	M 16 x 1,5	18,0	4	1,0	1,0	192.426	191.729	M 16 x 1,5	34	–	–
110	60	46	20,4	12,5	M 16 x 1,5	20,0	4	1,0	1,0	192.427	191.729	M 16 x 1,5	34	–	–
125 1)	60	77	40,0	12,5	M 24 x 2,0	25,5	4	1,0	1,0	–	193.107	M 24 x 2,0	120	191.019	125.225
140 1)	70	82	40,0	12,5	M 24 x 2,0	25,5	4	1,0	1,0	–	193.107	M 24 x 2,0	120	191.019	125.225
160 1)	80	82	40,0	12,5	M 24 x 2,0	25,5	4	1,0	1,0	–	193.107	M 24 x 2,0	120	191.019	125.225

* MAn = Clamping torque of clamping screw in Nm.

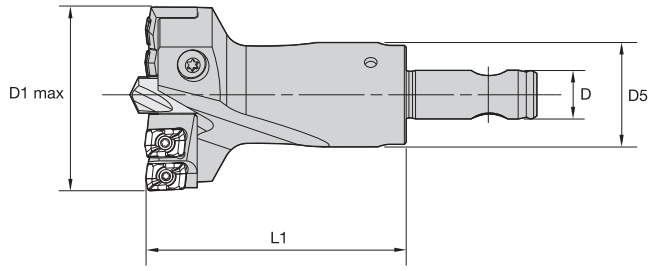
Mounting Dimensions

d3	d4	d5	d6	l1	l2	l3	t1	t2	b	r	f1	f2
25	13	8,50	6,5	35	22,0	7,00	6,7	6,50	8,0	3	0,5	0,5
28	13	8,50	6,5	35	22,0	7,00	7,0	6,50	8,0	3	0,5	0,5
32	16	8,30	6,5	40	24,0	7,50	8,5	7,50	8,0	3	0,5	0,5
40	22	10,50	7,0	45	25,0	8,50	11,5	10,00	10,0	3	0,5	0,5
48	27	12,75	9,0	50	27,0	9,00	14,0	12,00	12,0	3	1,0	1,0
58	32	11,50	9,0	50	29,0	10,00	16,5	7,25	14,0	3	1,0	1,0
70	40	15,25	12,2	55	30,0	10,50	20,5	10,00	16,0	3	1,0	1,0
80	50	15,25	12,2	60	36,0	12,50	25,5	12,50	18,0	4	1,0	1,0
90	50	16,50	12,2	60	36,0	12,50	25,5	12,50	18,0	4	1,0	1,0
110	60	14,50	12,2	60	36,0	13,65	30,5	10,00	20,0	4	1,0	1,0
125 1)	60	25,00	18,0	75	39,5	17,00	35,0	20,25	25,5	6	1,0	1,0
140 1)	70	25,00	18,0	80	39,5	17,00	42,0	20,25	25,5	6	1,0	1,0
160 1)	80	25,00	18,0	80	39,5	17,00	42,0	20,25	25,5	6	1,0	1,0



1) Adapter for d3 = 125, 140, and 160

- Head shipped with clamping and adjusting screws.
- Order pilot drill and cartridges separately; see page J74 for pilot drill.



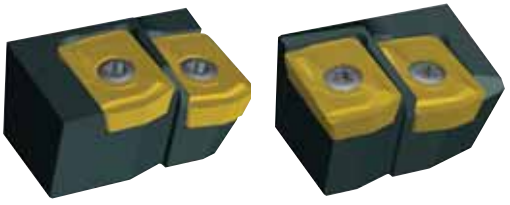


HTS Adjustable Heads with DFR™ Inserts

catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D5 mm	D5 in	D	L1 mm	L1 in	pilot drill HSS (118°)	pilot drill carbide (130°)	cartridge interior	n	cartridge exterior	n	gage insert	ni
HTSR040R025M	40	1.57	43	1.69	25	.98	13A	60	2.36	B513S08..	B514S08..	**HTSR10CI**	1	**HTSR10CE**	1	DFR0302..	4
HTSR043R025M	43	1.69	46	1.81	25	.98	13A	70	2.76	B513S10..	B514S10..	**HTSR11CI**	1	**HTSR11CE**	1	DFR0302..	4
HTSR046R028M	46	1.81	49	1.93	28	1.10	13B	70	2.76	B513S10..	B514S10..	**HTSR12CI**	1	**HTSR12CE**	1	DFR0403..	4
HTSR049R028M	49	1.93	52	2.05	28	1.10	13B	70	2.76	B513S10..	B514S10..	**HTSR13CI**	1	**HTSR13CE**	1	DFR0403..	4
HTSR052R028M	52	2.05	55	2.17	28	1.10	13B	70	2.76	B513S10..	B514S10..	**HTSR14CI**	1	**HTSR14CE**	1	DFR0403..	4

NOTE: n: number of cartridges required by head.
ni: number of inserts required by head.

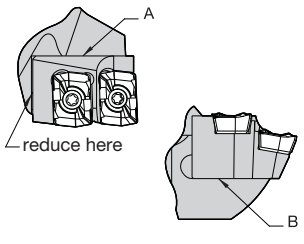
D1 diameter mm	D1 diameter in	clamping screw	adjusting screw
40–42	1.57–1.68	190.116	**128.610**
43–52	1.69–2.05	193.397	**190.458**

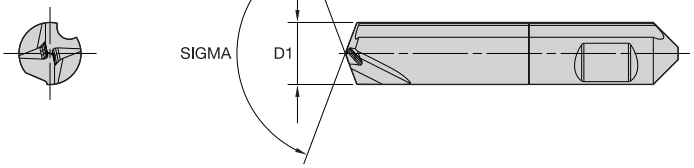


HTS DFR Cartridges

catalog number	gage insert	Nm	ft. lbs.	insert screw	cartridge screw	washer
HTSR10CE	DFR0302..	5,0	3.69	**192.416**	**192.592**	**192.902**
HTSR10CI	DFR0302..	5,0	3.69	**192.416**	**192.592**	**192.902**
HTSR11CE	DFR0302..	5,0	3.69	**192.416**	**192.592**	**192.902**
HTSR11CI	DFR0302..	5,0	3.69	**192.416**	**192.592**	**192.902**
HTSR12CE	DFR0403..	5,0	3.69	**192.432**	**192.592**	**192.902**
HTSR12CI	DFR0403..	5,0	3.69	**192.432**	**192.592**	**192.902**
HTSR13CE	DFR0403..	5,0	3.69	**192.432**	**192.592**	**192.902**
HTSR13CI	DFR0403..	5,0	3.69	**192.432**	**192.592**	**192.902**
HTSR14CE	DFR0403..	5,0	3.69	**192.432**	**192.592**	**192.902**
HTSR14CI	DFR0403..	5,0	3.69	**192.432**	**192.592**	**192.902**

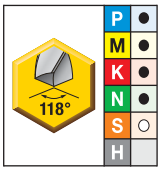
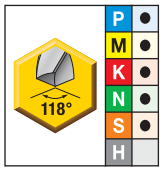
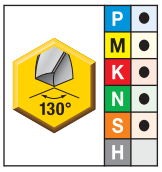
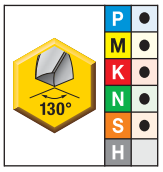
- Change drill diameter by shortening the outer cartridge.
- Shorten at 90° to the contact face A and the support face B.
- Shortening reduces the effective drill diameter by 2x the amount removed.

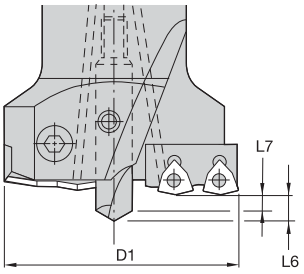






HTS DFR™ • Pilot Drills

				D1	
high-speed steel uncoated A30	high-speed steel coated AS3	solid carbide uncoated G13	solid carbide coated KC7030	mm	in
B513S08000 B513S10000	B513S08000 B513S10000	– –	– –	8 10	.32 .39
– –	– –	B514S08000 B514S10000	B514S08000 B514S10000	8 10	.32 .39



Pilot Drill Setting Lengths

D1		 high-speed steel				 solid carbide			
		L6		L7		L6		L7	
mm	in	mm	in	mm	in	mm	in	mm	in
8,00	.315	4,14	.163	1,73	.068	3,61	.142	1,73	.068
10,00	.394	4,88	.192	1,88	.074	4,19	.165	1,88	.074

HTS DFR™ • Metric

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric		
									Recommended Feed Rate (f) by Diameter		
						min	Starting Value	max	Ø (mm)	DFR03... 40,00-46,00	DFR04 46,00-55,00
P	1	S	O	MD	KCU25	79	190	229	mm/r	0,10 - 0,14	0,12 - 0,18
			I	MD	KCU25						
		U	O	MD	KCU40	71	130	171	mm/r	0,10 - 0,14	0,12 - 0,18
			I	MD	KCU40						
		I	O	MD	KC7140	44	80	106	mm/r	0,10 - 0,14	0,12 - 0,18
			I	MD	KC7140						
	2	S	O	GD	KCU25	75	180	217	mm/r	0,10 - 0,14	0,12 - 0,18
			I	GD	KCU25						
		U	O	GD	KCU40	71	120	271	mm/r	0,10 - 0,14	0,12 - 0,18
			I	GD	KCU40						
		I	O	GD	KC7140	44	70	106	mm/r	0,10 - 0,14	0,12 - 0,18
			I	GD	KC7140						
	3	S	O	GD	KCU25	60	140	169	mm/r	0,10 - 0,14	0,12 - 0,18
			I	GD	KCU25						
		U	O	GD	KCU40	50	100	121	mm/r	0,10 - 0,14	0,12 - 0,18
			I	GD	KCU40						
		I	O	GD	KC7140	30	60	72	mm/r	0,10 - 0,14	0,12 - 0,18
			I	GD	KC7140						
	4	S	O	GD	KCU25	79	120	229	mm/r	0,10 - 0,14	0,12 - 0,18
			I	GD	KCU25						
		U	O	GD	KCU40	71	100	171	mm/r	0,10 - 0,14	0,12 - 0,18
			I	GD	KCU40						
		I	O	GD	KC7140	44	80	106	mm/r	0,10 - 0,14	0,12 - 0,18
			I	GD	KC7140						
	5	S	O	GD	KCU40	62	100	190	mm/r	0,06 - 0,11	0,07 - 0,14
			I	GD	KCU40						
		U	O	GD	KC7140	47	60	114	mm/r	0,06 - 0,11	0,07 - 0,14
			I	GD	KC7140						
		I	O	GD	KC7140	31	40	76	mm/r	0,06 - 0,11	0,07 - 0,14
			I	GD	KC7140						
	6	S	O	GD	KCU40	59	95	180	mm/r	0,07 - 0,11	0,08 - 0,13
			I	GD	KCU40						
		U	O	GD	KC7140	45	57	108	mm/r	0,07 - 0,11	0,08 - 0,13
			I	GD	KC7140						
		I	O	GD	KC7140	30	38	72	mm/r	0,07 - 0,11	0,08 - 0,13
			I	GD	KC7140						
M	1	S	O	MD	KCU40	40	110	134	mm/r	0,07 - 0,11	0,12 - 0,18
			I	MD	KC7140						
		U	O	MD	KC7140	31	70	86	mm/r	0,07 - 0,11	0,12 - 0,18
			I	MD	KC7140						
		I	O	MD	KC7140	22	50	61	mm/r	0,07 - 0,11	0,12 - 0,18
			I	MD	KC7140						
	2	S	O	MD	KCU40	38	99	127	mm/r	0,07 - 0,11	0,12 - 0,18
			I	MD	KC7140						
		U	O	MD	KC7140	31	63	86	mm/r	0,07 - 0,11	0,12 - 0,18
			I	MD	KC7140						
		I	O	MD	KC7140	22	45	61	mm/r	0,07 - 0,11	0,12 - 0,18
			I	MD	KC7140						
	3	S	O	MD	KCU40	32	88	107	mm/r	0,07 - 0,11	0,12 - 0,18
			I	MD	KC7140						
		U	O	MD	KC7140	31	56	86	mm/r	0,07 - 0,11	0,12 - 0,18
			I	MD	KC7140						
		I	O	MD	KC7140	22	40	61	mm/r	0,07 - 0,11	0,12 - 0,18
			I	MD	KC7140						

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

HTS DFR™ • Metric

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric		
									Recommended Feed Rate (f) by Diameter		
						min	Starting Value	max	Ø (mm)	DFR03... 40,00-46,00	DFR04 46,00-55,00
K	1	S	O	GD	KCPK10	79	**171**	229	mm/r	0,11 - 0,20	0,13 - 0,27
			I	GD	KCPK10						
		U	O	LD	KCU25	64	**117**	156	mm/r	0,11 - 0,20	0,13 - 0,27
			I	LD	KCU25						
		I	O	LD	KCU40	40	**72**	96	mm/r	0,11 - 0,20	0,13 - 0,27
			I	LD	KCU40						
	2	S	O	GD	KCPK10	75	**162**	217	mm/r	0,11 - 0,20	0,13 - 0,27
			I	GD	KCPK10						
		U	O	GD	KCU25	64	**111**	156	mm/r	0,11 - 0,20	0,13 - 0,27
			I	GD	KCU25						
		I	O	LD	KCU40	40	**68**	96	mm/r	0,11 - 0,20	0,13 - 0,27
			I	LD	KCU40						
	3	S	O	GD	KCPK10	68	**146**	195	mm/r	0,11 - 0,20	0,13 - 0,27
			I	GD	KCPK10						
		U	O	GD	KCU25	59	**100**	144	mm/r	0,11 - 0,20	0,13 - 0,27
			I	GD	KCU25						
		I	O	GD	KCU40	35	**62**	84	mm/r	0,11 - 0,20	0,13 - 0,27
			I	GD	KCU40						
N	1	S	O	ST	KD1425	128	**240**	358	mm/r	0,06 - 0,09	0,11 - 0,19
			I	ST	KD1425						
		U	O	LD	KCU40	102	**160**	239	mm/r	0,06 - 0,09	0,11 - 0,19
			I	LD	KCU40						
		I	O	LD	KCU40	67	**104**	155	mm/r	0,06 - 0,09	0,11 - 0,19
			I	LD	KCU40						
	2	S	O	ST	KD1425	119	**223**	333	mm/r	0,06 - 0,09	0,11 - 0,19
			I	ST	KD1425						
		U	O	LD	KCU40	102	**149**	239	mm/r	0,06 - 0,09	0,11 - 0,19
			I	LD	KCU40						
		I	O	LD	KCU40	67	**97**	155	mm/r	0,06 - 0,09	0,11 - 0,19
			I	LD	KCU40						
	3	S	O	ST	KD1425	110	**206**	308	mm/r	0,06 - 0,09	0,11 - 0,19
			I	ST	KD1425						
		U	O	LD	KCU40	102	**138**	239	mm/r	0,06 - 0,09	0,11 - 0,19
			I	LD	KCU40						
		I	O	LD	KCU40	67	**89**	155	mm/r	0,06 - 0,09	0,11 - 0,19
			I	LD	KCU40						
	4	S	O	ST	KD1425	119	**223**	333	mm/r	0,06 - 0,09	0,11 - 0,19
			I	ST	KD1425						
		U	O	LD	KCU40	102	**149**	239	mm/r	0,06 - 0,09	0,11 - 0,19
			I	LD	KCU40						
		I	O	LD	KCU40	67	**97**	155	mm/r	0,06 - 0,09	0,11 - 0,19
			I	LD	KCU40						
	5	S	O	ST	KD1425	92	**220**	262	mm/r	0,06 - 0,09	0,11 - 0,19
			I	ST	KD1425						
		U	O	LD	KCU40	72	**140**	167	mm/r	0,06 - 0,09	0,11 - 0,19
			I	LD	KCU40						
		I	O	LD	KCU40	46	**90**	107	mm/r	0,06 - 0,09	0,11 - 0,19
			I	LD	KCU40						

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

HTS DFR™ • Inch

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — SFM			Inch		
									Recommended Feed Rate (f) by Diameter		
						min	Starting Value	max	Ø (in)	DFR03... .688-.750	DFR04... .813-1.00
P	1	S	O	MD	KCU25	260	**623**	750	IPR	.004 - .006	.005 - .007
			I	MD	KCU25						
		U	O	MD	KCU40	231	**427**	561	IPR	.004 - .006	.005 - .007
			I	MD	KCU40						
		I	O	MD	KC7140	143	**262**	348	IPR	.003 - .006	.004 - .008
			I	MD	KC7140						
	2	S	O	GD	KCU25	247	**591**	712	IPR	.004 - .006	.005 - .007
			I	GD	KCU25						
		U	O	GD	KCU40	231	**394**	561	IPR	.004 - .006	.005 - .007
			I	GD	KCU40						
		I	O	GD	KC7140	143	**230**	348	IPR	.004 - .006	.005 - .007
			I	GD	KC7140						
	3	S	O	GD	KCU25	197	**459**	555	IPR	.004 - .006	.005 - .007
			I	GD	KCU25						
		U	O	GD	KCU40	163	**328**	396	IPR	.004 - .006	.005 - .007
			I	GD	KCU40						
		I	O	GD	KC7140	98	**197**	238	IPR	.004 - .006	.005 - .007
			I	GD	KC7140						
	4	S	O	GD	KCU25	260	**394**	750	IPR	.004 - .006	.005 - .007
			I	GD	KCU25						
		U	O	GD	KCU40	231	**328**	561	IPR	.004 - .006	.005 - .007
			I	GD	KCU40						
		I	O	GD	KC7140	143	**262**	348	IPR	.004 - .006	.005 - .007
			I	GD	KC7140						
	5	S	O	GD	KCU40	205	**328**	622	IPR	.002 - .004	.003 - .006
			I	GD	KCU40						
		U	O	GD	KC7140	154	**197**	373	IPR	.002 - .004	.003 - .006
			I	GD	KC7140						
		I	O	GD	KC7140	103	**131**	250	IPR	.002 - .004	.003 - .006
			I	GD	KC7140						
	6	S	O	GD	KCU40	195	**312**	591	IPR	.003 - .004	.003 - .005
			I	GD	KCU40						
		U	O	GD	KC7140	146	**187**	355	IPR	.003 - .004	.003 - .005
			I	GD	KC7140						
		I	O	GD	KC7140	98	**125**	238	IPR	.003 - .004	.003 - .005
			I	GD	KC7140						
M	1	S	O	MD	KCU40	130	**361**	439	IPR	.003 - .004	.005 - .007
			I	MD	KC7140						
		U	O	MD	KC7140	101	**230**	281	IPR	.003 - .004	.005 - .007
			I	MD	KC7140						
		I	O	MD	KC7140	72	**164**	199	IPR	.003 - .004	.005 - .007
			I	MD	KC7140						
	2	S	O	MD	KCU40	124	**325**	417	IPR	.003 - .004	.005 - .007
			I	MD	KC7140						
		U	O	MD	KC7140	101	**207**	281	IPR	.003 - .004	.005 - .007
			I	MD	KC7140						
		I	O	MD	KC7140	72	**148**	199	IPR	.003 - .004	.005 - .007
			I	MD	KC7140						
	3	S	O	MD	KCU40	104	**289**	351	IPR	.003 - .004	.005 - .007
			I	MD	KC7140						
		U	O	MD	KC7140	101	**184**	281	IPR	.003 - .004	.005 - .007
			I	MD	KC7140						
		I	O	MD	KC7140	72	**131**	199	IPR	.003 - .004	.005 - .007
			I	MD	KC7140						

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

HTS DFR™ • Inch

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — SFM			Inch		
									Recommended Feed Rate (f) by Diameter		
						min	Starting Value	max	Ø (in)	DFR03... .688-.750	DFR04... .813-1.00
K	1	S	O	GD	KCPK10	260	**561**	750	IPR	.004 - .008	.005 - .011
			I	GD	KCPK10						
		U	O	LD	KCU25	211	**384**	510	IPR	.004 - .008	.005 - .011
			I	LD	KCU25						
		I	O	LD	KCU40	131	**236**	316	IPR	.004 - .008	.005 - .011
			I	LD	KCU40						
	2	S	O	GD	KCPK10	247	**533**	712	IPR	.004 - .008	.005 - .011
			I	GD	KCPK10						
		U	O	GD	KCU25	211	**365**	510	IPR	.004 - .008	.005 - .011
			I	GD	KCU25						
		I	O	LD	KCU40	131	**224**	316	IPR	.004 - .008	.005 - .011
			I	LD	KCU40						
	3	S	O	GD	KCPK10	222	**480**	641	IPR	.004 - .008	.005 - .011
			I	GD	KCPK10						
		U	O	GD	KCU25	195	**328**	473	IPR	.004 - .008	.005 - .011
			I	GD	KCU25						
		I	O	GD	KCU40	113	**202**	274	IPR	.004 - .008	.005 - .011
			I	GD	KCU40						
N	1	S	O	ST	KD1425	420	**787**	1176	IPR	.002 - .004	.004 - .007
			I	ST	KD1425						
		U	O	LD	KCU40	336	**525**	784	IPR	.002 - .004	.004 - .007
			I	LD	KCU40						
		I	O	LD	KCU40	218	**341**	510	IPR	.002 - .004	.004 - .007
			I	LD	KCU40						
	2	S	O	ST	KD1425	391	**732**	1094	IPR	.002 - .004	.004 - .007
			I	ST	KD1425						
		U	O	LD	KCU40	336	**488**	784	IPR	.002 - .004	.004 - .007
			I	LD	KCU40						
		I	O	LD	KCU40	218	**317**	510	IPR	.002 - .004	.004 - .007
			I	LD	KCU40						
	3	S	O	ST	KD1425	361	**677**	1011	IPR	.002 - .004	.004 - .007
			I	ST	KD1425						
		U	O	LD	KCU40	336	**451**	784	IPR	.002 - .004	.004 - .007
			I	LD	KCU40						
		I	O	LD	KCU40	218	**293**	510	IPR	.002 - .004	.004 - .007
			I	LD	KCU40						
	4	S	O	ST	KD1425	391	**732**	1094	IPR	.002 - .004	.004 - .007
			I	ST	KD1425						
		U	O	LD	KCU40	336	**488**	784	IPR	.002 - .004	.004 - .007
			I	LD	KCU40						
		I	O	LD	KCU40	218	**317**	510	IPR	.002 - .004	.004 - .007
			I	LD	KCU40						
	5	S	O	ST	KD1425	302	**722**	858	IPR	.002 - .004	.004 - .007
			I	ST	KD1425						
		U	O	LD	KCU40	235	**459**	549	IPR	.002 - .004	.004 - .007
			I	LD	KCU40						
		I	O	LD	KCU40	151	**295**	351	IPR	.002 - .004	.004 - .007
			I	LD	KCU40						

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions

Pocket seat: I = Inboard insert; O = Outboard insert

Looking for a product that's not shown in this catalog?
Check the Kennametal website!

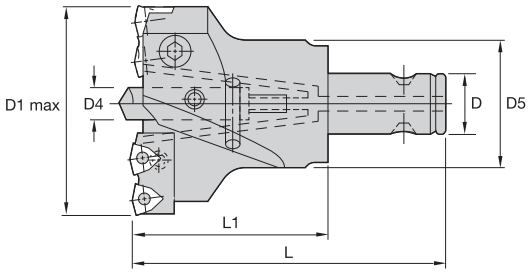


Online product catalog available 24/7

Visit **http://www.kennametal.com/holemaking/** to browse our electronic catalog any time you're looking for Kennametal's best tooling solutions. It's fast, free, and always available. The online e-catalog is updated weekly with products and solutions for milling, turning, holemaking, and tooling systems applications.

KENNAMETAL

- Head shipped with clamping and adjusting screws.
- Order pilot drill separately; see page J84.
- Order cartridges separately; see pages J82–J83.





HTS Adjustable Heads with DFT™ Inserts



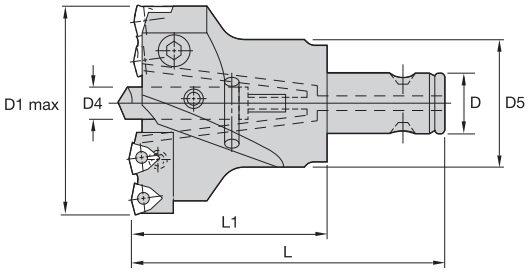




catalog number	D1 mm	D1 in	D1 max mm	D1 max in	D5	D	L	L1	pilot drill	cartridge interior	n	cartridge exterior	n	gage insert	ni	kg	lbs
3.76045R028V	45	1.770	50	1.970	28	13	85	50	B510S08.	3.77000R050V	1	3.77000R051V	1	DFT0303.	4	0,3	0.66
3.76050R028V	50	1.970	55	2.170	28	13	85	50	B510S08.	3.77000R052V	1	3.77000R053V	1	DFT0303.	4	0,4	0.88
3.76055R032V	55	2.170	58	2.280	33	16	100	60	B510S08.	3.77000R038V	1	3.77000R039V	1	DFT05T3.	4	0,4	0.88
3.76058R032V	58	2.280	63	2.480	33	16	100	60	B510S10.	3.77000R023V	1	3.77000R024V	1	DFT05T3.	4	0,4	0.88
3.76063R032V	63	2.480	68	2.680	33	16	100	60	B510S10.	3.77000R025V	1	3.77000R024V	1	DFT05T3.	4	0,4	0.88
3.76063R040V	63	2.480	68	2.680	41	22	115	70	B510S10.	3.77000R025V	1	3.77000R024V	1	DFT05T3.	4	0,5	1.10
3.76068R040V	68	2.680	73	2.870	41	22	115	70	B510S10.	3.77000R026V	1	3.77000R027V	1	DFT05T3.	4	0,8	1.76
3.76073R040V	73	2.870	78	3.070	41	22	115	70	B510S15.	3.77000R026V	1	3.77000R027V	1	DFT05T3.	4	0,8	1.76
3.76078R040V	78	3.070	84	3.310	41	22	115	70	B510S15.	3.77000R028V	1	3.77000R029V	1	DFT06T3.	4	0,8	1.76
3.76078R048V	78	3.070	84	3.310	49	27	120	70	B510S15.	3.77000R028V	1	3.77000R029V	1	DFT06T3.	4	0,9	1.98
3.76084R048V	84	3.310	90	3.540	49	27	120	70	B510S15.	3.77000R028V	1	3.77000R029V	1	DFT06T3.	4	1,0	2.20
3.76090R048V	90	3.540	96	3.780	49	27	120	70	B510S15.	3.77000R030V	1	3.77000R031V	1	DFT06T3.	4	1,0	2.20
3.76096R048V	96	3.780	102	4.020	49	27	120	70	B510S20.	3.77000R030V	1	3.77000R031V	1	DFT06T3.	4	1,1	2.43
3.76096R058V	96	3.780	102	4.020	59	32	130	80	B510S20.	3.77000R030V	1	3.77000R031V	1	DFT06T3.	4	1,2	2.65
3.76102R058V	102	4.020	108	4.250	59	32	130	80	B510S20.	3.77000R081V	1	3.77000R082V	1	DFT05T3.	6	1,7	3.75
3.76108R058V	108	4.250	115	4.530	59	32	130	80	B510S20.	3.77000R083V	1	3.77000R084V	1	DFT06T3.	6	1,8	3.97
3.76115R070V	115	4.530	122	4.800	71	40	145	90	B510S25.	3.77000R085V	1	3.77000R086V	1	DFT06T3.	6	2,9	6.39
3.76122R070V	122	4.800	130	5.120	71	40	145	90	B510S25.	3.77000R079V	1	3.77000R080V	1	DFT06T3.	6	2,9	6.39
3.76130R070V	130	5.120	140	5.510	71	40	145	90	B510S25.	3.77000R087V	1	3.77000R088V	1	DFT06T3.	6	3,0	6.61
3.76140R080V	140	5.510	150	5.910	81	50	160	100	B510S25.	3.77000R077V	1	3.77000R078V	1	DFT0704.	6	4,3	9.48
3.76150R080V	150	5.910	158	6.220	81	50	160	100	B510S25.	3.77000R075V	1	3.77000R076V	1	DFT0704.	6	4,5	9.92
3.76158R080V	158	6.220	162	6.380	81	50	160	100	B510S25.	3.77000R073V	1	3.77000R074V	1	DFT0704.	6	4,5	9.92
3.76162R080V	162	6.380	170	6.690	80	50	160	100	B510S30.	3.77000R048V	1	3.77000R049V	1	DFT0704.	6	4,5	9.92
3.76180R110	180	7.090	186	7.320	110	60	185	125	B510S30.	3.77000R030V	3	3.77000R031V	1	DFT06T3.	8	6,0	13.23
3.76195R110	195	7.680	201	7.910	110	60	185	125	B510S30.	3.77000R081V	3	3.77000R082V	1	DFT05T3.	12	6,5	14.33
3.76213R125	213	8.390	220	8.660	125	60	200	125	B510S30.	3.77000R083V	3	3.77000R084V	1	DFT06T3.	12	7,5	16.53
3.76230R160	230	9.060	240	9.450	160	80	230	150	B510S30.	3.77000R079V	2	3.77000R080V	2	DFT06T3.	12	8,5	18.74
3.76260R160	260	10.240	270	10.630	160	80	230	150	B510S30.	3.77000R077V	2	3.77000R078V	2	DFT06T3.	12	9,0	19.84

NOTE: n: number of cartridges required by head.
ni: number of inserts required by head.

- Head shipped with clamping and adjusting screws.
- Order pilot drill separately; see page J84.
- Order cartridges separately; see pages J82–J83.





HTS Adjustable Heads • DFT™ and SPHX Inserts

catalog number	D1 mm	D1 in	D1 max mm	D1 max in	pilot drill	cartridge interior	n	cartridge interior 2	n	gage insert	ni	cartridge exterior SPHX	n	gage insert	ni
3.76045R028V	45	1.770	50	1.970	B510S08.	**3.77000R250V**	1	–	–	DFT0303.	3	**3.77000R251V**	1	SPHX0703.	1
3.76050R028V	50	1.970	55	2.170	B510S08.	**3.77000R252V**	1	–	–	DFT0303.	3	**3.77000R253V**	1	SPHX0703.	1
3.76055R032V	55	2.170	58	2.280	B510S08.	**3.77000R038V**	1	–	–	DFT05T3.	3	**3.77000R239V**	1	SPHX0903.	1
3.76058R032V	58	2.280	63	2.480	B510S10.	**3.77000R023V**	1	–	–	DFT05T3.	3	**3.77000R224V**	1	SPHX0903.	1
3.76063R032V	63	2.480	68	2.680	B510S10.	**3.77000R025V**	1	–	–	DFT05T3.	3	**3.77000R224V**	1	SPHX0903.	1
3.76063R040V	63	2.480	68	2.680	B510S10.	**3.77000R025V**	1	–	–	DFT05T3.	3	**3.77000R224V**	1	SPHX0903.	1
3.76068R040V	68	2.680	73	2.870	B510S10.	**3.77000R026V**	1	–	–	DFT05T3.	3	**3.77000R227V**	1	SPHX0903.	1
3.76073R040V	73	2.870	78	3.070	B510S15.	**3.77000R026V**	1	–	–	DFT05T3.	3	**3.77000R227V**	1	SPHX0903.	1
3.76078R040V	78	3.070	84	3.310	B510S15.	**3.77000R028V**	1	–	–	DFT06T3.	3	**3.77000R229V**	1	SPHX0903.	1
3.76078R048V	78	3.070	84	3.310	B510S15.	**3.77000R028V**	1	–	–	DFT06T3.	3	**3.77000R229V**	1	SPHX0903.	1
3.76084R048V	84	3.310	90	3.540	B510S15.	**3.77000R228V**	1	–	–	DFT06T3.	3	**3.77000R229V**	1	SPHX0903.	1
3.76090R048V	90	3.540	94	3.700	B510S15.	**3.77000R230V**	1	–	–	DFT06T3.	3	**3.77000R231V**	1	SPHX0903.	1
3.76096R048V	96	3.780	100	3.920	B510S20.	**3.77000R230V**	1	–	–	DFT06T3.	3	**3.77000R231V**	1	SPHX0903.	1
3.76096R058V	96	3.780	100	3.920	B510S20.	**3.77000R230V**	1	–	–	DFT06T3.	3	**3.77000R231V**	1	SPHX0903.	1
3.76102R058V	102	4.020	108	4.250	B510S20.	**3.77000R081V**	1	–	–	DFT05T3.	5	**3.77000R282V**	1	SPHX0903.	1
3.76108R058V	108	4.250	115	4.530	B510S20.	**3.77000R083V**	1	–	–	DFT06T3.	5	**3.77000R284V**	1	SPHX1204.	1
3.76115R070V	115	4.530	122	4.800	B510S25.	**3.77000R085V**	1	–	–	DFT06T3.	5	**3.77000R286V**	1	SPHX1204.	1
3.76122R070V	122	4.800	130	5.120	B510S25.	**3.77000R079V**	1	–	–	DFT06T3.	5	**3.77000R280V**	1	SPHX1204.	1
3.76130R070V	130	5.120	140	5.510	B510S25.	**3.77000R087V**	1	–	–	DFT06T3.	5	**3.77000R288V**	1	SPHX1204.	1
3.76140R080V	140	5.510	150	5.910	B510S25.	**3.77000R077V**	1	–	–	DFT0704.	5	**3.77000R278V**	1	SPHX1505.	1
3.76150R080V	150	5.910	158	6.220	B510S25.	**3.77000R075V**	1	–	–	DFT0704.	5	**3.77000R276V**	1	SPHX1505.	1
3.76158R080V	158	6.220	162	6.380	B510S25.	**3.77000R073V**	1	–	–	DFT0704.	5	**3.77000R274V**	1	SPHX1505.	1
3.76162R080V	162	6.380	170	6.690	B510S30.	**3.77000R248V**	1	–	–	DFT0704.	5	**3.77000R249V**	1	SPHX1505.	1
3.76180R110	180	7.090	184	7.240	B510S30.	**3.77000R230V**	3	–	–	DFT06T3.	7	**3.77000R231V**	1	SPHX0903.	1
3.76195R110	195	7.680	201	7.910	B510S30.	**3.77000R081V**	3	–	–	DFT05T3.	11	**3.77000R282V**	1	SPHX0903.	1
3.76213R125	213	8.390	220	8.660	B510S30.	**3.77000R083V**	3	–	–	DFT06T3.	11	**3.77000R284V**	1	SPHX1204.	1
3.76230R160	230	9.060	240	9.450	B510S30.	**3.77000R079V**	2	**3.77000R080V**	1	DFT06T3.	11	**3.77000R280V**	1	SPHX1204.	1

NOTE: n: number of cartridges required by head.
ni: number of inserts required by head





HTS Interior and Exterior Cartridges • DFT™ Inserts

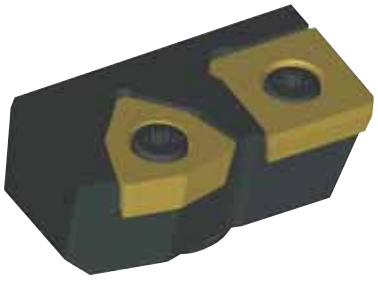
catalog number	gage insert	number of inserts	insert screw	cartridge screw	fan washer	Nm	ft. lbs.
3.77000R023V	DFT05T3..	2	**191.924**	**192.593**	**192.903**	5,0	3.69
3.77000R024V	DFT05T3..	2	**191.924**	**192.593**	**192.903**	5,0	3.69
3.77000R025V	DFT05T3..	2	**191.924**	**192.593**	**192.903**	5,0	3.69
3.77000R026V	DFT05T3..	2	**191.924**	**192.593**	**192.903**	5,0	3.69
3.77000R027V	DFT05T3..	2	**191.924**	**192.593**	**192.903**	5,0	3.69
3.77000R028V	DFT06T3..	2	**191.848**	**129.612**	**192.111**	10,0	7.38
3.77000R029V	DFT06T3..	2	**191.848**	**129.612**	**192.111**	10,0	7.38
3.77000R030V	DFT06T3..	3	**191.848**	**129.616**	**192.111**	10,0	7.38
3.77000R031V	DFT06T3..	3	**191.848**	**129.612**	**192.111**	10,0	7.38
3.77000R038V	DFT05T3..	2	**191.924**	**192.593**	**192.903**	5,0	3.69
3.77000R039V	DFT05T3..	2	**191.924**	**192.593**	**192.903**	5,0	3.69
3.77000R048V	DFT0704..	3	**191.698**	**125.830**	**192.112**	35,0	25.81
3.77000R049V	DFT0704..	3	**191.698**	**125.830**	**192.112**	35,0	25.81
3.77000R050V	DFT0303..	2	**192.432**	**192.592**	**192.902**	5,0	3.69
3.77000R051V	DFT0303..	2	**192.432**	**192.592**	**192.902**	5,0	3.69
3.77000R052V	DFT0303..	2	**192.432**	**192.592**	**192.902**	5,0	3.69
3.77000R053V	DFT0303..	2	**192.432**	**192.592**	**192.902**	5,0	3.69
3.77000R073V	DFT0704..	3	**191.698**	**125.825**	**192.112**	35,0	25.81
3.77000R074V	DFT0704..	3	**191.698**	**125.825**	**192.112**	35,0	25.81
3.77000R075V	DFT0704..	3	**191.698**	**125.825**	**192.112**	35,0	25.81
3.77000R076V	DFT0704..	3	**191.698**	**125.825**	**192.112**	35,0	25.81
3.77000R077V	DFT0704..	3	**191.698**	**125.825**	**192.112**	35,0	25.81
3.77000R078V	DFT0704..	3	**191.698**	**125.825**	**192.112**	35,0	25.81
3.77000R079V	DFT06T3..	3	**191.848**	**125.820**	**192.112**	35,0	25.81
3.77000R080V	DFT06T3..	3	**191.848**	**125.820**	**192.112**	35,0	25.81
3.77000R081V	DFT05T3..	3	**191.924**	**125.820**	**192.112**	35,0	25.81
3.77000R082V	DFT05T3..	3	**191.924**	**125.820**	**192.112**	35,0	25.81
3.77000R083V	DFT06T3..	3	**191.924**	**125.820**	**192.112**	35,0	25.81
3.77000R084V	DFT06T3..	3	**191.924**	**125.820**	**192.112**	35,0	25.81
3.77000R085V	DFT06T3..	3	**191.848**	**125.825**	**192.112**	35,0	25.81
3.77000R086V	DFT06T3..	3	**191.924**	**125.820**	**192.112**	35,0	25.81
3.77000R087V	DFT06T3..	3	**191.848**	**125.820**	**192.112**	35,0	25.81
3.77000R088V	DFT06T3..	3	**191.848**	**125.820**	**192.112**	35,0	25.81



HTS Finishing Interior Cartridges • For Use with Exterior Cartridges Equipped with SPHX Inserts

catalog number	gage insert	number of inserts	insert screw	washer	Nm	ft. lbs.
3.77000R228V	DFT06T3..	2	**191.848**	**192.111**	10,0	7.00
3.77000R230V	DFT06T3..	2	**191.848**	**192.111**	10,0	7.00
3.77000R248V	DFT0704..	3	**191.698**	**192.112**	35,0	25.00
3.77000R250V	DFT0303..	2	**192.432**	**192.902**	5,0	3.00
3.77000R252V	DFT0303..	2	**192.432**	**192.902**	5,0	3.00

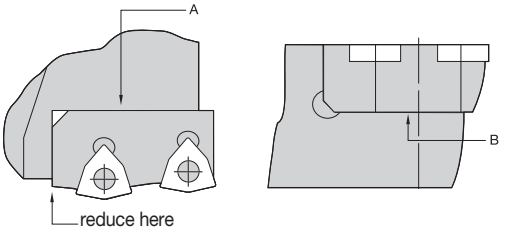
NOTE: Modified interior cartridges for use with SPHX-equipped exterior cartridges only.

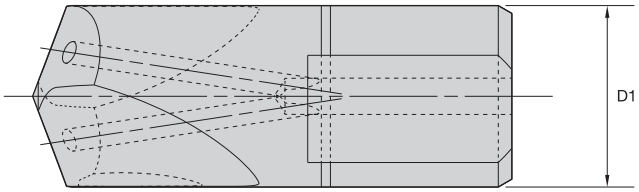


HTS Finishing Exterior Cartridges • SPHX Inserts

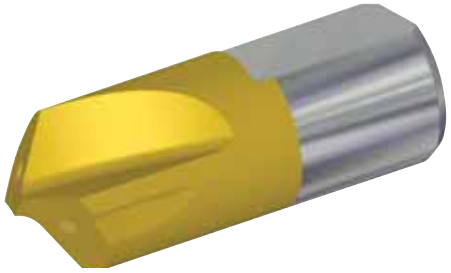
catalog number	gage insert inside	number of inserts	gage insert outside	number of inserts	insert screw	screw	washer	Nm	ft. lbs.
3.77000R224V	DFT05T3..	1	SPHX0903..	1	**191.924**	**193.451**	**192.903**	5,0	3.69
3.77000R227V	DFT05T3..	1	SPHX0903..	1	**191.924**	**192.593**	**192.903**	5,0	3.69
3.77000R229V	DFT06T3..	1	SPHX0903..	1	**191.916**	**129.612**	**192.111**	10,0	7.38
3.77000R231V	DFT06T3..	1	SPHX0903..	1	**191.916**	**129.616**	**192.111**	10,0	7.38
3.77000R239V	DFT05T3..	1	SPHX0903..	1	**191.924**	**193.451**	**192.903**	5,0	3.69
3.77000R249V	DFT0704..	2	SPHX1505..	1	**192.433**	**125.830**	**192.112**	35,0	25.81
3.77000R251V	DFT0303..	1	SPHX0703..	1	**192.432**	**193.450**	**192.902**	5,0	3.69
3.77000R253V	DFT0303..	1	SPHX0703..	1	**192.432**	**193.450**	**192.902**	5,0	3.69
3.77000R274V	DFT0704..	2	SPHX1505..	1	**192.433**	**125.825**	**192.112**	35,0	25.81
3.77000R276V	DFT0704..	2	SPHX1505..	1	**192.433**	**125.825**	**192.112**	35,0	25.81
3.77000R278V	DFT0704..	2	SPHX1505..	1	**192.433**	**125.825**	**192.112**	35,0	25.81
3.77000R280V	DFT06T3..	2	SPHX1204..	1	**191.916**	**125.820**	**192.112**	35,0	25.81
3.77000R282V	DFT05T3..	2	SPHX0903..	1	**191.924**	**125.820**	**192.112**	35,0	25.81
3.77000R284V	DFT06T3..	2	SPHX1204..	1	**191.916**	**125.820**	**192.112**	35,0	25.81
3.77000R286V	DFT06T3..	2	SPHX1204..	1	**191.916**	**125.825**	**192.112**	35,0	25.81
3.77000R288V	DFT06T3..	2	SPHX1204..	1	**191.916**	**125.820**	**192.112**	35,0	25.81

- Change drill diameter by shortening the outer cartridge.
- Shorten at 90° to the contact face A and the support face B.
- Shortening reduces the effective drill diameter by two times the amount removed.

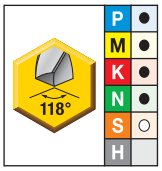


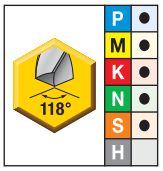


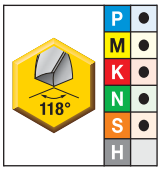
8–10mm sizes are without coolant.



HTS DFT™ • Pilot Drills

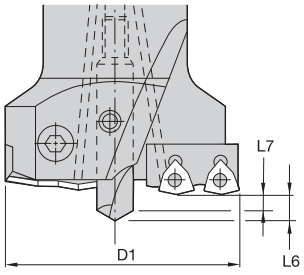






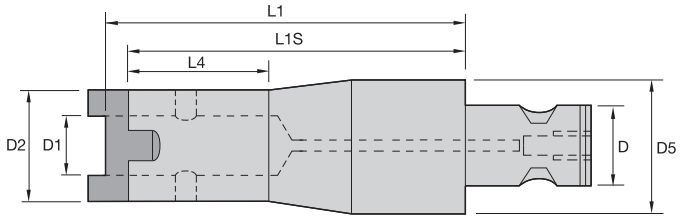
high-speed steel uncoated A30	high-speed steel coated AS3	carbide drills KC7315	D1 mm	D1 in
B510S08000	**B510S08000**	**B511S08000**	8,00	.315
B510S10000	**B510S10000**	**B511S10000**	10,00	.394
B510S15000	**B510S15000**	**B511S15000**	15,00	.591
B510S20000	**B510S20000**	**B511S20000**	20,00	.787
B510S25000	**B510S25000**	**B511S25000**	25,00	.984
B510S30000	**B510S30000**	**B511S30000**	30,00	1.181

Pilot Drill Setting Lengths



D1		2–4 x D1				4–6 x D1				>6 x D1			
		L6		L7		L6		L7		L6		L7	
mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
8,00	.315	3,00	.118	0,80	.032	3,40	.134	1,20	.047	3,80	.150	1,60	.063
10,00	.394	4,00	.158	1,30	.051	4,30	.169	1,60	.063	4,60	.181	1,90	.075
15,00	.591	6,20	.244	2,10	.083	6,50	.256	2,40	.095	6,80	.268	2,70	.106
20,00	.787	8,10	.319	2,60	.102	8,40	.331	2,90	.114	8,70	.343	3,20	.126
25,00	.984	10,50	.413	3,50	.138	7,40	.429	3,90	.154	11,30	.445	4,30	.169
30,00	1181	12,30	.484	4,10	.158	12,80	.504	4,50	.177	13,20	.520	5,00	.197

• Reducers are shipped with drive ring and clamping screws.



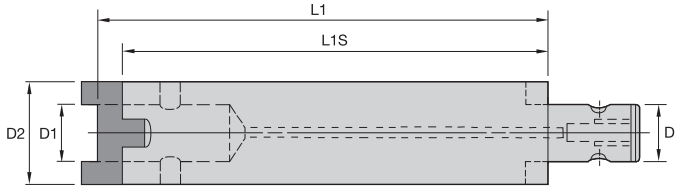


Reducers

catalog number	D1 coupling size	D coupling size	D2 mm	D2 in	D5 mm	D5 in	L1 mm	L1 in	L1S mm	L1S in	L4 mm	L4 in	drive ring	clamping screw	Nm	ft. lbs.
5.34280R028080	13B	50	27,6	1.09	80,0	3.15	90,0	3.54	80,0	3.15	50,0	1.97	**192.419**	**192.156**	10,2	7.5
5.34240R032100	16	22	31,6	1.24	40,0	1.57	110,0	4.33	100,0	3.94	55,0	2.17	**192.420**	**192.156**	10,2	7.5
5.34280R032080	16	50	31,6	1.24	80,0	3.15	90,0	3.54	80,0	3.15	55,0	2.17	**192.420**	**192.156**	10,2	7.5
5.34248R040100	22	27	39,6	1.56	48,0	1.89	112,0	4.41	100,0	3.94	57,0	2.24	**192.421**	**192.157**	16,3	12.0
5.34280R040080	22	50	39,6	1.56	80,0	3.15	92,0	3.62	80,0	3.15	57,0	2.24	**192.421**	**192.157**	16,3	12.0
5.34258R048100	27	32	47,6	1.87	58,0	2.28	112,0	4.41	100,0	3.94	57,0	2.24	**192.422**	**191.727**	20,3	15.0
5.34280R048080	27	50	47,6	1.87	80,0	3.15	92,0	3.62	80,0	3.15	57,0	2.24	**192.422**	**191.727**	20,3	15.0
5.34270R058100	32	40	57,6	2.27	70,0	2.76	113,9	4.48	100,0	3.94	58,9	2.32	**192.423**	**191.727**	20,3	15.0
5.34280R058080	32	50	57,6	2.27	80,0	3.15	93,9	3.70	80,0	3.15	58,9	2.32	**192.423**	**191.727**	20,3	15.0
5.34280R070150	40	50	69,6	2.74	80,0	3.15	163,9	6.45	150,0	5.91	68,9	2.71	**192.424**	**191.728**	33,9	25.0

NOTE: Assemble components using recommended torque values.

• Extensions are shipped with drive ring and clamping screws.



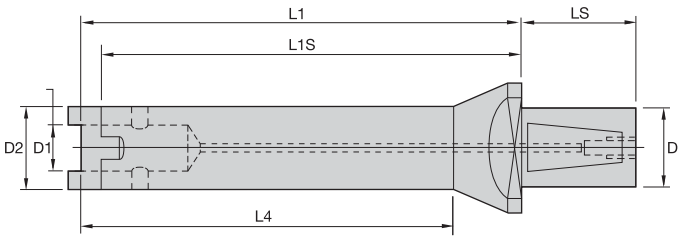


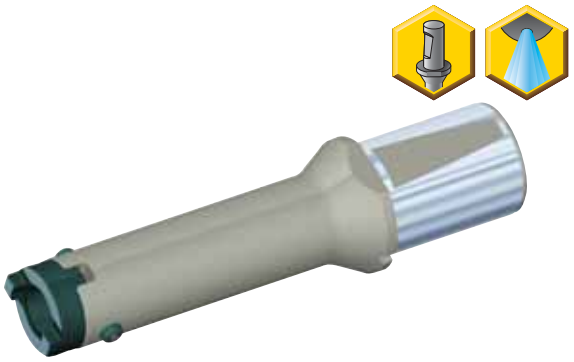
Extensions

catalog number	D1 coupling size	D coupling size	D2 mm	D2 in	L1 mm	L1 in	L1S mm	L1S in	drive ring	clamping screw	Nm	ft. lbs.
5.34125R025150	13A	13A	25,0	.0	160,0	6.3	150,0	5.9	**193.371**	**193.372**	10,2	7.5
5.34128R028150	13B	13B	28,0	1.1	160,0	6.3	150,0	5.9	**192.419**	**192.156**	10,2	7.5
5.34132R032100	16	16	32,0	1.3	110,0	4.3	100,0	3.9	**192.420**	**192.156**	10,2	7.5
5.34132R032200	16	16	32,0	1.3	210,0	8.3	200,0	7.9	**192.420**	**192.156**	10,2	7.5
5.34140R040200	22	22	40,0	1.6	212,0	8.3	200,0	7.9	**192.421**	**192.157**	16,3	12.0
5.34148R048200	27	27	48,0	1.9	212,0	8.3	200,0	7.9	**192.422**	**191.727**	20,3	15.0
5.34158R058300	32	32	58,0	2.3	314,0	12.4	300,0	11.8	**192.423**	**191.727**	33,9	25.0
5.34170R070186	40	40	70,0	2.8	200,0	7.9	186,0	7.3	**192.424**	**191.728**	33,9	25.0
5.34170R070300	40	40	70,0	2.8	314,0	12.4	300,0	11.8	**192.424**	**191.728**	33,9	25.0
5.34170R070500	40	40	70,0	2.8	514,0	20.2	500,0	19.7	**192.424**	**191.728**	33,9	25.0
5.34180R080204	50	50	80,0	3.1	220,0	8.7	204,0	8.0	**192.425**	**191.728**	33,9	25.0
5.34180R080300	50	50	80,0	3.1	316,0	12.4	300,0	11.8	**192.425**	**191.728**	33,9	25.0
5.34180R080500	50	50	80,0	3.1	516,0	20.3	500,0	19.7	**192.425**	**191.728**	33,9	25.0

NOTE: Assemble components using recommended torque values.

• Shanks are shipped with drive ring and clamping screws.



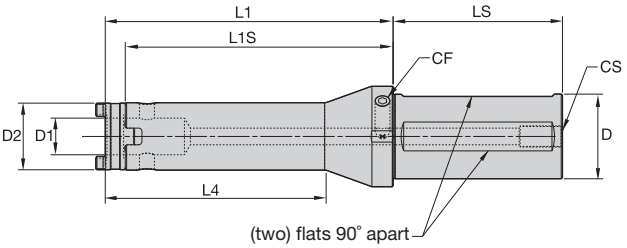


Basic Shank WN/WD • Metric

catalog number	D1 coupling size	D	D2	L1	L1S	L4	LS	drive ring	clamping screw	Nm
5.34032-025115	13A	32,0	25,0	125,0	115,0	110,0	58,0	**193.371**	**193.372**	10,2
5.34032-025200	13A	32,0	25,0	210,0	200,0	195,0	58,0	**193.371**	**193.372**	10,2
5.34050-025300	13A	50,0	25,0	310,0	300,0	270,0	68,0	**193.371**	**193.372**	10,2
5.34050-025450	13A	50,0	25,0	460,0	450,0	420,0	68,0	**193.371**	**193.372**	10,2
5.34032-028115	13B	32,0	28,0	125,0	115,0	110,0	58,0	**192.419**	**192.156**	10,2
5.34032-028200	13B	32,0	28,0	210,0	200,0	195,0	58,0	**192.419**	**192.156**	10,2
5.34050-028300	13B	50,0	28,0	310,0	300,0	265,0	68,0	**192.419**	**192.156**	10,2
5.34050-028450	13B	50,0	28,0	460,0	450,0	415,0	68,0	**192.419**	**192.156**	10,2
5.34032-032125	16	32,0	32,0	135,0	125,0	120,0	58,0	**192.420**	**192.156**	10,2
5.34050-032200	16	50,0	32,0	210,0	200,0	165,0	68,0	**192.420**	**192.156**	10,2
5.34050-032500	16	50,0	32,0	510,0	500,0	465,0	68,0	**192.420**	**192.156**	10,2
5.34050032350	16	50,0	32,0	360,0	350,0	315,0	68,0	**192.420**	**192.156**	10,2
5.34050-040148	22	50,0	40,0	160,0	148,0	140,0	68,0	**192.421**	**192.157**	16,3
5.34050-040300	22	50,0	40,0	312,0	300,0	267,0	68,0	**192.421**	**192.157**	10,2
5.34050-040450	22	50,0	40,0	462,0	450,0	417,0	68,0	**192.421**	**192.157**	10,2
5.34050-040600	22	50,0	40,0	612,0	600,0	567,0	68,0	**192.422**	**192.157**	10,2
5.34050-048168	27	50,0	48,0	175,0	168,0	160,0	68,0	**192.422**	**191.727**	20,3
5.34050-048300	27	50,0	48,0	312,0	300,0	267,0	68,0	**192.422**	**191.727**	16,3
5.34050-048450	27	50,0	48,0	462,0	450,0	417,0	68,0	**192.422**	**191.727**	16,3
5.34050-048600	27	50,0	48,0	612,0	600,0	567,0	68,0	**192.422**	**191.727**	16,3
5.34050-058186	32	50,0	58,0	200,0	186,0	180,0	68,0	**192.423**	**191.727**	20,3
5.34050-058300	32	50,0	58,0	314,0	300,0	254,0	68,0	**192.423**	**191.727**	20,3
5.34050-058450	32	50,0	58,0	464,0	450,0	404,0	68,0	**192.423**	**191.727**	20,3
5.34050-058600	32	50,0	58,0	614,0	600,0	554,0	68,0	**192.423**	**191.727**	20,3

NOTE: Assemble components using recommended torque values.

• Shipped with drive ring and clamping screw.





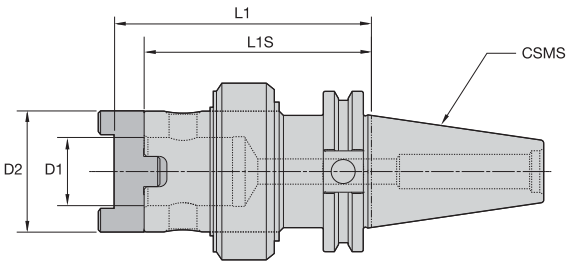
Flanged Shank • Inch

catalog number	D1 coupling size	D	D2	L1	L1S	L4	LS	drive ring	clamping screw	ft. lbs.
SSF150HTS130239	13A	1.50	.98	2.39	2.00	.39	3.75	**193.371**	**193.372**	7.5
SSF150HTS130450	13A	1.50	.98	4.50	4.11	2.50	3.75	**193.371**	**193.372**	7.5
SSF150HTS130664	13A	1.50	.98	6.64	6.25	4.65	3.75	**193.371**	**193.372**	7.5
SSF150HTS131114	13A	1.50	.98	11.14	10.75	9.14	3.75	**193.371**	**193.372**	7.5
SSF150HTS131764	13A	1.50	.98	17.64	17.25	15.64	3.75	**193.371**	**193.372**	7.5
SSF200HTS130239	13B	2.00	1.10	2.39	2.00	.39	4.00	**192.419**	**192.156**	7.5
SSF200HTS130450	13B	2.00	1.10	4.50	4.11	2.50	4.00	**192.419**	**192.156**	7.5
SSF200HTS130664	13B	2.00	1.10	6.64	6.25	4.65	4.00	**192.419**	**192.156**	7.5
SSF200HTS131114	13B	2.00	1.10	11.14	10.75	9.14	4.00	**192.419**	**192.156**	7.5
SSF200HTS131764	13B	2.00	1.10	17.64	17.25	15.64	4.00	**192.419**	**192.156**	7.5
SSF200HTS160239	16	2.00	1.26	2.39	2.00	.39	4.00	**192.420**	**192.156**	7.5
SSF200HTS160450	16	2.00	1.26	4.50	4.11	2.50	4.00	**192.420**	**192.156**	7.5
SSF200HTS160714	16	2.00	1.26	7.14	6.75	5.14	4.00	**192.420**	**192.156**	7.5
SSF200HTS161214	16	2.00	1.26	12.14	11.75	10.14	4.00	**192.420**	**192.156**	7.5
SSF200HTS161964	16	2.00	1.26	19.64	19.25	17.64	4.00	**192.420**	**192.156**	7.5
SSF200HTS220297	22	2.00	1.57	2.97	2.50	.47	4.00	**192.421**	**192.157**	12.0
SSF200HTS220550	22	2.00	1.57	5.50	5.03	3.50	4.00	**192.421**	**192.157**	12.0
SSF200HTS220922	22	2.00	1.57	9.22	8.75	7.22	4.00	**192.421**	**192.157**	12.0
SSF200HTS221572	22	2.00	1.57	15.72	15.25	13.72	4.00	**192.421**	**192.157**	12.0
SSF200HTS222572	22	2.00	1.57	25.72	25.25	23.72	4.00	**192.421**	**192.157**	12.0
SSF200HTS270297	27	2.00	1.89	2.97	2.50	1.47	4.00	**192.422**	**191.727**	15.0
SSF200HTS270550	27	2.00	1.89	5.50	5.03	3.50	4.00	**192.422**	**191.727**	15.0
SSF200HTS271122	27	2.00	1.89	11.22	10.75	9.22	4.00	**192.422**	**191.727**	15.0
SSF200HTS271922	27	2.00	1.89	19.22	18.75	17.22	4.00	**192.422**	**191.727**	15.0
SSF200HTS273122	27	2.00	1.89	31.22	30.75	29.22	4.00	**192.422**	**191.727**	15.0
SSF200HTS320305	32	2.00	2.28	3.05	2.50	1.55	4.00	**192.423**	**191.727**	15.0
SSF200HTS320550	32	2.00	2.28	5.50	4.95	3.50	4.00	**192.423**	**191.727**	15.0
SSF200HTS320805	32	2.00	2.28	8.05	7.50	6.05	4.00	**192.423**	**191.727**	15.0
SSF200HTS321305	32	2.00	2.28	13.05	12.50	11.05	4.00	**192.423**	**191.727**	15.0
SSF200HTS321805	32	2.00	2.28	18.05	17.50	16.05	4.00	**192.423**	**191.727**	15.0
SSF250HTS400355	40	2.50	2.76	3.55	3.00	1.63	4.25	**192.424**	**191.728**	26.0
SSF250HTS400650	40	2.50	2.76	6.50	5.95	4.50	4.25	**192.424**	**191.728**	26.0
SSF250HTS401055	40	2.50	2.76	10.55	10.00	8.21	4.25	**192.424**	**191.728**	26.0
SSF250HTS401555	40	2.50	2.76	15.55	15.00	13.21	4.25	**192.424**	**191.728**	26.0
SSF250HTS402555	40	2.50	2.76	25.55	25.00	23.21	4.25	**192.424**	**191.728**	26.0
SSF300HTS500413	50	3.00	3.15	4.13	3.50	1.87	4.50	**192.425**	**191.728**	26.0
SSF300HTS500700	50	3.00	3.15	7.00	6.37	5.00	4.50	**192.425**	**191.728**	26.0
SSF300HTS501313	50	3.00	3.15	13.13	12.50	10.55	4.50	**192.425**	**191.728**	26.0
SSF300HTS502113	50	3.00	3.15	21.13	20.50	18.55	4.50	**192.425**	**191.728**	26.0
SSF300HTS503113	50	3.00	3.15	31.13	30.50	28.55	4.50	**192.425**	**191.728**	26.0

NOTE: Assemble components using recommended torque values.

D	CF	CS	side pipe plug
1.500	1/8-27 NPT	1/4-18 NPT	HSFS0125
2.000	1/8-27 NPT	1/4-18 NPT	HSFS0125
2.500	1/8-27 NPT	1/4-18 NPT	HSFS0125
3.000	1/8-27 NPT	1/4-18 NPT	HSFS0125

• Shanks are shipped with drive ring and clamping screws.



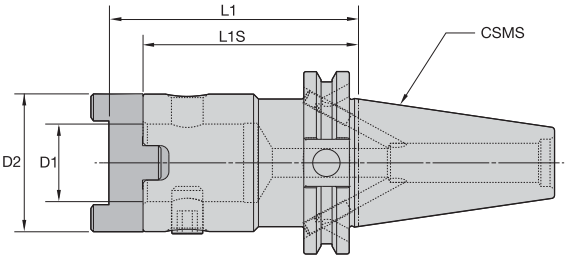


CV Taper Shank • Form AD • Rotary Coolant Ring

catalog number	CSMS system size	D1 coupling size	D2	L1	L1S	clamping screw	hex wrench	drive ring	coolant ring	ft. lbs.
CV50RMHTS13M394	CV50	13B	1.09	4.33	3.94	**192.156**	**170.004**	**192.419**	**302.011**	7.0
CV50RMHTS16M394	CV50	16	1.25	4.33	3.94	**192.156**	**170.004**	**192.420**	**302.011**	7.0
CV50RMHTS22M394	CV50	22	1.54	4.41	3.94	**192.157**	**170.004**	**192.421**	**302.011**	12.0
CV50RMHTS27M394	CV50	27	1.88	4.41	3.94	**191.727**	**170.006**	**192.422**	**302.011**	15.0
CV50RMHTS32M394	CV50	32	2.27	4.49	3.94	**191.727**	**170.006**	**192.423**	**302.011**	15.0
CV50RMHTS40M413	CV50	40	2.74	4.69	4.13	**191.728**	**170.008**	**192.424**	**302.009**	26.0
CV50RMHTS50M413	CV50	50	3.13	4.76	4.13	**191.728**	**170.008**	**192.425**	**302.010**	26.0

NOTE: Assemble components using recommended torque values.

• Shanks are shipped with drive ring and clamping screws.



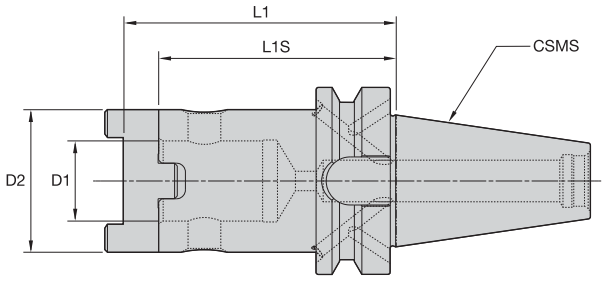


CV Taper Shank • Form B/AD Coolant

catalog number	CSMS system size	D1 coupling size	D2	L1	L1S	clamping screw	hex wrench	drive ring	ft. lbs.
CV50BHTS13M295	CV50	13B	1.10	3.35	2.95	**192.156**	**170.004**	**192.419**	7.0
CV50BHTS16M295	CV50	16	1.26	3.35	2.95	**192.156**	**170.004**	**192.420**	7.0
CV50BHTS22M295	CV50	22	1.57	3.43	2.95	**192.157**	**170.004**	**192.421**	12.0
CV50BHTS27M295	CV50	27	1.89	3.43	2.95	**191.727**	**170.006**	**192.422**	15.0
CV50BHTS32M314	CV50	32	2.28	3.70	3.15	**191.727**	**170.006**	**192.423**	15.0
CV50BHTS40M314	CV50	40	2.76	3.70	3.15	**191.728**	**170.008**	**192.424**	26.0
CV50BHTS50M314	CV50	50	3.15	3.78	3.15	**191.728**	**170.008**	**192.425**	26.0

NOTE: Assemble components using recommended torque values.

• Shanks are shipped with drive ring and clamping screw.





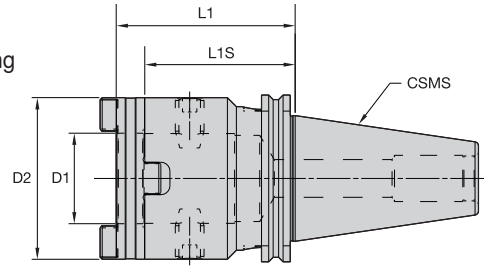
BT Taper Shank • Form B/AD Coolant

catalog number	CSMS system size	D1 coupling size	D2	L1 mm	L1 in	L1S mm	L1S in	clamping screw	hex wrench	drive ring	Nm	ft. lbs.
BT50BHTS22075M	BT50	22	40,0	87,0	3.4	75,0	3.0	**192.157**	**170.005**	**192.421**	16,0	12.0
BT50BHTS32080M	BT50	32	58,0	94,0	3.7	80,0	3.1	**191.727**	**170.006**	**192.423**	20,0	15.0
BT50BHTS40080M	BT50	40	70,0	94,0	3.7	80,0	3.1	**191.728**	**170.008**	**192.424**	34,0	26.0
BT50BHTS50080M	BT50	50	80,0	96,0	3.8	80,0	3.1	**191.728**	**170.008**	**192.425**	34,0	26.0

NOTE: Assemble components using recommended torque values.



• Shanks are shipped with drive ring and clamping screws.

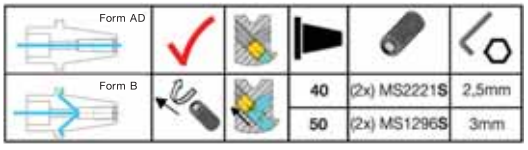




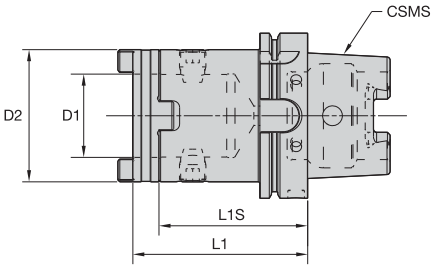
DV Taper Shank • Form B/AD Coolant

catalog number	CSMS system size	D1	D2 mm	D2 in	L1 mm	L1 in	L1S mm	L1S in	clamping screw	hex wrench	drive ring	Nm	ft. lbs.
5.36050154040	DV50	40	70,0	2.8	100,0	3.9	84,0	3.3	191.728	**170.008**	**192.424**	–	–
5.36050-154050	DV50	50	90,0	3.5	100,0	3.9	84,0	3.3	191.729	**170.008**	**192.426**	–	–

NOTE: Assemble components using recommended torque values.



• Shanks are shipped with drive ring and clamping screws.



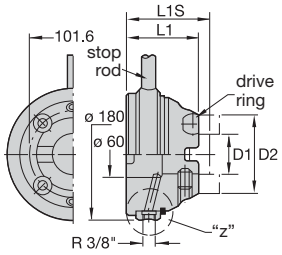


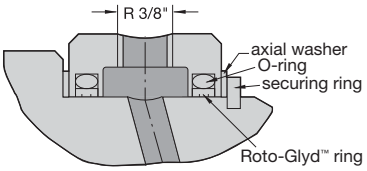
HSK100A Taper Shank

catalog number	CSMS system size	D1 coupling size	D2 mm	D2 in	L1 mm	L1 in	L1S mm	L1S in	clamping screw	hex wrench	drive ring	Nm	ft. lbs.
HSK100AHTS40085M	HSK100A	40	70,0	2.8	99,0	3.9	85,0	3.3	**191.728**	**170.008**	**192.424**	35,0	25.0
HSK100AHTS50090M	HSK100A	50	80,0	3.1	106,0	4.2	90,0	3.5	**191.728**	**170.008**	**192.425**	35,0	25.0

NOTE: Assemble components using recommended torque values.

Clamping Chucks







Flanged Adapter (Including Drive Ring)

catalog number	D1	D2 mm	D2 in	L1 mm	L1 in	L1S mm	L1S in	kg	lbs
5.34350-090100	50,00	90,0	3.54	116,0	4.57	100,0	3.94	10,0	21.94

NOTE: Adapter includes all items shown except the nipple. Nipple must be ordered separately.
If replacement becomes necessary, the nipple is manufactured with a predetermined breaking point for safety purposes.
Maximum RPM is 1500. Maximum pressure is 72 psi or 5 bar.

Spare Parts

catalog number	drive ring	clamping screw	coolant ring	O-ring	securing ring	axial washer	Roto-Glyd ring	stop rod	nipple
5.34350-090100	**192.426**	**191.729**	**302.014**	**192.731**	**192.126**	**192.158**	**192.730**	**460.716**	**192.759**

HTS DFT™ • Metric

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric				
									Recommended Feed Rate (f) by Diameter				
						min	Starting Value	max	Ø (mm)	DFT03... 45,00-55,00	DFT05... 55,00-78,00	DFT06... 78,00-140,00	DFT07... 140,00-270,00
P	1	S	O	MD	KCU25	94	**190**	229	mm/r	0,06 - 0,10	0,08 - 0,12	0,10 - 0,14	0,13 - 0,19
			I	MD	KCU40								
		U	O	MD	KCU40	71	**130**	171	mm/r	0,06 - 0,10	0,08 - 0,12	0,10 - 0,14	0,13 - 0,19
			I	MD	KC7140								
		I	O	MD	KCU40	44	**80**	106	mm/r	0,06 - 0,10	0,08 - 0,12	0,10 - 0,14	0,13 - 0,19
			I	MD	KC7140								
	2	S	O	HP	KCU25	94	**180**	229	mm/r	0,10 - 0,14	0,12 - 0,18	0,12 - 0,18	0,12 - 0,20
			I	HP	KCU40								
		U	O	HP	KCU40	71	**120**	1714	mm/r	0,10 - 0,14	0,12 - 0,18	0,12 - 0,18	0,12 - 0,20
			I	HP	KC7140								
		I	O	HP	KCU40	44	**70**	106	mm/r	0,10 - 0,14	0,12 - 0,18	0,12 - 0,18	0,12 - 0,20
			I	HP	KC7140								
	3	S	O	HP	KCU25	70	**140**	169	mm/r	0,10 - 0,14	0,12 - 0,18	0,12 - 0,18	0,12 - 0,20
			I	HP	KCU40								
		U	O	HP	KCU40	50	**100**	121	mm/r	0,10 - 0,14	0,12 - 0,18	0,12 - 0,18	0,12 - 0,20
			I	HP	KC7140								
		I	O	HP	KCU40	30	**60**	72	mm/r	0,10 - 0,14	0,12 - 0,18	0,12 - 0,18	0,12 - 0,20
			I	HP	KC7140								
	4	S	O	HP	KCU25	94	**120**	229	mm/r	0,10 - 0,14	0,12 - 0,18	0,12 - 0,18	0,12 - 0,20
			I	HP	KCU40								
		U	O	HP	KCU40	71	**100**	171	mm/r	0,10 - 0,14	0,12 - 0,18	0,12 - 0,18	0,12 - 0,20
			I	HP	KC7140								
		I	O	HP	KCU40	44	**80**	106	mm/r	0,10 - 0,14	0,12 - 0,18	0,12 - 0,18	0,12 - 0,20
			I	HP	KC7140								
	5	S	O	HP	KCU25	78	**100**	190	mm/r	0,05 - 0,07	0,06 - 0,08	0,06 - 0,10	0,08 - 0,12
			I	HP	KCU40								
		U	O	HP	KCU40	47	**60**	114	mm/r	0,05 - 0,07	0,06 - 0,08	0,06 - 0,10	0,08 - 0,12
			I	HP	KC7140								
		I	O	HP	KCU40	31	**40**	76	mm/r	0,05 - 0,07	0,06 - 0,08	0,06 - 0,10	0,08 - 0,12
			I	HP	KC7140								
	6	S	O	HP	KCU25	74	**95**	180	mm/r	0,04 - 0,07	0,05 - 0,08	0,06 - 0,10	0,08 - 0,12
			I	HP	KCU40								
		U	O	HP	KCU40	45	**57**	108	mm/r	0,04 - 0,07	0,05 - 0,08	0,06 - 0,10	0,08 - 0,12
			I	HP	KC7140								
		I	O	HP	KCU40	30	**38**	72	mm/r	0,04 - 0,07	0,05 - 0,08	0,06 - 0,10	0,08 - 0,12
			I	HP	KC7140								
M	1	S	O	MD	KCU25	48	**110**	134	mm/r	0,07 - 0,11	0,12 - 0,18	0,14 - 0,20	0,16 - 0,22
			I	MD	KCU40								
		U	O	MD	KCU40	31	**70**	86	mm/r	0,07 - 0,11	0,12 - 0,18	0,14 - 0,20	0,16 - 0,22
			I	MD	KC7140								
		I	O	MD	KC7140	22	**50**	61	mm/r	0,07 - 0,11	0,12 - 0,18	0,14 - 0,20	0,16 - 0,22
			I	MD	KC7140								
	2	S	O	MD	KCU25	48	**99**	134	mm/r	0,07 - 0,11	0,12 - 0,18	0,14 - 0,20	0,16 - 0,22
			I	MD	KCU40								
		U	O	MD	KCU40	31	**63**	86	mm/r	0,07 - 0,11	0,12 - 0,18	0,14 - 0,20	0,16 - 0,22
			I	MD	KC7140								
		I	O	MD	KC7140	22	**45**	61	mm/r	0,07 - 0,11	0,12 - 0,18	0,14 - 0,20	0,16 - 0,22
			I	MD	KC7140								
	3	S	O	MD	KCU25	48	**88**	134	mm/r	0,07 - 0,11	0,12 - 0,18	0,14 - 0,20	0,16 - 0,22
			I	MD	KCU40								
		U	O	MD	KCU40	31	**56**	86	mm/r	0,07 - 0,11	0,12 - 0,18	0,14 - 0,20	0,16 - 0,22
			I	MD	KC7140								
		I	O	MD	KC7140	22	**40**	61	mm/r	0,07 - 0,11	0,12 - 0,18	0,14 - 0,20	0,16 - 0,22
			I	MD	KC7140								

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions

Pocket seat: I = Inboard insert; O = Outboard insert

HTS DFT™ • Metric

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric				
									Recommended Feed Rate (f) by Diameter				
						min	Starting Value	max	Ø (mm)	DFT03... 45,00-55,00	DFT05... 55,00-78,00	DFT06... 78,00-140,00	DFT07... 140,00-270,00
K	1	S	O	HP	KCPK10	94	**171**	229	mm/r	0,11 - 0,20	0,13 - 0,27	0,15 - 0,31	0,17 - 0,33
			I	HP	KCPK10								
		U	O	HP	KCU25	64	**117**	156	mm/r	0,11 - 0,20	0,13 - 0,27	0,15 - 0,31	0,17 - 0,33
			I	HP	KCU25								
		I	O	HP	KCU40	40	**72**	96	mm/r	0,11 - 0,20	0,13 - 0,27	0,15 - 0,31	0,17 - 0,33
			I	HP	KCU40								
	2	S	O	HP	KCPK10	94	**162**	229	mm/r	0,11 - 0,20	0,13 - 0,27	0,15 - 0,31	0,17 - 0,33
			I	HP	KCPK10								
		U	O	HP	KCU25	64	**111**	156	mm/r	0,11 - 0,20	0,13 - 0,27	0,15 - 0,31	0,17 - 0,33
			I	HP	KCU25								
		I	O	HP	KCU40	40	**68**	96	mm/r	0,11 - 0,20	0,13 - 0,27	0,15 - 0,31	0,17 - 0,33
			I	HP	KCU40								
	3	S	O	HP	KCPK10	90	**146**	217	mm/r	0,11 - 0,20	0,13 - 0,27	0,15 - 0,31	0,15 - 0,31
			I	HP	KCPK10								
		U	O	HP	KCU25	59	**100**	144	mm/r	0,11 - 0,20	0,13 - 0,27	0,15 - 0,31	0,15 - 0,31
			I	HP	KCU25								
		I	O	HP	KCU40	35	**62**	84	mm/r	0,11 - 0,20	0,13 - 0,27	0,15 - 0,31	0,15 - 0,31
			I	HP	KCU40								
N	1	S	O	ST	KD1425	154	**240**	358	mm/r	0,06 - 0,09	0,11 - 0,19	0,12 - 0,20	0,14 - 0,25
			I	ST	KD1425								
		U	O	HP	KC7140	102	**160**	239	mm/r	0,06 - 0,09	0,11 - 0,19	0,12 - 0,20	0,14 - 0,25
			I	HP	KC7140								
		I	O	HP	KC7140	67	**104**	155	mm/r	0,06 - 0,09	0,11 - 0,19	0,12 - 0,20	0,14 - 0,25
			I	HP	KC7140								
	2	S	O	ST	KD1425	154	**223**	358	mm/r	0,06 - 0,09	0,11 - 0,19	0,12 - 0,20	0,14 - 0,25
			I	ST	KD1425								
		U	O	HP	KCU40	102	**149**	239	mm/r	0,06 - 0,09	0,11 - 0,19	0,12 - 0,20	0,14 - 0,25
			I	HP	KCU40								
		I	O	HP	KCU40	67	**97**	155	mm/r	0,06 - 0,09	0,11 - 0,19	0,12 - 0,20	0,14 - 0,25
			I	HP	KCU40								
	3	S	O	ST	KD1425	154	**206**	358	mm/r	0,06 - 0,09	0,11 - 0,19	0,12 - 0,20	0,14 - 0,25
			I	ST	KD1425								
		U	O	HP	KCU40	102	**138**	239	mm/r	0,06 - 0,09	0,11 - 0,19	0,12 - 0,20	0,14 - 0,25
			I	HP	KCU40								
		I	O	HP	KCU40	67	**89**	155	mm/r	0,06 - 0,09	0,11 - 0,19	0,12 - 0,20	0,14 - 0,25
			I	HP	KCU40								
	4	S	O	ST	KD1425	154	**223**	358	mm/r	0,06 - 0,09	0,11 - 0,19	0,12 - 0,20	0,14 - 0,25
			I	ST	KD1425								
		U	O	LD	KC7140	102	**149**	239	mm/r	0,06 - 0,09	0,11 - 0,19	0,12 - 0,20	0,14 - 0,25
			I	LD	KC7140								
		I	O	LD	KC7140	67	**97**	155	mm/r	0,06 - 0,09	0,11 - 0,19	0,12 - 0,20	0,14 - 0,25
			I	LD	KC7140								
	5	S	O	ST	KD1425	112	**220**	262	mm/r	0,06 - 0,09	0,11 - 0,19	0,12 - 0,20	0,14 - 0,25
			I	ST	KD1425								
		U	O	HP	KCU40	72	**140**	167	mm/r	0,06 - 0,09	0,11 - 0,19	0,12 - 0,20	0,14 - 0,25
			I	HP	KCU40								
		I	O	HP	KCU40	46	**90**	107	mm/r	0,06 - 0,09	0,11 - 0,19	0,12 - 0,20	0,14 - 0,25
			I	HP	KCU40								
S	1	S	O	HP	KC7140	24	**40**	49	mm/r	0,04 - 0,07	0,05 - 0,08	0,07 - 0,10	0,07 - 0,10
			I	HP	KC7140								
		U	O	HP	KC7140	18	**30**	37	mm/r	0,04 - 0,07	0,05 - 0,08	0,07 - 0,10	0,07 - 0,10
			I	HP	KC7140								
		I	O	HP	KC7140	15	**25**	30	mm/r	0,04 - 0,07	0,05 - 0,08	0,07 - 0,10	0,07 - 0,10
			I	HP	KC7140								
	2	S	O	HP	KC7140	25	**35**	48	mm/r	0,04 - 0,07	0,05 - 0,08	0,07 - 0,10	0,07 - 0,10
			I	HP	KC7140								
		U	O	HP	KC7140	18	**25**	34	mm/r	0,04 - 0,07	0,05 - 0,08	0,07 - 0,10	0,07 - 0,10
			I	HP	KC7140								
		I	O	HP	KC7140	14	**20**	27	mm/r	0,04 - 0,07	0,05 - 0,08	0,07 - 0,10	0,07 - 0,10
			I	HP	KC7140								

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

HTS DFT™ • Inch

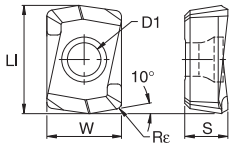
Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed – vc Range – SFM			Inch				
									Recommended Feed Rate (f) by Diameter				
						min	Starting Value	max	Ø (in)	DFT03... 1.77-2.17	DFT05... 2.17-3.07	DFT06... 3.07-5.51	DFT07... 5.51-10.63
P	1	S	O	MD	KCU25	309	**623**	750	IPR	.002 - .004	.003 - .005	.004 - .006	.005 - .007
			I	MD	KCU40								
		U	O	MD	KCU40	231	**427**	561	IPR	.002 - .004	.003 - .005	.004 - .006	.005 - .007
			I	MD	KC7140								
		I	O	MD	KCU40	143	**262**	348	IPR	.002 - .004	.003 - .005	.004 - .006	.005 - .007
			I	MD	KC7140								
	2	S	O	HP	KCU25	309	**591**	750	IPR	.004 - .006	.005 - .007	.005 - .007	.005 - .008
			I	HP	KCU40								
		U	O	HP	KCU40	231	**394**	561	IPR	.004 - .006	.005 - .007	.005 - .007	.005 - .008
			I	HP	KC7140								
		I	O	HP	KCU40	143	**230**	348	IPR	.004 - .006	.005 - .007	.005 - .007	.005 - .008
			I	HP	KC7140								
	3	S	O	HP	KCU25	229	**459**	555	IPR	.004 - .006	.005 - .007	.005 - .007	.005 - .008
			I	HP	KCU40								
		U	O	HP	KCU40	163	**328**	396	IPR	.004 - .006	.005 - .007	.005 - .007	.005 - .008
			I	HP	KC7140								
		I	O	HP	KCU40	98	**197**	238	IPR	.004 - .006	.005 - .007	.005 - .007	.005 - .008
			I	HP	KC7140								
	4	S	O	HP	KCU25	309	**394**	750	IPR	.004 - .006	.005 - .007	.005 - .007	.005 - .008
			I	HP	KCU40								
		U	O	HP	KCU40	231	**328**	561	IPR	.004 - .006	.005 - .007	.005 - .007	.005 - .008
			I	HP	KC7140								
		I	O	HP	KCU40	143	**262**	348	IPR	.004 - .006	.005 - .007	.005 - .007	.005 - .008
			I	HP	KC7140								
	5	S	O	HP	KCU25	257	**328**	622	IPR	.002 - .003	.002 - .003	.002 - .004	.003 - .005
			I	HP	KCU40								
		U	O	HP	KCU40	154	**197**	373	IPR	.002 - .003	.002 - .003	.002 - .004	.003 - .005
			I	HP	KC7140								
		I	O	HP	KCU40	103	**131**	250	IPR	.002 - .003	.002 - .003	.002 - .004	.003 - .005
			I	HP	KC7140								
	6	S	O	HP	KCU25	244	**312**	591	IPR	.002 - .003	.002 - .003	.002 - .004	.003 - .005
			I	HP	KCU40								
		U	O	HP	KCU40	146	**187**	355	IPR	.002 - .003	.002 - .003	.002 - .004	.003 - .005
			I	HP	KC7140								
		I	O	HP	KCU40	98	**125**	238	IPR	.002 - .003	.002 - .003	.002 - .004	.003 - .005
			I	HP	KC7140								
M	1	S	O	MD	KCU25	159	**361**	439	IPR	.003 - .004	.005 - .007	.006 - .008	.006 - .009
			I	MD	KCU40								
		U	O	MD	KCU40	101	**230**	281	IPR	.003 - .004	.005 - .007	.006 - .008	.006 - .009
			I	MD	KC7140								
		I	O	MD	KC7140	72	**164**	199	IPR	.003 - .004	.005 - .007	.006 - .008	.006 - .009
			I	MD	KC7140								
	2	S	O	MD	KCU25	159	**325**	439	IPR	.003 - .004	.005 - .007	.006 - .008	.006 - .009
			I	MD	KCU40								
		U	O	MD	KCU40	101	**207**	281	IPR	.003 - .004	.005 - .007	.006 - .008	.006 - .009
			I	MD	KC7140								
		I	O	MD	KC7140	72	**148**	199	IPR	.003 - .004	.005 - .007	.006 - .008	.006 - .009
			I	MD	KC7140								
	3	S	O	MD	KCU25	159	**289**	439	IPR	.003 - .004	.005 - .007	.006 - .008	.006 - .009
			I	MD	KCU40								
		U	O	MD	KCU40	101	**184**	281	IPR	.003 - .004	.005 - .007	.006 - .008	.006 - .009
			I	MD	KC7140								
		I	O	MD	KC7140	72	**131**	199	IPR	.003 - .004	.005 - .007	.006 - .008	.006 - .009
			I	MD	KC7140								

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert

HTS DFT™ • Inch

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed – vc Range – SFM			Inch				
									Recommended Feed Rate (f) by Diameter				
						min	Starting Value	max	Ø (in)	DFT03... 1.77-2.17	DFT05... 2.17-3.07	DFT06... 3.07-5.51	DFT07... 5.51-10.63
K	1	S	O	HP	KCPK10	309	**561**	750	IPR	.004 - .008	.005 - .011	.006 - .012	.007 - .013
			I	HP	KCPK10								
		U	O	HP	KCU25	211	**384**	510	IPR	.004 - .008	.005 - .011	.006 - .012	.007 - .013
			I	HP	KCU25								
		I	O	HP	KCU40	131	**236**	316	IPR	.004 - .008	.005 - .011	.006 - .012	.007 -.013
			I	HP	KCU40								
	2	S	O	HP	KCPK10	309	**533**	750	IPR	.004 - .008	.005 - .011	.006 - .012	.007 -.013
			I	HP	KCPK10								
		U	O	HP	KCU25	211	**365**	510	IPR	.004 - .008	.005 - .011	.006 - .012	.007 -.013
			I	HP	KCU25								
		I	O	HP	KCU40	131	**224**	316	IPR	.004 - .008	.005 - .011	.006 - .012	.007 -.013
			I	HP	KCU40								
	3	S	O	HP	KCPK10	294	**480**	712	IPR	.004 - .008	.005 - .011	.006 - .012	.007 -.013
			I	HP	KCPK10								
		U	O	HP	KCU25	195	**328**	473	IPR	.004 - .008	.005 - .011	.006 - .012	.007 -.013
			I	HP	KCU25								
		I	O	HP	KCU40	113	**202**	274	IPR	.004 - .008	.005 - .011	.006 - .012	.007 -.013
			I	HP	KCU40								
N	1	S	O	ST	KD1425	504	**787**	1176	IPR	.002 - .004	.004 - .007	.005 - .008	.006 - .010
			I	ST	KD1425								
		U	O	HP	KC7140	336	**525**	784	IPR	.002 - .004	.004 - .007	.005 - .008	.006 - .010
			I	HP	KC7140								
		I	O	HP	KC7140	218	**341**	510	IPR	.002 - .004	.004 - .007	.005 - .008	.006 - .010
			I	HP	KC7140								
	2	S	O	ST	KD1425	504	**732**	1176	IPR	.002 - .004	.004 - .007	.005 - .008	.006 - .010
			I	ST	KD1425								
		U	O	HP	KCU40	336	**488**	784	IPR	.002 - .004	.004 - .007	.005 - .008	.006 - .010
			I	HP	KCU40								
		I	O	HP	KCU40	218	**317**	510	IPR	.002 - .004	.004 - .007	.005 - .008	.006 - .010
			I	HP	KCU40								
	3	S	O	ST	KD1425	504	**677**	1176	IPR	.002 - .004	.004 - .007	.005 - .008	.006 - .010
			I	ST	KD1425								
		U	O	HP	KCU40	336	**451**	784	IPR	.002 - .004	.004 - .007	.005 - .008	.006 - .010
			I	HP	KCU40								
		I	O	HP	KCU40	218	**293**	510	IPR	.002 - .004	.004 - .007	.005 - .008	.006 - .010
			I	HP	KCU40								
	4	S	O	ST	KD1425	504	**732**	1176	IPR	.002 - .004	.004 - .007	.005 - .008	.006 - .010
			I	ST	KD1425								
		U	O	LD	KC7140	336	**488**	784	IPR	.002 - .004	.004 - .007	.005 - .008	.006 - .010
			I	LD	KC7140								
		I	O	LD	KC7140	218	**317**	510	IPR	.002 - .004	.004 - .007	.005 - .008	.006 - .010
			I	LD	KC7140								
	5	S	O	ST	KD1425	368	**722**	858	IPR	.002 - .004	.004 - .007	.005 - .008	.006 - .010
			I	ST	KD1425								
		U	O	HP	KC7140	235	**459**	549	IPR	.002 - .004	.004 - .007	.005 - .008	.006 - .010
			I	HP	KC7140								
		I	O	HP	KC7140	151	**295**	351	IPR	.002 - .004	.004 - .007	.005 - .008	.006 - .010
			I	HP	KC7140								
S	1	S	O	HP	KC7140	80	**131**	160	IPR	.002 - .003	.002 - .003	.003 - .004	.003 - .004
			I	HP	KC7140								
		U	O	HP	KC7140	60	**98**	120	IPR	.002 - .003	.002 - .003	.003 - .004	.003 - .004
			I	HP	KC7140								
		I	O	HP	KC7140	50	**82**	100	IPR	.002 - .003	.002 - .003	.003 - .004	.003 - .004
			I	HP	KC7140								
	2	S	O	HP	KC7140	82	**115**	158	IPR	.002 - .003	.002 - .003	.003 - .004	.003 - .004
			I	HP	KC7140								
		U	O	HP	KC7140	58	**82**	112	IPR	.002 - .003	.002 - .003	.003 - .004	.003 - .004
			I	HP	KC7140								
		I	O	HP	KC7140	46	**66**	90	IPR	.002 - .003	.002 - .003	.003 - .004	.003 - .004
			I	HP	KC7140								

Condition: S = Stable cutting conditions; U = Unstable cutting conditions; I = Interrupted cutting conditions
Pocket seat: I = Inboard insert; O = Outboard insert





● first choice
○ alternate choice

NEW!

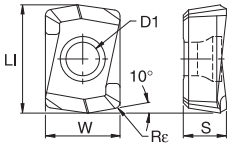
beyond

P	●	●	●	●		
M	○	○	○	○		
K	●	●	○	○		
N	○		○	○		
S	○		●	●		
H			○	○		

DFR-GD

catalog number	LI mm	LI in	W mm	W in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	KCPK10*	KCU25*	KCU40*	KC7140	KC7225
DFR020204GD	7,12	.280	4,90	.193	2,30	.091	2,79	.110	0,40	.016	●	●	●	●	
DFR030204GD	8,71	.343	6,00	.236	2,50	.098	2,88	.113	0,40	.016	●	●	●	●	
DFR040304GD	10,76	.424	7,38	.291	2,85	.112	3,79	.149	0,40	.016	●	●	●	●	

*Beyond™ grade.





● first choice
○ alternate choice

NEW!

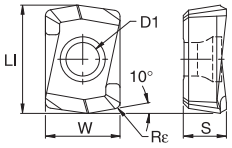
beyond

P		●	●	●		
M		○	●	●		
K		○	○	○		
N		○	○	○		
S		○	●	●		
H						

DFR-MD

catalog number	LI mm	LI in	W mm	W in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	KCPK10*	KCU25*	KCU40*	KC7140	KC7225
DFR020204MD	7,12	.280	4,90	.193	2,30	.091	2,79	.110	0,40	.016		●	●	●	
DFR030204MD	8,71	.343	6,00	.236	2,50	.098	2,88	.113	0,40	.016		●	●	●	
DFR040304MD	10,76	.424	7,38	.291	2,85	.112	3,79	.149	0,40	.016		●	●	●	

*Beyond™ grade.





● first choice
○ alternate choice

NEW!

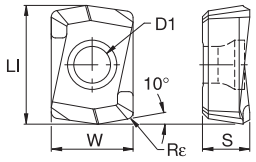
beyond

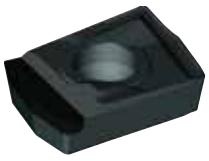
P			○	●	○	
M			●	●	○	
K			●	○	●	
N			●	○	●	
S			●	○	●	
H			○			

DFR-LD

catalog number	LI mm	LI in	W mm	W in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	KCPK10*	KCU25*	KCU40*	KC7140	KC7225
DFR020204LD	7,12	.280	4,90	.193	2,30	.091	2,79	.110	0,40	.016			●	●	●
DFR030204LD	8,71	.343	6,00	.236	2,50	.098	2,86	.113	0,40	.016			●		●
DFR040304LD	10,76	.424	7,38	.291	2,85	.112	3,76	.148	0,40	.016			●		●

*Beyond™ grade.



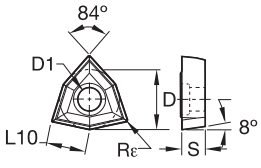


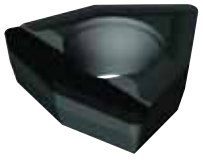
● first choice
○ alternate choice

P	M	K	N	S	H
			●		

DFR • PCD • Single Tipped

catalog number	LI mm	LI in	W mm	W in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	KD1425
DFR040304ST	10,50	.413	7,40	.291	2,85	.112	3,18	.125	0,40	.015	●





● first choice
○ alternate choice

P	M	K	N	S	H
			●		

DFT • PCD • Single Tipped • Full Face

catalog number	L10 mm	L10 in	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	KD1425
DFT030304C	3,93	.155	6,00	.236	2,65	.104	2,95	.116	0,40	.016	●
DFT05T308ST	5,19	.205	8,00	.315	3,40	.134	3,75	.148	0,80	.031	●
DFT06T308ST	6,52	.257	10,00	.394	4,40	.173	3,75	.148	0,80	.031	●
DFT070408ST	7,84	.309	12,00	.472	4,40	.173	4,75	.187	0,80	.031	●
DFT090508ST	9,83	.387	15,00	.591	5,50	.217	5,19	.204	0,80	.031	●
DFT110508ST	11,53	.454	17,60	.693	5,85	.230	4,81	.189	0,80	.031	●

Drilling of Rotor Blades

Drill Fix DFT and DFR with PCD Inserts

- Improved cycle times by piloting and drilling on a single operation.
- PCD-tipped carbide inserts for long tool life.
- High speed cutting.
- In-stock system with standard tooling.

These remarkably long components range from 40–200' (13–60m).
In addition to material handling constraints, rotor blades require five to six hours of machining time with changeover requirements up to two hours.



DFR™ • PCD

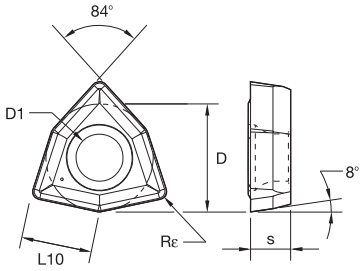
Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric: Recommended Feed Rate (f) by Diameter	
						min	Starting Value	max	Ø (mm)	DFR04 20,50-24,00
N	1	S	O	ST	KD1425	396	**720**	841	mm/r	0,06 - 0,08
			I	ST	KD1425	396	**720**	841	mm/r	0,06 - 0,08
	2	S	O	ST	KD1425	369	**670**	782	mm/r	0,12 - 0,18
			I	ST	KD1425	369	**670**	782	mm/r	0,12 - 0,18
	3	S	O	ST	KD1425	341	**619**	723	mm/r	0,12 - 0,18
			I	ST	KD1425	341	**619**	723	mm/r	0,12 - 0,18
	4	S	O	ST	KD1425	475	**720**	841	mm/r	0,12 - 0,18
			I	ST	KD1425	475	**720**	841	mm/r	0,12 - 0,18
	5	S	O	ST	KD1425	480	**720**	864	mm/r	0,06 - 0,08
			I	ST	KD1425	480	**720**	864	mm/r	0,06 - 0,08

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — SFM			Inch: Recommended Feed Rate (f) by Diameter	
						min	Starting Value	max	Ø (in)	DFR04 .813-1.00
N	1	S	O	ST	KD1425	1300	**2362**	2760	IPR	.002 - .003
			I	ST	KD1425	1300	**2362**	2760	IPR	.002 - .003
	2	S	O	ST	KD1425	1209	**2197**	2567	IPR	.005 - .007
			I	ST	KD1425	1209	**2197**	2567	IPR	.005 - .007
	3	S	O	ST	KD1425	1118	**2032**	2374	IPR	.005 - .007
			I	ST	KD1425	1118	**2032**	2374	IPR	.005 - .007
	4	S	O	ST	KD1425	1560	**2362**	2760	IPR	.005 - .007
			I	ST	KD1425	1560	**2362**	2760	IPR	.005 - .007
	4	S	O	ST	KD1425	1575	**2362**	2834	IPR	.002 - .003
			I	ST	KD1425	1575	**2362**	2834	IPR	.002 - .003

DFT™ • PCD

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — m/min			Metric: Recommended Feed Rate (f) by Diameter						
						min	Starting Value	max	Ø (mm)	DFT03 16,00-24,00	DFT05 25,00-32,00	DFT06 33,00-40,00	DFT07 41,00-48,00	DFT09 49,00-68,00	DFT11 69,00-82,00
N	1	S	O	ST / C	KD1425	480	**720**	864	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	ST / C	KD1425	480	**720**	864	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
	2	S	O	ST / C	KD1425	447	**670**	804	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	ST / C	KD1425	447	**670**	804	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
	3	S	O	ST / C	KD1425	413	**619**	743	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	ST / C	KD1425	413	**619**	743	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
	4	S	O	ST / C	KD1425	447	**670**	804	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	ST / C	KD1425	447	**670**	804	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
	5	S	O	ST / C	KD1425	480	**720**	864	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18
			I	ST / C	KD1425	480	**720**	864	mm/r	0,05 - 0,07	0,07 - 0,09	0,10 - 0,14	0,12 - 0,16	0,14 - 0,18	0,14 - 0,18

Material Group		Condition	Pocket Seat	Geometry	Grade	Cutting Speed — vc Range — SFM			Inch: Recommended Feed Rate (f) by Diameter						
						min	Starting Value	max	Ø (in)	DFT03 .625-.969	DFT05 .984-1.250	DFT06 1.313-1.563	DFT07 1.625-1.875	DFT09 1.938-2.125	DFT11 2.750-3.250
N	1	S	O	ST / C	KD1425	1575	**2362**	2834	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	ST / C	KD1425	1575	**2362**	2834	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
	2	S	O	ST / C	KD1425	1465	**2197**	2636	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	ST / C	KD1425	1465	**2197**	2636	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
	3	S	O	ST / C	KD1425	1355	**2032**	2438	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	ST / C	KD1425	1355	**2032**	2438	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
	4	S	O	ST / C	KD1425	1465	**2197**	2636	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	ST / C	KD1425	1465	**2197**	2636	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
	5	S	O	ST / C	KD1425	1575	**2362**	2834	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007
			I	ST / C	KD1425	1575	**2362**	2834	IPR	.002 - .003	.003 - .004	.004 - .006	.005 - .006	.006 - .007	.006 - .007





● first choice
○ alternate choice

NEW!

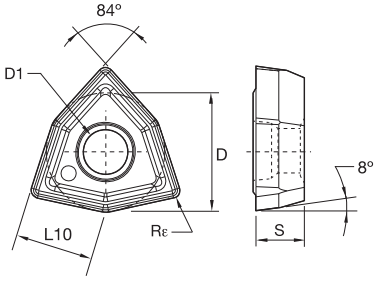
beyond

	KCPK10*	KCU25*	KCU40*	KC7140	KC7225	KC720	KMF
P	●	●	●			●	
M	○	○	○			●	
K	●	●	●				
N	○		○				
S	○		●			●	
H			○				

DFT-GD

catalog number	L10 mm	L10 in	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	KCPK10*	KCU25*	KCU40*	KC7140	KC7225	KC720	KMF
DFT030204GD	3,97	.156	6,00	.236	2,25	.089	2,45	.096	0,40	.016	●	●	●			●	
DFT030304GD	3,97	.156	6,00	.236	2,65	.104	2,95	.116	0,40	.016	●	●	●			●	
DFT05T308GD	5,29	.208	8,00	.315	3,40	.134	3,75	.148	0,80	.031	●	●	●			●	
DFT06T308GD	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031	●	●	●			●	
DFT070408GD	7,94	.313	12,00	.472	4,40	.173	4,75	.187	0,80	.031	●	●	●			●	
DFT090508GD	9,92	.391	15,00	.591	5,50	.217	5,25	.207	0,80	.031	●	●	●			●	

*Beyond™ grade.



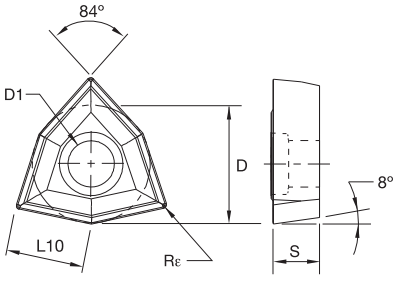


● first choice
○ alternate choice

	KC7820	KC7215	KC7225	KC7935	KC7140	KC7815	KC720	KMF
P		●		○	●		●	
M		○		○	●		●	
K		●		●	○			
N					○			
S		●			○		●	
H								

DFT-HD

catalog number	L10 mm	L10 in	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	KC7820	KC7215	KC7225	KC7935	KC7140	KC7815	KC720	KMF
DFT110506HD	11,63	.458	17,60	.693	5,85	.230	4,93	.194	0,60	.024		●		●			●	
DFT110508HD	11,63	.458	17,60	.693	5,85	.230	4,98	.196	0,80	.031		●			●		●	





● first choice
○ alternate choice

NEW!

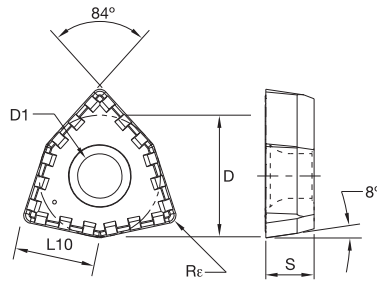
beyond

	KCPK10*	KCU25*	KCU40*	KC7140	KC7225	KC720	KMF
P	●	●	●	●			
M	○	○	○	●			
K	●	●	●	○			
N	○		○	○			●
S	○		●	○			
H			○				

DFT-HP

catalog number	L10 mm	L10 in	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	KCPK10*	KCU25*	KCU40*	KC7140	KC7225	KC720	KMF
DFT030204HP	3,97	.156	6,00	.236	2,25	.089	2,45	.096	0,40	.016	●	●	●	●			●
DFT030304HP	3,97	.156	6,00	.236	2,65	.104	2,95	.116	0,40	.016	●	●	●	●			●
DFT05T308HP	5,29	.208	8,00	.315	3,50	.137	3,75	.148	0,80	.031	●	●	●	●			●
DFT06T308HP	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031	●	●	●	●			●
DFT070408HP	7,94	.313	12,00	.472	4,40	.173	4,75	.187	0,80	.031	●	●	●	●			●
DFT090508HP	9,92	.391	15,00	.591	5,50	.217	5,25	.207	0,80	.031	●	●	●	●			●

*Beyond™ grade.



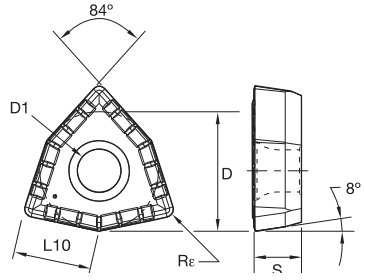


● first choice
○ alternate choice

P				●				●												
M				○				●												
K				○																
N				●																
S								●												
H																				

DFT-LD

catalog number	L10 mm	L10 in	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	KC7820	KC7215	KC7225	KC7935	KC7140	KC7815	KC720	KMF
DFT030204LD	3,97	.156	6,00	.236	2,25	.089	2,45	.096	0,40	.016			●					
DFT030304LD	3,97	.156	6,00	.236	2,65	.104	2,95	.116	0,40	.016			●					
DFT05T308LD	5,29	.208	8,00	.315	3,40	.134	3,75	.148	0,80	.031			●				●	
DFT06T308LD	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031			●				●	
DFT070408LD	7,94	.313	12,00	.472	4,40	.173	4,75	.187	0,80	.031			●				●	
DFT090508LD	9,92	.391	15,00	.591	5,50	.217	5,25	.207	0,80	.031			●				●	





● first choice
○ alternate choice

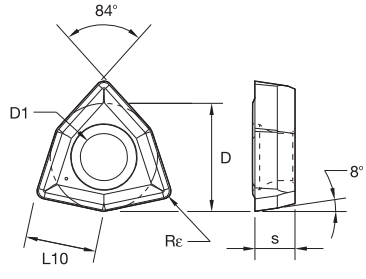
NEW!

P				●	●	●		●												
M				○	●	●		●												
K				○	○	○														
N				○	○	○														
S				○	●	○		●												
H																				

DFT-MD

catalog number	L10 mm	L10 in	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	KCPK10*	KCU25*	KCU40*	KC7140	KC7225	KC720	KMF
DFT030204MD	3,97	.156	6,00	.236	2,25	.089	2,45	.096	0,40	.016		●	●	●		●	
DFT030304MD	3,97	.156	6,00	.236	2,65	.104	2,95	.116	0,40	.016		●	●	●		●	
DFT05T308MD	5,29	.208	8,00	.315	3,40	.134	3,75	.148	0,80	.031		●	●	●		●	
DFT06T308MD	6,62	.260	10,00	.394	4,40	.173	3,75	.148	0,80	.031		●	●	●		●	
DFT070408MD	7,94	.313	12,00	.472	4,40	.173	4,75	.187	0,80	.031		●	●	●		●	
DFT090508MD	9,92	.391	15,00	.591	5,50	.217	5,25	.207	0,80	.031		●	●	●		●	

*Beyond™ grade.



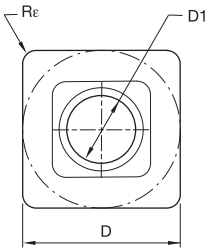


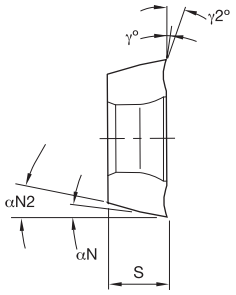
● first choice
○ alternate choice

P			●			●				●										
M			○			●				●										
K			●			○														
N						○				●										
S			●			○				○										
H																				

WOGX...24

catalog number	L10 mm	L10 in	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	KC7820	KC7215	KC7225	KC7935	KC7140	KC7815	KC720	KMF	CS5
WOGX03020424	3,94	.156	6,00	.236	2,65	.104	2,50	.098	0,40	.016		●			●				●







● first choice
○ alternate choice

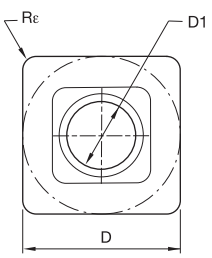
beyond

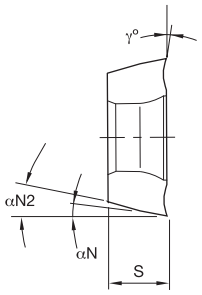
P	●	●	●
M	○	●	●
K	●	●	●
N	○	○	○
S	○	○	●
H			

SP.X..HP

catalog number	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	γ°	γ2°	αN	αN2	KCPK10*	KCU25*	KCU40*
SPGX070308HP	7,80	.307	2,85	.112	3,18	.125	0,80	.031	10	24	7	11	●	●	●
SPPX09T310HP	9,38	.369	3,60	.142	3,97	.156	1,00	.039	10	24	7	11	●	●	●
SPPX120412HP	12,56	.494	4,60	.181	4,76	.188	1,20	.047	10	24	7	11	●	●	●
SPPX15T512HP	15,73	.619	5,50	.217	5,95	.234	1,20	.047	10	24	7	11	●	●	●

*Beyond™ grade.







● first choice
○ alternate choice

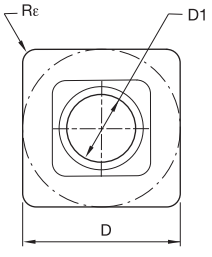
beyond

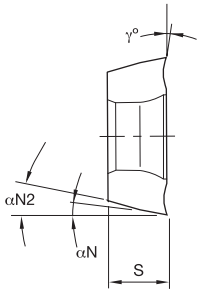
P	●	●	●
M	○	●	●
K	●	●	●
N	○	○	○
S	○	○	●
H			

SP.X..MD

catalog number	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	γ°	αN	αN2	KCPK10*	KCU25*	KCU40*
SPGX070308MD	7,80	.307	2,85	.112	3,18	.125	0,80	.031	16	7	11	●	●	●
SPPX09T310MD	9,38	.369	3,60	.142	3,97	.156	1,00	.039	16	7	11	●	●	●
SPPX120412MD	12,56	.494	4,60	.181	4,76	.188	1,20	.047	16	7	11	●	●	●
SPPX15T512MD	15,73	.619	5,50	.217	5,95	.234	1,20	.047	16	7	11	●	●	●

*Beyond™ grade.







● first choice
○ alternate choice

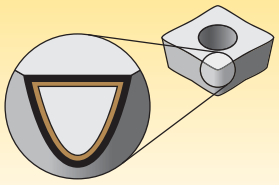
beyond

P	●	●	●
M	○	●	●
K	●	●	●
N	○	○	○
S	○	○	●
H			

SP.X..FP

catalog number	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	γ°	αN	αN2	KCPK10*	KCU25*	KCU40*
SPGX070308FP	7,80	.307	2,85	.112	3,18	.125	0,80	.031	6	7	11	●	●	●
SPPX09T310FP	9,38	.369	3,60	.142	3,97	.156	1,00	.039	6	7	11	●	●	●
SPPX120412FP	12,56	.494	4,60	.181	4,76	.188	1,20	.047	6	7	11	●	●	●
SPPX15T512FP	15,73	.619	5,50	.217	5,95	.234	1,20	.047	6	7	11	●	●	●

*Beyond™ grade.

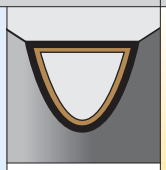
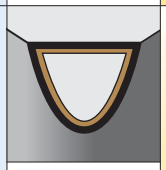
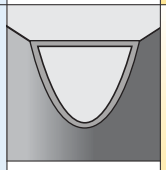


Coatings provide high-speed capability and are engineered for finishing to light roughing.

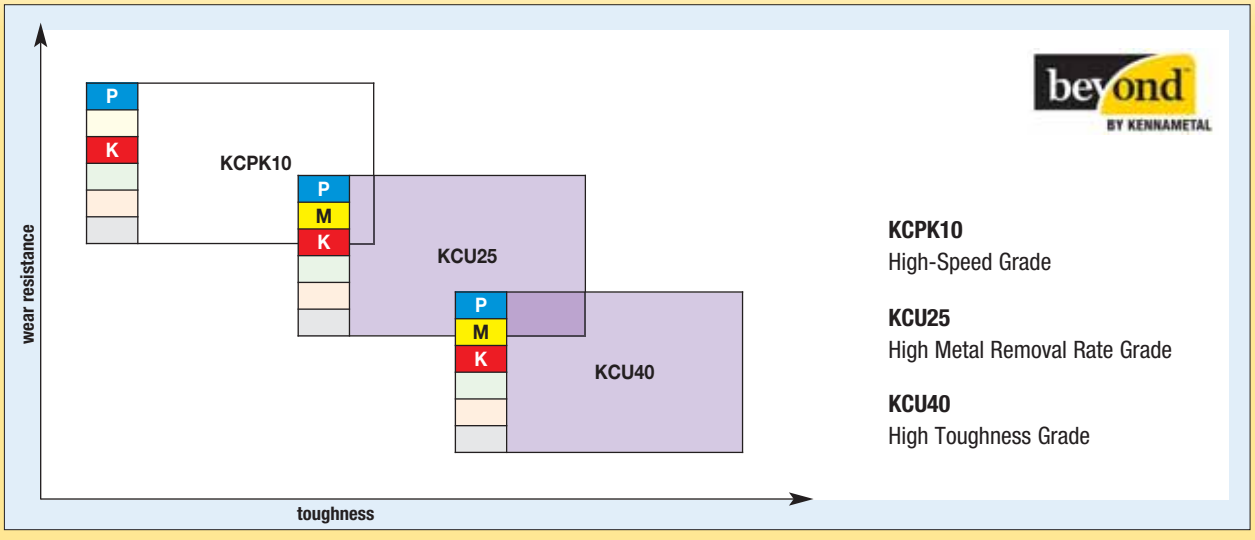
P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grade

Coating	Grade Description	05	10	15	20	25	30	35	40	45
KCPK10  Al_2O_3 TiCN	Composition: With an advanced CVD TiCN-Al_2O_3 coating combined with a cobalt-enriched carbide substrate, this grade offers a balanced combination of deformation resistance and edge toughness. Application: The KCPK10 grade offers outstanding abrasion and crater wear resistance for high-speed machining of steels and cast irons. Use for very high cutting speeds with low to medium feed rates.	P								
KCU25  Al_2O_3 TiCN	Composition: This advanced CVD TiCN-Al_2O_3 coating together with a newly engineered tough carbide substrate, adequate deformation resistance along with excellent edge strength is ensured and offers very good wear resistance over a wide range of machining conditions. Application: KCU25, as a high productivity grade with high speeds and feeds, is the first choice for productive process with very good reliability in steels, stainless steels, and cast irons.	P	M	K						
KCU40  PVD TiN_TiAlN	Composition: With a multilayered PVD TiN-TiAlN coating and a tough substrate, this grade withstands interruptions and provides high wear resistance for long tool life. Application: The KCU40 grade is the first choice for high reliability in most materials. This grade should be used at medium speeds and high feeds due to sharper edges and as a grade for high toughness applications. It covers steel, stainless steel, cast iron, and high-temp alloys under certain conditions.	P	M	K						

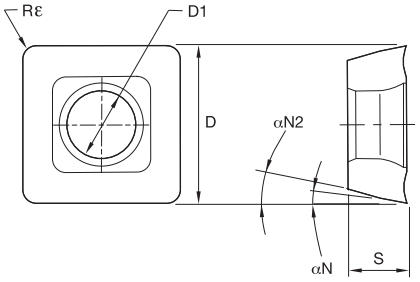
Drill Fix™ Inserts



KCPK10
High-Speed Grade

KCU25
High Metal Removal Rate Grade

KCU40
High Toughness Grade



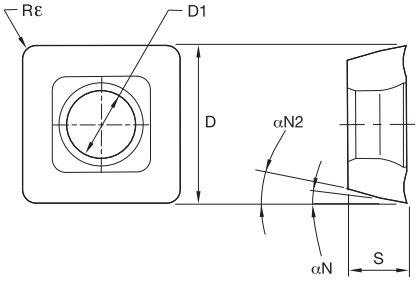


● first choice
○ alternate choice

P	○	●		●		
M		○		○		
K	●	●		●		
N	○			○		
S		●		○		
H						

SP..X..FP

catalog number	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	γ°	αN	αN2	KC7210	KC7215	KC7140	KC7815	KM1
SPGX060304FP	6,35	.250	2,85	.112	3,18	.125	0,40	.016	6	7	11	●	●		●	
SPGX070304FP	7,94	.312	2,85	.112	3,18	.125	0,40	.016	6	7	11	●	●		●	
SPPX09T308FP	9,53	.375	3,60	.142	3,97	.156	0,80	.031	6	7	11	●	●		●	
SPPX120408FP	12,70	.500	4,60	.181	4,76	.188	0,80	.031	6	7	11	●	●		●	
SPPX15T508FP	15,73	.619	5,50	.234	5,95	.234	0,80	.031	6	7	11	●	●		●	



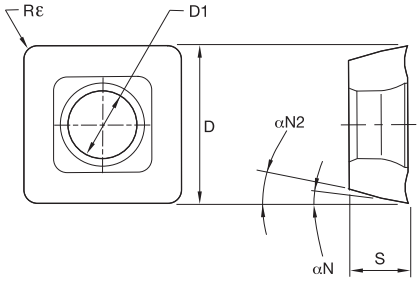


● first choice
○ alternate choice

P				●	●	
M				●	○	
K				○	●	
N				○	○	
S				○	○	
H						

SP..X..MD

catalog number	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	γ°	αN	αN2	KC7210	KC7215	KC7140	KC7815	KM1
SPGX060304MD	6,35	.250	2,65	.104	3,18	.125	0,40	.016	20	7	11			●	●	
SPGX070304MD	7,94	.312	2,85	.112	3,18	.125	0,40	.016	16	7	11			●	●	
SPPX09T308MD	9,53	.375	3,60	.142	3,97	.156	0,80	.031	16	7	11			●	●	
SPPX120408MD	12,70	.500	4,60	.181	4,76	.188	0,80	.031	16	7	11			●	●	
SPPX15T508MD	15,73	.619	5,50	.234	5,95	.234	0,80	.031	16	7	11			●	●	



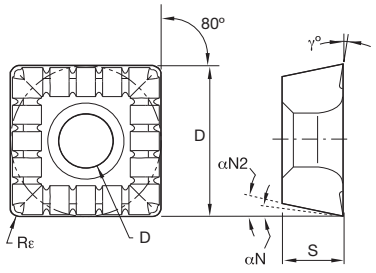


● first choice
○ alternate choice

	KC7210	KC7215	KC7140	KC7815	KM1
P		●	●	●	
M		○	●	○	
K		●	○	●	
N			○	○	
S		●	○	○	
H					

SP..X..RHP

catalog number	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	γ°	αN	αN2	KC7210	KC7215	KC7140	KC7815	KM1
SPGX060304RHP	6,35	.250	2,65	.104	3,18	.125	0,40	.016	10	7	11		●	●	●	
SPGX070304RHP	7,94	.312	2,85	.112	3,18	.125	0,40	.016	10	7	11		●	●	●	
SPPX09T308RHP	9,53	.375	3,60	.142	3,97	.156	0,80	.031	10	7	11		●	●	●	
SPPX120408RHP	12,70	.500	4,60	.181	4,76	.188	0,80	.031	10	7	11		●	●	●	
SPPX15T508RHP	15,73	.619	5,50	.234	5,95	.234	0,80	.031	10	7	11		●	●	●	





● first choice
○ alternate choice

	KC7210	KC7215	KC7140	KC7815	KM1
P		●	●		
M		○	●		
K		○	○		
N			○		
S		●	○		
H					

SPGX...-31(ISO) • SPGT...MD/MDT (ANSI)

ISO catalog number	ANSI catalog number	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	γ°	KC7210	KC7215	KC7140	KC7815	KM1
SPGX06020431	**SPGT060204MD**	6,35	.250	2,65	.104	2,38	.094	0,40	.016	–		●	●		
SPGX07030431	**SPGT070304MDT**	7,94	.313	2,85	.112	3,18	.125	0,40	.016	12		●	●		
SPGX09030831	**SPGT090308MDT**	9,53	.375	3,50	.138	3,18	.125	0,79	.031	12		●	●		
SPGX12040831	**SPGT120408MDT**	12,70	.500	4,50	.177	4,76	.187	0,79	.031	12		●	●		

NOTE: SPGX (ISO code)/SPGT (ANSI code) are only to be used for HTS-C.



CTR™ Counterboring Tools

CTR Counterboring Tools are designed for high-production screw-head counterbores and similar counterboring operations. Tools can be adapted to almost all applications resulting in optimum cutting performance and long tool life.

Extremely unequal insert positioning and flutes prevent chattering and generates less noise. A precise 90° bottom can be achieved with the S2 S inserts.

Features and Benefits

Productivity and Reliability

- S2 S inserts reduce additional drill operations to achieve a precise 90° bottom.
- Chatter-free operations for improved surface quality due to extremely unequal insert positioning and flutes.
- Yield high metal removal rates to reduce machine time and manufacturing costs.

Versatility

- Counterboring tools can be applied for steel, stainless steel, non-ferrous materials, cast irons, and heat-resistant alloy applications.
- Toolholders are double- or triple-fluted at a diameter range starting at 15–46mm (.591–1.811") offering through-coolant capabilities.
- S2 S standard inserts are double edged and available in various grades and geometries.

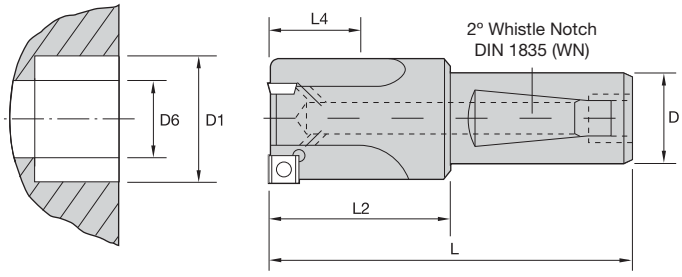
Customization

- Length and diameter variations with and without adjustable cartridges available.
- Combination and multistep tooling based on drilling tools, like Drill Fix™, with short distance and small diameter steps.
- Various radii and customized grades available upon request.



- Counterboring tool shipped with insert screws and Torx wrench.
- Order inserts separately; see pages J106–J107.





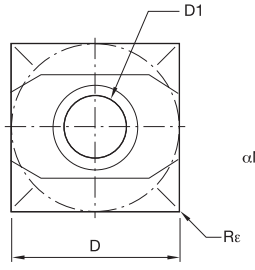


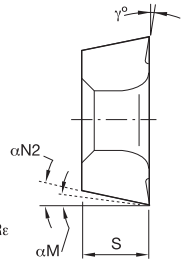
S2 S Whistle Notch™ WN Shank • Metric

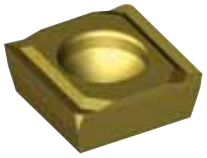
	D1		mm		in							gage	number
catalog number	mm	in	tol min D1	tol max D1	tol min D1	tol max D1	D	D6	L	L2	L4 max	insert	of inserts
CBTF150R2WD20N2M	15,14	.596	-0,135	0,135	-0.005	.005	20	6,0	81	31	8,5	SPHX060204R..	2
CBTF160R2WD20N2M	16,14	.635	-0,135	0,135	-0.005	.005	20	7,0	81	31	8,5	SPHX060204R..	2
CBTF170R2WD20N2M	17,14	.675	-0,135	0,135	-0.005	.005	20	8,0	86	36	13,5	SPHX060204R..	2
CBTF180R2WD20N2M	18,14	.714	-0,135	0,135	-0.005	.005	20	8,4	86	36	13,5	SPHX070304R..	2
CBTF180R2WD20N3M	18,14	.714	-0,135	0,135	-0.005	.005	20	8,4	86	36	13,5	SPHX060204R..	3
CBTF200R2WD20N2M	20,17	.794	-0,165	0,165	-0.007	.007	20	8,5	86	36	16,0	SPHX070304R..	2
CBTF200R2WD20N3M	20,17	.794	-0,165	0,165	-0.007	.007	20	8,5	86	36	16,0	SPHX060204R..	3
CBTF210R2WD20N2M	21,17	.833	-0,165	0,165	-0.007	.007	20	8,5	86	36	16,0	SPHX070304R..	2
CBTF210R2WD20N3M	21,17	.833	-0,165	0,165	-0.007	.007	20	10,5	86	36	11,0	SPHX060204R..	3
CBTF220R2WD20N2M	22,17	.873	-0,165	0,165	-0.007	.007	20	10,4	86	36	16,0	SPHX070304R..	2
CBTF220R2WD20N3M	22,17	.873	-0,165	0,165	-0.007	.007	20	10,5	86	36	16,0	SPHX060204R..	3
CBTF230R2WD20N2M	23,17	.912	-0,165	0,165	-0.007	.007	20	10,5	91	41	21,0	SPHX090304R..	2
CBTF230R2WD20N3M	23,17	.912	-0,165	0,165	-0.007	.007	20	10,5	91	41	16,0	SPHX070304R..	3
CBTF240R2WD20N2M	24,17	.951	-0,165	0,165	-0.007	.007	20	10,5	91	41	18,5	SPHX090304R..	2
CBTF240R2WD20N3M	24,17	.951	-0,165	0,165	-0.007	.007	20	10,5	91	41	16,0	SPHX070304R..	3
CBTF250R2WD20N2M	25,17	.991	-0,165	0,165	-0.007	.007	20	12,0	96	46	23,5	SPHX090304R..	2
CBTF250R2WD20N3M	25,17	.991	-0,165	0,165	-0.007	.007	20	10,5	96	46	21,0	SPHX070304R..	3
CBTF260R2WD20N2M	26,17	1.030	-0,165	0,165	-0.007	.007	20	13,0	96	46	23,5	SPHX090304R..	2
CBTF270R2WD20N3M	27,17	1.070	-0,165	0,165	-0.007	.007	20	10,5	96	46	21,0	SPHX090304R..	3
CBTF280R2WD20N3M	28,17	1.109	-0,165	0,165	-0.007	.007	20	15,0	101	51	23,5	SPHX090304R..	3
CBTF300R2WD20N3M	30,17	1.188	-0,165	0,165	-0.007	.007	20	15,0	101	51	23,0	SPHX090304R..	3
CBTF320R2WD20N3M	32,20	1.268	-0,195	0,195	-0.008	.008	20	17,0	101	51	23,0	SPHX090304R..	3
CBTF330R2WD20N3M	33,20	1.307	-0,195	0,195	-0.008	.008	20	17,0	101	51	25,5	SPHX090304R..	3
CBTF340R2WD32N3M	34,20	1.346	-0,195	0,195	-0.008	.008	32	18,0	111	51	25,5	SPHX090304R..	3
CBTF350R2WD32N3M	35,20	1.386	-0,195	0,195	-0.008	.008	32	19,0	111	51	25,5	SPHX090304R..	3
CBTF360R2WD32N3M	36,20	1.425	-0,195	0,195	-0.008	.008	32	19,0	116	56	27,5	SPHX090304R..	3
CBTF380R2WD32N3M	38,20	1.504	-0,195	0,195	-0.008	.008	32	22,0	121	61	30,0	SPHX120404R..	3
CBTF400R2WD32N3M	40,20	1.582	-0,195	0,195	-0.008	.008	32	21,0	121	61	30,5	SPHX120404R..	3
CBTF420R2WD32N3M	42,20	1.661	-0,195	0,195	-0.008	.008	32	22,0	126	66	33,5	SPHX120404R..	3
CBTF460R2WD32N3M	46,20	1.819	-0,195	0,195	-0.008	.008	32	25,0	126	66	33,5	SPHX120404R..	3

Spare Parts

gage insert	insert screw	wrench	Torx size
SPHX060204R..	**192.432**	**170.028**	T8
SPHX070304R..	**192.432**	**170.028**	T8
SPHX090304R..	**191.924**	**170.024**	T9
SPHX070304R..	**192.432**	**170.028**	T8
SPHX120404R..	**191.916**	**170.025**	T15







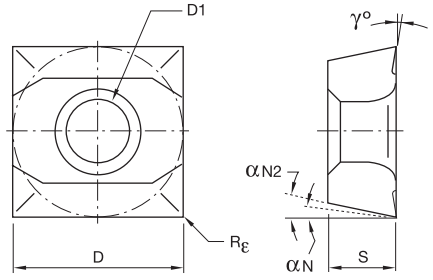
● first choice
○ alternate choice

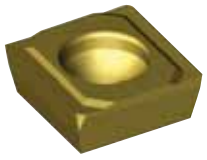
P			●	●												
M			○	●												
K			○	○												
N				○												
S				○												
H																

SPHX..R-20

catalog number	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	γ°	αN	αN M	KC7210	KC7215	KC7140	KC7815	KM1
SPHX060202R20	6,35	.250	2,85	.112	2,38	.094	0,20	.008	12	11	7		●			
SPHX060204R20	6,35	.250	2,85	.112	2,38	.094	0,40	.016	12	11	7		●	●		
SPHX060206R20	6,35	.250	2,85	.112	2,38	.094	0,60	.024	12	11	7		●			
SPHX060208R20	6,35	.250	2,85	.112	2,38	.094	0,80	.031	12	11	7		●			
SPHX070302R20	7,94	.313	2,85	.112	3,18	.125	0,20	.008	12	11	7		●			
SPHX070304R20	7,94	.313	2,85	.112	3,18	.125	0,40	.016	12	11	7		●	●		
SPHX070306R20	7,94	.313	2,85	.112	3,18	.125	0,60	.024	12	11	7		●			
SPHX070308R20	7,94	.313	2,85	.112	3,18	.125	0,80	.031	12	11	7		●			
SPHX070310R20	7,94	.313	2,85	.112	3,18	.125	1,00	.039	12	11	7		●			
SPHX070312R20	7,94	.313	2,85	.112	3,18	.125	1,20	.047	12	11	7		●			
SPHX090304R20	9,53	.375	3,50	.138	3,18	.125	0,40	.016	12	11	7		●	●		
SPHX090308R20	9,53	.375	3,50	.138	3,18	.125	0,80	.031	12	11	7		●			
SPHX090310R20	9,53	.375	3,50	.138	3,18	.125	1,00	.039	12	11	7		●			
SPHX090312R20	9,53	.375	3,50	.138	3,18	.125	1,20	.047	12	11	7		●			
SPHX090316R20	9,53	.375	3,50	.138	3,18	.125	1,60	.063	12	11	7		●			
SPHX120404R20	12,70	.500	4,50	.177	4,76	.187	0,40	.016	12	11	7		●	●		
SPHX120408R20	12,70	.500	4,50	.177	4,76	.187	0,80	.031	12	11	7		●			
SPHX120410R20	12,70	.500	4,50	.177	4,76	.187	1,00	.039	12	11	7		●			
SPHX120412R20	12,70	.500	4,50	.177	4,76	.187	1,20	.047	12	11	7		●			
SPHX120416R20	12,70	.500	4,50	.177	4,76	.187	1,60	.063	12	11	7		●			
SPHX120420R20	12,70	.500	4,50	.177	4,76	.187	2,00	.079	12	11	7		●			
SPHX150508R20	15,88	.625	5,50	.217	5,95	.234	0,80	.031	12	11	7		●			
SPHX150512R20	15,88	.625	5,50	.217	5,95	.234	1,20	.047	12	11	7		●			
SPHX150516R20	15,88	.625	5,50	.217	5,95	.234	1,60	.063	12	11	7		●			
SPHX150520R20	15,88	.625	5,50	.217	5,95	.234	2,00	.079	12	11	7		●			

NOTE: SPHX...R-20: This geometry is first choice for steel applications.





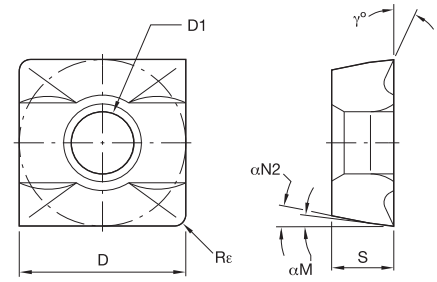
● first choice
○ alternate choice

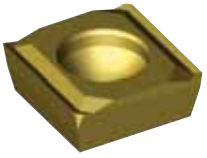
P		○	○			
M			○			
K		●	●			●
N		○				
S			○			
H						

SPHX..R-21

catalog number	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	γ°	αN	αN M	KC7210	KC7215	KC7140	KC7815	KM1
SPHX060202R21	6,35	.250	2,85	.112	2,38	.094	0,20	.008	4	11	7		●			
SPHX060204R21	6,35	.250	2,85	.112	2,38	.094	0,40	.016	4	11	7	●	●			●
SPHX060206R21	6,35	.250	2,85	.112	2,38	.094	0,60	.024	4	11	7		●			
SPHX060208R21	6,35	.250	2,85	.112	2,38	.094	0,80	.031	4	11	7		●			
SPHX070304R21	7,94	.313	2,85	.112	3,18	.125	0,40	.016	4	11	7	●	●			●
SPHX070306R21	7,94	.313	2,85	.112	3,18	.125	0,60	.024	4	11	7		●			
SPHX070308R21	7,94	.313	2,85	.112	3,18	.125	0,80	.031	4	11	7		●			
SPHX070310R21	7,94	.313	2,85	.112	3,18	.125	1,00	.039	4	11	7		●			
SPHX090304R21	9,53	.375	3,50	.138	3,18	.125	0,40	.016	4	11	7	●	●			●
SPHX090308R21	9,53	.375	3,50	.138	3,18	.125	0,80	.032	4	11	7		●			
SPHX090310R21	9,53	.375	3,50	.138	3,18	.125	1,00	.039	4	11	7		●			
SPHX090312R21	9,53	.375	3,50	.138	3,18	.125	1,20	.047	4	11	7		●			
SPHX090316R21	9,53	.375	3,50	.138	3,18	.125	1,60	.063	4	11	7		●			
SPHX120404R21	12,70	.500	4,50	.177	4,76	.187	0,40	.016	4	11	7	●	●			●
SPHX120408R21	12,70	.500	4,50	.177	4,76	.187	0,80	.031	4	11	7		●			
SPHX120410R21	12,70	.500	4,50	.177	4,76	.187	1,00	.039	4	11	7		●			
SPHX120412R21	12,70	.500	4,50	.177	4,76	.187	1,20	.047	4	11	7		●			
SPHX120416R21	12,70	.500	4,50	.177	4,76	.187	1,60	.063	4	11	7		●			
SPHX120420R21	12,70	.500	4,50	.177	4,76	.187	2,00	.079	4	11	7		●			
SPHX150504R21	15,88	.625	5,50	.217	5,95	.234	0,40	.016	4	11	7					●

NOTE: SPHX...R-21: This geometry is first choice for cast iron applications.





● first choice
○ alternate choice

P						
M						
K						○
N						●
S						
H						

SPHX..R-22

catalog number	D mm	D in	D1 mm	D1 in	S mm	S in	Rε mm	Rε in	γ°	αN	KC7210	KC7215	KC7140	KC7815	KM1
SPHX060204R22	6,35	.250	2,85	.112	2,38	.094	0,40	.016	25	11					●
SPHX070304R22	7,94	.313	2,85	.112	3,18	.125	0,40	.016	25	11					●
SPHX090304R22	9,53	.375	3,50	.138	3,18	.125	0,40	.016	25	11					●
SPHX120404R22	12,70	.500	4,50	.177	4,76	.187	0,40	.016	25	11					●
SPHX150504R22	15,88	.625	5,50	.217	5,95	.234	0,40	.016	25	11					●

NOTE: SPHX...R-22: This geometry is first choice for aluminum applications.



Hole Finishing

Tool Selection Guide **K4–K5**

Application Examples **K6–K92**

Reaming Tools **K94–K127**

RMS K94–K97

RMB K98–K101

RHM K102–K112

Multiflute Reaming Tools K113–K114

RIQ Quattro Cut and RIR K115–K124

Valve Seat and Guide K125

Reaming Tool Order Sheet K126

Application Hints K127

SIF Steerable Toolholders **K128–K134**

PCD Customized Tooling **K135–K138**

Romicron Fine-Boring System **K139–K180**

ModBORE Boring Systems **K182–K211**





Hole Finishing with Kennametal

Owning the entire process chain from raw materials all the way to reconditioning means Kennametal is almost the only source in the metalworking industry where you can get all types of Hole Finishing tooling, from reaming and fine boring to motion tooling, directly from one hand. Kennametal is capable of offering you customized solutions for your application that are the best fit for your machining challenge without any limitations, in regard to portfolio or capacity.

PCD Tooling

- Extremely productive and tailored for satisfying your high-volume production needs.
- Several standard PCD grades, like KD1415™ and KD1425™, are available to provide the highest tool life and cutting data as well as unmatched surface and diameter tolerance quality.
- Platforms are available depending on your application and preference from steel to carbide based, adjustable pocket seats, fine-boring components like Romicron™ or FB cartridges, spindle couplings, or SIF™ steerable adapters.



Multiflute Reaming

- RMS™, RMB™, and RHM™.
- Highly productive and easy to apply.
- Large, standard, off-the-shelf portfolio of solid carbide, cermet, carbide-tipped, and modular reaming tools, all ground to achieve H7 without any customization.
- Complex Specials with multiple steps, coupling, and length variations are available.
- Intermediate sizes, grades, and lead chamfers available with short delivery.



Padded Reaming

- RIQ™ Quattro Cut™ and RIR™.
- Highest precision and surface quality achievable but still easy to apply.
- RIQ is the market-leading reaming technology, enabling you to leave out any back taper adjustment, dramatically reducing setup time and effort while still offering highest accuracy and surface quality and four cutting edges with PCD, CBN, carbide, or cermet.
- RIR provides you the most stable pocket seat and fail-safe clamping, from smallest to largest diameters.
- Combine the large, standard RIQ and RIR insert offering with your customized tool body.



Fine Boring

- Romicron™ and ModBORE™.
- Extremely flexible, covering a very large diameter and length range.
- Offers the latest grade technology by using standard turning inserts.
- Romicron enables diameter modifications directly at the machine by hand without setup equipment or accuracy affecting lock screws.
- ModBORE offers a very large diameter range with each type of tool along with roughing to finishing tooling and can be easily and safely adapted to every KM™ spindle.



Motion Tooling

- Sophisticated tooling achieves most challenging tasks.
- Large, customized Complex Solution portfolio of:
  - Linear feed out heads.
  - Eccentric actuating heads.
  - Pivot heads.
  - Cylinder boring tools.
  - Line boring bars.
  - Bottle boring tools.
  - Valve seat and guide tools.
  - Machining center tools.
- Depending on your application and preference, tools are based on the positive-stop-principle; use drawbars, like with engineered solution machines, or don't require machining center modifications at all.



● first choice
○ alternate choice

			P	M	K	N	S	H	standard diameter range	standard diameter accuracy	engineered solution diameter range	engineered solution diameter accuracy	⌖	⏥
reaming tools		**RMS**™ reaming monoblock — solid carbide	●	●	●	●	○		5–14mm .196–.551"	IT7	1,4–25,4mm .056–1.00"	IT6 >10mm >.39"	10 µm .0004"	7 µm .0003"
		**RMB**™ reaming monoblock — brazed carbide/cermet	●	●	●	●	○		14–20mm .551–.787"	IT7	14–65mm .551–2.55"	IT6	10 µm .0004"	7 µm .0003"
		**RMB-E**™ (expandable) reaming monoblock — brazed carbide/cermet	●	●	●	●	○		14–42mm .551–1.65"	IT6	14–42mm .551–1.65"	IT5–IT6	10 µm .0004"	7 µm .0003"
		**RHM**™ reaming head — modular carbide/cermet	●	●	●	●	○		14–42mm .551–1.65"	IT7	14–50mm .551–1.96"	IT6	10 µm .0004"	7 µm .0003"
		**RHM-E**™ (expandable) reaming head — modular carbide/cermet	●	●	●	●	○		14–42mm .551–1.65"	IT6	14–42mm .551–1.65"	IT5–IT6	10 µm .0004"	7 µm .0003"
		**RIR**™ reamer insert — rectangular carbide	●	●	●	●	●	○	—	—	6–300mm .236–11.8"	IT5	10 µm .0004"	4 µm .0002"
		**Quattro Cut**™ **RIQ**™ reamer insert — Quattro Cut carbide/cermet/PCD/CBN	●	●	●	●	●	○	—	—	16–300mm .630–11.8"	IT5	10 µm .0004"	4 µm .0002"
		**RIQ MicroFinish** reamer insert — Quattro Cut carbide/cermet/PCD/CBN	●	●	●	●	●		—	—	16–300mm .630–11.8"	IT5	10 µm .0004"	4 µm .0002"
fine-boring tools		**Romicron**™ **SVU BB** fine boring carbide/cermet/PCD/CBN	●	●	●	●	●	○	4–100mm .157–3.93"	IT6	1,6–100mm .062–3.93"	IT6	5 µm .0002"	5–10 µm .0002–.0004"
		**Romicron SVS00B — 6B** fine boring carbide/cermet/PCD/CBN	●	●	●	●	●	●	25–139mm .984–5.47"	IT6	25–183mm .984–7.2"	IT6	5 µm .0002"	5–10 µm .0002–.0004"
		**Romicron SVU65/92** fine boring carbide/cermet/PCD/CBN	●	●	●	●	●	○	71–213mm 2.79–8.38"	IT6	10–326mm .394–12.83"	IT6	5 µm .0002"	5–10 µm .0002–.0004"
		**Romicron SVS M** fine boring carbide/cermet/PCD/CBN	●	●	●	○	●	○	>40mm >1.57"	IT6	40–1600mm 1.57–63.0"	IT6	5 µm .0002"	5–10 µm .0002–.0004"
		**Romicron Multicron** fine boring carbide/cermet/PCD/CBN	●	●	●	●	●	○	—	—	70–180mm 2.75–7.0"	IT6	5 µm .0002"	10–15 µm .0004–.0006"
		**ModBORE**™ **RBHT** roughing carbide/cermet/PCD/CBN	●	●	●	●	●		23,5–153mm .925–6.024"	IT9	23,5–153mm .925–6.0"	IT9	10 µm .0004"	>20 µm >.0008"
		**ModBORE FBHO** fine boring carbide/cermet/PCD/CBN	●	●	●	●	●	○	9,75–88,1mm .383–3.469"	IT7	3,0–88,1mm .118–3.4"	IT7	5 µm .0002"	5–10 µm .0002–.0004"
		**ModBORE FBHM** fine boring carbide/cermet/PCD/CBN	●	●	●	●	●	○	9,75–320mm .383–12.598"	IT7	3,0–320mm .118–12.5"	IT7	5 µm .0002"	5–10 µm .0002–.0004"
		**ModBORE FBHS** fine boring carbide/cermet/PCD/CBN	●	●	●	●	●	○	23,5–153mm .925–6.024"	IT7	23,5–153mm .925–6.0"	IT7	5 µm .0002"	5–10 µm .0002–.0004"
		**ModBORE Bridge Tools** roughing carbide/cermet/PCD/CBN	●	●	●	●	●		150–2205mm 5.9–86.8"	IT9	150–2205mm 5.9–86.8"	IT9	10 µm .0004"	>20 µm >.0008"
		**ModBORE Bridge Tools** fine boring carbide/cermet/PCD/CBN	●	●	●	●	●		150–2205mm 5.9–86.8"	IT7	150–2205mm 5.9–86.8"	IT7	5 µm .0002"	>10 µm >.0004"
		**Fine Boring Cartridges** fine boring carbide/cermet/PCD/CBN	●	○	●	●	○		>28mm >1.10"	IT7	>28mm >1.10"	IT7	5 µm .0002"	5–10 µm .0002–.0004"
PCD		**PCD** round tools — steel base				●			—	—	10–100mm .394–4.00"	IT6	10 µm .0004"	10 µm .0004"
		**PCD** round tools — carbide base				●			—	—	5–25mm .197–1.00"	IT6	5 µm .0002"	7 µm .0003"

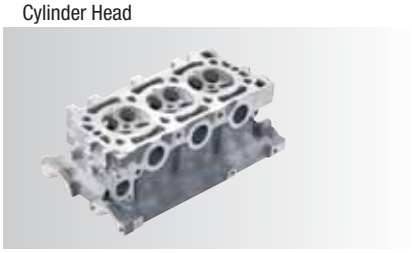
⏥ Cylindricity
NOTE: Process and application dependant.
Highly dependant on the premachine hole accuracy.
Use of high-performance drilling/premachining tools mandatory to reach values.

⌖ Position
NOTE: Process and application dependant.
Highly dependant on the premachine hole accuracy.
Use of high-performance drilling/premachining tools mandatory to reach values.

achievable surface quality Ra						capability				cost/part	cycle time	required operator experience	page(s)
P	M	K	N	S	H								
0,5–1,0 µm 20–40 µ-in	0,5–1,0 µm 20–40 µ-in	0,5–1,5 µm 20–60 µ-in	–	0,5–1,0 µm 20–40 µ-in	–	●	●	●	●	moderate	low	low	K94–K97
0,5–1,0 µm 20–40 µ-in	0,5–1,0 µm 20–40 µ-in	0,5–1,5 µm 20–60 µ-in	–	0,5–1,0 µm 20–40 µ-in	–	●	●	● carbide only	● carbide only	moderate	low	low	K98–K101
0,5–1,0 µm 20–40 µ-in	0,5–1,0 µm 20–40 µ-in	0,5–1,5 µm 20–60 µ-in	–	0,5–1,0 µm 20–40 µ-in	–	●	●	● carbide only	● carbide only	moderate	low	moderate	**please contact us**
0,5–1,0 µm 20–40 µ-in	0,5–1,0 µm 20–40 µ-in	0,5–1,5 µm 20–60 µ-in	–	0,5–1,0 µm 20–40 µ-in	–	●	●	● carbide only	● carbide only	moderate	low	low	K103–K106
0,5–1,0 µm 20–40 µ-in	0,5–1,0 µm 20–40 µ-in	0,5–1,5 µm 20–60 µ-in	–	0,5–1,0 µm 20–40 µ-in	–	●	●	● carbide only	● carbide only	moderate	low	moderate	**please contact us**
0,5–1,6 µm 20–63 µ-in	0,5–1,6 µm 20–63 µ-in	0,5–1,8 µm 20–72 µ-in	0,1–0,6 µm 4–24 µ-in	<0,8 µm <32 µ-in	<0,8 µm <32 µ-in	●	●	●	●	low	moderate	high	K118–K119
0,5–1,6 µm 20–63 µ-in	0,5–1,6 µm 20–63 µ-in	0,5–1,8 µm 20–72 µ-in	0,1–0,6 µm 4–24 µ-in	<0,8 µm <32 µ-in	<0,8 µm <32 µ-in	●	●	●	●	low	moderate	moderate	K119–K121
0,3–1,6 µm 12–63 µ-in	0,3–1,6 µm 12–63 µ-in	0,5–1,8 µm 20–72 µ-in	0,1–0,6 µm 4–24 µ-in	<0,8 µm <32 µ-in	–	●	●	●	●	low	moderate	moderate	K119–K121
0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	<1,2 µm <48 µ-in	●	●	○	○	low	moderate	low	K144–K149
0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	<1,2 µm <48 µ-in	●	●	●	●	low	moderate	low	K150–K151
0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	<1,2 µm <48 µ-in	●	●	○	○	low	moderate	low	K152–K154
0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	<1,2 µm <48 µ-in	●	●	●	●	low	moderate	low	K155–K156
0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	<1,2 µm <48 µ-in	●	●	○	○	low	low–moderate	low	**please contact us**
1,0–5,0 µm 40–200 µ-in	1,0–5,0 µm 40–200 µ-in	1,0–5,0 µm 40–200 µ-in	1,0–2,0 µm 40–80 µ-in	1,0–5,0 µm 40–200 µ-in	–	●	●	●	●	low	low	low–moderate	K185–K188
0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	<1,2 µm <48 µ-in	●	●	●	●	low	moderate	low–moderate	K189
0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	<1,2 µm <48 µ-in	●	●	●	●	low	moderate	low–moderate	K190–K191
0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	<1,2 µm <48 µ-in	●	●	●	●	low	moderate	low–moderate	K194
1,0–5,0 µm 40–200 µ-in	1,0–5,0 µm 40–200 µ-in	1,0–5,0 µm 40–200 µ-in	1,0–2,0 µm 40–80 µ-in	1,0–5,0 µm 40–200 µ-in	–	●	●	●	●	low	low	low–moderate	K196–K197
0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	–	●	●	●	●	low	moderate	low–moderate	K196–K197
0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	0,8–2,0 µm 32–80 µ-in	–	●	●	○	○	low	moderate	low–moderate	**please contact us**
–	–	–	0,1–0,8 µm 4–32 µ-in	–	–	●	●	●	●	low	very low	moderate	K135–K138
–	–	–	0,1–0,8 µm 4–32 µ-in	–	–	●	●	●	●	low	very low	moderate	K135–K138

Ra Surface roughness
NOTE: Surface roughness values are guidelines and depend on the application, coolant situation, machine, and cutting data applied.

Cylinder Head



RIQ™ QUATTRO CUT™ VALVE SEAT & GUIDE PARENT BORE

CHALLENGE

- Valve seat and guide parent bore machining combined.
- Tolerance range 8 µm.
- Cast iron.
- Machining center with internal coolant.

SOLUTION

- RIQ padded reamer with integrated hydraulic chuck.
- RIQ Full face CBN KB1630™ insert.
- RMS™ reamer for guide parent bore.

CUTTING DATA

- vc 425 m/min f 0,10 mm/rev valve seat.
- vc 130 m/min f 0,60 mm/rev valve guide.

RESULT

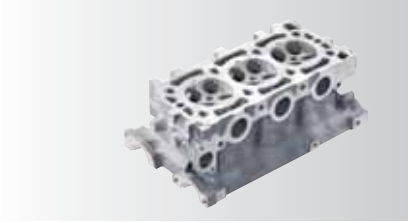
- **Four usable cutting edges per CBN insert.**
- **CBN RIQ insert with 28,000 bore tool life.**
- **1,400 bores with regrindable RMS reamer.**

BENEFIT

- **Cost savings due to four edged full face CBN insert.**
- **No insert back taper adjustment needed.**
- **Same RPM at both stages saving time of spindle acceleration and deceleration.**



Cylinder Head







Polished flutes
for improved
chip evacuation

PCD SEAT & GUIDE PARENT BORE PCDRSC04RLE

CHALLENGE

- Valve seat and guide parent bore machining combined.
- Tolerance range H7.
- Aluminum.
- Machining center with internal coolant.

SOLUTION

- PCD tipped, steel based tool (valve seat) with shrink in PCD tip, carbide based reamer (valve guide) with less than 4 µm total run out.

CUTTING DATA

- vc 344 m/min f 0,60 mm/rev valve seat.
- vc 985 m/min f 0,60 mm/rev valve guide.

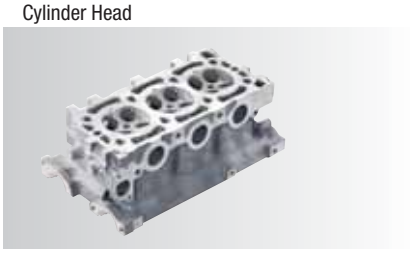
RESULT

- Tool life of 456,000 bores.

BENEFIT

- Productivity increases as same RPM applied to both seat and guide stages.
- Lowest possible run out resulting in higher tool life.

Cylinder Head





RIQ serration defines valve seat angle

RIQ™ QUATTRO CUT™ VALVE SEAT & GUIDE MACHINING

CHALLENGE

- Valve guide machining combined with primary and secondary seat angles.
- Sinter metal.
- Concentricity of seat to guide less than 50 µm.
- Machining center with internal coolant.

SOLUTION

- RIQ Valve Seat tooling with integrated hydraulic chuck.
- RIQ K68™ carbide inserts and solid carbide RMS™ multiflute reamer.

CUTTING DATA

- vc 80 m/min f 0,10 mm/rev valve seat.
- vc 80 m/min f 0,32 mm/rev valve guide.

RESULT

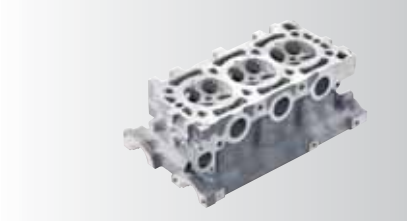
- **Tool life of 12,000 valve seats per insert.**

BENEFIT

- **Twelve usable cutting edges per carbide insert.**
- **Due to high precision RIQ pocket seat there is less setup effort as no angular adjustment of the insert is needed.**
- **Able to adapt RIR™ padded reamer machining the valve guide.**



Cylinder Head





RIQ serration defines valve seat angle



RIQ™ QUATTRO CUT™ VALVE SEAT & GUIDE MACHINING

CHALLENGE

- Valve guide machining combined with primary and secondary seat angles.
- Sinter metal.
- Concentricity of seat to guide less than 50 µm.
- Transfer line with internal coolant.

SOLUTION

- RIQ Valve Seat tooling with carbide bushing for Valve Guide reaming tools.
- RIQ KB1630™ insert with TiN wear indicator.
- RIR™ padded reamer machining.

CUTTING DATA

- vc 80 m/min f 0,07 mm/rev valve seat.
- vc 60 m/min f 0,14 mm/rev valve guide.

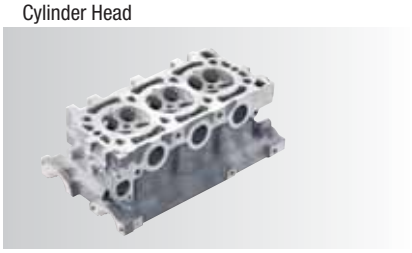
RESULT

- **Tool life of 18,000 valve seats per roughing insert.**
- **Tool life of 12,000 valve seats per roughing insert.**

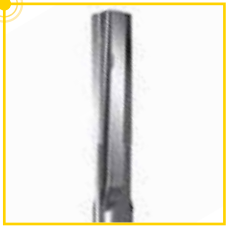
BENEFIT

- **Twelve usable cutting edges per full face CBN insert.**
- **Due to high precision RIQ pocket seat there is less setup effort as no angular adjustment of the insert is needed.**
- **Able to adapt RMS™ solid carbide reamer machining the valve guide.**

Cylinder Head







Semi finish stage
after pilot hole





PCD insert with
chipbreaker

RMS™ VALVE GUIDE MACHINING

CHALLENGE

- Valve guide bore Ø 6mm (.236").
- Tolerance range 12 µm H7.
- Brass material, lead free.
- Concentricity of seat to guide less than 50 µm.

SOLUTION

- RMS solid carbide reamer — engineered solution.
- Machining center — with semi finish stage for picking up pilot hole.
- Transfer line — without semi finish stage.

CUTTING DATA

- vc 30 m/min (98 SFM).
- f 0,42 mm/rev (.017 IPR).

RESULT

- **Tool life of 3,000 bores.**

BENEFIT

- **No presetting is needed.**
- **Productivity increases due to four effective cutting edges compared to one with padded reamers.**

RIR™ VALVE GUIDE MACHINING

CHALLENGE

- Valve guide bore Ø 6mm (.236").
- Tolerance range 12 µm H7.
- Brass material, lead free.
- Concentricity of seat to guide less than 50 µm.

SOLUTION

- RIR padded reamer with PCD guide pads.
- Single edged KD1415™ PCD insert with chip breaker.

CUTTING DATA

- vc 60 m/min (197 SFM).
- f 0,14 mm/rev (.006 IPR).

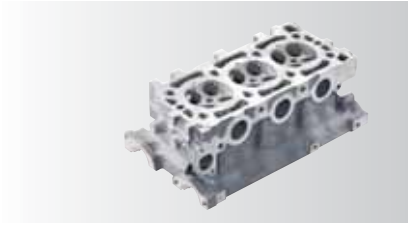
RESULT

- **Tool life of 100 bores.**
- **Surface finish Rz 6.3 µm.**

BENEFIT

- **Secure process due to very good chip control on lead free brass.**

Cylinder Head





MOTION TOOLING VALVE SEAT & GUIDE MACHINING

CHALLENGE

- Semi-finish and finish machining of primary seat angle and valve guide in one operation.
- Sinter metal.
- Transfer line with internal coolant.

SOLUTION

- Taper turning head with quill for reamer.

CUTTING DATA

- vc 271 m/min f 0,05 mm/rev valve seat.
- vc 60 m/min f 0,11 mm/rev valve guide.

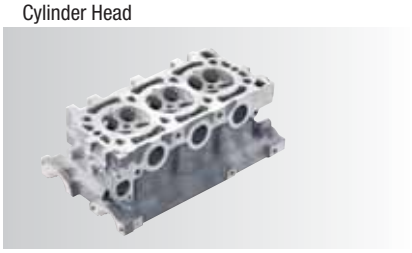
RESULT

- **Run out of guide to seat 7 µm.**
- **Cylindricity of guide 12 µm.**

BENEFIT

- **Higher accuracy of valve seat angles as machining result is independent from insert wear.**
- **Time saving combination with valve guide reamer.**

Cylinder Head







Polished flutes in for improved chip evacuation





Chipformer in carbide body

PCD STEP REAMING PCDCSC22RLE

CHALLENGE

- Valve lifter bore Ø 12mm (.472").
- Tolerance range 18 µm G7.
- Aluminum AlSi7Mg.
- Machining center with internal coolant.

SOLUTION

- PCD tipped, carbide based reamer and counter sinker with internal coolant.
- Four effective cutting and chamfering teeth.
- KD1415™.

CUTTING DATA

- vc 400 m/min (1.312 SFM).
- f 0,10 mm/rev (.004 IPR).

RESULT

- **Tool life of 125,000 holes.**
- **Surface finish better than Rz 1.5 µm.**

BENEFIT

- **Secure process and very good concentricity.**

PCD STEP REAMING PCDCSC02RLE

CHALLENGE

- Injector bore Ø 7,75–19,5mm (.305–.768").
- Tolerance range 5 µm.
- Aluminum G-AlSi7Mg.
- Machining center with internal coolant.

SOLUTION

- PCD tipped, carbide based tool with PCD guide pads at Ø 19,5mm and internal coolant.
- Two effective cutting and chamfering teeth.
- KD1415™.

CUTTING DATA

- vc 220 m/min (722 SFM).
- f 0,35 mm/rev (.014 IPR).

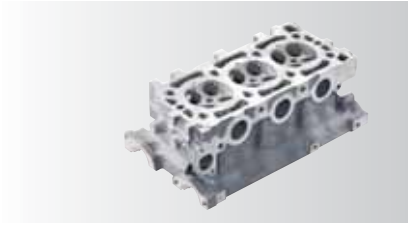
RESULT

- **Tool life of 400,000 bores.**
- **Surface finish better than Rz 3 µm.**

BENEFIT

- **Secure process due to chipformer in carbide body improving chip formation.**

Cylinder Head







RIQ pocket for indexing without adjustment

RIQ™ QUATTRO CUT™/RIR™ PADDED REAMING

CHALLENGE

- Injector bore Ø 10,3–41mm (.406–1.614").
- Tolerance range 18–25 µm H7.
- Cast iron GG25.
- Quick-change interface between first and second machining stage.

SOLUTION

- First stage: RIR reamer with RIQ profile insert.
- Second stage: RIQ padded multi step reamer.
- Radial actuated KST interface as stages have different tool life due to different diameters.

CUTTING DATA

• vc	23–90 m/min	n = 700 RPM.
• f	0,32 mm/rev	(.025 IPR).

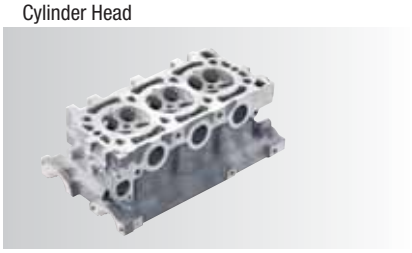
RESULT

- **Tool life of 1,000 components per insert edge.**
- **Surface finish better than Rz 16 µm.**

BENEFIT

- **No back taper adjustment needed with RIQ inserts.**
- **Front and back end of tool can be handled independently.**
- **RIQ pocket seat allows insert indexing without adjustment reaching < 20 µm axial run out.**

Cylinder Head





Self aligning
padded reamer

RIQ™ QUATTRO CUT™ PADDED REAMING

CHALLENGE

- Oil seal bore finishing Ø 56,4mm (2.220").
- Tolerance range 30 µm H7.
- Aluminum.
- Cambore to oil seal bore self alignment.
- Transfer line with internal coolant.

SOLUTION

- RIQ padded reamer with two PCD KD1415™ full-face inserts floating on finish machined cam bore.
- Self-aligning reamer body to ensure cam bore to oil seal bore concentricity.

CUTTING DATA

- vc 326 m/min (1.070 SFM).
- f 0,32 mm/rev (.004 IPR).

RESULT

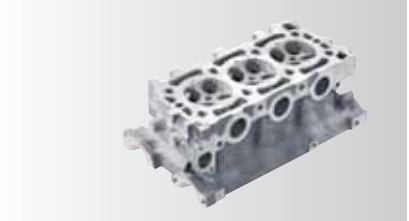
- **Tool life of 80,000 cylinder heads.**

BENEFIT

- **No insert back taper adjustment needed.**
- **Cost savings due to four edged full face PCD RIQ insert.**



Cylinder Head







Semi finish and finish stage combined

RIQ™ QUATTRO CUT™ PADDED REAMING

CHALLENGE

- Cambore finishing Ø 25mm (.984").
- Tolerance range 21 µm H7.
- Aluminum.
- Deflection less than 20 µm over total length.
- Machining center with internal coolant.

SOLUTION

- RIQ padded reamer with two PCD KD1415™ full-face inserts for semi-finishing and two PCD KD1415 full-face inserts for finishing.

CUTTING DATA

- vc 334 m/min (1.096 SFM).
- f 0,16 mm/rev (.006 IPR).

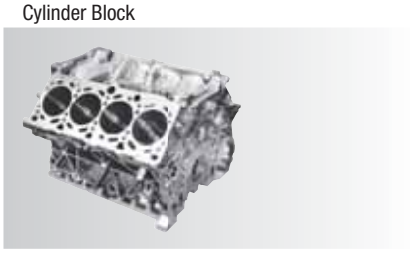
RESULT

- **Tool life of 160,000 cylinder heads.**
- **Surface finish Ra 0.3 µm.**

BENEFIT

- **No insert back taper adjustment is needed.**
- **Cost savings due to four edged full face PCD RIQ insert.**
- **Setup time reduction from 8 h with competitive tooling to less than 1/2 h with RIQ.**

Cylinder Block





Individual and simultaneous CLB adjustment

ROMICRON™ FINE BORING

CHALLENGE

- Cylinder bore Ø 78,45mm (3.089").
- Tolerance range 20 µm.
- Cast iron GG26.
- Replace low productivity reaming process.
- Machining center HSK100 with internal coolant.

SOLUTION

- Multicron engineered solutions tool with three finishing cartridges with individual set up and automatic wear compensation with front CLB knob.
- CPGW060204S01015C KB1630.

CUTTING DATA

- vc 1.281 m/min (4.200 SFM).
- f 0,42 mm/rev (.017 IPR).

RESULT

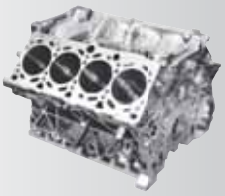
- **Tool life of 2,000 components per setup.**
- **Cylindricity 13 µm.**
- **Surface finish Ra 2.4 µm.**

BENEFIT

- **High productivity due to three cutting edges and automatic wear compensation inside of machine.**
- **Bore tolerance range of 20 µm easily and consistently achieved due to 1 µm per click in radius adjustment executed by machine.**



Cylinder Block







CLB screw for automatic wear compensation

MOTION TOOLING

CHALLENGE

- Cylinder bore Ø 75mm (2.953").
- Cast iron GG25.
- Semi-finish and finish operation combined in one tool with coolant pressure activated finish stage.
- Machining center with internal coolant.

SOLUTION

- Motion tool with feed out cartridges.
- Two channel coolant system with coolant supply for inserts and feed out cartridges.
- Solid CBN inserts with eight cutting edges KB1340™.

CUTTING DATA

- vc 600 m/min f 0,05 mm/rev semi-finish.
- vc 600 m/min f 0,11 mm/rev finish.

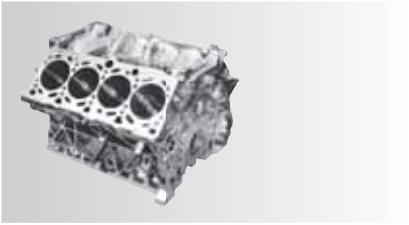
RESULT

- **Tool life of 2,000 bores per tooling setup.**
- **Cylindricity better than 8 µm.**

BENEFIT

- **Higher productivity as roughing at forward and finishing at backward movement — with coolant feed out.**
- **Finish diameter adjustable with CLB process.**
- **Improved cylindricity than two separate operations.**

Cylinder Block





Bayonet quick change system

ROMICRON™ FINE BORING

CHALLENGE

- Cylinder bore Ø 78,933mm (3.108").
- Cast iron GG25.
- Reduce setup and adjustment effort with roughing and finishing at various cylinder blocks.
- Engineered solutions vertical mill with internal coolant.

SOLUTION

- Romicron engineered solutions tool with quick-change interface and drawbar actuated finish cartridge.
- SNGN090308T00520 KY1615 roughing insert.
- CPMT09T308LF KT315™ finishing insert.

CUTTING DATA

- vc 580 m/min f 0,26 mm/rev roughing.
- vc 580 m/min f 0,19 mm/rev finishing.

RESULT

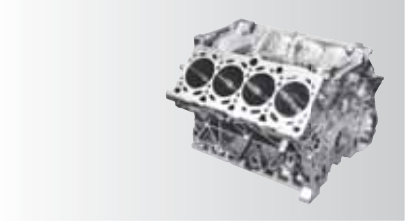
- **Tool life of 100 components per setup.**
- **Cylindricity 13 µm.**
- **Surface finish Ra 1.5 µm.**

BENEFIT

- **Bore tolerance easily and consistently achieved due to 1 µm per click in radius adjustment.**
- **Weight reduction from 11 kg to 1.8 kg.**
- **Setup time reduction from 1.5 h to 15 min.**
- **Secure process resulting in higher cpk value.**



Cylinder Block





ROMICRON™ FINE BORING

CHALLENGE

- Piston bore Ø 68mm (2.677").
- Tolerance range 30 µm.
- Cast iron.
- Machining center HSK100A with internal coolant.

SOLUTION

- Engineered solution SVS4B head.
- Two semi-finish and one finish cutting edge.
- TPGW110204S01015C KB1630™.

CUTTING DATA

- vc 595 m/min (1.952 SFM).
- f 0,15 mm/rev (.006 IPR).

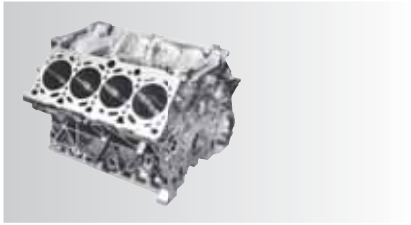
RESULT

- **Surface finish Ra 0.8 µm.**
- **Roundness better than 8 µm.**

BENEFIT

- **80% less adjustment time needed.**
- **Bore tolerance range of 30 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**

Cylinder Block



ROMICRON™ FINE BORING

CHALLENGE

- Cylinder bore Ø 96,9mm (3.815").
- Tolerance range 30 µm.
- Cast iron.
- Machining center with internal coolant.

SOLUTION

- Romicron standard KR50SVS4B094M head with engineered solution steep taper adaptor with chamfering inserts.
- CPGW060208S01015C KB1630™.

CUTTING DATA

- vc 600 m/min (1,969 SFM).
- f 0,30 mm/rev (.012 IPR).

RESULT

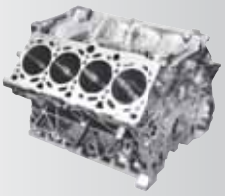
- **Tool life of 800 components.**
- **Surface finish Ra 3 µm.**

BENEFIT

- **High productivity increase as a result of 2x cutting speed and 40% higher feed rate compared to previous solution.**
- **Bore tolerance range of 30 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**



Cylinder Block





Semi and finishing stages combined



ROMICRON™ FINE BORING

CHALLENGE

- Cylinder bore Ø 103,17mm (4.062").
- Tolerance range 50 µm.
- Cast iron.
- Semi-finish and finish operation combined.
- Machining center HSK100A with internal coolant.

SOLUTION

- Romicron engineered solutions tool with two semi-finishing, one finishing and one chamfering cartridges.
- Automatic wear compensation with CLB.
- SCGW09T308S01015C KB1630™.

CUTTING DATA

- vc 1.000 m/min (3,281 SFM).
- f 0,25 mm/rev (.010 IPR).

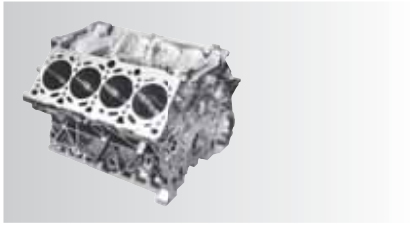
RESULT

- **Tool life of 450 components per cutting edge.**
- **Cylindricity less than 17 µm.**
- **Surface finish Ra 2,4 µm.**

BENEFIT

- **High productivity due to automatic wear compensation inside of machine.**
- **1 µm per click in radius adjustment.**

Cylinder Block





Individual
and simultaneous
CLB adjustment

ROMICRON™ FINE BORING

CHALLENGE

- Cylinder liner Ø 127,94mm (5.037").
- Cast iron GGzCrMo250.
- Increase productivity, reduce amount of constant stock for following honing process.
- Custom vertical lathe with internal coolant.

SOLUTION

- Multicron engineered solution tool with five finishing cartridges with HSK80C adaptor for facing and boring through feed-out system included.
- CPGW060204S01015C KB1630™.

CUTTING DATA

- vc 1.200 m/min (3,937 SFM).
- f 0,50 mm/rev (.020 IPR).

RESULT

- **Tool life of 4,000 components per setup.**
- **Cylindricity 8 µm.**
- **Surface finish Ra 2.0 µm.**

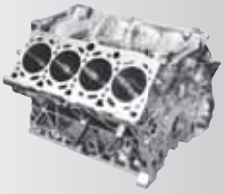
BENEFIT

- **High productivity due to five cutting edges.**
- **Bore tolerance range of 20 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**





Cylinder Block





1 µm per click
in radius adjustment

ROMICRON™ FINE BORING

CHALLENGE

- Crank bore finishing Ø 60mm (2.362").
- Tolerance range 30 µm.
- Cast iron GG25.
- Reduce setup and cycle time.
- Transfer line with internal coolant.

SOLUTION

- Line boring bar with Romicron standard cartridges KRMSVS00M055M.
- Semi-finishing and finishing operations in one.
- CPGT060204LF KC5010™.

CUTTING DATA

- vc 150 m/min f 0,2 mm/rev semi finish.
- vc 150 m/min f 0,12 mm/rev finish.

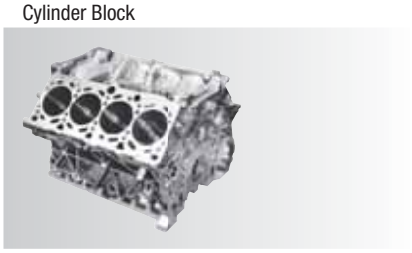
RESULT

- **Tool life of 120 components.**
- **Surface finish better than Rz 16 µm.**
- **Roundness better than 5 µm.**

BENEFIT

- **Semi-finishing operation during forward movement and finishing operation during backward movement of the workpiece.**
- **Use of standard of the shelf Romicron tooling with engineered solution line boring bar.**
- **Time saving due to low presetting effort with 1 µm per click in radius adjustment.**

Cylinder Block





Semi finish and
finish stage combined



FINE BORING

CHALLENGE

- Crank bore finishing Ø 37mm (1.457").
- Tolerance range 5 µm.
- Cast iron.
- Maintain tolerance for minimum of 50 bores.
- Machining center with internal coolant.

SOLUTION

- Line boring bar with tool bits adjusted by differential screw for more sensitivity.
- Dynamically balanced by design with axial holes ensuring highest stiffness of tool.

CUTTING DATA

- vc 160 m/min f 0,12 mm/rev semi-finish.
- vc 160 m/min f 0,08 mm/rev finish.

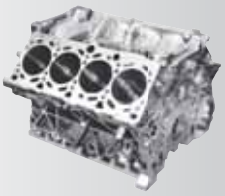
RESULT

- **Customer proprietary information.**

BENEFIT

- **Use of standard C-style inserts in LF reduce tooling costs in KCK15.**
- **Reduction of cycle time.**
- **Easy and fine adjustments ensure a stable process.**

Cylinder Block







RIQ chamfering, plunging and reaming insert

RIQ™ QUATTRO CUT™ PADDED REAMING

CHALLENGE

- Balancing shaft bore Ø 31–39mm.
- Cast iron.
- Reaming of three diameters, machining of three chamfers and one facing operation in one tool.
- Minimum quantity lubrication MQL.

SOLUTION

- RIQ padded reamer with one effective cutting edge combining chamfering, counter sinking and reaming stage in one tool, using two reaming RIQ and one special RIQ insert.

CUTTING DATA

- vc 100 m/min (328 SFM).
- f 0,14 mm/rev (.006 IPR).

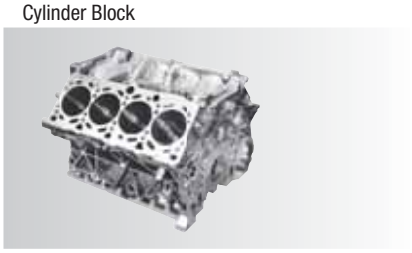
RESULT

- **Tool life of 8,000 bores per insert.**
- **Surface finish Rz 10 µm.**

BENEFIT

- **No insert back taper adjustment needed.**
- **Highest angular precision without any adjustment with RIQ at chamfering stage.**

Cylinder Block









KST pre-loaded taper face contact interface

RIQ™ QUATTRO CUT™ PADDED REAMING

CHALLENGE

- Dowel pin bore Ø 15,341mm (.604").
- Tolerance range 50 µm.
- Cast iron GG26Cr.
- Machining center with internal coolant.

SOLUTION

- RIQ padded reamer with HSK interface.
- Coated carbide KC6105™ RIQ inserts with four edges.

CUTTING DATA

- vc 70 m/min (328 SFM).
- f 0,13 mm/rev (.005 IPR).

RESULT

- **Tool life of 96,000 bores per insert.**

BENEFIT

- **No insert back taper adjustment needed.**

RHM™ MODULAR REAMING

CHALLENGE

- Position bore Ø 20mm (.787").
- Tolerance range 21 µm N7.
- Cast iron GG26Cr.
- Replace padded double-edged reamer.
- Machining center with internal coolant.

SOLUTION

- Special RHM head with six cutting edges.
- Engineered solution KC6105 TiN coated carbide grade.

CUTTING DATA

- vc 63 m/min (207 SFM).
- f 0,84 mm/rev (.033 IPR).

RESULT

- **Tool life of 336m.**

BENEFIT

- **8x higher productivity due to higher feed rate.**
- **Tool life increased by 240% when compared to previous solution.**

Conrod





ROMICRON™ FINE BORING

CHALLENGE

- Pin bore Ø 58,033mm (2.285").
- Brass.
- Combine finishing of crank and pin bore into one tool to increase productivity.
- Machining center with internal coolant.

SOLUTION

- Romicron engineered-solution tool with two Romicron mechanism in one tool body.
- KC5010™.

CUTTING DATA

- vc 450 m/min (1.476 SFM).
- f 0,10 mm/rev (.004 IPR).

RESULT

- **Tool life of 350 pin bores per insert.**
- **Surface finish better than Ra 1.0 µm.**
- **Cylindricity 5 µm.**

BENEFIT

- **Combination tool increases productivity.**
- **Bore tolerance range of 26 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**

ROMICRON™ FINE BORING

CHALLENGE

- Crank bore Ø 93,777mm (3.692").
- Steel C70.
- Combine finishing of crank and pin bore into one tool to increase productivity.
- Machining center with internal coolant.

SOLUTION

- Romicron engineered solution tool with two Romicron mechanism in one tool body.
- KT315™.

CUTTING DATA

- vc 400 m/min (1.312 SFM).
- f 0,10 mm/rev (.004 IPR).

RESULT

- **Tool life of 260 crank bores per insert.**
- **Surface finish better than Ra 1.0 µm.**
- **Cylindricity 5 µm.**

BENEFIT

- **Combination tool increases productivity.**
- **Bore tolerance range of 26 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**



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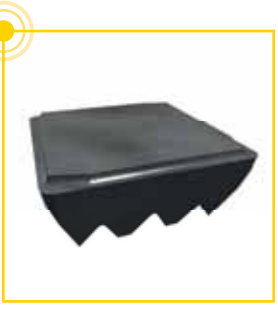
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Conrod





RIQ cermet insert with chip former geometry



RIQ™ QUATTRO CUT™ PADDED REAMING

CHALLENGE

- Pin bore Ø 19mm (.748").
- Tolerance range 33 µm H8.
- Steel C70.
- Entry/exit inclined and chip control improvement.
- Transfer line with MQL internal coolant.

SOLUTION

- RIQ padded reamer with two axial staggered RIQ inserts in microfinishing setup.
- Coated cermet RIQ inserts with four edges and special chip former.

CUTTING DATA

- vc 200 m/min (328 SFM).
- f 0,20 mm/rev (.006 IPR).

RESULT

- **Tool life of more than 5,000 components per insert.**
- **Surface finish Rz 12–14 µm.**
- **Cylindricity 5 µm.**

BENEFIT

- **No insert back taper adjustment needed.**
- **High productivity increase due to higher feed rate when compared to previous fine boring tools.**
- **Very short chips improve chip evacuation.**
- **Secure process as surface requirement of Rz 8 µm to Rz 16 µm are achieved.**

Conrod





Individual and simultaneous CLB adjustment

ROMICRON™ FINE BORING

CHALLENGE

- Crank bore Ø 91,24mm (3.592").
- Steel C70.
- Increase productivity with semi-finishing and finishing operations.
- Transfer line with internal coolant.



SOLUTION

- Multicron quick-change engineered-solution tool with three semi-finishing and three finishing cartridges.
- Drawbar CLB adjustment of finishing inserts.
- SCMT09T308LF KT315™.



CUTTING DATA

- vc 230 m/min (820 SFM).
- f 0,36 mm/rev (.014 IPR).

RESULT

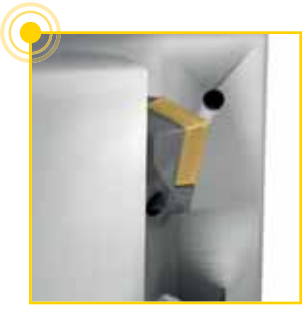
- **Tool life of 2,320 conrods per insert.**
- **Surface finish Ra 1,0 µm.**
- **Cylindricity 2 µm.**

BENEFIT

- **High productivity due to three cutting edges.**
- **Quick-change coupling to enable individual cartridge setup at multicron finishing stage.**
- **Bore tolerance range of 22 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**

Conrod





Double feed out mechanism

ROMICRON™ MOTION TOOLING



CHALLENGE

- Crank bore Ø 98,82mm (3.891").
- Tolerance range 26 µm.
- Steel C70.
- Drawbar actuated solution to semi-finish, finish, and chamfer both sides of the crank bore.

SOLUTION

- Motion tool based on Romicron with double feed out mechanism and fixed insert cartridges.
- SCMT09T308LF KC5010™.

CUTTING DATA

- vc 230 m/min (755 SFM).
- f 0,12 mm/rev (.005 IPR).

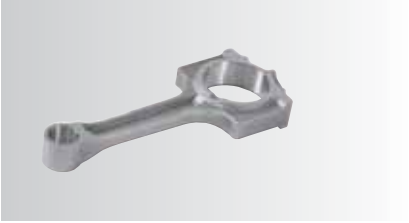
RESULT

- **Tool life of 600 conrods per insert.**
- **Surface finish Ra 1.0 µm.**
- **Cylindricity 2 µm.**

BENEFIT

- **Very stable and highly productive process as multiple operations are combined.**
- **Blue print solution for various types of conrods at customer site.**

Conrod



ROMICRON™ FINE BORING

CHALLENGE

- Pin bore Ø 16,77mm (660").
- Crank bore Ø 20,77mm (.818").
- Steel C70.
- Combines roughing, semi-finishing, and finishing operation into one tool.

SOLUTION

- Romicron standard head HSK63ASVUBB2116M with engineered-solution boring bar.
- CPMT060204LF KC5010™.

CUTTING DATA

- vc 120 m/min f 0,10 mm/rev roughing.
- vc 120 m/min f 0,05 mm/rev finishing.

RESULT

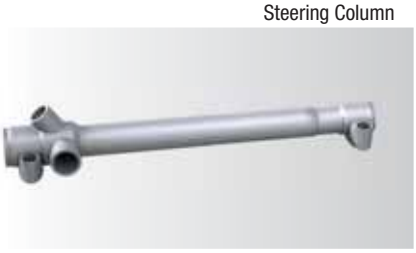
- **Tool life of 2,500 components per insert edge.**
- **Surface finish Ra 0.5 µm.**
- **Cylindricity 3 µm.**

BENEFIT

- **Productivity increase due to combination tool.**
- **Bore tolerance range of 20 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**



Steering Column







Adjustable cartridge
with PCD insert

PCD COUNTERSINKING PCDCSTM03RLE

CHALLENGE

- Bore Ø 26,2; 37,6; and 44mm.
- Tolerance range 21 µm N7.
- Aluminum G-AlSi9Cu3.
- Varying depth of cut ca. 1,5mm.
- Machining center with internal coolant.

SOLUTION

- PCD tipped, steel-based tool with internal coolant.
- Three effective cutting teeth; KD1415™.
- Standard cartridge SCFCR08CA06 achieves required surface finish range.

CUTTING DATA

- vc 500 m/min (1,640 SFM).
- f 0,30 mm/rev (.012 IPR).

RESULT

- **Surface finish Ra 1.6–2.3 µm.**

BENEFIT

- **Secure process.**

Steering Column



PCD COUNTERSINKING PCDCSTA03RLE

CHALLENGE

- Bore Ø 17,07; 39,1; and 50,9mm.
- Tolerance range 21 µm N7.
- Aluminum G-AlSi10Mg.
- Varying depth of cut ca. 2,5mm.
- Machining center with internal coolant.

SOLUTION

- PCD tipped, steel-based tool with SIF™ steerable interface and internal coolant.
- Three effective cutting and chamfering teeth.
- KD1415™.

CUTTING DATA

- vc 600 m/min (1,969 SFM).
- f 0,30 mm/rev (.012 IPR).

RESULT

- **Tool life of 2,000 meters.**

BENEFIT

- **Productivity increased due to higher cutting data.**



Gear Housing





PCD STEP REAMING PCDRSCA04RLE

CHALLENGE

- Bearing bore Ø 13,5 and 18mm.
- Tolerance range 18 µm H7.
- Aluminum G-AlSi10Mg.
- Varying depth of cut ca. 0,5mm.
- Machining center with internal coolant.

SOLUTION

- PCD tipped, carbide-based tool shrinked in SIF™ steerable interface with internal coolant.
- Four effective cutting teeth.
- KD1415™.

CUTTING DATA

- vc 230 m/min (755 SFM).
- f 0,25 mm/rev (.010 IPR).

RESULT

- **Surface finish Ra 0.2 µm.**

BENEFIT

- **Secure process.**

Gear Housing





Adjustable PCD pocket seat

PCD COUNTERSINKING PCDCSTMJ04RLE

CHALLENGE

- Bearing bore Ø 40, 62, 85mm.
- Tolerance range 25 µm S7.
- Aluminum AlSi9Cu3.
- Machine three different diameters with one tool.
- Machining center with internal coolant.

SOLUTION

- PCD tipped, steel-based tool with adjustable pocket seats, SIF™ steerable interface and internal coolant.
- Four effective cutting and chamfering teeth; KD1415™.

CUTTING DATA

• vc	630–1,340 m/min	n = 5,010 RPM.
• f	0,32 mm/rev	(.013 IPR).

RESULT

- **Tool life of 500 workpieces.**

BENEFIT

- **Secure process with only 1.2 sec cutting time per operation.**
- **Higher productivity due to combining three operations into one tool.**
- **Very stable process without chip control issues.**



Gear Housing





Highly uneven spacing

PCD STEP REAMING PCDRSTM06RLE

CHALLENGE

- Bearing bore Ø 130mm.
- Tolerance range 25 µm S6.
- Aluminum AlSi8Cu3.
- Varying depth of cut ca. 0,5–5mm.
- Machining center with internal coolant.



SOLUTION

- PCD tipped, steel-based tool with HSK interface and internal coolant.
- Six effective cutting and chamfering teeth in positive cutting position; KD1415™.

CUTTING DATA

- vc 350 m/min (1,148 SFM).
- f 0,60 mm/rev (.024 IPR).

RESULT

- **Tool life increase versus previous solution.**
- **Surface finish Ra 0.2 µm.**

BENEFIT

- **Secure process.**

Gear Housing



PCD REAMING PCDRSTA03RLE

CHALLENGE

- Bearing bore Ø 35mm (.984").
- Tolerance range 21 µm H7.
- Aluminum G-AlSi10Mg.
- Pre-drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

SOLUTION

- PCD tipped, steel-based tool with SIF™ steerable interface and internal coolant.
- Three effective cutting and chamfering teeth.
- KD1415™.

CUTTING DATA

- vc 235 m/min (771 SFM).
- f 0,30 mm/rev (.012 IPR).

RESULT

- **Tool life of 100,000 holes.**
- **Surface finish Ra 0.2 µm.**

BENEFIT

- **Secure process despite high L/D ratio.**
- **Very good surface quality.**



Gear Housing





PCD REAMING PCDRSC02RLE

CHALLENGE

- Index bore Ø 11,5mm (.435").
- Tolerance range 18 µm H7.
- Aluminum G-AlSi10Mg.
- Varying depth of cut ca. 3mm.
- Machining center HSK63A with internal coolant.

SOLUTION

- PCD tipped, carbide based tool with shrink in HSK63A adapter with internal coolant.
- Two effective cutting and chamfering teeth.
- KD1415™.

CUTTING DATA

- vc 1,005 m/min (3,297 SFM).
- f 0,16 mm/rev (.024 IPR).

RESULT

- **Tool life of 200,000 holes.**
- **Surface finish Ra 0.2 µm.**

BENEFIT

- **Secure process and very good surface quality.**
- **Very short overhang length resulting in very good stability.**

Gear Housing



PCD REAMING PCDRSTA04RLE

CHALLENGE

- Bearing bore Ø 80mm (3.150").
- Tolerance range 30 µm H7.
- Aluminum G-AlSi10Mg.
- Pre-drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

SOLUTION

- PCD tipped, steel-based tool with SIF™ steerable interface and internal coolant.
- Four effective cutting and chamfering teeth.
- KD1415™.

CUTTING DATA

- vc 400 m/min (1,312 SFM).
- f 0,32 mm/rev (.013 IPR).

RESULT

- **Tool life of more than 30,000 components.**
- **Surface finish Ra 0.2 µm.**

BENEFIT

- **Secure process and very good surface quality.**



Gear Housing





PCD MULTI-OPERATION TOOL PCDMSTA04RLE

CHALLENGE

- Bearing bore Ø 28 and 90mm.
- Tolerance range 21 and 35 µm H7.
- Aluminum G-AlSi10Mg.
- Pre-drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

SOLUTION

- PCD tipped, steel-based tool with two individual adjustable SIF™ steerable interfaces and internal coolant.
- Four effective cutting teeth.
- KD1415™.

CUTTING DATA

- vc 400 m/min (1,312 SFM).
- f 0,32 mm/rev (.013 IPR).

RESULT

- **Tool life of more than 95,000 holes.**
- **Surface finish Ra 0.2 µm.**

BENEFIT

- **Secure process and very good surface quality.**

Gear Housing



PCD STEP REAMING PCDRSTM04RLE

CHALLENGE

- Bearing bore Ø 80 and 120mm.
- Tolerance range 30 and 35 µm H7.
- Aluminum G-AlSi7Mg.
- Pre-drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

SOLUTION

- PCD tipped, steel-based tool with HSK63A interface and internal coolant.
- Four effective cutting teeth.
- KD1415™.

CUTTING DATA

- vc 800 m/min (2,625 SFM).
- f 0,32 mm/rev (.013 IPR).

RESULT

- **Tool life of more than 400 min.**
- **Surface finish Ra 0.2 µm.**

BENEFIT

- **Secure process and very good surface quality.**
- **Tool life increase versus previous solution.**



Gear Housing





PCD COUNTERSINKING PCDCSTA03RLE

CHALLENGE

- Bearing bore Ø 81,25 and 90,3mm.
- Tolerance range 30 and 35 µm H7.
- Aluminum G-AlSi7Mg.
- Pre drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

SOLUTION

- PCD tipped, steel-based tool with SIF™ steerable interface and internal coolant.
- Three effective cutting and chamfering teeth.
- KD1415™.

CUTTING DATA

- vc 400 m/min (1,312 SFM).
- f 0,30 mm/rev (.012 IPR).

RESULT

- **Tool life of 10,000 components.**
- **Surface finish Ra 0.2 µm.**

BENEFIT

- **Secure process and very good surface quality.**

Gear Housing



PCD STEP REAMING PCDRSTA03RLE

CHALLENGE

- Bearing bore Ø 17,984 and 66,037mm.
- Tolerance range 8 and 20 µm.
- Aluminum GD-AlSi7.
- Pre-drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

SOLUTION

- PCD tipped, steel-based tool with SIF™ steerable interface and internal coolant.
- Three effective cutting teeth.
- KD1415™.

CUTTING DATA

- vc 315 m/min f 0,24 mm/rev Ø 17,984 mm.
- vc 1.156 m/min f 0,15 mm/rev Ø 66,037 mm.

RESULT

- **Tool life of 35,000 components.**
- **Surface finish Ra 0.2 µm.**

BENEFIT

- **Secure process and very good surface quality.**
- **Achieves high concentricity and straightness.**



Gear Housing





PCD PROFILE MILLING PCDPSTM04E

CHALLENGE

- Retraining grooves Ø 60,4 and 90,7mm.
- Tolerance range 60 µm.
- Aluminum G-AlSi10Mg.
- Pre drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

SOLUTION

- PCD tipped, steel-based tool with HSK63A interface and internal coolant.
- Four effective cutting teeth.
- KD1415™.

CUTTING DATA

- vc 1,500 m/min (4,921 SFM).
- f 0,06 mm/rev (.002 IPR).

RESULT

- **Tool life of 50,000 parts.**
- **Surface finish better than Ra 0.4 µm.**

BENEFIT

- **Secure process.**
- **Combining two operations in one tool increases productivity.**
- **High accuracy in the distance between the two machined grooves.**



PCD PROFILE MILLING PCDPSTM04E

CHALLENGE

- Retraining grooves Ø 58, 58,6 and 60mm.
- Tolerance range 25 µm.
- Aluminum G-AlSi10Mg.
- Pre drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

SOLUTION

- PCD tipped, steel based tool with HSK63A interface and internal coolant.
- Four effective cutting teeth.
- KD1415™.

CUTTING DATA

- vc 1,500 m/min (4,921 SFM).
- f 0,06 mm/rev (.002 IPR).

RESULT

- **Tool life of 50,000 work pieces.**
- **Surface finish better than Ra 0.2 µm.**

BENEFIT

- **Combining machining operations increases productivity.**
- **Excellent dimensional accuracy.**

Differential Housing



ROMICRON™ FINE BORING

CHALLENGE

- Bearing bores Ø 60,22 and 88,85mm.
- Tolerance range 17 µm.
- Ductile cast iron GGG50.
- Finishing, back boring, and chamfering in one tool.
- Machining center HSK100A with internal coolant.

SOLUTION

- Dynamically balanced Romicron engineered solution.
- Individual adjustment of fine boring and back boring stages.
- CPGT060204LF KC5010™.

CUTTING DATA

- vc 200 m/min (656 SFM).
- f 0,12 mm/rev (.005 IPR).

RESULT

- **Tool life of 240 components per insert.**
- **Surface finish Ra 1.6 µm.**

BENEFIT

- **Bore tolerance range of 17 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**



Differential Housing





SPHX insert for
precise 90° shoulder



PCD STEP REAMING

CHALLENGE

- Pin bore Ø 60mm (2.362").
- Tolerance range 19 µm H6.
- Ductile cast iron GGG40.
- Finishing bore and 90° shoulder to Ø 55mm.
- Machining center with internal coolant.

SOLUTION

- Standard Romicron KM50SVS2B107M head with engineered solution cartridge.
- SPHX060204R21 KC7215™ standard double-edged countersinking insert.

CUTTING DATA

- vc 180 m/min (590 SFM).
- f 0,05 mm/rev (.002 IPR).

RESULT

- **Tool life of 4,000 components per insert.**
- **Surface finish Ra 1.6 µm.**

BENEFIT

- **All requirements regarding perpendicularity achieved.**
- **Bore tolerance range of 19 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**

Differential Housing





Adjustable pocket seat

PCD STEP REAMING PCDRSTA04RLE

CHALLENGE

- Bore Ø 40 and 55mm (1.575 and 2.165").
- Tolerance range 30 µm R7.
- Aluminum GD-AlSi10Mg.
- Fine boring two diameters with one tool.
- Machining center with internal coolant.

SOLUTION

- PCD steel-based fine boring tool with four effective cutting edges, adjustable pocket seats at Ø 55mm, SIF™ steerable interface, and internal coolant.
- CCMT060202 KM™one uncoated carbide.

CUTTING DATA

- vc 340 and 520 m/min n = 3,000 RPM.
- f 0,60 mm/rev (.024 IPR).

RESULT

- **Tool life of more than 15,000 components per insert.**
- **Surface finish Rz 10–12 µm.**
- **Cylindricity better than 20 µm.**

BENEFIT

- **All requirements regarding perpendicularity, roundness, and surface quality between Rz 8 µm and Rz 16 µm continuously achieved.**
- **Higher productivity due to combining three operations in one tool.**



Water Pump Housing





PCD COUNTERSINKING PCDCSTA03RLE

CHALLENGE

- Bore positions of Ø 21 and 24mm (.827 and .945").
- Tolerance range 13 and 33 µm.
- Aluminum AlSi9Cu3.
- Pre drilled hole with 0,5mm depth of cut.
- Machining center HSK63A with internal coolant.

SOLUTION

- PCD tipped, steel-based tool with adjustable pocket seats, SIF™ steerable interface and internal coolant.
- Four effective cutting teeth; KD1415™.

CUTTING DATA

- vc 600 m/min (1,969 SFM).
- f 0,12 mm/rev (.005 IPR).

RESULT

- **Tool life of 80000 components.**
- **Surface finish Rz 0.8 µm with Ø 21mm and Rz 12 µm with Ø 24mm.**

BENEFIT

- **All requirements regarding perpendicularity, roundness, and surface quality between Rz 8 µm and Rz 15 µm at Ø 24mm are continuously achieved.**

Water Pump Housing



PCD MULTI-OPERATION TOOL PCDMSC02CCE

CHALLENGE

- Position bore Ø 7,9mm (.311").
- Tolerance range 22 µm H8.
- Aluminum AlSi9Cu3.
- Combine drilling, back chamfering, and facing.
- Machining center BT40 with internal coolant.

SOLUTION

- Solid carbide, PCD tipped, steel-based tool with back chamfering capability and internal coolant.
- Two effective cutting teeth.
- KD1415™.

CUTTING DATA

- vc 350 m/min (1,148 SFM).
- f 0,20 mm/rev (.008 IPR).

RESULT

- **Tool life of 50000 components.**
- **Surface finish Rz 0.8 µm.**

BENEFIT

- **Higher productivity due to combining three operations in one tool.**



Water Pump Housing





PCD STEP REAMING PCDRSTM04RLE

CHALLENGE

- Bearing bores Ø 10,14–18,45mm.
- Tolerance range 3–10 µm.
- Aluminum GD-AlSi9Cu3.
- Pre-casted hole with 0,3mm depth of cut.
- Machining center HSK32A with internal coolant.

SOLUTION

- PCD tipped, steel-based tool with adjustable pocket seats, SIF™ steerable interface and internal coolant.
- Four effective cutting teeth.
- KD1415™.

CUTTING DATA

- vc 89–162 m/min n = 2800 RPM.
- f 0,4 mm/rev (.015 IPR).

RESULT

- **Tool life of 40,000 components.**
- **Surface finish Rz 0.8 µm.**

BENEFIT

- **The quality criterion with an exact alignment of rightness, concentricity, and a high value of surface quality was reached.**

Water Pump Housing



PCD END MILLING PCDESTM05E

CHALLENGE

- Face milling of connection face Ø 32mm.
- Aluminum AlSi10Mg.
- Casted face with 2,5mm depth of cut.
- Machining center HSK63A with internal coolant.

SOLUTION

- PCD tipped, steel-based end mill with HSK63A interface and internal coolant.
- Five effective cutting teeth.
- KD1415™.

CUTTING DATA

- vc 1,005 m/min (3,294 SFM).
- f 0,06 mm/rev (.002 IPR).

RESULT

- **Tool life of 3,000 min.**
- **Surface finish Ra 0.3 µm.**

BENEFIT

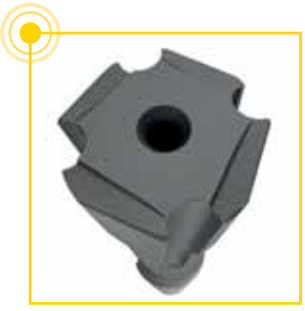
- **Very low burr formation.**



Planetary Gear Carrier







Chip control geometry

RMS™ MULTIFLUTE REAMING

CHALLENGE

- Bearing bores Ø 8,8mm (.346").
- Tolerance range 9 µm M6.
- Steel 42CrMo4 and 31CrMoV9.
- Increase tool life with long chipping material.
- Machining center with internal coolant.

SOLUTION

- RMS engineered-solution reamer with four effective cutting edges, internal coolant hole, and coolant channels at shank.
- KC6305™ TiAlN coated carbide.

CUTTING DATA

- vc 70 m/min (230 SFM.).
- f 0,30 mm/rev (.012 IPR).

RESULT

- **Tool life of 300 components.**
- **Surface finish Rz 1.0–2.0 µm.**

BENEFIT

- **All requirements regarding perpendicularity, roundness, and surface quality below Rz 4 µm are continuously achieved.**

Planetary Gear Carrier



ROMICRON™ FINE BORING

CHALLENGE

- Bearing bores Ø 35 and 36,5mm.
- Tolerance range 20 µm.
- Steel 20MnCr5.
- Replace padded step reamer.
- Machining center with internal coolant.

SOLUTION

- Romicron standard heads KR32SVS0B93M and HSK63ASVS0B117M.
- CCMT06020411 KT315™ cermet insert.

CUTTING DATA

- vc 290 m/min (230 SFM).
- f 0,10 mm/rev (.012 IPR).

RESULT

- **Surface finish better than Ra 1.0 µm.**
- **Cylindricity better than 5 µm.**

BENEFIT

- **More than 25% reduction in machining time.**
- **Removing setup of padded reamer outside of the machine results in increased up time.**
- **Bore tolerance range of 20 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**



Planetary Gear Carrier







Padded reaming pin machining

RIQ™ QUATTRO CUT™ PADDED REAMING

CHALLENGE

- Bearing pin machining Ø 45mm (1.772").
- Tolerance range 16 µm k6.
- Ductile cast iron GGG40.
- Surface quality of Rmax 10 µm to achieve.
- Special dimensional accuracy requirement.

SOLUTION

- RIQ padded reamer with SIF™ steerable tooling interface and special gashing for external coolant supply.
- Balanced by design and fine balanced.

CUTTING DATA

- vc 105 m/min (344 SFM).
- f 0,06 mm/rev (.002 IPR).

RESULT

- **Surface finish better than Rz 2.5 µm.**
- **Roundness 3 µm.**
- **Cylindricity 6 µm.**

BENEFIT

- **No insert back taper adjustment needed.**
- **Faster setup and less scrap.**

Brake Caliper



RMB™ MULTIFLUTE REAMING

CHALLENGE

- Main bore Ø 54mm (2.126").
- Tolerance range 50 µm.
- Cast iron.
- Machining center BT50 with internal coolant.

SOLUTION

- UpSharp engineered-solution carbide tipped reamer with 12 cutting edges, clamped in standard Shrink Fit holder.
- TICN coated carbide.

CUTTING DATA

- vc 90 m/min (295 SFM).
- f 1,21 mm/rev (.048 IPR).

RESULT

- **Tool life of 1,500–2,000 components.**
- **Surface finish Ra 2–2.4 µm.**

BENEFIT

- **Rigid design enables high feed rates increasing productivity.**
- **Reduces setup effort by using standard tooling with Shrink Fit adapter.**
- **Regrindable up to 5x.**



Brake Caliper





RMS™ MULTIFLUTE REAMING

CHALLENGE

- Pin hole Ø 12mm (.472").
- Tolerance range 30 µm.
- Cast iron.
- Machining center HSK63A with internal coolant.

SOLUTION

- UpSharp engineered-solution solid carbide reamer with six cutting edges.
- TICN coated carbide.

CUTTING DATA

- v_c 75 m/min (246 SFM).
- f 0,8 mm/rev (.031 IPR).

RESULT

- **Tool life of 5,000 holes.**
- **Surface finish Ra 1.0 µm.**

BENEFIT

- **Productivity increase.**
- **Longer tool life than competition.**
- **Ease of use due to shrink technology.**

Brake Caliper



RIR™ PADDED REAMING

CHALLENGE

- Main bore Ø 60mm (2.362").
- Tolerance range 46 µm H8.
- Cast iron.
- Obsolete honing process and produce undercut in the caliper bore.

SOLUTION

- RIR padded reamer with end cutting radius profile insert.
- Coated carbide RIR insert with two edges.
- KC6305™.

CUTTING DATA

- vc 70 m/min (230 SFM).
- f 0,12 mm/rev (.005 IPR).

RESULT

- **Tool life of 800 components per insert.**
- **Surface finish better than Ra 1.6 µm.**

BENEFIT

- **Bore tolerance range of 46 µm easily and consistently achieved.**
- **Cuts cost by eliminating honing and additional undercut operations.**



Brake Caliper





RIQ™ QUATTRO CUT™ PADDED REAMING

CHALLENGE

- Main bore Ø 54,02mm (2.127").
- Tolerance range 40 µm.
- Cast iron GGG.
- Reduce setup time and cost per part.

SOLUTION

- RIQ padded reamer with customer specific shank.
- Coated carbide RIQ insert with four edges.
- KC6305™.

CUTTING DATA

- vc 80 m/min (262 SFM).
- f 0,40 mm/rev (.016 IPR).

RESULT

- **Tool life of 16,000 bores per insert.**
- **Surface finish better than Ra 1.6 µm.**

BENEFIT

- **No insert back taper adjustment needed.**
- **High cost savings due to more than 100% increase in tool life.**

Brake Caliper



PCD REAMING PCDRSTM04RLE

CHALLENGE

- Main bore Ø 42mm (1.654").
- Tolerance range 8 µm.
- Aluminum.
- Varying depth of cut between 1–2mm.
- Machining center with internal coolant.

SOLUTION

- PCD tipped, steel-based tool with HSK63A interface and internal coolant.
- Four effective cutting teeth.
- KD1415™.

CUTTING DATA

- vc 500 m/min (1,640 SFM).
- f 1 mm/rev (.039 IPR).

RESULT

- **Tool life of 400,000–600,000 bores.**
- **Surface finish better than Ra 1.6 µm.**

BENEFIT

- **Secure process and high tool life.**
- **Productivity increase compared to previous solution.**



Brake Caliper







Producing two different diameter

RMB™ MULTIFLUTE REAMING

CHALLENGE

- Location holes Ø 39 and 40mm.
- Tolerance range 39 µm H8.
- Cast iron GGG60.
- Produce both diameters with one tool.
- Machining center with internal coolant.

SOLUTION

- RMB engineered-solution carbide tipped reamer with 10 teeth and internal coolant supply.
- KC6305™ TiAlN coated carbide.

CUTTING DATA

- vc 70 m/min (230 SFM).
- f 3,30 mm/rev (.130 IPR).

RESULT

- **Tool life of 5,000 holes.**
- **Surface finish Rz 20 µm better than required Rz 25 µm.**

BENEFIT

- **Very stable and highly productive process as multiple operations are combined at very high cutting data.**

Brake Master Cylinder





RIQ PCD insert with chip former geometry

RIQ™ QUATTRO CUT™ PADDED REAMING

CHALLENGE

- Piston bore Ø 25,431mm (1.001").
- Tolerance range 10 µm.
- Aluminum AlSi7.
- Combine multiflute and padded reaming process.
- Round table machine with internal coolant.

SOLUTION

- RIQ padded reamer in angular micro finishing setup with semi- and fine-finishing inserts.
- RIQ full face PCD KD1415™ as finishing insert.

CUTTING DATA

- vc 360 m/min (1,181 SFM).
- f 0,24 mm/rev (.009 IPR).

RESULT

- **Tool life of 1,600 bores per insert.**
- **Surface finish better than Ra 0.4 µm.**
- **Cylindricity 7 µm.**

BENEFIT

- **No insert back taper adjustment needed.**
- **Higher productivity due to combining two operations in one tool and increasing feed by more than 30%.**
- **Very stable process without chip control issues.**
- **Better cylindricity than requested.**



Brake Master Cylinder





RIQ™ QUATTRO CUT™ PADDED REAMING

CHALLENGE

- Piston bore Ø 25,431mm (1.001").
- Tolerance range 10 µm.
- Ductile cast iron.
- Replace honing process with reaming.
- Machining center with internal coolant.

SOLUTION

- RIQ padded reamer in angular micro-finishing setup with semi- and fine-finishing insert.
- RIQ full face PCD KD1415™ as finishing insert.

CUTTING DATA

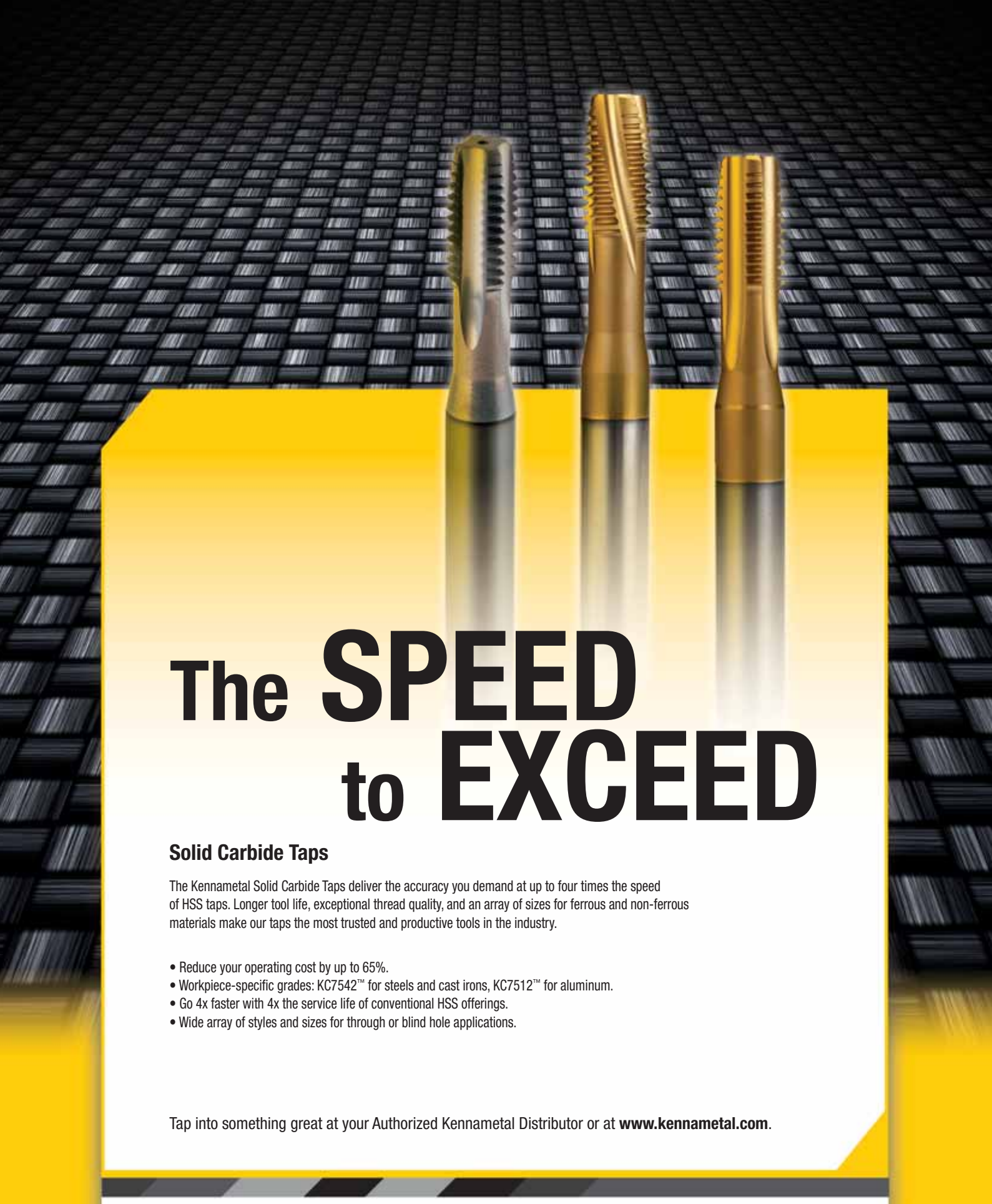
- vc 120 m/min (394 SFM).
- f 0,20 mm/rev (.008 IPR).

RESULT

- **Tool life of 1,600 bores per insert.**
- **Surface finish better than Ra 0.4 µm.**
- **Cylindricity 6 µm.**

BENEFIT

- **No insert back taper adjustment needed.**
- **Higher productivity due to combining two operations in one tool.**



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Steering Knuckle





ROMICRON™ FINE BORING

CHALLENGE

- Main bearing bore Ø 82mm (3.228").
- Replace setup of padded reamer and cover various diameters with one tool.
- Machining center with internal coolant.

SOLUTION

- Romicron engineered solution. HSK80ASVSB156M SVS4B head.
- CPMT 060204 FW KCK20™.

CUTTING DATA

- vc 400 m/min (1,312 SFM).
- f 0,20 mm/rev (.008 IPR).

RESULT

- **Tool life of 1,000 components.**
- **Surface finish 1.2 µm.**
- **Cylindricity better than 6 µm.**

BENEFIT

- **Reduce setup time and cost reduction when standard inserts are used.**
- **Bore tolerance range of 30 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**

Steering Knuckle





Very uneven spacing

RMB™ MULTIFLUTE REAMING

CHALLENGE

- Axle arm Ø 52,935mm (2.084").
- Tolerance range 20 µm.
- Steel St52-3 and 30MnVS6.
- Surface finish and chip control improvements.
- Machining center with internal coolant.

SOLUTION

- RMB engineered-solution cermet tipped reamer with wide chip flutes.
- 6° left hand helix and special lead geometry.
- KT6215™ TiAlN coated cermet.

CUTTING DATA

- vc 20 m/min f 2 mm/rev entering hole.
- vc 90 m/min f 2 mm/rev finish hole.

RESULT

- **Tool life of 460 components.**
- **Surface finish Rz 1.3 µm.**

BENEFIT

- **More than 30% increase in tool life compared to previous competitive tooling.**
- **Surface finish Rz 1.3 µm better than requested Rz 6.3 µm.**



Suspension Subframe



RIR™ PADDED REAMING



CHALLENGE

- Location hole Ø 18,5–23,0mm (.728–.906").
- Tolerance range 0,1°.
- Steel.
- Improvement in roundness and angularity.
- Transfer line with internal coolant.

SOLUTION

- RIR taper reamer with HSK interface.
- R904S00771 KC6005™ with two edges.

CUTTING DATA

- vc 32 m/min (105 SFM).
- f 0,133 mm/rev (.005 IPR).

RESULT

- **Tool life of 800 bores per insert.**
- **Surface finish Ra 1.6 µm.**

BENEFIT

- **Predictable performance and cost savings because inserts can be reconditioned.**
- **Easy to set with three clock padded reamer setting fixtures.**
- **Roundness improvement over competitive solid carbide multiflute reamer.**

Mounting Lever



PCD COUNTERSINKING PCDCSTM04RLE

CHALLENGE

- Reaming pre-casted hole Ø 20mm (.787").
- Tolerance range 21 µm H7.
- Aluminum AlSi9Cu3.
- 220mm over hang due to workpiece fixture.
- Machining center with internal coolant.

SOLUTION

- PCD tipped, steel-based tool with HSK63A interface and internal coolant.
- Four effective cutting teeth.
- KD1415™.

CUTTING DATA

- vc 125 m/min (410 SFM).
- f 0,70 mm/rev (.003 IPR).

RESULT

- **Tool life of 60,000 components.**
- **Surface finish Ra 0.2 µm.**

BENEFIT

- **Secure process and less scrap than previous competitive solution.**
- **No adjustment effort due to solid solution.**



CV Joint





ROMICRON™ FINE BORING

CHALLENGE

- Central bore Ø 28mm (1.102").
- Tolerance range 18 µm.
- Steel, hardened.
- Material hardness 61–70 HRC.
- Machining center with MQL internal coolant.

SOLUTION

- Romicron standard head HSK63ASVS00B096M.
- CPGW060208S01015M KB5625™.

CUTTING DATA

- vc 110 m/min (361 SFM).
- f 0,08 mm/rev (.003 IPR).

RESULT

- **Tool life of 500 bores per insert.**
- **Surface finish Ra 0.3 µm.**

BENEFIT

- **Fine adjustments increases productivity resulting in less manufacturing interruptions.**
- **Bore tolerance range of 18 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**

Turbocharger



RIR™ PADDED REAMING

CHALLENGE

- Bearing bore Ø 9,6mm (.378").
- Tolerance range 9 µm H6.
- Cast iron.
- Interrupted cut.
- Lathe with internal coolant.

SOLUTION

- RIR padded reamer in floating toolholder.
- RIR01E1300 KC6005™ coated carbide insert.

CUTTING DATA

- vc 50 m/min (164 SFM).
- f 0,33 mm/rev (.013 IPR).

RESULT

- **Surface finish better than Rz 16 µm.**
- **Cylindricity 10 µm.**

BENEFIT

- **Increased productivity due to 2x the feed rate when compared to previous competitive tool.**



Turbocharger





RMS™ MULTIFLUTE REAMING

CHALLENGE

- Mounting holes Ø 12mm (.472").
- Tolerance range 18 µm H7.
- Ductile cast iron.
- Machining center with internal coolant.

SOLUTION

- RMS standard reamer with six effective cutting edges and internal coolant.
- KC6305™ TiAlN coated carbide.

CUTTING DATA

- vc 20 m/min (66 SFM).
- f 0,30 mm/rev (.012 IPR).

RESULT

- **Tool life of 1,000 components.**
- **Surface finish better than Rz 10 µm.**

BENEFIT

- **Productivity and tool life increase compared to previous solution.**

Compressor



ROMICRON™ FINE BORING

CHALLENGE

- Piston bore Ø 23,5mm (.925").
- Tolerance range 18 µm.
- Aluminum 12% Si.
- Machining center BT40 with external coolant.

SOLUTION

- Standard SVUBB2 head with KR coupling.
- Standard steel boring bar.
- CPGW060204FST KD1400™.

CUTTING DATA

- vc 367 m/min (1,204 SFM).
- f 0,07 mm/rev (.003 IPR).

RESULT

- **Surface finish Ra 0.6 µm.**
- **Roundness better than 5 µm.**

BENEFIT

- **2x the productivity compared to the current solution.**
- **80% less adjustment time needed.**
- **Bore tolerance range of 18 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**



Compressor





ROMICRON™ FINE BORING

CHALLENGE

- Piston bore Ø 25mm (.984").
- Tolerance range 21 µm.
- Aluminum 15% Si.
- Machining center BT40 with external coolant.

SOLUTION

- Engineered-solution SVS00B head with straight shank clamped in hydraulic chuck.
- CPGW060204FST KD1425™.

CUTTING DATA

- vc 391 m/min (1,283 SFM).
- f 0,20 mm/rev (.008 IPR).

RESULT

- **Surface finish better than Ra 2.0 µm.**
- **Roundness better than 20 µm.**

BENEFIT

- **More than 60% reduction in machining time.**
- **80% less adjustment time needed.**
- **Amortization in less than two months.**
- **Bore tolerance range of 21 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**

Compressor





Polished flutes improving chip evacuation



PCD COUNTERSINKING PCDCSC22RLE

CHALLENGE

- Bearing hole Ø 12–31mm (.472–1.220").
- Tolerance range 50 µm.
- Aluminum G-AlSi12.
- Machining center HSK40 with internal coolant.

SOLUTION

- PCD tipped, carbide-based tool with four guiding lands, flat-bottom drilling point, and internal coolant.
- Two effective cutting and chamfering teeth; KD1415™.

CUTTING DATA

- vc 440 m/min (1,444 SFM).
- f 0,20 mm/rev (.008 IPR).

RESULT

- **Surface finish Rz 1–2 µm.**
- **Roundness better than 5 µm.**

BENEFIT

- **Productivity increases due to combining different tools in one.**
- **Tool life increase versus previous solution.**

Compressor







KST pre-loaded taper face contact interface

RHM MODULAR REAMING

CHALLENGE

- Piston bore Ø 23,5mm (1.220").
- Tolerance range 10 µm.
- Cast iron GGG60.
- Machining center HSK63 with internal coolant.

SOLUTION

- RHM modular reamer with six cutting edges.
- KT325™ uncoated cermet.
- Standard lead geometry.
- SIF™ steerable tooling.

CUTTING DATA

- vc 125 m/min (410 SFM).
- f 0,75 mm/rev (.030 IPR).

RESULT

- **Surface finish better than Rz 4 µm.**

BENEFIT

- **Higher productivity than single-edged padded reamer.**

Hydraulic Valve Block





RIR™ PADDED REAMING

CHALLENGE

- Spool bore Ø 18,5mm (.728").
- Tolerance range 10 µm.
- Cast iron.
- Up to 4mm varying depth of cut.
- Machining center with internal coolant.

SOLUTION

- RIR padded reamer with up to 100mm long cermet guide pads.
- Engineered solution RIR insert with modified chipformer.

CUTTING DATA

- vc 70 m/min (230 SFM).
- f 0,125 mm/rev (.005 IPR).

RESULT

- **Tool life of 400 min per double-edged insert.**
- **Roundness and straightness within 10 µm.**

BENEFIT

- **Very stable process control and predictable performance.**

Hydraulic Valve Block





RMS™ MULTIFLUTE REAMING

CHALLENGE

- Rinse slider bore Ø 9,534mm (.375").
- Tolerance range 6 µm.
- Ductile cast iron 0.7060.
- Three interrupted cuts at a reaming depth of 100mm.
- Special dimensional accuracy requirement.

SOLUTION

- RMS solid carbide reamer engineered solution.
- Special back taper configuration and support margins lands.
- KC6305™ TiAlN coated carbide.

CUTTING DATA

- vc 150 m/min (492 SFM).
- f 0,72 mm/rev (.028 IPR).

RESULT

- **Tool life of 500 pieces.**

BENEFIT

- **Speed and feed rates are almost 30x faster resulting in higher productivity.**
- **Less scrap due to consistent accuracy.**

Hydraulic Valve Block



PCD COUNTERSINKING PCDCSC02RLE

CHALLENGE

- Thread core hole Ø 24mm (.945").
- Tolerance range 21 µm F7.
- Aluminum AlSi9Cu3.
- Pre-drilled hole.
- Machining center DV40 with internal coolant.

SOLUTION

- PCD tipped, carbide-based tool with internal coolant.
- Two effective cutting and chamfering teeth.
- KD1415™.

CUTTING DATA

- vc 360–750 m/min n = 7,500 RPM.
- f 0,20 mm/rev (.008 IPR).

RESULT

- **Tool life of 100,000 holes.**
- **Surface finish Ra 0.1 µm.**

BENEFIT

- **Productivity increase due to combining two operations into one.**
- **Carbide base increases tool life and accuracy.**



ABS Valve Block





PCD COUNTERSINKING PCDCSTA02RLE

CHALLENGE

- Bearing bores Ø 20,99 and 24,275mm.
- Tolerance range 20 µm.
- Aluminum AlSi1.
- Pre-casted hole with 0,15mm depth of cut.
- Machining center HSK63A with internal coolant.

SOLUTION

- PCD tipped, steel-based tool with SIF™ steerable interface and internal coolant.
- Two effective cutting and chamfering teeth.
- KD1415™.

CUTTING DATA

- vc 300 m/min (984 SFM).
- f 0,35 mm/rev (.014 IPR).

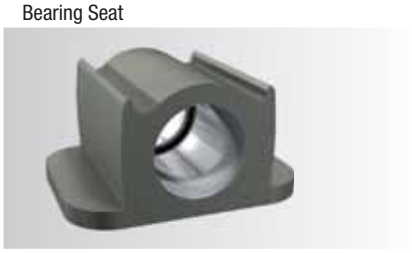
RESULT

- **Tool life of 150,000 components.**
- **Surface finish Ra 0.4–0.6 µm.**

BENEFIT

- **Very stable process control and predictable performance.**
- **Very favorable chip creation.**

Bearing Seat





KST pre-loaded taper face contact interface

RHM™ MODULAR REAMING

CHALLENGE

- Reaming Ø 35mm (1.378").
- Tolerance range 20 µm.
- Carbon steel, annealed, long-chipping.
- Blind hole limiting chip evacuation.
- Machining center with internal coolant.

SOLUTION

- RHM modular reamer with eight cutting edges.
- KT325™ uncoated cermet.
- Standard lead geometry.
- Short engineered-solution axial clamping tool body.

CUTTING DATA

- vc 120 m/min (394 SFM).
- f 1,18 mm/rev (.046 IPR).

RESULT

- **Tool life of 145,000 holes.**
- **Surface finish better than Rz 6.3 µm.**

BENEFIT

- **Predictable tool life as only 2 µm diameter deviation after 10,000 holes.**



Bearing Seat







RIQ single adjustment screw setup



FB easy to setup fine-boring cartridges

RIQ™ QUATTRO CUT™ PADDED REAMING

CHALLENGE

- Reaming Ø 47mm (1.850").
- Tolerance range 19 µm N6.
- Aluminum AlSi9Cu3.
- Machine four different diameters, two spot faces, and four different chamfers with one tool.

SOLUTION

- RIQ padded reamer with full-face PCD KD1415™ insert having four cutting edges.
- SIF™ steerable interface between reaming and fine boring section.

CUTTING DATA

- vc 236 m/min (774 SFM).
- f 0,08 mm/rev (.003 IPR).

RESULT

- **Surface finish better than Rz 16 µm.**

BENEFIT

- **No insert back taper adjustment needed.**
- **Less operations increase productivity.**
- **Higher accuracy than multiple operations.**
- **Full-face PCD inserts reduce cost per hole.**

FB CARTRIDGE FINEBORING

CHALLENGE

- Reaming Ø 144mm (5.669").
- Tolerance range 40 µm H7.
- Aluminum AlSi9Cu3.
- Machine two different diameters.

SOLUTION

- Standard FB fine-boring cartridges with almost back lash free fine adjustment.
- CCGW060204 KD1415™.

CUTTING DATA

- vc 723 m/min (2,372 SFM).
- f 0,08 mm/rev (.003 IPR).

RESULT

- **Surface finish better than Rz 16 µm.**

BENEFIT

- **Radial adjustment does not influence axial adjustment of inserts resulting in faster setup.**
- **Productivity increase with less operations.**
- **More accurate than previous solution.**

Heat Exchanger Plates









KST pre-loaded taper face contact interface

RHM™ MODULAR REAMING

CHALLENGE

- Tube holes Ø 25,25mm (.994").
- Tolerance range 21 µm H7.
- Stainless Steel 304L.
- Machining center with external coolant.

SOLUTION

- Special RHM head with six cutting edges.
- KC6305™ TiAlN coated carbide.
- Standard tool body with SIF™ steerable backend.

CUTTING DATA

- vc 36 m/min (118 SFM).
- f 0,79 mm/rev (.031 IPR).

RESULT

- **Tool life of 167 m.**

BENEFIT

- **Higher productivity as a result of a 50% higher feed rate and 2x speed.**
- **200% more tool life than previous competitive solution.**

RHM™ MODULAR REAMING

CHALLENGE

- Tube holes Ø 25,25mm (.994").
- Tolerance range 100 µm.
- Alloy steel, long-chipping.
- Machining center with internal coolant.

SOLUTION

- Special RHM head with six cutting edges.
- KT6215™ TiAlN coated cermet.
- Standard 5xD body clamped into hydraulic chuck.
- KSEM HPGM used for drilling into solid.

CUTTING DATA

- vc 90 m/min (295 SFM).
- f 0,48 mm/rev (.019 IPR).

RESULT

- **After more than 30 minutes only minor wear is visible.**

BENEFIT

- **Reduced machining time to less than 60 min per 180 holes.**
- **Predictable tool life as only 2 µm diameter deviation after 30 minutes.**



Heat Exchanger Plates







KST pre-loaded taper face contact interface

RHM™ MODULAR REAMING

CHALLENGE

- Tube holes Ø 25,25mm (.994").
- Tolerance range 21 µm H7.
- Steel, annealed, long-chipping.
- Replace HSS shot core drilling.
- Machining center with internal coolant.

SOLUTION

- Special RHM head with six cutting edges.
- KT325™ uncoated cermet.
- Standard 5 x D body clamped into hydraulic chuck.

CUTTING DATA

- vc 84 m/min (276 SFM).
- f 0,49 mm/rev (.019 IPR).

RESULT

- **Tool life of 189 m.**

BENEFIT

- **10x faster when compared to previous competitive core drilling solution.**
- **16x higher tool life.**

RHM™ MODULAR REAMING

CHALLENGE

- Tube holes Ø 32mm (1.260").
- Tolerance range 25 µm H7.
- Low alloy steel, annealed.
- Interrupted cut.
- Machining center with internal coolant.

SOLUTION

- Standard RHM head with eight cutting edges.
- KC6305™ TiAlN coated carbide.
- Standard 5 x D body clamped into hydraulic chuck.
- KSEM HPGM used for drilling into solid.

CUTTING DATA

- vc 60 m/min (197 SFM).
- f 1,12 mm/rev (.044 IPR).

RESULT

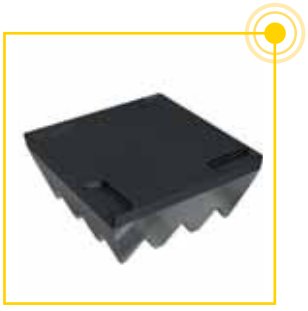
- **Tool life of 624 holes.**

BENEFIT

- **Almost 29% productivity increase.**
- **Close to 25% overall cost reduction due to higher tool life and higher cutting data.**

Pump Housing





Full-face PCD insert with chipformer geometry

RIQ™ QUATTRO CUT™ PADDED REAMING

CHALLENGE

- Piston bore Ø 18,5mm (.728").
- Tolerance range 21 µm H7.
- Aluminum.
- Heavy interrupted cut and surface finish Rz 6.3.
- Machining center with internal coolant.

SOLUTION

- RIQ padded reamer with helical chip flute and helical solid carbide guide pad.
- Full-face KD1415™ insert having four cutting edges.
- Positive wiper insert geometry.

CUTTING DATA

- vc 230 m/min (755 SFM).
- f 0,15 mm/rev (.006 IPR).

RESULT

- **No chip evacuation issues.**
- **No burr, marks, or scratches at entrance or exit of interruptions.**

BENEFIT

- **No insert back taper adjustment needed.**
- **Half cycle time compared to previous competitive tooling.**



Hydraulic Pump





RIR™ PADDED REAMING

CHALLENGE

- Piston bore Ø 9,365mm (.369").
- Tolerance range 10 µm.
- Ductile cast iron GGG40.
- Machining center with internal coolant.

SOLUTION

- RIR padded reamer with cermet guide pads.
- R901EGS06F AlTiN coated carbide.

CUTTING DATA

- vc 53 m/min (174 SFM).
- f 0,043 mm/rev (.002 IPR).

RESULT

- **294 bores per double-edged insert.**
- **Surface finish Ra 0.8 µm.**

BENEFIT

- **200% tool life increase.**
- **More than 10% reduction in cycle time.**
- **Consistent quality and stable process due to better chip formation.**
- **Tolerance achieved was a 50% improvement compared to the previous competitive solution.**

Valve Housing



ROMICRON™ FINE BORING



CHALLENGE

- Various bore Ø 170–480mm (6.7–18.9").
- Tolerance range 75 µm.
- Cast iron GG25.
- Automated wear compensation at interrupted cut.
- Machining center HSK100 with internal coolant.

SOLUTION

- Semi-standard SVU120 CLB head with engineered-solution diameter extender and automatic wear compensation with CLB.
- CPGW09T308S01015C KB1630™.

CUTTING DATA

- vc 800 m/min (2,625 SFM).
- f 0,12 mm/rev (.005 IPR).

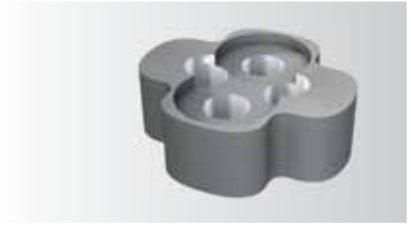
RESULT

- **Tool life of 1,200 minutes per insert.**
- **Surface finish better than Rz 16 µm.**

BENEFIT

- **More than 30% reduction in manufacturing lead time.**
- **Third shift and weekend without operators.**
- **1 µm per click in radius adjustment executed by machine.**

Pump Housing





ROMICRON™ FINE BORING

CHALLENGE

- Bore Ø 38,1mm (1.500").
- Tolerance range 18 µm.
- Cast iron.
- Interrupted cut at figure eight hole.

SOLUTION

- Romicron KM50SVS0B103M standard head.
- CPGW2151S0415C KB1645™.

CUTTING DATA

- vc 197 m/min (646 SFM).
- f 0,05 mm/rev (.002 IPR).

RESULT

- **Tool life of 450 workpieces.**
- **Surface finish better than Ra 32 µm.**
- **Roundness better than 8 µm.**

BENEFIT

- **Secure finishing process with no oversized bores.**
- **Less adjustment effort.**
- **Amortization in less than four months.**
- **Bore tolerance range of 18 µm easily and consistently achieved due to 1 µm per click in radius adjustment.**

Wind Energy Housing





Multiple boring heads
based on KM63™ shank

KM™ FINE BORING

CHALLENGE

- Bearing seat Ø 2.700mm (106.3").
- Tolerance range 210 µm H7.
- Cast iron GGG40.
- Pull machining – spindle needs to adapt bridge inside workpiece.

SOLUTION

- Welded space frame bridge with KM coupling to adapt cutting units.
- One base bridge to adapt roughing, semi-finish, and fine finish head.

CUTTING DATA

- vc 240 m/min (787 SFM).
- f 0,28 mm/rev (.011 IPR).

RESULT

- **Customer proprietary information.**

BENEFIT

- **Machining in one workpiece results in a productivity increase.**
- **Investment saving as only one base bridge needed.**
- **Ease of use due to KM coupling for fast and accurate cutting unit change.**



Wind Energy Housing





Multiple boring heads
based on KM63™ shank



KM™ FINE BORING

CHALLENGE

- Bearing seat Ø 3000mm (118.1").
- Tolerance range 210 µm H7.
- Ductile cast iron GGG40.
- Machining center without coolant.
- Tolerance range 210 µm H7.

SOLUTION

- Welded space frame bridge with KM coupling to adapt cutting units.
- One base bridge to adapt roughing, semi-finish, and fine finish head.

CUTTING DATA

- vc 240 m/min (787 SFM).
- f 0,28 mm/rev (.011 IPR).

RESULT

- **Customer proprietary information.**

BENEFIT

- **Investment saving as only one base bridge and KM cutting units are used for diameter 2.700mm and 3.000mm.**
- **Ease of use due to KM coupling for fast and accurate cutting unit change.**

Wind Energy Housing





1 µm per click in radius adjustment

ROMICRON™ FINE BORING

CHALLENGE

- Flange Ø 1260–1400mm (49.6–55.1").
- Tolerance range 125 µm H7.
- Cast iron GGG40.
- One base bridge for multiple diameters.
- Machining center without coolant.

SOLUTION

- Romicron standard modular MF40 element with engineered-solution aluminum bridge.
- CPGT060204/08HP KC5410™.

CUTTING DATA

- vc 200 m/min (650 SFM).
- f 0,12 mm/rev (.005 IPR).

RESULT

- **Tool life of 73 min.**

BENEFIT

- **Investment saving as only one base bridge needed.**
- **Use of standard off the shelf Romicron tool.**
- **Ease of use due to Romicron.**



Synchronous Joint





Balanced by design



ROMICRON™ FINE BORING

CHALLENGE

- Pin machining Ø 13mm (.512").
- Tolerance range 6 µm.
- Steel 42CrMo4 (4140).
- Machining center with internal coolant.

SOLUTION

- Romicron standard HSK63ASVUBB1095MCLB head with engineered solution pin boring bar.
- TCMT110202FP KTP10™.

CUTTING DATA

- vc 160 m/min (525 SFM).
- f 0,1 mm/rev (.004 IPR).

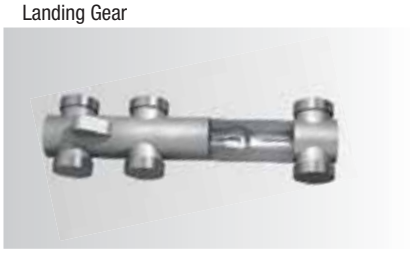
RESULT

- **Tool life of 300–450 components per insert.**
- **Surface finish Ra 0.3 µm.**
- **Cpk value ≥ 1,33.**

BENEFIT

- **Use of standard off-the-shelf Romicron tooling.**
- **Bore tolerance of 6 µm consistently achieved due to 1 µm per click in radius adjustment.**

Landing Gear





Feed out slide

MOTION TOOLING

CHALLENGE

- Bottle boring Ø 65–85,3mm (2.559–3.358").
- Steel 34CrNiMo6; 4340M.
- Generate complex rotationally symmetric shape inside pre-machined workpiece.
- Custom machining center with internal coolant.

SOLUTION

- Motion tool with two slides activated by drawbar.
- Hole shape generated while tool is retracted.
- Engineered-solution insert to improve chip formation.

CUTTING DATA

- vc 31 m/min (102 SFM).
- f 0,20 mm/rev (.008 IPR).

RESULT

- **Customer proprietary information.**

BENEFIT

- **Time savings compared to previous boring bar.**
- **Bottle boring Ø 65–85,3mm (2.559–3.358").**
- **Steel 34CrNiMo6; 4340M.**
- **Generate complex rotationally symmetric shape.**





Ream to the Extreme

The RHM™ Modular Reaming System offers performance levels commonly achieved with solid carbide reaming tools. With a unique, preloaded KST coupling, it is best suited to ream IT6 and IT7 high-quality holes in steel, stainless steel, and cast irons.

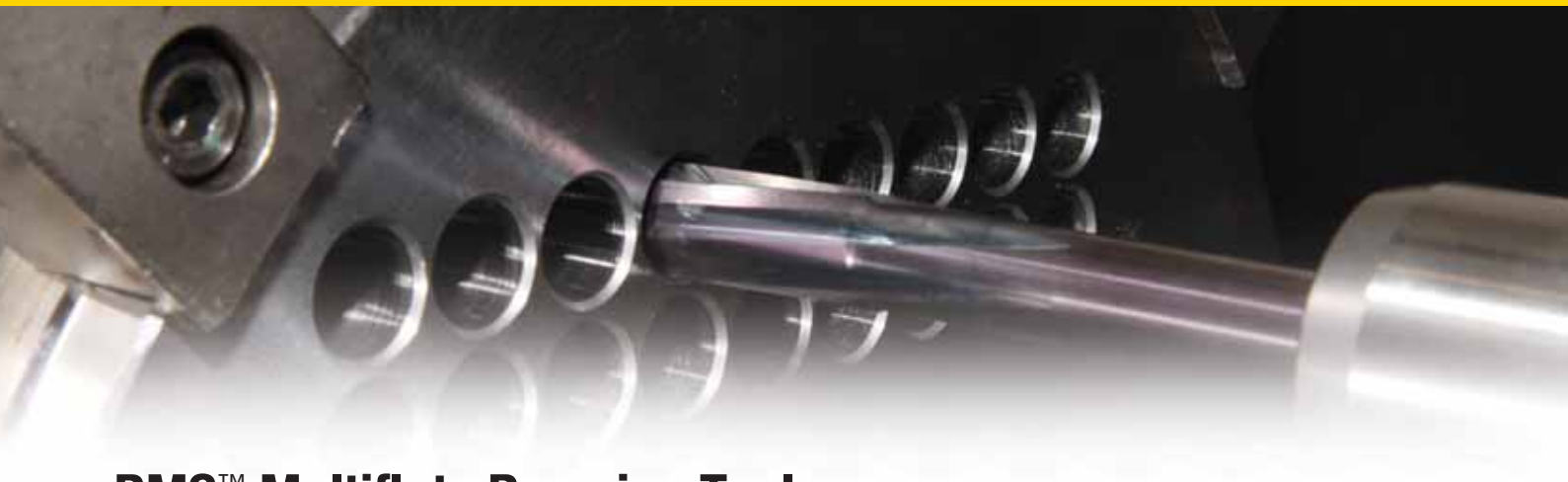
RHM offers you:

- A market-leading runout accuracy.
- A strong proprietary coupling that enables higher feed rates.
- Latest technology carbide and cermet grades for high cutting speeds and extended tool life.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com.

KENNAMETAL®



RMS™ Multiflute Reaming Tools

RMS™ Multiflute Reaming Tools achieve highest metal removal rates from diameter 5–14mm with no customization. All standard reamers are ground to an ISO H7 tolerance class hole to address most common applications. Specific coatings and lead configurations enable high-speed machining of steel, stainless steel, cast iron, and non–ferrous materials at accelerated speeds.

Primary Application

Use standard SIF™ Steerable Hydraulic Chucks or SIF Adapters for easy compensation of radial runout and angular inaccuracies of the spindle to achieve the highest possible hole straightness and surface quality.

Features and Benefits

Higher Productivity and Profitability

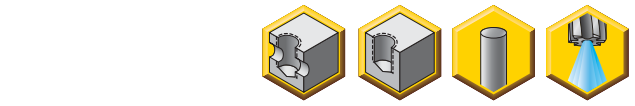
- Longer tool life with increased hole and surface quality due to lapped ground leads.
- Highest metal removal rate at higher speeds and feeds due to reaming-specific grades and substrates.
- Improved straightness and cylindrical form compared to competitive tools and reduced vibration tendency due to unequal flutes.
- All RMS reamers offer internal coolant supply.

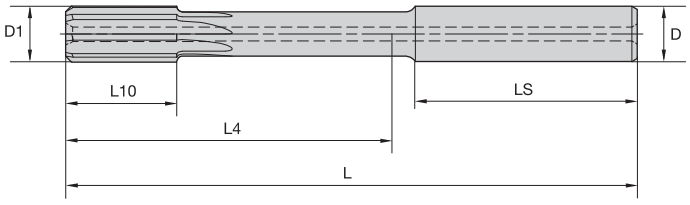
Customization

- Diameters .055–.557" (1,40–14,15mm) available with and without internal coolant in .00004" (0,001mm) steps.
- Intermediate diameters of standard program available as Simple Specials with short delivery time.
- Solid cermet reaming tools and tooling for heat-resistant materials are available on request.



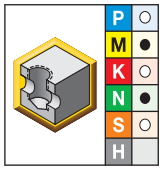
- For hole tolerance H7.
- Intermediate sizes ground to achieve IT7 hole tolerance class available.
- Starting with Ø 10mm (.393") in IT6 hole tolerance available.

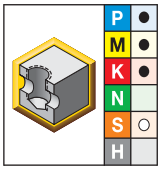






RMS with Straight Flutes and Internal Coolant





● first choice
○ alternate choice

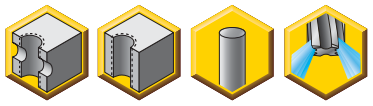
K605	KC6305	D1 mm	D1 in	D	L	L4 mm	L4 in	L10	LS	Z
RMS05000H7SF	RMS05000H7SF	5,00	.197	6,00	74,0	18,0	.709	12,0	36,0	4
RMS05500H7SF	RMS05500H7SF	5,50	.217	6,00	74,0	18,0	.709	12,0	36,0	4
RMS06000H7SF	RMS06000H7SF	6,00	.236	6,00	74,0	18,0	.709	12,0	36,0	4
RMS06500H7SF	RMS06500H7SF	6,50	.256	8,00	91,0	35,0	1.378	16,0	36,0	4
RMS07000H7SF	RMS07000H7SF	7,00	.276	8,00	91,0	35,0	1.378	16,0	36,0	4
RMS08000H7SF	RMS08000H7SF	8,00	.315	8,00	91,0	35,0	1.378	16,0	36,0	6
RMS09000H7SF	RMS09000H7SF	9,00	.354	10,00	103,0	43,0	1.693	20,0	40,0	6
RMS10000H7SF	RMS10000H7SF	10,00	.394	10,00	103,0	43,0	1.693	20,0	40,0	6
RMS11000H7SF	RMS11000H7SF	11,00	.433	12,00	118,0	53,0	2.087	24,0	45,0	6
RMS12000H7SF	RMS12000H7SF	12,00	.472	12,00	118,0	53,0	2.087	24,0	45,0	6
RMS13000H7SF	RMS13000H7SF	13,00	.512	14,00	132,0	67,0	2.638	28,0	45,0	6
RMS14000H7SF	RMS14000H7SF	14,00	.551	14,00	132,0	67,0	2.638	28,0	45,0	6

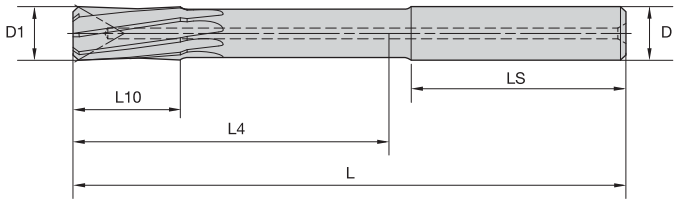
Dimensions for Engineered-Solution Reamers

D1 min mm	D1 min in	D1 max mm	D1 max in	D mm	L mm	L4 mm	L4 in	L10 mm	LS mm	Z
4,16	0.1638	4,79	0.1886	6	74	32	1.2598	10	36	4
4,80	0.1890	5,79	0.2280	6	74	32	1.2598	12	36	4
5,80	0.2283	6,15	0.2421	6	74	33	1.2992	12	36	4
6,16	0.2425	7,15	0.2815	8	91	49	1.9291	16	36	4
7,16	0.2819	7,69	0.3028	8	91	49	1.9291	16	36	6
7,70	0.3031	8,15	0.3209	8	91	50	1.9685	16	36	6
8,16	0.3213	9,59	0.3776	10	103	57	2.2441	20	40	6
9,60	0.3780	10,15	0.3996	10	103	58	2.2835	20	40	6
10,16	0.4000	11,59	0.4563	12	118	67	2.6378	24	45	6
11,60	0.4567	12,15	0.4783	12	118	68	2.6772	24	45	6
12,16	0.4787	14,15	0.5571	14	118	81	3.1890	28	45	6

NOTE: The above dimensions are used when ordering engineered-solution reamers on this page unless otherwise specified.

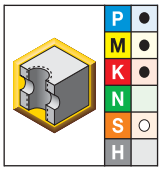
- For hole tolerance H7.
- Intermediate sizes ground to achieve IT7 hole tolerance class available.
- Starting with Ø 10mm (.393") in IT6 hole tolerance available.

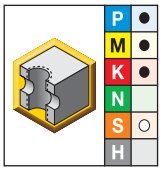






RMS with Helical Flutes and Internal Coolant





● first choice
○ alternate choice

K605	KC6305	D1 mm	D1 in	D	L	L4 mm	L4 in	L10	LS	Z
RMS05000H7HF	**RMS05000H7HF**	5,00	.197	6,00	74,0	18,0	.709	12,0	36,0	4
RMS05500H7HF	**RMS05500H7HF**	5,50	.217	6,00	74,0	18,0	.709	12,0	36,0	4
RMS06000H7HF	**RMS06000H7HF**	6,00	.236	6,00	74,0	18,0	.709	12,0	36,0	4
RMS06500H7HF	**RMS06500H7HF**	6,50	.256	8,00	91,0	35,0	1.378	16,0	36,0	4
RMS07000H7HF	**RMS07000H7HF**	7,00	.276	8,00	91,0	35,0	1.378	16,0	36,0	4
RMS08000H7HF	**RMS08000H7HF**	8,00	.315	8,00	91,0	35,0	1.378	16,0	36,0	6
RMS09000H7HF	**RMS09000H7HF**	9,00	.354	10,00	103,0	43,0	1.693	20,0	40,0	6
RMS10000H7HF	**RMS10000H7HF**	10,00	.394	10,00	103,0	43,0	1.693	20,0	40,0	6
RMS11000H7HF	**RMS11000H7HF**	11,00	.433	12,00	118,0	53,0	2.087	24,0	45,0	6
RMS12000H7HF	**RMS12000H7HF**	12,00	.472	12,00	118,0	53,0	2.087	24,0	45,0	6
RMS13000H7HF	**RMS13000H7HF**	13,00	.512	14,00	132,0	67,0	2.638	28,0	45,0	6
RMS14000H7HF	**RMS14000H7HF**	14,00	.551	14,00	132,0	67,0	2.638	28,0	45,0	6

Dimensions for Engineered-Solution Reamers

D1 min mm	D1 min in	D1 max mm	D1 max in	D mm	L mm	L4 mm	L4 in	L10 mm	LS mm	Z
4,16	0.1638	4,79	0.1886	6	74	32	1.2598	10	36	4
4,80	0.1890	5,79	0.2280	6	74	32	1.2598	12	36	4
5,80	0.2283	6,15	0.2421	6	74	33	1.2992	12	36	4
6,16	0.2425	7,15	0.2815	8	91	49	1.9291	16	36	4
7,16	0.2819	7,69	0.3028	8	91	49	1.9291	16	36	6
7,70	0.3031	8,15	0.3209	8	91	50	1.9685	16	36	6
8,16	0.3213	9,59	0.3776	10	103	57	2.2441	20	40	6
9,60	0.3780	10,15	0.3996	10	103	58	2.2835	20	40	6
10,16	0.4000	11,59	0.4563	12	118	67	2.6378	24	45	6
11,60	0.4567	12,15	0.4783	12	118	68	2.6772	24	45	6
12,16	0.4787	14,15	0.5571	14	118	81	3.1890	28	45	6

NOTE: The above dimensions are used when ordering engineered-solution reamers on this page unless otherwise specified.

RMS™

Material Group		K605 Cutting Speed – vc Range – m/min			KC6305 Cutting Speed – vc Range – m/min			Metric Recommended Feed Rate per Tooth						
								Tool Diameter (mm)	4,16-7,15		7,16-9,59		9,60-14,00	
		min	Starting Value	max	min	Starting Value	max	Feed/Tooth	min	max	min	max	min	max
P	1	40	**60**	70	90	**120**	155	mm/z	0,05	0,10	0,05	0,12	0,05	0,15
	2	40	**60**	70	90	**120**	155	mm/z	0,05	0,10	0,05	0,12	0,05	0,15
	3	35	**50**	60	75	**100**	130	mm/z	0,05	0,10	0,05	0,12	0,05	0,15
	4	25	**40**	45	60	**80**	105	mm/z	0,05	0,10	0,05	0,12	0,05	0,15
	5	15	**20**	25	30	**40**	55	mm/z	0,04	0,08	0,04	0,10	0,04	0,12
	6	15	**20**	25	30	**40**	55	mm/z	0,04	0,08	0,04	0,10	0,04	0,12
M	1	8	**10**	15	15	**20**	28	mm/z	0,04	0,08	0,04	0,09	0,04	0,10
	2	8	**10**	15	15	**20**	28	mm/z	0,04	0,08	0,04	0,09	0,04	0,10
	3	8	**10**	15	15	**20**	28	mm/z	0,04	0,08	0,04	0,09	0,04	0,10
K	1	35	**50**	60	75	**100**	130	mm/z	0,05	0,16	0,05	0,18	0,05	0,20
	2	25	**40**	50	60	**90**	110	mm/z	0,05	0,14	0,05	0,16	0,05	0,18
	3	20	**30**	45	60	**80**	105	mm/z	0,05	0,12	0,05	0,14	0,05	0,16
N	1	110	**150**	195	–	**–**	–	mm/z	0,06	0,16	0,06	0,18	0,06	0,20
	2	110	**150**	195	–	**–**	–	mm/z	0,06	0,16	0,06	0,18	0,06	0,20
	3	110	**150**	195	–	**–**	–	mm/z	0,06	0,16	0,06	0,18	0,06	0,20
	4	110	**150**	195	–	**–**	–	mm/z	0,06	0,16	0,06	0,18	0,06	0,20
	5	105	**140**	180	–	**–**	–	mm/z	0,06	0,16	0,06	0,18	0,06	0,20
S	1	8	**10**	15	15	**20**	28	mm/z	0,04	0,08	0,04	0,10	0,04	0,12
	2	8	**10**	15	15	**20**	28	mm/z	0,04	0,08	0,04	0,10	0,04	0,12
	3	15	**20**	30	20	**30**	40	mm/z	0,05	0,10	0,05	0,12	0,05	0,15
	4	15	**20**	30	20	**30**	40	mm/z	0,05	0,10	0,05	0,12	0,05	0,15

Material Group		K605 Cutting Speed – vc Range – SFM			KC6305 Cutting Speed – vc Range – SFM			Inch Recommended Feed Rate per Tooth						
								Tool Diameter (inch)	.164-.281		.282-.378		.378-.551	
		min	Starting Value	max	min	Starting Value	max	Feed/Tooth	min	max	min	max	min	max
P	1	131	**197**	230	295	**394**	508	inch/z	.002	.004	.002	.005	.002	.006
	2	131	**197**	230	295	**394**	508	inch/z	.002	.004	.002	.005	.002	.006
	3	115	**164**	197	246	**328**	426	inch/z	.002	.004	.002	.005	.002	.006
	4	82	**131**	148	197	**262**	344	inch/z	.002	.004	.002	.005	.002	.006
	5	49	**66**	82	98	**131**	180	inch/z	.002	.003	.002	.004	.002	.005
	6	49	**66**	82	98	**131**	180	inch/z	.002	.003	.002	.004	.002	.005
M	1	26	**33**	49	49	**66**	92	inch/z	.002	.003	.002	.004	.002	.004
	2	26	**33**	49	49	**66**	92	inch/z	.002	.003	.002	.004	.002	.004
	3	26	**33**	49	49	**66**	92	inch/z	.002	.003	.002	.004	.002	.004
K	1	115	**164**	197	246	**328**	426	inch/z	.002	.006	.002	.007	.002	.008
	2	82	**131**	164	197	**295**	361	inch/z	.002	.006	.002	.006	.002	.007
	3	66	**98**	148	197	**262**	344	inch/z	.002	.005	.002	.006	.002	.006
N	1	361	**492**	640	–	**–**	–	inch/z	.002	.006	.002	.007	.002	.008
	2	361	**492**	640	–	**–**	–	inch/z	.002	.006	.002	.007	.002	.008
	3	361	**492**	640	–	**–**	–	inch/z	.002	.006	.002	.007	.002	.008
	4	361	**492**	640	–	**–**	–	inch/z	.002	.006	.002	.007	.002	.008
	5	344	**459**	590	–	**–**	–	inch/z	.002	.006	.002	.007	.002	.008
S	1	26	**33**	49	49	**66**	92	inch/z	.002	.003	.002	.004	.002	.005
	2	26	**33**	49	50	**66**	92	inch/z	.002	.003	.002	.004	.002	.005
	3	49	**66**	98	66	**98**	131	inch/z	.002	.004	.002	.005	.002	.006
	4	49	**66**	98	66	**98**	131	inch/z	.002	.004	.002	.005	.002	.006



RMB™ Multiflute Reaming

The RMB Multiflute Reaming System achieves solid carbide and solid cermet metal removal rates from 14–20mm with no customization required. All standard reamers are ground to an ISO H7 tolerance class hole to address most applications, giving you an economical solution for large diameter sizes compared to solid carbide reamers. Specific coatings and lead configurations enable high-speed machining of steel, stainless steel, cast iron, and non-ferrous materials at accelerated speeds.

Primary Application

Use SIF™ Steerable Hydraulic Chucks or SIF Adapters for easy compensation of radial runout and angular inaccuracies of the spindle to achieve the highest possible hole straightness and surface quality.

Features and Benefits

Higher Productivity and Profitability

- Longer tool life with increased hole and surface quality due to lapped ground leads.
- Highest metal removal rate at higher speeds and feeds due to reaming specific grades and substrates.
- Improved straightness and cylindrical form compared to competitive tools and reduced vibration tendency due to unequal flutes.
- Adjustment screw at straight-fluted RMB reamers to change internal coolant supply from axial to radial.

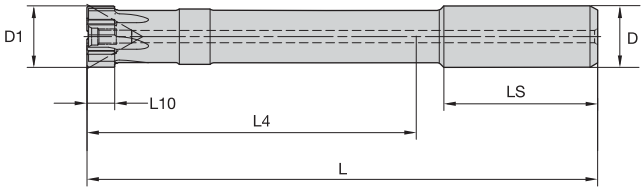
Customization

- Diameters up to 1.968" (50mm) available with and without internal coolant in .00004" (0,001mm) steps.
- Intermediate diameters of standard program available as Simple Specials with short delivery time.
- RMB tooling for machining heat-resistant materials is available on request.



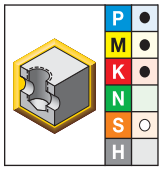
- For hole tolerance H7.
- Intermediate sizes ground to achieve IT6 or IT7 hole tolerance class available.
- Adjustment screw to change internal coolant supply from axial to radial.

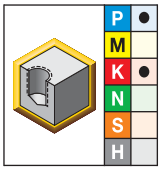






RMB with Straight Flutes and Internal Coolant





● first choice
○ alternate choice

KC6305	KT6215	D1 mm	D1 in	D	L	L4 mm	L4 in	L10	LS	Z
RMB14000H7SF	**RMB14000H7SF**	14,00	.551	16,00	145,0	76,0	2.992	8,0	49,0	6
RMB15000H7SF	**RMB15000H7SF**	15,00	.591	16,00	145,0	76,0	2.992	8,0	49,0	6
RMB16000H7SF	**RMB16000H7SF**	16,00	.630	20,00	157,0	86,0	3.386	8,0	51,0	6
RMB17000H7SF	**RMB17000H7SF**	17,00	.669	20,00	157,0	86,0	3.386	10,0	51,0	6
RMB18000H7SF	**RMB18000H7SF**	18,00	.709	20,00	171,0	100,0	3.937	10,0	51,0	6
RMB19000H7SF	**RMB19000H7SF**	19,00	.748	20,00	171,0	100,0	3.937	10,0	51,0	6
RMB20000H7SF	**RMB20000H7SF**	20,00	.787	20,00	200,0	129,0	5.079	10,0	51,0	6

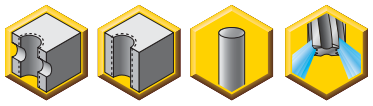
NOTE: Uncoated carbide grade K605™ and uncoated cermet grade KT325™ are available on request.

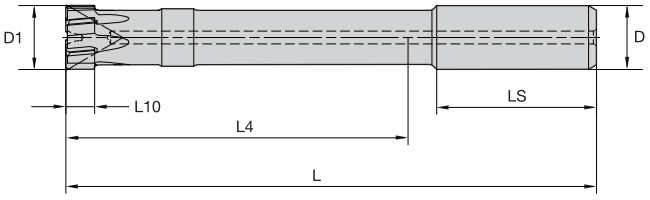
Dimensions for Engineered-Solution Reamers

D1 min mm	D1 min in	D1 max mm	D1 max in	D mm	L mm	L4 mm	L4 in	L10 mm	LS mm	Z
14,00	0.5512	15,99	0.6295	16,00	145	97	3.8189	9	48	6
16,00	0.6299	17,99	0.7083	20,00	157	107	4.2126	9	50	6
18,00	0.7087	19,99	0.7870	20,00	171	121	4.7638	9	50	6
20,00	0.7874	21,99	0.8657	20,00	200	150	5.9055	9	50	6
22,00	0.8661	25,99	1.0232	20,00	210	160	6.2992	11	50	6
26,00	1.0236	29,99	1.1807	25,00	240	184	7.2441	11	56	8
30,00	1.1811	32,00	1.2598	25,00	270	214	8.4252	11	56	8

NOTE: The above dimensions are used when ordering engineered-solution reamers on this page unless otherwise specified.

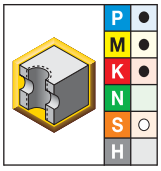
- For hole tolerance H7.
- Intermediate sizes ground to achieve IT6 or IT7 hole tolerance class available.

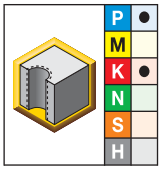






RMB with Helical Flutes and Internal Coolant





● first choice
○ alternate choice

KC6305	KT6215	D1 mm	D1 in	D	L	L4 mm	L4 in	L10	LS	Z
RMB14000H7HF	**RMB14000H7HF**	14,00	.551	16,00	145,0	76,0	2.992	8,0	49,0	6
RMB15000H7HF	**RMB15000H7HF**	15,00	.591	16,00	145,0	76,0	2.992	8,0	49,0	6
RMB16000H7HF	**RMB16000H7HF**	16,00	.630	20,00	157,0	86,0	3.386	8,0	51,0	6
RMB17000H7HF	**RMB17000H7HF**	17,00	.669	20,00	157,0	86,0	3.386	10,0	51,0	6
RMB18000H7HF	**RMB18000H7HF**	18,00	.709	20,00	171,0	100,0	3.937	10,0	51,0	6
RMB19000H7HF	**RMB19000H7HF**	19,00	.748	20,00	171,0	100,0	3.937	10,0	51,0	6
RMB20000H7HF	**RMB20000H7HF**	20,00	.787	20,00	200,0	129,0	5.079	10,0	51,0	6

NOTE: Uncoated carbide grade K605™ and uncoated cermet grade KT325™ are available on request.

Dimensions for Engineered-Solution Reamers

D1 min mm	D1 min in	D1 max mm	D1 max in	D mm	L mm	L4 mm	L4 in	L10 mm	LS mm	Z
14,00	0.5512	15,99	0.6295	16,00	145	97	3.8189	9	48	6
16,00	0.6299	17,99	0.7083	20,00	157	107	4.2126	9	50	6
18,00	0.7087	19,99	0.7870	20,00	171	121	4.7638	9	50	6
20,00	0.7874	21,99	0.8657	20,00	200	150	5.9055	9	50	6
22,00	0.8661	25,99	1.0232	20,00	210	160	6.2992	11	50	6
26,00	1.0236	29,99	1.1807	25,00	240	184	7.2441	11	56	8
30,00	1.1811	32,00	1.2598	25,00	270	214	8.4252	11	56	8

NOTE: The above dimensions are used when ordering engineered-solution reamers on this page unless otherwise specified.

RMB™

Material Group		KT325 Cutting Speed – vc Range – m/min			KT6215 Cutting Speed – vc Range – m/min			K605 Cutting Speed – vc Range – m/min			KC6305 Cutting Speed – vc Range – m/min			Metric Recommended Feed Rate per Tooth				
														Tool Diameter (mm)	14,00-19,99		20,00-32,00	
		min	Starting Value	max	min	Starting Value	max	min	Starting Value	max	min	Starting Value	max	Feed/Tooth	min	max	min	max
P	1	150	**180**	210	180	**210**	240	40	**60**	70	90	**120**	155	mm/z	0,10	0,22	0,10	0,25
	2	150	**180**	210	180	**210**	240	40	**60**	70	90	**120**	155	mm/z	0,10	0,22	0,10	0,25
	3	130	**160**	180	150	**180**	210	30	**40**	50	75	**100**	130	mm/z	0,10	0,22	0,10	0,25
	4	100	**130**	150	120	**150**	170	25	**40**	45	50	**80**	105	mm/z	0,10	0,22	0,10	0,25
	5	80	**100**	120	100	**130**	150	10	**20**	30	30	**40**	55	mm/z	0,08	0,2	0,08	0,22
	6	80	**100**	120	100	**130**	150	10	**20**	30	30	**40**	55	mm/z	0,08	0,2	0,08	0,22
M	1	–	**–**	–	–	**–**	–	8	**10**	15	15	**20**	28	mm/z	0,08	0,18	0,08	0,2
	2	–	**–**	–	–	**–**	–	8	**10**	15	15	**20**	28	mm/z	0,08	0,18	0,08	0,2
	3	–	**–**	–	–	**–**	–	8	**10**	15	15	**20**	28	mm/z	0,08	0,18	0,08	0,2
K	1	150	**180**	200	180	**210**	240	30	**50**	60	80	**110**	130	mm/z	0,10	0,22	0,10	0,25
	2	130	**160**	180	150	**180**	210	25	**40**	45	65	**90**	110	mm/z	0,10	0,22	0,10	0,25
	3	100	**130**	160	120	**150**	170	20	**30**	40	50	**70**	90	mm/z	0,10	0,2	0,10	0,22
N	1	–	**–**	–	–	**–**	–	110	**150**	195	–	**–**	–	mm/z	0,10	0,30	0,10	0,30
	2	–	**–**	–	–	**–**	–	110	**150**	195	–	**–**	–	mm/z	0,10	0,30	0,10	0,30
	3	–	**–**	–	–	**–**	–	110	**150**	195	–	**–**	–	mm/z	0,10	0,30	0,10	0,30
	4	–	**–**	–	–	**–**	–	110	**150**	195	–	**–**	–	mm/z	0,10	0,30	0,10	0,30
	5	–	**–**	–	–	**–**	–	105	**140**	180	–	**–**	–	mm/z	0,10	0,30	0,10	0,30
S	1	–	**–**	–	–	**–**	–	8	**10**	15	15	**20**	28	mm/z	0,10	0,18	0,10	0,20
	2	–	**–**	–	–	**–**	–	8	**10**	15	15	**20**	28	mm/z	0,10	0,18	0,10	0,20
	3	–	**–**	–	–	**–**	–	15	**20**	30	20	**30**	40	mm/z	0,10	0,20	0,10	0,20
	4	–	**–**	–	–	**–**	–	15	**20**	30	20	**30**	40	mm/z	0,10	0,20	0,10	0,20

Material Group		KT325 Cutting Speed – vc Range – SFM			KT6215 Cutting Speed – vc Range – SFM			K605 Cutting Speed – vc Range – SFM			KC6305 Cutting Speed – vc Range – SFM			Inch Recommended Feed Rate per Tooth				
														Tool Diameter (inch)	.551-.787		.787-1.260	
		min	Starting Value	max	min	Starting Value	max	min	Starting Value	max	min	Starting Value	max	Feed/Tooth	min	max	min	max
P	1	492	**590**	689	590	**689**	787	131	**197**	230	295	**394**	508	inch/z	.004	.009	.004	.010
	2	492	**590**	689	590	**689**	787	131	**197**	230	295	**394**	508	inch/z	.004	.009	.004	.010
	3	426	**525**	590	492	**590**	689	98	**131**	164	246	**328**	426	inch/z	.004	.009	.004	.010
	4	328	**426**	492	394	**492**	558	82	**131**	148	164	**262**	344	inch/z	.004	.009	.004	.010
	5	262	**328**	394	328	**426**	492	33	**66**	98	98	**131**	180	inch/z	.003	.008	.003	.009
	6	262	**328**	394	328	**426**	492	33	**66**	98	98	**131**	180	inch/z	.003	.008	.003	.009
M	1	–	**–**	–	–	**–**	–	26	**33**	49	49	**66**	92	inch/z	.003	.007	.003	.008
	2	–	**–**	–	–	**–**	–	26	**33**	49	49	**66**	92	inch/z	.003	.007	.003	.008
	3	–	**–**	–	–	**–**	–	26	**33**	49	49	**66**	92	inch/z	.003	.007	.003	.008
K	1	492	**590**	656	590	**689**	787	98	**164**	197	262	**361**	426	inch/z	.004	.009	.004	.010
	2	426	**525**	590	492	**590**	689	82	**131**	148	213	**295**	361	inch/z	.004	.009	.004	.010
	3	328	**426**	525	394	**492**	558	66	**98**	131	164	**230**	295	inch/z	.004	.008	.004	.009
N	1	–	**–**	–	–	**–**	–	361	**492**	640	–	**–**	–	inch/z	.004	.012	.004	.012
	2	–	**–**	–	–	**–**	–	361	**492**	640	–	**–**	–	inch/z	.004	.012	.004	.012
	3	–	**–**	–	–	**–**	–	361	**492**	640	–	**–**	–	inch/z	.004	.012	.004	.012
	4	–	**–**	–	–	**–**	–	361	**492**	640	–	**–**	–	inch/z	.004	.012	.004	.012
	5	–	**–**	–	–	**–**	–	344	**459**	590	–	**–**	–	inch/z	.004	.012	.004	.012
S	1	–	**–**	–	–	**–**	–	26	**33**	49	49	**66**	92	inch/z	.004	.007	.004	.008
	2	–	**–**	–	–	**–**	–	26	**33**	49	49	**66**	92	inch/z	.004	.007	.004	.008
	3	–	**–**	–	–	**–**	–	49	**66**	98	66	**98**	131	inch/z	.004	.008	.004	.008
	4	–	**–**	–	–	**–**	–	49	**66**	98	66	**98**	131	inch/z	.004	.008	.004	.008



RHM™ Modular Reaming System

The RHM Modular Reaming System achieves solid reamer metal removal rates from diameter 14–50mm with no customization required. All standard reamer heads are ground to achieve an ISO H7 tolerance class addressing most applications. This system gives you fast and easy change of heads using axial actuation toolholders, and replaceable heads eliminate the need for repeating runout check. Specific coatings and lead configurations enable high-speed machining of steel, stainless steel, cast iron, and non-ferrous materials at accelerated speeds.

Primary Application

Use SIF™ Steerable Hydraulic Chucks or SIF Adapters for easy compensation of radial runout and angular inaccuracies of the spindle to achieve the highest possible hole straightness and surface quality.
Radial or axial actuation tool bodies are available at diameter 20mm.

Features and Benefits

Taper-Face Contact with KST Coupling

- Symmetrical torque transmission near head.
- Higher feed rate than conventional reaming tools.
- Better surface quality and tool life due to less tendency to vibrate.
- No need for head to body orientation.

Higher Productivity and Profitability

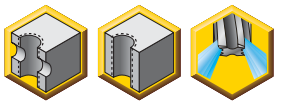
- Longer tool life with increased hole and surface quality due to lapped ground leads.
- Highest metal removal rate at higher speeds and feeds due to reaming specific grades and substrates.
- Improved straightness and cylindrical form compared to competitive tools and reduced vibration tendency due to unequal flutes.

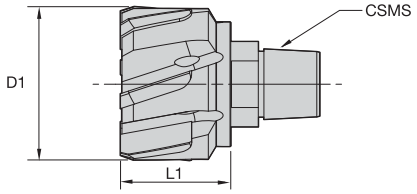
Customization

- Diameters up to 1.968" (50mm) available with and without internal coolant in .00004" (1 µm) steps.
- Intermediate diameters of standard program available with short delivery time.
- RHM tooling for machining heat-resistant materials, as well as different lengths and couplings or shanks, available on request.



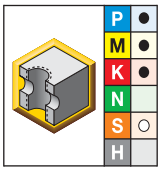
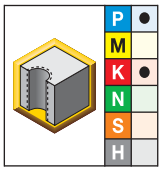
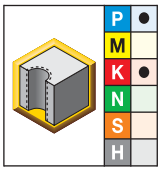
- For hole tolerance H7.
- Intermediate sizes ground to achieve IT6 or IT7 hole tolerance class available.
- Please order screw for axial use or pull stud separately.





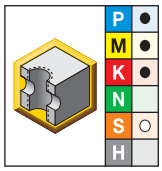


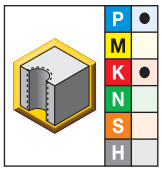
RHM Heads with Helical Flutes and Internal Coolant

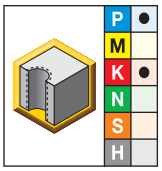
									
				D1		L1			
KC6305	KT325	KT6215	CSMS system size	mm	in	in	mm	in	Z
RHM14000KST115H7HF	RHM14000KST115H7HF	RHM14000KST115H7HF	KST115	14,00	–	.551	13,50	.531	6
RHM14288KST115H7HF	RHM14288KST115H7HF	RHM14288KST115H7HF	KST115	14,29	9/16	.563	13,50	.531	6
RHM15000KST115H7HF	RHM15000KST115H7HF	RHM15000KST115H7HF	KST115	15,00	–	.591	13,50	.531	6
RHM15875KST115H7HF	RHM15875KST115H7HF	RHM15875KST115H7HF	KST115	15,88	5/8	.625	13,50	.531	6
RHM16000KST135H7HF	RHM16000KST135H7HF	RHM16000KST135H7HF	KST135	16,00	–	.630	13,50	.531	6
RHM17000KST135H7HF	RHM17000KST135H7HF	RHM17000KST135H7HF	KST135	17,00	–	.669	15,50	.610	6
RHM17463KST135H7HF	RHM17463KST135H7HF	RHM17463KST135H7HF	KST135	17,46	11/16	.688	15,50	.610	6
RHM18000KST155H7HF	RHM18000KST155H7HF	RHM18000KST155H7HF	KST155	18,00	–	.709	15,50	.610	6
RHM19000KST155H7HF	RHM19000KST155H7HF	RHM19000KST155H7HF	KST155	19,00	–	.748	15,50	.610	6
RHM19050KST155H7HF	RHM19050KST155H7HF	RHM19050KST155H7HF	KST155	19,05	3/4	.750	15,50	.610	6
RHM20000KST175H7HF	RHM20000KST175H7HF	RHM20000KST175H7HF	KST175	20,00	–	.787	15,50	.610	6
RHM20640KST175H7HF	RHM20640KST175H7HF	RHM20640KST175H7HF	KST175	20,64	13/16	.813	15,50	.610	6
RHM21000KST175H7HF	RHM21000KST175H7HF	RHM21000KST175H7HF	KST175	21,00	–	.827	15,50	.610	6
RHM22000KST175H7HF	RHM22000KST175H7HF	RHM22000KST175H7HF	KST175	22,00	–	.866	15,50	.610	6
RHM22230KST175H7HF	RHM22230KST175H7HF	RHM22230KST175H7HF	KST175	22,23	7/8	.875	15,50	.610	6
RHM22500KST200H7HF	RHM22500KST200H7HF	RHM22500KST200H7HF	KST200	22,50	–	.886	16,50	.650	6
RHM23000KST200H7HF	RHM23000KST200H7HF	RHM23000KST200H7HF	KST200	23,00	–	.906	16,50	.650	6
RHM23810KST200H7HF	RHM23810KST200H7HF	RHM23810KST200H7HF	KST200	23,81	15/16	.937	16,50	.650	6
RHM24000KST200H7HF	RHM24000KST200H7HF	RHM24000KST200H7HF	KST200	24,00	–	.945	16,50	.650	6
RHM25000KST200H7HF	RHM25000KST200H7HF	RHM25000KST200H7HF	KST200	25,00	–	.984	16,50	.650	6
RHM25400KST200H7HF	RHM25400KST200H7HF	RHM25400KST200H7HF	KST200	25,40	1	1.000	16,50	.650	6
RHM26000KST200H7HF	RHM26000KST200H7HF	RHM26000KST200H7HF	KST200	26,00	–	1.024	16,50	.650	8
RHM26990KST200H7HF	RHM26990KST200H7HF	RHM26990KST200H7HF	KST200	26,99	1 1/16	1.063	16,50	.650	8
RHM27000KST200H7HF	RHM27000KST200H7HF	RHM27000KST200H7HF	KST200	27,00	–	1.063	16,50	.650	8
RHM27500KST250H7HF	RHM27500KST250H7HF	RHM27500KST250H7HF	KST250	27,50	–	1.083	16,50	.650	8
RHM28000KST250H7HF	RHM28000KST250H7HF	RHM28000KST250H7HF	KST250	28,00	–	1.102	16,50	.650	8

(continued)

(RHM Heads with Helical Flutes and Internal Coolant continued)





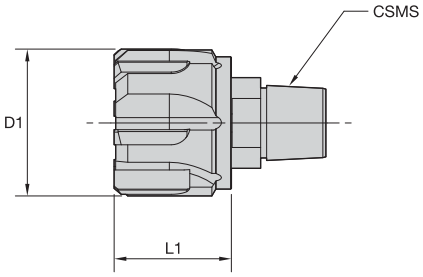


KC6305	KT325	KT6215	CSMS system size	D1 mm	D1 in	L1 in	L1 mm	L1 in	Z
RHM14000KST115H7HF	**RHM14000KST115H7HF**	**RHM14000KST115H7HF**	KST115	14,00	—	.551	13,50	.531	6
RHM14288KST115H7HF	**RHM14288KST115H7HF**	**RHM14288KST115H7HF**	KST115	14,29	9/16	.563	13,50	.531	6
RHM15000KST115H7HF	**RHM15000KST115H7HF**	**RHM15000KST115H7HF**	KST115	15,00	—	.591	13,50	.531	6
RHM15875KST115H7HF	**RHM15875KST115H7HF**	**RHM15875KST115H7HF**	KST115	15,88	5/8	.625	13,50	.531	6
RHM16000KST135H7HF	**RHM16000KST135H7HF**	**RHM16000KST135H7HF**	KST135	16,00	—	.630	13,50	.531	6
RHM17000KST135H7HF	**RHM17000KST135H7HF**	**RHM17000KST135H7HF**	KST135	17,00	—	.669	15,50	.610	6
RHM17463KST135H7HF	**RHM17463KST135H7HF**	**RHM17463KST135H7HF**	KST135	17,46	11/16	.688	15,50	.610	6
RHM18000KST155H7HF	**RHM18000KST155H7HF**		KST155	18,00	—	.709	15,50	.610	6
RHM19000KST155H7HF	**RHM19000KST155H7HF**	**RHM19000KST155H7HF**	KST155	19,00	—	.748	15,50	.610	6
RHM19050KST155H7HF	**RHM19050KST155H7HF**	**RHM19050KST155H7HF**	KST155	19,05	3/4	.750	15,50	.610	6
RHM20000KST175H7HF	**RHM20000KST175H7HF**	**RHM20000KST175H7HF**	KST175	20,00	—	.787	15,50	.610	6
RHM20640KST175H7HF	**RHM20640KST175H7HF**	**RHM20640KST175H7HF**	KST175	20,64	13/16	.813	15,50	.610	6
RHM21000KST175H7HF	**RHM21000KST175H7HF**	**RHM21000KST175H7HF**	KST175	21,00	—	.827	15,50	.610	6
RHM22000KST175H7HF	**RHM22000KST175H7HF**	**RHM22000KST175H7HF**	KST175	22,00	—	.866	15,50	.610	6
RHM22230KST175H7HF	**RHM22230KST175H7HF**	**RHM22230KST175H7HF**	KST175	22,23	7/8	.875	15,50	.610	6
RHM22500KST200H7HF	**RHM22500KST200H7HF**	**RHM22500KST200H7HF**	KST200	22,50	—	.886	16,50	.650	6
RHM23000KST200H7HF	**RHM23000KST200H7HF**	**RHM23000KST200H7HF**	KST200	23,00	—	.906	16,50	.650	6
RHM23810KST200H7HF	**RHM23810KST200H7HF**	**RHM23810KST200H7HF**	KST200	23,81	15/16	.937	16,50	.650	6
RHM24000KST200H7HF	**RHM24000KST200H7HF**	**RHM24000KST200H7HF**	KST200	24,00	—	.945	16,50	.650	6
RHM25000KST200H7HF	**RHM25000KST200H7HF**	**RHM25000KST200H7HF**	KST200	25,00	—	.984	16,50	.650	6
RHM25400KST200H7HF	**RHM25400KST200H7HF**	**RHM25400KST200H7HF**	KST200	25,40	1	1.000	16,50	.650	6
RHM26000KST200H7HF	**RHM26000KST200H7HF**	**RHM26000KST200H7HF**	KST200	26,00	—	1.024	16,50	.650	8
RHM26990KST200H7HF	**RHM26990KST200H7HF**	**RHM26990KST200H7HF**	KST200	26,99	1 1/16	1.063	16,50	.650	8
RHM27000KST200H7HF	**RHM27000KST200H7HF**	**RHM27000KST200H7HF**	KST200	27,00	—	1.063	16,50	.650	8
RHM27500KST250H7HF	**RHM27500KST250H7HF**	**RHM27500KST250H7HF**	KST250	27,50	—	1.083	16,50	.650	8
RHM28000KST250H7HF	**RHM28000KST250H7HF**	**RHM28000KST250H7HF**	KST250	28,00	—	1.102	16,50	.650	8

NOTE: Uncoated carbide grade K605™ is available on request.

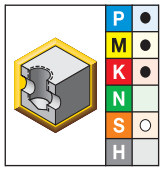
- For hole tolerance H7.
- Intermediate sizes ground to achieve IT6 hole tolerance class available.
- Please order screw for axial use or pull stud separately.

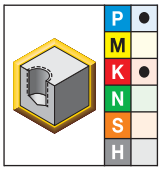


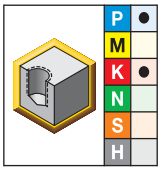




RHM Heads with Straight Flutes and Internal Coolant





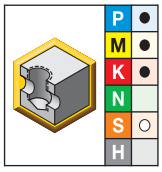


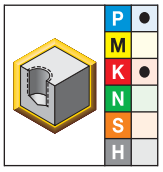
● first choice
○ alternate choice

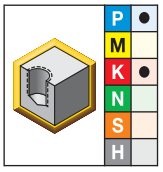
KC6305	KT325	KT6215	CSMS system size	D1 mm	D1 in	L1 in	L1 mm	L1 in	Z
RHM14000KST115H7SF	RHM14000KST115H7SF	RHM14000KST115H7SF	KST115	14,00	–	.551	13,50	.531	6
RHM14288KST115H7SF	RHM14288KST115H7SF	RHM14288KST115H7SF	KST115	14,29	9/16	.563	13,50	.531	6
RHM15000KST115H7SF	RHM15000KST115H7SF	RHM15000KST115H7SF	KST115	15,00	–	.591	13,50	.531	6
RHM15875KST115H7SF	RHM15875KST115H7SF	RHM15875KST115H7SF	KST115	15,88	5/8	.625	13,50	.531	6
RHM16000KST135H7SF	RHM16000KST135H7SF	RHM16000KST135H7SF	KST135	16,00	–	.630	13,50	.531	6
RHM17000KST135H7SF	RHM17000KST135H7SF	RHM17000KST135H7SF	KST135	17,00	–	.669	15,50	.610	6
RHM17463KST135H7SF	RHM17463KST135H7SF	RHM17463KST135H7SF	KST135	17,46	11/16	.688	15,50	.610	6
RHM18000KST155H7SF	RHM18000KST155H7SF	RHM18000KST155H7SF	KST155	18,00	–	.709	15,50	.610	6
RHM19000KST155H7SF	RHM19000KST155H7SF	RHM19000KST155H7SF	KST155	19,00	–	.748	15,50	.610	6
RHM19050KST155H7SF	RHM19050KST155H7SF	RHM19050KST155H7SF	KST155	19,05	3/4	.750	15,50	.610	6
RHM20000KST175H7SF	RHM20000KST175H7SF	RHM20000KST175H7SF	KST175	20,00	–	.787	15,50	.610	6
RHM20640KST175H7SF	RHM20640KST175H7SF	RHM20640KST175H7SF	KST175	20,64	13/16	.813	15,50	.610	6
RHM21000KST175H7SF	RHM21000KST175H7SF	RHM21000KST175H7SF	KST175	21,00	–	.827	15,50	.610	6
RHM22000KST175H7SF	RHM22000KST175H7SF	RHM22000KST175H7SF	KST175	22,00	–	.866	15,50	.610	6
RHM22230KST175H7SF	RHM22230KST175H7SF	RHM22230KST175H7SF	KST175	22,23	7/8	.875	15,50	.610	6
RHM22500KST200H7SF	RHM22500KST200H7SF	RHM22500KST200H7SF	KST200	22,50	–	.886	16,50	.650	6
RHM23000KST200H7SF	RHM23000KST200H7SF	RHM23000KST200H7SF	KST200	23,00	–	.906	16,50	.650	6
RHM23810KST200H7SF	RHM23810KST200H7SF	RHM23810KST200H7SF	KST200	23,81	15/16	.937	16,50	.650	6
RHM24000KST200H7SF	RHM24000KST200H7SF	RHM24000KST200H7SF	KST200	24,00	–	.945	16,50	.650	6
RHM25000KST200H7SF	RHM25000KST200H7SF	RHM25000KST200H7SF	KST200	25,00	–	.984	16,50	.650	6
RHM25400KST200H7SF	RHM25400KST200H7SF	RHM25400KST200H7SF	KST200	25,40	1	1.000	16,50	.650	6
RHM26000KST200H7SF	RHM26000KST200H7SF	RHM26000KST200H7SF	KST200	26,00	–	1.024	16,50	.650	8
RHM26990KST200H7SF	RHM26990KST200H7SF	RHM26990KST200H7SF	KST200	26,99	1 1/16	1.063	16,50	.650	8
RHM27000KST200H7SF	RHM27000KST200H7SF	RHM27000KST200H7SF	KST200	27,00	–	1.063	16,50	.650	8
RHM27500KST250H7SF	RHM27500KST250H7SF	RHM27500KST250H7SF	KST250	27,50	–	1.083	16,50	.650	8
RHM28000KST250H7SF	RHM28000KST250H7SF	RHM28000KST250H7SF	KST250	28,00	–	1.102	16,50	.650	8

(continued)

(RHM Heads with Straight Flutes and Internal Coolant continued)



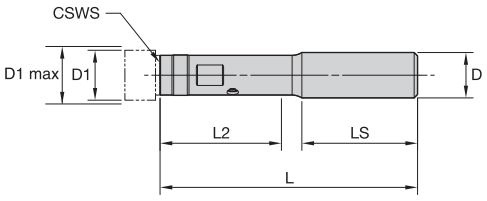


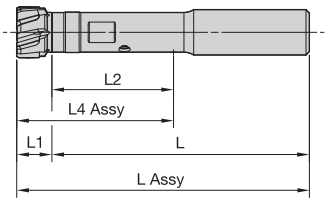


KC6305	KT325	KT6215	CSMS system size	D1 mm	D1 in	L1 in	L1 mm	L1 in	Z
RHM28580KST250H7SF	RHM28580KST250H7SF	RHM28580KST250H7SF	KST250	28,58	1 1/8	1.125	16,50	.650	8
RHM29000KST250H7SF	RHM29000KST250H7SF	RHM29000KST250H7SF	KST250	29,00	–	1.142	16,50	.650	8
RHM30000KST250H7SF	RHM30000KST250H7SF	RHM30000KST250H7SF	KST250	30,00	–	1.181	16,50	.650	8
RHM30160KST250H7SF	RHM30160KST250H7SF	RHM30160KST250H7SF	KST250	30,16	1 3/16	1.187	16,50	.650	8
RHM31000KST250H7SF	RHM31000KST250H7SF	RHM31000KST250H7SF	KST250	31,00	–	1.221	16,50	.650	8
RHM31750KST250H7SF	RHM31750KST250H7SF	RHM31750KST250H7SF	KST250	31,75	1 1/4	1.250	16,50	.650	8
RHM32000KST250H7SF	RHM32000KST250H7SF	RHM32000KST250H7SF	KST250	32,00	–	1.260	16,50	.650	8
RHM32500KST300H7SF	RHM32500KST300H7SF	RHM32500KST300H7SF	KST300	32,50	–	1.280	18,00	.709	8
RHM33000KST300H7SF	RHM33000KST300H7SF	RHM33000KST300H7SF	KST300	33,00	–	1.299	18,00	.709	8
RHM33340KST300H7SF	RHM33340KST300H7SF	RHM33340KST300H7SF	KST300	33,34	1 5/16	1.313	18,00	.709	8
RHM34000KST300H7SF	RHM34000KST300H7SF	RHM34000KST300H7SF	KST300	34,00	–	1.339	18,00	.709	8
RHM34930KST300H7SF	RHM34930KST300H7SF	RHM34930KST300H7SF	KST300	34,93	1 3/8	1.375	18,00	.709	8
RHM35000KST300H7SF	RHM35000KST300H7SF	RHM35000KST300H7SF	KST300	35,00	–	1.378	18,00	.709	8
RHM36000KST300H7SF	RHM36000KST300H7SF	RHM36000KST300H7SF	KST300	36,00	–	1.417	18,00	.709	8
RHM36510KST300H7SF	RHM36510KST300H7SF	RHM36510KST300H7SF	KST300	36,51	1 7/16	1.437	18,00	.709	8
RHM37000KST300H7SF	RHM37000KST300H7SF	RHM37000KST300H7SF	KST300	37,00	–	1.457	18,00	.709	8
RHM37500KST350H7SF	RHM37500KST350H7SF	RHM37500KST350H7SF	KST350	37,50	–	1.476	18,00	.709	8
RHM38000KST350H7SF	RHM38000KST350H7SF	RHM38000KST350H7SF	KST350	38,00	–	1.496	18,00	.709	8
RHM38100KST350H7SF	RHM38100KST350H7SF	RHM38100KST350H7SF	KST350	38,10	1 1/2	1.500	18,00	.709	8
RHM39000KST350H7SF	RHM39000KST350H7SF	RHM39000KST350H7SF	KST350	39,00	–	1.535	18,00	.709	8
RHM39690KST350H7SF	RHM39690KST350H7SF	RHM39690KST350H7SF	KST350	39,69	1 9/16	1.563	18,00	.709	8
RHM40000KST350H7SF	RHM40000KST350H7SF	RHM40000KST350H7SF	KST350	40,00	–	1.575	18,00	.709	8
RHM41000KST350H7SF	RHM41000KST350H7SF	RHM41000KST350H7SF	KST350	41,00	–	1.614	18,00	.709	8
RHM41280KST350H7SF	RHM41280KST350H7SF	RHM41280KST350H7SF	KST350	41,28	1 5/8	1.625	18,00	.709	8
RHM42000KST350H7SF	RHM42000KST350H7SF	RHM42000KST350H7SF	KST350	42,00	–	1.654	18,00	.709	8

- Tool body shipped with screw for axial use.
- Order reamer head separately.







L Assy = L1 (RHM Head) + L (Shank)

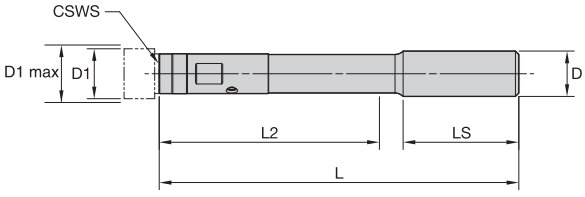


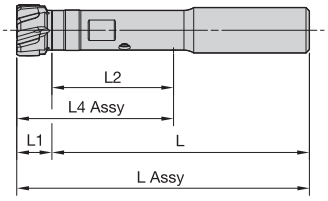
Round Shank Axial Actuation • Metric • 3 x D

order number	catalog number	CSWS system size	D1 mm	D1 in	D1 max mm	D1 max in	D	L	L2	LS	central lock screw	Torx wrench	Nm	ft. lbs.
4056174	SS16KST115AR3M	KST115	14,00	.551	15,999	.63	16,00	91,00	35,00	48,00	KST115115AS	170.028	3,0	2.2
4056175	SS20KST135AR3M	KST135	16,00	.630	17,999	.71	20,00	99,00	39,00	51,00	KST135155AS	170.085	4,0	3.0
4056176	SS20KST155AR3M	KST155	18,00	.709	19,999	.79	20,00	106,00	45,00	51,00	KST135155AS	170.085	4,0	3.0
3861185	SS20KST175AR3M	KST175	20,00	.787	22,499	.89	20,00	113,50	51,50	51,00	KST175200AS	TT15	5,0	3.7
3861186	SS20KST200AR3M	KST200	22,50	.886	27,499	1.08	20,00	130,50	65,50	51,00	KST175200AS	TT15	5,0	3.7
3861187	SS25KST250AR3M	KST250	27,50	1.083	32,499	1.28	25,00	152,50	80,50	56,00	KST250250AS	TT25	9,0	6.7
3861188	SS32KST300AR3M	KST300	32,50	1.280	37,499	1.48	32,00	174,00	94,00	61,00	KST300350AS	TT30	13,0	9.7
3861189	SS32KST350AR3M	KST350	37,50	1.476	42,000	1.65	32,00	190,00	108,00	61,00	KST300350AS	TT30	13,0	9.7

- Tool body shipped with screw for axial use.
- Order reamer head separately.







L Assy = L1 (RHM Head) + L (Shank)

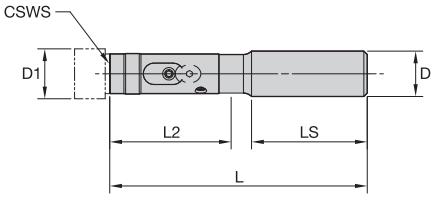


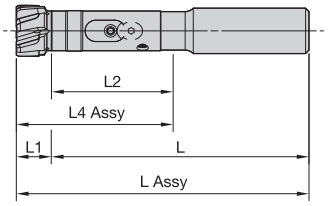
Round Shank Axial Actuation • Metric • 5 x D

order number	catalog number	CSWS system size	D1 mm	D1 in	D1 max mm	D1 max in	D	L	L2	LS	central lock screw	Torx wrench	Nm	ft. lbs.
4056177	SS16KST115AR5M	KST115	14,00	.551	15,999	.630	16,00	123,00	67,00	48,00	KST115115AS	170.028	3,0	2.2
4056178	SS20KST135AR5M	KST135	16,00	.630	17,999	.709	20,00	135,00	75,00	51,00	KST135155AS	170.085	4,0	3.0
4056179	SS20KST155AR5M	KST155	18,00	.709	19,999	.787	20,00	146,00	85,00	51,00	KST135155AS	170.085	4,0	3.0
3861190	SS20KST175AR5M	KST175	20,00	.787	22,499	.886	20,00	158,50	96,50	51,00	KST175200AS	TT15	5,0	3.7
3861191	SS20KST200AR5M	KST200	22,50	.886	27,499	1.083	20,00	185,50	120,50	51,00	KST175200AS	TT15	5,0	3.7
3861192	SS25KST250AR5M	KST250	27,50	1.083	32,499	1.280	25,00	217,50	145,50	56,00	KST250250AS	TT25	9,0	6.7
3861193	SS32KST300AR5M	KST300	32,50	1.280	37,499	1.476	32,00	249,00	169,00	61,00	KST300350AS	TT30	13,0	9.7
3861194	SS32KST350AR5M	KST350	37,50	1.476	42,000	1.654	32,00	274,00	192,00	61,00	KST300350AS	TT30	13,0	9.7

- Tool body shipped with pull stud for radial use.
- Order reamer head separately.







L Assy = L1 (RHM Head) + L (Shank)

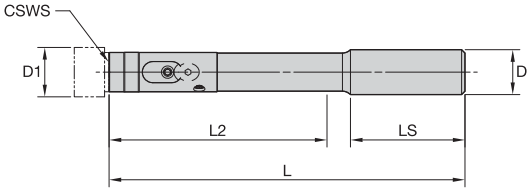


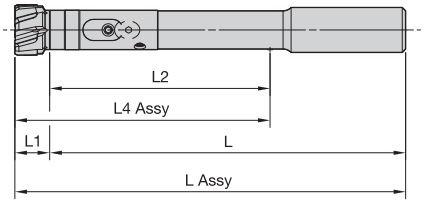
Round Shank Radial Actuation • Metric • 3 x D

order number	catalog number	CSWS system size	D1 mm	D1 in	D1 max mm	D1 max in	D	L	L2	LS	retention knob	clamp set	Torx wrench	Nm	ft. lbs.
3861195	**SS20KST175RR3M**	KST175	20,00	.787	22,50	.886	20,00	113,50	51,50	51,00	**KST175200RK**	**KST175CS**	**TT15**	5,0	3.7
3861196	**SS20KST200RR3M**	KST200	22,50	.886	27,50	1.083	20,00	130,50	65,50	51,00	**KST175200RK**	**KST200CS**	**TT15**	5,0	3.7
3861197	**SS25KST250RR3M**	KST250	27,50	1.083	32,50	1.280	25,00	152,50	80,50	56,00	**KST250250RK**	**KST250CS**	**TT25**	9,0	6.7
3861198	**SS32KST300RR3M**	KST300	32,50	1.280	37,50	1.476	32,00	174,00	94,00	61,00	**KST300350RK**	**KST300CS**	**TT30**	13,0	9.7
3861199	**SS32KST350RR3M**	KST350	37,50	1.476	42,00	1.654	32,00	190,00	108,00	61,00	**KST300350RK**	**KST350CS**	**TT30**	13,0	9.7

- Tool body shipped with pull stud for radial use.
- Order reamer head separately.







L Assy = L1 (RHM Head) + L (Shank)

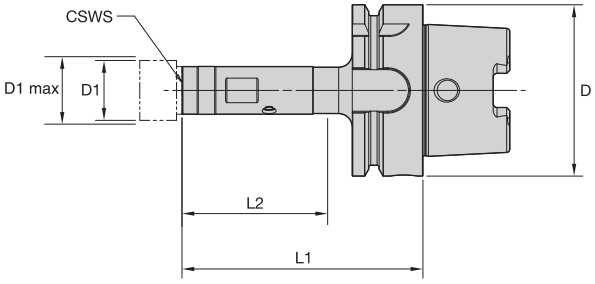


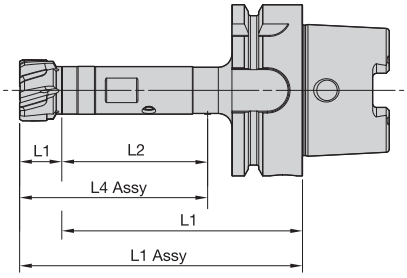
Round Shank Radial Actuation • Metric • 5 x D

order number	catalog number	CSWS system size	D1 mm	D1 in	D1 max mm	D1 max in	D	L	L2	LS	retention knob	clamp set	Torx wrench	Nm	ft. lbs.
3861200	**SS20KST175RR5M**	KST175	20,00	.787	22,50	.886	20,00	158,50	96,50	51,00	**KST175200RK**	**KST175CS**	**TT15**	5,0	3.7
3861201	**SS20KST200RR5M**	KST200	22,50	.886	27,50	1.083	20,00	185,50	120,50	51,00	**KST175200RK**	**KST200CS**	**TT15**	5,0	3.7
3861202	**SS25KST250RR5M**	KST250	27,50	1.083	32,50	1.280	25,00	217,50	145,50	56,00	**KST250250RK**	**KST250CS**	**TT25**	9,0	6.7
3861203	**SS32KST300RR5M**	KST300	32,50	1.280	37,50	1.476	32,00	249,00	169,00	61,00	**KST300350RK**	**KST300CS**	**TT30**	13,0	9.7
3861204	**SS32KST350RR5M**	KST350	37,50	1.476	42,00	1.654	32,00	274,00	192,00	61,00	**KST300350RK**	**KST350CS**	**TT30**	13,0	9.7

- Tool body shipped with screw for axial use.
- Order reamer head separately.







L1 Assy = L1 Head + L1 Shank

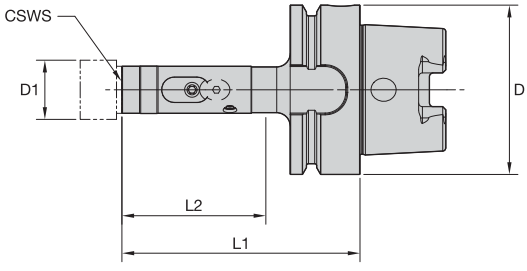


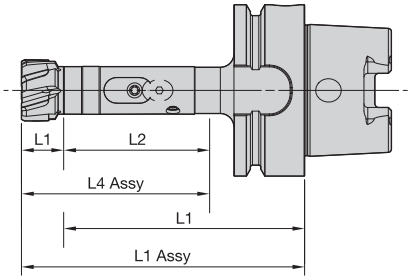
HSK63A Shank Axial Actuation • 3 x D

order number	catalog number	CSWS system size	D1 mm	D1 in	D1 max mm	D1 max in	D	L1	L2	central lock screw	Torx wrench	Nm	ft. lbs.
4056180	**HSK63AKST115AR3M**	KST115	14,00	.551	15,999	.630	63,00	69,00	35,00	**KST115115AS**	**170.028**	3,0	2.2
4056181	**HSK63AKST135AR3M**	KST135	16,00	.630	17,999	.709	63,00	74,00	39,00	**KST135155AS**	**170.085**	4,0	3.0
4056182	**HSK63AKST155AR3M**	KST155	18,00	.709	19,999	.787	63,00	81,00	45,00	**KST135155AS**	**170.085**	4,0	3.0
3860911	**HSK63AKST175AR3M**	KST175	20,00	.787	22,499	.886	63,00	88,50	51,50	**KST175200AS**	**TT15**	5,0	3.7
3860912	**HSK63AKST200AR3M**	KST200	22,50	.886	27,499	1.083	63,00	105,50	65,50	**KST175200AS**	**TT15**	5,0	3.7
3860963	**HSK63AKST250AR3M**	KST250	27,50	1.083	32,499	1.280	63,00	122,50	80,50	**KST250250AS**	**TT25**	9,0	6.7
3860964	**HSK63AKST300AR3M**	KST300	32,50	1.280	37,499	1.476	63,00	139,00	94,00	**KST300350AS**	**TT30**	13,0	9.7
3860965	**HSK63AKST350AR3M**	KST350	37,50	1.476	42,000	1.654	63,00	155,00	108,00	**KST300350AS**	**TT30**	13,0	9.7

- Tool body shipped with pull stud for radial use.
- Order reamer head separately.







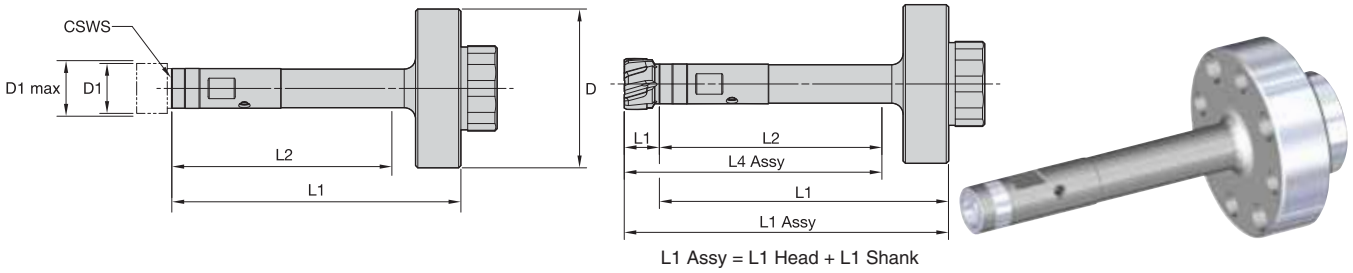
L1 Assy = L1 Head + L1 Shank



HSK63A Shank Radial Actuation • 3 x D

order number	catalog number	CSWS system size	D1 mm	D1 in	D1 max mm	D1 max in	D	L1	L2	retention knob	clamp set	Torx wrench	Nm	ft. lbs.
3860966	**HSK63AKST175RR3M**	KST175	20,00	.787	22,49	.885	63,00	88,50	51,50	**KST175200RK**	**KST175CS**	**TT15**	5,0	3.7
3860967	**HSK63AKST200RR3M**	KST200	22,50	.886	27,49	1.082	63,00	105,50	65,50	**KST175200RK**	**KST200CS**	**TT15**	5,0	3.7
3860968	**HSK63AKST250RR3M**	KST250	27,50	1.083	32,49	1.279	63,00	122,50	80,50	**KST250250RK**	**KST250CS**	**TT25**	9,0	6.7
3860969	**HSK63AKST300RR3M**	KST300	32,50	1.280	37,49	1.476	63,00	139,00	94,00	**KST300350RK**	**KST300CS**	**TT30**	13,0	9.7
3860970	**HSK63AKST350RR3M**	KST350	37,50	1.476	42,00	1.654	63,00	155,00	108,00	**KST300350RK**	**KST350CS**	**TT30**	13,0	9.7

- Tool body shipped with screw for axial use.
- Order reamer head separately.
- Order taper shank separately, see page K129.

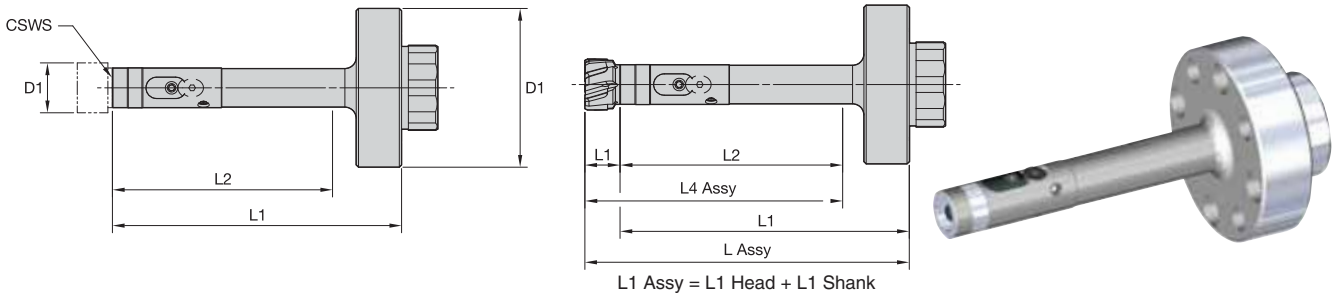


L1 Assy = L1 Head + L1 Shank

SIF70 Shank Axial Actuation • 5 x D

order number	catalog number	CSWS system size	D1 mm	D1 in	D1 max mm	D1 max in	D	L1	L2	central lock screw	Torx wrench	Nm	ft. lbs.
4056183	SIF70KST115AR5M	KST115	14,00	.551	15,999	.630	70,00	95,00	67,00	KST115115AS	170.028	3,0	2.2
4056184	SIF70KST135AR5M	KST135	16,00	.630	17,999	.709	70,00	104,00	75,00	KST135155AS	170.085	4,0	3.0
4056185	SIF70KST155AR5M	KST155	18,00	.709	19,999	.787	70,00	115,00	85,00	KST135155AS	170.085	4,0	3.0
3860971	SIF70KST175AR5M	KST175	20,00	.787	22,499	.886	70,00	127,50	96,50	KST175200AS	TT15	5,0	3.7
3860972	SIF70KST200AR5M	KST200	22,50	.886	27,499	1.083	70,00	154,50	120,50	KST175200AS	TT15	5,0	3.7
3860973	SIF70KST250AR5M	KST250	27,50	1.083	32,499	1.280	70,00	181,50	145,50	KST250250AS	TT25	9,0	6.7
3860974	SIF70KST300AR5M	KST300	32,50	1.280	37,499	1.476	70,00	208,00	169,00	KST300350AS	TT30	13,0	9.7
3860975	SIF70KST350AR5M	KST350	37,50	1.476	42,000	1.654	70,00	233,00	192,00	KST300350AS	TT30	13,0	9.7

- Tool body shipped with pull stud for radial use.
- Order reamer head separately.
- Order taper shank separately, see page K129.



L1 Assy = L1 Head + L1 Shank

SIF70 Shank Radial Actuation • 5 x D

order number	catalog number	CSWS system size	D1 mm	D1 in	D1 max mm	D1 max in	D	L1	L2	retention knob	clamp set	Torx wrench	Nm	ft. lbs.
3860976	SIF70KST175RR5M	KST175	20,00	.787	22,49	.885	70,00	127,50	96,50	KST175200RK	KST175CS	TT15	5,0	3.7
3860977	SIF70KST200RR5M	KST200	22,50	.886	27,49	1.082	70,00	154,50	120,50	KST175200RK	KST200CS	TT15	5,0	3.7
3860978	SIF70KST250RR5M	KST250	27,50	1.083	32,49	1.279	70,00	181,50	145,50	KST250250RK	KST250CS	TT25	9,0	6.7
3860979	SIF70KST300RR5M	KST300	32,50	1.280	37,49	1.476	70,00	208,00	169,00	KST300350RK	KST300CS	TT30	13,0	9.7
3860980	SIF70KST350RR5M	KST350	37,50	1.476	42,00	1.654	70,00	233,00	192,00	KST300350RK	KST350CS	TT30	13,0	9.7

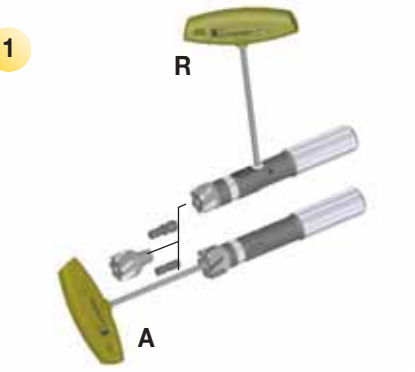
RHM™

Material Group		KT325 Cutting Speed — vc Range — m/min			KT6215 Cutting Speed — vc Range — m/min			K605 Cutting Speed — vc Range — m/min			KC6305 Cutting Speed — vc Range — m/min			Metric Recommended Feed Rate per Tooth						
														Tool Diameter (mm)	14.00-19.99		20.00-32.00		32.50-42.00	
		min	Starting Value	max	min	Starting Value	max	min	Starting Value	max	min	Starting Value	max	Feed/ Tooth	min	max	min	max	min	max
P	1	150	**180**	210	180	**210**	240	40	**60**	70	90	**120**	155	mm/z	0,10	0,20	0,10	0,22	0,10	0,25
	2	150	**180**	210	180	**210**	240	40	**60**	70	90	**120**	155	mm/z	0,10	0,20	0,10	0,22	0,10	0,25
	3	130	**160**	180	150	**180**	210	30	**40**	50	75	**100**	130	mm/z	0,10	0,20	0,10	0,22	0,10	0,25
	4	100	**130**	150	120	**150**	170	25	**40**	45	50	**80**	105	mm/z	0,10	0,20	0,10	0,22	0,10	0,25
	5	80	**100**	120	100	**130**	150	10	**20**	30	30	**40**	55	mm/z	0,08	0,18	0,08	0,20	0,08	0,22
	6	80	**100**	120	100	**130**	150	10	**20**	30	30	**40**	55	mm/z	0,08	0,18	0,08	0,20	0,08	0,22
M	1	–	**–**	–	–	**–**	–	8	**10**	15	15	**20**	28	mm/z	0,08	0,15	0,08	0,18	0,08	0,20
	2	–	**–**	–	–	**–**	–	8	**10**	15	15	**20**	28	mm/z	0,08	0,15	0,08	0,18	0,08	0,20
	3	–	**–**	–	–	**–**	–	8	**10**	15	15	**20**	28	mm/z	0,08	0,15	0,08	0,18	0,08	0,20
K	1	150	**180**	200	180	**210**	240	30	**50**	60	80	**110**	130	mm/z	0,10	0,20	0,10	0,22	0,10	0,25
	2	130	**160**	180	150	**180**	210	25	**40**	45	65	**90**	110	mm/z	0,10	0,20	0,10	0,22	0,10	0,25
	3	100	**130**	160	120	**150**	170	20	**30**	40	50	**70**	90	mm/z	0,10	0,18	0,10	0,20	0,10	0,22
N	1	–	**–**	–	–	**–**	–	110	**150**	195	–	**–**	–	mm/z	0,10	0,30	0,10	0,30	0,10	0,30
	2	–	**–**	–	–	**–**	–	110	**150**	195	–	**–**	–	mm/z	0,10	0,30	0,10	0,30	0,10	0,30
	3	–	**–**	–	–	**–**	–	110	**150**	195	–	**–**	–	mm/z	0,10	0,30	0,10	0,30	0,10	0,30
	4	–	**–**	–	–	**–**	–	110	**150**	195	–	**–**	–	mm/z	0,10	0,30	0,10	0,30	0,10	0,30
	5	–	**–**	–	–	**–**	–	105	**140**	180	–	**–**	–	mm/z	0,10	0,30	0,10	0,30	0,10	0,30
S	1	–	**–**	–	–	**–**	–	8	**10**	15	15	**20**	28	mm/z	0,06	0,15	0,10	0,18	0,10	0,20
	2	–	**–**	–	–	**–**	–	8	**10**	15	15	**20**	28	mm/z	0,06	0,15	0,10	0,18	0,10	0,20
	3	–	**–**	–	–	**–**	–	15	**20**	30	20	**30**	40	mm/z	0,08	0,18	0,10	0,20	0,10	0,20
	4	–	**–**	–	–	**–**	–	15	**20**	30	20	**30**	40	mm/z	0,08	0,18	0,10	0,20	0,10	0,20

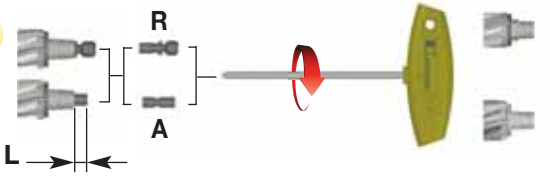
Material Group		KT325 Cutting Speed — vc Range — SFM			KT6215 Cutting Speed — vc Range — SFM			K605 Cutting Speed — vc Range — SFM			KC6305 Cutting Speed — vc Range — SFM			Inch Recommended Feed Rate per Tooth						
														Tool Diameter (inch)	.551-.787		.787-1.260		1.280-1.654	
		min	Starting Value	max	min	Starting Value	max	min	Starting Value	max	min	Starting Value	max	Feed/Tooth	min	max	min	max	min	max
P	1	492	**590**	689	590	**689**	787	131	**197**	230	295	**394**	508	inch/z	.004	.008	.004	.009	.004	.010
	2	492	**590**	689	590	**689**	787	131	**197**	230	295	**394**	508	inch/z	.004	.008	.004	.009	.004	.010
	3	426	**525**	590	492	**590**	689	98	**131**	164	246	**328**	426	inch/z	.004	.008	.004	.009	.004	.010
	4	328	**426**	492	394	**492**	558	82	**131**	148	164	**262**	344	inch/z	.004	.008	.004	.009	.004	.010
	5	262	**328**	394	328	**426**	492	33	**66**	98	98	**131**	180	inch/z	.003	.007	.003	.008	.003	.009
	6	262	**328**	394	328	**426**	492	33	**66**	98	98	**131**	180	inch/z	.003	.007	.003	.008	.003	.009
M	1	–	**–**	–	–	**–**	–	26	**33**	49	49	**66**	92	inch/z	.003	.006	.003	.007	.003	.008
	2	–	**–**	–	–	**–**	–	26	**33**	49	49	**66**	92	inch/z	.003	.006	.003	.007	.003	.008
	3	–	**–**	–	–	**–**	–	26	**33**	49	49	**66**	92	inch/z	.003	.006	.003	.007	.003	.008
K	1	492	**590**	656	590	**689**	787	98	**164**	197	262	**361**	426	inch/z	.004	.008	.004	.009	.004	.010
	2	426	**525**	590	492	**590**	689	82	**131**	148	213	**295**	361	inch/z	.004	.008	.004	.009	.004	.010
	3	328	**426**	525	394	**492**	558	66	**98**	131	164	**230**	295	inch/z	.004	.007	.004	.008	.004	.009
N	1	–	**–**	–	–	**–**	–	361	**492**	640	–	**–**	–	inch/z	.004	.012	.004	.012	.004	.012
	2	–	**–**	–	–	**–**	–	361	**492**	640	–	**–**	–	inch/z	.004	.012	.004	.012	.004	.012
	3	–	**–**	–	–	**–**	–	361	**492**	640	–	**–**	–	inch/z	.004	.012	.004	.012	.004	.012
	4	–	**–**	–	–	**–**	–	361	**492**	640	–	**–**	–	inch/z	.004	.012	.004	.012	.004	.012
	5	–	**–**	–	–	**–**	–	344	**459**	590	–	**–**	–	inch/z	.004	.012	.004	.012	.004	.012
S	1	–	**–**	–	–	**–**	–	26	**33**	49	49	**66**	92	inch/z	.002	.006	.004	.007	.004	.008
	2	–	**–**	–	–	**–**	–	26	**33**	49	49	**66**	92	inch/z	.002	.006	.004	.007	.004	.008
	3	–	**–**	–	–	**–**	–	49	**66**	98	66	**98**	131	inch/z	.003	.007	.004	.008	.004	.008
	4	–	**–**	–	–	**–**	–	49	**66**	98	66	**98**	131	inch/z	.003	.007	.004	.008	.004	.008

Assemble

1

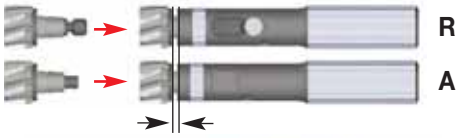


2

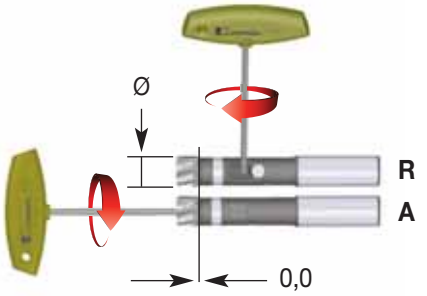


ø (mm)		ø (in)		L (mm)
14,000	27,499	0.549	1.078	5–5,5
27,500	42,000	1.078	1.647	5,5–6

3



4

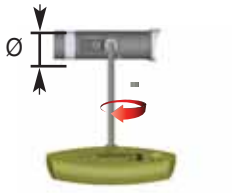


ø (mm)		ø (in)			(Nm)	(ft. lbs.)
14,000	15,999	0.549	0.627	DT - 8	2	1.5
16,000	19,999	0.627	0.784	DT - 10	3	2.2
20,000	27,499	0.784	1.078	TT - 15	5	3.7
27,500	32,499	1.078	1.274	TT - 25	9	6.7
32,500	42,000	1.275	1.647	TT - 30	13	9.7

Disassemble 4 → 3 → 2 → 1

Disassemble

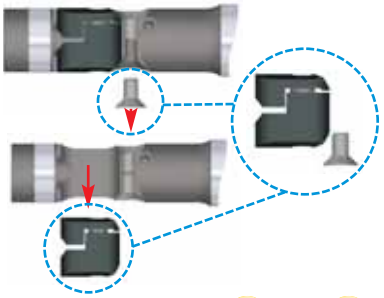
1



ø (mm)	ø (in)			(Nm)	(ft. lbs.)
17,5	0.686	KST175CS	2,5	2,5	1.9
20	0.784	KST200CS	2,5	2,5	1.9
25	0.980	KST250CS	3	5	3.7
30	1.176	KST300CS	4	9	6.7
35	1.373	KST350CS	4	9	6.7

2

3



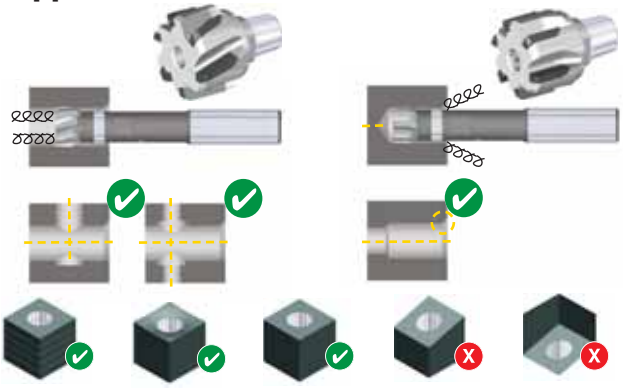
Assemble 3 → 2 → 1

SIF™

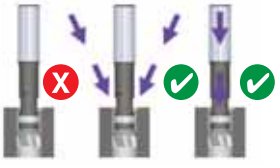




Application



Coolant flow

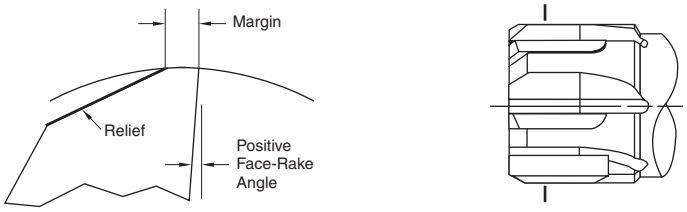




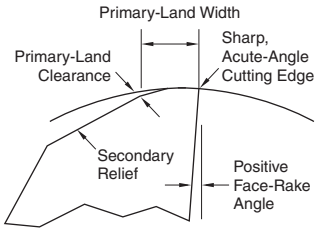
Basic Design Overview • Multiflute Reaming Tooling

Kennametal offers two basic reaming designs, cylindrical margin land and up sharp. The cylindrical margin land design is used for all standard items of the RMS™, RMB™, and RHM™ reaming platforms. Engineered-solution tooling based on up sharp reaming design offers high hole quality and long tool life in exotic cases and high-temp alloys as only the sharp cutting edges contact with the workpiece.

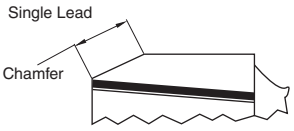
Cylindrical Margin Reaming "C"

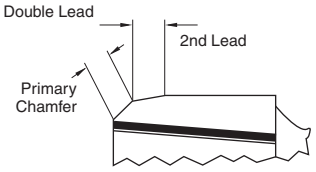


Up Sharp Reaming "U" & "NC"



Basic Lead Differences





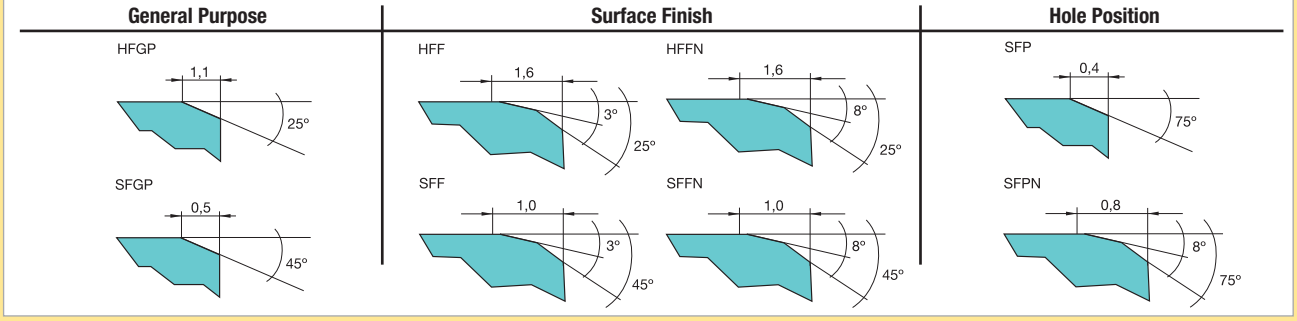
Single Lead

The single lead chamfer design is used with all standard RMS, RMB, and RHM reaming tooling and enables the tool to be applied on various materials without customization. Design can be modified to meet specific applications such as thin walls, straightness correction, etc.

Double Lead

Double lead designs are available as engineered solutions and enable higher surface quality and feed rates in general. Lead dimensions require customization regarding the material to be machined for best machining results.

Lead Design Overview



Lead Nomenclature

HFGPC

HF	GP	C
Flute	Application	Reaming Edge
HF = Helix Flute **SF** = Straight Flute	**GP** = General Purpose **F** = Fine Surface **FN** = Fine Surface Non-Ferrous **P** = Position Accuracy **PN** = Position Accuracy Non-Ferrous **C1** = Chip Control Geometry	**C** = Cylindrical **U** = Up Sharp **NC** = Narrow Cylindrical

General Purpose

workpiece material		hole type	surface requirement	recommended geometry	design	recommended grade
P	steel	through	IT 7, Ra <0.8 steel	HFGP	C	KT325 and KT6215 (Ra < 0.8), KC6305 (Ra <1.6)
		blind		SFGP		
K	cast iron	through	It 7, Ra <1.6 CI	HFGP	C	KT325 and KT6215 (Ra < 0.8), KC6305 (Ra <1.6)
		blind		SFGP		
M	stainless steel	through	IT 7, Ra <1.0	HFGP	C	KC6305
		blind		SFGP		
S	high-temp alloys	through	IT 7, Ra <0.6	HFGP	U	KC6305
		blind		SFGP		
N	non-ferrous	through	IT 7, Ra <0.8	HFGP	C	K605, KD1415
					U	
		blind		SFGP	C	
					U	

Extra Surface Finish

workpiece material		hole type	surface requirement	recommended geometry	design	recommended grade
P	steel	through	IT 7, Ra <0.8	HFFN	C	KT325 and KT6215 (Ra <0.4), KC6305 (Ra <0.8)
		blind		SFFN		
K	cast iron	through	IT 7, Ra <0.8	HFFN	C	KT325 and KT6215 (Ra <0.4), KC6305 (Ra <0.8)
		blind		SFFN		
N	non-ferrous	through	IT 7, Ra <0.4	HFFN	C	K605, KD1415
					U	
		blind		SFFN	C	
					U	

Additional Hole Position Accuracy

workpiece material		hole type	surface requirement	recommended geometry	design	recommended grade
P	steel	through	IT 7, Ra <0.8 steel	SFP	C	KT325, KT6215, KC6305
		blind				
K	cast iron	through	It 7, Ra <1.6 CI	SFP	C	KT325, KT6215, KC6305
		blind				
M	stainless steel	through	IT 7, Ra <1.0	SFP	C	KC6305
		blind			NC	
S	high-temp alloys	through	IT 7, Ra <0.6	SFP	U	KC6305
		blind				
N	non-ferrous	through	Ra <0.8	SFP	C	K605, KD1415
		blind			U	
		through	Ra <0.4	SFPN	C	
		blind			U	

Extra Chip Control

workpiece material		hole type	surface requirement	recommended geometry	design	recommended grade
P	steel (long chipping)	blind	Ra 0.4–1.6	SFC1	C	KT325, KT6215, KC6305
					U	



RIQ™ Quattro Cut™ and RIR™ Padded Reamers

Primary Application

Master the highest precision reaming applications with standard inserts in almost all materials with two unique systems available: RIR for small diameter and RIQ for easy setup in larger diameters.

The RIQ reamers are available starting at diameter 16mm with four edges for lowest cost per hole. They contain a proprietary pocket seat only requiring setup of the diameter, which is a huge benefit in terms of simplicity over other systems that require the diameter and back taper to be adjusted simultaneously. The RIR padded reamers are also proprietary and are available starting at diameter 6mm with two edges.

Features and Benefits

Higher Productivity and Profitability

- Higher tool life with Kennametal grades.
- User friendly — RIQ padded reamers reduce setup time.
- Make use of four full edges even in PCD or PCBN when using RIQ inserts.

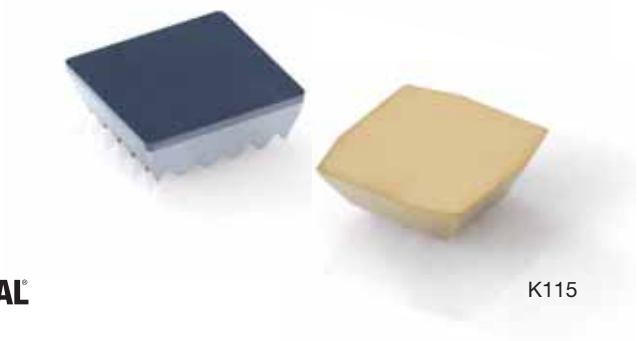
Complete Insert Portfolio

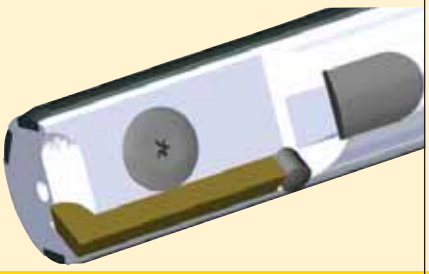
- Large offering of available lead geometries — E13, EDS, EGU, EKS, radius, and taper inserts.
- Large offering of grades — coated and uncoated carbide, cermet, PCBN, and PCD.

Customization

- All RIQ tooling is engineered according to your specific needs in diameters .630–13.780" (16–350mm) with internal coolant.
- All RIR tooling is engineered according to your specific needs in diameters .237–13.780" (6–350mm) with internal coolant.
- RIR taper reamer for cone-shaped holes is available on request.
- Multiflute and step reaming applications and special blade shapes are available upon request.
- Necessary measuring and adjustment equipment is available as standard.





Application recommendation	RIR	RIQ
	Bore tolerances less than 10 µm (can be greater). Geometric tolerancing down to 2 µm. Skilled workforce experience required. Multidiameter bore possible but less stability during end face machining. 	Bore tolerances less than 10 µm. Geometric tolerancing down to 2 µm. Lower skilled workforce, easier adjustment. Multidiameter bores. Blind bore end face machining, greater stability of insert. 
Pocket seat	Flat with clamping groove in blade.	Serrated. Greater insert stability.
Cutting edges	2 (1 with PCD or CBN and 1 within diameter range 6–8mm [0.236–0.315"])	4 (Including PCD, CBN, and cermet)
Special blade forms	yes	yes
Multiple insets on diameter	no	yes
Blade adjustment	Diameter and back taper.	Diameter only, back taper preset.
Blade adjusting screws	2	1
Number of insert sizes	5	3
Chamfer or seat machining	Possible, but adjustment required on length and angle.	Yes. Angle preset into body. Minimal adjustment for length.
General comments	Requires end users to be familiar with adjusting single blade reamers. High accuracy for single or multiple diameters.	Requires end users not to be familiar with typical adjusting single blade padded reamers. Complex multidiameter bores with chamfers and leads between bores. Multidiameter for high accuracy and higher productivity (feed rate).

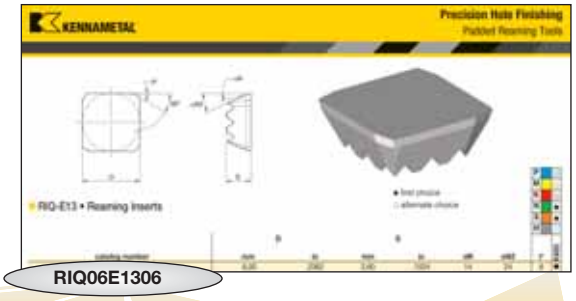

Micro-Finishing Tool


Valve Seat Tool


Tool for Differential Housing

Blade Identification System

The RIR and RIQ blade part numbers are made up of 10 numbers selected from 5 categories. The first three digits indicate the reamer type, the next two digits are determined by reamer size, and the balance of the numbers allow specific blade configurations and grades.



RIQ06E1306

RIQ	06	E13	06	K605
Type	Size	Lead	Rake	Grade

RIR = Reamer Insert Rectangular

RIQ = Reamer Insert Quattro Cut™

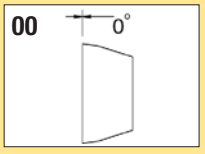
Blade Size

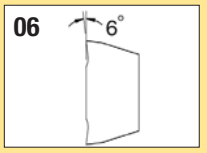
Ø [mm]	RIQ	
16,0–24,99	06	6,0 x 6,0mm
Valve Seat	B7	6,5 x 6,5mm
Valve Seat	07	7,0 x 7,0mm
>25	09	9,0 x 9,0mm
>25	12	12,0 x 12,0mm

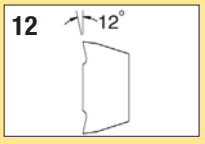
Ø [mm]	RIR	
6,0–7,99	A0	10,5 x 2,50mm
8,0–10,99	01	15,0 x 2,80mm
11,0–13,99	02	18,0 x 4,00mm
14,0–17,99	03	20,0 x 4,76mm
18,0–45,99	04	27,0 x 5,56mm
>46	05	27,0 x 6,75mm
Taper Reamer	T4	45,0 x 5,56mm

Cutting Lead

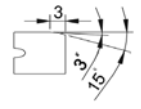
Rake Angle



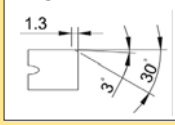




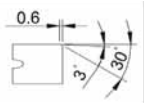
E30



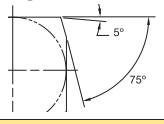
E13



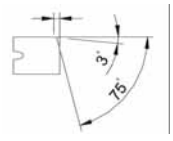
E06



EKS

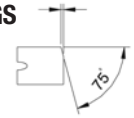


EDS



Blade Size	0	1	2	3	4
Lead Length	.75	.85	1.0	1.1	1.2

EGS

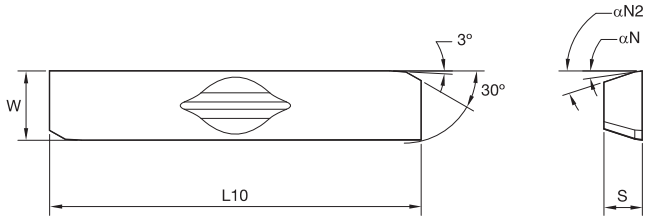


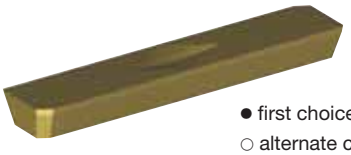
Blade Size	0	1	2	3	4
Lead Length	.25	.35	.50	.60	.70

S — Special Blade

R — Radius Blade

Grade	
Carbide uncoated	K605
Carbide TiN	KC6005
Carbide TiCN	KC6105
Carbide TiAlN	KC6305
Cermet uncoated	KT325
Cermet TiCN	KT6115
Cermet TiAlN	KT6215
PCD	KD1415
CBN	KB1610



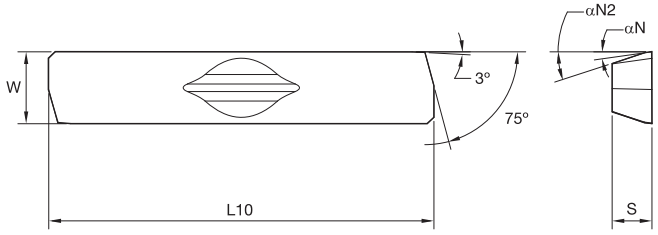


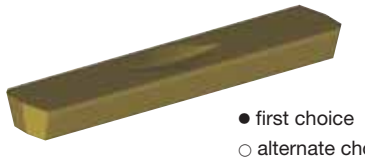
● first choice
○ alternate choice

P	○	●	●	○
M	○	○	○	●
K	○	●	○	●
N	●	○	○	○
S	●	○	○	●
H				

RIR-E13 • Reaming Inserts

catalog number	L10 mm	L10 in	S mm	S in	W mm	W in	αN	αN2	γ°	K605	KC6005	KC6105	KC6305
RIR00E1300	10,50	.4130	1,15	.0450	2,00	.0790	10	25	–	●			
RIRA0E1300	10,50	.4130	1,15	.0450	2,44	.0960	10	27	–	●			
RIR01E1312	15,00	.5910	1,53	.0600	2,80	.1100	8	18	12	●	●	●	●
RIR01E1300	15,00	.5910	1,55	.0610	2,80	.1100	8	18	–	●	●	●	●
RIR02E1312	18,00	.7090	1,93	.0760	4,00	.1575	8	18	12	●	●	●	●
RIR02E1300	18,00	.7090	1,95	.0770	4,00	.1575	8	18	–	●	●	●	●
RIR03E1312	20,00	.7870	2,33	.0920	4,76	.1870	8	18	12	●	●	●	●
RIR03E1300	20,00	.7870	2,35	.0930	4,76	.1870	8	18	–	●	●	●	●
RIR04E1312	27,00	1.0630	3,13	.1230	5,56	.2190	8	18	12	●	●		●
RIR04E1300	27,00	1.0630	3,15	.1240	5,56	.2190	8	18	–	●	●	●	●
RIR05E1300	27,00	1.0630	3,15	.1240	6,75	.2660	8	18	–	●			





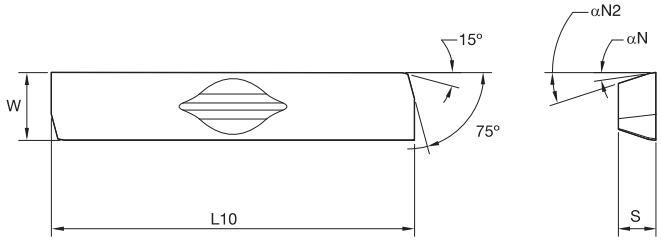
● first choice
○ alternate choice

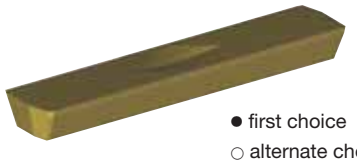
P	○	●	●	
M	○	○	○	
K	○	●	○	
N	●	○	○	●
S	●	○	○	
H				

RIR-EDS • Reaming Inserts

catalog number	L10 mm	L10 in	S mm	S in	W mm	W in	αN	αN2	γ°	K605	KC6005	KC6105	KD1415
RIR01EDS12	15,00	.5910	1,53	.0600	2,80	.1100	8	18	12	●	●	●	
RIR01EDS00	15,00	.5910	1,55	.0610	2,80	.1100	8	18	–				●
RIR02EDS12	18,00	.7090	1,93	.0760	4,00	.1575	8	18	12	●	●	●	
RIR02EDS06	18,00	.7090	1,95	.0768	4,00	.1575	8	18	6				●
RIR03EDS12	20,00	.7870	2,33	.0920	4,76	.1870	8	18	12	●	●	●	
RIR03EDS06	20,00	.7870	2,35	.0925	4,76	.1870	8	18	6				●
RIR04EDS12	27,00	1.0630	3,13	.1230	5,56	.2190	8	18	12	●	●	●	
RIR04EDS06	27,00	1.0630	3,15	.1240	5,56	.2190	8	18	6				●

NOTE: All KD1415™ inserts are single tipped except full face at size RIR01.



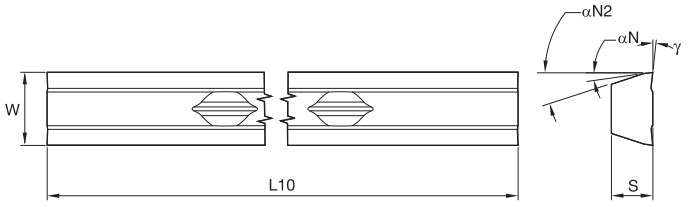


● first choice
○ alternate choice

P	●
M	○
K	○
N	○
S	○
H	

RIR-EGU • Reaming Inserts

catalog number	L10 mm	L10 in	S mm	S in	W mm	W in	αN	αN2	γ°	KC6105
RIR01EGU00	15,00	.5910	1,55	.0610	2,80	.1100	8	18	–	●
RIR02EGU00	18,00	.7090	1,95	.0770	4,00	.1575	8	18	–	●
RIR03EGU00	20,00	.7870	2,35	.0930	4,76	.1870	8	18	–	●
RIR04EGU00	27,00	1.0630	3,15	.1240	5,56	.2190	8	18	–	●
RIR05EGU00	27,00	1.0630	3,15	.1240	6,75	.2660	8	18	–	●





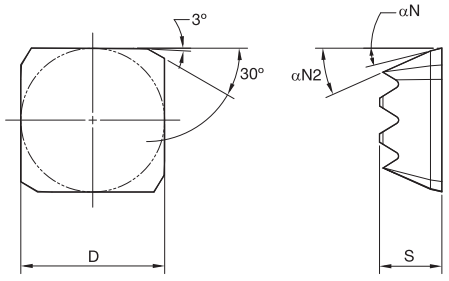
● first choice
○ alternate choice

P		●
M		○
K		●
N		○
S		○
H		

RIR-C45 • Reaming Inserts

catalog number	L10 mm	L10 in	S mm	S in	W mm	W in	αN	αN2	γ°	KC6005
RIRT4C4506	45,00	1.7720	3,15	.1240	5,56	.2190	8	18	6	●
RIRT4C4512	45,00	1.7720	3,15	.1240	5,56	.2190	8	18	12	●

NOTE: For use with taper reamer bodies.



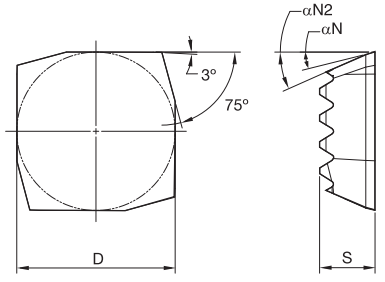


● first choice
○ alternate choice

P		○
M		○
K		○
N		●
S		●
H		

RIQ-E13 • Reaming Inserts

catalog number	D mm	D in	S mm	S in	αN	αN2	γ°	K605
RIQ06E1306	6,00	.2362	2,60	.1024	14	24	6	●
RIQ09E1306	9,00	.3543	3,15	.1240	14	24	6	●
RIQ12E1306	12,00	.4724	3,70	.1457	14	18	6	●





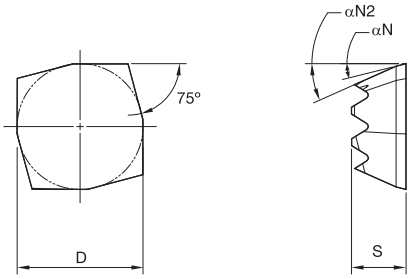
● first choice
○ alternate choice

P		○	●	●
M		○	○	○
K		○	●	○
N		●	○	○
S		●	○	○
H				

RIQ-EDS • Reaming Inserts

catalog number	D mm	D in	S mm	S in	αN	αN2	γ°	K605	KC6005	KC6105	KD1415
RIQ06EDS06	6,00	.2362	2,60	.1024	14	24	6	●			●
RIQ06EDS12	6,00	.2362	2,60	.1024	20	30	12	●	●	●	
RIQ09EDS06	9,00	.3543	3,15	.1240	14	24	6	●			●
RIQ09EDS12	9,00	.3543	3,15	.1240	20	30	12	●	●	●	
RIQ12EDS06	12,00	.4724	3,70	.1457	14	18	6	●			●
RIQ12EDS12	12,00	.4724	3,70	.1457	20	24	12	●	●	●	

NOTE: All KD1415™ inserts are full face.



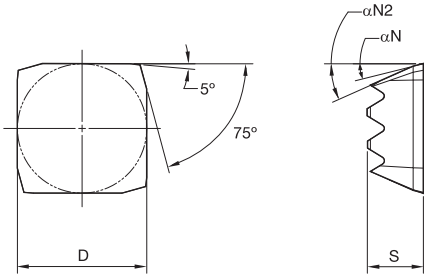


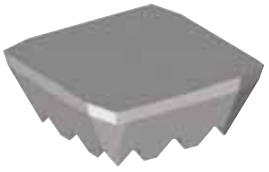
● first choice
○ alternate choice

P	○
M	○
K	○
N	●
S	●
H	

RIQ-EGS • Reaming Inserts

catalog number	D mm	D in	S mm	S in	αN	αN2	γ°	K605
RIQ06EGS06	6,00	.2362	2,60	.1024	14	24	6	●
RIQ09EGS06	9,00	.3543	3,15	.1240	14	24	6	●
RIQ12EGS06	12,00	.4724	3,70	.1457	14	18	6	●



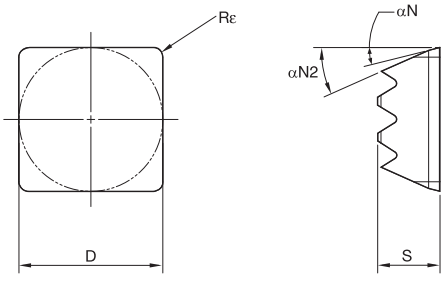


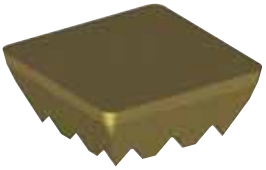
● first choice
○ alternate choice

P	○
M	○
K	○
N	●
S	●
H	

RIQ-EKS • Reaming Inserts

catalog number	D mm	D in	S mm	S in	αN	αN2	γ°	K605
RIQ06EKS06	6,00	.2362	2,60	.1024	14	24	6	●
RIQ09EKS06	9,00	.3543	3,15	.1240	14	24	6	●
RIQ12EKS06	12,00	.4724	3,70	.1457	14	18	6	●





● first choice
○ alternate choice

P	●	
M		
K	●	●
N		
S		
H		●

RIQ-R04 • Reaming Inserts

catalog number	D mm	D in	S mm	S in	Rε mm	Rε in	αN	αN2	γ°	KT325	KB1610
RIQ06R0406	6,00	.2362	2,60	.1024	0,40	.0160	14	24	6	●	
RIQ09R0400T	9,00	.354	3,15	.1240	0,40	.0160	8	18	–		●
RIQ09R0406	9,00	.3543	3,15	.1240	0,40	.0160	14	24	6	●	
RIQ12R0406	12,00	.4724	3,70	.1457	0,40	.0160	14	18	6	●	

RIR™/RIQ™

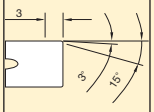
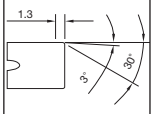
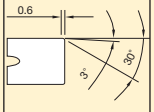
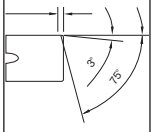
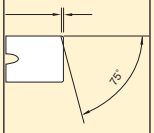
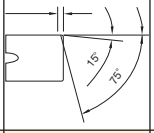
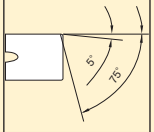
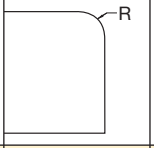
Material Group		Grade	Cutting Speed – vc Range – m/min min	Starting Value	max	Hole Types	 1	 2	 3	 4	 5
						Metric					
						Recommended Feed Rate per Tooth					
							1, 3	1, 3	2, 4	1, 3, 5	1, 3, 5	1, 3, 5
						Type	E13	E30	E06	EDS	EGS	EGU
P	1	KC6005	30	**60**	100	mm/r	0,10 - 0,30	0,10 - 0,40	0,10 - 0,20	–	–	–
	2	KC6005	20	**50**	90	mm/r	0,10 - 0,30	0,10 - 0,40	0,10 - 0,20	–	–	–
	3	KC6005	20	**40**	80	mm/r	0,05 - 0,25	0,10 - 0,30	0,10 - 0,20	–	–	–
	4	KC6105	15	**30**	50	mm/r	0,05 - 0,25	0,10 - 0,30	0,05 - 0,20	–	–	–
	4	KC6105	10	**25**	40	mm/r	0,05 - 0,20	–	0,05 - 0,20	–	–	–
	6	KC6105	10	**25**	40	mm/r	0,05 - 0,20	–	0,05 - 0,20	–	–	–
M	1	KC6305	10	**25**	40	mm/r	0,05 - 0,20	0,10 - 0,25	0,05 - 0,20	–	–	–
	2	KC6305	10	**25**	40	mm/r	0,05 - 0,20	0,10 - 0,25	0,05 - 0,20	–	–	–
	3	KC6305	10	**25**	40	mm/r	0,05 - 0,20	–	0,05 - 0,20	–	–	–
K	1	KC6005	20	**70**	100	mm/r	0,09 - 0,17	0,11 - 0,19	0,12 - 0,21	0,15 - 0,31	0,18 - 0,35	0,20 - 0,39
	2	KC6305	20	**60**	100	mm/r	0,09 - 0,15	0,11 - 0,18	0,12 - 0,21	0,15 - 0,26	0,18 - 0,30	0,20 - 0,39
	3	KC6305	20	**60**	100	mm/r	0,07 - 0,13	0,09 - 0,16	0,11 - 0,19	0,13 - 0,23	0,15 - 0,27	0,17 - 0,30
N	1	K605	50	**100**	250	mm/r	0,10 - 0,40	–	0,10 - 0,25	0,05 - 0,25	0,05 - 0,20	–
	2	K605	50	**100**	250	mm/r	0,10 - 0,40	–	0,10 - 0,25	0,15 - 0,25	0,05 - 0,20	–
	3	K605	50	**100**	250	mm/r	0,10 - 0,40	–	0,10 - 0,25	0,15 - 0,25	0,05 - 0,20	–
	4	K605	50	**100**	250	mm/r	upon request	–	upon request	upon request	upon request	–
	5	K605	50	**100**	250	mm/r	0,10 - 0,40	–	0,10 - 0,20	0,10 - 0,20	0,05 - 0,15	–
S	1	KC6305	10	**25**	40	mm/r	0,10 - 0,40	–	0,10 - 0,20	0,15 - 0,25	–	–
	2	KC6305	10	**25**	40	mm/r	0,10 - 0,40	–	0,10 - 0,20	0,15 - 0,25	–	–
	3	K605	20	**20**	20	mm/r	0,20 - 0,25	–	0,20 - 0,20	0,10 - 0,20	–	–
	4	K605	20	**20**	20	mm/r	0,20 - 0,25	–	0,20 - 0,20	0,10 - 0,20	–	–
H	1	KB1610	40	**50**	80	mm/r	0,20 - 0,25	–	0,10 - 0,20	–	–	–

Material Group		Grade	Cutting Speed – vc Range – SFM min	Starting Value	max	Hole Types	 1	 2	 3	 4	 5
						Inch					
						Recommended Feed Rate per Tooth					
							1, 3	1, 3	2, 4	1, 3, 5	1, 3, 5	1, 3, 5
						Type	E13	E30	E06	EDS	EGS	EGU
P	1	KC6005	98	**197**	328	IPR	.004 - .012	.004 - .016	.004 - .008	–	–	–
	2	KC6005	66	**164**	295	IPR	.004 - .012	.004 - .016	.004 - .008	–	–	–
	3	KC6005	66	**131**	262	IPR	.002 - .010	.004 - .012	.004 - .008	–	–	–
	4	KC6105	49	**98**	164	IPR	.002 - .010	.004 - .012	.004 - .008	–	–	–
	4	KC6105	33	**82**	131	IPR	.002 - .008	–	.002 - .008	–	–	–
	6	KC6105	33	**82**	131	IPR	.002 - .008	–	.002 - .008	–	–	–
M	1	KC6305	33	**82**	131	IPR	.002 - .008	.004 - .010	.002 - .008	–	–	–
	2	KC6305	33	**82**	131	IPR	.002 - .008	.004 - .010	.002 - .008	–	–	–
	3	KC6305	33	**82**	131	IPR	.002 - .008	–	.002 - .008	–	–	–
K	1	KC6005	66	**230**	328	IPR	.004 - .007	.004 - .007	.005 - .008	.006 - .012	.007 - .014	.008 - .015
	2	KC6305	66	**197**	328	IPR	.004 - .006	.004 - .007	.005 - .008	.006 - .010	.007 - .012	.008 - .013
	3	KC6305	66	**197**	328	IPR	.003 - .005	.004 - .006	.004 - .007	.005 - .009	.006 - .010	.007 - .012
N	1	K605	164	**328**	820	IPR	.004 - .016	–	.004 - .010	.006 - .010	.002 - .008	–
	2	K605	164	**328**	820	IPR	.004 - .016	–	.004 - .010	.006 - .010	.002 - .008	–
	3	K605	164	**328**	820	IPR	.004 - .016	–	.004 - .010	.006 - .010	.002 - .008	–
	4	K605	164	**328**	820	IPR	upon request	–	upon request	upon request	upon request	–
	5	K605	164	**328**	820	IPR	.004 - .016	–	.004 - .008	.004 - .008	.002 - .006	–
S	1	KC6305	33	**82**	131	IPR	.004 - .016	–	.004 - .008	.006 - .010	–	–
	2	KC6305	33	**82**	131	IPR	.004 - .016	–	.004 - .008	.006 - .010	–	–
	3	K605	66	**66**	66	IPR	.008 - .010	–	.008 - .008	.004 - .008	–	–
	4	K605	66	**66**	66	IPR	.008 - .010	–	.008 - .008	.004 - .008	–	–
H	1	KB1610	131	**164**	262	IPR	.008 - .010	–	.004 - .008	–	–	–

Lead Selection

The data chart below is only a guide to allow starting values to be selected. The final data for a particular application is best determined by trial or during the machining process.

● first choice
○ alternate choice

lead	geometry	application	⊕	DOC* (mm) recommended	DOC* (mm) max	DOC* (in) recommended	DOC* (in) max	Ra (µm) P	Ra (µm) M	Ra (µm) K	Ra (µm) N	Ra (µm) S	Ra (µm) H	RMS (in) P	RMS (in) M	RMS (in) K	RMS (in) N	RMS (in) S	RMS (in) H
E30		general purpose, good surface finish at higher feeds float reaming	○	0,1–0,15	0.25	.004–.006	.010	0.6	0.8	0.7				26.4	35.2				
E13		general purpose, thin wall applications	○	0,1–0,15	0.25	.004–.006	.010	0.7	0.8	0.8	0.3	0.8		30.8	35.2	35.2	13.2	35.2	
E06		reaming close to a shoulder, use when short lead is required	○	0,1–0,15	0.15	.004–.006	.006	0.8	1.0	1.0	0.4	0.8		35.2	44.0	44.0	17.6	35.2	
EDS		gun reaming, higher surface quality	● ○	0.5	1,00*	.020	.040	0.15		0.7	0.2	0.6		6.6			8.8	26.4	
EGS		gun reaming, higher position quality	●	0.5	1,00*	.020	.040	0.35		1.2	0.3			15.4			13.2		
EGU		gun reamer	● ○	0,4–0,5	1,00*	.016–.020	.040			0.8						35.2			
EKS		gun reaming, higher position quality	●	0.5	1,00*	.020	.040				0.4						17.6		
R..		valve seat, hard reaming	● ○	0,05–0,15	0.20	.002–.006	.008	0.3		1.0	0.4		0.4	13.2		44.0	17.6		17.6
C..		RIR, taper reaming	● ○	0,1–0,2	0.25	.004–.008	.010	0.6		0.8	0.4			26.4		35.2	17.6		

*More D.O.C. available upon request.

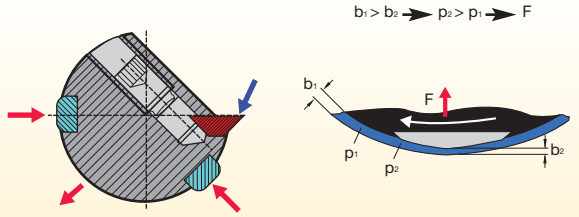
coolant selection		
	recommended	alternative
material type	mineral-oil-based emulsions	semi-synthetic
steel	5%	10%
nickel chrome steel	6%	12%
stainless steel	6%	12%
cast iron	4%	6%
aluminum	6%	12%
zinc alloys	6%	12%
copper	6%	12%
brass	4%	6%

pressure and flow rates		
cut diameter (in)	flow rate (gal/min)	pressure (psi)
.25–.468	55–75	>150
.468–.625	75–150	>120
.625–.781	115–190	>100
.781–1.25	150–285	>75
1.25–2.0	245–950	>50
2.0–4.0	660–1325	>40

Basic Principle

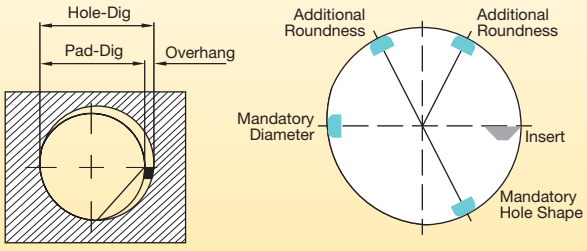
Kennametal's padded reaming tools follow two basic rules. The result, perfectly cylindrical bores with exceptional straightness and superior surface finishes combined with a bore diameter tolerance held to microns:

1. A SINGLE-POINT BORING TOOL SUPPORTED BY BEARING PADS, FLOATING ON A COOLANT FILM.
2. A TOOL MUST DEFLECT ONTO THE PADS, ON ENTERING THE HOLE, IN ORDER TO OBTAIN THE CORRECT SIZE.



Each padded reamer hosts a selection of guide pads that are positioned to resist the cutting forces created during machining. A minimum of two guide pads are necessary guiding the reamer in the predrilled hole.

The lubricant, in the form of coolant, gets between the pad and component surface, resulting in frictionless stability during cutting.



Guide pads are ground slightly smaller than the targeted diameter to machine a certain overhang between guide pads and insert cutting edge necessary for the machining process. Most common is a 10 µm overhang but can vary depending on the material to be cut.

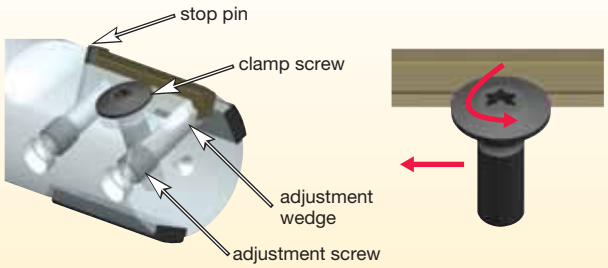
As padded reamers are specifically ground, relative to diameter and tolerance, guide pads are not flexible or adjustable. The pad below the insert ensures hole roundness while the pad opposite to the insert defines the bore diameter. Each further pad improves the roundness, straightness, and bridges over interruptions in the bore area.

These carbide, cermet, PCD, and ceramic guide pads are selected and brazed or bonded to the body depending on coolant availability/type and abrasiveness of the material to be cut. Especially with high L/D ratio tooling (e.g., cam and crank boring bars), bonding of guide pads offers higher precision due to less thermal influence to the steel base body.

● first choice ○ alternate choice

material	P	M	K	N	S	H	MQL
carbide	●	○	●	●		○	
cermet	●	○	●			○	
ceramic			●		●		
PCD			○		●		●

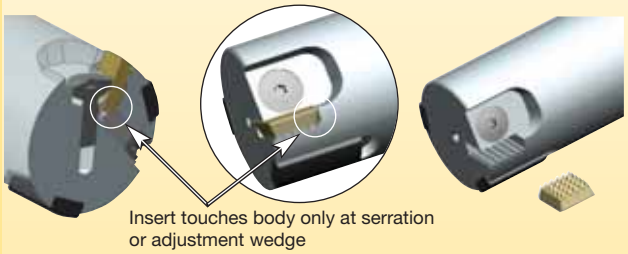
RIR Clamping



RIR reaming inserts are clamped by a single screw to avoid weakening of the pocket seat against common clamping wedges. This clamp screw has a left-hand thread to securely move the insert axially towards the stop pin until the insert aligns there. The stop pin ensures correct advancement of cutting insert to guiding pad.

Like other types of padded reamers using rectangular reaming inserts, two adjustment screws and wedges are required to adjust diameter and back taper accurately. Therefore, RIR is the preferred solution for diameters below RIQ range.

RIQ Clamping



There is no need to adjust back taper as this is already predefined by the serrations. Only the overhang of the cutting edge, relative to the guide pads, needs to be adjusted.

The right-hand clamp screw locks the insert securely onto the high-precision serration. The three cutting edges that are not in use are completely covered by the body while not touching them. All four cutting edges of full-face CBN and PCD inserts can be completely used without the danger of accidently losing one of them.

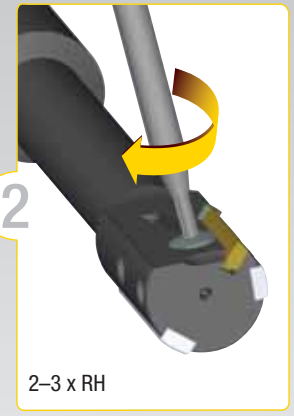
Adjustment Wedge and Screw



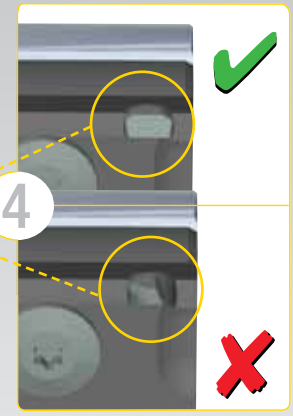
The proprietary adjustment wedge prevents any unpredictable rotation. This avoids errors during setup that cause tool damages.

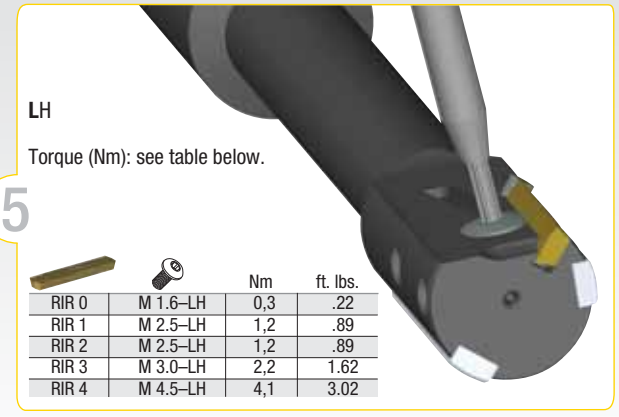
RIR Tooling Setup



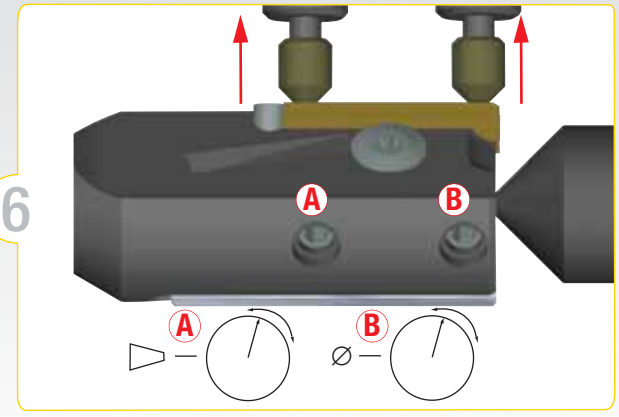




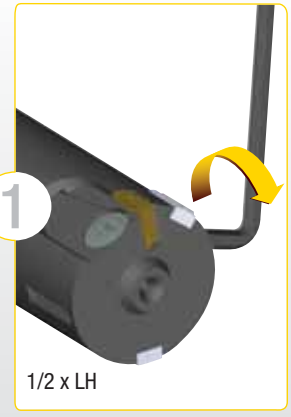


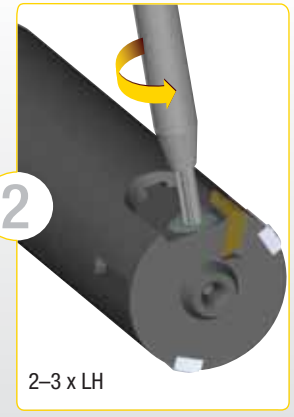


		Nm	ft. lbs.
RIR 0	M 1.6–LH	0,3	.22
RIR 1	M 2.5–LH	1,2	.89
RIR 2	M 2.5–LH	1,2	.89
RIR 3	M 3.0–LH	2,2	1.62
RIR 4	M 4.5–LH	4,1	3.02

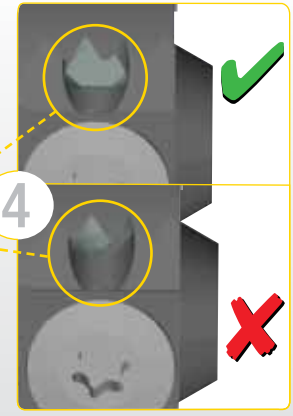


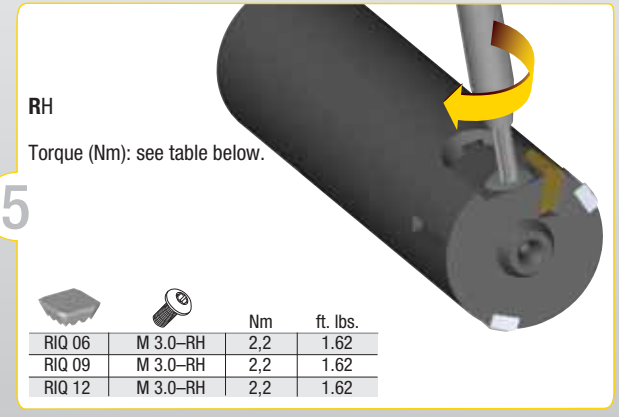
RIQ Tooling Setup



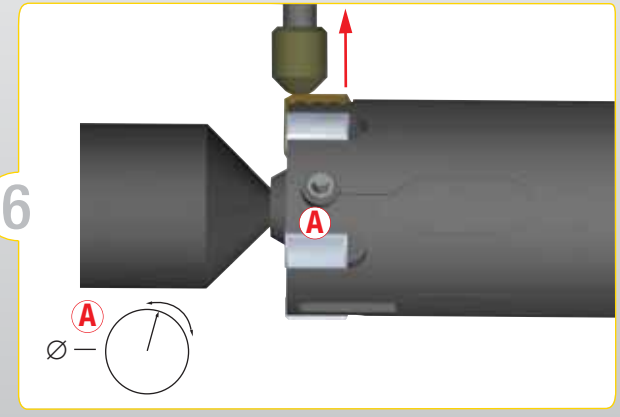






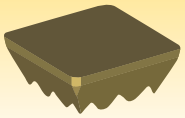


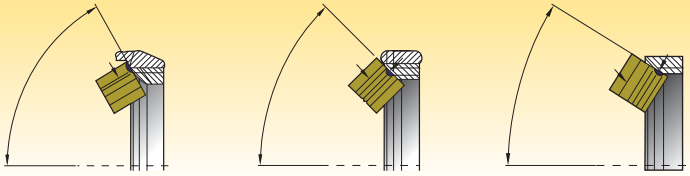
		Nm	ft. lbs.
RIQ 06	M 3.0–RH	2,2	1.62
RIQ 09	M 3.0–RH	2,2	1.62
RIQ 12	M 3.0–RH	2,2	1.62

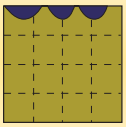


Valve Seat Tools • RIQ™ Quattro Cut™ Based Tooling

RIQ technology enables bypassing any angular adjustment of the insert and provides up to 12 cutting edges.







- Causing in three wear areas per edge.
- Resulting into 12 usable cutting edges per insert.

Valve Seat Tools • Machining Center Solutions

RIQ valve seat tooling with integrated hydraulic chuck to clamp multiflute RMS™ or RIR™ guide pad reamer.

Machining Center • Integrated Hydraulic Chuck

RMS Multiflute Reamer
for regular runout accuracy of valve seat to value guide demands



RIR Guide Pad Reamer
for highest runout accuracy of valve seat to value guide demands



Machining Center Process • All Angles Formed to Finish Specifications in TWO Passes

Process A (Preferred)

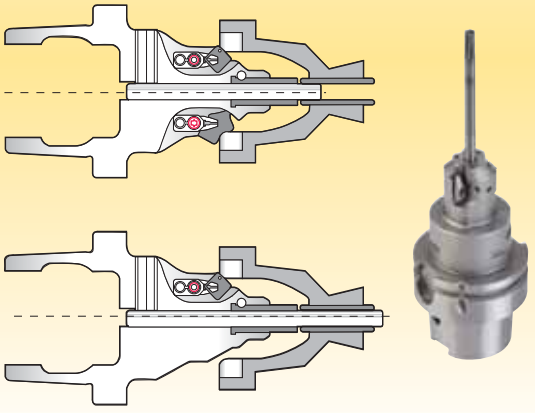
Tool 1 • Semi-Finish:
- Finish of secondary angles.
- Semi-finish of primary angles.
- Create pilot bore (short version of RMS or RIR reamer).

Tool 2 • Finish:
- Finish of primary angles.
- Finish of guide bore (short version of RMS or RIR reamer).

Process B (Alternate)

Tool 1 • Finish Valve Seat:
- Finish of primary and secondary angles.
- Create pilot bore (short version of RMS or RIR reamer).

Tool 2 • Finish Valve Guide:
- Finish of guide bore (short version of RMS or RIR reamer).



Valve Seat Tools • Transfer Line Solutions

RIQ valve seat tooling with carbide bushing guiding RMS or RIR reamer machining the valve guide on transfer lines.

Transfer Line • Integrated Carbide Bushing

Multiflute Reamer RMS
for regular runout accuracy of valve seat to value guide demands



RIR Guide Pad Reamer
for highest runout accuracy of valve seat to value guide demands



Transfer Line Process • All Angles Formed to Finish Specifications in ONE Pass

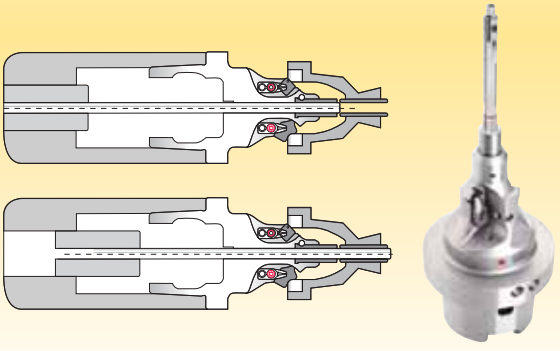
Process A (Preferred)

Tool 1 • Semi-Finish:
- Semi-finish of secondary angles.
- Semi-finish of primary angles.

Tool 2 • Finish:
- Finish of primary angles.
- Finish of secondary angles.
- Finish of guide bore with feed out multiflute or guide pad reamer (squirt-through type).

Process B (Alternate)

Tool 1 • Semi-Finish and Finish Combined:
- Finish of primary and secondary seat angles.
- Finish of guide bore with feed out multiflute or guide pad reamer (squirt-through type).



Application Sheet for Hole Finishing

Sales Eng.:	**Sheet:**
Q-Number:	**Date:**
Customer:	Contact person:
Location:	Fax number/e-mail:

Quotation Processing *Only* with Workpiece Drawing and Filled Out Form

Mandatory Fields

Workpiece material:			Hardness/ tensile strength:	(N/mm², HRC, etc.)
Number of holes/year:				
Tool:	☐ Rotating	☐ Stationary	Spindle connection:	(HSK80A, CV50, BT40, etc.)
Spindle orientation:	☐ Horizontal	☐ Vertical	Tool int. interface:	☐ No ☐ SIF ☐ SIF+HydCh ☐ SIF+HSK
Machine situation:	☐ Rigid	☐ Weak		
Machine type:	☐ Machining center	☐ Transfer line	☐ Special purpose machine	☐ Lathe
Coolant supply:	☐ Internal ☐ External	☐ No	Coolant concentrate:	%
Coolant flow:	gal/min		Coolant pressure:	psi
Coolant type:	☐ Soluble	☐ Semisynthetic	☐ Synthetic	☐ MQL

Mandatory Fields if not Defined in the Workpiece Drawing

Nominal hole diameter:			Surface finish:	(N/mm², HRC, etc.)
Hole tolerance:	in (H7, ±0,01, etc.)		Hole type:	☐ Blind ☐ Through
Tolerance target:	☐ Upper third		Interrupted cut:	☐ Yes ☐ No
	☐ Middle third		Facing included:	☐ Yes ☐ No
	☐ Lower third		Maximum lead length:	in
CpK-value:			Radial stock:	in
Straightness:	in		Taper:	in
Roundness:			Cylindricity:	in
Concentricity:	in		Position:	in

Additional Information

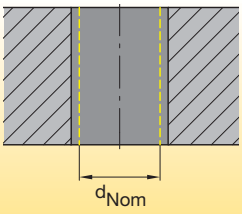
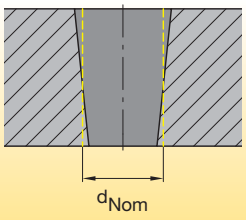
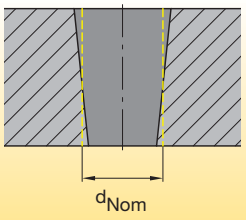
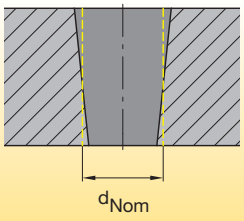
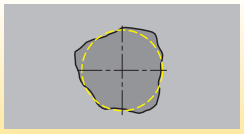
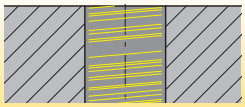
Similar tool:		Required feed rate:	IFR
Required tool life:	in	Required speed:	SFM
Required CPP:	$/hole	Required cycle time:	sec

Additional information: (e.g., step tool diameters, interferences, weight, or dimensional restrictions, customer reason for change, etc.)

Reaming Allowances for Multi-Blade Reaming

		reaming allowance					
		mm			in		
mm	in	min	middle	max	min	middle	max
1,40–4,80	.055–.189	0,08	0,12	0,20	.003	.005	.008
4,81–9,59	.189–.378	0,10	0,15	0,25	.004	.006	.010
9,60–15,00	.378–.591	0,15	0,20	0,30	.006	.008	.012
15,00–20,00	.591–.787	0,15	0,25	0,35	.006	.010	.014
20,00–50,00	.787–1.969	0,20	0,30	0,40	.008	.012	.016

Causes of and Remedies for Reaming Problems

problem		cause	possible remedy
Drill diameter too large		1. Reaming tool running out-of-center. 2. Concentricity of pilot hole and ream machining unsatisfactory. 3. Built-up edge. 4. Unsuitable cooling lubricant. 5. Reaming tool Ø too large.	• Use SIF™ equalizing adapter. • Re-align, use floating head. • Change cooling lubricant. • Change cutting speed. • Measure reamers and send for repairs.
Drill diameter too small		1. Reamer worn. 2. Unsuitable cooling lubricant. 3. Reaming allowance too small.	• Replace and refit tool. • Change cooling lubricant. • Increase reaming allowance.
Conical drill profile wider towards drill runout		1. Concentricity of pilot hole and reaming unsatisfactory. 2. Positioning accuracy of pilot hole to reaming.	• Re-align, use SIF equalizing adapter. • Correct positioning accuracy.
Conical drill profile wider at drill entry point		1. Concentricity of pilot hole and reaming unsatisfactory. 2. Reaming tool skim cutting with ledger.	• Re-align, use floating head. • Securely clamp reaming tool axially.
Hole out-of-center and/or showing chatter marks		1. Reaming tool running out-of-center. 2. Slanted cutting surface/asymmetrical cutting. 3. Workpiece twisted.	• Use SIF equalizing adapter. • Flatten surface before drilling or reaming. • Take the direction of impact into account when clamping the workpiece.
Surface quality does not meet specification		1. Tool cutters worn. 2. Reaming tool running out-of-center. 3. Incorrect technology data (cutting parameters). 4. Inadequate chip evacuation.	• Replace and refit tool. • Use SIF equalizing adapter. • Change cutting parameters in machining range. • Optimize coolant supply; increase coolant pressure and volume.
Feed grooves		1. Built-up edge.	• Change cooling lubricant. • Change cutting speed.



SIF™ Steerable Toolholder

Primary Application

SIF Steerable Toolholders should be used for easy compensation of radial runout and angular inaccuracies caused by the machine spindle or gravity. SIF tooling improves hole roundness for highest possible hole straightness and surface quality. Runout-optimized reaming tools provide higher process stability and longer tool life.

Use a separate SIF tooling package for each machine to ensure best configuration between reaming tool and spindle and HSK bushes for faster tool change to avoid repeating adjustments.

Features and Benefits

Higher Productivity and Profitability

- Easy compensation of radial runout and angular inaccuracies increases process control and tool life.
- Less time-consuming adjustment due to eight radial screws.
- Increase stability due to fewer interfaces by use of RIQ™ Quattro Cut™, RIR™, and RHM™ reaming tooling with SIF backend.

Versatility

- Standard DV, BT, CV, and HSK adapters can be used in combination with SIF hydraulic chucks for most precise concentric clamping, highest accuracy, and flexible clamping method using hydraulic chuck sleeves.
- HSK bushes with SIF coupling enables fast tool exchange and eliminates the need for repeated runout adjustment, reducing downtime.

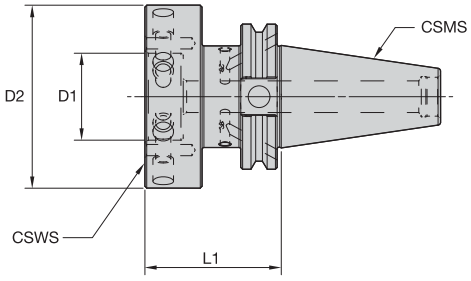
Customization

- Different length versions and coupling size combinations are available.



- Through-the-toolholder coolant capability — form AD or form B.
- Suitable for SIF adapters.







SIF-CV40 Form B/AD

order number	catalog number	CSMS system size	CSWS system size	D2	D1 mm	D1 in	L1 mm	L1 in	dog-point set screw	hex wrench	hex wrench	socket-head cap screw	kg	lbs
3738505	**CV40BSIF80248**	CV40	SIF80	80	38	1.496	63	2.480	**121.812**	**170.004**	**170.005**	**125.625**	1,77	3.900



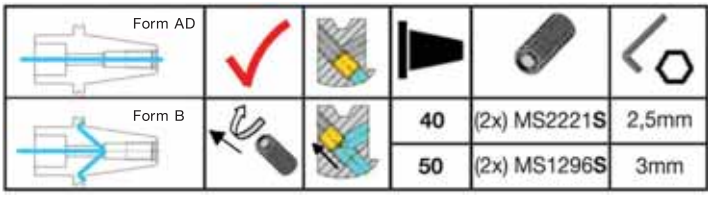
SIF-CV50 Form B/AD

order number	catalog number	CSMS system size	CSWS system size	D2	D1 mm	D1 in	L1 mm	L1 in	dog-point set screw	hex wrench	hex wrench	socket-head cap screw	kg	lbs
3738506	**CV50BSIF70236**	CV50	SIF70	70	38	1.496	60	2.362	**121.808**	**170.004**	**170.005**	**125.625**	3,58	7.880
3738507	**CV50BSIF100236**	CV50	SIF100	100	58	2.283	60	2.362	**121.812**	**170.004**	**170.006**	**125.825**	4,14	9.140



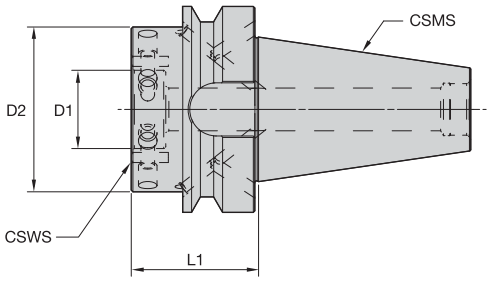
SIF-BT40 Form B/AD

order number	catalog number	CSMS system size	CSWS system size	D2	D1 mm	D1 in	L1 mm	L1 in	dog-point set screw	hex wrench	hex wrench	socket-head cap screw	kg	lbs
3738492	**BT40BSIF80063M**	BT40	SIF80	80	38	1.496	63	2.480	**121.812**	**170.004**	**170.005**	**125.625**	1,86	4.110



- Through-the-toolholder coolant capability — form AD or form B.
- Suitable for SIF adapters.







SIF-BT50 Form B/AD

order number	catalog number	CSMS system size	CSWS system size	D2	D1 mm	D1 in	L1 mm	L1 in	dog-point set screw	hex wrench	hex wrench	socket-head cap screw	kg	lbs
3738503	**BT50BSIF70063M**	BT50	SIF70	70	38	1.496	63	2.480	**121.808**	**170.004**	**170.005**	**125.625**	4,08	9.000
3738504	**BT50BSIF100068M**	BT50	SIF100	100	58	2.283	68	2.677	**121.812**	**170.004**	**170.006**	**125.825**	4,94	10.890



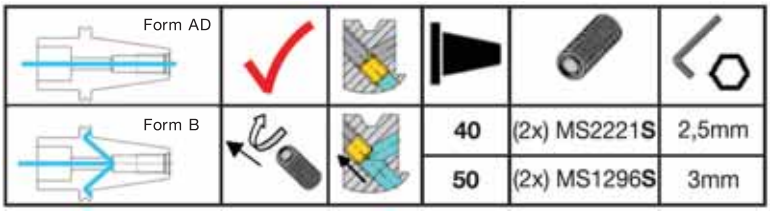
SIF-DV40 Form B/AD

order number	catalog number	CSMS system size	CSWS system size	D2	D1 mm	D1 in	L1 mm	L1 in	dog-point set screw	hex wrench	hex wrench	socket-head cap screw	kg	lbs
3738488	**DV40BSIF80061M**	DV40	SIF80	80	38	1.496	61	2.402	**121.812**	**170.004**	**170.005**	**125.625**	1,83	4.020

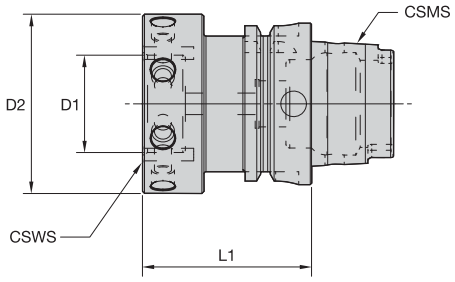


SIF-DV50 Form B/AD

order number	catalog number	CSMS system size	CSWS system size	D2	D1 mm	D1 in	L1 mm	L1 in	dog-point set screw	hex wrench	hex wrench	socket-head cap screw	kg	lbs
3738490	**DV50BSIF70060M**	DV50	SIF70	70	38	1.496	60	2.362	**121.808**	**170.004**	**170.005**	**125.625**	3,60	7.930
3738491	**DV50BSIF100060M**	DV50	SIF100	100	58	2.283	60	2.362	**121.812**	**170.004**	**170.006**	**125.825**	4,30	9.480



- Through-the-toolholder coolant capability.
- Suitable for SIF adapters.





SIF-HSK63 Form A

order number	catalog number	CSMS system size	CSWS system size	D2	D1 mm	D1 in	L1 mm	L1 in	dog-point set screw	hex wrench	hex wrench	socket-head cap screw	kg	lbs
3738508	**HSK63ASIF70066M**	HSK63A	SIF70	70	38	1.496	66	2.598	**121.808**	**170.004**	**170.005**	**125.625**	1,44	3.180
3878347	**HSK63ASIF80063M**	HSK63A	SIF80	80	38	1.496	63	2.480	**—**	**170.004**	**170.005**	**125.625**	1,50	3.320

NOTE: HSK coolant unit and wrench are available and must be ordered separately.

SIF-HSK80 Form A

order number	catalog number	CSMS system size	CSWS system size	D2	D1 mm	D1 in	L1 mm	L1 in	dog-point set screw	hex wrench	hex wrench	socket-head cap screw	kg	lbs
3738510	**HSK80ASIF70066M**	HSK80A	SIF70	70	38	1.496	66	2.598	**121.808**	**170.004**	**170.005**	**125.625**	2,05	4.520

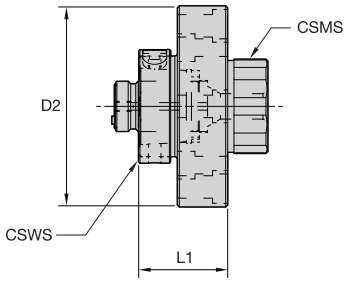
NOTE: HSK coolant unit and wrench are available and must be ordered separately.

SIF-HSK100 Form A

order number	catalog number	CSMS system size	CSWS system size	D2	D1 mm	D1 in	L1 mm	L1 in	dog-point set screw	hex wrench	hex wrench	socket-head cap screw	kg	lbs
3738511	**HSK100ASIF70050M**	HSK100A	SIF70	70	38	1.496	50	1.969	**121.808**	**170.004**	**170.005**	**125.625**	2,43	5.360
3738512	**HSK100ASIF100070M**	HSK100A	SIF100	100	58	2.283	70	2.756	**121.812**	**170.004**	**170.006**	**125.825**	3,84	8.460

NOTE: HSK coolant unit and wrench are available and must be ordered separately.

- Through-the-toolholder coolant capability.
- Suitable for SIF adapters.





HSK • SIF80

order number	catalog number	CSMS system size	CSWS system size	D2	L1
3755429	**SIF80HSK32032M**	SIF80	HSK32	32	32
3755430	**SIF80HSK40035M**	SIF80	HSK40	40	35
3755431	**SIF80HSK50040M**	SIF80	HSK50	50	40

NOTE: HSK coolant unit and wrench are available and must be ordered separately.
IMPORTANT: Do not overtorque actuation screw. Use torque recommendations above. Supplied with actuation mechanism and sealing ring.

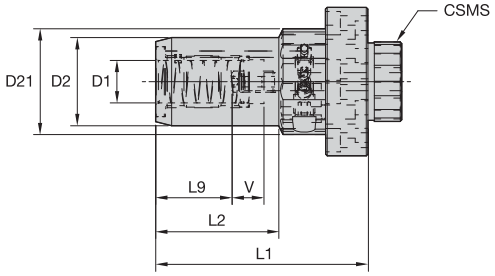
HSK • SIF100

order number	catalog number	CSMS system size	CSWS system size	D2	L1
3755432	**SIF100HSK32032M**	SIF100	HSK32	32	32
3755453	**SIF100HSK40035M**	SIF100	HSK40	40	35
3755454	**SIF100HSK50040M**	SIF100	HSK50	50	40
3755455	**SIF100HSK63055M**	SIF100	HSK63	63	55

NOTE: HSK coolant unit and wrench are available and must be ordered separately.
IMPORTANT: Do not overtorque actuation screw. Use torque recommendations above. Supplied with actuation mechanism and sealing ring.

- Runout <0,003mm (.0001").
- External side actuation adjustment stop, giving 10mm (3/8") axial adjustment.







HC HP Line • SIF70

order number	catalog number	CSMS system size	D1	D2	D21	L1	L2	L9	V	hex wrench	T-handle hex wrench	kg	lbs
3667056	**SIF70HC12090M**	SIF70	12	32	44	90	45	36	10	**170.002**	**170.135**	1,13	2.49
3667057	**SIF70HC20100M**	SIF70	20	42	44	100	58	41	10	**170.003**	**170.135**	1,35	2.98

NOTE: HSK coolant unit and wrench are available and must be ordered separately.
IMPORTANT: Do not overtorque clamp screw. Use supplied wrench and tighten by hand until stop is felt.



HC HP Line • SIF80

order number	catalog number	CSMS system size	D1	D2	D21	L1	L2	L9	V	hex wrench	T-handle hex wrench	kg	lbs
3667058	**SIF80HC12090M**	SIF80	12	32	50	90	45	36	10	**170.002**	**170.135**	9,00	19.84
3667059	**SIF80HC20100M**	SIF80	20	42	50	100	58	41	10	**170.003**	**170.135**	1,60	3.53
3667060	**SIF80HC25100M**	SIF80	25	50	54	100	51	47	10	**170.003**	**170.136**	1,83	4.03

NOTE: HSK coolant unit and wrench are available and must be ordered separately.
IMPORTANT: Do not overtorque clamp screw. Use supplied wrench and tighten by hand until stop is felt.



HC HP Line • SIF100

order number	catalog number	CSMS system size	D1	D2	D21	L1	L2	L9	V	hex wrench	T-handle hex wrench	kg	lbs
3667061	**SIF100HC12090M**	SIF100	12	32	50	90	45	36	10	**170.002**	**170.135**	1,98	4.37
3667062	**SIF100HC20100M**	SIF100	20	42	50	100	58	41	10	**170.003**	**170.135**	2,20	4.85
3668023	**SIF100HC25100M**	SIF100	25	50	63	100	51	47	10	**170.004**	**170.136**	2,56	5.64

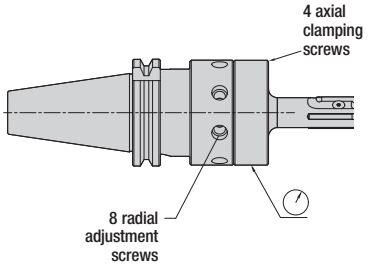
NOTE: HSK coolant unit and wrench are available and must be ordered separately.
IMPORTANT: Do not overtorque clamp screw. Use supplied wrench and tighten by hand until stop is felt.

SIF Tooling Setup

Step 1: Rough setup of runout at flange

1

- Set gage (TIR) at SIF flange.
- Tight axial clamping screws 6–8 Nm (4.4–5.9 ft. lbs.).
- Use radial adjustment screws to achieve 5 µm (.0002") runout.

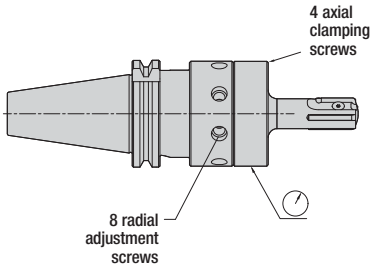




Step 2: Fine setup of runout at flange

2

- Tight axial clamping screws crosswise:
  SIF70/80 18 Nm (13.3 ft. lbs.)
  SIF100 32 Nm (23.6 ft. lbs.)
- Use radial adjustment screws to achieve 2 µm (.00008") runout.
- All radial adjustment screws to be clamped tight at 4 Nm (3.0 ft. lbs.).

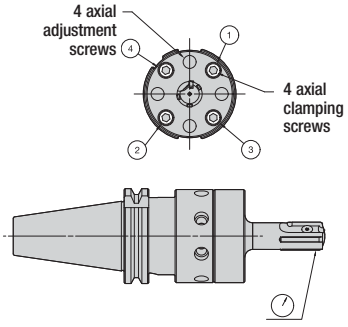




Step 3: Adjustment of runout at front

3

- Set gage (TIR) at control grind, cylindrical land, or guide pads.
- Use axial adjustment screws to achieve a maximum runout error of 2 µm (.00008").
- All axial adjustment screws to be clamped tight at 4 Nm (3.0 ft. lbs.).

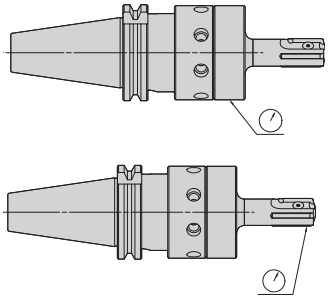




Step 4: Final runout check

4

- Check using gage (TIR) at flange; no deviation by theory.
- If needed, use radial adjustment screws to set runout below 2 µm (.00008").
- Any modification of radial setup demands an axial runout check and adjustment, if necessary.







PCD Customized Tooling

PCD tooling offers the highest productivity and accuracy, reduced tooling costs due to long tool life, and secure process control due to close tolerances, increasing your overall quality and reducing scrap rate and inspection costs.

Primary Application

Use Kennametal PCD tooling for machining aluminum and aluminum alloys, magnesium, copper, brass, bronze, plastics (GFRP, CFRP), MMC (Metal Matrix Composite), graphite, tungsten carbide green-stages, and ceramic. Choose from various standardized PCD product platforms for drilling, counterboring, and reaming. Steel- and solid carbide-based tool body designs are available for direct spindle coupling with or without adjustable PCD pocket seats or with steerable SIF™ backend.

Features and Benefits

Higher Productivity and Profitability

- Highest chip removal rates and less tool changes by using multistep tooling.
- Extremely long tool life even when maintaining very tight tolerances.
- Reduced built-up edge and burr formation, improved concentric hole shape with multistep tooling, and less influence on surface microstructure of the workpiece.

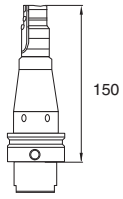
Product Platform Versatility

- All PCD drilling, counterboring, and reaming tools are engineered according to your specific needs in diameter, shape, radii, and steps.
- Various PCD grades are available to match your specific material.
- Multistep drilling, profiling, countersinking, and reaming platforms available.
- Coolant channel design for optimized chip evacuation with regular and MQL.
- Steel-based tool body designs are available for direct spindle coupling or enable adjustable pocket seat design for highest accuracy even at larger sizes.
- Carbide-based tool bodies enable highest accuracy and tool life at high L/D ratio applications.
- Tooling designs with SIF steerable interface optimizes runout and enables highest accuracy and tool life.
- All PCD tooling is prebalanced by design. Further precision balancing is available on request.



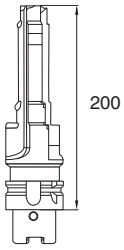
PCD Tooling Basic Design Overview

Kennametal offers you certain PCD design platforms to optimally fulfill your machining task.
These basic designs are independent, whether you are drilling, countersinking, profiling, reaming, or milling.
All tooling designs are capable of internal coolant, MQL coolant, and are balanced by design

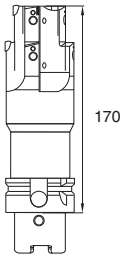


PCD .. ST —
Steel body

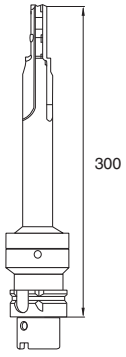
PCD .. SC —
Solid carbide body



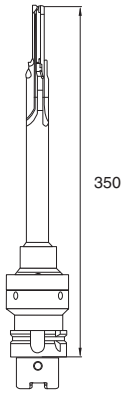
PCD .. STM —
Steel body monoblock



PCD .. STMJ —
Steel body monoblock
Ø adjustable



PCD .. STA —
Steel body with steerable SIF™ backend



PCD .. SCA —
Solid carbide shank and steerable SIF backend

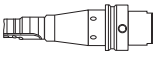
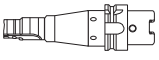
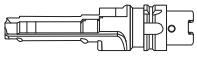
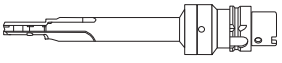
PCDRSC02CCE

PCD	R	SC	02	CC	E
	Technology	Type	Teeth	Point Geometry	Coolant
HF = Helix Flute **SF** = Straight Flute	**D** = Drilling **R** = Reaming **C** = Countersinking **E** = End milling **F** = Face milling **P** = Profile milling **M** = Multioperation tool	**SC** = Solid carbide body **ST** = Steel body **STM** = Steel monoblock **STMJ** = Steel monoblock adjustable **STA** = Steel steerable **SCA** = Carbide steerable	**02** **03** **04** ... **12** ... **22***	**RL** = Reaming lead **CC** = Center cut **CT** = Drill point **CTE** = Drill point **SW** = Drill point **MT** = Drill point	**E** = Emulsion **M** = MQL **A** = Air **D** = Dry

* Exception for **Type** Reamer **22** = **2** teeth + **2** additional land = **4** guiding lands.

Runout of the Spindle

Depending on spindle runout and/or higher L/D ratios

runout < = 0,005mm		runout > = 0,006mm	
	**PCD-ST** **PCD-SC**		**PCD-ST or PCD-SC with hydraulic chuck and SIF shank**
	**PCD-STM**		**PCD-STA with SIF** **PCD-SCA with SIF**

PCD Drill-Point Design Overview

CT
- PCD corner tipped.
- Carbide-based body design.
- Diameter >4,2mm (.166").



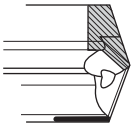
Use for general application at moderate cutting speeds up to 12 x D drilling depth.

CTE
- PCD corner tipped, E point.
- Carbide-based body design.
- Diameter >4,2mm (.166").



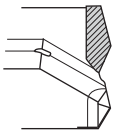
Use at precasted holes at moderate cutting speeds up to 12 x D drilling depth.

SW
- Full-face sandwich PCD.
- Carbide-based body design.
- Diameter >5mm (.197").



Use at high cutting speeds and abrasive materials up to 5 x D drilling depth.

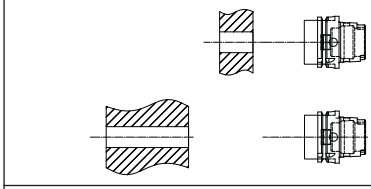
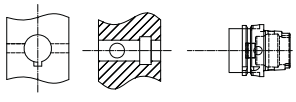
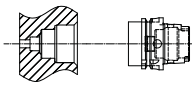
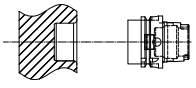
MT
- PCD corner tipped.
- Steel- and carbide-based body design.
- Diameter >12mm (.473").



Use for drilling casted surfaces up to 3 x D drilling depth.

Cutting Edge and Margin Land Requirements

Determine correlations between spindle to edge overhang, amount of cutting, and margin lands for guidance and increased precision.

		number of cutting edges				
		2 flutes	2 flutes	3 flutes	4 flutes	6 flutes
application/shape of bore	overhang	2 lands	2 lands	3 lands	4 lands	6 lands
	short	●	●	●	●	●
	long	○	●	◑	●	●
	short	◑	●	◑	●	●
	long	○	●	○	○	○
	short	◑	●	◑	○	○
	long	○	●	◑	○	○
	short	●	●	●	◑	○
	long	○	●	◑	◑	○

● First Choice ◑ Suitable with Limitations ○ Not Recommended

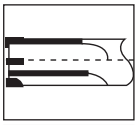
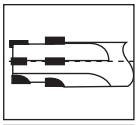
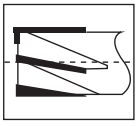
Cutting Grade, Tooling Design

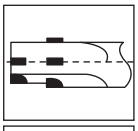
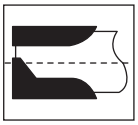
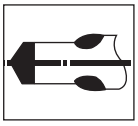
Select cutting data and tooling design based on stability and surface quality demands.

material	coolant	drilling	counterboring	reaming	milling	grade
Al <7%	MQL, emulsion	vc = 350–600 m/min fz = 0,004–0,016 IPR	vc = 650–900 m/min fz = 0,004–0,031 IPR	vc = 400–900 m/min fz = 0,004–0,016 IPR	vc = 1.500–5.000 m/min fz = 0,004–0,010 IPR	KD1415
Al <12%	MQL, emulsion	vc = 200–800 m/min fz = 0,004–0,016 IPR	vc = 650–900 m/min fz = 0,004–0,010 IPR	vc = 400–600 m/min fz = 0,004–0,010 IPR	vc = 1.500–4.000 m/min fz = 0,004–0,010 IPR	KD1415
Al >12%	emulsion	vc = 100–700 m/min fz = 0,004–0,012 IPR	vc = 650–900 m/min fz = 0,004–0,010 IPR	vc = 400–600 m/min fz = 0,004–0,010 IPR	vc = 1.500–3000 m/min fz = 0,004–0,010 IPR	KD1415
mg alloys	emulsion	vc = 350–1.000 m/min fz = 0,004–0,016 IPR	vc = 650–900 m/min fz = 0,004–0,010 IPR	vc = 400–600 m/min fz = 0,004–0,010 IPR	vc = 1.500–6.000 m/min fz = 0,004–0,010 IPR	KD1415
CFRP, GFRP	dry, air	vc = 350–1.800 m/min fz = 0,004–0,010 IPR	vc = 650–900 m/min fz = 0,004–0,010 IPR	vc = 60–200 m/min fz = 0,004–0,010 IPR	vc = 1.500–4.000 m/min fz = 0,004–0,010 IPR	KD1425

Quick-Ship Delivery • Tooling Ranges

Please contact us if this special service is available in your region.

		PCD tool		flutes[1]	chip flute length[2]	cutting diameter	max steps	through coolant	step difference
	non-center cutting		reamer, corner tipped	2–6	max 5 x D		2	axial and radial	max 20%
			countersinker, corner tipped	2–4	max 5 x D	.236–1.26"	3		max 40%
			milling tool, corner tipped	1–6	max 5 x D		2		max 50%

		PCD tool		flutes[1]	chip flute length[2]	cutting diameter	max steps	through coolant	step difference
	center cutting		drilling tool, corner tipped	2	max 20 x D	.197–1.26"	3	axial and radial	max 50%
			countersinker, center cut	2–4	max 10 x D				
			drilling tool, center cut	2	max 12 x D	.197–.472"			

NOTE: 310mm max overall
[1] Depending on the diameter [2] Based on the max diameter



Romicron™ Fine-Boring System

Primary Application

The Romicron PCD tooling portfolio has a diameter range of 4–213mm and reduces setup time and scrap rates while increasing your overall equipment efficiency. This premium fine-boring system can be used in most materials commonly found in metalcutting environments by applying the latest Kennametal Standard ISO Turning Inserts. Its closed loop boring (CLB) provides a unique possibility to automate the insert wear compensation with minimal investment due to the precise 2 µm diameter adjustment per increment. Romicron should be used where extremely close tolerances are critical to the overall process or where fast and easy diameter adjustments are needed.

Features and Benefits

Higher Productivity and Profitability

- Reduce scrap rates and setup time due to the backlash-free adjustment.
- Make use of the entire tool life of used inserts as diameter adjustment can be done inside of the machine, avoiding routine insert changes in the setup room.
- Avoid time-consuming control cuts or sister tooling.
- No training or experience is needed, resulting in less stress during adjustments.

Versatility

- Retrofit existing machines to automated wear compensation using the standard CLB pin without any electronic equipment needed besides a measuring device of holes produced.
- Use SVS00B-SVS6B prebalanced heads as the preferred solution for diameter .984–5.472" (25–139mm).
- SVUBB1 tooling for high-speed applications .157–.650" (4–16,5mm).
- Large diameter range of .236–3.937" (6–100mm) using SVUBB2 tooling.
- SVU65 and SVU92 for larger diameters of 2.79–8.386" (71–213mm).



Ease of Adjustment

- No tools are needed so adjustment can take place on the machine tool. Eliminates the need to remove and return the boring head to the presetting area providing increased productivity.
- SEE, FEEL, and HEAR the adjustment mechanism for fail-safe size control.

Customization

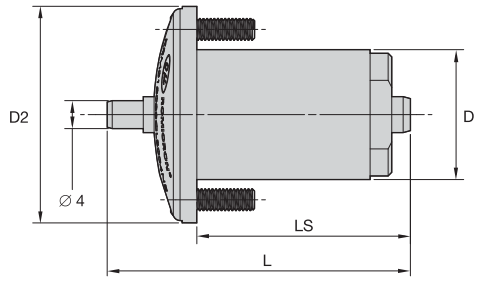
- Engineered solutions available for multistep or high length-to-diameter tooling.
- Anti-chatter devices and various non-standard machine spindle coupling sizes are available.

Boring range, coolant capacity, and maximum RPM features for all Romicron boring heads.

	head size	bore range
• 25,000 RPM max. • Balanceable. • 1,050 psi coolant capacity. • 1,050 psi/70 bar coolant capacity. • Movable zero reference.	**SVUBB1**	.157" 4mm — .650" 16,5mm
• 10,000 RPM max. • Balanceable. • 1,050 psi coolant capacity. • 1,050 psi/70 bar coolant capacity. • Movable zero reference.	**SVUBB2**	.236" 6mm — 1.00" 25,5mm
• 10,000 RPM. • Prebalanced. • 1,050 psi/70 bar coolant capacity.	**SVS00B**	.984" 25mm — 1.26" 32mm
• 8,000 RPM. • Prebalanced. • 1,050 psi/70 bar coolant capacity.	**SVS0B**	1.24" 31,5mm — 1.67" 42,5mm
• 6,000 RPM. • Prebalanced. • 225 psi/15 bar coolant capacity.	**SVS1B**	1.65" 42mm — 2.08" 53mm
• 6,000 RPM. • Prebalanced. • 225 psi/15 bar coolant capacity.	**SVS2B**	2.04" 52mm — 2.59" 66mm
• 6,000 RPM. • Prebalanced. • 225 psi/15 bar coolant capacity.	**SVS3B**	2.55" 65mm — 3.11" 79mm
• 4,500 RPM. • Prebalanced. • 300 psi/20 bar coolant capacity.	**SVS4B**	3.07" 78mm — 3.85" 98mm
• 4,500 RPM. • Prebalanced. • 300 psi/20 bar coolant capacity.	**SVS5B**	3.81" 97mm — 4.60" 117mm
• 3,500 RPM. • Prebalanced. • 300 psi/20 bar coolant capacity.	**SVS6B**	4.56" 116mm — 5.47" 139mm
• 6,000 RPM. • Balanceable. • 300 psi/20 bar coolant capacity. • Movable zero reference.	**SVU65**	2.79" 71mm — 4.37" 111mm
• 6,000 RPM. • Balanceable. • 300 psi/20 bar coolant capacity. • Movable zero reference.	**SVU92**	3.97" 101mm — 8.38" 213mm
• 6,000 RPM max. • Balanceable. • 300 psi/20 bar coolant capacity. • Movable zero reference.	**SVU120**	5.47" 139mm — 12.83" 326mm

range mm	range in	order number	catalog number	content	
4,00–16,50	.1575–.6496	**4046076**	**SVUBB1KR32KIT**	KR32SVUBB1060M KRBB10FADRS102C KRBB10SCLDRS4060C KRBB10SCFPR06085C KRBB10SCFPR06110C KRBB10SCFPR06135C	
6,00–25,50	.2362–1.0040	**4046077**	**SVUBB2KR32KITD025M**	KR32SVUBB2085M KRBB16SCLDRS4060A KRBB16SCFPR06085A KRBB16SCFPR06110A KRBB16SCFPR06135A KRBB16SCFPR06160A KRBB16SCFPR06190A KRBB16SCFPR06220A	
6,00–25,50	.2362–1.0040	**4046078**	**SVUBB2KR50KITD025M**	KR50SVUBB2075M KRBB16SCLDRS4060A KRBB16SCFPR06085A KRBB16SCFPR06110A KRBB16SCFPR06135A KRBB16SCFPR06160A KRBB16SCFPR06190A KRBB16SCFPR06220A	
6,00–100,00	.2362–3.9370	**4052608**	**SVUBB2KR32KITD100M**	KR32SVUBB2085M KRBB16SCLDRS4060A KRBB16SCFPR06085A KRBB16SCFPR06110A KRBB16SCFPR06135A KRBB16SCFPR06160A KRBB16SCFPR06190A KRBB16SCFPR06220A KRDEA046AM KRDE025010M KRDE033010M KRDEA051AM KRDE043010M KRDEA012AM KRDE065012M KRCW032A	
6,00–100,00	.2362–3.9370	**4052609**	**SVUBB2KR50KITD100M**	KR50SVUBB2075M KRBB16SCLDRS4060A KRBB16SCFPR06085A KRBB16SCFPR06110A KRBB16SCFPR06135A KRBB16SCFPR06160A KRBB16SCFPR06190A KRBB16SCFPR06220A KRDEA046AM KRDE025010M KRDE033010M KRDEA051AM KRDE043010M KRDEA012AM KRDE065012M KRCW032A	
25,00–32,00	.9842–1.2598	**4046079**	**SVS00BKR32KIT**	KR32SVS00B072M KRCSCFPR061L KRCSCFPR062L KRCSCFPR063L	
31,50–42,50	1.2402–1.6732	**4046080**	**SVS0BKR32KIT**	KR32SVS0B093M KRCSCFPR061A KRCSCFPR062A KRCSCFPR063A	
42,00–53,00	1.6535–2.0866	**4046081**	**SVS1BKR32KIT**	KR32SVS1B076M KRCSCFPR061A KRCSCFPR062A KRCSCFPR063A	
52,00–66,00	2.0472–2.5984	**4046082**	**SVS2BKR32KIT**	KR32SVS2B085M KRCSCFPR061B KRCSCFPR062B KRCSCFPR063B	
65,00–79,00	2.5590–3.1102	**4046103**	**SVS3BKR32KIT**	KR32SVS3B085M KRCSCFPR061B KRCSCFPR062B KRCSCFPR063B	
78,00–98,00	3.0708–3.8582	**4046104**	**SVS4BKR50KIT**	KR50SVS4B094M KRCSCFPR061C KRCSCFPR062C KRCSCFPR063C	

- For use with SVU CLB (Closed Loop Boring) heads.
- Retractable CLB pin is spring loaded.

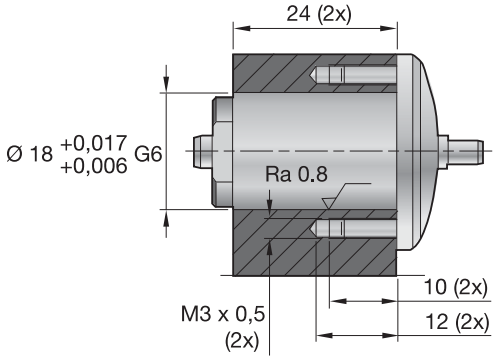


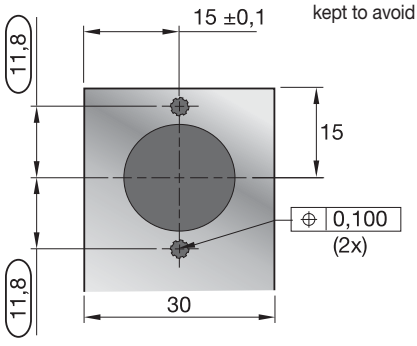


Romicron CLB Pin

order number	catalog number	D mm	D in	D2 mm	D2 in	LS mm	LS in	L mm	L in	kg	lbs
4052592	**KRM018030CLB004NE**	18,0	.71	30,0	1.18	29,6	1.17	42,0	1.65	0,1	.15

Mounting Dimensions of the Romicron CLB Pin

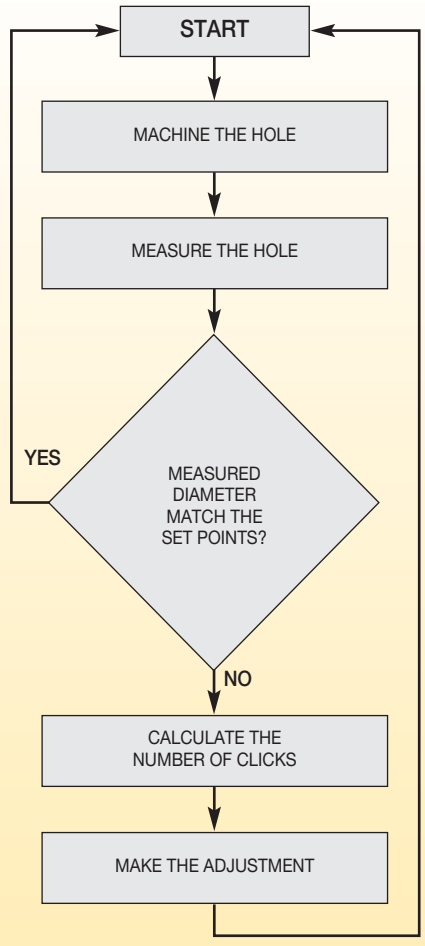




WARNING:
This position must be kept to avoid collisions.

The Romicron Closed Loop Boring Process

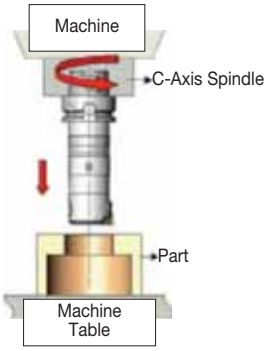
Closed Loop Boring (CLB) provides the unique possibility to automate the insert wear compensation with minimal investment due to the precise 2 µm adjustment in diameter of these tools per increment. Retrofit existing machines to automated wear compensation using the standard CLB pin without any electronic equipment needed besides a measuring device of holes produced.



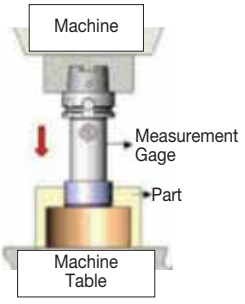
NOTE: This process is only possible with the Romicron system because it does not require tools to make the adjustment.

1. A precision system measures the holes after the machine process. The data is sent to the CNC.
2. The values are compared to the set points.
3. If the diameter is in the range of the specified set points, the machine goes to the next hole. Otherwise, the software calculates the necessary increment and automatically adjusts the Romicron using the CLB pin.

Step 1



Step 2



CNC Machine Command

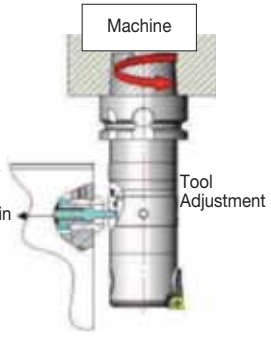


CNC calculates the correction and commands the tool.

Step 3



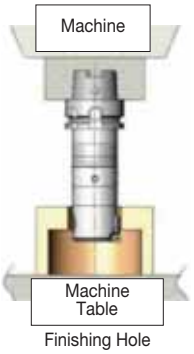
CLB retractable pin to lock the dial ring during diameter adjustment.



Step 4



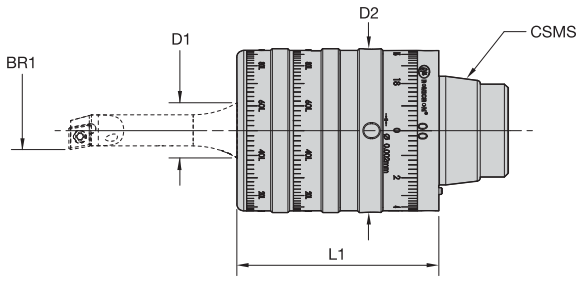
Four CLB holes positioned at diameter dial ring.



Finishing Hole

- For correct balance ring settings, see page K166.
- Order boring bar separately; see page K145.
- Order taper shank separately; see page K157.





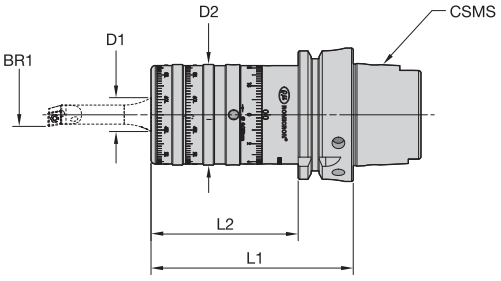


SVU BB1 • KR Boring Head with CLB Capability

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	Torx wrench	hex wrench	kg	lbs
4054737	**KR32SVUBB1060MCLB**	4,000-16,500	.1575-0.6496	KR32	10,0	.39	46,5	1.83	58,6	2.31	**KT8**	**170.000**	0,94	2.07

- For correct balance ring settings, see page K166.
- Order boring bar separately; see page K145.





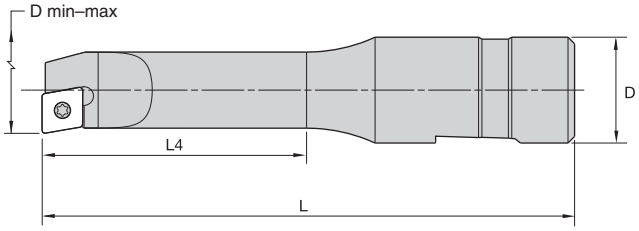


SVU BB1 • HSK Boring Head with CLB Capability

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	L2 mm	L2 in	Torx wrench	radial adjusting screw	kg	lbs
4054734	**HSK63ASVUBB1095MCLB**	4,000-16,500	.1575-0.6496	HSK63A	10,0	.39	46,5	1.83	95,5	3.76	69,4	2.73	**KT15**	**191.282**	1,45	3.20

• Order inserts separately.







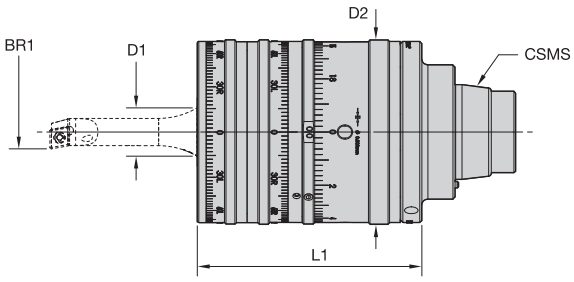
SVU BB1 • Universal Boring Bars

order number	catalog number	D min mm	D min in	D max mm	D max in	D mm	D in	L mm	L in	L4 mm	L4 in	gage insert	insert screw	Torx wrench	kg	lbs
2202438	**KRBB10FABDRS204C**	4,00	.158	7,00	.276	10	.394	57	2.23	14	.56	–	**–**	**–**	0,05	.11
2202439	**KRBB10SCLDR4060C**	6,00	.236	9,00	.354	10	.394	54	2.13	22	.85	CD..S4T0../CD..1206..	**MS1454**	**FT5**	0,05	.11
2202440	**KRBB10SCFPR06085C**	8,50	.335	11,50	.453	10	.394	58	2.28	31	1.20	CP..0602../CP..215...	**MS1153**	**FT7**	0,08	.17
2202450	**KRBB10SCFPR06110C**	11,00	.433	14,00	.551	10	.394	60	2.36	33	1.28	CP..0602../CP..215...	**MS1153**	**FT7**	0,08	.18
2202451	**KRBB10SCFPR06135C**	13,50	.532	16,50	.650	10	.394	65	2.56	39	1.52	CP..0602../CP..215...	**MS1153**	**FT7**	0,09	.20

NOTE: Carbide shank and customized boring bars are available upon request to meet your specific requirements.
Please contact Kennametal for a design and quotation.

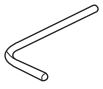
- For correct balance ring settings, see page K168.
- Order boring bar separately; see page K147.
- Order taper shank separately; see page K157.







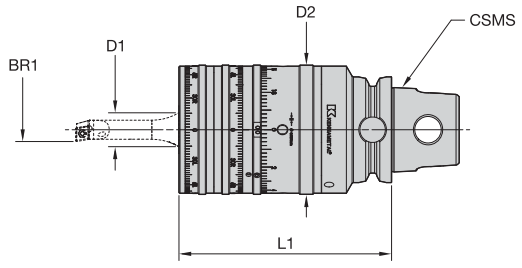
SVU BB2 • KR Boring Head with CLB Capability



order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	Torx wrench	kg	lbs
4054738	**KR32SVUBB2085MCLB**	6,000-25,500	.2362-1.0039	KR32	16,0	.63	60,0	2.36	85,0	3.35	**KT27**	1,81	3.99
4054739	**KR50SVUBB2075MCLB**	6,000-25,500	.2362-1.0039	KR50	16,0	.63	60,0	2.36	75,0	2.95	**KT27**	1,61	3.55

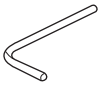
- For correct balance ring settings, see page K168.
- Order boring bar separately; see page K147.





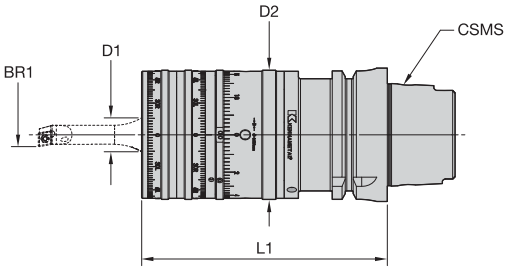


SVU BB2 • KM™ Boring Head with CLB Capability



order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	Torx wrench	kg	lbs
4054736	**KM50TSSVUBB2100MCLB**	6,000-25,500	.2362-1.0039	KM50TS	16,0	.63	60,0	2.36	100,0	3.94	**KT27**	1,91	4.21

- For correct balance ring settings, see page K168.
- Order boring bar separately; see below.

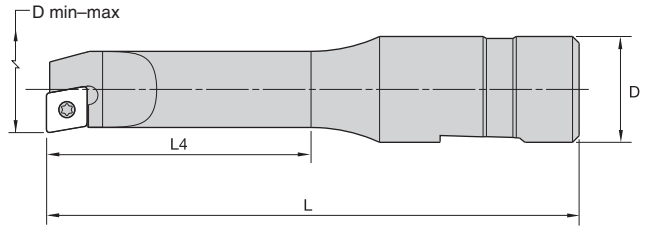




SVU BB2 • HSK Boring Head with CLB Capability

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	Torx wrench	kg	lbs
4054735	HSK63ASVUBB2116MCLB	6,000-25,500	.2362-1.0039	HSK63A	16,0	.63	60,0	2.36	116,0	4.57	KT27	2,52	5.56
4054733	HSK100ASVUBB2124MCLB	6,000-25,500	.2362-1.0039	HSK100A	16,0	.63	60,0	2.36	124,4	4.90	KT27	4,21	9.28

- Order inserts separately.

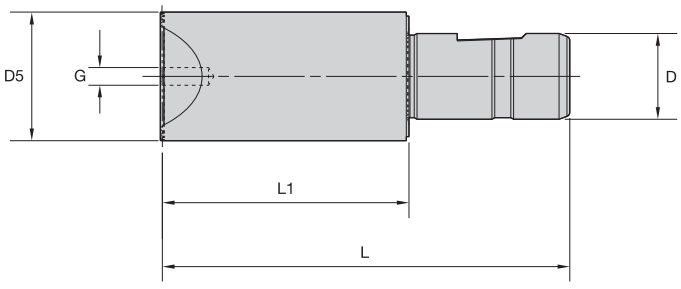


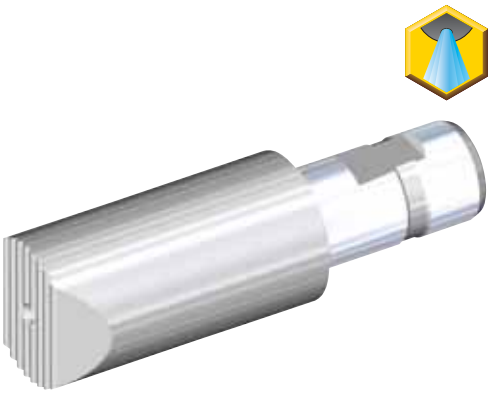


SVU BB2 • Universal Boring Bars

order number	catalog number	D min mm	D min in	D max mm	D max in	D mm	D in	L mm	L in	L4 mm	L4 in	gage insert	insert screw	Torx wrench	kg
1522062	KRBB16SCLDRS406A	6,00	9,50	.236	.374	16	.63	62	2.44	20	.79	CD..S4T0../CD..1206..	MS1454	FT5	0,06
1522063	KRBB16SCFPR06085A	8,60	12,00	.339	.472	16	.63	68	2.68	26	1.02	CP..0602../CP..215...	MS1153	FT7	0,06
1522064	KRBB16SCFPR0611A	11,00	14,50	.433	.571	16	.63	78	3.07	36	1.42	CP..0602../CP..215...	MS1153	FT7	0,08
1522068	KRBB16SCFPR06135A	13,50	17,00	.532	.669	16	.63	80	3.15	40	1.57	CP..0602../CP..215...	MS1153	FT7	0,09
1522069	KRBB16SCFPR0616A	16,00	19,50	.630	.768	16	.63	90	3.54	55	2.17	CP..0602../CP..215...	MS1153	FT7	0,11
1522070	KRBB16SCFPR0619A	19,00	22,50	.748	.886	16	.63	90	3.54	60	2.36	CP..0602../CP..215...	MS1153	FT7	0,12
1522071	KRBB16SCFPR0622A	22,00	25,50	.866	1.004	16	.63	90	3.54	60	2.36	CP..0602../CP..215...	MS1153	FT7	0,15

NOTE: Carbide shank and customized boring bars are available upon request to meet your specific requirements.
Please contact Kennametal for a design and quotation.

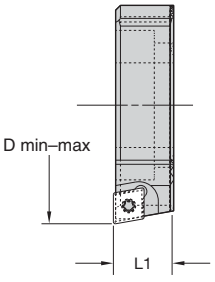




SVU BB2 • Universal Adapters

order number	catalog number	BR1 bore range mm	BR1 bore range in	D mm	D in	D5 mm	D5 in	G	L mm	L in	L1 mm	L1 in	kg	lbs
2541200	**KRDEA046AM**	25,500-43,500	1.0039-1.7126	16	.63	24,0	.94	M4X0.70	76,4	3.01	46,4	1.83	0,2	.50
2541201	**KRDEA051AM**	43,000-65,000	1.6929-2.5591	16	.63	25,0	.98	M6X1.00	81,7	3.22	51,7	2.04	0,2	.52
2541202	**KRDEA012AM**	65,000-100,000	2.5591-3.9371	16	.63	63,5	2.50	M8X1.25	42,5	1.67	12,5	.49	0,2	.42

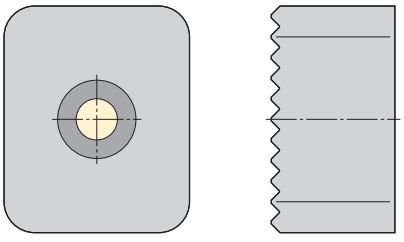
• Order inserts separately.

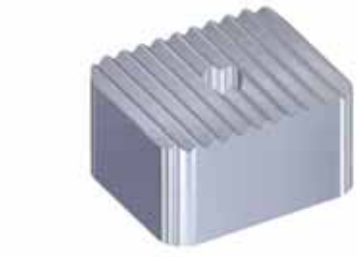




SVU BB2 • Universal Diameter Extenders

order number	catalog number	D min mm	D min in	D max mm	D max in	L1 mm	L1 in	gage insert	insert screw	Torx wrench	kg	lbs
2541213	**KRDE025010M**	25,50	33,50	1.004	1.319	10,0	.39	CP..0602../CP..215...	**MS1153**	**FT7**	0,02	.04
2541214	**KRDE033010M**	33,50	43,50	1.319	1.713	10,0	.39	CP..0602../CP..215...	**MS1153**	**FT7**	0,02	.05
2541215	**KRDE043010M**	43,00	65,00	1.693	2.559	10,0	.39	CP..0602../CP..215...	**MS1153**	**FT7**	0,03	.07
2541216	**KRDE065012M**	65,00	100,00	2.559	3.937	12,0	.47	CP..0602../CP..215...	**MS1153**	**FT7**	0,05	.10





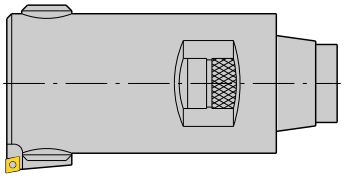
SVU BB2 • Counterweight

order number	catalog number	L mm	L in	kg	lbs
2541217	**KRCW032A**	12,0	.47	0,04	.08

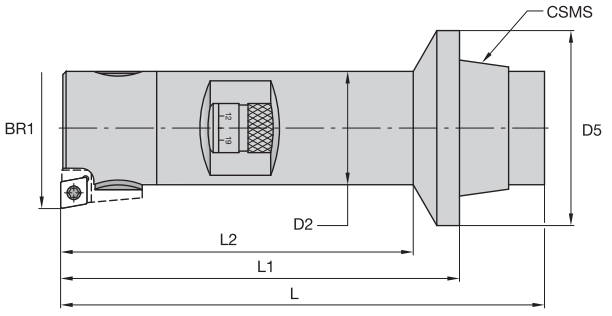
NOTE: Counterweight must be used with KRDEA012M adapter and KRDEA065012M extender.

SVS System • Tooling Tree

cartridge range	cartridge size	bore range	head size
.984–1.083" (25–27,5mm)	1L	.984–1.260" (25–32mm)	SVS00B
1.073–1.171" (27,25–29,75mm)	2L		
1.161–1.260" (29,5–32mm)	3L		
1.240–1.398" (31,5–35,5mm)	1A	1.240–1.673" (31,5–42,5mm)	SVS0B
1.378–1.535" (35–39mm)	2A		
1.516–1.673" (38,5–42,5mm)	3A		
1.654–1.811" (42–46mm)	1A	1.654–2.087" (42–53mm)	SVS1B
1.791–1.949" (45,5–49,5mm)	2A		
1.929–2.087" (49–53mm)	3A		
2.047–2.244" (52–57mm)	1B	2.047–2.598" (52–66mm)	SVS2B
2.224–2.421" (56,5–61,5mm)	2B		
2.402–2.598" (61–66mm)	3B		
2.559–2.756" (65–70mm)	1B	2.559–3.110" (65–79mm)	SVS3B
2.736–2.933" (69,5–74,5mm)	2B		
2.913–3.110" (74–79mm)	3B		
3.071–3.346" (78–85mm)	1C	3.017–3.858" (78–98mm)	SVS4B
3.327–3.602" (84,5–91,5mm)	2C		
3.583–3.858" (91–98mm)	3C		
3.819–4.094" (97–104mm)	1C	3.819–4.606" (97–117mm)	SVS5B
4.075–4.350" (103,5–110,5mm)	2C		
4.331–4.606" (110–117mm)	3C		
4.567–4.882" (116–124mm)	1D	4.567–5.472" (116–139mm)	SVS6B
4.862–5.177" (123,5–131,5mm)	2D		
5.157–5.472" (131–139mm)	3D		



- Order cartridges separately; see page K151.
- Order taper shank separately; see pages K157.

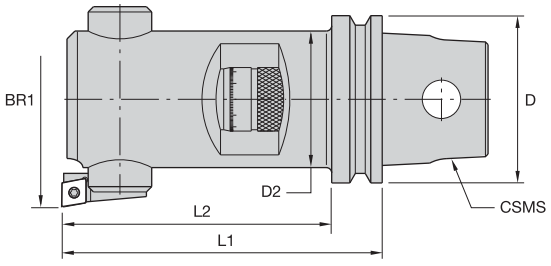




SVS • KR Boring Heads

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D2 mm	D2 in	D5 mm	D5 in	L mm	L in	L1 mm	L1 in	L2 mm	L2 in	kg	lbs
1500262	**KR32SVS00B072M**	25,000-32,000	.9840-1.2600	KR32	23,5	.93	38,0	1.50	92,0	3.62	72,0	2.83	65,0	2.56	0,7	1.43
1501372	**KR32SVS0B093M**	31,500-43,500	1.2402-1.7126	KR32	30,0	1.18	47,0	1.85	113,0	4.45	93,0	3.66	85,0	3.35	0,8	1.65
1192277	**KR32SVS1B076M**	42,000-53,000	1.6535-2.0866	KR32	38,5	1.52	—	—	96,0	3.78	76,0	2.99	—	—	0,8	1.80
1192278	**KR32SVS2B085M**	52,000-66,000	2.0472-2.5984	KR32	47,0	1.85	—	—	105,0	4.13	85,0	3.48	—	—	1,2	2.60
1192279	**KR32SVS3B085M**	65,000-79,000	2.5591-3.1102	KR32	47,0	1.85	—	—	105,0	4.13	85,0	3.48	—	—	1,2	2.68
1192281	**KR50SVS4B094M**	78,000-98,000	3.0709-3.8583	KR50	65,0	2.56	—	—	119,0	4.69	94,0	3.70	—	—	2,4	5.21
1279787	**KR50SVS5B094M**	97,000-117,000	3.8189-4.6063	KR50	65,0	2.56	—	—	119,0	4.69	94,0	3.70	—	—	3,0	6.49
1279793	**KR63SVS6B126M**	116,000-139,000	4.5669-5.4724	KR63	85,0	3.35	—	—	162,0	6.38	126,0	4.96	—	—	5,7	12.63

- Order cartridges separately; see page K151.



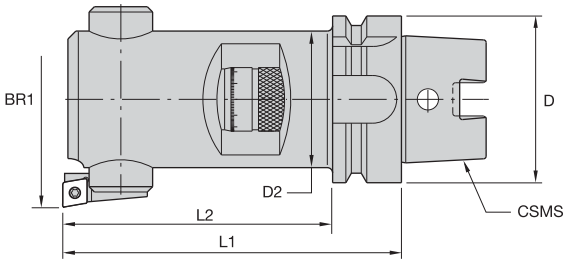


SVS • KM™ Boring Heads

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D mm	D in	D2 mm	D2 in	L1 mm	L1 in	L2 mm	L2 in	kg	lbs
1763133	**KM40SVS00B080M**	25,000-32,000	.9840-1.2600	KM40	40,000	1.5748	23,5	.93	80,0	3.15	65,0	2.56	0,7	1.50
1746909	**KM50SVS00B083M**	25,000-32,000	.9840-1.2600	KM50	50,000	1.9685	23,5	.93	83,0	3.27	65,0	2.56	0,7	1.50
1763333	**KM40SVS0B101M**	31,500-42,500	1.2400-1.6730	KM40	40,000	1.5748	30,0	1.18	101,0	3.98	85,0	3.35	0,8	1.70
1763334	**KM50SVS0B103M**	31,500-42,500	1.2400-1.6730	KM50	50,000	1.9685	30,0	1.18	103,0	4.06	85,0	3.35	0,9	2.00
1763336	**KM40SVS1B100M**	42,000-53,000	1.6540-2.0870	KM40	40,000	1.5748	38,0	1.50	100,0	3.94	88,0	3.46	1,1	2.50
1763338	**KM50SVS1B105M**	42,000-53,000	1.6540-2.0870	KM50	50,000	1.9685	38,0	1.50	105,0	4.13	90,0	3.54	1,3	2.90
1763339	**KM40SVS2B104M**	52,000-66,000	2.0470-2.5980	KM40	40,000	1.5748	47,0	1.85	104,0	4.09	92,0	3.62	1,5	3.20
1746981	**KM50SVS2B107M**	52,000-66,000	2.0470-2.5980	KM50	50,000	1.9685	47,0	1.85	107,0	4.21	92,0	3.62	1,5	3.30
1763373	**KM50SVS3B107M**	65,000-79,000	2.5590-3.1100	KM50	50,000	1.9685	47,0	1.85	107,0	4.21	92,0	3.62	1,9	4.20
1763374	**KM63SVS3B107M**	65,000-79,000	2.5590-3.1100	KM63	63,000	2.4803	47,0	1.85	107,0	4.21	92,0	3.62	2,1	4.60
1763375	**KM50SVS4B125M**	78,000-98,000	3.0710-3.8580	KM50	50,000	1.9685	65,0	2.56	125,0	4.92	110,0	4.33	2,2	4.90
1763378	**KM50SVS5B125M**	97,000-117,000	3.8190-4.6060	KM50	50,000	1.9685	65,0	2.56	125,0	4.92	110,0	4.33	3,2	7.10
1763379	**KM63SVS5B110M**	97,000-117,000	3.8190-4.6060	KM63	63,000	2.4803	65,0	2.56	110,0	4.33	92,0	3.62	3,2	7.10
1763376	**KM63SVS4B110M**	78,000-98,000	3.0710-3.8580	KM63	63,000	2.4803	65,0	2.56	110,0	4.33	92,0	3.62	2,4	5.30
1763382	**KM80SVS6B150M**	116,000-139,000	4.5670-5.4720	KM80	80,000	3.1496	85,0	3.35	150,0	5.91	128,0	5.04	7,8	17.20

• Order cartridges separately.





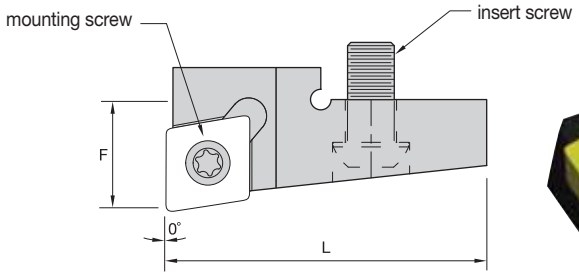


SVS • HSK Boring Heads

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D mm	D in	D2 mm	D2 in	L1 mm	L1 in	L2 mm	L2 in	kg	lbs
1763096	HSK63ASVS00B096M	25,000-32,000	.9840-1.2600	HSK63A	63,0	2.48	23,5	.93	96,0	3.78	66,0	2.60	1,1	2.40
1763098	HSK63ASVS0B117M	31,500-42,500	1.2400-1.6730	HSK63A	63,0	2.48	30,0	1.18	117,0	4.61	88,0	3.46	1,4	3.00
1763100	HSK63ASVS1B116M	42,000-53,000	1.6540-2.0870	HSK63A	63,0	2.48	38,0	1.50	116,0	4.57	88,0	3.46	1,6	3.40
1763114	HSK63ASVS3B121M	65,000-79,000	2.5590-3.1100	HSK63A	63,0	2.48	47,0	1.85	121,0	4.76	95,0	3.74	1,9	4.10
1763112	HSK63ASVS2B121M	52,000-66,000	2.0470-2.5980	HSK63A	63,0	2.48	47,0	1.85	121,0	4.76	95,0	3.74	1,9	4.20
1763118	HSK63ASVS5B139M	97,000-117,000	3.8190-4.6060	HSK63A	63,0	2.48	65,0	2.56	139,0	5.47	113,0	4.45	5,9	13.00
1763116	HSK63ASVS4B139M	78,000-98,000	3.0710-3.8580	HSK63A	63,0	2.48	65,0	2.56	139,0	5.47	113,0	4.45	3,6	8.00

• Order inserts separately.







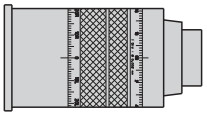
SVS • Cartridges SCF

order number	catalog number	L mm	L in	F mm	F in	gage insert	reference head	cartridge size	kg	lbs
1501356	KRCSCFPR061L	19,15	.75	4,76	.19	CP..0602../CP..215...	SVS00B	1L.	0,01	.02
1500650	KRCSCFPR062L	19,15	.75	5,90	.23	CP..0602../CP..215...	KRMSVS00M50049M,SVS00B	2L.	0,01	.02
1501357	KRCSCFPR063L	19,15	.75	7,01	.28	CP..0602../CP..215...	SVS00B	3L.	0,01	.03
1099162	KRCSCFPR061A	23,70	.93	6,45	.25	CP..0602../CP..215...	SVS1B,SVS0B	1A.	0,01	.02
1099163	KRCSCFPR062A	23,70	.93	8,20	.32	CP..0602../CP..215...	SVS1B,SVS0B	2A.	0,01	.02
1099164	KRCSCFPR063A	23,70	.93	9,95	.39	CP..0602../CP..215...	SVS1B,SVS0B	3A.	0,01	.03
1099165	KRCSCFPR061B	24,70	.97	6,45	.25	CP..0602../CP..215...	SVS3B,SVS2B	1B.	0,01	.02
1099166	KRCSCFPR062B	24,70	.97	8,70	.34	CP..0602../CP..215...	SVS3B,SVS2B	2B.	0,01	.03
1099167	KRCSCFPR063B	24,70	.97	10,95	.43	CP..0602../CP..215...	SVS3B,SVS2B	3B.	0,02	.03
1099168	KRCSCFPR061C	30,70	1.21	8,45	.33	CP..0602../CP..215...	SVS5B,SVS4B	1C.	0,02	.05
1099169	KRCSCFPR062C	30,70	1.21	11,70	.46	CP..0602../CP..215...	SVS5B,SVS4B	2C.	0,03	.06
1099170	KRCSCFPR063C	30,70	1.21	14,95	.59	CP..0602../CP..215...	SVS5B,SVS4B	3C.	0,04	.08
1099171	KRCSCFPR061D	38,70	1.52	8,45	.33	CP..0602../CP..215...	SVS8B,SVS7B,SVS6B	1D.	0,03	.07
1099172	KRCSCFPR062D	38,70	1.52	12,20	.48	CP..0602../CP..215...	SVS8B,SVS7B,SVS6B	2D.	0,05	.10
1099173	KRCSCFPR063D	38,70	1.52	15,95	.63	CP..0602../CP..215...	SVS8B,SVS7B,SVS6B	3D.	0,06	.13

SVU System • Tooling Tree

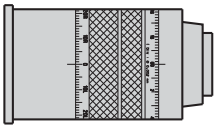
cartridge range	cartridge size	bore range	head size
2.795–2.992" (71–76mm) 2.972–3.209" (75,5–81,5mm) 3.149–3.346" (80–85mm)	1E 2E 3E	2.795–3.346" (71–85mm)	070
3.307–3.504" (84–89mm) 3.484–3.681" (88,5–93,5mm) 3.661–3.858" (93–98mm)	1E 2E 3E	3.307–3.858" (84–98mm)	083
3.819–4.016" (97–102mm) 3.996–4.193" (101,5–106,5mm) 4.173–4.370" (106–111mm)	1E 2E 3E	3.819–4.370" (97–111mm)	096
3.976–4.252" (101–108mm) 4.232–4.508" (107,5–114,5mm) 4.488–4.764" (114–121mm)	1F 2F 3F	3.976–4.764" (101–121mm)	101
4.724–5.000" (120–127mm) 4.980–5.256" (126,5–133,5mm) 5.236–5.512" (133–140mm)	1F 2F 3F	4.724–5.512" (120–140mm)	120
5.472–5.748" (139–146mm) 5.728–6.004" (145,5–152,5mm) 5.984–6.260" (152–159mm)	1F 2F 3F	5.472–6.260" (139–159mm)	139
6.142–6.417" (156–163mm) 6.398–6.673" (162,5–169,5mm) 6.654–6.929" (169–176mm)	1F 2F 3F	6.142–6.929" (156–176mm)	156
6.890–7.165" (175–182mm) 7.146–7.421" (181,5–188,5mm) 7.402–7.677" (188–195mm)	1F 2F 3F	6.890–7.677" (175–195mm)	175
7.598–7.874" (193–200mm) 7.854–8.130" (199,5–206,5mm) 8.110–8.386" (206–213mm)	1F 2F 3F	7.598–8.386" (193–213mm)	193

SVU65



2.795–4.370"
(71–111mm)

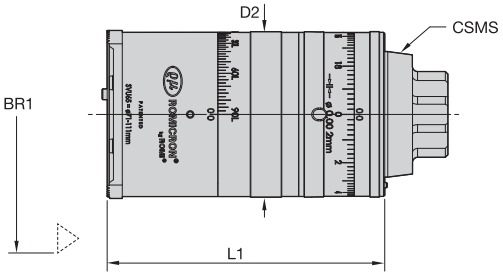
SVU92



3.976–8.386"
(101–121mm)

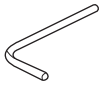
- For correct balance ring settings, see page K174.
- Order diameter extenders, cartridges, and taper shanks separately.







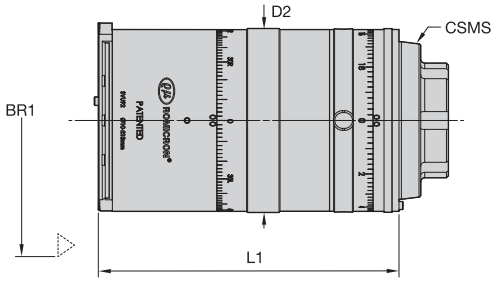
SVU65 • KR Boring Head with CLB Capability



order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	Torx wrench	kg	lbs
1582600	KR50SVU65110MCLB	71,000-111,000	2.7950-4.3700	KR50	65,0	2.56	110,0	4.33	KT27	2,8	6.20

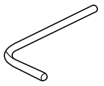
- For correct balance ring settings, see page K176.
- Order diameter extenders, cartridges, and taper shanks separately.



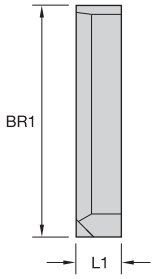




SVU92 • KR Boring Head with CLB Capability



order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	Torx wrench	kg	lbs
4054740	KR80SVU92152MCLB	101,000-213,000	3.9764-8.3858	KR80	92,0	3.62	152,0	5.98	KT27	7,5	16.54

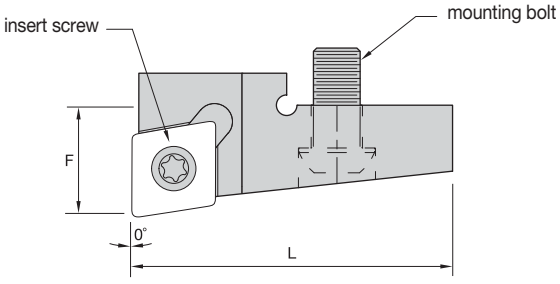




SVU 65/SVU 92 • Diameter Extenders

order number	catalog number	BR1 bore range mm	BR1 bore range in	L1 mm	L1 in	kg	lbs
1279736	**KRDE070019M**	70,000-85,000	2.7559-3.3465	19,20	.76	0,22	.48
1279739	**KRDE083019M**	83,000-98,000	3.2677-3.8583	19,20	.76	0,28	.62
1279740	**KRDE096019M**	96,000-111,000	3.7795-4.3701	19,20	.76	0,34	.76
1279741	**KRDE101023M**	101,000-121,000	3.9764-4.7638	23,20	.91	0,57	1.25
1279742	**KRDE120023M**	120,000-140,000	4.7244-5.5118	23,20	.91	0,70	1.54
1279743	**KRDE139026M**	139,000-159,000	5.4724-6.2598	26,20	1.03	0,98	2.15
1279745	**KRDE156026M**	156,000-176,000	6.1417-6.9291	26,20	1.03	1,14	2.51
1279746	**KRDE175026M**	175,000-195,000	3.8898-7.6772	26,20	1.03	1,28	2.83
1279748	**KRDE193026M**	193,000-213,000	7.5984-8.3858	26,20	1.03	1,42	3.14

• Order inserts separately.

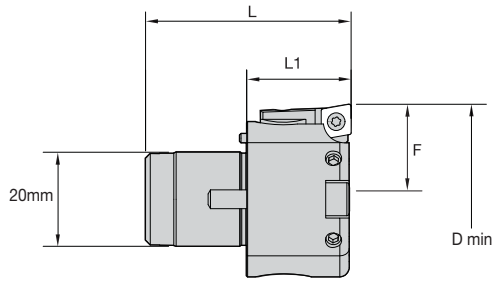


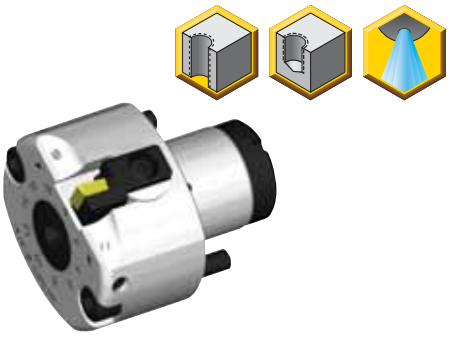


SVU • Cartridges SCF

order number	catalog number	reference head	F mm	F in	L mm	L in	gage insert	insert screw	mounting screw	insert Torx wrench	Torx wrench	kg	lbs
1099174	**KRCSCFPR061E**	SVU65	6,75	.27	19,70	.78	CP..0602../CP..215...	**MS1375**	**MS1153**	**FT7**	**KT15**	0,01	.02
1099175	**KRCSCFPR062E**	SVU65	9,00	.35	19,70	.78	CP..0602../CP..215...	**MS1375**	**MS1153**	**FT7**	**KT15**	0,01	.02
1099176	**KRCSCFPR063E**	SVU65	11,25	.44	19,70	.78	CP..0602../CP..215...	**MS1375**	**MS1153**	**FT7**	**KT15**	0,01	.03
1099177	**KRCSCFPR061F**	SVU92	6,75	.27	19,70	.78	CP..0602../CP..215...	**MS1375**	**MS1153**	**FT7**	**KT15**	0,01	.02
1099178	**KRCSCFPR062F**	SVU92	10,00	.39	19,70	.78	CP..0602../CP..215...	**MS1375**	**MS1153**	**FT7**	**KT15**	0,01	.03
1099179	**KRCSCFPR063F**	SVU92	13,25	.52	19,70	.78	CP..0602../CP..215...	**MS1375**	**MS1153**	**FT7**	**KT15**	0,02	.03

• Cartridge included.

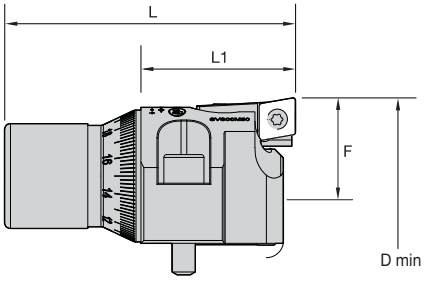


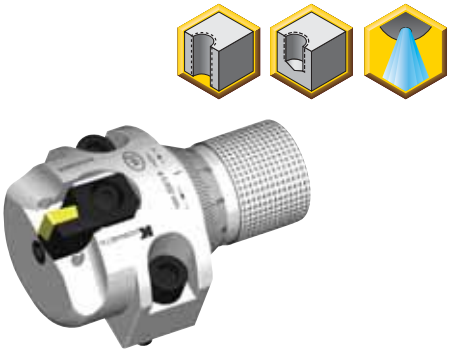


Axial Mount Modular Unit

order number	catalog number	D min mm	D min in	L mm	L in	L1 mm	L1 in	F mm	F in	kg	lbs
2541222	**KRMSVS00MF40039M**	40,0	1.57	43,7	1.72	22,2	.87	20,2	.80	0,20	.50
2541223	**KRMSVS00MF60055M**	60,0	2.36	57,7	2.27	26,0	1.02	15,6	.61	0,25	.60

• Cartridge included.

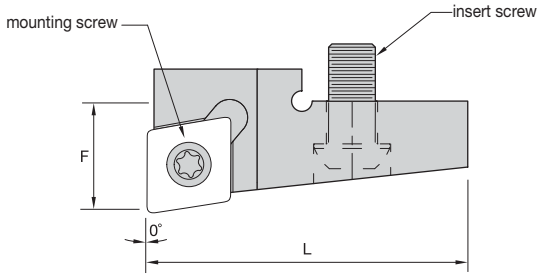




Radial Mount Modular Unit

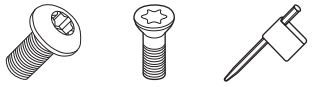
order number	catalog number	D min mm	D min in	L mm	L in	L1 mm	L1 in	F mm	F in	kg	lbs
2541218	**KRMSVS00M50049M**	50,0	1.97	50,8	2.00	27,0	1.06	25,4	1.00	0,17	.40
2202444	**KRMSVS00M055M**	60,0	2.36	55,8	2.20	32,0	1.26	27,6	1.09	0,25	.55
2541219	**KRMSVS2M100080M**	100,0	3.94	80,0	3.15	47,7	1.88	48,0	1.89	0,97	2.10

• Order inserts separately.



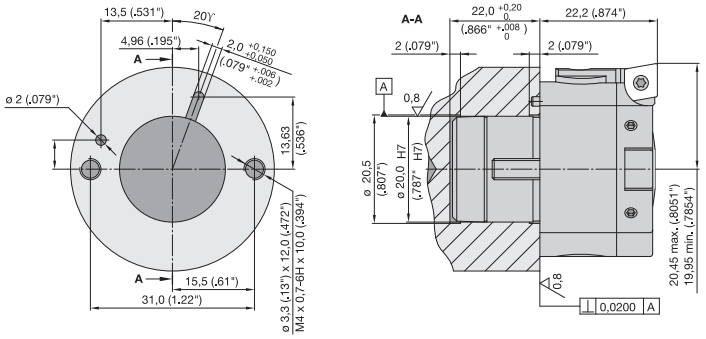


SVS • Cartridges SCF for Axial and Radial Mount Modular Units



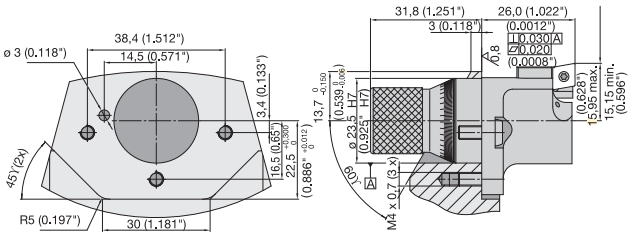
order number	catalog number	reference head	gage insert	mounting screw	insert screw	Torx wrench	Torx size	kg	lbs
2202449	**KRCSCFPR061M**	KRMSVS00MF60055M, KRMSVS00M055M, SVS00M	CP..0602../CP..215...	**MS2006PKG**	**MS2005PKG**	**FT7**	T7	0,02	.03
2541220	**KRCSCFPR061N**	KRMSVS00M50049M	CP..0602../CP..215...	**MS2006PKG**	**MS1153**	**FT7**	T7	0,01	.02
2541221	**KRCSCFPR061O**	KRMSVS2M100080M	CP..0602../CP..215...	**MS1897**	**MS1153**	**KT27**	T7	0,03	.06
1500650	**KRCSCFPR062L**	KRMSVS00M50049M, SVS00B	CP..0602../CP..215...	**MS2006PKG**	**MS2005PKG**	**FT7**	T7	0,01	.02

Mounting Dimensions — Axial model KRMSVS00MF40039M



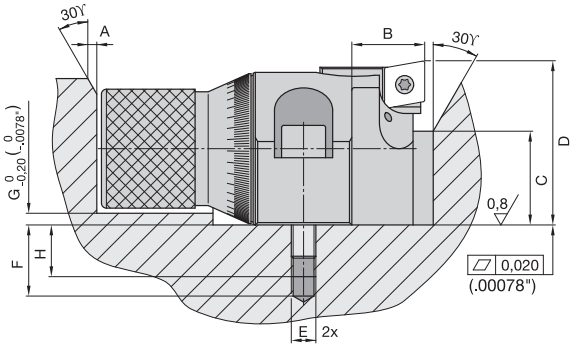
Dimensions in mm (inches)

Mounting Dimensions — Axial model KRMSVS00MF60055M

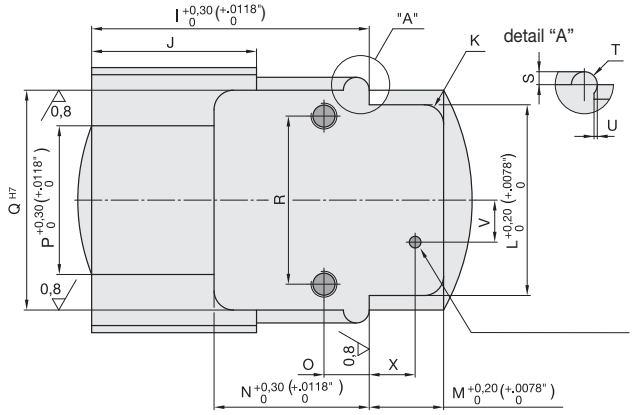


Dimensions in mm (inches)

Mounting Dimensions — Radial Models



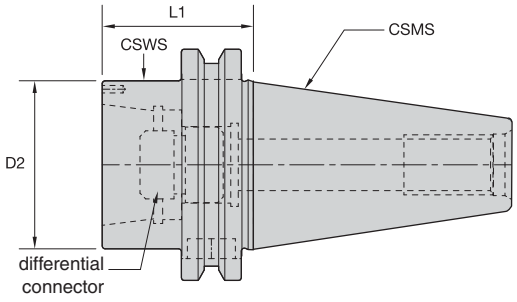
Dimensions in mm (inches)



Dimensions in mm (inches)

	KRMSVS00M50049M		KRMSVS00M055M		KRMSVS2M100080M	
dimensions	**mm**	**inch**	**mm**	**inch**	**mm**	**inch**
A	1,7	.067	1,7	.067	4,0	.157
B	12,5	.492	15,0	.590	22,7	1.385
C	14,5	.570	14,5	.623	28,0	1.102
D (mean dimension)	25,4	1.000	27,6	1.086	48,0	1.889
E	M4 x 0,7		M4 x 0,7		M8 x 1,25	
F	11,0	.433	12,0	.472	25,0	.984
G	1,5	.059	1,5	.059	1,5	.590
H	8,0	.314	10,0	.393	22,0	.866
I	40,0	1.496	41,5	1.633	59,0	2.322
J	25,5	.944	24,0	.964	34,0	1.338
K	3,0	.118	3,0	.118	4,0	.157
L	29,5	1.161	30,5	1.200	55,0	2.165
M	12,0	.472	15,0	.669	24,5	.964
N	20,0	.787	21,0	.826	31,0	1.220
O	7,0	.257	11,0	.433	12,5	.492
P	23,0	.905	23,0	.905	40,0	1.574
Q	34,0	1.228	40,0	1.574	65,0	2.559
R	26,0	1.023	30,5	1.200	50,0	1.968
S	2,0	.078	1,5	.056	4,0	.157
T	2,0	.078	3,0	.118	4,0	.157
U	0,0	.000	0,5	.19	0,0	.000
V	6,5	.393	7,0	.393	10,2	.402
X	7,1	.118	10,0	.216	15,7	.236

• Differential connector included.







CV to KR Adapters AD/B



order number	catalog number	CSMS system size	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	differential connector	kg	lbs	reference head
3554366	CV40BKR32157	CV40	KR32	47	1.85	40	1.581	KRDCKR32M	1,08	2.40	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554367	CV40BKR50236	CV40	KR50	65	2.56	60	2.368	KRDCKR50M	1,23	2.70	SVS4B,5B,SVU65,SVUBB2
3554368	CV50BKR32157	CV50	KR32	50	1.97	40	1.571	KRDCKR32M	3,25	7.20	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554369	CV50BKR50157	CV50	KR50	65	2.56	40	1.571	KRDCKR50M	3,05	6.70	SVS4B,5B,SVU65,SVUBB2
3554370	CV50BKR63236	CV50	KR63	85	3.35	60	2.358	KRDCKR63M	3,50	7.70	SVS6B,7B,8B
3554371	CV50BKR80275	CV50	KR80	95	3.74	70	2.752	KRDCKR80M	4,28	9.40	SVU92,120

DV to KR DIN 69871 AD/B





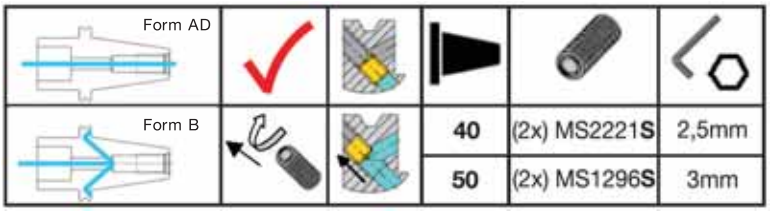
order number	catalog number	CSMS system size	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	differential connector	kg	lbs	reference head
1263815	DV40BKR32040M	DV40	KR32	44	1.75	40	1.57	KRDCKR32M	1,00	2.20	SVS0B, SVS2B, SVS3B
1539005	DV40BKR32041M	DV40	KR32	44	1.75	41	1.61	KRDCKR32M	1,00	2.20	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1263816	DV40BKR50060M	DV40	KR50	65	2.56	60	2.36	KRDCKR50M	1,40	3.08	SVS4B,5B,SVU65,SVUBB2
1191970	DV50BKR32040M	DV50	KR32	50	1.96	40	1.57	KRDCKR32M	2,80	6.16	SVS0B, SVS2B, SVS3B
1528328	DV50BKR32041M	DV50	KR32	50	1.96	41	1.61	KRDCKR32M	2,80	6.16	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1191971	DV50BKR50040M	DV50	KR50	65	2.56	40	1.57	KRDCKR50M	2,80	6.16	SVS4B,5B,SVU65,SVUBB2
1264135	DV50BKR63060M	DV50	KR63	85	3.34	60	2.36	KRDCKR63M	3,30	7.26	SVS6B,7B,8B
1264136	DV50BKR80070M	DV50	KR80	95	3.73	70	2.76	KRDCKR80M	4,10	9.02	SVU92,120

BT to KR JIS B6339 Adapters AD/B

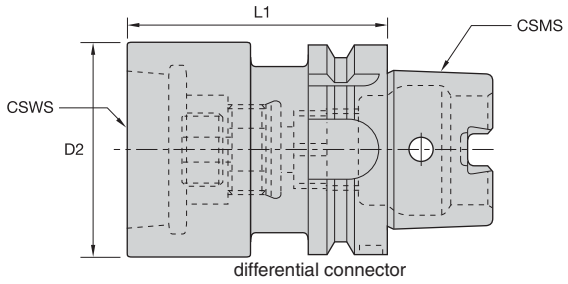




order number	catalog number	CSMS system size	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	differential connector	kg	lbs	reference head
3554372	BT40BKR32030M	BT40	KR32	50	1.97	30	1.18	KRDCKR32M	1,20	2.63	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554373	BT40BKR50050M	BT40	KR50	63	2.48	50	1.97	KRDCKR50M	1,26	2.80	SVS4B,5B,SVU65,SVUBB2
3554374	BT50BKR32040M	BT50	KR32	50	1.97	40	1.57	KRDCKR32M	3,90	8.60	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3554375	BT50BKR50040M	BT50	KR50	65	2.56	40	1.57	KRDCKR50M	3,17	7.00	SVS4B,5B,SVU65,SVUBB2
3554376	BT50BKR63060M	BT50	KR63	85	3.35	60	2.36	KRDCKR63M	4,31	9.50	SVS6B,7B,8B
3554377	BT50BKR80060M	BT50	KR80	95	3.74	60	2.36	KRDCKR80M	4,53	9.98	SVU92,120



• Differential connector included.





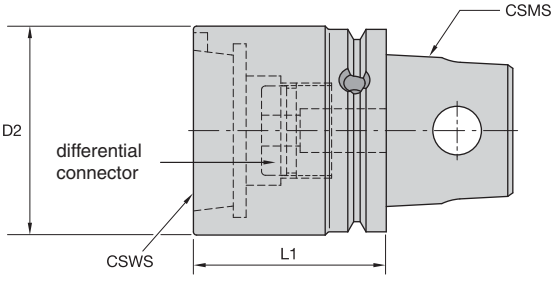
HSK Form A to KR Adapters



order number	catalog number	CSMS system size	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	differential connector	kg	lbs	reference head
1153403	**HSK63AKR32075M**	HSK63A	KR32	50	1.96	75	2.95	**KRDCKR32M**	1,20	2.64	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1153604	**HSK63AKR50080M**	HSK63A	KR50	65	2.56	80	3.15	**KRDCKR50M**	1,60	3.52	SVS4B,5B,SVU65,SVUBB2
1153606	**HSK100AKR32075M**	HSK100A	KR32	50	1.96	75	2.95	**KRDCKR32M**	2,20	4.84	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
1107188	**HSK100AKR50085M**	HSK100A	KR50	65	2.56	85	3.35	**KRDCKR50M**	3,10	6.82	SVS4B,5B,SVU65,SVUBB2
1173988	**HSK100AKR63100M**	HSK100A	KR63	95	3.73	90	3.54	**KRDCKR63M**	4,40	9.68	SVS6B,7B,8B
1153612	**HSK100AKR80090M**	HSK100A	KR80	50	1.96	75	2.95	**KRDCKR80M**	2,60	5.72	SVU92,120

NOTE: Plug may need to be removed to access the differential screw drive through the HSK taper.

• Differential connector included.





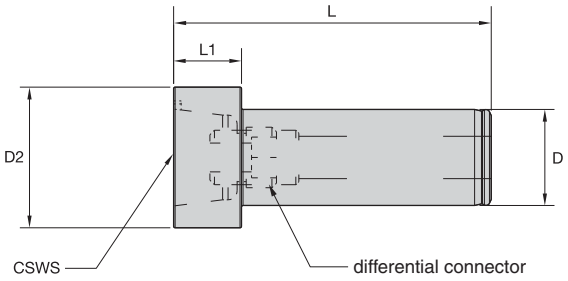


KM63XMZ to KR Adapters



order number	catalog number	CSMS system size	CSWS system size	D2 mm	D2 in	L1 mm	L1 in	differential connector	kg	lbs	reference head size
1831590	**KM63XMZKR5060Y**	KM63XMZ	KR50	65	2.56	60	2.36	**KRDCKR50M**	1,40	3.01	SVS4B,5B,SVU65,SVUBB2

• Differential connector included.

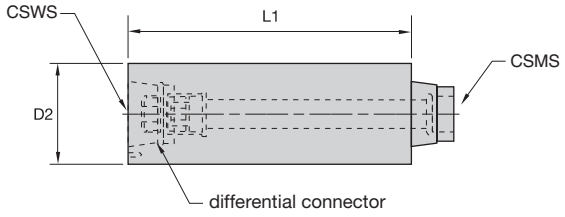




Straight Shank to KR Adapters • Inch

order number	catalog number	CSWS system size	D mm	D in	D2 mm	D2 in	L mm	L in	L1 mm	L1 in	differential connector	kg	lbs	reference head
3562940	SS100KR32043	KR32	25,40	1.000	46,50	1.831	125,00	4.921	42,5	1.67	KRDCKR32M	0,60	1.30	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3562941	SS125KR32023	KR32	31,75	1.250	46,50	1.831	105,00	4.134	22,5	.89	KRDCKR32M	0,65	1.40	SVS00B,0B,1B,2B,3B,SVUBB1,BB2
3562942	SS125KR50033	KR50	31,75	1.250	60,00	2.362	115,00	4.528	32,5	1.28	KRDCKR50M	0,75	1.70	SVS4B,5B,SVU65,SVUBB2

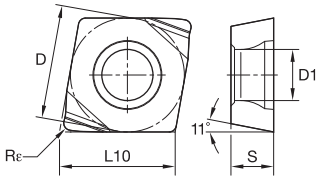
• Differential connector included.

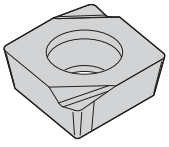




Length Extenders and Spare Differential Connectors

order number	catalog number	CSWS system size	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	differential connector	kg	lbs	reference head
1279772	KR32KR32038050M	KR32	KR32	38	1.50	50	1.97	KRDCKR32M	0,45	.99	SVS00B,1B
1192275	KR32KR32038100M	KR32	KR32	38	1.50	100	3.94	KRDCKR32M	0,82	1.81	SVS00B,1B
1279775	KR32KR32047050M	KR32	KR32	47	1.85	50	1.97	KRDCKR32M	0,69	1.52	SVS0B,2B,3B,SVUBB1
1192276	KR32KR32047100M	KR32	KR32	47	1.85	100	3.94	KRDCKR32M	1,28	2.82	SVS0B,2B,3B,SVUBB1
1279785	KR50KR50065050M	KR50	KR50	65	2.56	50	1.97	KRDCKR50M	1,16	2.56	SVS4B,5B,SVU65,SVUBB2
1192280	KR50KR50065100M	KR50	KR50	65	2.56	100	3.94	KRDCKR50M	2,25	4.96	SVS4B,5B,SVU65,SVUBB2
1279791	KR63KR63085050M	KR63	KR63	85	3.35	50	1.97	KRDCKR63M	2,00	4.41	SVS6B,7B,8B
1279792	KR63KR63085100M	KR63	KR63	85	3.35	100	3.94	KRDCKR63M	4,02	8.86	SVS6B,7B,8B
1279797	KR80KR80095050M	KR80	KR80	95	3.74	50	1.97	KRDCKR80M	2,50	5.51	SVU92,120
1279798	KR80KR80095100M	KR80	KR80	95	3.74	100	3.94	KRDCKR80M	5,00	11.02	SVU92,120





● first choice
○ alternate choice



CPGT - FWL20

ISO catalog number	ANSI catalog number	D mm	D in	D1 mm	D1 in	L10 mm	L10 in	S mm	S in	Rε mm	Rε in	KC5410
CPGT060204FWL20	CPGT2151FWL20	6,35	.250	2,85	.112	6,45	.254	2,38	.094	0,40	.016	●

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Material Group		Condition	Geometry -LF	-UF	-FP	-FW	Cutting Speed SFM min	Starting Value	max	Feed Rate IPR -LF	-UF	-FP	-FW
P	1		KCP05				590	**1430**	1620	.002 - .010	.002 - .006	.002 - .010	–
					KTP10		590	**1430**	1620	–	–	.002 - .010	–
			KT315			KT315	590	**1310**	1620	.002 - .010	–	–	.003 - .012
			KCP10				590	**1300**	1530	.002 - .010	.002 - .006	.002 - .010	–
			KC9110				590	**1300**	1620	.002 - .010	.002 - .006	–	–
			KCP25				460	**920**	1180	.002 - .004	.002 - .003	.002 - .005	.003 - .006
			KC9125				460	**920**	1180	.002 - .004	.002 - .003	–	–
	2		KCP05				590	**870**	1310	.002 - .010	.002 - .006	.002 - .010	–
					KTP10		590	**870**	1310	–	–	.002 - .010	–
			KT315			KT315	620	**890**	1280	.002 - .010	–	–	.003 - .012
			KCP10				590	**790**	1080	.002 - .010	.002 - .006	.002 - .010	–
			KC9110				590	**790**	1080	.002 - .010	.002 - .006	–	–
			KCP25				480	**640**	1050	.002 - .004	.002 - .003	.002 - .005	.003 - .006
			KC9125				480	**640**	1050	.002 - .004	.002 - .003	–	–
	3		KCP05				590	**670**	900	.002 - .010	.002 - .006	.002 - .010	–
					KTP10		590	**670**	900	–	–	.002 - .010	–
			KT315			KT315	590	**690**	900	.002 - .010	–	–	.003 - .012
			KCP10				520	**620**	820	.002 - .010	.002 - .006	.002 - .010	–
			KC9110				510	**620**	790	.002 - .010	.002 - .006	–	–
			KCP25				440	**510**	740	.002 - .004	.002 - .003	.002 - .005	.003 - .006
			KC9125				440	**510**	740	.002 - .004	.002 - .003	–	–
	4		KCP05				300	**520**	720	.002 - .010	.002 - .006	.002 - .010	–
					KTP10		300	**520**	720	–	–	.002 - .010	–
			KT315			KT315	300	**590**	720	.002 - .010	–	–	.003 - .012
			KCP10				300	**480**	640	.002 - .010	.002 - .006	.002 - .010	–
			KC9110				300	**480**	640	.002 - .010	.002 - .006	–	–
			KCP25				250	**340**	590	.002 - .004	.002 - .003	.002 - .005	.003 - .006
			KC9125				250	**340**	590	.002 - .004	.002 - .003	–	–
	5		KCP05				490	**790**	1030	.002 - .010	.002 - .006	.002 - .010	–
					KTP10		490	**790**	1030	–	–	.002 - .010	–
			KT315			KT315	490	**820**	1030	.002 - .010	–	–	.003 - .012
			KCP10				490	**710**	980	.002 - .010	.002 - .006	.002 - .010	–
			KC9110				490	**710**	980	.002 - .010	.002 - .006	–	–
			KCP25				390	**640**	840	.002 - .004	.002 - .003	.002 - .005	.003 - .006
			KC9125				390	**640**	840	.002 - .004	.002 - .003	–	–
	6		KCP05				460	**660**	980	.002 - .010	.002 - .006	.002 - .010	–
					KTP10		460	**660**	980	–	–	.002 - .010	–
			KT315			KT315	460	**660**	980	.002 - .010	–	–	.003 - .012
			KCP10				390	**590**	900	.002 - .010	.002 - .006	.002 - .010	–
			KC9110				390	**590**	740	.002 - .010	.002 - .006	–	–
			KCP25				340	**490**	740	.002 - .004	.002 - .003	.002 - .005	.003 - .006
			KC9125				340	**490**	740	.002 - .004	.002 - .003	–	–

Material Group		Condition	Geometry -LF	-UF	-FP	-FW	Cutting Speed SFM min	Starting Value	max	Feed Rate IPR -LF	-UF	-FP	-FW
M	1				KTP10		460	**750**	1030	–	–	.002 - .010	–
			KT315			KT315	460	**750**	1030	.002 - .010	–	–	.003 - .012
			KC5010			KC5010	430	**710**	800	.002 - .010	–	–	.003 - .012
			KCM15		KCM15		340	**590**	790	.002 - .005	–	.002 - .005	–
			KC9225			KC9225	340	**590**	790	.002 - .005	–	–	.003 - .006
	2				KTP10		460	**710**	970	–	–	.002 - .010	–
			KT315			KT315	460	**710**	970	.002 - .010	–	–	.003 - .012
			KC5010			KC5010	430	**660**	800	.002 - .010	–	–	.003 - .012
			KCM15		KCM15		340	**540**	820	.002 - .005	–	.002 - .005	–
			KC9225			KC9225	330	**520**	750	.002 - .005	–	–	.003 - .006
	3				KTP10		460	**660**	980	–	–	.002 - .010	–
			KT315			KT315	460	**660**	980	.002 - .010	–	–	.003 - .012
			KC5010			KC5010	430	**610**	750	.002 - .010	–	–	.003 - .012
			KCM15		KCM15		380	**490**	840	.002 - .005	–	.002 - .005	–
			KC9225			KC9225	360	**490**	750	.002 - .005	–	–	.003 - .006

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Material Group		Condition	Geometry -LF	-UF	-FP	-FW	Cutting Speed SFM min	Starting Value	max	Feed Rate IPR -LF	-UF	-FP	-FW
K	1		KCK20		KCK20		660	980	1770	.002 - .010	–	.002 - .010	.003 - .012
			KT315			KT315	540	900	1610	.002 - .010	–	–	.003 - .012
			KC9315				360	900	1480	.002 - .010	–	–	–
			KC9320				330	790	1310	.002 - .005	–	–	–
	2		KCK20		KCK20		490	790	1380	.002 - .010	–	.002 - .010	.003 - .012
			KT315			KT315	590	900	1180	.002 - .010	–	–	.003 - .012
			KC5010			KC5010	330	660	870	.002 - .010	.002 - .006	–	.003 - .012
			KC9315				480	850	1180	.002 - .010	–	–	–
			KC9320				460	790	1080	.002 - .005	–	–	–
	3		KCK20		KCK20		460	690	1150	.002 - .010	–	.002 - .010	.003 - .012
			KT315			KT315	590	750	1050	.002 - .010	–	–	.003 - .012
			KC5010			KC5010	390	490	740	.002 - .010	.002 - .006	–	.003 - .012
			KC9315				480	710	900	.002 - .010	–	–	–
			KC9320				460	690	850	.002 - .005	–	–	–

Material Group		Condition	Geometry -LF	-UF	-FP	-FW	Cutting Speed SFM min	Starting Value	max	Feed Rate IPR -LF	-UF	-FP	-FW
N	1		KC5410				660	1800	3280	.004 - .016	.008 - .020	–	–
			KC5410				660	1800	3280	.004 - .008	–	–	–
					KD1400		1480	2510	9840	–	–	.002 - .006	–
	2				KD1425		1230	1900	3770	–	–	.002 - .010	–
					KD1400		1310	2130	4100	–	–	.002 - .006	–
	3		KC5410				410	900	1720	.004 - .016	.008 - .020	–	–
					KD1425		820	1640	2870	–	–	.002 - .010	–
			KC5410				410	900	1720	.004 - .008	–	–	–
					KD1400		1230	1710	3280	–	–	.002 - .005	–
	5		KC5410				410	660	1230	.004 - .016	–	–	–
			KC5410				410	660	1230	.004 - .008	–	–	–

Material Group		Condition	Geometry -LF	-UF	-FP	-FW	Cutting Speed SFM min	Starting Value	max	Feed Rate IPR -LF	-UF	-FP	-FW
S	1				KCU10		100	180	410	–	–	.002 - .010	–
			K313				30	100	200	.002 - .010	–	–	–
			KC5010			KC5010	100	180	390	.002 - .010	.002 - .006	–	.003 - .012
					KCU10		100	180	410	–	–	.002 - .010	–
			KC5010			KC5010	100	180	390	.002 - .010	.002 - .006		.003 - .012
					KCU25		30	130	160	–	–	.002 - .005	–
			KC5025				30	130	160	.002 - .004	–	–	–
	2				KCU10		100	110	410	–	–	.002 - .010	–
			K313				30	110	200	.002 - .010	–	–	–
			KC5010			KC5010	100	200	390	.002 - .010	.002 - .006	–	.003 - .012
					KCU10		100	110	410	–	–	.002 - .010	–
			KC5010			KC5010	100	200	390	.002 - .010	.002 - .006	–	.003 - .012
					KCU25		30	100	160	–	–	.002 - .005	–
			KC5025				30	100	160	.002 - .004	–	–	–
	3				KCU10		100	230	410	–	–	.002 - .010	–
			K313				30	130	200	.002 - .010	–	–	–
			KC5010			KC5010	100	230	390	.002 - .010	.002 - .006	–	.003 - .012
					KCU10		100	110	410	–	–	.002 - .010	–
			KC5010			KC5010	100	230	390	.002 - .010	.002 - .006	–	.003 - .012
					KCU25		80	130	200	–	–	.002 - .005	–
			KC5025				80	130	200	.002 - .004	–	–	–
	4				KCU10		150	230	460	–	–	.002 - .010	–
			K313				50	150	210	.002 - .010	–	–	–
			KC5010			KC5010	150	230	460	.002 - .010	.002 - .006	–	.003 - .012
					KCU10		150	230	460	–	–	.002 - .010	–
			KC5010			KC5010	150	230	460	.002 - .010	.002 - .006	–	.003 - .012
					KCU25		80	180	300	–	–	.002 - .005	–
			KC5025				50	180	300	.002 - .004	–	–	–

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Material Group		Condition	Geometry				Cutting Speed m/min			Feed Rate mm/r			
			-LF	-UF	-FP	-FW	min	Starting Value	max	-LF	-UF	-FP	-FW
P	1		KCP05				180	**435**	495	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
					KTP10		180	**435**	495	–	–	0,06 - 0,25	–
			KT315			KT315	180	**400**	495	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10				180	**395**	465	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110				180	**395**	495	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				140	**280**	360	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125				140	**280**	360	0,06 - 0,10	0,04 - 0,08	–	–
	2		KCP05				180	**265**	400	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
					KTP10		180	**265**	400	–	–	0,06 - 0,25	–
			KT315			KT315	190	**270**	390	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10				180	**240**	330	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110				180	**240**	330	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				145	**195**	320	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125				145	**195**	320	0,06 - 0,10	0,04 - 0,08	–	–
	3		KCP05				180	**205**	275	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
					KTP10		180	**205**	275	–	–	0,06 - 0,25	–
			KT315			KT315	180	**210**	275	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10				160	**190**	250	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110				155	**190**	240	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				135	**155**	225	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125				135	**155**	225	0,06 - 0,10	0,04 - 0,08	–	–
	4		KCP05				90	**160**	220	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
					KTP10		90	**160**	220	–	–	0,06 - 0,25	–
			KT315			KT315	90	**180**	220	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10				90	**145**	195	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110				90	**145**	195	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				75	**105**	180	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125				75	**105**	180	0,06 - 0,10	0,04 - 0,08	–	–
	5		KCP05				150	**240**	315	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
					KTP10		150	**240**	315	–	–	0,06 - 0,25	–
			KT315			KT315	150	**250**	315	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10				150	**215**	300	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110				150	**215**	300	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				120	**195**	255	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125				120	**195**	255	0,06 - 0,10	0,04 - 0,08	–	–
	6		KCP05				140	**200**	300	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
					KTP10		140	**200**	300	–	–	0,06 - 0,25	–
			KT315			KT315	140	**200**	300	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10				120	**180**	275	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110				120	**180**	225	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				105	**150**	225	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125				105	**150**	225	0,06 - 0,10	0,04 - 0,08	–	–

Material Group		Condition	Geometry				Cutting Speed m/min			Feed Rate mm/r			
			-LF	-UF	-FP	-FW	min	Starting Value	max	-LF	-UF	-FP	-FW
M	1				KTP10		140	**230**	315	–	–	0,06 - 0,25	–
			KT315			KT315	140	**230**	315	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010			KC5010	130	**215**	245	0,06 - 0,25	–	–	0,08 - 0,30
			KCM15		KCM15		105	**180**	240	0,06 - 0,12	–	0,06 - 0,12	–
			KC9225			KC9225	105	**180**	240	0,06 - 0,12	–	–	0,08 - 0,16
	2				KTP10		140	**215**	295	–	–	0,06 - 0,25	–
			KT315			KT315	140	**215**	295	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010			KC5010	130	**200**	245	0,06 - 0,25	–	–	0,08 - 0,30
			KCM15		KCM15		105	**165**	250	0,06 - 0,12	–	0,06 - 0,12	–
			KC9225			KC9225	100	**160**	230	0,06 - 0,12	–	–	0,08 - 0,16
	3				KTP10		140	**200**	300	–	–	0,06 - 0,25	–
			KT315			KT315	140	**200**	300	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010			KC5010	130	**185**	230	0,06 - 0,25	–	–	0,08 - 0,30
			KCM15		KCM15		115	**150**	255	0,06 - 0,12	–	0,06 - 0,12	–
			KC9225			KC9225	110	**150**	230	0,06 - 0,12	–	–	0,08 - 0,16

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Material Group		Condition	Geometry -LF	-UF	-FP	-FW	Cutting Speed m/min min	Starting Value	max	Feed Rate mm/r -LF	-UF	-FP	-FW
K	1		KCK20		KCK20		200	**300**	540	0,06 - 0,25	–	0,06 - 0,25	0,08 - 0,30
			KT315			KT315	165	**275**	490	0,06 - 0,25	–	–	0,08 - 0,30
			KC9315				110	**275**	450	0,06 - 0,25	–	–	–
			KC9320				100	**240**	400	0,06 - 0,12	–	–	–
	2		KCK20		KCK20		150	**240**	420	0,06 - 0,25		0,06 - 0,25	0,08 - 0,30
			KT315			KT315	180	**275**	360	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010			KC5010	100	**200**	265	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			KC9315				145	**260**	360	0,06 - 0,25	–	–	–
			KC9320				140	**240**	330	0,06 - 0,12	–	–	–
	3		KCK20		KCK20		140	**210**	350	0,06 - 0,25	–	0,06 - 0,25	0,08 - 0,30
			KT315			KT315	180	**230**	320	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010			KC5010	120	**150**	225	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			KC9315				145	**215**	275	0,06 - 0,25	–	–	–
			KC9320				140	**210**	260	0,06 - 0,12	–	–	–

Material Group		Condition	Geometry -LF	-FWL20	–	–	Cutting Speed m/min min	Starting Value	max	Feed Rate mm/r -LF	-FWL20	–	–
N	1		KC5410				200	**550**	1000	0,10 - 0,40	0,20 - 0,50	–	–
			KC5410				200	**550**	1000	0,10 - 0,20	–	–	–
					KD1400		450	**765**	3000	–	–	0,06 - 0,15	–
	2				KD1425		375	**580**	1150	–	–	0,06 - 0,25	–
					KD1400		400	**650**	1250	–	–	0,06 - 0,15	–
	3		KC5410				125	**275**	525	0,10 - 0,40	0,20 - 0,50	–	–
					KD1425		250	**500**	875	–	–	0,06 - 0,25	–
			KC5410				125	**275**	525	0,10 - 0,20	–	–	–
					KD1400		375	**520**	1000	–	–	0,06 - 0,12	–
	5		KC5410				125	**200**	375	0,10 - 0,40	–	–	–
			KC5410				125	**200**	375	0,10 - 0,20	–	–	–

Material Group		Condition	Geometry -LF	-UF	-FP	-FW	Cutting Speed m/min min	Starting Value	max	Feed Rate mm/r -LF	-UF	-FP	-FW
S	1				KCU10		30	**55**	125	–	–	0,06 - 0,25	–
			K313				10	**30**	60	0,06 - 0,25	–	–	–
			KC5010			KC5010	30	**55**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
					KCU10		30	**55**	125	–	–	0,06 - 0,25	–
			KC5010			KC5010	30	**55**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
					KCU25		10	**40**	50	–	–	0,06 - 0,12	–
			KC5025				10	**40**	50	0,06 - 0,10	–	–	–
	2				KCU10		30	**35**	125	–	–	0,06 - 0,25	–
			K313				10	**35**	60	0,06 - 0,25	–	–	–
			KC5010			KC5010	30	**60**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
					KCU10		30	**35**	125	–	–	0,06 - 0,25	–
			KC5010			KC5010	30	**60**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
					KCU25		10	**30**	50	–	–	0,06 - 0,12	–
			KC5025				10	**30**	50	0,06 - 0,10	–	–	–
	3				KCU10		30	**70**	125	–	–	0,06 - 0,25	–
			K313				10	**40**	60	0,06 - 0,25	–	–	–
			KC5010			KC5010	30	**70**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
					KCU10		30	**35**	125	–	–	0,06 - 0,25	–
			KC5010			KC5010	30	**70**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
					KCU25		25	**40**	60	–	–	0,06 - 0,12	–
			KC5025				25	**40**	60	0,06 - 0,10	–	–	–
	4				KCU10		45	**70**	140	–	–	0,06 - 0,25	–
			K313				15	**45**	65	0,06 - 0,25	–	–	–
			KC5010			KC5010	45	**70**	140	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
					KCU10		45	**70**	140	–	–	0,06 - 0,25	–
			KC5010			KC5010	45	**70**	140	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
					KCU25		25	**55**	90	–	–	0,06 - 0,12	–
			KC5025				15	**55**	90	0,06 - 0,10	–	–	–

Romicron Assembly Instructions

The required parts for the adaptor assembly are identified on Figures 1 and 2. The SVS model is shown. The instructions are also valid to the SVU and SVUBB models.

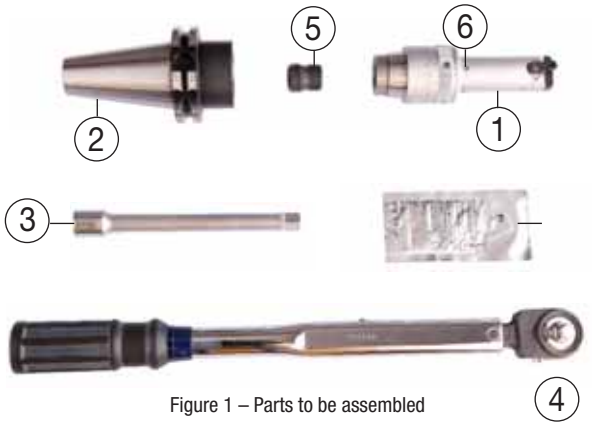


Figure 1 – Parts to be assembled

1	Boring head
2	Taper shank
3	Square extension (3/8" or 1/2")
4	Torque wrench
5	Differential connector
6	Positioning pin
7	Lubricant ASL-3G

WARNING:
Before starting the assembly procedure, ensure that all surfaces to be assembled together are free of dirt and completely clean.



Figure 2 – Assembled Tool

A



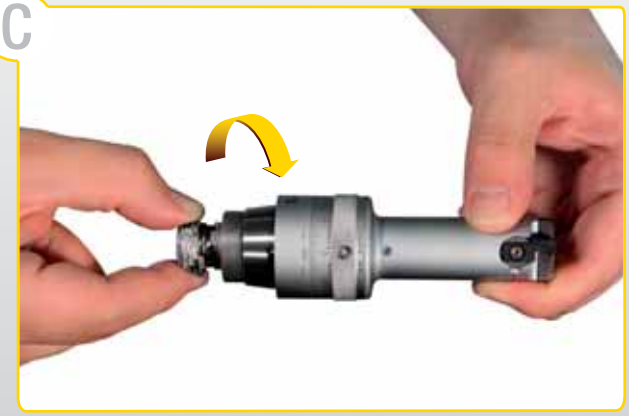
A. Remove the Differential Connector (5) from the Taper Shank (2).

B



B. Lubricate the thread on the Differential Connector (5) with Lubricant ASL-3G (7), supplied with the Taper Shank (2).

C



C. Screw the Differential Connector (5) into the rear thread on the Boring Head (1) until the end of the thread. At this time it is not necessary to tighten the Differential Connector (5). Remember that the Differential Connector (5) has two different screws, so there is no way to assemble the wrong side.

Romicron Assembly Instructions



D. Screw the front end of the Taper Shank (2) onto the Differential Connector (5), now located at the back on the Boring Head (1). Screw carefully until the Positioning Pin (6) gently touches the Taper (2) face. Stop!



F. Insert the square end of the Extension (3) through the Taper Shank (2) and into the Differential Connector (5). Keeping the Positioning Pin (6) and the positioning slot aligned, turn the Extensions (3) counter-clockwise until you see that two Romicron faces are meshing. Ensure that the Positioning Pin (6) is inserted into the slot on the Taper Shank (2).



E. Unscrew the Taper Shank (2) a little bit until the Positioning Pin (6) is aligned with the positioning slot mark in the Taper Shank (2) face.



G. Tighten the Differential Connector (5) with the specified required torque, as shown on the table below. Use the Torque Wrench (4) to do this.

Tightening Torque Specifications

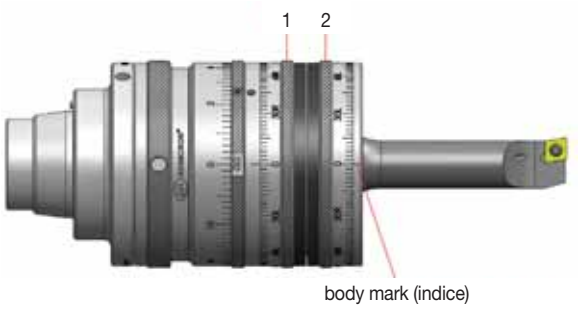
joint size	Torque		drive square
	in. lbs.	Nm	
KR32	262	30	3/8"
KR50	350	40	3/8"
KR63	481	55	1/2"
KR80	569	65	1/2"

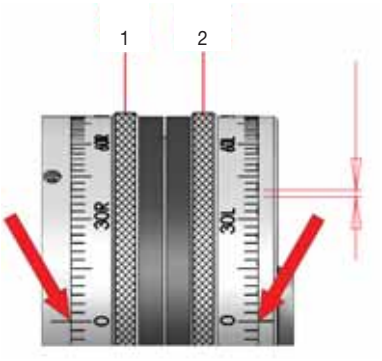
Following these procedures will result in a rigid surface contact between the taper and the boring head face.

1. The balancing dials are identified on the figure below.

2. Ensure that the zero mark of dial 02 is coincident with Romicron Body Mark, and the zero mark dial 01 is coincident with the zero mark on dial 02.

3. Read the position values of the dials 01 and 02 on the table. For example, to machine a 10mm diameter, the positions are 01 = 17,5L and 20,0L.





Balancing Table • SVU-BB1 Boring Head

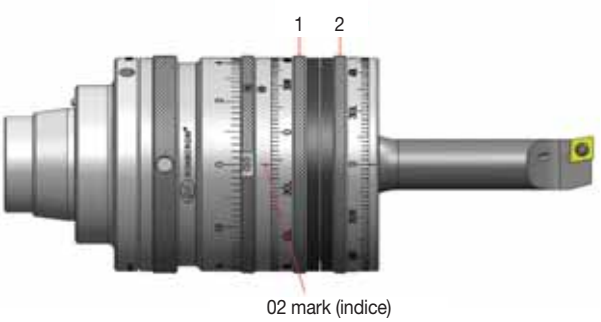
KRBB10FABDRS204C 4–6,4mm						KRBB10SCLDR4060C 6–9mm						KRBB10SCFPR06085C 8,5–11,5mm					
diameter		ring 1		ring 2		diameter		ring 1		ring 2		diameter		ring 1		ring 2	
mm	in					mm	in					mm	in				
4	0.1575	40	L	58	L	6	0.2362	34	L	66	L	8,5	0.3346	34	L	66	L
4,1	0.1614	42	L	58	L	6,1	0.2402	36	L	66	L	8,6	0.3386	36	L	68	L
4,2	0.1654	42	L	54	L	6,2	0.2441	36	L	64	L	8,7	0.3425	36	L	64	L
4,3	0.1693	44	L	54	L	6,3	0.2480	38	L	62	L	8,8	0.3465	38	L	62	L
4,4	0.1732	44	L	50	L	6,4	0.2520	38	L	62	L	8,9	0.3504	36	L	60	L
4,5	0.1772	46	L	50	L	6,5	0.2559	40	L	60	L	9	0.3543	40	L	60	L
4,6	0.1811	46	L	48	L	6,6	0.2598	40	L	58	L	9,1	0.3583	40	L	58	L
4,7	0.1850	46	L	46	L	6,7	0.2638	40	L	56	L	9,2	0.3622	42	L	56	L
4,8	0.1890	46	L	42	L	6,8	0.2677	40	L	54	L	9,3	0.3661	40	L	54	L
4,9	0.1929	46	L	40	L	6,9	0.2717	42	L	52	L	9,4	0.3701	42	L	52	L
5	0.1969	22	R	20	R	7	0.2756	42	L	54	L	9,5	0.3740	42	L	50	L
5,1	0.2008	32	R	26	R	7,1	0.2795	54	R	60	R	9,6	0.3780	40	L	46	L
5,2	0.2047	40	R	32	R	7,2	0.2835	54	R	60	R	9,7	0.3819	38	L	42	L
5,3	0.2087	44	R	34	R	7,3	0.2874	60	R	60	R	9,8	0.3858	30	L	32	L
5,4	0.2126	48	R	36	R	7,4	0.2913	70	R	72	R	9,9	0.3898	24	R	22	R
5,5	0.2165	50	R	36	R	7,5	0.2953	42	R	40	R	10	0.3937	24	R	22	R
5,6	0.2205	52	R	34	R	7,6	0.2992	48	R	44	R	10,1	0.3976	26	R	22	R
5,7	0.2244	54	R	34	R	7,7	0.3031	50	R	42	R	10,2	0.4016	44	R	38	R
5,8	0.2283	56	R	32	R	7,8	0.3071	50	R	42	R	10,3	0.4055	48	R	38	R
5,9	0.2323	58	R	32	R	7,9	0.3110	52	R	40	R	10,4	0.4094	52	R	38	R
6	0.2362	60	R	30	R	8	0.3150	54	R	40	R	10,5	0.4134	52	R	38	R
6,1	0.2402	62	R	30	R	8,1	0.3189	54	R	38	R	10,6	0.4173	56	R	36	R
6,2	0.2441	64	R	28	R	8,2	0.3228	56	R	38	R	10,7	0.4213	56	R	36	R
6,3	0.2480	66	R	28	R	8,3	0.3268	58	R	36	R	10,8	0.4252	58	R	34	R
6,4	0.2520	68	R	24	R	8,4	0.3307	58	R	34	R	10,9	0.4291	58	R	32	R
–	–	–	–	–	–	8,5	0.3346	60	R	36	R	11	0.4331	62	R	32	R
–	–	–	–	–	–	8,6	0.3386	62	R	34	R	11,1	0.4370	60	R	30	R
–	–	–	–	–	–	8,7	0.3425	62	R	32	R	11,2	0.4409	62	R	28	R
–	–	–	–	–	–	8,8	0.3465	62	R	32	R	11,3	0.4449	62	R	28	R
–	–	–	–	–	–	8,9	0.3504	66	R	28	R	11,4	0.4488	68	R	26	R
–	–	–	–	–	–	9	0.3543	66	R	28	R	11,5	0.4528	68	R	26	R

(continued)

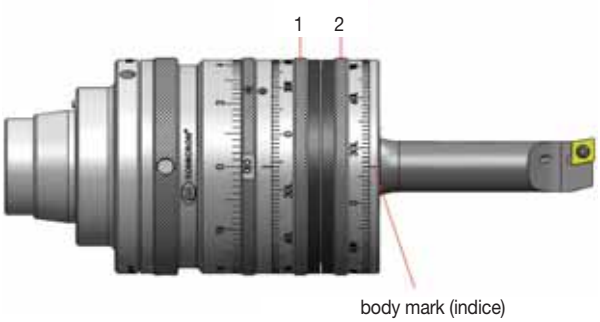
(Balancing Table • SVU-BB1 Boring Head continued)

4. The dial 01 must be positioned first. Moving the dial, adjust the position of dial 01. Use the mark reference located on dial 02. The dial resolution is 2 units of table values.

5. Now adjust the position for dial 02. Use the mark reference located on the Romicron body. After the adjustment of dial 02, the Romicron is correctly balanced.



02 mark (indice)



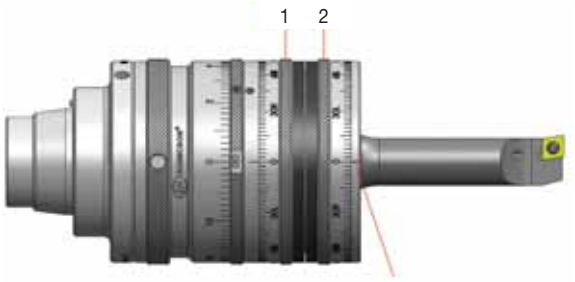
body mark (indice)

KRBB10SCFPR06110C 11–14mm diameter						KRBB10SCFPR06135C 13,5–16,5mm diameter					
mm	in	ring 1		ring 2		mm	in	ring 1		ring 2	
11	0.4331	32	L	66	L	13,5	0.5315	34	L	62	L
11,1	0.4370	34	L	64	L	13,6	0.5354	36	L	60	L
11,2	0.4409	34	L	62	L	13,7	0.5394	38	L	58	L
11,3	0.4449	36	L	60	L	13,8	0.5433	38	L	56	L
11,4	0.4488	36	L	58	L	13,9	0.5472	40	L	56	L
11,5	0.4528	38	L	58	L	14	0.5512	42	L	44	L
11,6	0.4567	38	L	56	L	14,1	0.5551	42	L	52	L
11,7	0.4606	40	L	54	L	14,2	0.5591	44	L	50	L
11,8	0.4646	40	L	52	L	14,3	0.5630	42	L	46	L
11,9	0.4685	40	L	52	L	14,4	0.5669	34	L	36	L
12	0.4724	38	L	46	L	14,5	0.5709	18	L	20	L
12,1	0.4764	34	L	42	L	14,6	0.5748	10	R	6	R
12,2	0.4803	26	L	30	L	14,7	0.5787	18	R	10	R
12,3	0.4843	24	R	22	R	14,8	0.5827	40	R	30	R
12,4	0.4882	28	L	26	L	14,9	0.5866	44	R	32	R
12,5	0.4921	44	L	38	R	15	0.5906	48	R	34	R
12,6	0.4961	44	R	36	R	15,1	0.5945	48	R	32	R
12,7	0.5000	50	R	40	R	15,2	0.5984	50	R	30	R
12,8	0.5039	50	R	38	R	15,3	0.6024	52	R	30	R
12,9	0.5079	52	R	36	R	15,4	0.6063	56	R	32	R
13	0.5118	52	R	36	R	15,5	0.6102	54	R	28	R
13,1	0.5157	54	R	34	R	15,6	0.6142	58	R	28	R
13,2	0.5197	54	R	32	R	15,7	0.6181	60	R	26	R
13,3	0.5236	56	R	32	R	15,8	0.6220	64	R	26	R
13,4	0.5276	56	R	30	R	15,9	0.6260	64	R	26	R
13,5	0.5315	60	R	28	R	16	0.6299	66	R	24	R
13,6	0.5354	60	R	28	R	16,1	0.6339	66	R	22	R
13,7	0.5394	62	R	26	R	16,2	0.6378	70	R	20	R
13,8	0.5433	64	R	26	R	16,3	0.6417	74	R	18	R
13,9	0.5472	68	R	24	R	16,4	0.6457	76	R	16	R
14	0.5512	68	R	24	R	16,5	0.6496	78	R	14	R

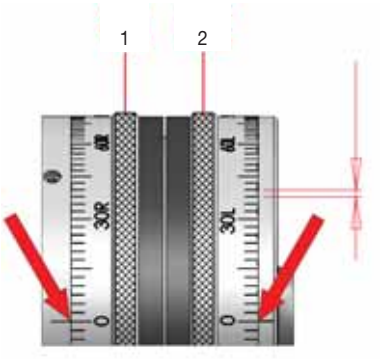
1. The balancing dials are identified on the figure below.

2. Ensure that the zero mark of dial 02 is coincident with Romicron Body Mark, and the zero mark dial 01 is coincident with the zero mark on dial 02.

3. Read the position values of the dials 01 and 02 on the table. For example, to machine a 10mm diameter, the positions are 01 = 17L and 02 = 20LR.



body mark (indice)



Balancing Table • SVU-BB2 Boring Head

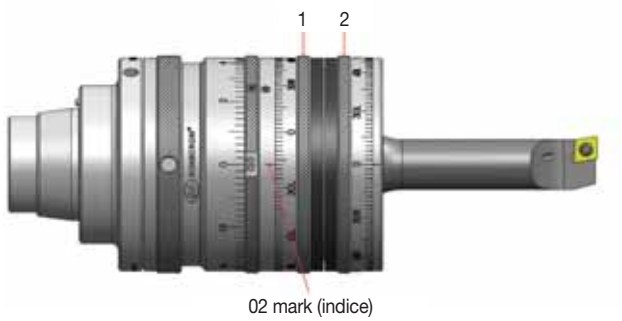
KRBB16SCLDRS406A 6–9,5mm				KRBB16SCFPR06085A 8,5–12mm				KRBB16SCFPR0611A 11–14,5mm				KRBB16SCFPR06135A 13,5–17mm			
diameter		ring 1	ring 2	diameter		ring 1	ring 2	diameter		ring 1	ring 2	diameter		ring 1	ring 2
mm	in			mm	in			mm	in			mm	in		
6	0.2362	67.5 L	67.5 L	8,5	0.3346	67.5 L	67.5 L	11	0.4331	67.5 L	70 L	13,5	0.5315	65 L	70 L
6,1	0.2402	62.5 L	62.5 L	8,6	0.3386	62.5 L	62.5 L	11,1	0.4370	60 L	62.5 L	13,6	0.5354	60 L	65 L
6,2	0.2441	57.5 L	57.5 L	8,7	0.3425	57.5 L	57.5 L	11,2	0.4409	57.5 L	60 L	13,7	0.5394	55 L	60 L
6,3	0.2480	55 L	55 L	8,8	0.3465	52.5 L	55 L	11,3	0.4449	52.5 L	55 L	13,8	0.5433	50 L	55 L
6,4	0.2520	50 L	50 L	8,9	0.3504	50 L	50 L	11,4	0.4488	47.5 L	50 L	13,9	0.5472	47.5 L	52.5 L
6,5	0.2559	47.5 L	47.5 L	9	0.3543	47.5 L	47.5 L	11,5	0.4528	45 L	47.5 L	14	0.5512	42.5 L	47.5 L
6,6	0.2598	45 L	45 L	9,1	0.3583	42.5 L	45 L	11,6	0.4567	42.5 L	45 L	14,1	0.5551	40 L	45 L
6,7	0.2638	40 L	40 L	9,2	0.3622	40 L	40 L	11,7	0.4606	37.5 L	42.5 L	14,2	0.5591	35 L	42.5 L
6,8	0.2677	37.5 L	37.5 L	9,3	0.3661	37.5 L	37.5 L	11,8	0.4646	35 L	37.5 L	14,3	0.5630	32.5 L	40 L
6,9	0.2717	35 L	35 L	9,4	0.3701	35 L	35 L	11,9	0.4685	32.5 L	35 L	14,4	0.5669	30 L	37.5 L
7	0.2756	32.5 L	32.5 L	9,5	0.3740	30 L	32.5 L	12	0.4724	30 L	32.5 L	14,5	0.5709	25 L	35 L
7,1	0.2795	30 L	30 L	9,6	0.3780	27.5 L	30 L	12,1	0.4764	27.5 L	30 L	14,6	0.5748	22.5 L	32.5 L
7,2	0.2835	27.5 L	27.5 L	9,7	0.3819	25 L	27.5 L	12,2	0.4803	25 L	27.5 L	14,7	0.5787	20 L	30 L
7,3	0.2874	25 L	25 L	9,8	0.3858	22.5 L	25 L	12,3	0.4843	22.5 L	25 L	14,8	0.5827	17.5 L	27.5 L
7,4	0.2913	22.5 L	22.5 L	9,9	0.3898	20 L	22.5 L	12,4	0.4882	17.5 L	25 L	14,9	0.5866	15 L	25 L
7,5	0.2953	20 L	20 L	10	0.3937	17.5 L	20 L	12,5	0.4921	15 L	22.5 L	15	0.5906	10 L	25 L
7,6	0.2992	17.5 L	17.5 L	10,1	0.3976	15 L	17.5 L	12,6	0.4961	12.5 L	20 L	15,1	0.5945	7.5 L	22.5 L
7,7	0.3031	15 L	15 L	10,2	0.4016	12.5 L	15 L	12,7	0.5000	10 L	17.5 L	15,2	0.5984	2.5 L	22.5 L
7,8	0.3071	12.5 L	12.5 L	10,3	0.4055	10 L	15 L	12,8	0.5039	5 L	17.5 L	15,3	0.6024	2.5 R	22.5 L
7,9	0.3110	10 L	12.5 L	10,4	0.4094	7.5 L	12.5 L	12,9	0.5079	2.5 L	15 L	15,4	0.6063	7.5 R	22.5 L
8	0.3150	7.5 L	10 L	10,5	0.4134	5 L	10 L	13	0.5118	2.5 R	15 L	15,5	0.6102	17.5 R	27.5 L
8,1	0.3189	5 L	7.5 L	10,6	0.4173	0 L	10 L	13,1	0.5157	10 R	17.5 L	15,6	0.6142	37.5 R	42.5 L
8,2	0.3228	2.5 L	5 L	10,7	0.4213	5 R	10 L	13,2	0.5197	25 R	30 L	15,7	0.6181	85 L	90 R
8,3	0.3268	2.5 R	5 L	10,8	0.4252	45 R	45 L	13,3	0.5236	62.5 L	65 R	15,8	0.6220	35 L	42.5 R
8,4	0.3307	10 L	12.5 R	10,9	0.4291	10 L	15 R	13,4	0.5276	17.5 L	22.5 R	15,9	0.6260	17.5 L	27.5 R
8,5	0.3346	0 R	5 R	11	0.4331	2.5 L	10 R	13,5	0.5315	5 L	15 R	16	0.6299	7.5 L	22.5 R
8,6	0.3386	2.5 R	7.5 R	11,1	0.4370	2.5 R	10 R	13,6	0.5354	0 R	15 R	16,1	0.6339	2.5 L	22.5 R
8,7	0.3425	7.5 R	7.5 R	11,2	0.4409	5 R	12.5 R	13,7	0.5394	5 R	15 R	16,2	0.6378	2.5 R	22.5 R
8,8	0.3465	10 R	10 R	11,3	0.4449	10 R	12.5 R	13,8	0.5433	7.5 R	17.5 R	16,3	0.6417	7.5 R	22.5 R
8,9	0.3504	12.5 R	12.5 R	11,4	0.4488	12.5 R	15 R	13,9	0.5472	10 R	20 R	16,4	0.6457	10 R	25 R
9	0.3543	12.5 R	15 R	11,5	0.4528	15 R	17.5 R	14	0.5512	15 R	20 R	16,5	0.6496	15 R	25 R
9,1	0.3583	15 R	17.5 R	11,6	0.4567	17.5 R	20 R	14,1	0.5551	17.5 R	22.5 R	16,6	0.6535	17.5 R	27.5 R
9,2	0.3622	17.5 R	20 R	11,7	0.4606	20 R	22.5 R	14,2	0.5591	20 R	25 R	16,7	0.6575	20 R	30 R
9,3	0.3661	20 R	22.5 R	11,8	0.4646	22.5 R	25 R	14,3	0.5630	22.5 R	27.5 R	16,8	0.6614	22.5 R	32.5 R
9,4	0.3701	22.5 R	25 R	11,9	0.4685	25 R	27.5 R	14,4	0.5669	25 R	30 R	16,9	0.6654	27.5 R	35 R
9,5	0.3740	25 R	27.5 R	12	0.4724	27.5 R	30 R	14,5	0.5709	27.5 R	32.5 R	17	0.6693	30 R	37.5 R

(continued)

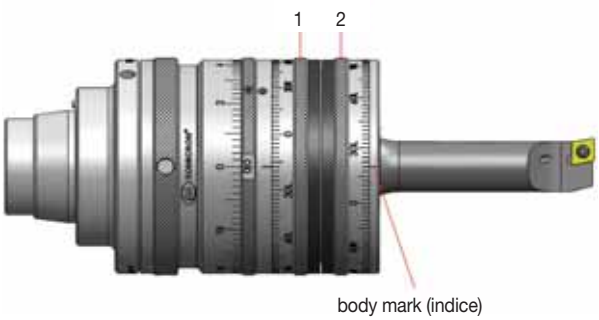
(Balancing Table • SVU-BB2 Boring Head continued)

4 . The dial 01 must be positioned first. Moving the dial, adjust the position of dial 01. Use the mark reference located on dial 02. The dial resolution is 2,5 units of table values.

5. Now adjust the position for dial 02. Use the mark reference located on the Romicron body. After the adjustment of dial 02, the Romicron is correctly balanced.



02 mark (indice)



body mark (indice)

KRBB16SCFPR0616A 16–19,5mm diameter						KRBB16SCFPR0619A 19–22,5mm diameter						KRBB16SCFPR0622A 22–25,5mm diameter					
mm	in	ring 1		ring 2		mm	in	ring 1		ring 2		mm	in	ring 1		ring 2	
16	0.6299	65	L	72.5	L	19	0.7480	60	L	75	L	22	0.8661	57.5	L	80	L
16,1	0.6339	57.5	L	65	L	19,1	0.7520	55	L	70	L	22,1	0.8701	50	L	72.5	L
16,2	0.6378	52.5	L	62.5	L	19,2	0.7559	50	L	65	L	22,2	0.8740	45	L	70	L
16,3	0.6417	47.5	L	57.5	L	19,3	0.7598	45	L	60	L	22,3	0.8780	37.5	L	65	L
16,4	0.6457	42.5	L	52.5	L	19,4	0.7638	40	L	57.5	L	22,4	0.8819	32.5	L	62.5	L
16,5	0.6496	40	L	50	L	19,5	0.7677	35	L	52.5	L	22,5	0.8858	27.5	L	60	L
16,6	0.6535	35	L	47.5	L	19,6	0.7717	30	L	50	L	22,6	0.8898	22.5	L	57.5	L
16,7	0.6575	32.5	L	45	L	19,7	0.7756	27.5	L	47.5	L	22,7	0.8937	20	L	55	L
16,8	0.6614	27.5	L	42.5	L	19,8	0.7795	22.5	L	45	L	22,8	0.8976	15	L	52.5	L
16,9	0.6654	25	L	40	L	19,9	0.7835	20	L	42.5	L	22,9	0.9016	10	L	52.5	L
17	0.6693	20	L	37.5	L	20	0.7874	15	L	42.5	L	23	0.9055	5	L	50	L
17,1	0.6732	17.5	L	35	L	20,1	0.7913	10	L	40	L	23,1	0.9094	0	R	50	L
17,2	0.6772	12.5	L	32.5	L	20,2	0.7953	5	L	40	L	23,2	0.9134	7.5	R	52.5	L
17,3	0.6811	10	L	30	L	20,3	0.7992	0	L	40	L	23,3	0.9173	12.5	R	52.5	L
17,4	0.6850	5	L	30	L	20,4	0.8031	5	R	40	L	23,4	0.9213	20	R	55	L
17,5	0.6890	0	L	30	L	20,5	0.8071	10	R	40	L	23,5	0.9252	30	R	60	L
17,6	0.6929	5	R	30	L	20,6	0.8110	17.5	R	42.5	L	23,6	0.9291	40	R	65	L
17,7	0.6969	12.5	R	32.5	L	20,7	0.8150	27.5	R	47.5	L	23,7	0.9331	52.5	R	75	L
17,8	0.7008	22.5	R	37.5	L	20,8	0.8189	40	R	57.5	L	23,8	0.9370	67.5	R	90	L
17,9	0.7047	35	R	47.5	L	20,9	0.8228	57.5	R	72.5	L	23,9	0.9409	77.5	L	97.5	R
18	0.7087	60	R	67.5	L	21	0.8268	80	R	92.5	L	24	0.9449	60	L	82.5	R
18,1	0.7126	75	L	82.5	R	21,1	0.8307	65	L	77.5	R	24,1	0.9488	47.5	L	72.5	R
18,2	0.7165	45	L	55	R	21,2	0.8346	45	L	60	R	24,2	0.9528	35	L	62.5	R
18,3	0.7205	25	L	40	R	21,3	0.8386	30	L	50	R	24,3	0.9567	25	L	57.5	R
18,4	0.7244	15	L	32.5	R	21,4	0.8425	20	L	45	R	24,4	0.9606	17.5	L	55	R
18,5	0.7283	7.5	L	30	R	21,5	0.8465	12.5	L	40	R	24,5	0.9646	10	L	52.5	R
18,6	0.7323	2.5	L	30	R	21,6	0.8504	5	L	40	R	24,6	0.9685	5	L	50	R
18,7	0.7362	2.5	R	30	R	21,7	0.8543	0	L	40	R	24,7	0.9724	2.5	R	50	R
18,8	0.7402	7.5	R	30	R	21,8	0.8583	5	R	40	R	24,8	0.9764	7.5	R	50	R
18,9	0.7441	12.5	R	32.5	R	21,9	0.8622	10	R	40	R	24,9	0.9803	12.5	R	52.5	R
19	0.7480	15	R	35	R	22	0.8661	12.5	R	42.5	R	25	0.9843	17.5	R	52.5	R
19,1	0.7520	20	R	35	R	22,1	0.8701	17.5	R	42.5	R	25,1	0.9882	20	R	55	R
19,2	0.7559	22.5	R	37.5	R	22,2	0.8740	22.5	R	45	R	25,2	0.9921	25	R	57.5	R
19,3	0.7598	27.5	R	40	R	22,3	0.8780	25	R	47.5	R	25,3	0.9961	30	R	60	R
19,4	0.7638	30	R	42.5	R	22,4	0.8819	30	R	50	R	25,4	1.0000	35	R	62.5	R
19,5	0.7677	35	R	45	R	22.5	0.8858	35	R	52.5	R	25,5	1.0039	40	R	67.5	R

(continued)

(Balancing Table • Universal Applications SVU-BB2 Boring Head continued)

KRDEA046AM • KRDE025010M 25,5–34,4mm

diameter mm	diameter in	ring 1		ring 2		diameter mm	diameter in	ring 1		ring 2		diameter mm	diameter in	ring 1		ring 2	
25,5	1.0039	62.5	L	65	L	28,5	1.1220	57.5	L	60	L	31,5	1.2402	52.5	L	55	L
25,6	1.0079	57.5	L	60	L	28,6	1.1260	52.5	L	55	L	31,6	1.2441	47.5	L	50	L
25,7	1.0118	50	L	52.5	L	28,7	1.1299	45	L	50	L	31,7	1.2480	42.5	L	45	L
25,8	1.0157	45	L	47.5	L	28,8	1.1339	40	L	45	L	31,8	1.2520	37.5	L	42.5	L
25,9	1.0197	40	L	45	L	28,9	1.1378	37.5	L	40	L	31,9	1.2559	32.5	L	37.5	L
26,0	1.0236	35	L	40	L	29,0	1.1417	32.5	L	37.5	L	32,0	1.2598	27.5	L	35	L
26,1	1.0276	32.5	L	35	L	29,1	1.1457	27.5	L	32.5	L	32,1	1.2638	25	L	30	L
26,2	1.0315	27.5	L	32.5	L	29,2	1.1496	25	L	30	L	32,2	1.2677	20	L	27.5	L
26,3	1.0354	22.5	L	30	L	29,3	1.1535	20	L	27.5	L	32,3	1.2717	17.5	L	22.5	L
26,4	1.0394	20	L	25	L	29,4	1.1575	15	L	25	L	32,4	1.2756	12.5	L	22.5	L
26,5	1.0433	62.5	L	65	L	29,5	1.1614	55	L	57.5	L	32,5	1.2795	50	L	55	L
26,6	1.0472	55	L	57.5	L	29,6	1.1654	50	L	52.5	L	32,6	1.2835	45	L	50	L
26,7	1.0512	50	L	52.5	L	29,7	1.1693	45	L	47.5	L	32,7	1.2874	40	L	45	L
26,8	1.0551	45	L	47.5	L	29,8	1.1732	40	L	45	L	32,8	1.2913	37.5	L	40	L
26,9	1.0591	40	L	42.5	L	29,9	1.1772	35	L	40	L	32,9	1.2953	32.5	L	37.5	L
27,0	1.0630	35	L	40	L	30,0	1.1811	32.5	L	35	L	33,0	1.2992	27.5	L	32.5	L
27,1	1.0669	30	L	35	L	30,1	1.1850	27.5	L	32.5	L	33,1	1.3031	22.5	L	30	L
27,2	1.0709	25	L	32.5	L	30,2	1.1890	22.5	L	30	L	33,2	1.3071	20	L	25	L
27,3	1.0748	22.5	L	27.5	L	30,3	1.1929	20	L	25	L	33,3	1.3110	15	L	22.5	L
27,4	1.0787	17.5	L	25	L	30,4	1.1969	15	L	22.5	L	33,4	1.3150	12.5	L	20	L
27,5	1.0827	60	L	62.5	L	30,5	1.2008	55	L	57.5	L	33,5	1.3189	50	L	52.5	L
27,6	1.0866	52.5	L	55	L	30,6	1.2047	47.5	L	52.5	L	33,6	1.3228	45	L	47.5	L
27,7	1.0906	47.5	L	50	L	30,7	1.2087	42.5	L	47.5	L	33,7	1.3268	40	L	42.5	L
27,8	1.0945	42.5	L	45	L	30,8	1.2126	37.5	L	42.5	L	33,8	1.3307	35	L	40	L
27,9	1.0984	37.5	L	42.5	L	30,9	1.2165	35	L	37.5	L	33,9	1.3346	30	L	35	L
28,0	1.1024	32.5	L	37.5	L	31,0	1.2205	30	L	35	L	34,0	1.3386	27.5	L	32.5	L
28,1	1.1063	30	L	35	L	31,1	1.2244	25	L	32.5	L	34,1	1.3425	22.5	L	27.5	L
28,2	1.1102	25	L	30	L	31,2	1.2283	22.5	L	27.5	L	34,2	1.3465	20	L	25	L
28,3	1.1142	20	L	27.5	L	31,3	1.2323	17.5	L	25	L	34,3	1.3504	15	L	22.5	L
28,4	1.1181	17.5	L	25	L	31,4	1.2362	12.5	L	22.5	L	34,4	1.3543	10	L	20	L

KRDEA046AM • KRDE033010M 33,5–44,4mm

diameter mm	diameter in	ring 1		ring 2		diameter mm	diameter in	ring 1		ring 2		diameter mm	diameter in	ring 1		ring 2		diameter mm	diameter in	ring 1		ring 2	
33,5	1.3189	55	L	57.5	L	36,5	1.4370	47.5	L	52.5	L	39,5	1.5551	42.5	L	47.5	L	42,5	1.6732	37.5	L	40	L
33,6	1.3228	50	L	52.5	L	36,6	1.4409	42.5	L	47.5	L	39,6	1.5591	37.5	L	42.5	L	42,6	1.6772	32.5	L	37.5	L
33,7	1.3268	45	L	47.5	L	36,7	1.4449	37.5	L	42.5	L	39,7	1.5630	32.5	L	37.5	L	42,7	1.6811	27.5	L	35	L
33,8	1.3307	40	L	42.5	L	36,8	1.4488	35	L	37.5	L	39,8	1.5669	27.5	L	35	L	42,8	1.6850	25	L	30	L
33,9	1.3346	35	L	40	L	36,9	1.4528	30	L	35	L	39,9	1.5709	25	L	30	L	42,9	1.6890	20	L	27.5	L
34,0	1.3386	30	L	35	L	37,0	1.4567	25	L	32.5	L	40,0	1.5748	20	L	27.5	L	43,0	1.6929	15	L	25	L
34,1	1.3425	25	L	32.5	L	37,1	1.4606	22.5	L	27.5	L	40,1	1.5787	15	L	25	L	43,1	1.6969	10	L	22.5	L
34,2	1.3465	22.5	L	27.5	L	37,2	1.4646	17.5	L	25	L	40,2	1.5827	10	L	22.5	L	43,2	1.7008	5	L	20	L
34,3	1.3504	17.5	L	25	L	37,3	1.4685	12.5	L	22.5	L	40,3	1.5866	7.5	L	20	L	43,3	1.7047	0	L	17.5	L
34,4	1.3543	12.5	L	22.5	L	37,4	1.4724	7.5	L	20	L	40,4	1.5906	2.5	L	17.5	L	43,4	1.7087	7.5	R	20	L
34,5	1.3583	52.5	L	57.5	L	37,5	1.4764	47.5	L	50	L	40,5	1.5945	40	L	45	L	43,5	1.7126	35	L	40	L
34,6	1.3622	47.5	L	50	L	37,6	1.4803	42.5	L	45	L	40,6	1.5984	35	L	40	L	43,6	1.7165	30	L	35	L
34,7	1.3661	42.5	L	47.5	L	37,7	1.4843	37.5	L	40	L	40,7	1.6024	30	L	37.5	L	43,7	1.7205	25	L	32.5	L
34,8	1.3701	37.5	L	42.5	L	37,8	1.4882	32.5	L	37.5	L	40,8	1.6063	27.5	L	32.5	L	43,8	1.7244	22.5	L	27.5	L
34,9	1.3740	32.5	L	37.5	L	37,9	1.4921	27.5	L	35	L	40,9	1.6102	22.5	L	30	L	43,9	1.7283	17.5	L	25	L
35,0	1.3780	27.5	L	35	L	38,0	1.4961	25	L	30	L	41,0	1.6142	17.5	L	27.5	L	44,0	1.7323	15	L	22.5	L
35,1	1.3819	25	L	30	L	38,1	1.5000	20	L	27.5	L	41,1	1.6181	15	L	22.5	L	44,1	1.7362	10	L	20	L
35,2	1.3858	20	L	27.5	L	38,2	1.5039	15	L	25	L	41,2	1.6220	10	L	20	L	44,2	1.7402	5	L	17.5	L
35,3	1.3898	15	L	25	L	38,3	1.5079	10	L	22.5	L	41,3	1.6260	5	L	20	L	44,3	1.7441	2.5	R	17.5	L
35,4	1.3937	10	L	22.5	L	38,4	1.5118	5	L	20	L	41,4	1.6299	0	R	17.5	L	44,4	1.7480	12.5	R	22.5	L
35,5	1.3976	50	L	55	L	38,5	1.5157	45	L	47.5	L	41,5	1.6339	37.5	L	42.5	L	–	–	–	–	–	–
35,6	1.4016	45	L	50	L	38,6	1.5197	40	L	42.5	L	41,6	1.6378	35	L	37.5	L	–	–	–	–	–	–
35,7	1.4055	40	L	45	L	38,7	1.5236	35	L	40	L	41,7	1.6417	30	L	35	L	–	–	–	–	–	–
35,8	1.4094	35	L	40	L	38,8	1.5276	30	L	35	L	41,8	1.6457	25	L	32.5	L	–	–	–	–	–	–
35,9	1.4134	30	L	37.5	L	38,9	1.5315	25	L	32.5	L	41,9	1.6496	22.5	L	27.5	L	–	–	–	–	–	–
36,0	1.4173	27.5	L	32.5	L	39,0	1.5354	22.5	L	27.5	L	42,0	1.6535	17.5	L	25	L	–	–	–	–	–	–
36,1	1.4213	22.5	L	30	L	39,1	1.5394	17.5	L	25	L	42,1	1.6575	12.5	L	22.5	L	–	–	–	–	–	–
36,2	1.4252	17.5	L	27.5	L	39,2	1.5433	15	L	22.5	L	42,2	1.6614	7.5	L	20	L	–	–	–	–	–	–
36,3	1.4291	15	L	22.5	L	39,3	1.5472	10	L	20	L	42,3	1.6654	2.5	L	17.5	L	–	–	–	–	–	–
36,4	1.4331	10	L	20	L	39,4	1.5512	5	L	17.5	L	42,4	1.6693	5	R	20	L	–	–	–	–	–	–

(continued)

(Balancing Table • Universal Applications SVU-BB2 Boring Head continued)

KRDEA051AM • KRDE043010M 43–65,9mm

diameter mm	diameter in	ring 1		ring 2		diameter mm	diameter in	ring 1		ring 2		diameter mm	diameter in	ring 1		ring 2		diameter mm	diameter in	ring 1		ring 2	
43,0	1.6929	55	L	65	L	46,0	1.8110	42.5	L	55	L	49,0	1.9291	32.5	L	47.5	L	52,0	2.0472	25	L	40	L
43,1	1.6969	47.5	L	57.5	L	46,1	1.8150	37.5	L	50	L	49,1	1.9331	27.5	L	42.5	L	52,1	2.0512	20	L	37.5	L
43,2	1.7008	40	L	52.5	L	46,2	1.8189	30	L	45	L	49,2	1.9370	22.5	L	40	L	52,2	2.0551	12.5	L	35	L
43,3	1.7047	35	L	47.5	L	46,3	1.8228	25	L	42.5	L	49,3	1.9409	17.5	L	35	L	52,3	2.0591	7.5	L	32.5	L
43,4	1.7087	30	L	42.5	L	46,4	1.8268	20	L	37.5	L	49,4	1.9449	12.5	L	32.5	L	52,4	2.0630	0	L	32.5	L
43,5	1.7126	22.5	L	40	L	46,5	1.8307	15	L	35	L	49,5	1.9488	5	L	32.5	L	52,5	2.0669	7.5	R	32.5	L
43,6	1.7165	17.5	L	37.5	L	46,6	1.8346	7.5	L	32.5	L	49,6	1.9528	2.5	R	32.5	L	52,6	2.0709	20	R	37.5	L
43,7	1.7205	12.5	L	32.5	L	46,7	1.8386	2.5	L	30	L	49,7	1.9567	12.5	R	35	L	52,7	2.0748	42.5	R	52.5	L
43,8	1.7244	5	L	32.5	L	46,8	1.8425	7.5	R	32.5	L	49,8	1.9606	27.5	R	42.5	L	52,8	2.0787	85	L	92.5	R
43,9	1.7283	2.5	R	32.5	L	46,9	1.8465	17.5	R	35	L	49,9	1.9646	60	R	70	L	52,9	2.0827	40	L	52.5	R
44,0	1.7323	50	L	60	L	47,0	1.8504	40	L	52.5	L	50,0	1.9685	30	L	45	L	53,0	2.0866	22.5	L	37.5	L
44,1	1.7362	42.5	L	55	L	47,1	1.8543	35	L	47.5	L	50,1	1.9724	25	L	40	L	53,1	2.0906	17.5	L	35	L
44,2	1.7402	37.5	L	50	L	47,2	1.8583	27.5	L	42.5	L	50,2	1.9764	20	L	37.5	L	53,2	2.0945	10	L	32.5	L
44,3	1.7441	32.5	L	45	L	47.3	1.8622	22.5	L	40	L	50,3	1.9803	12.5	L	35	L	53,3	2.0984	2.5	L	32.5	L
44,4	1.7480	25	L	42.5	L	47,4	1.8661	17.5	L	35	L	50,4	1.9843	7.5	L	32.5	L	53,4	2.1024	5	R	32.5	L
44,5	1.7520	20	L	37.5	L	47,5	1.8701	12.5	L	32.5	L	50,5	1.9882	0	L	32.5	L	53,5	2.1063	15	R	35	L
44,6	1.7559	15	L	35	L	47,6	1.8740	5	L	32.5	L	50,6	1.9921	7.5	R	32.5	L	53,6	2.1102	30	R	45	L
44,7	1.7598	10	L	32.5	L	47,7	1.8780	2.5	R	32.5	L	50,7	1.9961	20	R	37.5	L	53,7	2.1142	62.5	R	72.5	L
44,8	1.7638	2.5	L	30	L	47,8	1.8819	12.5	R	35	L	50,8	2.0000	40	R	52.5	L	53,8	2.1181	57.5	L	67.5	R
44,9	1.7677	7.5	R	32.5	L	47,9	1.8858	27.5	R	42.5	L	50,9	2.0039	87.5	R	95	L	53,9	2.1220	27.5	L	42.5	R
45,0	1.7717	47.5	L	57.5	L	48,0	1.8898	37.5	L	50	L	51,0	2.0079	27.5	L	42.5	L	54,0	2.1260	20	L	37.5	L
45,1	1.7756	40	L	52.5	L	48,1	1.8937	30	L	45	L	51,1	2.0118	22.5	L	40	L	54,1	2.1299	12.5	L	35	L
45,2	1.7795	35	L	47.5	L	48,2	1.8976	25	L	40	L	51,2	2.0157	17.5	L	35	L	54,2	2.1339	7.5	L	32.5	L
45,3	1.7835	30	L	42.5	L	48,3	1.9016	20	L	37.5	L	51,3	2.0197	10	L	35	L	54,3	2.1378	0	L	32.5	L
45,4	1.7874	22.5	L	40	L	48,4	1.9055	15	L	35	L	51,4	2.0236	5	L	32.5	L	54,4	2.1417	7.5	R	32.5	L
45,5	1.7913	17.5	L	35	L	48,5	1.9094	7.5	L	32.5	L	51,5	2.0276	2.5	R	30	L	54,5	2.1457	20	R	37.5	L
45,6	1.7953	12.5	L	32.5	L	48,6	1.9134	0	L	32.5	L	51,6	2.0315	12.5	R	32.5	L	54,6	2.1496	45	R	55	L
45,7	1.7992	5	L	32.5	L	48,7	1.9173	7.5	R	32.5	L	51,7	2.0354	30	R	45	L	54,7	2.1535	82.5	L	90	R
45,8	1.8031	2.5	R	32.5	L	48,8	1.9213	20	R	37.5	L	51,8	2.0394	60	R	70	L	54,8	2.1575	40	L	52.5	R
45,9	1.8071	12.5	R	35	L	48,9	1.9252	40	R	52.5	L	51,9	2.0433	60	L	70	R	54,9	2.1614	20	L	37.5	R
55,0	2.1654	17.5	L	35	L	58,0	2.2835	7.5	L	32.5	L	61,0	2.4016	5	R	32.5	L	64,0	2.5197	25	R	40	L
55,1	2.1693	10	L	32.5	L	58,1	2.2874	0	R	30	L	61,1	2.4055	15	R	35	L	64,1	2.5236	55	R	65	L
55,2	2.1732	2.5	L	32.5	L	58,2	2.2913	10	R	32.5	L	61,2	2.4094	35	R	47.5	L	64,2	2.5276	67.5	L	77.5	R
55,3	2.1772	5	R	32.5	L	58,3	2.2953	22.5	R	40	L	61,3	2.4134	75	R	82.5	L	64,3	2.5315	32.5	L	45	R
55,4	2.1811	15	R	35	L	58,4	2.2992	47.5	R	57.5	L	61,4	2.4173	50	L	60	R	64,4	2.5354	15	L	35	R
55,5	2.1850	32.5	R	45	L	58,5	2.3031	75	L	82.5	R	61,5	2.4213	25	L	40	R	64,5	2.5394	5	L	32.5	R
55,6	2.1890	65	R	75	L	58,6	2.3071	35	L	47.5	R	61,6	2.4252	10	L	32.5	R	64,6	2.5433	2.5	R	32.5	R
55,7	2.1929	55	L	65	R	58,7	2.3110	17.5	L	37.5	R	61,7	2.4291	0	L	30	R	64,7	2.5472	10	R	32.5	R
55,8	2.1969	27.5	L	42.5	R	58,8	2.3150	5	L	32.5	R	61,8	2.4331	5	R	32.5	R	64,8	2.5512	15	R	35	R
55,9	2.2008	12.5	L	35	R	58,9	2.3189	2.5	R	32.5	R	61,9	2.4370	12.5	R	35	R	64,9	2.5551	22.5	R	37.5	R
56,0	2.2047	12.5	L	35	L	59,0	2.3228	2.5	L	32.5	L	62,0	2.4409	10	R	32.5	L	65,0	2.5591	37.5	R	50	L
56,1	2.2087	7.5	L	32.5	L	59,1	2.3268	5	R	32.5	L	62,1	2.4449	25	R	40	L	65,1	2.5630	80	R	87.5	L
56,2	2.2126	0	R	32.5	L	59,2	2.3307	15	R	35	L	62,2	2.4488	52.5	R	62.5	L	65,2	2.5669	47.5	L	57.5	R
56,3	2.2165	10	R	32.5	L	59,3	2.3346	35	R	47.5	L	62,3	2.4528	70	L	77.5	R	65,3	2.5709	22.5	L	40	R
56,4	2.2205	22.5	R	40	L	59,4	2.3386	72.5	R	80	L	62,4	2.4567	35	L	47.5	R	65,4	2.5748	7.5	L	32.5	R
56,5	2.2244	47.5	R	57.5	L	59,5	2.3425	52.5	L	62.5	R	62,5	2.4606	15	L	35	R	65,5	2.5787	0	L	32.5	R
56,6	2.2283	80	L	87.5	R	59,6	2.3465	25	L	40	R	62,6	2.4646	5	L	32.5	R	65,6	2.5827	7.5	R	32.5	R
56,7	2.2323	37.5	L	50	R	59,7	2.3504	10	L	32.5	R	62,7	2.4685	2.5	R	32.5	R	65,7	2.5866	12.5	R	35	R
56,8	2.2362	17.5	L	35	R	59,8	2.3543	2.5	L	32.5	R	62,8	2.4724	10	R	32.5	R	65,8	2.5906	17.5	R	37.5	R
56,9	2.2402	7.5	L	32.5	R	59,9	2.3583	5	R	32.5	R	62,9	2.4764	15	R	35	R	65,9	2.5945	25	R	40	R
57,0	2.2441	10	L	32.5	L	60,0	2.3622	0	R	30	L	63,0	2.4803	17.5	R	37.5	L	—	—	—	—	—	—
57,1	2.2480	2.5	L	32.5	L	60,1	2.3661	10	R	32.5	L	63,1	2.4843	37.5	R	50	L	—	—	—	—	—	—
57,2	2.2520	5	R	32.5	L	60,2	2.3701	25	R	40	L	63,2	2.4882	77.5	R	85	L	—	—	—	—	—	—
57,3	2.2559	15	R	35	L	60,3	2.3740	50	R	60	L	63,3	2.4921	47.5	L	57.5	R	—	—	—	—	—	—
57,4	2.2598	32.5	R	45	L	60,4	2.3780	72.5	L	80	R	63,4	2.4961	22.5	L	40	R	—	—	—	—	—	—
57,5	2.2638	67.5	R	77.5	L	60,5	2.3819	35	L	47.5	R	63,5	2.5000	10	L	32.5	R	—	—	—	—	—	—
57,6	2.2677	52.5	L	62.5	R	60,6	2.3858	15	L	35	R	63,6	2.5039	0	L	30	R	—	—	—	—	—	—
57,7	2.2717	25	L	40	R	60,7	2.3898	5	L	32.5	R	63,7	2.5079	7.5	R	32.5	R	—	—	—	—	—	—
57,8	2.2756	10	L	32.5	R	60,8	2.3937	2.5	R	32.5	R	63,8	2.5118	12.5	R	35	R	—	—	—	—	—	—
57,9	2.2795	2.5	L	32.5	R	60,9	2.3976	10	R	32.5	R	63,9	2.5157	17.5	R	37.5	R	—	—	—	—	—	—

(continued)

(Balancing Table • Universal Applications SVU-BB2 Boring Head continued)

KRDEA012AM • KRDE065012M 65–82,9mm

diameter		ring 1		ring 2		diameter		ring 1		ring 2		diameter		ring 1		ring 2	
mm	in					mm	in					mm	in				
65,0	2.5591	5	L	37.5	R	68,0	2.6772	12.5	R	37.5	R	71,0	2.7953	25	R	45	R
65,1	2.5630	2.5	R	37.5	R	68,1	2.6811	17.5	R	40	R	71,1	2.7992	32.5	R	47.5	R
65,2	2.5669	10	R	37.5	R	68,2	2.6850	22.5	R	42.5	R	71,2	2.8031	37.5	R	52.5	R
65,3	2.5709	15	R	40	R	68,3	2.6890	27.5	R	47.5	R	71,3	2.8071	42.5	R	57.5	R
65,4	2.5748	20	R	42.5	R	68,4	2.6929	32.5	R	50	R	71,4	2.8110	47.5	R	62.5	R
65,5	2.5787	25	R	45	R	68,5	2.6969	40	R	55	R	71,5	2.8150	55	R	67.5	R
65,6	2.5827	30	R	47.5	R	68,6	2.7008	45	R	60	R	71,6	2.8189	65	R	77.5	R
65,7	2.5866	35	R	52.5	R	68,7	2.7047	52.5	R	65	R	71,7	2.8228	65	R	77.5	R
65,8	2.5906	42.5	R	57.5	R	68,8	2.7087	60	R	72.5	R	71,8	2.8268	65	R	77.5	R
65,9	2.5945	47.5	R	62.5	R	68,9	2.7126	70	R	82.5	R	71,9	2.8307	65	R	77.5	R
66,0	2.5984	2.5	R	35	R	69,0	2.7165	17.5	R	40	R	72,0	2.8346	30	R	47.5	R
66,1	2.6024	7.5	R	37.5	R	69,1	2.7205	22.5	R	42.5	R	72,1	2.8386	35	R	52.5	R
66,2	2.6063	12.5	R	40	R	69,2	2.7244	27.5	R	45	R	72,2	2.8425	40	R	55	R
66,3	2.6102	20	R	40	R	69,3	2.7283	32.5	R	50	R	72,3	2.8465	47.5	R	60	R
66,4	2.6142	25	R	45	R	69,4	2.7323	37.5	R	52.5	R	72,4	2.8504	55	R	67.5	R
66,5	2.6181	30	R	47.5	R	69,5	2.7362	45	R	57.5	R	72,5	2.8543	62.5	R	75	R
66,6	2.6220	35	R	52.5	R	69,6	2.7402	50	R	62.5	R	72,6	2.8583	80	R	90	R
66,7	2.6260	40	R	55	R	69,7	2.7441	57.5	R	70	R	72,7	2.8622	80	R	90	R
66,8	2.6299	47.5	R	60	R	69,8	2.7480	67.5	R	80	R	72,8	2.8661	80	R	90	R
66,9	2.6339	55	R	67.5	R	69,9	2.7520	67.5	R	80	R	72,9	2.8701	80	R	90	R
67,0	2.6378	7.5	R	37.5	R	70,0	2.7559	22.5	R	42.5	R	73,0	2.8740	40	R	55	R
67,1	2.6417	12.5	R	40	R	70,1	2.7598	27.5	R	45	R	73,1	2.8780	47.5	R	60	R
67,2	2.6457	17.5	R	42.5	R	70,2	2.7638	32.5	R	50	R	73,2	2.8819	52.5	R	65	R
67,3	2.6496	22.5	R	45	R	70,3	2.7677	37.5	R	52.5	R	73,3	2.8858	62.5	R	75	R
67,4	2.6535	30	R	47.5	R	70,4	2.7717	42.5	R	57.5	R	73,4	2.8898	75	R	87.5	R
67,5	2.6575	35	R	50	R	70,5	2.7756	50	R	62.5	R	73,5	2.8937	75	R	87.5	R
67,6	2.6614	40	R	55	R	70,6	2.7795	57.5	R	70	R	73,6	2.8976	75	R	87.5	R
67,7	2.6654	45	R	60	R	70,7	2.7835	65	R	77.5	R	73,7	2.9016	75	R	87.5	R
67,8	2.6693	52.5	R	65	R	70,8	2.7874	65	R	77.5	R	73,8	2.9055	75	R	87.5	R
67,9	2.6732	60	R	72.5	R	70,9	2.7913	65	R	77.5	R	73,9	2.9094	75	R	87.5	R
74,0	2.9134	40	R	55	R	77,0	3.0315	55	R	67.5	R	80,0	3.1496	22.5	L	45	L
74,1	2.9173	45	R	60	R	77,1	3.0354	65	R	77.5	R	80,1	3.1535	17.5	L	42.5	L
74,2	2.9213	52.5	R	65	R	77,2	3.0394	65	R	77.5	R	80,2	3.1575	12.5	L	40	L
74,3	2.9252	60	R	72.5	R	77,3	3.0433	65	R	77.5	R	80,3	3.1614	5	L	40	L
74,4	2.9291	70	R	82.5	R	77,4	3.0472	65	R	77.5	R	80,4	3.1654	2.5	R	40	L
74,5	2.9331	70	R	82.5	R	77,5	3.0512	65	R	77.5	R	80,5	3.1693	10	R	40	L
74,6	2.9370	70	R	82.5	R	77,6	3.0551	65	R	77.5	R	80,6	3.1732	22.5	R	45	L
74,7	2.9409	70	R	82.5	R	77,7	3.0591	65	R	77.5	R	80,7	3.1772	37.5	R	55	L
74,8	2.9449	70	R	82.5	R	77,8	3.0630	65	R	77.5	R	80,8	3.1811	65	R	77.5	L
74,9	2.9488	70	R	82.5	R	77,9	3.0669	65	R	77.5	R	80,9	3.1850	70	L	82.5	R
75,0	2.9528	52.5	R	65	R	78,0	3.0709	62.5	R	75	R	81,0	3.1890	20	L	42.5	L
75,1	2.9567	57.5	R	70	R	78,1	3.0748	82.5	R	92.5	R	81,1	3.1929	12.5	L	40	L
75,2	2.9606	70	R	82.5	R	78,2	3.0787	82.5	R	92.5	R	81,2	3.1969	5	L	40	L
75,3	2.9646	70	R	82.5	R	78,3	3.0827	82.5	R	92.5	R	81,3	3.2008	0	R	37.5	L
75,4	2.9685	70	R	82.5	R	78,4	3.0866	82.5	R	92.5	R	81,4	3.2047	10	R	40	L
75,5	2.9724	70	R	82.5	R	78,5	3.0906	82.5	R	92.5	R	81,5	3.2087	20	R	45	L
75,6	2.9764	70	R	82.5	R	78,6	3.0945	82.5	R	92.5	R	81,6	3.2126	35	R	52.5	L
75,7	2.9803	70	R	82.5	R	78,7	3.0984	82.5	R	92.5	R	81,7	3.2165	57.5	R	72.5	L
75,8	2.9843	70	R	82.5	R	78,8	3.1024	82.5	R	92.5	R	81,8	3.2205	75	L	87.5	R
75,9	2.9882	70	R	82.5	R	78,9	3.1063	82.5	R	92.5	R	81,9	3.2244	45	L	60	R
76,0	2.9921	50	R	62.5	R	79,0	3.1102	75	R	87.5	R	82,0	3.2283	15	L	40	L
76,1	2.9961	57.5	R	70	R	79,1	3.1142	75	R	87.5	R	82,1	3.2323	7.5	L	40	L
76,2	3.0000	67.5	R	80	R	79,2	3.1181	75	R	87.5	R	82,2	3.2362	0	L	40	L
76,3	3.0039	67.5	R	80	R	79,3	3.1220	75	R	87.5	R	82,3	3.2402	7.5	R	40	L
76,4	3.0079	67.5	R	80	R	79,4	3.1260	75	R	87.5	R	82,4	3.2441	17.5	R	42.5	L
76,5	3.0118	67.5	R	80	R	79,5	3.1299	75	R	87.5	R	82,5	3.2480	30	R	50	L
76,6	3.0157	67.5	R	80	R	79,6	3.1339	75	R	87.5	R	82,6	3.2520	52.5	R	67.5	L
76,7	3.0197	67.5	R	80	R	79,7	3.1378	75	R	87.5	R	82,7	3.2559	82.5	L	95	R
76,8	3.0236	67.5	R	80	R	79,8	3.1417	75	R	87.5	R	82,8	3.2598	50	L	65	R
76,9	3.0276	67.5	R	80	R	79,9	3.1457	75	R	87.5	R	82,9	3.2638	30	L	50	R

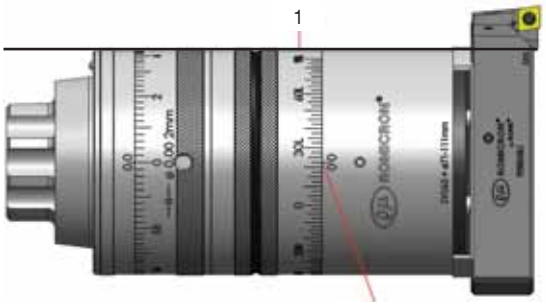
(continued)

(Balancing Table • Universal Applications SVU-BB2 Boring Head continued)

KRDEA012AM • KRDE065012M 83–100mm

diameter		ring 1		ring 2		diameter		ring 1		ring 2		diameter		ring 1		ring 2	
mm	in					mm	in					mm	in				
83,0	3.2677	10	L	40	L	86,0	3.3858	10	R	40	L	89,0	3.5039	42.5	R	57.5	L
83,1	3.2717	2.5	L	37.5	L	86,1	3.3898	20	R	45	L	89,1	3.5079	72.5	R	85	L
83,2	3.2756	5	R	40	L	86,2	3.3937	35	R	52.5	L	89,2	3.5118	62.5	L	75	R
83,3	3.2795	15	R	42.5	L	86,3	3.3976	57.5	R	72.5	L	89,3	3.5157	37.5	L	55	R
83,4	3.2835	27.5	R	47.5	L	86,4	3.4016	75	L	87.5	R	89,4	3.5197	22.5	L	45	R
83,5	3.2874	47.5	R	62.5	L	86,5	3.4055	45	L	60	R	89,5	3.5236	10	L	40	R
83,6	3.2913	77.5	R	90	L	86,6	3.4094	27.5	L	47.5	R	89,6	3.5276	0	L	37.5	R
83,7	3.2953	55	L	70	R	86,7	3.4134	15	L	42.5	R	89,7	3.5315	5	R	40	R
83,8	3.2992	32.5	L	50	R	86,8	3.4173	5	L	40	R	89,8	3.5354	12.5	R	40	R
83,9	3.3031	17.5	L	42.5	R	86,9	3.4213	2.5	R	40	R	89,9	3.5394	17.5	R	42.5	R
84,0	3.3071	5	L	37.5	L	87,0	3.4252	17.5	R	42.5	L	90,0	3.5433	65	R	77.5	L
84,1	3.3110	2.5	R	37.5	L	87,1	3.4291	30	R	50	L	90,1	3.5472	70	L	82.5	R
84,2	3.3150	12.5	R	40	L	87,2	3.4331	52.5	R	67.5	L	90,2	3.5512	40	L	57.5	R
84,3	3.3189	25	R	47.5	L	87,3	3.4370	82.5	L	95	R	90,3	3.5551	22.5	L	45	R
84,4	3.3228	42.5	R	57.5	L	87,4	3.4409	50	L	65	R	90,4	3.5591	12.5	L	40	R
84,5	3.3268	72.5	R	85	L	87,5	3.4449	30	L	50	R	90,5	3.5630	2.5	L	37.5	R
84,6	3.3307	62.5	L	75	R	87,6	3.4488	17.5	L	42.5	R	90,6	3.5669	5	R	37.5	R
84,7	3.3346	37.5	L	55	R	87,7	3.4528	7.5	L	40	R	90,7	3.5709	10	R	40	R
84,8	3.3386	22.5	L	45	R	87,8	3.4567	2.5	R	37.5	R	90,8	3.5748	17.5	R	42.5	R
84,9	3.3425	10	L	40	R	87,9	3.4606	7.5	R	40	R	90,9	3.5787	22.5	R	45	R
85,0	3.3465	2.5	R	40	L	88,0	3.4646	27.5	R	47.5	L	91,0	3.5827	75	L	87.5	R
85,1	3.3504	10	R	40	L	88,1	3.4685	47.5	R	62.5	L	91,1	3.5866	47.5	L	62.5	R
85,2	3.3543	22.5	R	45	L	88,2	3.4724	77.5	R	90	L	91,2	3.5906	27.5	L	47.5	R
85,3	3.3583	37.5	R	55	L	88,3	3.4764	55	L	70	R	91,3	3.5945	15	L	42.5	R
85,4	3.3622	65	R	77.5	L	88,4	3.4803	35	L	52.5	R	91,4	3.5984	5	L	40	R
85,5	3.3661	70	L	82.5	R	88,5	3.4843	17.5	L	42.5	R	91,5	3.6024	2.5	R	40	R
85,6	3.3701	40	L	57.5	R	88,6	3.4882	7.5	L	40	R	91,6	3.6063	10	R	40	R
85,7	3.3740	22.5	L	45	R	88,7	3.4921	0	R	40	R	91,7	3.6102	15	R	42.5	R
85,8	3.3780	12.5	L	40	R	88,8	3.4961	7.5	R	40	R	91,8	3.6142	22.5	R	45	R
85,9	3.3819	2.5	L	37.5	R	88,9	3.5000	12.5	R	42.5	R	91,9	3.6181	27.5	R	47.5	R
92,0	3.6220	50	L	65	R	95,0	3.7402	12.5	L	40	R	98,0	3.8583	7.5	R	40	R
92,1	3.6260	30	L	50	R	95,1	3.7441	2.5	L	37.5	R	98,1	3.8622	12.5	R	42.5	R
92,2	3.6299	17.5	L	42.5	R	95,2	3.7480	5	R	37.5	R	98,2	3.8661	20	R	42.5	R
92,3	3.6339	7.5	L	40	R	95,3	3.7520	10	R	40	R	98,3	3.8701	25	R	47.5	R
92,4	3.6378	2.5	R	37.5	R	95,4	3.7559	17.5	R	42.5	R	98,4	3.8740	30	R	50	R
92,5	3.6417	7.5	R	40	R	95,5	3.7598	22.5	R	45	R	98,5	3.8780	37.5	R	55	R
92,6	3.6457	15	R	40	R	95,6	3.7638	27.5	R	47.5	R	98,6	3.8819	42.5	R	60	R
92,7	3.6496	20	R	45	R	95,7	3.7677	35	R	52.5	R	98,7	3.8858	50	R	65	R
92,8	3.6535	25	R	47.5	R	95,8	3.7717	40	R	57.5	R	98,8	3.8898	57.5	R	72.5	R
92,9	3.6575	32.5	R	50	R	95,9	3.7756	47.5	R	62.5	R	98,9	3.8937	70	R	82.5	R
93,0	3.6614	35	L	52.5	R	96,0	3.7795	5	L	40	R	99,0	3.8976	12.5	R	40	R
93,1	3.6654	17.5	L	42.5	R	96,1	3.7835	2.5	R	40	R	99,1	3.9016	17.5	R	42.5	R
93,2	3.6693	7.5	L	40	R	96,2	3.7874	10	R	40	R	99,2	3.9055	25	R	45	R
93,3	3.6732	0	R	37.5	R	96,3	3.7913	15	R	42.5	R	99,3	3.9094	30	R	50	R
93,4	3.6772	7.5	R	40	R	96,4	3.7953	22.5	R	45	R	99,4	3.9134	35	R	52.5	R
93,5	3.6811	12.5	R	42.5	R	96,5	3.7992	27.5	R	47.5	R	99,5	3.9173	42.5	R	57.5	R
93,6	3.6850	20	R	42.5	R	96,6	3.8031	32.5	R	52.5	R	99,6	3.9213	47.5	R	62.5	R
93,7	3.6890	25	R	47.5	R	96,7	3.8071	40	R	55	R	99,7	3.9252	55	R	70	R
93,8	3.6929	30	R	50	R	96,8	3.8110	45	R	60	R	99,8	3.9291	67.5	R	80	R
93,9	3.6969	37.5	R	55	R	96,9	3.8150	52.5	R	67.5	R	99,9	3.9331	67.5	R	80	R
94,0	3.7008	22.5	L	45	R	97,0	3.8189	2.5	R	37.5	R	100,0	3.9370	17.5	R	42.5	R
94,1	3.7047	10	L	40	R	97,1	3.8228	7.5	R	40	R	100,1	3.9409	22.5	R	45	R
94,2	3.7087	2.5	L	40	R	97,2	3.8268	15	R	40	R	100,2	3.9449	27.5	R	47.5	R
94,3	3.7126	5	R	40	R	97,3	3.8307	20	R	45	R	100,3	3.9488	35	R	52.5	R
94,4	3.7165	12.5	R	40	R	97,4	3.8346	25	R	47.5	R	100,4	3.9528	40	R	57.5	R
94,5	3.7205	17.5	R	42.5	R	97,5	3.8386	32.5	R	50	R	100,5	3.9567	47.5	R	62.5	R
94,6	3.7244	25	R	45	R	97,6	3.8425	37.5	R	55	R	100,6	3.9606	55	R	70	R
94,7	3.7283	30	R	50	R	97,7	3.8465	45	R	60	R	100,7	3.9646	65	R	77.5	R
94,8	3.7323	35	R	52.5	R	97,8	3.8504	50	R	65	R	100,8	3.9685	65	R	77.5	R
94,9	3.7362	42.5	R	57.5	R	97,9	3.8543	60	R	72.5	R	100,9	3.9724	65	R	77.5	R

Balancing Table • SVU-65 Boring Head



reference mark for dial 01



2,5 units

1. The balancing dial 01 is identified on the figure below. The dial resolution is 2,5 units of table values.

2. Read the position value of the dial 01 on the table. For example, to machine a 76mm diameter, the position is 01 = 30R.

3. By moving dial 01, adjust its position, observing its proper reference mark, according to the read value.

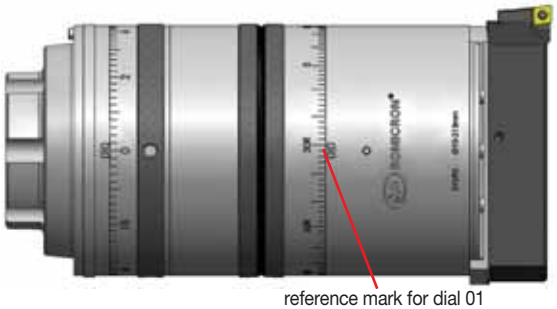
KRDE070019M												KRDE083019M							
KRCSCFPR061E 71–76mm				KRCSCFPR062E 75,5–81,5mm				KRCSCFPR063E 80–85mm				KRCSCFPR061E 84–89mm				KRCSCFPR062E 88,5–93,5mm			
diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting	
70,99	2.795	40	L	75,49	2.972	35	L	80,01	3.150	30	L	84,00	3.307	47.5	L	88,49	3.484	40	L
71,12	2.800	37.5	L	75,59	2.976	32.5	L	80,16	3.156	27.5	L	84,12	3.312	45	L	88,65	3.490	37.5	L
71,27	2.806	35	L	75,77	2.983	30	L	80,34	3.163	25	L	84,25	3.317	42.5	L	88,80	3.496	35	L
71,42	2.812	32.5	L	75,95	2.990	27.5	L	80,52	3.170	22.5	L	84,38	3.322	40	L	88,95	3.502	32.5	L
71,60	2.819	30	L	76,10	2.996	25	L	80,70	3.177	20	L	84,51	3.327	37.5	L	89,08	3.507	30	L
71,78	2.826	27.5	L	76,28	3.003	22.5	L	80,87	3.184	17.5	L	84,66	3.333	35	L	89,26	3.514	27.5	L
71,96	2.833	25	L	76,48	3.011	20	L	81,08	3.192	15	L	84,81	3.339	32.5	L	89,41	3.520	25	L
72,14	2.840	22.5	L	76,66	3.018	17.5	L	81,25	3.199	12.5	L	84,96	3.345	30	L	89,56	3.526	22.5	L
72,31	2.847	20	L	76,84	3.025	15	L	81,46	3.207	10	L	85,12	3.351	27.5	L	89,74	3.533	20	L
72,49	2.854	17.5	L	77,04	3.033	12.5	L	81,64	3.214	7.5	L	85,27	3.357	25	L	89,89	3.539	17.5	L
72,69	2.862	15	L	77,22	3.040	10	L	81,84	3.222	5	L	85,42	3.363	22.5	L	90,07	3.546	15	L
72,87	2.869	12.5	L	77,42	3.048	7.5	L	82,02	3.229	2.5	L	85,60	3.370	20	L	90,22	3.552	12.5	L
73,08	2.877	10	L	77,62	3.056	5	L	82,22	3.237	0	—	85,78	3.377	17.5	L	90,40	3.559	10	L
73,25	2.884	7.5	L	77,80	3.063	2.5	L	82,42	3.245	2.5	R	85,93	3.383	15	L	90,58	3.566	7.5	L
73,46	2.892	5	L	78,00	3.071	0	—	82,60	3.252	5	R	86,11	3.390	12.5	L	90,75	3.573	5	L
73,66	2.900	2.5	L	78,21	3.079	2.5	R	82,80	3.260	7.5	R	86,28	3.397	10	L	90,93	3.580	2.5	L
73,86	2.908	0	—	78,38	3.086	5	R	82,98	3.267	10	R	86,46	3.404	7.5	L	91,11	3.587	0	—
74,04	2.915	2.5	R	78,59	3.094	7.5	R	83,19	3.275	12.5	R	86,64	3.411	5	L	91,29	3.594	2.5	R
74,24	2.923	5	R	78,77	3.101	10	R	83,36	3.282	15	R	86,82	3.418	2.5	L	91,47	3.601	5	R
74,45	2.931	7.5	R	78,97	3.109	12.5	R	83,57	3.290	17.5	R	87,00	3.425	0	—	91,64	3.608	7.5	R
74,63	2.938	10	R	79,15	3.116	15	R	83,74	3.297	20	R	87,17	3.432	2.5	R	91,80	3.614	10	R
74,83	2.946	12.5	R	79,35	3.124	17.5	R	83,92	3.304	22.5	R	87,33	3.438	5	R	91,97	3.621	12.5	R
75,01	2.953	15	R	79,53	3.131	20	R	84,10	3.311	25	R	87,50	3.445	7.5	R	92,15	3.628	15	R
75,21	2.961	17.5	R	79,71	3.138	22.5	R	84,28	3.318	27.5	R	87,68	3.452	10	R	92,33	3.635	17.5	R
75,39	2.968	20	R	79,88	3.145	25	R	84,46	3.325	30	R	87,86	3.459	12.5	R	92,48	3.641	20	R
75,57	2.975	22.5	R	80,06	3.152	27.5	R	84,61	3.331	32.5	R	88,04	3.466	15	R	92,66	3.648	22.5	R
75,74	2.982	25	R	80,24	3.159	30	R	84,79	3.338	35	R	88,21	3.473	17.5	R	92,81	3.654	25	R
75,92	2.989	27.5	R	80,42	3.166	32.5	R	84,94	3.344	37.5	R	88,37	3.479	20	R	92,96	3.660	27.5	R
76,00	2.992	30	R	80,49	3.169	35	R	84,99	3.346	40	R	88,54	3.486	22.5	R	93,12	3.666	30	R
—	—	—	—	—	—	—	—	—	—	—	—	88,70	3.492	25	R	93,27	3.672	32.5	R
—	—	—	—	—	—	—	—	—	—	—	—	88,85	3.498	27.5	R	93,42	3.678	35	R
—	—	—	—	—	—	—	—	—	—	—	—	89,00	3.504	30	R	93,50	3.681	37.5	R

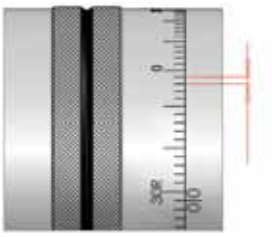
(continued)

(Balancing Table • SVU-65 Boring Head continued)

KRDE083019M				KRDE096019M											
KRCSCFPR063E 93–98mm				KRCSCFPR061E 97–102mm				KRCSCFPR062E 101,5–106,5mm				KRCSCFPR063E 106–111mm			
diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting	
92,99	3.661	35	L	97,00	3.819	55	L	101,50	3.996	45	L	105,99	4.173	37.5	L
93,14	3.667	32.5	L	97,05	3.821	52.5	L	101,60	4.000	42.5	L	106,17	4.180	35	L
93,29	3.673	30	L	97,16	3.825	50	L	101,73	4.005	40	L	106,32	4.186	32.5	L
93,45	3.679	27.5	L	97,28	3.830	47.5	L	101,85	4.010	37.5	L	106,45	4.191	30	L
93,60	3.685	25	L	97,38	3.834	45	L	101,98	4.015	35	L	106,58	4.196	27.5	L
93,78	3.692	22.5	L	97,51	3.839	42.5	L	102,13	4.021	32.5	L	106,73	4.202	25	L
93,93	3.698	20	L	97,61	3.843	40	L	102,26	4.026	30	L	106,88	4.208	22.5	L
94,11	3.705	17.5	L	97,74	3.848	37.5	L	102,41	4.032	27.5	L	107,04	4.214	20	L
94,26	3.711	15	L	97,87	3.853	35	L	102,54	4.037	25	L	107,19	4.220	17.5	L
94,44	3.718	12.5	L	98,02	3.859	32.5	L	102,69	4.043	22.5	L	107,34	4.226	15	L
94,62	3.725	10	L	98,15	3.864	30	L	102,84	4.049	20	L	107,49	4.232	12.5	L
94,79	3.732	7.5	L	98,30	3.870	27.5	L	103,00	4.055	17.5	L	107,65	4.238	10	L
94,95	3.738	5	L	98,45	3.876	25	L	103,15	4.061	15	L	107,82	4.245	7.5	L
95,12	3.745	2.5	L	98,58	3.881	22.5	L	103,30	4.067	12.5	L	107,98	4.251	5	L
95,30	3.752	0	–	98,73	3.887	20	L	103,48	4.074	10	L	108,13	4.257	2.5	L
95,48	3.759	2.5	R	98,88	3.893	17.5	L	103,63	4.080	7.5	L	108,31	4.264	0	–
95,66	3.766	5	R	99,06	3.900	15	L	103,78	4.086	5	L	108,46	4.270	2.5	R
95,83	3.773	7.5	R	99,21	3.906	12.5	L	103,96	4.093	2.5	L	108,61	4.276	5	R
96,01	3.780	10	R	99,36	3.912	10	L	104,11	4.099	0	–	108,79	4.283	7.5	R
96,19	3.787	12.5	R	99,52	3.918	7.5	L	104,27	4.105	2.5	R	108,94	4.289	10	R
96,34	3.793	15	R	99,70	3.925	5	L	104,44	4.112	5	R	109,09	4.295	12.5	R
96,52	3.800	17.5	R	99,85	3.931	2.5	L	104,60	4.118	7.5	R	109,25	4.301	15	R
96,67	3.806	20	R	100,03	3.938	0	–	104,75	4.124	10	R	109,40	4.307	17.5	R
96,85	3.813	22.5	R	100,18	3.944	2.5	R	104,90	4.130	12.5	R	109,55	4.313	20	R
97,00	3.819	25	R	100,33	3.950	5	R	105,08	4.137	15	R	109,70	4.319	22.5	R
97,16	3.825	27.5	R	100,51	3.957	7.5	R	105,23	4.143	17.5	R	109,86	4.325	25	R
97,31	3.831	30	R	100,66	3.963	10	R	105,38	4.149	20	R	110,01	4.331	27.5	R
97,46	3.837	32.5	R	100,81	3.969	12.5	R	105,54	4.155	22.5	R	110,13	4.336	30	R
97,61	3.843	35	R	100,97	3.975	15	R	105,69	4.161	25	R	110,29	4.342	32.5	R
97,76	3.849	37.5	R	101,14	3.982	17.5	R	105,82	4.166	27.5	R	110,41	4.347	35	R
97,89	3.854	40	R	101,30	3.988	20	R	105,97	4.172	30	R	110,54	4.352	37.5	R
97,99	3.858	42.5	R	101,45	3.994	22.5	R	106,10	4.177	32.5	R	110,67	4.357	40	R
–	–	–	–	101,57	3.999	25	R	106,25	4.183	35	R	110,79	4.362	42.5	R
–	–	–	–	101,73	4.005	27.5	R	106,38	4.188	37.5	R	110,90	4.366	45	R
–	–	–	–	104,39	4.110	30	R	106,43	4.190	40	R	111,00	4.370	47.5	R
–	–	–	–	102,01	4.016	32.5	R	106,53	4.194	42.5	R	–	–	–	–

Balancing Table • SVU-92 Boring Head





1. The balancing dial 01 is identified on the figure below. The dial resolution is 2 units of table values.
2. Read the position value of the dial 01 on the table. For example, to machine a 108mm diameter, the position is 01 = 32R.
3. By moving dial 01, adjust its position, observing its proper reference mark, according to the read value.

KRDE101023M												KRDE120023M							
KRCSCFPR061F 101–108mm				KRCSCFPR062F 107,5–114,5mm				KRCSCFPR063F 114–121mm				KRCSCFPR061F 120–127mm				KRCSCFPR062F 126,5–133,5mm			
diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting	
100,99	3.976	36	L	107,49	4.232	34	L	114,00	4.488	30	L	119,99	4.724	40	L	126,49	4.980	36	L
101,19	3.984	34	L	107,62	4.237	32	L	114,22	4.497	28	L	120,19	4.732	38	L	126,72	4.989	34	L
101,40	3.992	32	L	107,80	4.244	30	L	114,40	4.504	26	L	120,35	4.738	36	L	126,90	4.996	32	L
101,57	3.999	30	L	108,00	4.252	28	L	114,60	4.512	24	L	120,52	4.745	34	L	127,08	5.003	30	L
101,78	4.007	28	L	108,20	4.260	26	L	114,81	4.520	22	L	120,70	4.752	32	L	127,25	5.010	28	L
101,98	4.015	26	L	108,41	4.268	24	L	115,01	4.528	20	L	120,88	4.759	30	L	127,43	5.017	26	L
102,18	4.023	24	L	108,61	4.276	22	L	115,24	4.537	18	L	121,06	4.766	28	L	127,61	5.024	24	L
102,39	4.031	22	L	108,81	4.284	20	L	115,44	4.545	16	L	121,23	4.773	26	L	127,81	5.032	22	L
102,59	4.039	20	L	109,02	4.292	18	L	115,67	4.554	14	L	121,41	4.780	24	L	127,99	5.039	20	L
102,79	4.047	18	L	109,25	4.301	16	L	115,87	4.562	12	L	121,62	4.788	22	L	128,19	5.047	18	L
103,02	4.056	16	L	109,45	4.309	14	L	116,10	4.571	10	L	121,79	4.795	20	L	128,40	5.055	16	L
103,23	4.064	14	L	109,68	4.318	12	L	116,31	4.579	8	L	122,00	4.803	18	L	128,57	5.062	14	L
103,45	4.073	12	L	109,88	4.326	10	L	116,54	4.588	6	L	122,20	4.811	16	L	128,78	5.070	12	L
103,66	4.081	10	L	110,11	4.335	8	L	116,76	4.597	4	L	122,38	4.818	14	L	128,98	5.078	10	L
103,89	4.090	8	L	110,34	4.344	6	L	116,97	4.605	2	L	122,58	4.826	12	L	129,18	5.086	8	L
104,11	4.099	6	L	110,57	4.353	4	L	117,20	4.614	0	–	122,78	4.834	10	L	129,39	5.094	6	L
104,32	4.107	4	L	110,77	4.361	2	L	117,42	4.623	2	R	122,99	4.842	8	L	129,59	5.102	4	L
104,55	4.116	2	L	111,00	4.370	0	–	117,65	4.632	4	R	123,19	4.850	6	L	129,79	5.110	2	L
104,78	4.125	0	–	111,23	4.379	2	R	117,86	4.640	6	R	123,39	4.858	4	L	130,00	5.118	0	–
105,00	4.134	2	R	111,46	4.388	4	R	118,08	4.649	8	R	123,60	4.866	2	L	130,20	5.126	2	R
105,23	4.143	4	R	111,66	4.396	6	R	118,31	4.658	10	R	123,80	4.874	0	–	130,40	5.134	4	R
105,44	4.151	6	R	111,89	4.405	8	R	118,52	4.666	12	R	124,00	4.882	2	R	130,61	5.142	6	R
105,66	4.160	8	R	112,12	4.414	10	R	118,75	4.675	14	R	124,21	4.890	4	R	130,81	5.150	8	R
105,89	4.169	10	R	107,19	4.220	12	R	118,95	4.683	16	R	124,41	4.898	6	R	131,01	5.158	10	R
106,10	4.177	12	R	112,55	4.431	14	R	119,18	4.692	18	R	124,61	4.906	8	R	131,22	5.166	12	R
106,32	4.186	14	R	112,75	4.439	16	R	119,38	4.700	20	R	124,82	4.914	10	R	131,42	5.174	14	R
106,53	4.194	16	R	112,98	4.448	18	R	119,58	4.708	22	R	125,02	4.922	12	R	131,62	5.182	16	R
106,76	4.203	18	R	113,18	4.456	20	R	119,79	4.716	24	R	125,22	4.930	14	R	131,80	5.189	18	R
106,96	4.211	20	R	113,39	4.464	22	R	119,99	4.724	26	R	125,43	4.938	16	R	132,00	5.197	20	R
107,16	4.219	22	R	113,59	4.472	24	R	120,19	4.732	28	R	125,63	4.946	18	R	132,18	5.204	22	R
107,37	4.227	24	R	113,79	4.480	26	R	120,37	4.739	30	R	125,81	4.953	20	R	132,38	5.212	24	R
107,57	4.235	26	R	114,00	4.488	28	R	120,57	4.747	32	R	126,01	4.961	22	R	132,56	5.219	26	R
107,77	4.243	28	R	114,20	4.496	30	R	120,75	4.754	34	R	126,19	4.968	24	R	132,74	5.226	28	R
107,98	4.251	30	R	114,38	4.503	32	R	120,93	4.761	36	R	126,37	4.975	26	R	132,92	5.233	30	R
108,00	4.252	32	R	114,50	4.508	34	R	121,01	4.764	38	R	126,57	4.983	28	R	133,10	5.240	32	R
–	–	–	–	–	–	–	–	–	–	–	–	126,75	4.990	30	R	133,27	5.247	34	R
–	–	–	–	–	–	–	–	–	–	–	–	126,92	4.997	32	R	133,45	5.254	36	R
–	–	–	–	–	–	–	–	–	–	–	–	127,00	5.000	34	R	133,50	5.256	38	R

(continued)

(Balancing Table • SVU-92 Boring Head continued)

KRDE120023M				KRDE139026M											
KRCSCFPR063F 133–140mm				KRCSCFPR061F 139–146mm				KRCSCFPR062F 145,5–152,5mm				KRCSCFPR063F 152–159mm			
diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting	
132,99	5.236	34	L	138,99	5.472	50	L	145,49	5.728	44	L	151,99	5.984	40	L
133,10	5.240	32	L	139,09	5.476	48	L	145,67	5.735	42	L	152,12	5.989	38	L
133,27	5.247	30	L	139,22	5.481	46	L	145,80	5.740	40	L	152,27	5.995	36	L
133,45	5.254	28	L	139,34	5.486	44	L	145,95	5.746	38	L	152,40	6.000	34	L
133,63	5.261	26	L	139,47	5.491	42	L	146,08	5.751	36	L	152,55	6.006	32	L
133,81	5.268	24	L	139,60	5.496	40	L	146,23	5.757	34	L	152,70	6.012	30	L
133,99	5.275	22	L	139,73	5.501	38	L	146,35	5.762	32	L	152,86	6.018	28	L
134,19	5.283	20	L	139,88	5.507	36	L	146,51	5.768	30	L	153,01	6.024	26	L
134,37	5.290	18	L	140,00	5.512	34	L	146,66	5.774	28	L	153,16	6.030	24	L
134,57	5.298	16	L	140,16	5.518	32	L	146,81	5.780	26	L	153,31	6.036	22	L
134,77	5.306	14	L	140,31	5.524	30	L	146,99	5.787	24	L	153,49	6.043	20	L
134,98	5.314	12	L	140,46	5.530	28	L	147,14	5.793	22	L	153,64	6.049	18	L
135,18	5.322	10	L	140,61	5.536	26	L	147,29	5.799	20	L	153,82	6.056	16	L
135,36	5.329	8	L	140,77	5.542	24	L	147,47	5.806	18	L	153,97	6.062	14	L
135,56	5.337	6	L	140,92	5.548	22	L	147,62	5.812	16	L	154,15	6.069	12	L
135,76	5.345	4	L	141,10	5.555	20	L	147,80	5.819	14	L	154,33	6.076	10	L
135,97	5.353	2	L	141,25	5.561	18	L	147,96	5.825	12	L	154,48	6.082	8	L
136,17	5.361	0	–	141,43	5.568	16	L	148,13	5.832	10	L	154,66	6.089	6	L
136,37	5.369	2	R	141,58	5.574	14	L	148,31	5.839	8	L	154,84	6.096	4	L
136,58	5.377	4	R	141,76	5.581	12	L	148,49	5.846	6	L	155,02	6.103	2	L
162,18	6.385	6	R	141,94	5.588	10	L	148,64	5.852	4	L	155,19	6.110	0	–
136,98	5.393	8	R	142,11	5.595	8	L	148,82	5.859	2	L	155,35	6.116	2	R
137,19	5.401	10	R	142,27	5.601	6	L	149,00	5.866	0	–	155,52	6.123	4	R
137,39	5.409	12	R	142,44	5.608	4	L	149,17	5.873	2	R	155,70	6.130	6	R
137,59	5.417	14	R	142,62	5.615	2	L	149,35	5.880	4	R	155,88	6.137	8	R
137,80	5.425	16	R	142,80	5.622	0	–	149,53	5.887	6	R	156,03	6.143	10	R
137,97	5.432	18	R	142,98	5.629	2	R	149,68	5.893	8	R	156,21	6.150	12	R
138,18	5.440	20	R	143,15	5.636	4	R	149,86	5.900	10	R	156,39	6.157	14	R
138,38	5.448	22	R	143,31	5.642	6	R	150,04	5.907	12	R	156,54	6.163	16	R
138,56	5.455	24	R	143,48	5.649	8	R	150,19	5.913	14	R	156,72	6.170	18	R
138,73	5.462	26	R	143,66	5.656	10	R	150,37	5.920	16	R	156,87	6.176	20	R
138,91	5.469	28	R	143,84	5.663	12	R	150,55	5.927	18	R	157,05	6.183	22	R
139,09	5.476	30	R	143,99	5.669	14	R	150,70	5.933	20	R	157,20	6.189	24	R
139,27	5.483	32	R	144,17	5.676	16	R	150,85	5.939	22	R	157,35	6.195	26	R
139,45	5.490	34	R	144,32	5.682	18	R	151,03	5.946	24	R	157,51	6.201	28	R
139,60	5.496	36	R	144,50	5.689	20	R	151,18	5.952	26	R	157,66	6.207	30	R
139,78	5.503	38	R	144,65	5.695	22	R	151,33	5.958	28	R	157,81	6.213	32	R
139,93	5.509	40	R	144,83	5.702	24	R	151,49	5.964	30	R	157,96	6.219	34	R
140,00	5.512	42	R	144,98	5.708	26	R	151,64	5.970	32	R	158,09	6.224	36	R
–	–	–	–	145,14	5.714	28	R	151,79	5.976	34	R	158,24	6.23	38	R
–	–	–	–	145,29	5.720	30	R	151,92	5.981	36	R	158,37	6.235	40	R
–	–	–	–	145,44	5.726	32	R	152,07	5.987	38	R	158,50	6.24	42	R
–	–	–	–	145,57	5.731	34	R	152,20	5.992	40	R	158,62	6.245	44	R
–	–	–	–	145,72	5.737	36	R	152,32	5.997	42	R	158,75	6.25	46	R
–	–	–	–	145,87	5.743	38	R	152,45	6.002	44	R	158,88	6.255	48	R
–	–	–	–	145,97	5.747	40	R	152,50	6.004	46	R	158,98	6.259	50	R
–	–	–	–	146,00	5.748	42	R	–	–	–	–	159,00	6.26	52	R

(continued)

(Balancing Table • SVU-92 Boring Head continued)

KRDE156026M

KRCSCFPR061F 156–163mm				KRCSCFPR062F 162,5–169,5mm				KRCSCFPR063F 169–176mm			
diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting	
156,01	6.142	56	L	162,51	6.398	50	L	169,01	6.654	44	L
156,11	6.146	54	L	162,61	6.402	48	L	169,11	6.658	42	L
156,21	6.150	52	L	162,71	6.406	46	L	169,24	6.663	40	L
156,31	6.154	50	L	162,81	6.410	44	L	169,37	6.668	38	L
156,41	6.158	48	L	162,94	6.415	42	L	169,49	6.673	36	L
156,51	6.162	46	L	163,07	6.420	40	L	169,62	6.678	34	L
156,62	6.166	44	L	163,20	6.425	38	L	169,75	6.683	32	L
156,74	6.171	42	L	163,32	6.430	36	L	169,90	6.689	30	L
156,87	6.176	40	L	163,45	6.435	34	L	170,03	6.694	28	L
157,00	6.181	38	L	163,58	6.440	32	L	170,18	6.700	26	L
157,12	6.186	36	L	163,70	6.445	30	L	170,33	6.706	24	L
157,25	6.191	34	L	163,86	6.451	28	L	170,46	6.711	22	L
157,38	6.196	32	L	164,01	6.457	26	L	170,61	6.717	20	L
157,53	6.202	30	L	164,13	6.462	24	L	170,76	6.723	18	L
157,66	6.207	28	L	164,29	6.468	22	L	170,92	6.729	16	L
157,81	6.213	26	L	164,44	6.474	20	L	171,07	6.735	14	L
157,94	6.218	24	L	164,59	6.480	18	L	171,22	6.741	12	L
158,09	6.224	22	L	164,74	6.486	16	L	171,37	6.747	10	L
158,24	6.230	20	L	164,90	6.492	14	L	171,55	6.754	8	L
158,39	6.236	18	L	165,05	6.498	12	L	171,70	6.760	6	L
158,55	6.242	16	L	165,20	6.504	10	L	171,86	6.766	4	L
158,70	6.248	14	L	165,35	6.510	8	L	172,01	6.772	2	L
158,85	6.254	12	L	165,53	6.517	6	L	172,19	6.779	0	–
159,00	6.260	10	L	165,68	6.523	4	L	172,34	6.785	2	R
159,18	6.267	8	L	165,84	6.529	2	L	172,49	6.791	4	R
159,33	6.273	6	L	165,99	6.535	0	–	172,64	6.797	6	R
159,49	6.279	4	L	166,17	6.542	2	R	172,82	6.804	8	R
159,64	6.285	2	L	166,32	6.548	4	R	172,97	6.810	10	R
159,82	6.292	0	–	166,47	6.554	6	R	173,13	6.816	12	R
159,97	6.298	2	R	166,62	6.560	8	R	173,28	6.822	14	R
160,12	6.304	4	R	166,80	6.567	10	R	173,43	6.828	16	R
160,27	6.310	6	R	166,95	6.573	12	R	173,58	6.834	18	R
160,45	6.317	8	R	167,11	6.579	14	R	173,74	6.840	20	R
160,60	6.323	10	R	167,26	6.585	16	R	173,89	6.846	22	R
160,76	6.329	12	R	167,41	6.591	18	R	174,04	6.852	24	R
160,91	6.335	14	R	167,56	6.597	20	R	174,17	6.857	26	R
161,06	6.341	16	R	167,72	6.603	22	R	174,32	6.863	28	R
161,21	6.347	18	R	167,87	6.609	24	R	174,45	6.868	30	R
161,37	6.353	20	R	168,00	6.614	26	R	174,60	6.874	32	R
161,52	6.359	22	R	168,15	6.620	28	R	174,73	6.879	34	R
161,67	6.365	24	R	168,28	6.625	30	R	174,85	6.884	36	R
161,82	6.371	26	R	168,43	6.631	32	R	174,98	6.889	38	R
161,95	6.376	28	R	168,55	6.636	34	R	175,11	6.894	40	R
162,10	6.382	30	R	168,68	6.641	36	R	175,23	6.899	42	R
162,23	6.387	32	R	168,81	6.646	38	R	175,34	6.903	44	R
162,36	6.392	34	R	168,94	6.651	40	R	175,46	6.908	46	R
162,51	6.398	36	R	169,06	6.656	42	R	175,56	6.912	48	R
162,64	6.403	38	R	169,16	6.660	44	R	175,67	6.916	50	R
162,74	6.407	40	R	169,29	6.665	46	R	175,77	6.920	52	R
162,86	6.412	42	R	169,39	6.669	48	R	175,87	6.924	54	R
162,99	6.417	44	R	169,49	6.673	50	R	175,95	6.927	56	R
162,99	6.417	46	R	169,49	6.673	52	R	176,00	6.929	58	R

(continued)

(Balancing Table • SVU-92 Boring Head continued)

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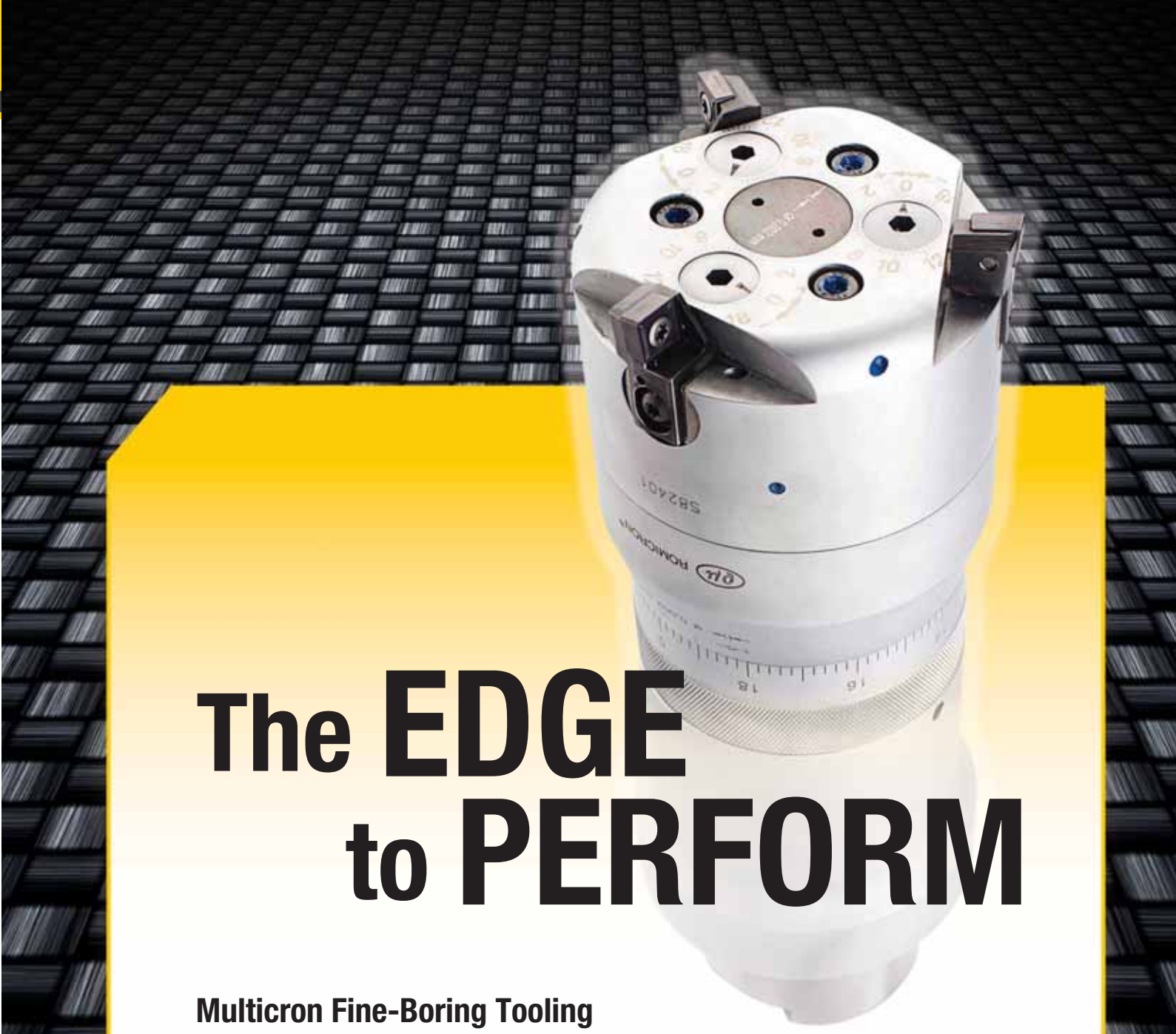
KRCSCFPR061F 175–182mm				**KRCSCFPR062F** 181,5–188,5mm				**KRCSCFPR063F** 188–195mm			
diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting	
175,01	6.890	64	L	181,51	7.146	56	L	188,0108	7.402	48	L
175,06	6.892	62	L	181,56	7.148	54	L	188,1124	7.406	46	L
175,13	6.895	60	L	181,64	7.151	52	L	188,214	7.410	44	L
175,21	6.898	58	L	181,74	7.155	50	L	188,3156	7.414	42	L
175,29	6.901	56	L	181,84	7.159	48	L	188,4426	7.419	40	L
175,36	6.904	54	L	181,94	7.163	46	L	188,5442	7.423	38	L
175,46	6.908	52	L	182,04	7.167	44	L	188,6712	7.428	36	L
175,56	6.912	50	L	182,14	7.171	42	L	188,7982	7.433	34	L
175,64	6.915	48	L	182,27	7.176	40	L	188,8998	7.437	32	L
175,74	6.919	46	L	182,37	7.180	38	L	189,0268	7.442	30	L
175,87	6.924	44	L	182,50	7.185	36	L	189,1792	7.448	28	L
175,97	6.928	42	L	182,63	7.190	34	L	189,3062	7.453	26	L
176,07	6.932	40	L	182,75	7.195	32	L	189,4332	7.458	24	L
176,20	6.937	38	L	182,88	7.200	30	L	189,5602	7.463	22	L
176,30	6.941	36	L	183,01	7.205	28	L	189,7126	7.469	20	L
176,43	6.946	34	L	183,13	7.210	26	L	189,8396	7.474	18	L
176,56	6.951	32	L	183,26	7.215	24	L	189,992	7.480	16	L
176,68	6.956	30	L	183,41	7.221	22	L	190,1444	7.486	14	L
176,81	6.961	28	L	183,54	7.226	20	L	190,2714	7.491	12	L
176,96	6.967	26	L	183,69	7.232	18	L	190,4238	7.497	10	L
177,09	6.972	24	L	183,82	7.237	16	L	114,3762	4.503	8	L
177,22	6.977	22	L	183,97	7.243	14	L	190,7286	7.509	6	L
177,37	6.983	20	L	184,12	7.249	12	L	190,8556	7.514	4	L
177,50	6.988	18	L	184,25	7.254	10	L	191,008	7.520	2	L
177,65	6.994	16	L	184,40	7.260	8	L	191,1604	7.526	0	–
177,80	7.000	14	L	184,56	7.266	6	L	191,3128	7.532	2	R
177,93	7.005	12	L	184,71	7.272	4	L	191,4652	7.538	4	R
178,08	7.011	10	L	184,86	7.278	2	L	191,6176	7.544	6	R
178,23	7.017	8	L	184,99	7.283	0	–	191,7446	7.549	8	R
178,38	7.023	6	L	185,14	7.289	2	R	191,897	7.555	10	R
178,54	7.029	4	L	185,29	7.295	4	R	192,0494	7.561	12	R
178,66	7.034	2	L	185,45	7.301	6	R	192,2018	7.567	14	R
178,82	7.040	0	–	185,60	7.307	8	R	192,3288	7.572	16	R
178,97	7.046	2	R	185,75	7.313	10	R	192,4812	7.578	18	R
179,12	7.052	4	R	185,88	7.318	12	R	192,6082	7.583	20	R
179,27	7.058	6	R	186,03	7.324	14	R	192,7606	7.589	22	R
179,43	7.064	8	R	186,18	7.330	16	R	192,8876	7.594	24	R
179,55	7.069	10	R	186,31	7.335	18	R	193,04	7.600	26	R
179,71	7.075	12	R	186,46	7.341	20	R	193,167	7.605	28	R
179,86	7.081	14	R	186,59	7.346	22	R	193,294	7.610	30	R
180,01	7.087	16	R	186,74	7.352	24	R	193,421	7.615	32	R
180,14	7.092	18	R	186,87	7.357	26	R	193,548	7.620	34	R
180,29	7.098	20	R	186,99	7.362	28	R	193,675	7.625	36	R
180,42	7.103	22	R	187,12	7.367	30	R	193,7766	7.629	38	R
180,57	7.109	24	R	187,25	7.372	32	R	193,9036	7.634	40	R
180,70	7.114	26	R	187,38	7.377	34	R	194,0052	7.638	42	R
180,82	7.119	28	R	187,50	7.382	36	R	194,1068	7.642	44	R
180,95	7.124	30	R	187,63	7.387	38	R	194,2338	7.647	46	R
181,08	7.129	32	R	187,73	7.391	40	R	194,3354	7.651	48	R
181,20	7.134	34	R	187,86	7.396	42	R	194,4116	7.654	50	R
181,33	7.139	36	R	187,96	7.400	44	R	194,5132	7.658	52	R
181,46	7.144	38	R	188,06	7.404	46	R	194,6148	7.662	54	R
181,56	7.148	40	R	188,16	7.408	48	R	194,691	7.665	56	R
181,69	7.153	42	R	188,26	7.412	50	R	194,7672	7.668	58	R
181,79	7.157	44	R	188,37	7.416	52	R	194,8434	7.671	60	R
181,89	7.161	46	R	188,44	7.419	54	R	194,9196	7.674	62	R
181,99	7.165	48	R	188,49	7.421	56	R	194,9958	7.677	64	R
181,99	7.165	50	R	–	–	–	–	194,9958	7.677	66	R

(continued)

(Balancing Table • SVU-92 Boring Head continued)

KRDE193026M

KRCSCFPR061F 193–200mm				**KRCSCFPR062F** 199,5–206,5mm				**KRCSCFPR063F** 206–213mm			
diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting		diameter mm	diameter in	balancing ring setting	
192,99	7.598	64	L	199,49	7.854	54	L	205,994	8.11	46	L
193,07	7.601	62	L	199,62	7.859	52	L	206,1464	8.116	44	L
193,14	7.604	60	L	199,72	7.863	50	L	206,248	8.12	42	L
193,22	7.607	58	L	199,80	7.866	48	L	206,375	8.125	40	L
193,29	7.610	56	L	199,90	7.870	46	L	206,4766	8.129	38	L
193,37	7.613	54	L	200,03	7.875	44	L	206,6036	8.134	36	L
193,47	7.617	52	L	200,13	7.879	42	L	206,7306	8.139	34	L
193,57	7.621	50	L	200,23	7.883	40	L	206,8576	8.144	32	L
193,65	7.624	48	L	200,36	7.888	38	L	206,9846	8.149	30	L
193,75	7.628	46	L	200,48	7.893	36	L	207,1116	8.154	28	L
193,88	7.633	44	L	200,61	7.898	34	L	207,2386	8.159	26	L
193,98	7.637	42	L	200,71	7.902	32	L	207,391	8.165	24	L
194,08	7.641	40	L	200,86	7.908	30	L	207,518	8.17	22	L
194,21	7.646	38	L	200,99	7.913	28	L	207,6704	8.176	20	L
194,34	7.651	36	L	201,12	7.918	26	L	207,7974	8.181	18	L
194,46	7.656	34	L	201,24	7.923	24	L	207,9498	8.187	16	L
194,59	7.661	32	L	201,40	7.929	22	L	208,1022	8.193	14	L
194,72	7.666	30	L	201,52	7.934	20	L	208,2292	8.198	12	L
194,84	7.671	28	L	201,68	7.940	18	L	208,3816	8.204	10	L
194,97	7.676	26	L	201,80	7.945	16	L	208,534	8.21	8	L
195,10	7.681	24	L	201,96	7.951	14	L	208,6864	8.216	6	L
195,25	7.687	22	L	202,11	7.957	12	L	208,8388	8.222	4	L
195,38	7.692	20	L	202,26	7.963	10	L	208,9912	8.228	2	L
195,53	7.698	18	L	202,41	7.969	8	L	209,1182	8.233	0	–
195,68	7.704	16	L	202,54	7.974	6	L	209,2706	8.239	2	R
195,81	7.709	14	L	202,69	7.980	4	L	209,423	8.245	4	R
195,96	7.715	12	L	202,84	7.986	2	L	209,5754	8.251	6	R
196,11	7.721	10	L	203,00	7.992	0	–	209,7278	8.257	8	R
196,27	7.727	8	L	203,15	7.998	2	R	209,8802	8.263	10	R
196,42	7.733	6	L	203,30	8.004	4	R	210,0326	8.269	12	R
196,57	7.739	4	L	203,45	8.010	6	R	210,1596	8.274	14	R
196,70	7.744	2	L	203,61	8.016	8	R	210,312	8.28	16	R
196,85	7.750	0	–	203,76	8.022	10	R	210,4644	8.286	18	R
197,00	7.756	2	R	203,89	8.027	12	R	210,5914	8.291	20	R
197,15	7.762	4	R	204,04	8.033	14	R	210,7438	8.297	22	R
197,31	7.768	6	R	204,19	8.039	16	R	210,8708	8.302	24	R
197,46	7.774	8	R	204,32	8.044	18	R	210,9978	8.307	26	R
197,61	7.780	10	R	204,47	8.050	20	R	211,1502	8.313	28	R
197,76	7.786	12	R	204,60	8.055	22	R	211,2772	8.318	30	R
197,89	7.791	14	R	204,75	8.061	24	R	211,4042	8.323	32	R
198,04	7.797	16	R	204,88	8.066	26	R	211,5312	8.328	34	R
198,20	7.803	18	R	205,03	8.072	28	R	211,6582	8.333	36	R
198,32	7.808	20	R	205,16	8.077	30	R	211,7598	8.337	38	R
198,48	7.814	22	R	205,28	8.082	32	R	84,8868	3.342	40	R
198,60	7.819	24	R	205,41	8.087	34	R	211,9884	8.346	42	R
198,76	7.825	26	R	205,54	8.092	36	R	212,1154	8.351	44	R
198,88	7.830	28	R	205,64	8.096	38	R	212,217	8.355	46	R
199,01	7.835	30	R	205,77	8.101	40	R	212,3186	8.359	48	R
199,14	7.840	32	R	205,87	8.105	42	R	212,4202	8.363	50	R
199,26	7.845	34	R	205,99	8.110	44	R	212,4964	8.366	52	R
199,39	7.850	36	R	206,10	8.114	46	R	212,598	8.37	54	R
199,52	7.855	38	R	206,20	8.118	48	R	212,6742	8.373	56	R
199,62	7.859	40	R	206,30	8.122	50	R	212,7758	8.377	58	R
199,75	7.864	42	R	206,38	8.125	52	R	212,852	8.38	60	R
199,85	7.868	44	R	206,48	8.129	54	R	212,9028	8.382	62	R
199,95	7.872	46	R	206,50	8.130	56	R	212,979	8.385	64	R
200,00	7.874	48	R	–		–	–	213,0044	8.386	66	R



The EDGE to PERFORM

Multicron Fine-Boring Tooling

Multiple edges allow respective increase of feed rate to increase productivity and metal removal rate (MRR).

- Engineered solutions are available starting at diameter 3.07" (78mm) with two independent adjustable Romicron™ edges.
- Combination of semi-finishing and finishing cutting operations in one tool are also possible.
- Romicron edges can be set up independently and adjusted to compensate for insert wear with one central dial to enable CLB as well.

Experience the advantages at your Authorized Kennametal Distributor or at **www.kennametal.com**.

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KENNAMETAL®



ModBORE™

One system from highly flexible roughing and fine-boring heads to large bridge tooling with optimum amount of tooling components.

Primary Application

This premium boring line enables rough to fine-boring operations using one system with a large diameter range from .384–86.8" (9,75–2.205mm). ModBORE can be used in most materials commonly found in the metalcutting environment by applying the latest technology in Kennametal Standard ISO Turning Inserts.

Features and Benefits

Complete System

- Twin blade heads for roughing to semi-finishing operations starting from diameter .925" (23,5mm).
- Fine-boring heads for finishing for diameters .384–86.8" (9,75–2.205mm).
- Bridge tooling for large diameters up to .86.8" (2.205mm) standard with both roughing and fine-finishing heads.
- Through-coolant capability in all series.

Resolution

- Fine adjustable roughing heads.
- .0004" (0,01mm) diameter adjustment respective .00008" (2 µm) with easy-to-read large vernier scale with fine-boring heads.

Product Variety

- KM™ shanks for adaptation to all spindles via respective adapters.
- HSK shanks for direct adaptation.
- Inch shanks as most economic variant for adaptation via respective adapters.

Customization

- Engineered solutions available.
- Anti-chatter devices available.
- Cartridges can be designed into standard boring heads for added versatility.





ModBORE™ Fine-Boring System

Based on KM™, HSK, and inch SSF couplings, match all spindle specifications direct or indirect via adapters.
The ModBORE Fine-Boring System utilizes standard ISO/ANSI turning inserts for maximum performance and flexibility.

RBHT • Twin Cutters for Rough and Semi-Finish Boring



- Diameters .925–6.024" (23,5–153mm).
- KM, HSK, and inch straight shank back end versions available.
- Special preloaded serration and ground support face ensures very stable connection, minimizes cutting vibration, and maximizes position accuracy while enabling easy diameter adjustment.
- Large selection of blades sets:
  - — Staggered — efficient machining of large depths of cut.
  - — 70° — for challenging applications requiring stable corner radii and full utilization of inserts.
  - — 90° — most precise machining results.
- Generous clearance and through coolant enables free chip flow and improves tool life.
- All insert holders allow positive standard turning inserts for lowest cutting forces. Starting with diameter 2.58" (65,5mm) additional insert holders for negative standard turning inserts enable even higher feed rates for maximum metal removal rates.

FBHO • Offset Boring Bar Heads for Fine Finish



- Diameters .384–3.46" (9,75–88,1mm).
- KM, HSK, and inch straight shank back end versions available.
- Use of a precision-ground micrometric screw enables fine adjustment of .00008" (2 µm) via vernier scale. The large, TiN-coated dial is easy to adjust and easy to read. The force- and form-fixed adjustment mechanism is almost free of any backlash and play.
- Standard steel and carbide boring bars can be adjusted in length by pushing them deep into the body for maximum stability.
- Through coolant directed to the cutting edge improves tool life, surface finish, and chip evacuation.

FBHM • Offset Boring Bar and Cartridge Heads for Fine Finish



- Diameters .384–12.59" (9,75–320mm).
- KM-TS, HSK, CV, DV, and BT steep taper back end versions available.
- Use of a precision-ground micrometric screw enables fine adjustment of .00008" (2 µm). via vernier scale. The large, TiN-coated dial is easy to adjust and easy to read. The force- and form-fixed adjustment mechanism is almost free of any backlash and play.
- Standard steel and carbide boring bars adjust in length by pushing them deep into the body for maximum stability.
- Aluminum diameter extender with insert cartridges and counterweight are used for diameters starting at 3.38" (86mm) for maximum flexibility.
- Through coolant directed to the cutting edge improves tool life, surface finish, and chip evacuation.

FBHS • Cartridge Boring Heads for Fine Finish



- Diameters .925–6.024" (23,5–153mm).
- KM™, HSK, and inch straight shank back end versions available.
- Use of a precision-ground micrometric screw enables fine adjustment of .00008" (2 µm) via vernier scale. The large, TiN-coated dial is easy to adjust and easy to read. The force- and form-fixed adjustment mechanism is almost free of any backlash and play.
- Large selection of insert holders:
  - 95° — for use of Wiper turning inserts.
  - 90° regular diameter — for most efficient machining of large depths of cut.
  - 90° oversized diameter — for enhanced use of boring head diameter capabilities.
- Generous clearance and through coolant directed to the cutting edge improves tool life, surface finish, and chip evacuation.

BT • Bridge Tools for Rough and Finish Boring



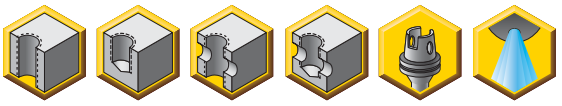
- Diameters 5.91–86.81" (150–2.205mm).
- Highly sophisticated ground serration between consoles/slides and heads as well as T-style bolt clamping provides highest cutting force transmission capabilities, sensitive adjustment, and avoids diameter changes when heads are clamped.
- Only 10 bridge consoles are needed for diameters up to 25.7" (655mm).
- KM, HSK, and various steep taper adapters with console corresponding ground serration are available as standard. Through coolant to the cutting edge improves tool life and surface finish.
- Diameters 25.5–86.81" (650–2.205mm) are covered with only three aluminum-based consoles and two sets of steel slides for mounting rough and finish boring heads for direct spindle of shell mill adapter clamping.
- 90° roughing head sets ensure precise height alignment and, by use of negative standard turning inserts, highest metal removal rates.
- New counterweight for better dynamic balancing supplements the fine-boring head with precision-ground micrometric screw enabling fine adjustment of .00008" (2 µm) via vernier scale.

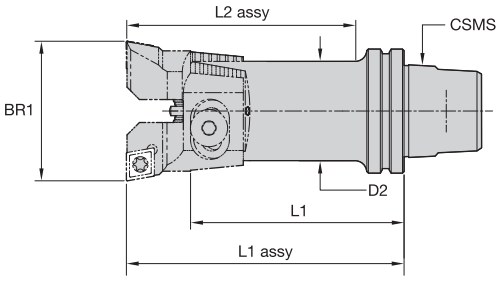
FBHM Fine-Boring Kits

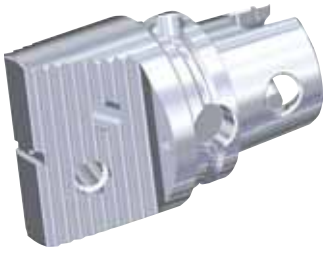
range mm	range in	order number	catalog number	content	
9,75–164,0	.383–6.456	**4057100**	**KM50TSFBHMKIT164M**	KM50TSFBHM1677 AFB09075SCFCR06 AFB13085SCFCR06 AFB17100SCFCR06 AFB21110SCFCR09 AFB24115SCFCR09	AFM29115 AFM47115 EBM8015086 AFM29SCFPR06 AFM47SCFPR09 886038045
9,75–164,0	.383–6.456	**4057098**	**HSK63FBHMKIT164M**	HSK63FBHM1696 AFB09075SCFCR06 AFB13085SCFCR06 AFB17100SCFCR06 AFB21110SCFCR09 AFB24115SCFCR09	AFM29115 AFM47115 EBM8015086 AFM29SCFPR06 AFM47SCFPR09 886038045
9,75–164,0	.383–6.456	**4057099**	**DV40FBHMKIT164M**	DV40FBHM1691 AFB09075SCFCR06 AFB13085SCFCR06 AFB17100SCFCR06 AFB21110SCFCR09 AFB21110SCFCR09	AFM29115 AFM47115 EBM8015086 AFM29SCFPR06 AFM47SCFPR09 886038045
9,75–164,0	.383–6.456	**4057100**	**BT40FBHMKIT164M**	BT40FBHM1691 AFB09075SCFCR06 AFB13085SCFCR06 AFB17100SCFCR06 AFB21110SCFCR09 AFB24115SCFCR09	AFM29115 AFM47115 EBM8015086 AFM29SCFPR06 AFM47SCFPR09 886038045
9,75–164,0	.383–6.456	**4057101**	**CV40FBHMKIT645**	CV40FBHM1691 AFB09075SCFCR06 AFB13085SCFCR06 AFB17100SCFCR06 AFB21110SCFCR09 AFB24115SCFCR09	AFM29115 AFM47115 EBM8015086 AFM29SCFPR06 AFM47SCFPR09 886038045



• Order blade sets separately; see page K189.





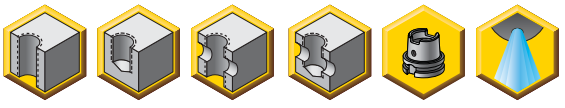


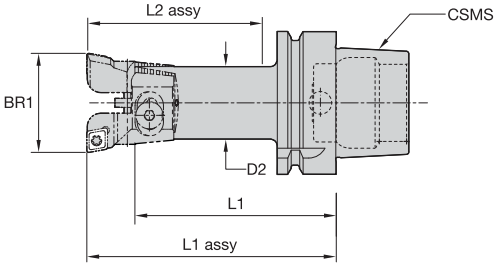
RBHT • KM™ Rough-Boring Twin Cutters



order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	L1 assy mm	L1 assy in	L2 assy mm	L2 assy in	blade screw	washer	pin
3586519	KM32RBHT24	23,500-30,500	.9252-1.2008	KM32	20,0	.79	75,4	2.97	90,0	3.54	76,0	2.99	840.142.200	841.142.200	841.342.200
3586520	KM32RBHT30	29,500-40,000	1.1614-1.5748	KM32	25,0	.98	83,8	3.30	100,0	3.94	86,0	3.39	840.142.250	841.142.250	841.342.200
3586521	KM40RBHT40	39,500-50,500	1.5551-1.9882	KM40	32,0	1.26	68,8	2.71	90,0	3.54	74,0	2.91	840.142.320	841.142.320	841.342.200
3586522	KM50RBHT50	49,500-66,500	1.9488-2.6181	KM50	42,0	1.65	62,2	2.45	90,0	3.54	70,0	2.76	840.142.420	841.142.200	841.342.420
3586543	KM50RBHT66	65,500-87,500	2.5787-3.4449	KM50	55,0	2.17	63,0	2.48	100,0	3.94	100,0	3.94	840.142.550	841.142.550	841.342.420
3586544	KM50RBHT87	86,500-115,500	3.4055-4.5472	KM50	72,0	2.83	70,5	2.78	120,0	4.72	120,0	4.72	840.142.720	841.142.720	841.342.420
3586545	KM63UTRBHT87	86,500-115,500	3.4055-4.5472	KM63UT	72,0	2.83	70,5	2.78	120,0	4.72	120,0	4.72	840.142.720	841.142.720	841.342.420
3586546	KM63UTRBHT115	114,500-153,000	4.5079-6.0236	KM63UT	94,0	3.70	83,2	3.28	150,0	5.91	150,0	5.91	840.142.940	841.142.940	841.342.420

• Order blade sets separately; see page K189.





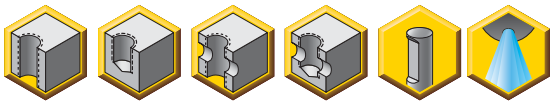


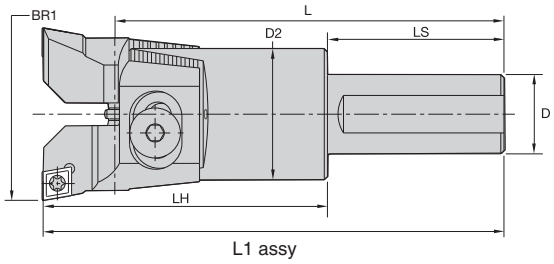
RBHT • HSK Rough-Boring Twin Cutters



order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	L1 assy mm	L1 assy in	L2 assy mm	L2 assy in	blade screw	washer	pin
3586547	HSK63RBHT24	23,500-30,500	.9252-1.2008	HSK63A	20,0	.79	75,4	2.97	90,0	3.54	64,1	2.52	840.142.200	841.142.200	841.342.200
3586548	HSK63RBHT30	29,500-40,000	1.1614-1.5748	HSK63A	25,0	.98	88,8	3.50	105,0	4.13	79,1	3.11	840.142.250	841.142.250	841.342.200
3586549	HSK63RBHT40	39,500-50,500	1.5551-1.9882	HSK63A	32,0	1.26	92,2	3.63	110,0	4.33	84,1	3.31	840.142.320	841.142.320	841.342.200
3586550	HSK63RBHT50	49,500-66,500	1.9488-2.6181	HSK63A	42,0	1.65	92,2	3.63	120,0	4.72	94,1	3.70	840.142.420	841.142.420	841.342.200
3586551	HSK63RBHT66	65,500-87,500	2.5787-3.4449	HSK63A	55,0	2.17	95,5	3.76	125,0	4.92	125,0	4.92	840.142.550	841.142.720	841.342.420
3586563	HSK63RBHT87	86,500-115,500	3.4055-4.5472	HSK63A	72,0	2.83	95,5	3.76	145,0	5.71	145,0	5.71	840.142.720	841.142.720	841.342.420

• Order blade sets separately; see page K189.





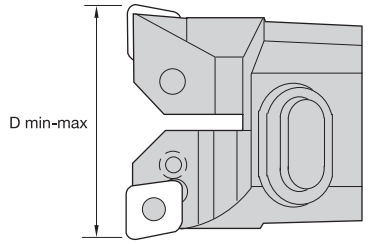


RBHT • Steel Straight Shank Rough-Boring Twin Cutters

order number	catalog number	BR1 bore range mm	BR1 bore range in	D	D2	L	LH	L1 assy	LS	blade screw	washer	pin
3586564	**SF075RBHT24**	23,500	.9252	.75	.79	5.33	1.09	5.91	—	**840.142.200**	**841.142.200**	**841.342.200**
3586565	**SF100RBHT30**	29,500	1.1614	1.00	.98	6.06	1.20	6.69	—	**840.142.250**	**841.142.250**	**841.342.200**
3586566	**SF125RBHT40**	39,500	1.5551	1.25	1.26	6.65	1.23	7.48	—	**840.142.320**	**841.142.320**	**841.342.200**
3586567	**SF100RBHT50**	49,500	1.9488	1.00	1.65	4.65	2.45	5.74	2.20	**840.142.420**	**841.142.420**	**841.342.420**
3586569	**SF125RBHT66**	65,500	2.5787	1.25	2.17	4.87	2.48	6.33	2.39	**840.142.550**	**841.142.720**	**841.342.420**
3586570	**SF150RBHT87**	86,500	3.4055	1.50	2.83	5.59	2.78	7.54	2.82	**840.142.720**	**841.142.720**	**841.342.420**
3586571	**SF200RBHT115**	114,500	4.5079	2.00	3.70	6.66	3.25	9.29	3.38	**840.142.940**	**841.142.940**	**841.342.420**

Reference Insert Blade Sets

BR1 mm	BR1 in	90° lead blade sets		70° lead blade sets		90° lead simultaneous adjusting blade sets		90° lead split depth-of-cut blade	
23.500–30.500	.9252–1.2008	**MB24RBHT06F**	—	**MB24RBHT06K**	—	**SYB24RBHT06F**	—	**SDB24RBHT06F**	—
29.500–40.000	1.1614–1.5748	**MB30RBHT06F**	—	**MB30RBHT06K**	—	**SYB30RBHT06F**	—	**SDB30RBHT06F**	—
39.500–50.500	1.5551–1.9882	**MB40RBHT09F**	—	**MB40RBHT09K**	—	**SYB40RBHT09F**	—	**SDB40RBHT09F**	—
49.500–66.500	1.9488–2.6181	**MB50RBHT09F**	—	**MB50RBHT09K**	—	**SYB50RBHT09F**	—	**SDB50RBHT09F**	—
65.500–87.500	2.5787–3.4449	**MB66RBHT12F**	**MB66RBHT12LF**	**MB66RBHT12K**	**MB66RBHT12LK**	**SYB66RBHT12F**	**SYB66R BHT12LF**	**SDB66RBHT12F**	**SDB66R BHT12LF**
86.500–115.500	3.4055–4.5472	**MB87RBHT12F**	**MB87RBHT16LF**	**MB87RBHT12K**	**MB87RBHT16LK**	**SYB87RBHT12F**	**SYB87R BHT16LF**	**SDB87RBHT12F**	**SDB87R BHT16LF**
114.500–153.000	4.5079–6.0236	**MB115RBHT12F**	**MB115RBHT16LF**	—	**MB115RBHT16LK**	—	**SYB115R BHT16LF**	**SDB115RBHT12F**	**SDB115R BHT16LF**





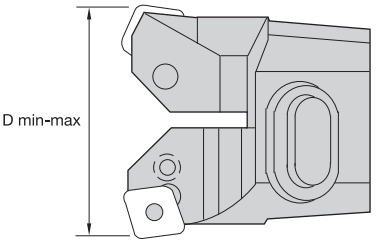
RBHT • 90° Blade Sets








order number	catalog number	D min mm	D min in	D max mm	D max in	gage insert	adjusting screw	insert screw	shim	shim pin	toggle lever	Torx wrench	Torx size
3556346	MB24RBHT06F	23,50	.925	30,50	1.201	CC..0602../CC..215..	848.200.407	843.006.000	–	–	–	FT7	T7
3556347	MB30RBHT06F	29,50	1.161	40,10	1.579	CC..0602../CC..215..	848.250.409	843.006.000	–	–	–	FT7	T7
3556348	MB40RBHT09F	39,50	1.555	50,50	1.988	CC..09T3../CC..325..	848.320.413	843.009.000	–	–	–	FT15	T15
3556349	MB50RBHT09F	49,50	1.949	66,50	2.618	CC..09T3../CC..325..	848.420.614	843.009.000	–	–	–	FT15	T15
3556350	MB66RBHT12F	65,50	2.579	87,50	3.445	CC..1204../CC..43..	848.550.620	843.012.000	–	–	–	FT20	T20
3556352	MB66RBHT12LF	65,50	2.579	87,50	3.445	CN..1204../CN..43..	847.012.000	–	845.012.000	844.012.000	846.012.000	–	–
3556393	MB87RBHT12F	86,50	3.406	115,50	4.547	CC..1204../CC..43..	848.720.000	843.012.000	–	–	–	FT20	T20
3556394	MB87RBHT16LF	86,50	3.406	115,50	4.547	CN..1606../CN..54..	847.016.000	–	845.016.000	844.016.000	846.016.000	–	–
3556395	MB115RBHT12F	114,50	4.508	153,00	6.024	CC..1204../CC..43..	848.940.640	843.012.000	–	–	–	FT20	T20
3556396	MB115RBHT16LF	114,50	4.508	153,00	6.024	CN..1606../CN..54..	847.016.000	–	845.016.000	844.016.000	846.016.000	–	–





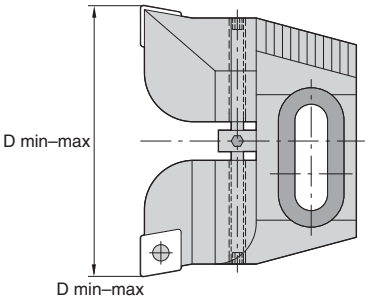
RBHT • 70° Blade Sets





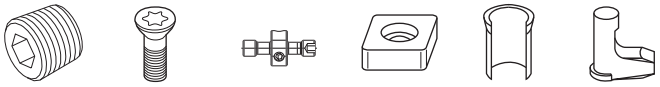



order number	catalog number	D min mm	D min in	D max mm	D max in	gage insert	adjusting screw	insert screw	shim	shim pin	toggle lever	Torx wrench	Torx size	hex size
3556397	MB24RBHT06K	23,50	.925	30,50	1.201	CC..0602../ CC..215..	848.200.407	843.006.000	–	–	–	FT7	T7	–
3556398	MB30RBHT06K	29,50	1.161	40,10	1.579	CC..0602../ CC..215..	848.250.409	843.006.000	–	–	–	FT7	T7	–
3556399	MB40RBHT09K	39,50	1.555	50,50	1.988	CC..09T3../ CC..325..	848.320.413	843.009.000	–	–	–	FT15	T15	–
3556400	MB50RBHT09K	49,50	1.949	66,50	2.618	CC..09T3../ CC..325..	848.420.614	843.009.000	–	–	–	FT15	T15	–
3556401	MB66RBHT12K	65,50	2.579	87,50	3.445	CC..1204../ CC..43..	848.550.620	843.012.000	–	–	–	FT20	T20	–
3556402	MB66RBHT12LK	65,50	2.579	87,50	3.445	CN..1204../ CN..43..	847.012.000	–	845.012.000	844.012.000	846.012.000	–	–	3mm
3556403	MB87RBHT12K	86,50	3.406	115,50	4.547	CC..1204../ CC..43..	848.720.000	843.012.000	–	–	–	FT20	T20	–
3556404	MB87RBHT16LK	86,50	3.406	115,50	4.547	CN..1606../ CN..54..	847.016.000	–	845.016.000	844.016.000	846.016.000	–	–	3mm
3556405	MB115RBHT16LK	114,50	4.508	153,00	6.024	CN..1606../ CN..54..	847.016.000	–	845.016.000	844.016.000	846.016.000	–	–	3mm

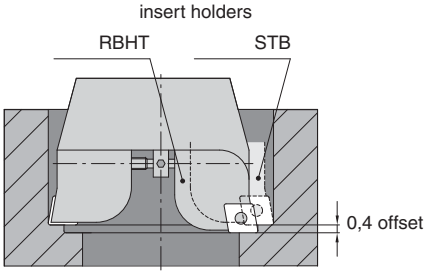


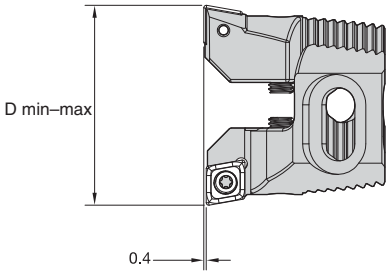


RBHT • 90° Simultaneous Adjusting Blade Sets



order number	catalog number	D min mm	D min in	D max mm	D max in	gage insert	adjusting screw	insert screw	simultaneous adj spindle	shim	shim pin	toggle lever
2652965	SYB24RBHT06F	23,50	.925	30,50	1.201	CC..0602../CC..215..	848.200.407	843.006.000	848.200.005	–	–	–
2652967	SYB30RBHT06F	29,50	1.161	40,10	1.579	CC..0602../CC..215..	848.250.409	843.006.000	848.250.005	–	–	–
2652968	SYB40RBHT09F	39,50	1.555	50,50	1.988	CC..09T3../CC..325..	848.320.413	843.009.000	848.320.005	–	–	–
2652969	SYB50RBHT09F	49,50	1.949	66,50	2.618	CC..09T3../CC..325..	848.420.614	843.009.000	848.420.005	–	–	–
2652971	SYB66RBHT12LF	65,50	2.579	87,50	3.445	CN..1204../CN..43..	–	848.550.620	848.550.005	845.012.000	844.012.000	846.012.000
2652970	SYB66RBHT12F	65,50	2.579	87,50	3.445	CC..1204../CC..43..	–	843.012.000	848.550.005	–	–	–
2652972	SYB87RBHT12F	86,50	3.406	115,50	4.547	CC..1204../CC..43..	–	843.012.000	848.720.005	–	–	–
2652983	SYB87RBHT16LF	86,50	3.406	115,50	4.547	CN..1606../CN..54..	847.016.000	–	848.720.005	845.016.000	844.016.000	846.016.000
2652984	SYB115RBHT16LF	114,50	4.508	153,00	6.024	CN..1606../CN..54..	847.016.000	–	848.720.005	845.016.000	844.016.000	846.016.000





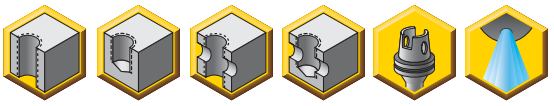


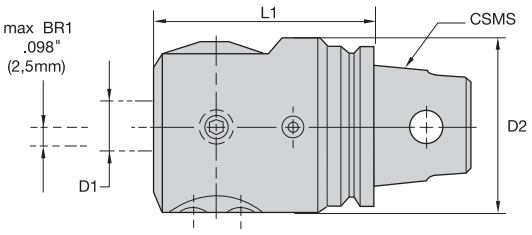
RBHT • 90° Split Depth of Cut Blade Sets



order number	catalog number	D min mm	D min in	D max mm	D max in	gage insert	adjusting screw	insert screw	shim	shim pin	toggle lever
4063996	SDB24RBHT06F	23,50	.925	30,50	1.201	CC..0602../CC..215..	848.200.407	843.006.000	–	–	–
4063997	SDB30RBHT06F	29,50	1.161	40,10	1.579	CC..0602../CC..215..	848.250.409	843.006.000	–	–	–
4063998	SDB40RBHT09F	39,50	1.555	50,50	1.988	CC..09T3../CC..325..	848.320.413	843.009.000	–	–	–
4063999	SDB50RBHT09F	49,50	1.949	66,50	2.618	CC..09T3../CC..325..	848.420.614	843.009.000	–	–	–
4064000	SDB66RBHT12F	65,50	2.579	87,50	3.445	CC..1204../CC..43..	848.550.620	843.012.000	–	–	–
4064001	SDB66RBHT12LF	65,50	2.579	87,50	3.445	CN..1204../CN..43..	847.012.000	–	845.012.000	844.012.000	846.012.000
4064002	SDB87RBHT12F	86,50	3.406	115,50	4.547	CC..1204../CC..43..	848.720.000	843.012.000	–	–	–
4064203	SDB87RBHT16LF	86,50	3.406	115,50	4.547	CN..1606../CN..54..	847.016.000	–	845.016.000	844.016.000	846.016.000
4064204	SDB115RBHT16LF	114,50	4.508	153,00	6.024	CN..1606../CN..54..	847.016.000	–	845.016.000	844.016.000	846.016.000
4064205	SDB115RBHT12F	114,50	4.508	153,00	6.024	CC..1204../CC..43..	848.940.640	843.012.000	–	–	–

- Order boring bars separately for required diameter; see page K194.
- 0,01mm (.0004") diameter adjustment respective 2 µm (.00008") with vernier scale.





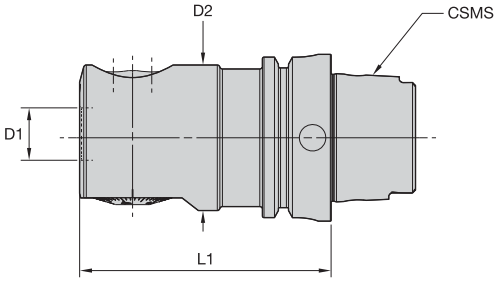


FBHO • KM™ Offset Boring Head

order number	catalog number	CSMS system size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	ModBORE FBHO parts package
1131111	KM40FBHO1660	KM40	16	.63	55,0	2.17	60,0	2.36	PKG7001
1132036	KM50FBHO1670	KM50	16	.63	55,0	2.17	70,0	2.76	PKG7001

- Order boring bars separately for required diameter; see page K194.
- 0,01mm (.0004") diameter adjustment respective 2 µm (.00008") with vernier scale.





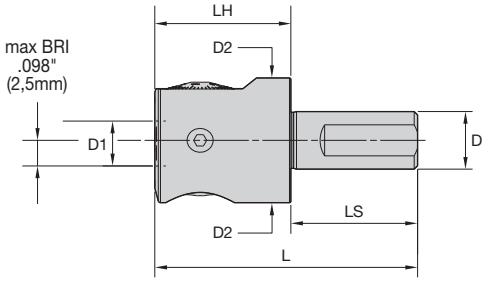


FBHO • HSK Boring Head

order number	catalog number	CSMS system size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	ModBORE FBHO parts package
2651037	HSK63FBHO1695	HSK63A	16	.63	55	2.17	95,0	3.74	PKG7001

- Order boring bars separately for required diameter; see page K194.



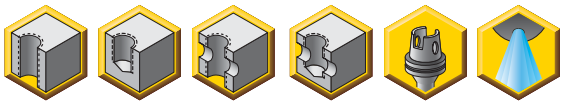


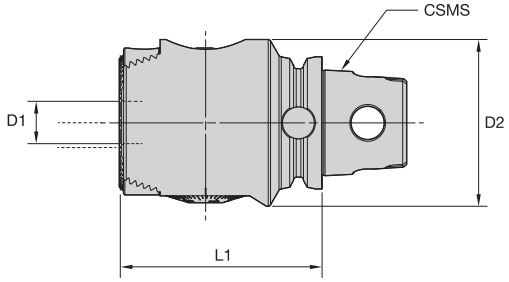


FBHO • Straight Shank Boring Head

order number	catalog number	D1 D	D1 mm	D1 in	D2	L	LH	LS
3077141	SF100FBHO1660	1.000	16	.63	2.17	4.56	2.36	2.20
3077140	SF150FBHO1660	1.500	16	.63	2.17	5.18	2.36	2.82

- Order boring bars, diameter extension bridge, and cartridges separately.
- 0,01mm (.0004") diameter adjustment respective 2 µm (.00008") with vernier scale.



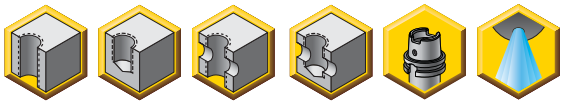


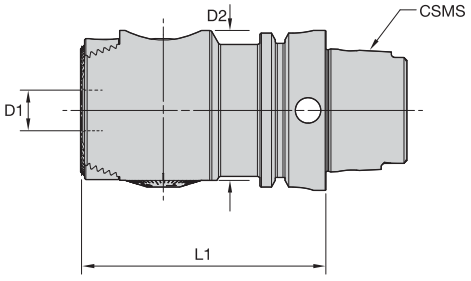


FBHM • KM™ Boring Head

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	ModBORE FBHS parts package	kg	lbs
4057060	**KM50TSFBHM1677**	9,750-164,000	.3838-6.4566	KM50TS	16,0	.63	63,0	2.48	76,6	3.02	**PKG-8001**	1,5	3.31

- Order boring bars, diameter extension bridge, and cartridges separately.
- 0,01mm (.0004") diameter adjustment respective 2 µm (.00008") with vernier scale.



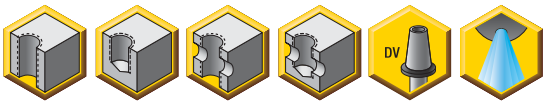


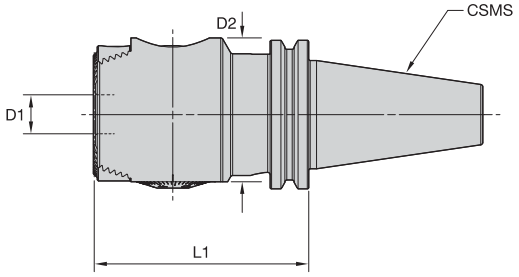


FBHM • HSK Boring Head

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	ModBORE FBHS parts package	kg	lbs
4057057	**HSK63FBHM1696**	9,750-164,000	.3838-6.4566	HSK63A	16,0	.63	63,0	2.48	95,0	3.74	**PKG-8001**	2,0	4.30

- Order boring bars, diameter extension bridge, and cartridges separately.
- 0,01mm (.0004") diameter adjustment respective 2 µm (.00008") with vernier scale.





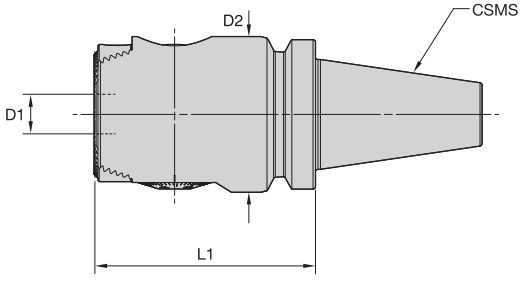


FBHM • DV40 Boring Head

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	ModBORE FBHS parts package	kg	lbs
4057058	DV40FBHM1691	9,750-154,000	.3838-6.0630	DV40	—	—	63,0	2.48	90,0	3.54	PKG-8001	2,1	4.64

- Order boring bars, diameter extension bridge, and cartridges separately.
- 0,01mm (.0004") diameter adjustment respective 2 µm (.00008") with vernier scale.





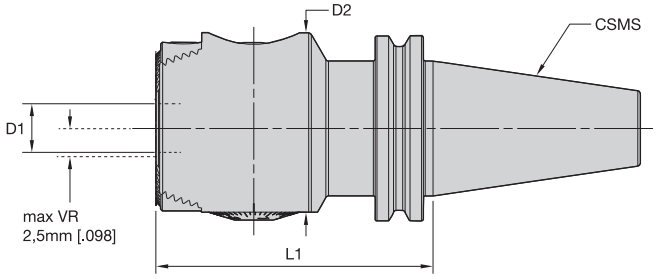


FBHM • BT40 Boring Head

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	ModBORE FBHS parts package	kg	lbs
4057059	BT40FBHM1691	9,750-164,000	.3838-6.4566	BT40	16,0	.63	63,0	2.48	90,0	3.54	PKG-8001	2,2	4.94

- Order boring bars, diameter extension bridge, and cartridges separately.
- 0,01mm (.0004") diameter adjustment respective 2 µm (.00008") with vernier scale.





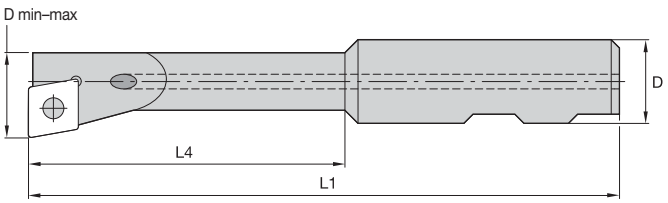


FBHM • CV40 Boring Head

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D1 mm	D1 in	D2 mm	D2 in	L1 mm	L1 in	ModBORE FBHS parts package	kg	lbs
4167881	CV40FBHM1691	9,750-164,000	.3838-6.4566	CV40	16,0	.63	63,0	2.48	91,2	3.59	PKG-8001	2,1	4.52

• Order inserts separately.







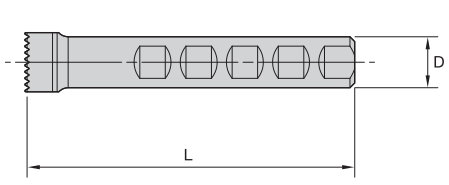
FBHO/FBHM • Universal Boring Bars

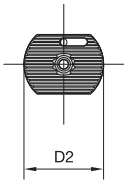


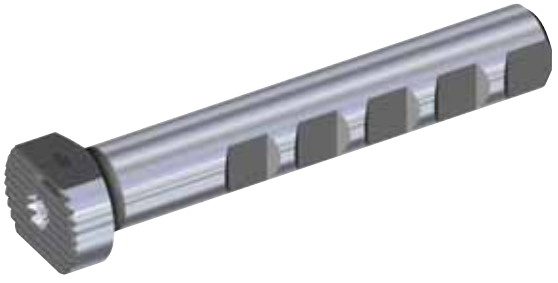
order number	catalog number	D min mm	D min in	D max mm	D max in	D	L1 mm	L1 in	L4 mm	L4 in	gage insert	insert screw	Torx size
1125110	**AFB09075SCFCR06**	9,75	.384	14,75	.581	16	75,0	2.95	30,0	1.18	CC..0602../CC..215..	**PKG2025**	T7
1133883	**AFB13085SCFCR06**	13,75	.541	18,75	.738	16	85,0	3.35	40,0	1.57	CC..0602../CC..215..	**PKG2025**	T7
1133894	**AFB17100SCFCR06**	17,75	.699	22,75	.896	16	100,0	3.94	55,0	2.17	CC..0602../CC..215..	**PKG2025**	T7
1137835	**AFB21110SCFCR09**	21,75	.856	26,75	1.053	16	110,0	4.33	60,0	2.36	CC..09T3../CC..325..	**PKG3242**	T15
1128324	**AFB24115SCFCR09**	24,75	.974	29,75	1.171	16	115,0	4.53	65,0	2.56	CC..09T3../CC..325..	**PKG3242**	T15
1126838	**AFB27115SCFCR09**	27,75	1.093	32,75	1.289	16	115,0	4.53	70,0	2.76	CC..09T3../CC..325..	**PKG3242**	T15
1120731	**AFB31115SCFCR09**	31,75	1.250	36,75	1.447	16	115,0	4.53	70,0	2.76	CC..09T3../CC..325..	**PKG3242**	T15
1127271	**AFB34115SCFCR09**	34,75	1.368	39,75	1.565	16	115,0	4.53	70,0	2.76	CC..09T3../CC..325..	**PKG3242**	T15
2651038	**AFB38115SCFPR09**	38,75	1.526	44,10	1.736	16	115,0	4.53	85,0	3.47	CC..09T3../CC..325..	**PKG3242**	T15
2651039	**AFB42115SCFPR09**	42,75	1.683	48,10	1.894	16	115,0	4.53	85,0	3.47	CC..09T3../CC..325..	**PKG3242**	T15
2651040	**AFB47115SCFPR09**	47,75	1.880	53,10	2.091	16	115,0	4.53	85,0	3.35	CC..09T3../CC..325..	**PKG3242**	T15

• Order AFM insert cartridge separately.





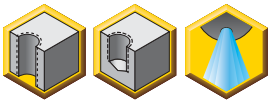


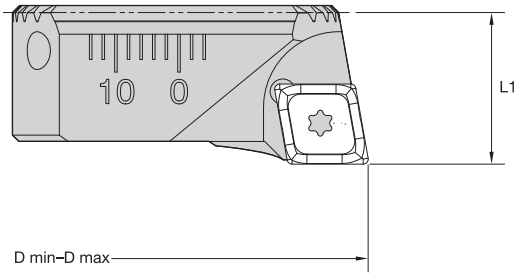


FBHO/FBHM • AFM Boring Bars

order number	catalog number	BR1 bore range mm	BR1 bore range in	D mm	D in	D2 mm	D2 in	L mm	L in
4057061	**AFM29115**	29,8	1.17	16,0	.63	25,0	.98	103,000	4.0600
4057062	**AFM47115**	47,8	1.88	16,0	.63	44,0	1.73	101,580	4.0000

- For use with AFM boring bars.
- Order insert separately.





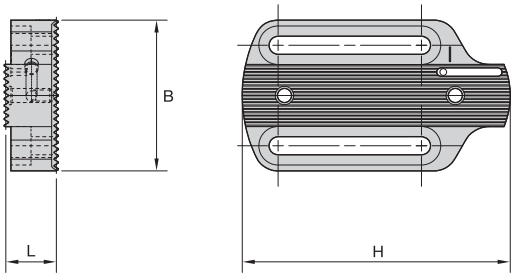


AFM Series • Insert Cartridges

order number	catalog number	D min mm	D min in	D max mm	D max in	L1 mm	L1 in	gage insert	ModBORE parts package	insert screw I.D. drive size
4057093	**AFM29SCFPR06**	30	1.171	48	1.894	12	.472	CC..0602../CC..215..	**PKG2025**	T7
4057094	**AFM47SCFPR09**	48	1.880	88	3.469	14	.551	CC..09T3../CC..325..	**PKG3242**	T15

- For use with FBHM insert holders and FBHM counterweight.
- Order AFM47SCFPR09 insert cartridge separately to achieve diameter range.



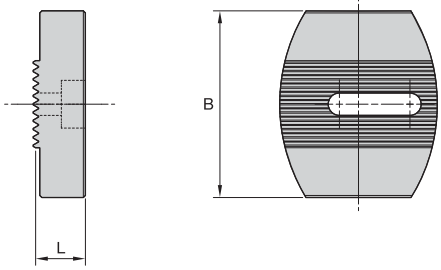




FBHM • Extension Bridge

order number	catalog number	BR1 bore range mm	BR1 bore range in	B mm	B in	H mm	H in	L mm	L in
4057095	**EBM8015086**	86,000-164,000	3.3900-6.4600	45,0	1.77	80,0	3.15	15,0	.59

- For use with FBHM extension bridge.

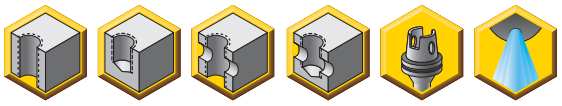


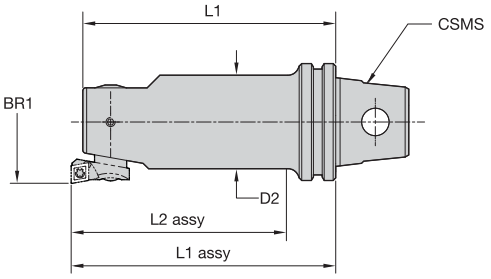


FBHM • Counterweight

order number	catalog number	B mm	B in	L mm	L in
4057096	**886038045**	45	1.77	12	.47

- 0,01mm (.0004") diameter adjustment respective 2 µm (.00008") with vernier scale.
- Internal coolant directed to indexable insert.
- Order insert cartridges separately for required bore range; see page K198.



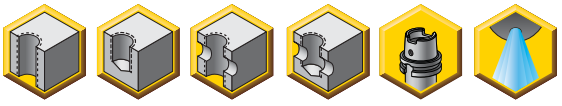


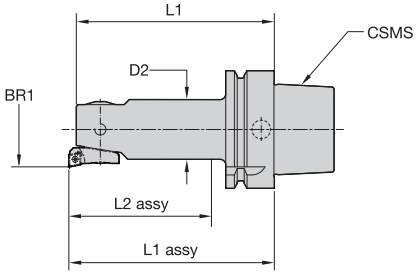


FBHS • KM™ Fine-Boring Single Cutters

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	L1 assy mm	L1 assy in	L2 assy mm	L2 assy in	cartridge mounting screw	lock screw
3586572	KM32FBHS24	23,900-37,100	.9409-1.4606	KM32	20,0	.79	86,0	3.39	90,0	3.54	76,1	2.99	880.252.200	881.252.200
3586573	KM32FBHS31	30,900-47,100	1.2165-1.8543	KM32	25,0	.98	96,0	3.78	100,0	3.94	86,1	3.39	880.252.250	881.252.250
3586574	KM40FBHS40	39,900-59,100	1.5709-2.3268	KM40	32,0	1.26	86,0	3.39	90,0	3.54	74,0	2.92	880.252.320	881.252.320
3586575	KM50FBHS51	50,900-81,100	2.0039-3.1929	KM50	42,0	1.65	86,0	3.39	90,0	3.54	70,0	2.76	880.252.420	881.252.420
3586576	KM50FBHS67	66,900-105,100	2.6339-4.1378	KM50	55,0	2.17	96,0	3.78	100,0	3.94	100,0	3.94	880.252.550	881.252.550
3586577	KM50FBHS87	86,900-154,100	3.4213-6.0669	KM50	72,0	2.84	116,0	4.57	120,0	4.72	120,0	4.72	880.252.550	881.252.720
3586578	KM63UTFBHS87	86,900-154,100	3.4213-6.0669	KM63UT	72,0	2.83	115,0	4.53	120,0	4.72	120,0	4.72	880.252.550	881.252.720
3586579	KM63UTFBHS116	115,900-191,100	4.5630-7.5236	KM63UT	96,0	3.70	145,0	5.71	150,0	5.91	150,0	5.91	880.252.550	881.252.940

- 0,01mm (0.0004") diameter adjustment respective 2 µm (0.00008") with vernier scale.
- Internal coolant directed to indexable insert.
- Order insert cartridges separately for required bore range; see page K198.



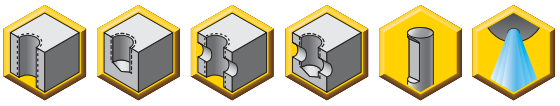


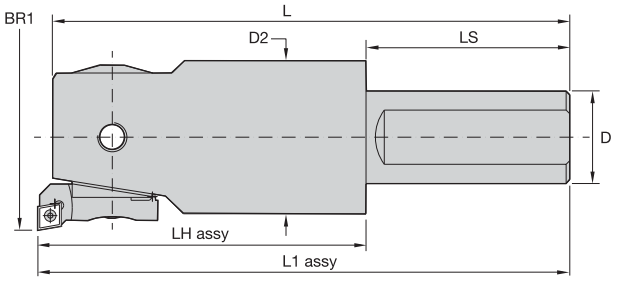


FBHS • HSK Fine-Boring Single Cutters

order number	catalog number	BR1 bore range mm	BR1 bore range in	CSMS system size	D2 mm	D2 in	L1 mm	L1 in	L1 assy mm	L1 assy in	L2 assy mm	L2 assy in	cartridge mounting screw	lock screw
3586580	HSK63FBHS24	23,900-37,100	.9409-1.4606	HSK63A	20,0	.79	86,0	3.39	90,0	3.54	61,1	2.40	880.252.200	881.252.200
3586581	HSK63FBHS31	30,900-47,100	1.2165-1.8543	HSK63A	25,0	.98	101,0	3.98	105,0	4.13	76,1	2.99	880.252.250	881.252.250
3586582	HSK63FBHS40	39,900-59,100	1.5709-2.3268	HSK63A	32,0	1.26	106,0	4.17	110,0	4.33	81,1	3.19	880.252.320	881.252.320
3586583	HSK63FBHS51	50,900-81,100	2.0039-3.1929	HSK63A	42,0	1.65	116,0	4.57	120,0	4.72	91,1	3.58	880.252.420	881.252.420
3586584	HSK63FBHS67	66,900-105,100	2.6339-4.1378	HSK63A	55,0	2.17	121,0	4.76	125,0	4.92	99,1	3.90	880.252.550	881.252.550
3586585	HSK63FBHS87	86,900-154,100	3.4213-6.0669	HSK63A	72,0	2.83	141,0	5.55	145,0	5.71	145,0	5.71	880.252.550	881.252.720

- 0,01mm (.0004") diameter adjustment respective 2 µm (.00008") with vernier scale.
- Internal coolant directed to indexable insert.
- Order insert cartridges separately for required bore range; see page K198.







FBHS • Straight Shank Fine-Boring Single Cutters

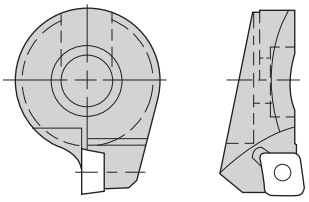



order number	catalog number	BR1 bore range in	BR1 bore range mm	D	D2	L	LH assy	L1 assy	LS	cartridge mounting screw	lock screw
3586586	**SF075FBHS24**	.9409-1.4606	23,900-37,100	.75	.79	5.75	1.65	5.91	—	**880.252.200**	**881.252.200**
3586587	**SF100FBHS31**	1.2165-1.8543	30,900-47,100	1.00	.98	6.54	1.85	6.69	—	**880.252.250**	**881.252.250**
3586588	**SF125FBHS40**	1.5709-2.3268	39,900-59,100	1.25	1.26	7.32	2.05	7.48	—	**880.252.320**	**881.252.320**
3586589	**SF100FBHS51**	2.0039-3.1929	50,900-81,100	1.00	1.65	5.59	3.54	5.74	2.2008	**880.252.420**	**881.252.420**
3586590	**SF125FBHS67**	2.6339-4.1378	66,900-105,100	1.25	2.17	6.17	3.94	6.33	2.3898	**880.252.550**	**881.252.550**
3586591	**SF150FBHS87**	3.4213-6.0669	86,900-154,100	1.50	2.84	7.39	4.72	7.54	2.8189	**880.252.550**	**881.252.720**
3586592	**SF200FBHS116**	4.5630-7.5236	115,900-191,100	2.00	3.01	9.13	5.91	9.29	3.3819	**880.252.550**	**881.252.940**

Reference Insert Cartridges

BR1 in	BR1 mm	insert cartridges 90° lead		95° lead	
.9409-1.2244	23,900-31,100	**R24FBHS06**	—	**R24FBHS06LF**	—
1.1772-1.4606	29,900-37,100	**R30FBHS06**	—	—	—
1.2165-1.5787	30,900-40,100	**R31FBHS06**	—	**R31FBHS06LF**	—
1.4921-1.8543	37,900-47,100	**F38FBHS06**	—	—	—
1.5709-2.0118	39,900-51,100	**R40FBHS06**	—	**R40FBHS06LF**	—
1.8858-2.3268	47,900-59,100	**R48FBHS06**	—	—	—
2.0039-2.6417	50,900-67,100	**R51FBHS06**	—	**R51FBHS06LF**	—
2.5551-3.1929	64,900-81,100	**R65FBHS06**	—	—	—
2.6339-3.4291	66,900-87,100	**R67FBHS06**	**R67FBHS09**	—	**R67FBHS09LF**
3.3425-4.1378	84,900-105,100	**R85FBHS06**	**R85FBHS09**	—	—
3.4213-4.5709	86,900-116,100	**R67FBHS06**	**R67FBHS09**	—	**R67FBHS09LF**
4.1299-5.2795	104,900-134,100	**R85FBHS06**	**R85FBHS09**	—	—
4.5630-6.0669	115,900-154,100	**R67FBHS06**	**R67FBHS09**	—	**R67FBHS09LF**
5.2717-6.7362	133,900-171,100	**R85FBHS06**	**R85FBHS09**	—	—
6.0591-7.5236	153,900-191,100	—	**R125FBHS09**	—	—

• Order inserts separately.





90° Lead • Insert Holders for FBHS Fine-Boring Heads



order number	catalog number	gage insert	Torx size	insert screw
1137487	**R24FBHS06**	CC..0602../CC..215..	T7	**843.006.000**
2649548	**R30FBHS06**	CC..0602../CC..215..	T7	**843.006.000**
1133669	**R31FBHS06**	CC..0602../CC..215..	T7	**843.006.000**
2649549	**R38FBHS06**	CC..0602../CC..215..	T7	**843.006.000**
1135369	**R40FBHS06**	CC.0602../CC..215..	T7	**843.006.000**
2649550	**R48FBHS06**	CC..0602../CC..215..	T7	**843.006.000**
1137479	**R51FBHS06**	CC..0602../CC..215..	T7	**843.006.000**
2649551	**R65FBHS06**	CC..0602../CC..215..	T7	**843.006.000**
1834274	**R67FBHS06**	CC..0602../CC..215..	T7	**843.006.000**
1137505	**R67FBHS09**	CC..09T3../CC..325..	T15	**843.009.000**
2649552	**R85FBHS06**	CC..0602../CC..215..	T7	**843.006.000**
2649553	**R85FBHS09**	CC..09T3../CC..325..	T15	**843.009.000**
2649554	**R125FBHS09**	CC..09T3../CC..325..	T15	**843.009.000**

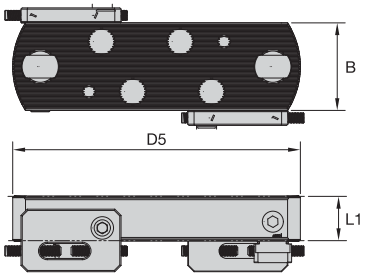
• Order inserts separately.

95° Lead • Insert Holders for FBHS



order number	catalog number	gage insert	insert screw I.D. drive size	insert screw
2649555	**R24FBHS06LF**	CC..0602../CC..215..	T7	**843.006.000**
2649556	**R31FBHS06LF**	CC..0602../CC..215..	T7	**843.006.000**
2649557	**R40FBHS06LF**	CC..0602../CC..215..	T7	**843.006.000**
2649558	**R51FBHS06LF**	CC..0602../CC..215..	T7	**843.006.000**
2649559	**R67FBHS09LF**	CC..09T3../CC..325..	T15	**843.009.000**

• Match extension bridge series to adapter.



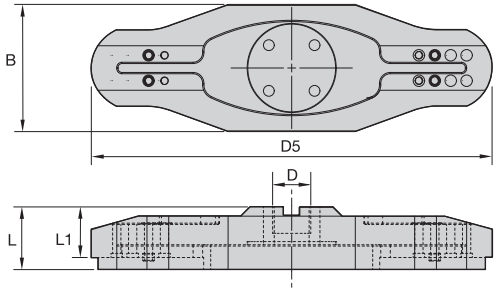


Small-Scale Extension Bridges

order number	catalog number	BR1 bore range mm	BR1 bore range in	max RPM	extension bridge series	B mm	B in	D5 mm	D5 in	L1 mm	L1 in	spare parts package	hex size	kg	lbs
1133280	**EB13030150**	150,000-205,000	5.9055-8.0709	1250	A	70,0	2.76	130,0	5.12	30,0	1.18	**PKG156502**	8mm	1,95	4.30
1125085	**EB18030200**	200,000-255,000	7.8740-10.0394	1000	A	70,0	2.76	180,0	7.09	30,0	1.18	**PKG156502**	8mm	2,77	6.10
1132857	**EB23035250**	250,000-305,000	9.8425-12.0079	850	B	70,0	2.76	230,0	9.06	35,0	1.38	**PKG156502**	8mm	4,00	8.80
1126830	**EB28035300**	300,000-355,000	11.8110-13.9764	700	B	70,0	2.76	280,0	11.02	35,0	1.38	**PKG156502**	8mm	5,14	11.30
1121703	**EB33040350**	350,000-405,000	13.7795-15.9449	600	B	70,0	2.76	330,0	12.99	40,0	1.57	**PKG156502**	8mm	6,86	15.10
1140602	**EB38040400**	400,000-455,000	15.7480-17.9134	530	C	70,0	2.76	380,0	14.96	40,0	1.57	**PKG156502**	8mm	7,95	17.50
1121036	**EB43040450**	450,000-505,000	17.7165-19.8819	480	C	70,0	2.76	430,0	16.93	40,0	1.57	**PKG156502**	8mm	9,23	20.30
1270619	**EB48040500**	500,000-550,000	19.6850-21.8504	440	C	70,0	2.76	480,0	18.90	40,0	1.57	**PKG156502**	8mm	10,23	22.50
1270620	**EB53050550**	550,000-605,000	21.6535-23.8189	400	C	70,0	2.76	530,0	20.87	50,0	1.97	**PKG156502**	8mm	13,91	30.60
1270621	**EB58050600**	600,000-655,000	23.6220-25.7874	370	C	70,0	2.76	580,0	22.84	50,0	1.97	**PKG156502**	8mm	15,32	33.70



- For use with shell mill adapters or direct connection to the machine spindle.
- Order bridge slides separately.





Large Scale Extension Bridge

order number	catalog number	BR1 bore range mm	BR1 bore range in	D mm	D in	D5 mm	D5 in	B mm	B in	L mm	L in	L1 mm	L1 in	kg	lbs
4057204	**EB630128650**	650,000-1105,000	25.5900-43.5000	60,0	2.36	630,0	24.80	200,0	7.87	99,0	3.90	84,0	3.31	17,2	37.84
4057205	**EB10801281100**	1100,000-1655,000	43.3100-65.1600	60,0	2.36	1080,0	42.52	200,0	7.87	99,0	3.90	84,0	3.31	28,1	61.82
4057206	**EB16301281650**	1650,000-2205,000	64.9600-86.8100	60,0	2.36	1630,0	64.17	200,0	7.87	99,0	3.90	84,0	3.31	43,0	94.60

max RPMs

BR1 bore range (mm)	BR1 bore range (in)	max RPM
650–705	25.59–27.76	300
700–755	27.56–29.72	285
750–805	29.53–31.69	270
800–855	31.50–33.66	255
850–905	33.46–35.63	240
900–955	35.43–37.60	225
950–1005	37.40–39.57	210
1000–1055	39.37–41.54	195
1050–1105	41.34–43.50	180
1100–1155	43.31–45.47	170

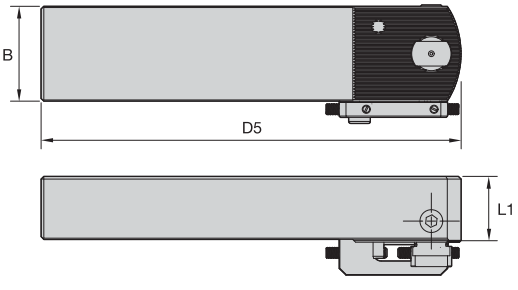
max RPMs

BR1 bore range (mm)	BR1 bore range (in)	max RPM
1150–1205	45.28–47.44	163
1200–1255	47.24–49.41	156
1250–1305	49.21–51.38	149
1300–1355	51.18–53.35	142
1350–1405	53.15–55.31	135
1400–1455	55.12–57.28	128
1450–1505	57.09–59.25	121
1500–1555	59.06–61.22	114
1550–1605	61.02–63.19	107
1600–1655	62.99–65.16	100

max RPMs

BR1 bore range (mm)	BR1 bore range (in)	max RPM
1650–1705	64.96–67.13	95
1700–1755	66.93–69.09	90
1750–1805	68.90–71.06	85
1800–1855	70.87–73.03	80
1850–1905	72.83–75.00	75
1900–1955	74.80–76.97	70
1950–2005	76.77–78.94	65
2000–2055	78.74–80.91	60
2050–2105	80.71–82.87	55
2100–2155	82.68–84.84	50
2150–2205	84.65–86.81	45

- For use with large-scale bridge extensions.
- Delivered as a set of two.

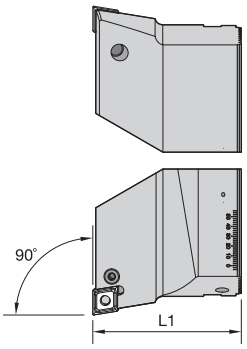


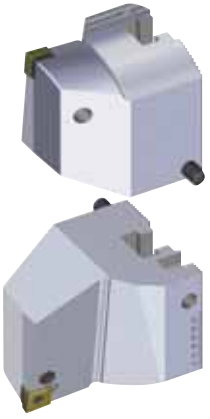


Bridge Slides

order number	catalog number	BR1 bore range mm	BR1 bore range in	B mm	B in	D5 mm	D5 in	L1 mm	L1 in	spare parts package	kg	lbs
4057207	**EBSLD1105**	650,000-1105,000	25.5900-43.5000	70,0	2.76	310,0	12.20	48,0	1.89	**PKG156502**	7,0	15.40
4057208	**EBSLD2205**	1100,000-2205,000	43.3100-86.8100	70,0	2.76	360,0	14.17	48,0	1.89	**PKG156502**	7,9	17.38

- Packaged as a matched set of two to enable twin cutting operations.

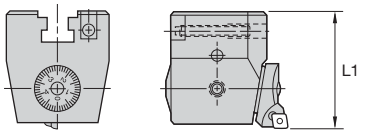




90° Lead • Bridge Tool Rough-Boring Head

order number	catalog number	L1 mm	L1 in	gage insert	spare parts package	insert screw I.D. drive size	kg	lbs
1624878	**EBURF1975PKG**	75,0	2.95	CN..1906../CN..64..	**PKG7994**	4mm	1,6	3.60

- Insert holder included.
- 0,01mm (.0004") diameter adjustment respective 2 µm (.00008") with vernier scale.
- Use with counterweight for balance.

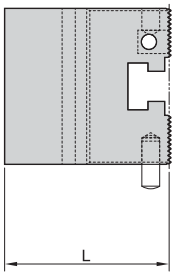




90° Lead • Bridge Tool Fine-Boring Head

order number	catalog number	L1 mm	L1 in	cartridge	spare parts package	wrench size adjusting screw	kg	lbs
1135375	**EBUFF0975**	75,0	2.95	R67-FBHS-09	**PKG0002**	5mm	2,1	4.70

- Use to balance the extension bridge when using an EBUFF fine-boring head.



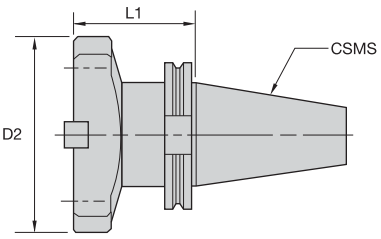


Bridge Tool Counterweight

order number	catalog number	L mm	L in	kg	lbs
4062443	**EBUCW0074**	74	2.913	2,1	4.63

- Extension bridge required.
- Order extension bridge separately; see page K199.
- Order coolant cartridge set separately; see page K203.
- Match adapter and extension bridge series.







CV Bridge Tool Adapters



order number	catalog number	CSMS system size	extension bridge series	D1 mm	D1 in	D1 max mm	D1 max in	D2 mm	D2 in	L1 mm	L1 in	spare parts package	socket-head cap screw
1122185	**CV50BT13069**	CV50	A,B,C	150	5.906	655	25.787	130,0	5.12	69,1	2.72	**PKG1565**	**MS1085PKG**



BT Bridge Tool Adapters



order number	catalog number	CSMS system size	extension bridge series	D1 mm	D1 in	D1 max mm	D1 max in	D2 mm	D2 in	L1 mm	L1 in	spare parts package	socket-head cap screw
1121711	**BT50BT13088**	BT50	A,B,C	150	5.906	655	25.787	130	5.12	88	3.46	**PKG1565**	**MS1085PKG**

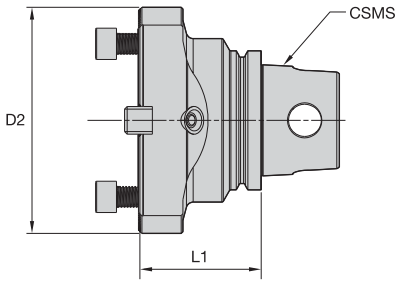


DV Bridge Tool Adapters



order number	catalog number	CSMS system size	extension bridge series	D1 mm	D1 in	D1 max mm	D1 max in	D2 mm	D2 in	L1 mm	L1 in	spare parts package	socket-head cap screw
1263825	**DV40BT13069**	DV50	A	150	5.906	255	10.039	130	5.12	69	2.72	**PKG1565**	**MS1085PKG**
1133581	**DV50BT13069**	DV50	A,B,C	150	5.906	655	25.787	130	5.12	69	2.72	**PKG1565**	**MS1085PKG**

- Extension bridge required.
- Order extension bridge separately; see page K199.
- Match adapter and extension bridge series.

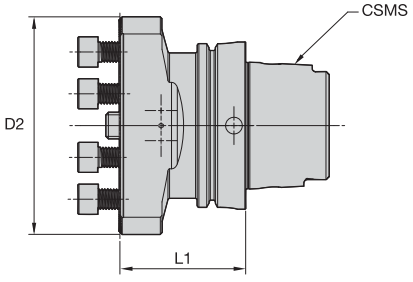


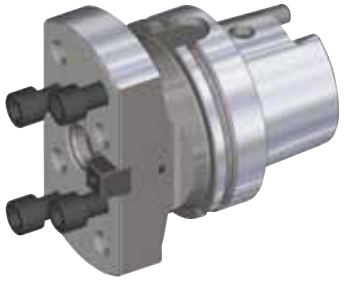


KM™ Bridge Tool Adapters

order number	catalog number	CSMS system size	extension bridge series	D1 mm	D1 in	D1 max mm	D1 max in	D2 mm	D2 in	L1 mm	L1 in	spare parts package	socket-head cap screw
1135802	**KM63BT13065**	KM63	A	150	5.906	305	12.008	130,0	5.12	65,0	2.56	**PKG1565**	**MS1085PKG**
1197315	**KM80BT13070**	KM80	B,A	150	5.906	405	15.945	130,0	5.12	70,0	2.76	**PKG1565**	**MS1085PKG**

- Extension bridge required.
- Order extension bridge separately; see page K199.
- Match adapter and extension bridge series.



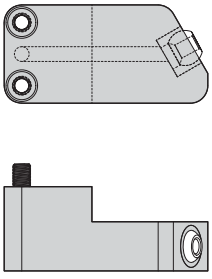


HSK Bridge Tool Adapters

order number	catalog number	CSMS system size	extension bridge series	D2 mm	D2 in	L1 mm	L1 in	spare parts package	socket-head cap screw
4062112	**HSK100BT13075**	HSK100A	A,B,C	130,0	5.12	75,0	2.95	**PKG1565**	**MS1085PKG**

Coolant Cartridge for Bridge Tool Adapter

- Use with bridge tool adapter to direct the coolant towards the insert.
- Delivered as a set of two with mounting screws.





Coolant Cartridge

order number	catalog number
4062111	**920028015**

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Material Group		Condition	Geometry -MP	Geometry -MN	Geometry -MF	Cutting Speed SFM min	Cutting Speed SFM Starting Value	Cutting Speed SFM max	Feed Rate IPR -MP	Feed Rate IPR -MN	Feed Rate IPR -MF
P	1			KCP05		590	**1430**	1620	–	.006 - .025	–
				KCP10		590	**1300**	1180	.004 - .016	.006 - .025	.004 - .016
				KC9110		590	**1300**	1180	–	.006 - .025	.004 - .016
				KCP25		410	**900**	1180	.004 - .008	.006 - .012	.004 - .008
				KC9125		510	**920**	1180	–	.006 - .012	.004 - .008
	2			KCP05		590	**870**	1310	–	.006 - .025	–
				KCP10		590	**790**	1540	.004 - .016	.006 - .025	.004 - .016
				KC9110		590	**820**	1120	–	.006 - .025	.004 - .016
				KCP25		410	**640**	920	.004 - .008	.006 - .012	.004 - .008
				KC9125		460	**660**	970	–	.006 - .012	.004 - .008
	3			KCP05		590	**670**	900	–	.006 - .025	–
				KCP10		520	**620**	1150	.004 - .016	.006 - .025	.004 - .016
				KC9110		510	**620**	770	–	.006 - .025	.004 - .016
				KCP25		440	**510**	740	.004 - .008	.006 - .012	.004 - .008
				KC9125		440	**510**	740	–	.006 - .012	.004 - .008
	4			KCP05		300	**520**	720	–	.006 - .025	–
				KCP10		300	**480**	770	.004 - .016	.006 - .025	.004 - .016
				KC9110		300	**480**	640	–	.006 - .025	.004 - .016
				KCP25		250	**340**	590	.004 - .008	.006 - .012	.004 - .008
				KC9125		250	**360**	570	–	.006 - .012	.004 - .008
	5			KCP05		490	**790**	1030	–	.006 - .025	–
				KCP10		490	**710**	980	.004 - .016	.006 - .025	.004 - .016
				KC9110		490	**710**	980	–	.006 - .025	.004 - .016
				KCP25		390	**640**	850	.004 - .008	.006 - .012	.004 - .008
				KC9125		390	**640**	850	–	.006 - .012	.004 - .008
	6			KCP05		460	**660**	980	–	.006 - .025	–
				KCP10		360	**590**	890	.004 - .016	.006 - .025	.004 - .016
				KC9110		390	**590**	740	–	.006 - .025	.004 - .016
				KCP25		340	**490**	740	.004 - .008	.006 - .012	.004 - .008
				KC9125		340	**490**	740	–	.006 - .012	.004 - .008

Material Group		Condition	Geometry -MP	Geometry -MF	Geometry –	Cutting Speed SFM min	Cutting Speed SFM Starting Value	Cutting Speed SFM max	Feed Rate IPR -MP	Feed Rate IPR -MF	Feed Rate IPR –
M	1		KCM15		–	330	**590**	790	.004 - .016	.003 - .012	–
			KC5010		–	430	**710**	820	.004 - .016	–	–
			KC9225		–	570	**610**	820	.004 - .016	.003 - .012	–
			KCM25		–	300	**490**	660	.004 - .008	.003 - .006	–
			KC9240		–	300	**390**	440	.004 - .008	.003 - .006	–
	2		KCM15		–	360	**540**	820	.004 - .016	.003 - .012	–
			KC5010		–	410	**660**	820	.004 - .016	–	–
			KC9225		–	360	**560**	750	.004 - .016	.003 - .012	–
			KCM25		–	300	**490**	740	.004 - .008	.003 - .006	–
			KC9240		–	260	**340**	440	.004 - .008	.003 - .006	–
	3		KCM15		–	360	**490**	820	.004 - .016	.003 - .012	–
			KC5010		–	360	**490**	750	.004 - .016	–	–
			KC9225		–	360	**490**	750	.004 - .016	.003 - .012	–
			KCM25		–	300	**390**	660	.004 - .008	.003 - .006	–
			KC9240		–	260	**300**	440	.004 - .008	.003 - .006	–

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Material Group		Condition	Geometry			Cutting Speed SFM			Feed Rate IPR		
			-MP	-MW	–	min	Starting Value	max	-MP	-MW	–
K	1		KCK20		–	720	980	1770	.004 - .016	.006 - .039	–
				KT315	–	520	900	1610	–	.006 - .039	–
			KCK20		–	720	900	1150	.004 - .016	.006 - .039	–
				KC9315	–	490	900	1150	–	.006 - .039	–
			KCK20		–	460	690	1120	.004 - .008	.006 - .018	–
				KC9325	–	230	690	1120	–	.006 - .018	–
	2		KCK20		–	720	900	1150	.004 - .016	.006 - .039	–
				KT315	–	590	900	1180	–	.006 - .039	–
			KCK20		–	720	900	1150	.004 - .016	.006 - .039	–
				KC9315	–	430	850	1120	–	.006 - .039	–
			KCK20		–	720	900	1150	.004 - .008	.006 - .018	–
	3		KCK20		–	360	490	750	.004 - .016	.006 - .039	–
				KT315	–	560	750	1180	–	.006 - .039	–
			KCK20		–	360	490	750	.004 - .016	.006 - .039	–
				KC9315	–	430	710	1150	–	.006 - .039	–
			KCK20		–	360	490	750	.004 - .008	.006 - .018	–

Material Group		Condition	Geometry			Cutting Speed SFM			Feed Rate IPR		
			-HP	–	–	min	Starting Value	max	-HP	–	–
N	1		KC5410		–	660	1800	3280	.006 - .025	–	–
				KD1400	–	1480	2510	8200	–	.010 - .025	–
			KC5410		–	660	1800	3280	.006 - .012	–	–
	2			KD1425	–	980	1710	2950	–	.010 - .025	–
				KD1425	–	980	1710	2950	–	.010 - .016	–
	3		KC5410		–	330	900	1640	.006 - .025	–	–
			K313		–	390	850	1610	.006 - .025	–	–
			KC5410		–	330	900	1640	.006 - .012	–	–
	5		KC5410		–	330	660	1150	.006 - .025	–	–
			KC5410		–	330	660	1150	.006 - .012	–	–

Material Group		Condition	Geometry			Cutting Speed SFM			Feed Rate IPR		
			-MP	-FP	-UP	min	Starting Value	max	-MP	-FP	-UP
S	1		KCU10			100	180	380	.004 - .016	.002 - .010	–
			KC5010			100	180	380	.004 - .016	.002 - .010	.006 - .020
			KCU25			30	130	180	.004 - .008	.002 - .005	–
			KC9240		KC9240	30	130	200	.004 - .008	–	.006 - .011
	2		KCU10			100	200	390	.004 - .016	.002 - .010	–
			KC5010			100	200	380	.004 - .016	.002 - .010	.006 - .020
			KCU25			30	100	180	.004 - .008	.002 - .005	–
			KC9240		KC9240	30	100	180	.004 - .008	–	.006 - .011
	3		KCU10			100	230	380	.004 - .016	.002 - .010	–
			KC5010			100	230	380	.004 - .016	.002 - .010	.006 - .020
			KCU25			70	130	180	.004 - .008	.002 - .005	–
			KC9240		KC9240	70	130	200	.004 - .008	–	.006 - .011
	4		KCU10			150	230	460	.004 - .016	.002 - .010	–
			KC5010			150	230	560	.004 - .016	.002 - .010	.006 - .020
			KCU25			70	180	300	.004 - .008	.002 - .005	–
			KC9240		KC9240	50	180	300	.004 - .008	–	.006 - .011

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Material Group		Condition	Geometry -MP	Geometry -MN	Geometry -MF	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -MP	Feed Rate mm/r -MN	Feed Rate mm/r -MF
P	1			KCP05		180	**435**	495	–	0,16 - 0,63	–
				KCP10		180	**395**	360	0,10 - 0,40	0,16 - 0,63	0,10 - 0,40
				KC9110		180	**395**	360	–	0,16 - 0,63	0,10 - 0,40
				KCP25		125	**275**	360	0,10 - 0,20	0,16 - 0,31	0,10 - 0,20
				KC9125		155	**280**	360	–	0,16 - 0,31	0,10 - 0,20
	2			KCP05		180	**265**	400	–	0,16 - 0,63	–
				KCP10		180	**240**	470	0,10 - 0,40	0,16 - 0,63	0,10 - 0,40
				KC9110		180	**250**	340	–	0,16 - 0,63	0,10 - 0,40
				KCP25		125	**195**	280	0,10 - 0,20	0,16 - 0,31	0,10 - 0,20
				KC9125		140	**200**	295	–	0,16 - 0,31	0,10 - 0,20
	3			KCP05		180	**205**	275	–	0,16 - 0,63	–
				KCP10		160	**190**	350	0,10 - 0,40	0,16 - 0,63	0,10 - 0,40
				KC9110		155	**190**	235	–	0,16 - 0,63	0,10 - 0,40
				KCP25		135	**155**	225	0,10 - 0,20	0,16 - 0,31	0,10 - 0,20
				KC9125		135	**155**	225	–	0,16 - 0,31	0,10 - 0,20
	4			KCP05		90	**160**	220	–	0,16 - 0,63	–
				KCP10		90	**145**	235	0,10 - 0,40	0,16 - 0,63	0,10 - 0,40
				KC9110		90	**145**	195	–	0,16 - 0,63	0,10 - 0,40
				KCP25		75	**105**	180	0,10 - 0,20	0,16 - 0,31	0,10 - 0,20
				KC9125		75	**110**	175	–	0,16 - 0,31	0,10 - 0,20
	5			KCP05		150	**240**	315	–	0,16 - 0,63	–
				KCP10		150	**215**	300	0,10 - 0,40	0,16 - 0,63	0,10 - 0,40
				KC9110		150	**215**	300	–	0,16 - 0,63	0,10 - 0,40
				KCP25		120	**195**	260	0,10 - 0,20	0,16 - 0,31	0,10 - 0,20
				KC9125		120	**195**	260	–	0,16 - 0,31	0,10 - 0,20
	6			KCP05		140	**200**	300	–	0,16 - 0,63	–
				KCP10		110	**180**	270	0,10 - 0,40	0,16 - 0,63	0,10 - 0,40
				KC9110		120	**180**	225	–	0,16 - 0,63	0,10 - 0,40
				KCP25		105	**150**	225	0,10 - 0,20	0,16 - 0,31	0,10 - 0,20
				KC9125		105	**150**	225	–	0,16 - 0,31	0,10 - 0,20

Material Group		Condition	Geometry -MP	Geometry -MF	Geometry –	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -MP	Feed Rate mm/r -MF	Feed Rate mm/r –
M	1		KCM15		–	100	**180**	240	0,10 - 0,40	0,08 - 0,30	–
			KC5010		–	130	**215**	250	0,10 - 0,40	–	–
			KC9225		–	175	**185**	250	0,10 - 0,40	0,08 - 0,30	–
			KCM25		–	90	**150**	200	0,10 - 0,20	0,08 - 0,15	–
			KC9240		–	90	**120**	135	0,10 - 0,20	0,08 - 0,15	–
	2		KCM15		–	110	**165**	250	0,10 - 0,40	0,08 - 0,30	–
			KC5010		–	125	**200**	250	0,10 - 0,40	–	–
			KC9225		–	110	**170**	230	0,10 - 0,40	0,08 - 0,30	–
			KCM25		–	90	**150**	225	0,10 - 0,20	0,08 - 0,15	–
			KC9240		–	80	**105**	135	0,10 - 0,20	0,08 - 0,15	–
	3		KCM15		–	110	**150**	250	0,10 - 0,40	0,08 - 0,30	–
			KC5010		–	110	**150**	230	0,10 - 0,40	–	–
			KC9225		–	110	**150**	230	0,10 - 0,40	0,08 - 0,30	–
			KCM25		–	90	**120**	200	0,10 - 0,20	0,08 - 0,15	–
			KC9240		–	80	**90**	135	0,10 - 0,20	0,08 - 0,15	–

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Material Group		Condition	Geometry -MP	Geometry -MW	Geometry –	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -MP	Feed Rate mm/r -MW	Feed Rate mm/r –
K	1		KCK20		–	220	**300**	540	0,10 - 0,40	0,16 - 1,00	–
				KT315	–	160	**275**	490	–	0,16 - 1,00	–
			KCK20		–	220	**275**	350	0,10 - 0,40	0,16 - 1,00	–
				KC9315	–	150	**275**	350	–	0,16 - 1,00	–
			KCK20		–	140	**210**	340	0,10 - 0,20	0,16 - 0,45	–
				KC9325	–	70	**210**	340	–	0,16 - 0,45	–
	2		KCK20		–	220	**275**	350	0,10 - 0,40	0,16 - 1,00	–
				KT315	–	180	**275**	360	–	0,16 - 1,00	–
			KCK20		–	220	**275**	350	0,10 - 0,40	0,16 - 1,00	–
				KC9315	–	130	**260**	340	–	0,16 - 1,00	–
			KCK20		–	220	**275**	350	0,10 - 0,20	0,16 - 0,45	–
	3		KCK20		–	110	**150**	230	0,10 - 0,40	0,16 - 1,00	–
				KT315	–	170	**230**	360	–	0,16 - 1,00	–
			KCK20		–	110	**150**	230	0,10 - 0,40	0,16 - 1,00	–
				KC9315	–	130	**215**	350	–	0,16 - 1,00	–
			KCK20		–	110	**150**	230	0,10 - 0,20	0,16 - 0,45	–

Material Group		Condition	Geometry -HP	Geometry –	Geometry –	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -HP	Feed Rate mm/r –	Feed Rate mm/r –
N	1		KC5410		–	200	**550**	1000	0,16 - 0,63	–	–
				KD1400	–	450	**765**	2500	–	0,25 - 0,63	–
			KC5410		–	200	**550**	1000	0,16 - 0,31	–	–
	2			KD1425	–	300	**520**	900	–	0,25 - 0,63	–
				KD1425	–	300	**520**	900	–	0,25 - 0,40	–
	3		KC5410		–	100	**275**	500	0,16 - 0,63	–	–
			K313		–	120	**260**	490	0,16 - 0,63	–	–
			KC5410		–	100	**275**	500	0,16 - 0,31	–	–
	5		KC5410		–	100	**200**	350	0,16 - 0,63	–	–
			KC5410		–	100	**200**	350	0,16 - 0,31	–	–

Material Group		Condition	Geometry -MP	Geometry -FP	Geometry -UP	Cutting Speed m/min min	Cutting Speed m/min Starting Value	Cutting Speed m/min max	Feed Rate mm/r -MP	Feed Rate mm/r -FP	Feed Rate mm/r -UP
S	1		KCU10			30	**55**	115	0,10 - 0,40	0,06 - 0,25	–
			KC5010			30	**55**	115	0,10 - 0,40	0,06 - 0,25	0,16 - 0,50
			KCU25			10	**40**	55	0,10 - 0,20	0,06 - 0,12	–
			KC9240		KC9240	10	**40**	60	0,10 - 0,20	–	0,16 - 0,27
	2		KCU10			30	**60**	120	0,10 - 0,40	0,06 - 0,25	–
			KC5010			30	**60**	115	0,10 - 0,40	0,06 - 0,25	0,16 - 0,50
			KCU25			10	**30**	55	0,10 - 0,20	0,06 - 0,12	–
			KC9240		KC9240	10	**30**	55	0,10 - 0,20	–	0,16 - 0,27
	3		KCU10			30	**70**	115	0,10 - 0,40	0,06 - 0,25	–
			KC5010			30	**70**	115	0,10 - 0,40	0,06 - 0,25	0,16 - 0,50
			KCU25			20	**40**	55	0,10 - 0,20	0,06 - 0,12	–
			KC9240		KC9240	20	**40**	60	0,10 - 0,20	–	0,16 - 0,27
	4		KCU10			45	**70**	140	0,10 - 0,40	0,06 - 0,25	–
			KC5010			45	**70**	170	0,10 - 0,40	0,06 - 0,25	0,16 - 0,50
			KCU25			20	**55**	90	0,10 - 0,20	0,06 - 0,12	–
			KC9240		KC9240	15	**55**	90	0,10 - 0,20	–	0,16 - 0,27

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Material Group		Condition	Geometry -LF	-UF	-FP	-FW	Cutting Speed SFM min	Starting Value	max	Feed Rate IPR -LF	-UF	-FP	-FW
P	1		KCP05				590	**1430**	1620	.002 - .010	.002 - .006	.002 - .010	–
					KTP10		590	**1430**	1620	–	–	.002 - .010	–
			KT315			KT315	590	**1310**	1620	.002 - .010	–	–	.003 - .012
			KCP10				590	**1300**	1530	.002 - .010	.002 - .006	.002 - .010	–
			KC9110				590	**1300**	1620	.002 - .010	.002 - .006	–	–
			KCP25				460	**920**	1180	.002 - .004	.002 - .003	.002 - .005	.003 - .006
			KC9125				460	**920**	1180	.002 - .004	.002 - .003	–	–
	2		KCP05				590	**870**	1310	.002 - .010	.002 - .006	.002 - .010	–
					KTP10		590	**870**	1310	–	–	.002 - .010	–
			KT315			KT315	620	**890**	1280	.002 - .010	–	–	.003 - .012
			KCP10				590	**790**	1080	.002 - .010	.002 - .006	.002 - .010	–
			KC9110				590	**790**	1080	.002 - .010	.002 - .006	–	–
			KCP25				480	**640**	1050	.002 - .004	.002 - .003	.002 - .005	.003 - .006
			KC9125				480	**640**	1050	.002 - .004	.002 - .003	–	–
	3		KCP05				590	**670**	900	.002 - .010	.002 - .006	.002 - .010	–
					KTP10		590	**670**	900	–	–	.002 - .010	–
			KT315			KT315	590	**690**	900	.002 - .010	–	–	.003 - .012
			KCP10				520	**620**	820	.002 - .010	.002 - .006	.002 - .010	–
			KC9110				510	**620**	790	.002 - .010	.002 - .006	–	–
			KCP25				440	**510**	740	.002 - .004	.002 - .003	.002 - .005	.003 - .006
			KC9125				440	**510**	740	.002 - .004	.002 - .003	–	–
	4		KCP05				300	**520**	720	.002 - .010	.002 - .006	.002 - .010	–
					KTP10		300	**520**	720	–	–	.002 - .010	–
			KT315			KT315	300	**590**	720	.002 - .010	–	–	.003 - .012
			KCP10				300	**480**	640	.002 - .010	.002 - .006	.002 - .010	–
			KC9110				300	**480**	640	.002 - .010	.002 - .006	–	–
			KCP25				250	**340**	590	.002 - .004	.002 - .003	.002 - .005	.003 - .006
			KC9125				250	**340**	590	.002 - .004	.002 - .003	–	–
	5		KCP05				490	**790**	1030	.002 - .010	.002 - .006	.002 - .010	–
					KTP10		490	**790**	1030	–	–	.002 - .010	–
			KT315			KT315	490	**820**	1030	.002 - .010	–	–	.003 - .012
			KCP10				490	**710**	980	.002 - .010	.002 - .006	.002 - .010	–
			KC9110				490	**710**	980	.002 - .010	.002 - .006	–	–
			KCP25				390	**640**	840	.002 - .004	.002 - .003	.002 - .005	.003 - .006
			KC9125				390	**640**	840	.002 - .004	.002 - .003	–	–
	6		KCP05				460	**660**	980	.002 - .010	.002 - .006	.002 - .010	–
					KTP10		460	**660**	980	–	–	.002 - .010	–
			KT315			KT315	460	**660**	980	.002 - .010	–	–	.003 - .012
			KCP10				390	**590**	900	.002 - .010	.002 - .006	.002 - .010	–
			KC9110				390	**590**	740	.002 - .010	.002 - .006	–	–
			KCP25				340	**490**	740	.002 - .004	.002 - .003	.002 - .005	.003 - .006
			KC9125				340	**490**	740	.002 - .004	.002 - .003	–	–

Material Group		Condition	Geometry -LF	-UF	-FP	-FW	Cutting Speed SFM min	Starting Value	max	Feed Rate IPR -LF	-UF	-FP	-FW
M	1				KTP10		460	**750**	1030	–	–	.002 - .010	
			KT315			KT315	460	**750**	1030	.002 - .010	–	–	.003 - .012
			KC5010			KC5010	430	**710**	800	.002 - .010	–	–	.003 - .012
			KCM15		KCM15		340	**590**	790	.002 - .005	–	.002 - .005	–
			KC9225			KC9225	340	**590**	790	.002 - .005	–	–	.003 - .006
	2				KTP10		460	**710**	970	–	–	.002 - .010	–
			KT315			KT315	460	**710**	970	.002 - .010	–	–	.003 - .012
			KC5010			KC5010	430	**660**	800	.002 - .010	–	–	.003 - .012
			KCM15		KCM15		340	**540**	820	.002 - .005	–	.002 - .005	–
			KC9225			KC9225	330	**520**	750	.002 - .005	–	–	.003 - .006
	3				KTP10		460	**660**	980	–	–	.002 - .010	–
			KT315			KT315	460	**660**	980	.002 - .010	–	–	.003 - .012
			KC5010			KC5010	430	**610**	750	.002 - .010	–	–	.003 - .012
			KCM15		KCM15		380	**490**	840	.002 - .005	–	.002 - .005	–
			KC9225			KC9225	360	**490**	750	.002 - .005	–	–	.003 - .006

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Material Group		Condition	Geometry -LF	-UF	-FP	-FW	Cutting Speed SFM min	Starting Value	max	Feed Rate IPR -LF	-UF	-FP	-FW
K	1		KCK20		KCK20		660	980	1770	.002 - .010	–	.002 - .010	.003 - .012
			KT315			KT315	540	900	1610	.002 - .010	–	–	.003 - .012
			KC9315				360	900	1480	.002 - .010	–	–	–
			KC9320				330	790	1310	.002 - .005	–	–	–
	2		KCK20		KCK20		490	790	1380	.002 - .010	–	.002 - .010	.003 - .012
			KT315			KT315	590	900	1180	.002 - .010	–	–	.003 - .012
			KC5010			KC5010	330	660	870	.002 - .010	.002 - .006	–	.003 - .012
			KC9315				480	850	1180	.002 - .010	–	–	–
			KC9320				460	790	1080	.002 - .005	–	–	–
	3		KCK20		KCK20		460	690	1150	.002 - .010	–	.002 - .010	.003 - .012
			KT315			KT315	590	750	1050	.002 - .010	–	–	.003 - .012
			KC5010			KC5010	390	490	740	.002 - .010	.002 - .006	–	.003 - .012
			KC9315				480	710	900	.002 - .010	–	–	–
			KC9320				460	690	850	.002 - .005	–	–	–

Material Group		Condition	Geometry -LF	–	–	–	Cutting Speed SFM min	Starting Value	max	Feed Rate IPR -LF	–	–	–
N	1		KC5410		–	–	660	1800	3280	.004 - .016	–	–	–
			KC5410		–	–	660	1800	3280	.004 - .008	–	–	–
				KD1400	–	–	1480	2510	9840	–	.002 - .006	–	–
	2			KD1425	–	–	1230	1900	3770	–	.002 - .010	–	–
				KD1400	–	–	1310	2130	4100	–	.002 - .006	–	–
	3		KC5410		–	–	410	900	1720	.004 - .016	–	–	–
				KD1425	–	–	820	1640	2870	–	.002 - .010	–	–
			KC5410		–	–	410	900	1720	.004 - .008	–	–	–
				KD1400	–	–	1230	1710	3280	–	.002 - .005	–	–
	5		KC5410		–	–	410	660	1230	.004 - .016	–	–	–
			KC5410		–	–	410	660	1230	.004 - .008	–	–	–

Material Group		Condition	Geometry -LF	-UF	-FP	-FW	Cutting Speed SFM min	Starting Value	max	Feed Rate IPR -LF	-UF	-FP	-FW
S	1				KCU10		100	180	410	–	–	.002 - .010	–
			K313				30	100	200	.002 - .010	–	–	–
			KC5010			KC5010	100	180	390	.002 - .010	.002 - .006	–	.003 - .012
					KCU10		100	180	410	–	–	.002 - .010	–
			KC5010			KC5010	100	180	390	.002 - .010	.002 - .006	–	.003 - .012
					KCU25		30	130	160	–	–	.002 - .005	–
			KC5025				30	130	160	.002 - .004	–	–	–
	2				KCU10		100	110	410	–	–	.002 - .010	–
			K313				30	110	200	.002 - .010	–	–	–
			KC5010			KC5010	100	200	390	.002 - .010	.002 - .006	–	.003 - .012
					KCU10		100	110	410	–	–	.002 - .010	–
			KC5010			KC5010	100	200	390	.002 - .010	.002 - .006	–	.003 - .012
					KCU25		30	100	160	–	–	.002 - .005	–
			KC5025				30	100	160	.002 - .004	–	–	–
	3				KCU10		100	230	410	–	–	.002 - .010	–
			K313				30	130	200	.002 - .010	–	–	–
			KC5010			KC5010	100	230	390	.002 - .010	.002 - .006	–	.003 - .012
					KCU10		100	110	410	–	–	.002 - .010	–
			KC5010			KC5010	100	230	390	.002 - .010	.002 - .006	–	.003 - .012
					KCU25		80	130	200	–	–	.002 - .005	–
			KC5025				80	130	200	.002 - .004	–	–	–
	4				KCU10		150	230	460	–	–	.002 - .010	–
			K313				50	150	210	.002 - .010	–	–	–
			KC5010			KC5010	150	230	460	.002 - .010	.002 - .006	–	.003 - .012
					KCU10		150	230	460	–	–	.002 - .010	–
			KC5010			KC5010	150	230	460	.002 - .010	.002 - .006	–	.003 - .012
					KCU25		80	180	300	–	–	.002 - .005	–
			KC5025				50	180	300	.002 - .004	–	–	–

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Material Group		Condition	Geometry -LF	-UF	-FP	-FW	Cutting Speed m/min min	Starting Value	max	Feed Rate mm/r -LF	-UF	-FP	-FW
P	1		KCP05				180	**435**	495	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
					KTP10		180	**435**	495	–	–	0,06 - 0,25	–
			KT315			KT315	180	**400**	495	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10				180	**395**	465	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110				180	**395**	495	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				140	**280**	360	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125				140	**280**	360	0,06 - 0,10	0,04 - 0,08	–	–
	2		KCP05				180	**265**	400	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
					KTP10		180	**265**	400	–	–	0,06 - 0,25	–
			KT315			KT315	190	**270**	390	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10				180	**240**	330	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110				180	**240**	330	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				145	**195**	320	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125				145	**195**	320	0,06 - 0,10	0,04 - 0,08	–	–
	3		KCP05				180	**205**	275	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
					KTP10		180	**205**	275	–	–	0,06 - 0,25	–
			KT315			KT315	180	**210**	275	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10				160	**190**	250	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110				155	**190**	240	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				135	**155**	225	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125				135	**155**	225	0,06 - 0,10	0,04 - 0,08	–	–
	4		KCP05				90	**160**	220	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
					KTP10		90	**160**	220	–	–	0,06 - 0,25	–
			KT315			KT315	90	**180**	220	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10				90	**145**	195	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110				90	**145**	195	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				75	**105**	180	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125				75	**105**	180	0,06 - 0,10	0,04 - 0,08	–	–
	5		KCP05				150	**240**	315	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
					KTP10		150	**240**	315	–	–	0,06 - 0,25	–
			KT315			KT315	150	**250**	315	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10				150	**215**	300	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110				150	**215**	300	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				120	**195**	255	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125				120	**195**	255	0,06 - 0,10	0,04 - 0,08	–	–
	6		KCP05				140	**200**	300	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
					KTP10		140	**200**	300	–	–	0,06 - 0,25	–
			KT315			KT315	140	**200**	300	0,06 - 0,25	–	–	0,08 - 0,30
			KCP10				120	**180**	275	0,06 - 0,25	0,04 - 0,16	0,06 - 0,25	–
			KC9110				120	**180**	225	0,06 - 0,25	0,04 - 0,16	–	–
			KCP25				105	**150**	225	0,06 - 0,10	0,04 - 0,08	0,06 - 0,12	0,08 - 0,16
			KC9125				105	**150**	225	0,06 - 0,10	0,04 - 0,08	–	–

Material Group		Condition	Geometry -LF	-UF	-FP	-FW	Cutting Speed m/min min	Starting Value	max	Feed Rate mm/r -LF	-UF	-FP	-FW
M	1				KTP10		140	**230**	315	–	–	0,06 - 0,25	–
			KT315			KT315	140	**230**	315	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010			KC5010	130	**215**	245	0,06 - 0,25	–	–	0,08 - 0,30
			KCM15		KCM15		105	**180**	240	0,06 - 0,12	–	0,06 - 0,12	–
			KC9225			KC9225	105	**180**	240	0,06 - 0,12	–	–	0,08 - 0,16
	2				KTP10		140	**215**	295	–	–	0,06 - 0,25	–
			KT315			KT315	140	**215**	295	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010			KC5010	130	**200**	245	0,06 - 0,25	–	–	0,08 - 0,30
			KCM15		KCM15		105	**165**	250	0,06 - 0,12	–	0,06 - 0,12	–
			KC9225			KC9225	100	**160**	230	0,06 - 0,12	–	–	0,08 - 0,16
	3				KTP10		140	**200**	300	–	–	0,06 - 0,25	–
			KT315			KT315	140	**200**	300	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010			KC5010	130	**185**	230	0,06 - 0,25	–	–	0,08 - 0,30
			KCM15		KCM15		115	**150**	255	0,06 - 0,12	–	0,06 - 0,12	–
			KC9225			KC9225	110	**150**	230	0,06 - 0,12	–	–	0,08 - 0,16

ModBORE™ • Finishing • Metric

Material Group		Condition	Geometry -LF	-UF	-FP	-FW	Cutting Speed m/min min	Starting Value	max	Feed Rate mm/r -LF	-UF	-FP	-FW
K	1		KCK20		KCK20		200	**300**	540	0,06 - 0,25	–	0,06 - 0,25	0,08 - 0,30
			KT315			KT315	165	**275**	490	0,06 - 0,25	–	–	0,08 - 0,30
			KC9315				110	**275**	450	0,06 - 0,25	–	–	–
			KC9320				100	**240**	400	0,06 - 0,12	–	–	–
	2		KCK20		KCK20		150	**240**	420	0,06 - 0,25	–	0,06 - 0,25	0,08 - 0,30
			KT315			KT315	180	**275**	360	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010			KC5010	100	**200**	265	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			KC9315				145	**260**	360	0,06 - 0,25	–	–	–
			KC9320				140	**240**	330	0,06 - 0,12	–	–	–
	3		KCK20		KCK20		140	**210**	350	0,06 - 0,25	–	0,06 - 0,25	0,08 - 0,30
			KT315			KT315	180	**230**	320	0,06 - 0,25	–	–	0,08 - 0,30
			KC5010			KC5010	120	**150**	225	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
			KC9315				145	**215**	275	0,06 - 0,25	–	–	–
			KC9320				140	**210**	260	0,06 - 0,12	–	–	–

Material Group		Condition	Geometry -LF	–	–	–	Cutting Speed m/min min	Starting Value	max	Feed Rate mm/r -LF	–	–	–
N	1		KC5410		–	–	200	**550**	1000	0,10 - 0,40	–	–	–
			KC5410		–	–	200	**550**	1000	0,10 - 0,20	–	–	–
				KD1400	–	–	450	**765**	3000	–	0,06 - 0,15	–	–
	2			KD1425	–	–	375	**580**	1150	–	0,06 - 0,25	–	–
				KD1400	–	–	400	**650**	1250	–	0,06 - 0,15	–	–
	3		KC5410		–	–	125	**275**	525	0,10 - 0,40	–	–	–
				KD1425	–	–	250	**500**	875	–	0,06 - 0,25	–	–
			KC5410		–	–	125	**275**	525	0,10 - 0,20	–	–	–
				KD1400	–	–	375	**520**	1000	–	0,06 - 0,12	–	–
	5		KC5410		–	–	125	**200**	375	0,10 - 0,40	–	–	–
			KC5410		–	–	125	**200**	375	0,10 - 0,20	–	–	–

Material Group		Condition	Geometry -LF	-UF	-FP	-FW	Cutting Speed m/min min	Starting Value	max	Feed Rate mm/r -LF	-UF	-FP	-FW
S	1				KCU10		30	**55**	125	–	–	0,06 - 0,25	–
			K313				10	**30**	60	0,06 - 0,25	–	–	–
			KC5010			KC5010	30	**55**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
					KCU10		30	**55**	125	–	–	0,06 - 0,25	–
			KC5010			KC5010	30	**55**	120	0,06 - 0,25	0,04 - 0,16		0,08 - 0,30
					KCU25		10	**40**	50	–	–	0,06 - 0,12	–
			KC5025				10	**40**	50	0,06 - 0,10	–	–	–
	2				KCU10		30	**35**	125	–	–	0,06 - 0,25	–
			K313				10	**35**	60	0,06 - 0,25	–	–	–
			KC5010			KC5010	30	**60**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
					KCU10		30	**35**	125	–	–	0,06 - 0,25	–
			KC5010			KC5010	30	**60**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
					KCU25		10	**30**	50	–	–	0,06 - 0,12	–
			KC5025				10	**30**	50	0,06 - 0,10	–	–	–
	3				KCU10		30	**70**	125	–	–	0,06 - 0,25	–
			K313				10	**40**	60	0,06 - 0,25	–	–	–
			KC5010			KC5010	30	**70**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
					KCU10		30	**35**	125	–	–	0,06 - 0,25	–
			KC5010			KC5010	30	**70**	120	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
					KCU25		25	**40**	60	–	–	0,06 - 0,12	–
			KC5025				25	**40**	60	0,06 - 0,10	–	–	–
	4				KCU10		45	**70**	140	–	–	0,06 - 0,25	–
			K313				15	**45**	65	0,06 - 0,25	–	–	–
			KC5010			KC5010	45	**70**	140	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
					KCU10		45	**70**	140	–	–	0,06 - 0,25	–
			KC5010			KC5010	45	**70**	140	0,06 - 0,25	0,04 - 0,16	–	0,08 - 0,30
					KCU25		25	**55**	90	–	–	0,06 - 0,12	–
			KC5025				15	**55**	90	0,06 - 0,10	–	–	–

Application Data • Maximum RPM

	Application Diameter D1 min (mm)	Application Diameter D1 max (mm)	Application Diameter D1 min (in)	Application Diameter D1 max (in)	RPM max	
ModBORE™ RBHT 	24	31	0.9449	1.2205	12000	
	31	40	1.2205	1.5748	10000	
	40	51	1.5748	2.0079	8000	
	51	67	2.0079	2.6378	6500	
	67	87	2.6378	3.4252	5000	
	87	116	3.4252	4.5669	4000	
	116	153	4.5669	6.0236	3000	
ModBORE FBHS 					**balanced**	**unbalanced**
	24	31	0.9449	1.2205	12000	9000
	31	40	1.2205	1.5748	10000	7500
	40	51	1.5748	2.0079	8000	5250
	51	67	2.0079	2.6378	6500	4000
	67	87	2.6378	3.4252	5000	3000
	87	116	3.4252	4.5669	4000	2500
	116	171	4.5669	6.7323	3000	1750
ModBORE FBHO 					**boring bar out of center**	
					max 0,5mm (.02")	**0,5–2,5mm (.02–.1")**
	3	20	0.1181	0.7874	16000	6000
	20	48	0.7874	1.8898	12000	4000
	48	88	1.8898	3.4646	8000	2000
ModBORE FBHM 					**boring bar out of center**	
					max 0,5mm (.02")	**0,5–2,5mm (.02–.1")**
	3	20	0.1181	0.7874	16000	6000
	20	48	0.7874	1.8898	12000	4000
	48	88	1.8898	3.4646	8000	2000
	86	164	3.3858	6.4567	1000	–
	164	320	6.4567	12.5984	500	–
	–	–	0.0000	0.0000	–	–
	–	–	0.0000	0.0000	–	–
ModBORE Bridge Tools 	150	205	5.9055	8.0709	1250	
	200	255	7.8740	10.0394	1000	
	250	305	9.8425	12.0079	850	
	300	355	11.8110	13.9764	700	
	350	405	13.7795	15.9449	600	
	400	455	15.7480	17.9134	530	
	450	505	17.7165	19.8819	480	
	500	555	19.6850	21.8504	440	
	550	605	21.6535	23.8189	400	
	600	655	23.6220	25.7874	380	

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Online product catalog available 24/7

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KENNAMETAL



High-Performance Taps

Beyond High-Performance Solid Carbide Taps L2–L33

Tool Selection Guide L4–L5

Taps L10–L26

Application Data L27

Cross Reference Charts • Taps and Drills L28–L33

High-Performance HSS-E-PM Taps L34–L91

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Informational Icons L305–L306





Beyond™ High-Performance Solid Carbide Taps

Beyond™ Primary Application

Solid carbide taps offer higher productivity and outstanding performance in a wider range of materials than formerly possible. Get more production from a single tool and superior accuracy of product thread that surpasses the competition. Kennametal High-Performance Solid Carbide Taps are available in various specifications with enhanced precision and design, which translates into longer tool life, excellent performance, and exceptional wear resistance.

- High performance to surpass competitive taps.
- More production from a single tool.
- Available in various specifications.

Features and Benefits

Advanced Technology

- Manufactured with micrograin carbide for exceptional wear life.
- Ideal for long production runs where fewer tool changes equate to greater productivity.
- Designed for outstanding tool life in steel, cast iron, aluminum, and hardened materials.
- Runs 4x faster and lasts 4x longer than conventional taps.
- Tap runout less than 10 microns (.0004").
- PVD nanolayer TiAlN/TiN coated carbide grade.

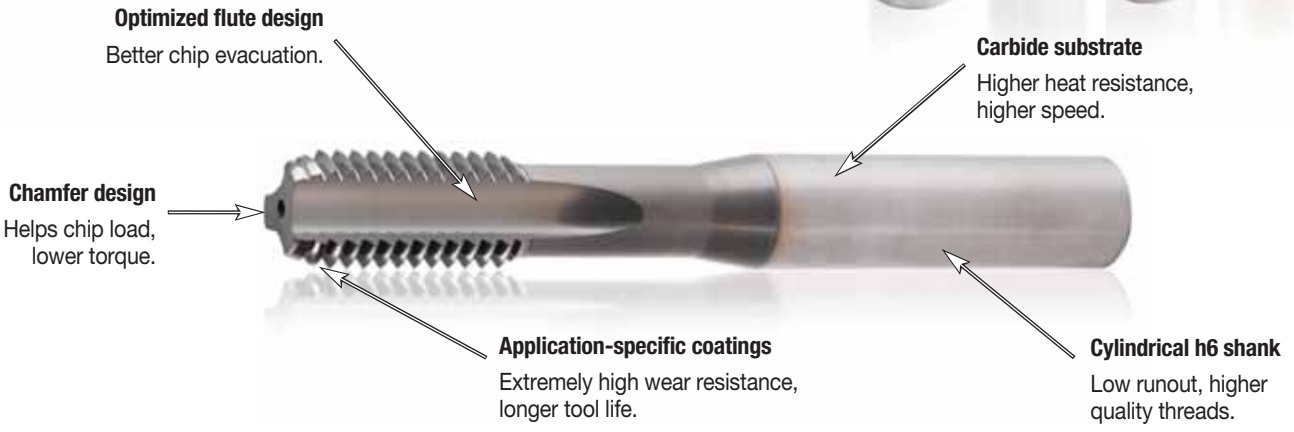
Customization

- Engineered solutions available upon request.
- Available in various specifications.

Application Information

- Maximum chip control and free cutting in through holes.
- For use on CNC machines with synchronous or rigid tapping control and precision toolholders.
- Straight-flute taps for sizes M4 and larger for ductile or cast iron.
- Can be factory reconditioned to original specifications and tolerances.





*To learn more, **scan here**.*
For instructions on how to scan, please see page xxix.

Beyond™ Series HP Solid Carbide Taps and Solid Carbide Forming Taps • Metric

● first choice
○ alternate choice

Beyond HP Solid Carbide Taps

	series	grade	shank/dimension	P	M	K	N	S	H
	T320	KC7542	6535 HA	●		○			
	T321	KC7542	6535 HA	●		○			
	T331	KC7542	6535 HA	●		○			
	T340	KC7542	6535 HA			●			
	T351	KC7542	6535 HA			●			
	T410	KCU36	DIN 371, 374, 376						●
	T461	KC7512	6535 HA				●		
	T471	KC7512	6535 HA				●		

Beyond HP Solid Carbide Forming Taps

	series	grade	shank/dimension	P	M	K	N	S	H
	T381	KC7542	6535 HA	●					
	T391	KC7542	6535 HA	●					
	T481	KC7512	6535 HA				●		
	T491	KC7512	6535 HA				●		

Beyond Series HP Solid Carbide Taps and Solid Carbide Forming Taps • Inch

● first choice
○ alternate choice

Beyond HP Solid Carbide Taps

	series	grade	shank/dimension	P	M	K	N	S	H
	T320	KC7542	6535 HA	●		○			
	T331	KC7542	6535 HA	●		○			
	T340	KC7542	6535 HA			●			
	T351	KC7542	6535 HA			●			
	T461	KC7512	6535 HA				●		
	T471	KC7512	6535 HA				●		

Beyond HP Solid Carbide Forming Taps

	series	grade	shank/dimension	P	M	K	N	S	H
	T381	KC7542	6535 HA	●					
	T391	KC7542	6535 HA	●					
	T481	KC7512	6535 HA				●		
	T491	KC7512	6535 HA				●		

*Through coolant 1/4" and larger.

size range (metric) size min–max	through hole	blind hole	chamfer form	helix angle	external coolant	internal coolant	page(s)	recommended cutting parameters
M6–M16							L10	L27
M6–M16							L11	L27
M6–M16							L12	L27
M4–M20							L14	L27
M4*–M16							L16	L27
M3–M16							L19	L27
M6–M16							L21	L27
M6–M16							L23	L27
M4*–M10							L17	L27
M4*–M10							L18	L27
M4*–M12							L25	L27
M4*–M12							L26	L27

size range (inch) size min–max	through hole	blind hole	chamfer form	helix angle	external coolant	internal coolant	page(s)	recommended cutting parameters
1/4"–5/8"							L10	L27
1/4"–5/8"							L12	L27
#6–3/4"							L13	L27
#6–3/4"							L15	L27
1/4"–5/8"							L20	L27
1/4"–5/8"							L22	L27
#6*–3/8"							L17	L27
#6*–3/8"							L18	L27
#6*–1/2"							L24	L27
#6*–1/2"							L26	L27

Taps

Carbide Tap Identification System



Metric

T320	MF	120	X	150	R	6HX

Inch

T320	NC	06250	-	11	R	3BX
Tap Design	Type of Thread	Nominal Diameter of Thread		Pitch	Cutting Direction	Tolerance Class
		mm or inch (depending on type)		mm or TPI (depending on type)		

M = Metric coarse-pitch thread (ISO form)

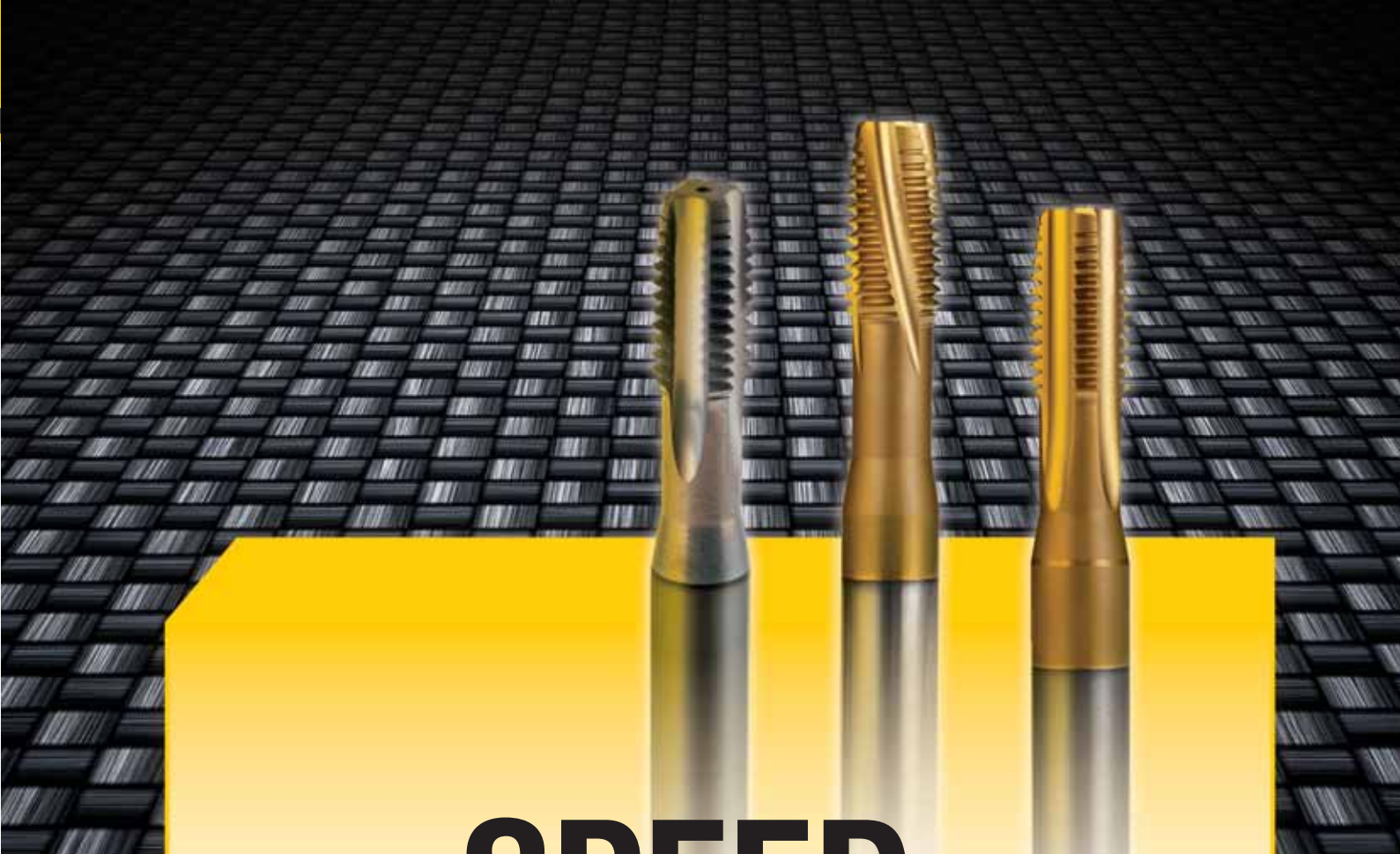
MF = Metric fine-pitch thread (ISO form)

NC = Unified coarse series thread

NF = Unified fine series thread

Style

T320 = Steel, through holes, LHSF
T321 = Steel, through holes, LHSF coolant
T331 = Steel, blind holes, RHSF coolant
T340 = Cast iron and cast aluminum, through holes, STFL
T351 = Cast iron and cast aluminum, blind holes, STFL coolant
T381 = Steel, through holes, forming FT, coolant
T391 = Steel, blind holes, forming FT, coolant
T410 = Hard materials up to 63 HRC
T461 = Aluminum, through holes, STFL, coolant
T471 = Aluminum, blind holes, STFL, coolant
T481 = Aluminum, through holes, forming FT, coolant
T491 = Aluminum, blind holes, forming FT, coolant



The SPEED to EXCEED

Solid Carbide Taps

The Kennametal Solid Carbide Taps deliver the accuracy you demand at up to four times the speed of HSS taps. Longer tool life, exceptional thread quality, and an array of sizes for ferrous and non-ferrous materials make our taps the most trusted and productive tools in the industry.

- Reduce your operating costs by up to 65%.
- Workpiece-specific grades: KC7542™ for steels and cast irons, KC7512™ for aluminum.
- Go 4x faster with 4x the service life of conventional HSS offerings.
- Wide array of styles and sizes for through or blind hole applications.

Tap into something great at your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

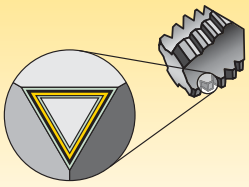
KENNAMETAL®

Through Holes

Blind Holes

		Through Holes				Blind Holes			
		Cutting		Forming		Cutting		Forming	
		Internal Coolant	Flood	Internal Coolant	Flood	Internal Coolant	Flood	Internal Coolant	Flood
P	<32 HRC	**T321_KC7542** T621_KP6525	**T320_KC7542** T620_KP6525	**T381_KC7542** T623_KSP21	T622_KSP21	**T331_KC7542** T631_KP6525 T633_KP6525 T651_KP6525	T630_KP6525 T630_KP6505 T632_KP6525 T650_KP6525	**T391_KC7542** T623_KSP21	T622_KSP21
P	32–44 HRC	—	T600_KSP2	—	—	—	T602_KSP21 T604_KSH26	—	—
M		T621_KM6515	T620_KM6515	—	—	T631_KM6515	T630_KM6515	—	—
K		T641_KP6525	**T340_KC7542** T640_KP6525	—	—	**T351_KC7542** T641_KP6525 T643_KP6525	T640_KP6525 T642_KP6525	—	—
N	Wrought, Low Si	—	T670_KSN38	**T481_KC7512** T623_KSN28	T622_KSN28	—	T680_KSN38	**T491_KC7512** T623_KSN28	T622_KSN28
N	Cast, Si<12%	**T461_KC7512** T641_KP6525	T640_KP6525	**T481_KC7512** T623_KSN28	T622_KSN28	**T471_KC7512** T641_KP6525 T643_KP6525	T640_KP6525 T642_KP6525	**T491_KC7512** T623_KSN28	T622_KSN28
S	Titanium Alloys	—	T614_KSN25	—	—	—	T616_KSN25	—	—
S	Ni and Co Alloys	—	T610_KSSH22	—	—	—	T612_KSSH22	—	—
H	44–55 HRC	—	T606_KSSH22	—	—	—	T606_KSSH22	—	—
H	55–63 HRC	—	**T410_KCU36**	—	—	—	**T410_KCU36**	—	—

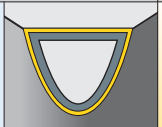
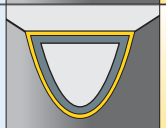
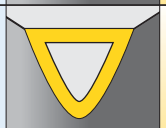
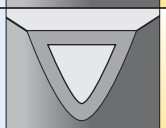
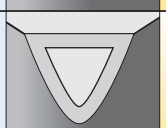
Solid Carbide = **bold**
HSS-E-PM = regular



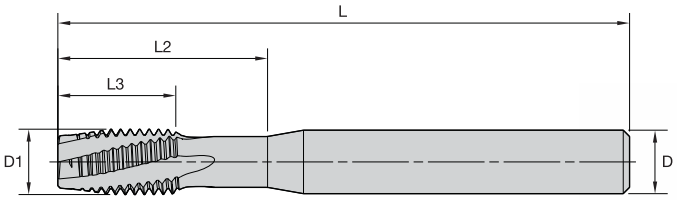
Coatings provide high-speed capability and are engineered for finishing to light roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grade	Coating	Grade Description	05 10 15 20 25 30 35 40 45
KC7542		Coated carbide. PVD — multilayer coating with TiAlN and TiN over a high-strength carbide substrate specifically designed for tap application. Use in steel up to 32 HRC and cast iron at four times faster speeds than HSS-E-PM taps.	P, K
KC7512		Coated carbide. PVD — two-layer coating over fine-grain carbide. Coating consists of low friction CrC/C over wear-resistant TiN. CrC/C resists galling of non-ferrous materials to the tap. Provides superior performance for tapping cast aluminum and other non-ferrous materials.	N
NEW! KCU36		Coated carbide. PVD — two-layer coating with heat-resistant TiAlN base layer and low-friction MoS_2 top layer over carbide substrate. Use in hardened steel 55–63 HRC.	H
NEW! KP6525		Coated HSS-E-PM. PVD — heat- and wear-resistant high vanadium — cobalt powder metal HSS substrate coated with wear-resistant TiCN base layer and low-friction TiN top layer. Use in steel, cast iron, and cast aluminum with silicon.	P, K
NEW! KSP21		Coated HSS-E-PM. PVD — powder metal HSS-E substrate with TiN coating. Use for tapping steel 32–44 HRC and for forming threads in steel 32 HRC.	P
NEW! KSH26		Coated HSS-E-PM. PVD — powder metal HSS-E substrate coated with TiN base layer and low-friction MoS_2 top layer. Use in deep blind steel holes 32–44 HRC.	P
NEW! KM6515		Coated HSS-E-PM. PVD — heat- and wear-resistant high vanadium — cobalt powder metal HSS substrate. Coating consists of low-friction CrC/C over wear-resistant TiN base layer. Use for tapping stainless steel and non-ferrous materials.	M, N
NEW! KSN28		Coated HSS-E-PM. PVD — powder metal HSS-E substrate with DLC coating. Use for form tapping aluminum. Not recommended for steel.	N
NEW! KSN38		Coated HSS-E. PVD — Lower vanadium HSS-E substrate with DLC coating. Use for tapping non-ferrous materials with low cutting temperatures like wrought aluminum. Not recommended for steel.	N
NEW! KSN25		Coated HSS-E-PM. PVD — powder metal HSS-E substrate with two-layer coating: TiN base layer and DLC top layer that resists galling of non-ferrous materials to the tap. Use for tapping titanium. Not recommended for steel.	S
NEW! KSSH22		Coated HSS-E-PM. PVD — heat- and wear-resistant high vanadium — cobalt powder metal HSS substrate with high hardness TiCN coating. Use when tapping heat-treated steel 44–55 HRC and cobalt- or nickel-based heat-resistant alloys.	S, H



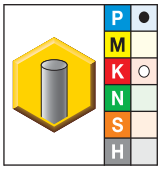




beyond

KC7542 • TiAlN + TiN for steel.

T320 • Form D Plug Chamfer • Inch



● first choice
○ alternate choice

KC7542	D1 size	L	L3	L2	D	number of flutes	class of fit
T320NC02500-20R3BX	1/4 - 20	2.76	.59	.91	.2500	3	3BX
T320NF02500-28R3BX	1/4 - 28	2.76	.59	.91	.2500	3	3BX
T320NC03125-18R3BX	5/16 - 18	3.15	.67	1.10	.3125	3	3BX
T320NF03125-24R3BX	5/16 - 24	3.15	.67	1.10	.3125	3	3BX
T320NC03750-16R3BX	3/8 - 16	3.54	.75	1.30	.3750	4	3BX
T320NF03750-24R3BX	3/8 - 24	3.54	.75	1.30	.3750	4	3BX
T320NC04375-14R3BX	7/16 - 14	3.94	.87	1.42	.4375	4	3BX
T320NC05000-13R3BX	1/2 - 13	3.94	.94	1.58	.5000	4	3BX
T320NF0500020R3BX	1/2 - 20	3.94	.94	1.58	.5000	4	3BX
T320NC05625-12R3BX	9/16 - 12	4.33	1.02	1.85	.5000	4	3BX
T320NC06250-11R3BX	5/8 - 11	4.33	1.10	2.09	.5625	5	3BX

Shank Tolerance

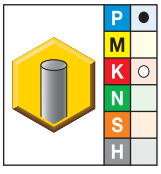
D	tolerance h6
.250–.375	+0, -.0004
.438–.625	+0, -.0004

beyond

KC7542 • TiAlN + TiN for steel.



T320 • Form D Plug Chamfer • Metric



● first choice
○ alternate choice

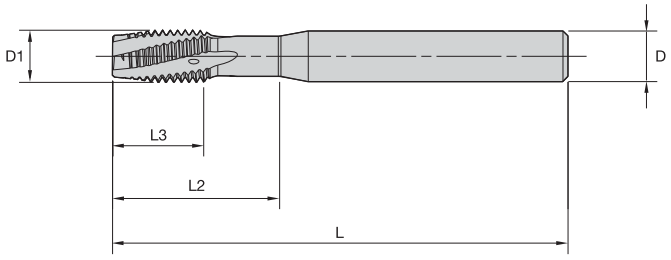
KC7542	D1 size	L	L3	L2	D	number of flutes	class of fit
T320M060X100R6HX	M6 x 1	70	12	23	6,0	3	6HX
T320M080X125R6HX	M8 x 1,25	80	15	28	8,0	3	6HX
T320M100X150R6HX	M10 x 1,5	90	18	33	10,0	4	6HX
T320MF120X150R6HX	M12 x 1,5	100	21	40	12,0	4	6HX
T320M120X175R6HX	M12 x 1,75	100	21	40	12,0	4	6HX
T320MF140X150R6HX	M14 x 1,5	110	24	47	12,0	4	6HX
T320M140X200R6HX	M14 x 2	110	24	47	12,0	4	6HX
T320M160X200R6HX	M16 x 2	110	24	53	14,0	4	6HX

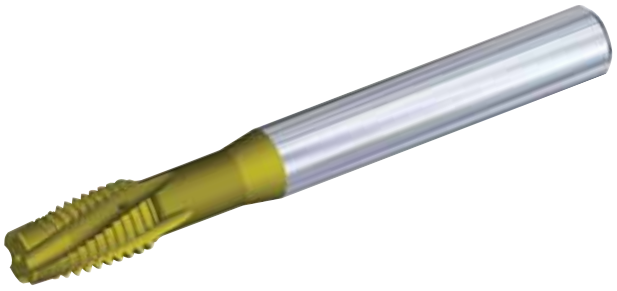
NOTE: Proprietary technology.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011



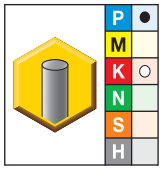




beyond

KC7542 • TiAlN + TiN for steel.

T321 • Form D Plug Chamfer • Through Coolant • Metric



● first choice
○ alternate choice

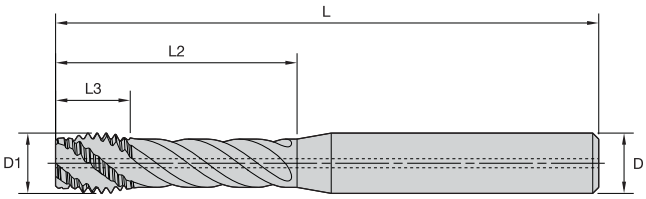
KC7542	D1 size	L	L3	L2	D	number of flutes	class of fit
T321M100X150R6HX	M10 x 1,5	90	18	33	10,0	4	6HX
T321MF120X150R6HX	M12 x 1,5	100	21	40	12,0	4	6HX
T321M120X175R6HX	M12 x 1,75	100	21	40	12,0	4	6HX
T321MF140X150R6HX	M14 x 1,5	110	24	47	12,0	4	6HX
T321M140X200R6HX	M14 x 2	110	24	47	12,0	4	6HX
T321M160X200R6HX	M16 x 2	110	24	53	14,0	4	6HX

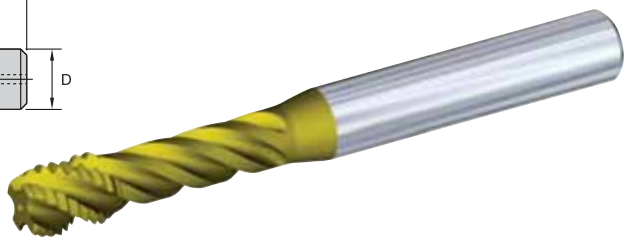
NOTE: Proprietary technology.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011



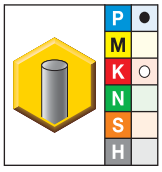




beyond

KC7542 • TiAlN + TiN for steel.

T331 • Form C Semi-Bottoming Chamfer • Through Coolant • Inch



● first choice
○ alternate choice

KC7542	D1 size	L	L3	L2	D	number of flutes	class of fit
T331NC2500-20R3BX	1/4 - 20	2.76	.39	.94	.2500	3	3BX
T331NF2500-28R3BX	1/4 - 28	2.76	.39	.94	.2500	3	3BX
T331NC3125-18R3BX	5/16 - 18	3.15	.47	1.26	.3125	3	3BX
T331NC3750-16R3BX	3/8 - 16	3.54	.51	1.57	.3750	4	3BX
T331NC4375-14R3BX	7/16 - 14	3.94	.59	1.73	.4375	4	3BX
T331NC5000-13R3BX	1/2 - 13	3.94	.63	1.89	.5000	4	3BX
T331NC5625-12R3BX	9/16 - 12	4.33	.67	2.20	.5000	4	3BX
T331NC6250-11R3BX	5/8 - 11	4.33	.75	2.52	.5625	4	3BX

Shank Tolerance

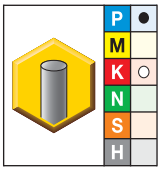
D	tolerance h6
.250–.375	+0, -.0004
.438–.625	+0, -.0004



beyond

KC7542 • TiAlN + TiN for steel.

T331 • Form C Semi-Bottoming Chamfer • Through Coolant • Metric



● first choice
○ alternate choice

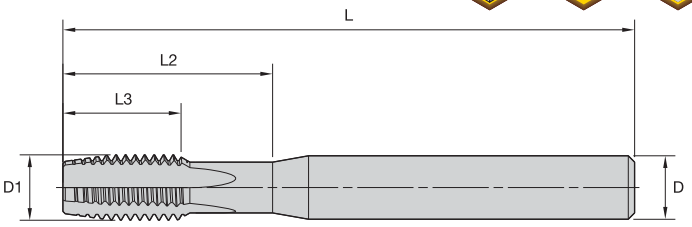
KC7542	D1 size	L	L3	L2	D	number of flutes	class of fit
T331M060X100R6HX	M6 x 1	70	8	24	6,0	3	6HX
T331M080X125R6HX	M8 x 1,25	80	10	32	8,0	3	6HX
T331MF100X100R6HX	M10 x 1	90	12	40	10,0	4	6HX
T331M100X150R6HX	M10 x 1,5	90	12	40	10,0	4	6HX
T331MF120X150R6HX	M12 x 1,5	100	14	48	12,0	4	6HX
T331M120X175R6HX	M12 x 1,75	100	14	48	12,0	4	6HX
T331MF140X150R6HX	M14 x 1,5	110	16	56	12,0	4	6HX
T331M140X200R6HX	M14 x 2	110	16	56	12,0	4	6HX
T331M160X200R6HX	M16 x 2	110	16	64	14,0	4	6HX

NOTE: Proprietary technology.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011



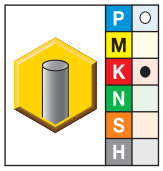




beyond

KC7542 • TiAlN + TiN for cast iron.

T340 • Form D Plug Chamfer • Inch



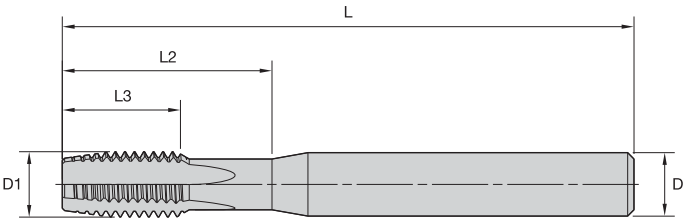
● first choice
○ alternate choice

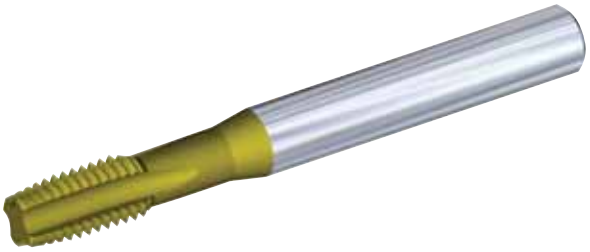
KC7542	D1 size	L	L3	L2	D	number of flutes	class of fit
T340NC#6-32R3BX	6 - 32	2.36	.28	.55	.2500	3	3BX
T340NC#8-32R3BX	8 - 32	2.36	.28	.63	.2500	3	3BX
T340NC#10-24R3BX	10 - 24	2.36	.35	.79	.2500	3	3BX
T340NF#10-32R3BX	10 - 32	2.36	.35	.79	.2500	3	3BX
T340NC2500-20R3BX	1/4 - 20	2.76	.59	.91	.2500	4	3BX
T340NF2500-28R3BX	1/4 - 28	2.76	.59	.91	.2500	4	3BX
T340NC3125-18R3BX	5/16 - 18	3.15	.67	1.10	.3125	4	3BX
T340NC03750-16R3BX	3/8 - 16	3.54	.75	1.30	.3750	4	3BX
T340NF03750-24R3BX	3/8 - 24	3.54	.75	1.30	.3750	4	3BX
T340NC04375-14R3BX	7/16 - 14	3.94	.87	1.42	.4375	4	3BX
T340NC05000-13R3BX	1/2 - 13	3.94	.94	1.58	.5000	4	3BX
T340NF05000-20R3BX	1/2 - 20	3.94	.94	1.58	.5000	4	3BX
T340NF05625-18R3B	9/16 - 18	4.33	1.02	1.85	.5000	4	3BX
T340NC05625-12R3BX	9/16 - 12	4.33	1.02	1.85	.5000	4	3BX
T340NC06250-11R3BX	5/8 - 11	4.33	1.10	2.09	.5625	5	3BX
T340NC07500-10R3BX	3/4 - 10	4.92	1.22	2.48	.6250	5	3BX

Shank Tolerance

D	tolerance h6
.250–.375	+0, -.0004
.438–.625	+0, -.0004



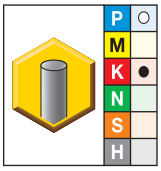




beyond

KC7542 • TiAlN + TiN for cast iron.

T340 • Form D Plug Chamfer • Metric



● first choice
○ alternate choice

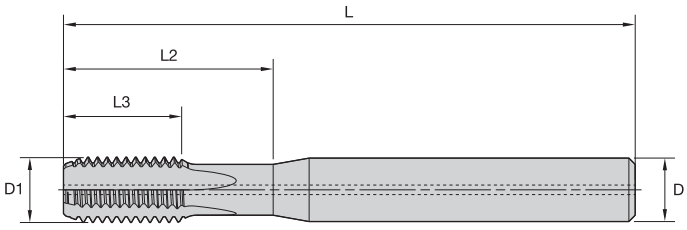
KC7542	D1 size	L	L3	L2	D	number of flutes	class of fit
T340M040X070R6HX	M4 x 0,7	60	6	16	6,0	3	6HX
T340M050X080R6HX	M5 x 0,8	60	7	20	6,0	3	6HX
T340M060X100R6HX	M6 x 1	70	12	23	6,0	4	6HX
T340M080X125R6HX	M8 x 1,25	80	15	28	8,0	4	6HX
T340M100X150R6HX	M10 x 1,5	90	18	33	10,0	4	6HX
T340MF100X100R6HX	M10 x 1	90	18	33	10,0	4	6HX
T340MF120X150R6HX	M12 x 1,5	100	21	40	12,0	4	6HX
T340M120X175R6HX	M12 x 1,75	100	21	40	12,0	4	6HX
T340M140X200R6HX	M14 x 2	110	24	47	12,0	4	6HX
T340MF140X150R6HX	M14 x 1,5	110	24	47	12,0	4	6HX
T340M160X200R6HX	M16 x 2	110	24	53	14,0	4	6HX
T340M180X250R6HX	M18 x 2,5	125	30	59	16,0	5	6HX
T340M200X250R6HX	M20 x 2,5	140	30	66	18,0	5	6HX

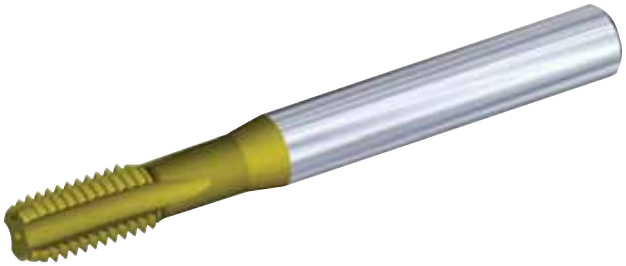
NOTE: Proprietary technology.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011



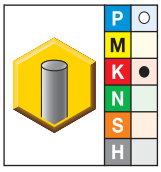




beyond

KC7542 • TiAlN + TiN for tapping cast iron.

T351 • Form E Bottoming Chamfer • Through Coolant 1/4" and Larger • Inch



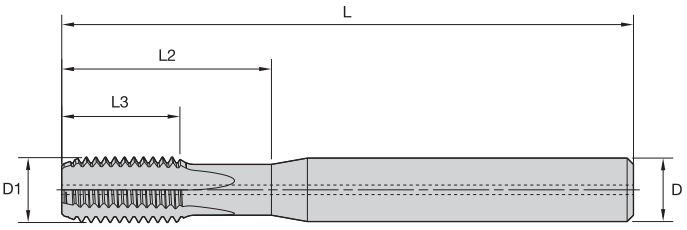
● first choice
○ alternate choice

KC7542	D1 size	L	L3	L2	D	number of flutes	class of fit
T351NC#6-32R3BX	6 - 32	2.36	.28	.55	.2500	3	3BX
T351NC#8-32R3BX	8 - 32	2.36	.28	.63	.2500	3	3BX
T351NC#10-24R3BX	10 - 24	2.36	.35	.79	.2500	3	3BX
T351NF#10-32R3BX	10 - 32	2.36	.35	.79	.2500	3	3BX
T351NC2500-20R3BX	1/4 - 20	2.76	.59	.91	.2500	4	3BX
T351NF2500-28R3BX	1/4 - 28	2.76	.59	.91	.2500	4	3BX
T351NC3125-18R3BX	5/16 - 18	3.15	.67	1.10	.3125	4	3BX
T351NC3750-16R3BX	3/8 - 16	3.54	.75	1.30	.3750	4	3BX
T351NC4375-14R3BX	7/16 - 14	3.94	.87	1.42	.4375	4	3BX
T351NC5000-13R3BX	1/2 - 13	3.94	.94	1.57	.5000	4	3BX
T351NC5625-12R3BX	9/16 - 12	4.33	1.02	1.85	.5000	4	3BX
T351NC6250-11R3BX	5/8 - 11	4.33	1.10	2.09	.5625	5	3BX
T351NC7500-10R3BX	3/4 - 10	4.92	1.22	2.48	.6250	5	3BX

Shank Tolerance

D	tolerance h6
.250–.375	+0, -.0004
.438–.625	+0, -.0004



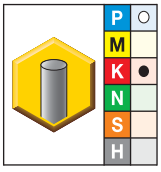




beyond

KC7542 • TiAlN + TiN for cast iron.

T351 • Form E Bottoming Chamfer • Through Coolant M6 and Larger • Metric



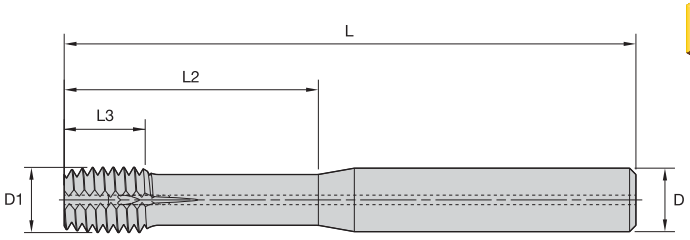
● first choice
○ alternate choice

KC7542	D1 size	L	L3	L2	D	number of flutes	class of fit
T351M040X070R6HX	M4 x 0,7	60	6	16	6,0	3	6HX
T351M050X080R6HX	M5 x 0,8	60	7	20	6,0	3	6HX
T351M060X100R6HX	M6 x 1	70	12	23	6,0	4	6HX
T351M080X125R6HX	M8 x 1,25	80	15	28	8,0	4	6HX
T351MF100X100R6HX	M10 x 1	90	18	33	10,0	4	6HX
T351M100X150R6HX	M10 x 1,5	90	18	33	10,0	4	6HX
T351MF120X150R6HX	M12 x 1,5	100	21	40	12,0	4	6HX
T351M120X175R6HX	M12 x 1,75	100	21	40	12,0	4	6HX
T351MF140X150R6HX	M14 x 1,5	110	24	47	12,0	4	6HX
T351M140X200R6HX	M14 x 2	110	24	47	12,0	4	6HX
T351M160X200R6HX	M16 x 2	110	24	53	14,0	4	6HX
T351M200X250R6HX	M20 x 2,5	140	30	66	18,0	5	6HX

NOTE: Proprietary technology.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

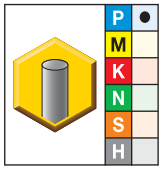




beyond

KC7542 • TiAlN + TiN for tapping steel.

T381 • Form D Plug Entry Taper • Through Coolant 1/4" and Larger • Inch



● first choice
○ alternate choice

KC7542	D1 size	L	L3	L2	D	number of lube grooves	class of fit
T381NC#6-32R3BX	6 - 32	2.36	.28	.55	.2500	2	3BX
T381NC#8-32R3BX	8 - 32	2.36	.28	.63	.2500	2	3BX
T381NC#10-24R3BX	10 - 24	2.36	.35	.79	.2500	2	3BX
T381NF#10-32R3BX	10 - 32	2.36	.35	.79	.2500	2	3BX
T381NC2500-20R3BX	1/4 - 20	2.76	.39	.95	.2500	2	3BX
T381NF2500-28R3BX	1/4 - 28	2.76	.39	.95	.2500	2	3BX
T381NC3125-18R3BX	5/16 - 18	3.15	.47	1.26	.3125	2	3BX
T381NC3750-16R3BX	3/8 - 16	3.54	.51	1.58	.3750	3	3BX

Shank Tolerance

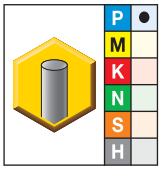
D	tolerance h6
.250–.375	+0, -.0004
.438–.625	+0, -.0004



beyond

KC7542 • TiAlN + TiN for steel.

T381 • Form D Plug Entry Taper • Through Coolant M6 and Larger • Metric



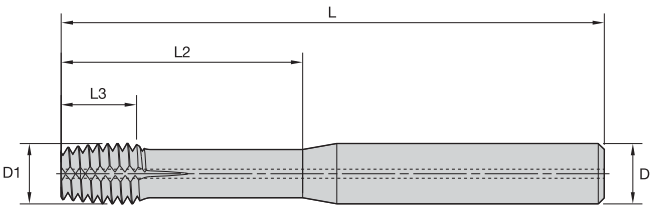
● first choice
○ alternate choice

KC7542	D1 size	L	L3	L2	D	number of lube grooves	class of fit
T381M040X070R6HX	M4 x 0,7	60	6	16	6,0	2	6HX
T381M050X080R6HX	M5 x 0,8	60	7	20	6,0	2	6HX
T381M060X100R6HX	M6 x 1	70	8	24	6,0	2	6HX
T381M080X125R6HX	M8 x 1,25	80	10	32	8,0	2	6HX
T381M100X150R6HX	M10 x 1,5	90	12	40	10,0	3	6HX

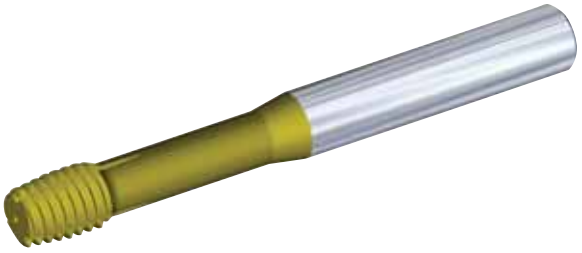
NOTE: Proprietary technology.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011



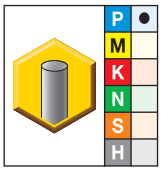




beyond

KC7542 • TiAlN + TiN for tapping steel.

T391 • Form E Bottoming Entry Taper • Through Coolant 1/4" and Larger • Inch



● first choice
○ alternate choice

KC7542	D1 size	L	L3	L2	D	number of lube grooves	class of fit
T391NC#6-32R3BX	6 - 32	2.36	.28	.55	.2500	2	3BX
T391NC#8-32R3BX	8 - 32	2.36	.28	.63	.2500	2	3BX
T391NC#10-24R3BX	10 - 24	2.36	.35	.79	.2500	2	3BX
T391NF#10-32R3BX	10 - 32	2.36	.35	.79	.2500	2	3BX
T391NC2500-20R3BX	1/4 - 20	2.76	.39	.95	.2500	2	3BX
T391NF2500-28R3BX	1/4 - 28	2.76	.39	.95	.2500	2	3BX
T391NC3125-18R3BX	5/16 - 18	3.15	.47	1.26	.3125	2	3BX
T391NC3750-16R3BX	3/8 - 16	3.54	.51	1.58	.3750	3	3BX

Shank Tolerance

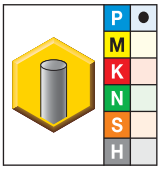
D	tolerance h6
.250–.375	+0, -.0004
.438–.625	+0, -.0004



beyond

KC7542 • TiAlN + TiN for steel.

T391 • Form E Bottoming Entry Taper • Through Coolant M6 and Larger • Metric



● first choice
○ alternate choice

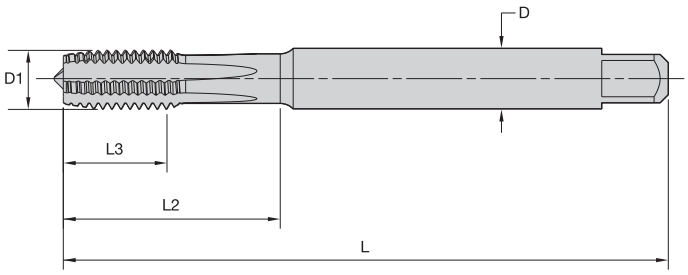
KC7542	D1 size	L	L3	L2	D	number of lube grooves	class of fit
T391M040X070R6HX	M4 x 0,7	60	6	16	6,0	2	6HX
T391M050X080R6HX	M5 x 0,8	60	7	20	6,0	2	6HX
T391M060X100R6HX	M6 x 1	70	8	24	6,0	2	6HX
T391M080X125R6HX	M8 x 1,25	80	10	32	8,0	2	6HX
T391M100X150R6HX	M10 x 1,5	90	12	40	10,0	3	6HX

NOTE: Proprietary technology.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011



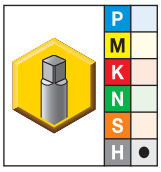




beyond

KCU36 • TiAlN/MoS_2 for tapping steel 55–63 HRC.

T410 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric



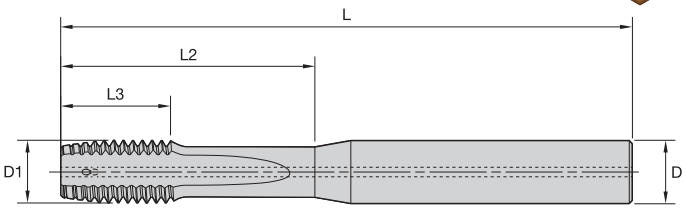
● first choice
○ alternate choice

KCU36	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T410M030X050R6HX-D1	M3 x 0,5	63	6	18	4,5	4	DIN 371	6HX
T410M040X070R6HX-D1	M4 x 0,7	63	8	20	4,5	4	DIN 371	6HX
T410M050X080R6HX-D1	M5 x 0,8	70	10	26	6,0	4	DIN 371	6HX
T410M060X100R6HX-D1	M6 x 1	80	12	28	6,0	4	DIN 371	6HX
T410MF080X100R6HX-D4	M8 x 1	90	15	35	8,0	5	DIN 374	6HX
T410M080X125R6HX-D1	M8 x 1,25	90	15	35	8,0	5	DIN 371	6HX
T410MF100X100R6HX-D4	M10 x 1	100	18	38	10,0	5	DIN 374	6HX
T410M100X150R6HX-D1	M10 x 1,5	100	18	38	10,0	5	DIN 371	6HX
T410MF120X150R6HX-D4	M12 x 1,5	110	21	41	12,0	5	DIN 374	6HX
T410M120X175R6HX-D6	M12 x 1,75	110	21	41	12,0	5	DIN 376	6HX
T410MF140X150R6HX-D4	M14 x 1,5	110	24	44	14,0	5	DIN 374	6HX
T410M140X200R6HX-D6	M14 x 2	110	24	44	14,0	6	DIN 376	6HX
T410MF160X150R6HX-D4	M16 x 1,5	110	24	44	16,0	5	DIN 374	6HX

Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043



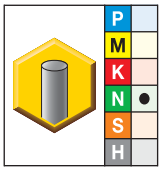




beyond

KC7512 • TiN + CrC/C for aluminum.

T461 • Form D Plug Chamfer • Through Coolant 1/4" and Larger • Inch



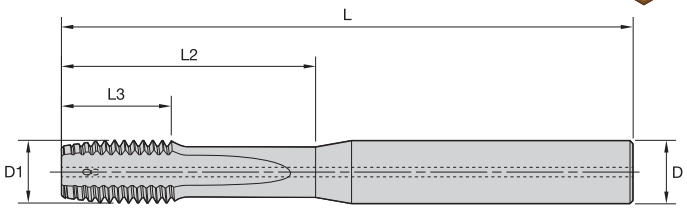
● first choice
○ alternate choice

KC7512	D1 size	L	L3	L2	D	number of flutes	class of fit
T461NC2500-20R3BX	1/4 - 20	2.76	.59	.94	.2500	3	3BX
T461NF2500-28R3BX	1/4 - 28	2.76	.59	.94	.2500	3	3BX
T461NC3125-18R3BX	5/16 - 18	3.15	.67	1.26	.3125	3	3BX
T461NC3750-16R3BX	3/8 - 16	3.54	.75	1.57	.3750	3	3BX
T461NC4375-14R3BX	7/16 - 14	3.94	.87	1.73	.4375	3	3BX
T461NC5000-13R3BX	1/2 - 13	3.94	.94	1.89	.5000	3	3BX
T461NC5625-12R3BX	9/16 - 12	4.33	1.02	2.20	.5000	4	3BX
T461NC6250-11R3BX	5/8 - 11	4.33	1.10	2.52	.5625	4	3BX

Shank Tolerance

D	tolerance h6
.250–.375	+0, -.0004
.438–.625	+0, -.0004



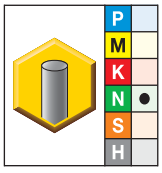




beyond

KC7512 • TiN + CrC/C for aluminum.

T461 • Form D Plug Chamfer • Through Coolant M6 and Larger • Metric



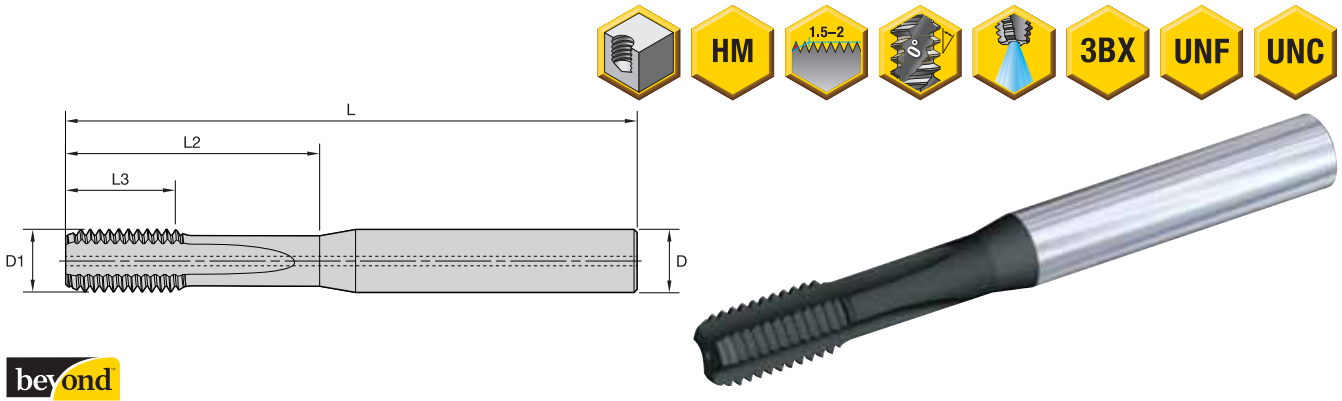
● first choice
○ alternate choice

KC7512	D1 size	L	L3	L2	D	number of flutes	class of fit
T461M060X100R6HX	M6 x 1	70	12	24	6,0	3	6HX
T461M080X125R6HX	M8 x 1,25	80	15	32	8,0	3	6HX
T461MF100X100R6HX	M10 x 1	90	18	40	10,0	3	6HX
T461M100X150R6HX	M10 x 1,5	90	18	40	10,0	3	6HX
T461MF120X150R6HX	M12 x 1,5	100	21	48	12,0	3	6HX
T461M120X175R6HX	M12 x 1,75	100	21	48	12,0	3	6HX
T461MF140X150R6HX	M14 x 1,5	110	24	56	12,0	4	6HX
T461M140X200R6HX	M14 x 2	110	24	56	12,0	4	6HX
T461MF160X150R6HX	M16 x 1,5	110	24	64	14,0	4	6HX
T461M160X200R6HX	M16 x 2	110	24	64	14,0	4	6HX

NOTE: Proprietary technology.

Shank Tolerance

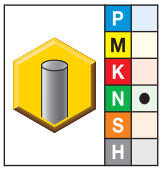
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011



beyond

KC7512 • TiN + CrC/C for aluminum.

T471 • Form E Bottoming Chamfer • Through Coolant • Inch



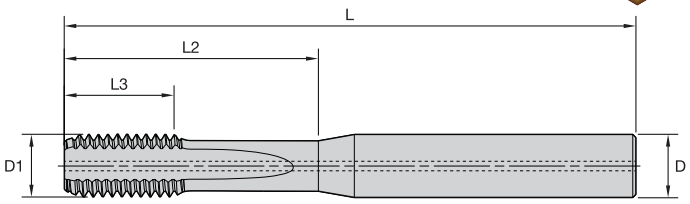
● first choice
○ alternate choice

KC7512	D1 size	L	L3	L2	D	number of flutes	class of fit
T471NC2500-20R3BX	1/4 - 20	2.76	.59	.94	.2500	3	3BX
T471NF2500-28R3BX	1/4 - 28	2.76	.59	.94	.2500	3	3BX
T471NC3125-18R3BX	5/16 - 18	3.15	.67	1.26	.3125	3	3BX
T471NC3750-16R3BX	3/8 - 16	3.54	.75	1.57	.3750	3	3BX
T471NC4375-14R3BX	7/16 - 14	3.94	.87	1.73	.4375	3	3BX
T471NC5000-13R3BX	1/2 - 13	3.94	.94	1.89	.5000	3	3BX
T471NC5625-12R3BX	9/16 - 12	4.33	1.02	2.20	.5000	4	3BX
T471NC6250-11R3BX	5/8 - 11	4.33	1.10	2.52	.5625	4	3BX

Shank Tolerance

D	tolerance h6
.250–.375	+0, -.0004
.438–.625	+0, -.0004



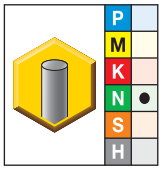




beyond

KC7512 • TiN + CrC/C for aluminum.

T471 • Form E Bottoming Chamfer • Through Coolant M6 and Larger • Metric



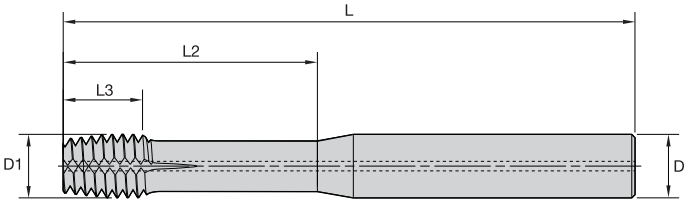
● first choice
○ alternate choice

KC7512	D1 size	L	L3	L2	D	number of flutes	class of fit
T471M060X100R6HX	M6 x 1	70	12	24	6,0	3	6HX
T471M080X125R6HX	M8 x 1,25	80	15	32	8,0	3	6HX
T471MF100X100R6HX	M10 x 1	90	18	40	10,0	3	6HX
T471M100X150R6HX	M10 x 1,5	90	18	40	10,0	3	6HX
T471MF120X150R6HX	M12 x 1,5	100	21	48	12,0	3	6HX
T471M120X175R6HX	M12 x 1,75	100	21	48	12,0	3	6HX
T471MF140X150R6HX	M14 x 1,5	110	24	56	12,0	4	6HX
T471M140X200R6HX	M14 x 2	110	24	56	12,0	4	6HX
T471MF160X150R6HX	M16 x 1,5	110	24	64	14,0	4	6HX
T471M160X200R6HX	M16 x 2	110	24	64	14,0	4	6HX

NOTE: Proprietary technology.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

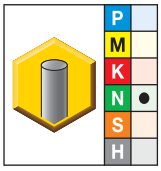




beyond

KC7512 • TiN + CrC/C for aluminum.

T481 • Form D Plug Entry Taper • Through Coolant 1/4" and Larger • Inch

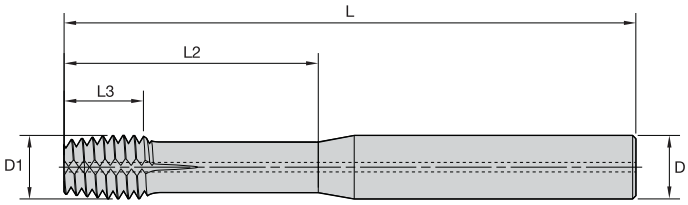


● first choice
○ alternate choice

KC7512	D1 size	L	L3	L2	D	number of lube grooves	class of fit
T481NC#6-32R3BX	6 - 32	2.36	.28	.55	.2500	2	3BX
T481NC#8-32R3BX	8 - 32	2.36	.28	.63	.2500	2	3BX
T481NC#10-24R3BX	10 - 24	2.36	.35	.79	.2500	2	3BX
T481NF#10-32R3BX	10 - 32	2.36	.35	.79	.2500	2	3BX
T481NC2500-20R3BX	1/4 - 20	2.76	.39	.94	.2500	2	3BX
T481NF2500-28R3BX	1/4 - 28	2.76	.39	.94	.2500	2	3BX
T481NC3125-18R3BX	5/16 - 18	3.15	.47	1.26	.3125	2	3BX
T481NC3750-16R3BX	3/8 - 16	3.54	.51	1.57	.3750	3	3BX
T481NC4375-14R3BX	7/16 - 14	3.94	.59	1.73	.4375	3	3BX
T481NC5000-13R3BX	1/2 - 13	3.94	.63	1.89	.5000	3	3BX

Shank Tolerance

D	tolerance h6
.250–.375	+0, -.0004
.438–.625	+0, -.0004

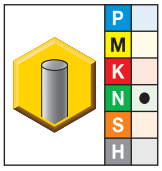




beyond

KC7512 • TiN + CrC/C for aluminum.

T481 • Form D Plug Entry Taper • Through Coolant M6 and Larger • Metric



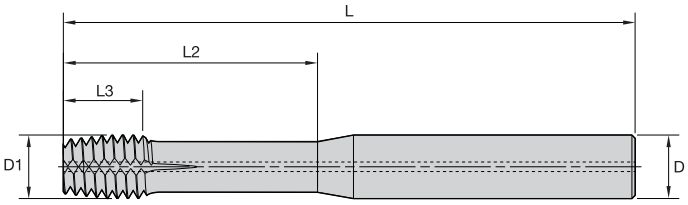
● first choice
○ alternate choice

KC7512	D1 size	L	L3	L2	D	number of lube grooves	class of fit
T481M040X070R6HX	M4 x 0,7	60	6	16	6,0	2	6HX
T481M050X080R6HX	M5 x 0,8	60	7	20	6,0	2	6HX
T481M060X100R6HX	M6 x 1	70	8	24	6,0	2	6HX
T481M080X125R6HX	M8 x 1,25	80	10	32	8,0	2	6HX
T481MF100X100R6HX	M10 x 1	90	12	40	10,0	3	6HX
T481M100X150R6HX	M10 x 1,5	90	12	40	10,0	3	6HX
T481MF120X150R6HX	M12 x 1,5	100	14	48	12,0	3	6HX
T481M120X175R6HX	M12 x 1,75	100	14	48	12,0	3	6HX

NOTE: Proprietary technology.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

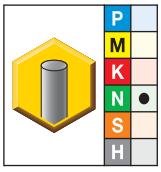




beyond

KC7512 • TiN + CrC/C for aluminum.

T491 • Form E Bottoming Entry Taper • Through Coolant 1/4" and Larger • Inch



● first choice
○ alternate choice

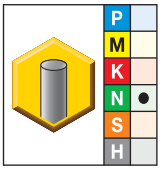
KC7512	D1 size	L	L3	L2	D	number of lube grooves	class of fit
T491NC#6-32R3BX	6 - 32	2.36	.28	.55	.2500	2	3BX
T491NC#8-32R3BX	8 - 32	2.36	.28	.63	.2500	2	3BX
T491NC#10-24R3BX	10 - 24	2.36	.35	.79	.2500	2	3BX
T491NF#10-32R3BX	10 - 32	2.36	.35	.79	.2500	2	3BX
T491NC2500-20R3BX	1/4 - 20	2.76	.39	.94	.2500	2	3BX
T491NF2500-28R3BX	1/4 - 28	2.76	.39	.94	.2500	2	3BX
T491NC3125-18R3BX	5/16 - 18	3.15	.47	1.26	.3125	2	3BX
T491NC3750-16R3BX	3/8 - 16	3.54	.51	1.57	.3750	3	3BX
T491NC4375-14R3BX	7/16 - 14	3.94	.59	1.73	.4375	3	3BX
T491NC5000-13R3BX	1/2 - 13	3.94	.63	1.89	.5000	3	3BX

Shank Tolerance

D	tolerance h6
.250–.375	+0, -.0004
.438–.625	+0, -.0004



T491 • Form E Bottoming Entry Taper • Through Coolant M6 and Larger • Metric



● first choice
○ alternate choice

KC7512	D1 size	L	L3	L2	D	number of lube grooves	class of fit
T491M040X070R6HX	M4 x 0,7	60	6	16	6,0	2	6HX
T491M050X080R6HX	M5 x 0,8	60	7	20	6,0	2	6HX
T491M060X100R6H	M6 x 1	70	8	24	6,0	2	6HX
T491M080X125R6HX	M8 x 1,25	80	10	32	8,0	2	6HX
T491MF100X100R6H	M10 x 1	90	12	40	10,0	3	6HX
T491M100X150R6HX	M10 x 1,5	90	12	40	10,0	3	6HX
T491MF120X150R6HX	M12 x 1,5	100	14	48	12,0	3	6HX
T491M120X175R6HX	M12 x 1,75	100	14	48	12,0	3	6HX

NOTE: Proprietary technology.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

Metric

Material Group		Through Holes					Blind Holes				
				Range — m/min					Range — m/min		
		Tap Style	Grade	min	Starting Value	max	Tap Style	Grade	min	Starting Value	max
P	1	T320, T381	KC7542	80	**100**	130	T331, T381	KC7542	50	**70**	90
	2	T320, T381	KC7542	70	**90**	120	T331, T381	KC7542	50	**60**	80
	3	T320, T381	KC7542	60	**80**	100	T331, T381	KC7542	50	**60**	80
K	1	T340	KC7542	80	**105**	140	T351	KC7542	50	**70**	90
	2	T340	KC7542	80	**100**	130	T351	KC7542	50	**70**	90
	3	T340	KC7542	70	**90**	120	T351	KC7542	50	**60**	80
N	1	T461, T481	KC7512	90	**120**	160	T471, T491	KC7512	60	**80**	100
	2	T461, T481	KC7512	80	**100**	130	T471, T491	KC7512	50	**70**	90
	4	T461, T481	KC7512	70	**85**	110	T471, T491	KC7512	50	**60**	80
H	3	T410	KCU36	1,2	**1,5**	2,0	T410	KCU36	0,8	**1,1**	1,4
	4	T410	KCU36	0,6	**0,8**	1,0	T410	KCU36	0,4	**0,5**	0,7

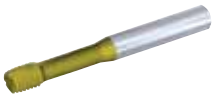
Inch

Material Group		Through Holes					Blind Holes				
				Range — SFM					Range — SFM		
		Tap Style	Grade	min	Starting Value	max	Tap Style	Grade	min	Starting Value	max
P	1	T320, T381	KC7542	260	**330**	430	T331, T381	KC7542	160	**230**	300
	2	T320, T381	KC7542	230	**300**	390	T331, T381	KC7542	160	**200**	260
	3	T320, T381	KC7542	200	**260**	330	T331, T381	KC7542	160	**200**	260
K	1	T340	KC7542	260	**340**	460	T351	KC7542	160	**230**	300
	2	T340	KC7542	260	**330**	430	T351	KC7542	160	**230**	300
	3	T340	KC7542	230	**300**	390	T351	KC7542	160	**200**	260
N	1	T461, T481	KC7515	300	**390**	520	T471, T491	KC7512	200	**260**	330
	2	T461, T481	KC7515	260	**330**	430	T471, T491	KC7512	160	**230**	300
	4	T461, T481	KC7515	230	**280**	360	T471, T491	KC7512	160	**200**	260
H	3	T410	KCU36	4	**5**	6	T410	KCU36	3	**3**	4
	4	T410	KCU36	2	**2**	3	T410	KCU36	1	**2**	2

NOTE: Increase speed of T321 coolant taps by up to 25% of speeds listed for non-coolant T320 taps.

Steel

typical thread sizes				required tap drill diameter				P Solid Carbide Taps		
cutting taps		forming taps						blind hole with coolant	through hole	through hole with coolant
metric	inch	metric	inch	mm	inch	fraction	wire	T331_KC7542	T320_KC7542	T321_KC7542
—	—	—	6-32	3.175	.1250	1/8	—	—	—	—
M4,5 x 0,75	—	M4 x 0,70	—	3.700	.1457	—	—	—	—	—
—	—	—	8-32	3.797	.1495	—	25	—	—	—
—	—	—	10-24	4.366	.1719	11/64	—	—	—	—
—	12-24	—	10-32	4.496	.1770	—	16	—	—	—
—	—	M5 x 0,80	—	4.700	.1850	—	13	—	—	—
M6 x 1,00	—	—	—	5.000	.1969	—	—	T331M060X100R6HX	T320M060X100R6HX	—
—	1/4-20	—	12-28	5.106	.2010	—	7	T331NC2500-20R3BX	T320NC02500-20R3BX	—
—	1/4-28	—	—	5.410	.2130	—	3	T331NF2500-28R3BX	T320NF02500-28R3BX	—
—	—	M6 x 1,00	—	5.600	.2205	—	—	—	—	—
—	—	—	1/4-20	5.791	.2280	—	1	—	—	—
—	—	—	1/4-28	5.944	.2340	—	A	—	—	—
—	5/16-18	—	—	6.528	.2570	—	F	T331NC3125-18R3BX	T320NC03125-18R3BX	—
M8 x 1,25	—	—	—	6.700	.2638	—	—	T331M080X125R6HX	T320M080X125R6HX	—
—	5/16-24	—	—	6.909	.2720	—	I	—	T320NF03125-24R3BX	—
—	—	—	5/16-18	7.366	.2900	—	L	—	—	—
—	—	M8 x 1,25	—	7.400	.2913	—	—	—	—	—
—	3/8-16	—	—	7.938	.3125	5/16	—	T331NC3750-16R3BX	T320NC03750-16R3BX	—
—	3/8-24	—	—	8.433	.3320	—	Q	—	T320NF03750-24R3BX	—
M10 x 1,50	—	—	—	8.500	.3346	—	—	T331M100X150R6HX	T320M100X150R6HX	T321M100X150R6HX
M10 x 1,00	—	—	—	9.000	.3543	—	—	T331MF100X100R6HX	—	—
—	—	—	3/8-16	8.839	.3480	—	S	—	—	—
—	7/16-14	—	3/8-24	9.093	.3580	—	T	T331NC4375-14R3BX	T320NC04375-14R3BX	—
—	—	M10 x 1,50	—	9.400	.3701	—	—	—	—	—
M12 x 1,75	—	—	—	10.200	.4016	—	—	T331M120X175R6HX	T320M120X175R6HX	T321M120X175R6HX
M12 x 1,50	—	—	—	10.500	.4134	—	—	T331MF120X150R6HX	T320MF120X150R6HX	T321MF120X150R6HX
—	1/2-13	—	—	10.716	.4219	27/64	—	T331NC5000-13R3BX	T320NC05000-13R3BX	—
—	1/2-20	—	—	11.509	.4531	29/64	—	—	T320NF0500020R3BX	—
M14 x 2,00	—	—	—	12.000	.4724	—	—	T331M140X200R6HX	T320M140X200R6HX	T321M140X200R6HX
—	9/16-12	—	—	12.304	.4844	31/64	—	T331NC5625-12R3BX	T320NC05625-12R3BX	—
M14 x 1,50	—	—	—	12.500	.4921	—	—	T331MF140X150R6HX	T320MF140X150R6HX	T321MF140X150R6HX
—	5/8-11	—	9/16-12	13.495	.5313	17/32	—	T331NC6250-11R3BX	T320NC06250-11R3BX	—
M16 x 2,00	—	—	—	14.000	.5512	—	—	T331M160X200R6HX	T320M160X200R6HX	T321M160X200R6HX

	Solid Carbide Taps		P Recommended SC Drill		All Materials Alternate Tap Drill	
						
	forming blind hole with coolant T391_KC7542	forming through hole with coolant T381_KC7542	approximately 3 x D with coolant B224_HP KCPK15	approximately 5 x D with coolant B225_HP KCPK15	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
	T391NC#6-32R3BX	T381NC#6-32R3BX	B224A03175HP	B225A03175HP	B976A03175	B977A03175
	T391M040X070R6HX	T381M040X070R6HX	B224A03700HP	B225A03700HP	B976A03700	B977A03700
	T391NC#8-32R3BX	T381NC#8-32R3BX	B224A03797HP	B225A03797HP	B976A03797	B977A03797
	T391NC#10-24R3BX	T381NC#10-24R3BX	B224A04366HP	B225A04366HP	B976A04366	B977A04366
	T391NF#10-32R3BX	T381NF#10-32R3BX	B224A04496HP	B225A04496HP	B976A04496	B977A04496
	T391M050X080R6HX	T381M050X080R6HX	B224A04700HP	B225A04700HP	B976A04700	B977A04700
	–	–	B224A05000HP	B225A05000HP	B976A05000	B977A05000
	–	–	B224A05106HP	B225A05106HP	B976A05106	B977A05106
	–	–	B224A05410HP	B225A05410HP	B976A05410	B977A05410
	T391M060X100R6HX	T381M060X100R6HX	B224A05600HP	B225A05600HP	B976A05600	B977A05600
	T391NC2500-20R3BX	T381NC2500-20R3BX	B224A05791HP	B225A05791HP	B976A05791	B977A05791
	T391NF2500-28R3BX	T381NF2500-28R3BX	B224A05944HP	B225A05944HP	B976A05944	B977A05944
	–	–	B224A06528HP	B225A06528HP	B976A06528	B977A06528
	–	–	B224A06700HP	B225A06700HP	B976A06700	B977A06700
	–	–	B224A06909HP	B225A06909HP	B976A06909	B977A06909
	T391NC3125-18R3BX	T381NC3125-18R3BX	B224A07366HP	B225A07366HP	B976A07366	B977A07366
	T391M080X125R6HX	T381M080X125R6HX	B224A07400HP	B225A07400HP	B976A07400	B977A07400
	–	–	B224A07938HP	B225A07938HP	B976A07938	B977A07938
	–	–	B224A08433HP	B225A08433HP	B976A08433	B977A08433
	–	–	B224A08500HP	B225A08500HP	B976A08500	B977A08500
	–	–	B224A09000HP	B225A09000HP	B976A09000	B977A09000
	T391NC3750-16R3BX	T381NC3750-16R3BX	B224A08839HP	B225A08839HP	B976A08839	B977A08839
	–	–	B224A09093HP	B225A09093HP	B976A09093	B977A09093
	T391M100X150R6HX	T381M100X150R6HX	B224A09400HP	B225A09400HP	B976A09400	B977A09400
	–	–	B224A10200HP	B225A10200HP	B976A10200	B977A10200
	–	–	B224A10500HP	B225A10500HP	B976A10500	B977A10500
	–	–	B224A10716HP	B225A10716HP	B976A10716	B977A10716
	–	–	B224A11509HP	B225A11509HP	B976A11509	B977A11509
	–	–	B224A12000HP	B225A12000HP	B976A12000	B977A12000
	–	–	B224A12304HP	B225A12304HP	B976A12304	B977A12304
	–	–	B224A12500HP	B225A12500HP	B976A12500	B977A12500
	–	–	B224A13495HP	B225A13495HP	B976A13495	B977A13495
	–	–	B224A14000HP	B225A14000HP	B976A14000	B977A14000

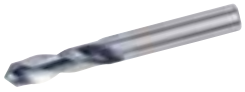
Cast Iron

typical thread sizes		required tap drill diameter				K Solid Carbide Taps	
							
cutting taps						blind hole with coolant	through hole
metric	inch	mm	inch	fraction	wire	T351_KC7542	T340_ KC7542
–	6-32	2.705	.1065	–	36	**T351NC#6-32R3BX**	**–**
M4 x 0,70	–	3.300	.1299	–	–	**T351M040X070R6HX**	**T340M040X070R6HX**
–	8-32 /8-36	3.454	.1360	–	29	**T351NC#8-32R3BX**	**–**
–	10-24	3.734	.1470	–	26	**T351NC#10-24R3BX**	**–**
–	10-32	4.039	.1590	–	21	**T351NF#10-32R3BX**	**–**
M5 x 0,80	–	4.200	.1654	–	–	**T351M050X080R6HX**	**T340M050X080R6HX**
M6 x 1,00	–	5.000	.1969	–	–	**T351M060X100R6HX**	**T340M060X100R6HX**
–	1/4-20	5.106	.2010	–	7	**T351NC2500-20R3BX**	**T340NC2500-20R3BX**
–	1/4-28	5.410	.2130	–	3	**T351NF2500-28R3BX**	**T340NF2500-28R3BX**
–	5/16-18	6.528	.2570	–	F	**T351NC3125-18R3BX**	**T340NC3125-18R3BX**
M8 x 1,25	–	6.700	.2638	–	–	**T351M080X125R6HX**	**T340M080X125R6HX**
–	3/8-16	7.938	.3125	5/16	–	**T351NC3750-16R3BX**	**T340NC03750-16R3BX**
–	3/8-24	8.433	.3320	–	Q	**–**	**T340NF03750-24R3BX**
M10 x 1,50	–	8.500	.3346	–	–	**T351M100X150R6HX**	**T340M100X150R6HX**
M10 x 1,00	–	9.000	.3543	–	–	**T351MF100X100R6HX**	**T340MF100X100R6HX**
–	7/16-14	9.093	.3580	–	T	**T351NC4375-14R3BX**	**T340NC04375-14R3BX**
M12 x 1,75	–	10.200	.4016	–	–	**T351M120X175R6HX**	**T340M120X175R6HX**
M12 x 1,50	–	10.500	.4134	–	–	**T351MF120X150R6HX**	**T340MF120X150R6HX**
–	1/2-13	10.716	.4219	27/64	–	**T351NC5000-13R3BX**	**T340NC05000-13R3BX**
–	1/2-20	11.509	.4531	29/64	–	**–**	**T340NF05000-20R3BX**
M14 x 2,00	–	12.000	.4724	–	–	**T351M140X200R6HX**	**T340M140X200R6HX**
–	9/16-12	12.304	.4844	31/64	–	**T351NC5625-12R3BX**	**T340NC05625-12R3BX**
M14 x 1,50	–	12.500	.4921	–	–	**T351MF140X150R6HX**	**T340MF140X150R6HX**
–	5/8-11	13.495	.5313	17/32	–	**T351NC6250-11R3BX**	**T340NC06250-11R3BX**
M16 x 2,00	–	14.000	.5512	–	–	**T351M160X200R6HX**	**T340M160X200R6HX**
M18 x 2,50	–	15.500	.6102	–	–	**–**	**T340M180X250R6HX**
–	3/4-10	16.670	.6563	21/32	–	**T351NC7500-10R3BX**	**T340NC07500-10R3BX**
M20 x 2,50	–	17.500	.6890	–	–	**T351M200X250R6HX**	**T340M200X250R6HX**

	K		All Materials	
	Recommended SC Drill		Alternate Tap Drill	
				
	approximately 3 x D with coolant B254_YPC KCK10	approximately 5 x D with coolant B254_YPC KCK10	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
	B254Z02705YPC	B255Z02705YPC	B051A02705CPG	B051A02705CPG
	B254A03300YPC	B255A03300YPC	B976A03300	B977A03300
	B254A03454YPC	B255A03454YPC	B976A03454	B977A03454
	B254A03734YPC	B255A03734YPC	B976A03734	B977A03734
	B254A04039YPC	B255A04039YPC	B976A04039	B977A04039
	B254A04200YPC	B255A04200YPC	B976A04200	B977A04200
	B254A05000YPC	B255A05000YPC	B976A05000	B977A05000
	B254A05106YPC	B255A05106YPC	B976A05106	B977A05106
	B254A05410YPC	B255A05410YPC	B976A05410	B977A05410
	B254A06528YPC	B255A06528YPC	B976A06528	B977A06528
	B254A06700YPC	B255A06700YPC	B976A06700	B977A06700
	B254A07938YPC	B255A07938YPC	B976A07938	B977A07938
	B254A08433YPC	B255A08433YPC	B976A08433	B977A08433
	B254A08500YPC	B255A08500YPC	B976A08500	B977A08500
	B254A09000YPC	B255A09000YPC	B976A09000	B977A09000
	B254A09093YPC	B255A09093YPC	B976A09093	B977A09093
	B254A10200YPC	B255A10200YPC	B976A10200	B977A10200
	B254A10500YPC	B255A10500YPC	B976A10500	B977A10500
	B254A10716YPC	B255A10716YPC	B976A10716	B977A10716
	B254A11509YPC	B255A11509YPC	B976A11509	B977A11509
	B254A12000YPC	B255A12000YPC	B976A12000	B977A12000
	B254A12304YPC	B255A12304YPC	B976A12304	B977A12304
	B254A12500YPC	B255A12500YPC	B976A12500	B977A12500
	B254A13495YPC	B255A13495YPC	B976A13495	B977A13495
	B254A14000YPC	B255A14000YPC	B976A14000	B977A14000
	B254A15500YPC	B255A15500YPC	B976A15500	B977A15500
	B254A16670YPC	B255A16670YPC	B976A16670	B977A16670
	B254A17500YPC	B255A17500YPC	B976A17500	B977A17500

Aluminum

typical thread sizes				required tap drill diameter				N Solid Carbide Taps		
										
cutting taps		forming taps						blind hole with coolant	through hole with coolant	forming blind hole with coolant
metric	inch	metric	inch	mm	inch	fraction	wire	T471_KC7512	T461_KC7512	T491_KC7512
–	–	–	6-32	3.175	.1250	1/8	–	–	–	T491NC#6–32R3B
M4,5 x 0,75	–	M4 x 0,70	–	3.700	.1457	–	–	–	–	T491M040X070R6H
–	–	–	8-32	3.797	.1495	–	25	–	–	T491NC#8–32R3B
–	–	–	10-24	4.366	.1719	11/64	–	–	–	T491NC#10–24R3B
–	12–24	–	10-32	4.496	.1770	–	16	–	–	T491NF#10–32R3B
–	–	M5 x 0,80	–	4.700	.1850	–	13	–	–	T491M050X080R6H
M6 x 1,00	–	–	–	5.000	.1969	–	–	T471M060X100R6H	T461M060X100R6H	–
–	1/4-20	–	12-28	5.106	.2010	–	7	T471NC2500–20R3B	T461NC2500–20R3B	–
–	1/4-28	–	–	5.410	.2130	–	3	T471NF2500–28R3B	T461NF2500–28R3B	–
–	–	M6 x 1,00	–	5.600	.2205	–	–	–	–	T491M060X100R6H
–	–	–	1/4-20	5.791	.2280	–	1	–	–	T491NC2500–20R3B
–	–	–	1/4-28	5.944	.2340	–	A	–	–	T491NF2500–28R3B
–	5/16-18	–	–	6.528	.2570	–	F	T471NC3125–18R3B	T461NC3125–18R3B	–
M8 x 1,25	–	–	–	6.700	.2638	–	–	T471M080X125R6H	T461M080X125R6H	–
–	–	–	5/16-18	7.366	.2900	–	L	–	–	T491NC3125–18R3B
–	–	M8 x 1,25	–	7.400	.2913	–	–	–	–	T491M080X125R6H
–	3/8-16	–	–	7.938	.3125	5/16	–	T471NC3750–16R3B	T461NC3750–16R3B	–
M10 x 1,50	–	–	–	8.500	.3346	–	–	T471M100X150R6H	T461M100X150R6H	–
M10 x 1,00	–	–	–	9.000	.3543	–	–	T471MF100X100R6H	T461MF100X100R6H	–
–	–	–	3/8-16	8.839	.3480	–	S	–	–	T491NC3750–16R3B
–	7/16-14	–	3/8-24	9.093	.3580	–	T	T471NC4375–14R3B	T461NC4375–14R3B	–
–	–	M10 x 1,50	–	9.400	.3701	–	–	–	–	T491M100X150R6H
–	–	M10 x 1,00	–	9.500	.3740	–	–	–	–	T491MF100X100R6H
–	7/16-20	–	–	9.921	.3906	25/64	–	–	–	–
M12 x 1,75	–	–	–	10.200	.4016	–	–	T471M120X175R6H	T461M120X175R6H	–
–	–	–	7/16-14	10.262	.4040	–	Y	–	–	T491NC4375–14R3B
M12 x 1,50	–	–	–	10.500	.4134	–	–	T471MF120X150R6H	T461MF120X150R6H	–
–	1/2-13	–	–	10.716	.4219	27/64	–	T471NC5000–13R3B	T461NC5000–13R3B	–
–	–	M12 x 1,75	–	11.300	.4449	–	–	–	–	T491M120X175R6H
–	–	M12 x 1,50	–	11.300	.4449	–	–	–	–	T491MF120X150R6H
–	–	–	1/2-13	11.908	.4688	15/32	–	–	–	T491NC5000–13R3B
M14 x 2,00	–	–	–	12.000	.4724	–	–	T471M140X200R6H	T461M140X200R6H	–
–	9/16-12	–	–	12.304	.4844	31/64	–	T471NC5625–12R3B	T461NC5625–12R3B	–
M14 x 1,50	–	–	–	12.500	.4921	–	–	T471MF140X150R6H	T461MF140X150R6H	–
–	5/8-11	–	9/16-12	13.495	.5313	17/32	–	T471NC6250–11R3B	T461NC6250–11R3B	–
M16 x 2,00	–	–	–	14.000	.5512	–	–	T471M160X200R6H	T461M160X200R6H	–
M16 x 1,50	–	–	–	14.500	.5709	–	–	T471MF160X150R6H	T461MF160X150R6H	–

	N		All Materials	
Solid Carbide Taps	Recommended SC Drill		Alternate Tap Drill	
				
forming through hole with coolant T481_KC7512	approximately 3 x D with coolant B284_(HP) K715	approximately 5 x D with coolant B411 KF1	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
T481NC#6—32R3B	–	–	B976A03175	B977A03175
T481M040X070R6H	–	–	B976A03700	B977A03700
T481NC#8—32R3B	–	–	B976A03797	B977A03797
T481NC#10—24R3B	–	–	B976A04366	B977A04366
T481NF#10—32R3B	–	–	B976A04496	B977A04496
T481M050X080R6H	–	–	B976A04700	B977A04700
–	B284A05000	B411A05000	B976A05000	B977A05000
–	–	–	B976A05106	B977A05106
–	–	–	B976A05410	B977A05410
T481M060X100R6H	–	B411A05600	B976A05600	B977A05600
T481NC2500—20R3B	–	–	B976A05791	B977A05791
T481NF2500—28R3B	–	–	B976A05944	B977A05944
–	–	–	B976A06528	B977A06528
–	–	–	B976A06700	B977A06700
T481NC3125—18R3B	–	–	B976A07366	B977A07366
T481M080X125R6H	–	B411A07400	B976A07400	B977A07400
–	–	–	B976A07938	B977A07938
–	–	B411A08500	B976A08500	B977A08500
–	–	B411A09000	B976A09000	B977A09000
T481NC3750—16R3B	–	–	B976A08839	B977A08839
–	–	–	B976A09093	B977A09093
T481M100X150R6H	–	–	B976A09400	B977A09400
T481MF100X100R6H	–	B411A09500	B976A09500	B977A09500
–	K284A03906	–	B976A09921	B977A09921
–	–	B411A10200	B976A10200	B977A10200
T481NC4375—14R3B	–	–	B976A10262	B977A10262
–	–	B411A10500	B976A10500	B977A10500
–	–	–	B976A10716	B977A10716
T481M120X175R6H	–	–	B976A11300	B977A11300
T481MF120X150R6H	–	–	B976A11300	B977A11300
T481NC5000—13R3B	K284A04688	–	B976A11908	B977A11908
–	–	B411A12000	B976A12000	B977A12000
–	–	–	B976A12304	B977A12304
–	–	B411A12500	B976A12500	B977A12500
–	–	–	B976A13495	B977A13495
–	–	B411A14000	B976A14000	B977A14000
–	–	B411A14500	B976A14500	B977A14500



High-Performance HSS-E-PM Taps

Primary Application

The High-Performance High-Speed Steel (HSS-E-PM) Taps are manufactured to both ANSI and DIN standards from powder metal, offering high productivity and reliable thread quality and are engineered for greater wear and heat resistance. HSS-E-PM tools can be used on conventional non-rigid and CNC-synchronous tapping machines for tapping through and blind holes in a variety of materials and is particularly efficient in tapping soft steel and aluminum.

The precision h6 shank enables usage in either conventional square drive tap holders or in precision round toolholders.

Features and Benefits

Improved Performance, Wide Range of Choices

- Higher strength and wider range of applications versus carbide taps.
- Higher tapping speed capability and longer life than conventional HSS-E taps.
- Can be used on either conventional or synchronous tapping machines.
- Forming taps for soft steel and aluminum.
- Selection of taps for all materials:
  - Steel
  - Stainless steel
  - Iron
  - Aluminum, cast and wrought
  - Aerospace
  - Hard steel

Customization

- Customized taps are available with short lead times from semi-finished blanks.



Beyond™ High-Performance HSS-E-PM Taps • ANSI Inch and Metric

● first choice
○ alternate choice

Beyond High-Performance HSS-E-PM	series	grade	shank/dimension	P	M	K	N	S	H
	**T620**	KP6525	ANSI 302A	●				○	
	**T620**	KM6515	ANSI 302A		●		○	○	
	**T620**	KP6525	ANSI 302A	●				○	
	**T620**	KM6515	ANSI 302A		●		○	○	
	**T630**	KP6525	ANSI 302A	●				○	
	**T630**	KM6515	ANSI 302A		●		○	○	
	**T630**	KP6505	ANSI 302A	●	○				
	**T640**	KP6525	ANSI 302A			●			
	**T640**	KP6525	ANSI 302A			●			

size range (inch and metric) size min–max	through hole	blind hole	chamfer form	helix angle	external coolant	page(s)	recommended cutting parameters
#2–3/4"						L50	L77
#2–3/4"						L50	L77
M3–M12						L51	L77
M3–M12						L51	L77
#2–1"						L56	L77
#2–1"						L56	L77
#4–3/4"						L57	L77
#10–3/4"						L57	L77
M3–M16						L57	L77

Beyond™ High-Performance HSS-E-PM Taps • DIN Metric

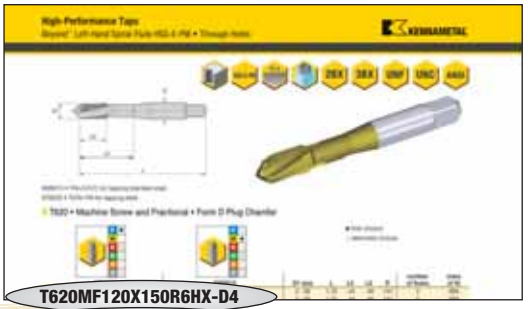
● first choice
○ alternate choice

Beyond High-Performance HSS-E-PM	series	grade	shank/dimension	P	M	K	N	S	H
	T600	KSP21	DIN 371, 374, 376	●	○			○	
	T602	KSP21	DIN 371, 374, 376	●				○	
	T604	KSH26	DIN 371, 374, 376	●					
	T606	KSSH22	DIN 371, 374, 376						●
	T610	KSSH22	DIN 371, 374, 376					●	
	T612	KSSH22	DIN 371, 374, 376					●	
	T614	KSN25	DIN 371, 376				○	●	
	T616	KSN25	DIN 371				○	●	
	T620	KP6525	DIN 371, 374, 376, XL	●				○	
	T620	KM6515	DIN 371, 374, 376		●		○	○	
	T621	KP6525	DIN 371, 376	●				○	
	T621	KM6515	DIN 371, 376		●		○	○	
	T622	KSP21	DIN 371, 374, 376	●					
	T622	KSN28	DIN 371, 374, 376				●		
	T623	KSP21	DIN 371, 374, 376	●					
	T623	KSN28	DIN 371, 374, 376				●		
	T630	KP6525	DIN 371, 374, 376, XL	●				○	
	T630	KM6515	DIN 371, 374, 376		●		○	○	
	T630	KP6505	DIN 371, 376	●					
	T631	KP6525	DIN 371, 376, XL	●				○	
	T631	KM6515	DIN 371, 376		●		○	○	
	T632	KP6525	DIN 371, 374, 376	●				○	
	T633	KP6525	DIN 371, 374, 376	●					
	T640	KP6525	DIN 371, 376			●	●		
	T641	KP6525	DIN 371, 376			●	●		
	T642	KP6525	DIN 371, 374, 376			●	●		
	T643	KP6525	DIN 371, 374, 376			●	●		
	T650	KP6525	DIN 376, XL	●	○				
	T651	KP6525	DIN 376, XL	●	○				
	T670	KSN38	DIN 371, 376				●		
	T680	KSN38	DIN 371, 376				●		

Taps

size range (metric) size min–max	through hole	blind hole	chamfer form	helix angle	external coolant	internal coolant	page(s)	recommended cutting parameters
M3–M20							L42	L76
M3–M20							L43	L76
M3–M20							L44	L76
M6–M16							L45	L76
M3–M20							L46	L76
M3–M20							L47	L76
M3–M12							L48	L76
M3–M12							L49	L76
M3–M42							L52, L71	L76
M3–M20							L52	L76
M5–M14							L53	L76
M5–M14							L53	L76
M3–M16							L54	L76
M3–M16							L54	L76
M5–M16							L55	L76
M5–M16							L55	L76
M3–M42							L58, L72	L76
M3–M24							L58	L76
M3–M16							L58	L76
M5–M42							L59, L73	L76
M5–M16							L59	L76
M5–M16							L60	L76
M5–M16							L61	L76
M4–M22							L64	L76
M4–M20							L65	L76
M5–M16							L66	L76
M5–M16							L67	L76
M24–M42							L74	L76
M24–M42							L75	L76
M3–M16							L68	L76
M3–M20							L69	L76

HSS Taps Identification System



T620MF120X150R6HX-D4
T620NC06250-11R3BX-A

Metric

T620	MF	120	X	150	R	6HX	-D4

Inch

T620	NC	06250	-	11	R	3BX	-A
Tap Design	Type of Thread	Nominal Diameter of Thread		Pitch	Cutting Direction	Tolerance Class	Taps Dimension
		mm or inch (depending on type)		mm or TPI (depending on type)			

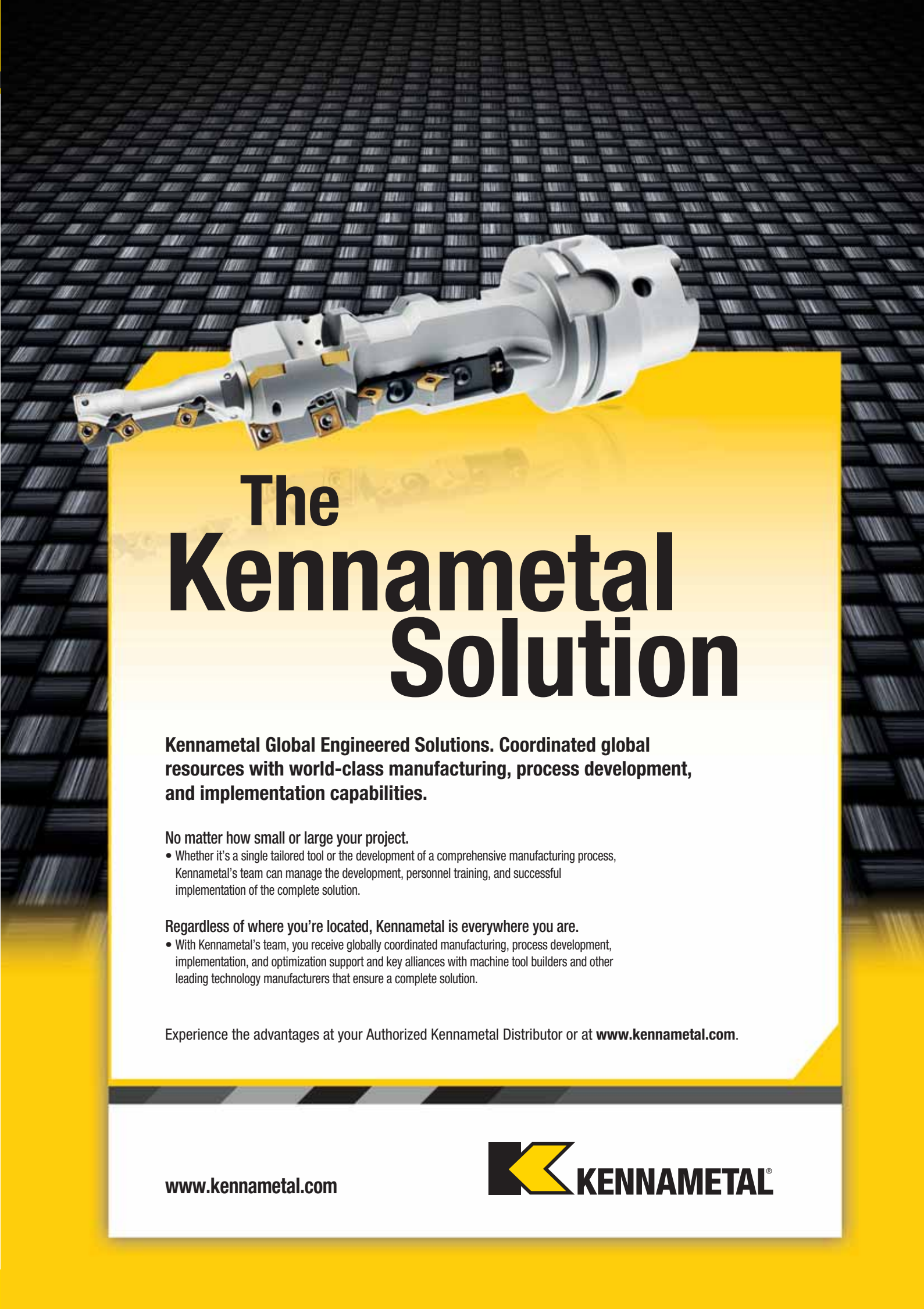
M = Metric coarse-pitch thread (ISO form)
MF = Metric fine-pitch thread (ISO form)
NC = Unified coarse series thread
NF = Unified fine series thread

A = ANSI
D1 = DIN 371
D4 = DIN 374
D6 = DIN 376
D74 = DIN 3174
J = JIS
XL = DIN extra length

Style

T620 = Steel and stainless steel, through holes, LH spiral flute, solid
T621 = Steel and stainless steel, through holes, LH spiral flute, coolant
T630 = Steel and stainless steel, blind holes, RH spiral flute, solid
T631 = Steel and stainless steel, blind holes, RH spiral flute, coolant
T640 = Cast iron, through and blind holes, straight flute, solid
T641 = Cast iron, through and blind holes, straight flute, coolant

NOTE: Other taps styles, see pages L38–L39.



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Kennametal Global Engineered Solutions. Coordinated global resources with world-class manufacturing, process development, and implementation capabilities.

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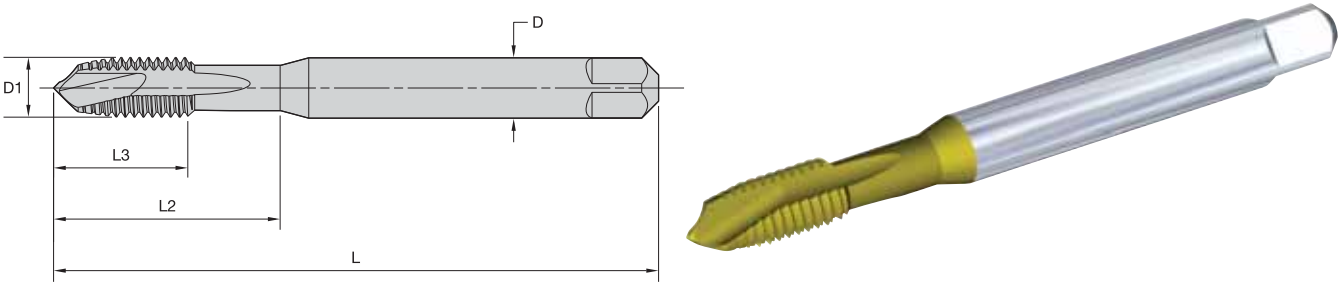
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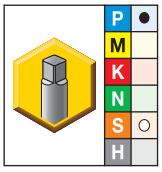
KENNAMETAL®





KSP21• TiN for tapping steel 32–44 HRC.

T600 • DIN 371, 374, and 376 • Form B Plug Chamfer • Metric



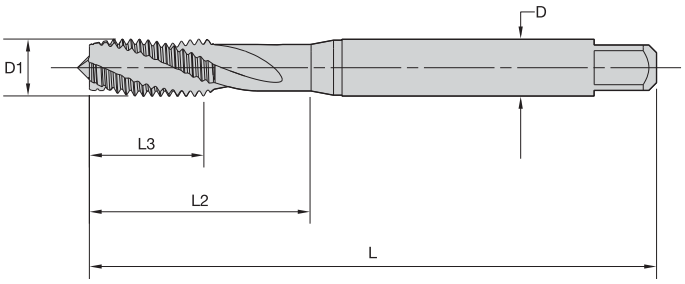
● first choice
○ alternate choice

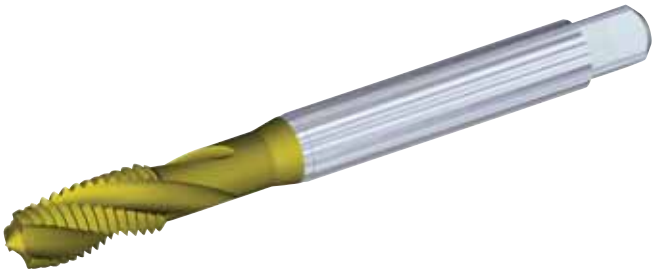
KSP21	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T600M030X050R6HX-D1	M3 x 0,5	56	11	18	3,5	2	DIN 371	6HX
T600M040X070R6HX-D1	M4 x 0,7	63	13	21	4,5	2	DIN 371	6HX
T600M050X080R6HX-D1	M5 x 0,8	70	15	25	6,0	2	DIN 371	6HX
T600M060X100R6HX-D1	M6 x 1	80	17	30	6,0	3	DIN 371	6HX
T600MF080X100R6HX-D4	M8 x 1	90	17	—	6,0	3	DIN 374	6HX
T600M080X125R6HX-D1	M8 x 1,25	90	20	35	8,0	3	DIN 371	6HX
T600MF100X100R6HX-D4	M10 x 1	90	18	—	7,0	3	DIN 374	6HX
T600MF100X125R6HX-D4	M10 x 1,25	100	22	—	7,0	3	DIN 374	6HX
T600M100X150R6HX-D1	M10 x 1,5	100	22	39	10,0	3	DIN 371	6HX
T600MF120X125R6HX-D4	M12 x 1,25	100	22	—	9,0	3	DIN 374	6HX
T600MF120X150R6HX-D4	M12 x 1,5	100	22	—	9,0	3	DIN 374	6HX
T600M120X175R6HX-D6	M12 x 1,75	110	24	—	9,0	3	DIN 376	6HX
T600MF140X150R6HX-D4	M14 x 1,5	100	22	—	11,0	3	DIN 374	6HX
T600M140X200R6HX-D6	M14 x 2	110	26	—	11,0	3	DIN 376	6HX
T600MF160X150R6HX-D4	M16 x 1,5	100	22	—	12,0	4	DIN 374	6HX
T600M160X200R6HX-D6	M16 x 2	110	27	—	12,0	4	DIN 376	6HX
T600M180X250R6HX-D6	M18 x 2	125	30	—	14,0	4	DIN 376	6HX
T600M200X250R6HX-D6	M20 x 2,5	140	32	—	16,0	4	DIN 376	6HX

Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043

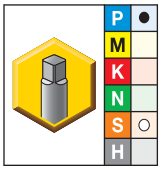






KSP21 • TiN for tapping steel 32–44 HRC (2 x D).

T602 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric



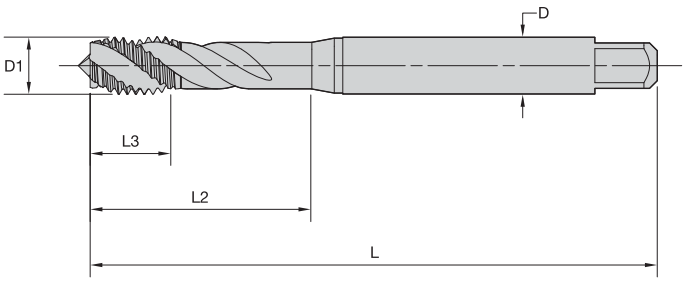
● first choice
○ alternate choice

KSP21	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T602M030X050R6H-D1	M3 x 0,5	56	11	18	3,5	3	DIN 371	6H
T602M040X070R6H-D1	M4 x 0,7	63	13	21	4,5	3	DIN 371	6H
T602M050X080R6H-D1	M5 x 0,8	70	15	25	6,0	3	DIN 371	6H
T602M060X100R6H-D1	M6 x 1	80	17	30	6,0	3	DIN 371	6H
T602MF080X100R6H-D4	M8 x 1	90	17	—	6,0	3	DIN 374	6H
T602M080X125R6H-D1	M8 x 1,25	90	20	35	8,0	3	DIN 371	6H
T602MF100X100R6H-D4	M10 x 1	90	18	—	7,0	3	DIN 374	6H
T602MF100X125R6H-D4	M10 x 1,25	100	22	—	7,0	3	DIN 374	6H
T602M100X150R6H-D1	M10 x 1,5	100	22	39	10,0	3	DIN 371	6H
T602MF120X125R6H-D4	M12 x 1,25	100	22	—	9,0	3	DIN 374	6H
T602MF120X150R6H-D4	M12 x 1,5	100	22	—	9,0	3	DIN 374	6H
T602M120X175R6H-D6	M12 x 1,75	110	24	44	12,0	3	DIN 376	6H
T602MF140X150R6H-D4	M14 x 1,5	100	22	—	11,0	3	DIN 374	6H
T602M140X200R6H-D6	M14 x 2	110	26	52	11,0	3	DIN 376	6H
T602MF160X150R6H-D4	M16 x 1,5	100	22	—	12,0	3	DIN 374	6H
T602M160X200R6H-D6	M16 x 2	110	27	—	12,0	3	DIN 376	6H
T602M180X250R6H-D6	M18 x 2	125	30	—	14,0	4	DIN 376	6H
T602M200X250R6H-D6	M20 x 2,5	140	32	—	16,0	4	DIN 376	6H

Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043

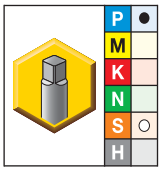






KSH26 • TiAlN/MoS_2 for tapping steel 32–44 HRC (3 x D).

T604 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric



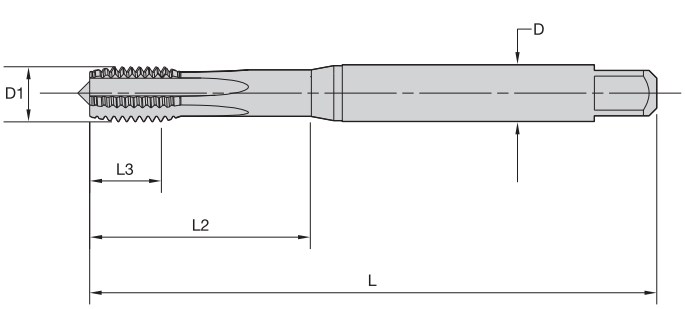
● first choice
○ alternate choice

KSH26	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T604M030X050R6H-D1	M3 x 0,5	56	6	18	3,5	3	DIN 371	6H
T604M040X070R6H-D1	M4 x 0,7	63	7	21	4,5	3	DIN 371	6H
T604M050X080R6H-D1	M5 x 0,8	70	8	25	6,0	3	DIN 371	6H
T604M060X100R6H-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6H
T604MF080X100R6H-D4	M8 x 1	90	10	–	6,0	3	DIN 374	6H
T604M080X125R6H-D1	M8 x 1,25	90	14	35	8,0	3	DIN 371	6H
T604MF100X100R6H-D4	M10 x 1	90	10	–	7,0	3	DIN 374	6H
T604MF100X125R6H-D4	M10 x 1,25	100	16	–	7,0	3	DIN 374	6H
T604M100X150R6H-D1	M10 x 1,5	100	16	39	10,0	3	DIN 371	6H
T604MF120X125R6H-D4	M12 x 1,25	100	15	–	9,0	4	DIN 374	6H
T604MF120X150R6H-D4	M12 x 1,5	100	15	–	9,0	4	DIN 374	6H
T604M120X175R6H-D6	M12 x 1,75	110	18	–	9,0	4	DIN 376	6H
T604MF140X150R6H-D4	M14 x 1,5	100	15	–	11,0	4	DIN 374	6H
T604M140X200R6H-D6	M14 x 2	110	20	–	11,0	4	DIN 376	6H
T604MF160X150R6H-D4	M16 x 1,5	100	15	–	12,0	4	DIN 374	6H
T604M160X200R6H-D6	M16 x 2	110	22	–	12,0	4	DIN 376	6H
T604M180X250R6H-D6	M18 x 2	125	25	–	14,0	4	DIN 376	6H
T604M200X250R6H-D6	M20 x 2,5	140	25	–	16,0	4	DIN 376	6H

Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043

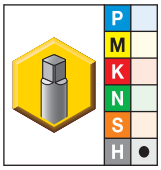






KSSH22 • TiCN for tapping steel 44–55 HRC.

T606 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric



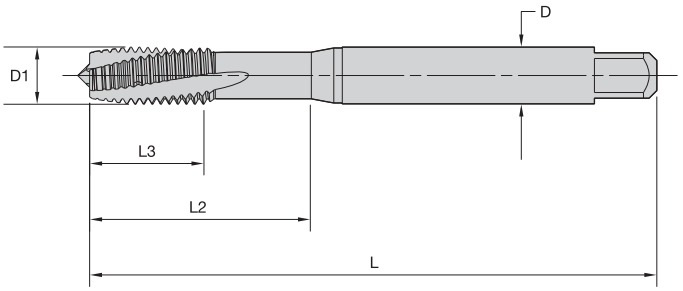
● first choice
○ alternate choice

KSSH22	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T606M060X100R6HX-D1	M6 x 1	80	10	30	6,0	4	DIN 371	6HX
T606MF080X100R6HX-D4	M8 x 1	90	10	35	8,0	5	DIN 374	6HX
T606M080X125R6HX-D1	M8 x 1,25	90	14	35	8,0	5	DIN 371	6HX
T606MF100X100R6HX-D4	M10 x 1	90	10	35	10,0	5	DIN 374	6HX
T606M100X150R6HX-D1	M10 x 1,5	100	16	39	10,0	5	DIN 371	6HX
T606MF120X150R6HX-D4	M12 x 1,5	100	15	—	9,0	5	DIN 374	6HX
T606M120X175R6HX-D6	M12 x 1,75	110	18	—	9,0	5	DIN 376	6HX
T606MF140X150R6HX-D4	M14 x 1,5	100	15	—	11,0	6	DIN 374	6HX
T606MF160X150R6HX-D4	M16 x 1,5	100	15	—	12,0	6	DIN 374	6HX
T606M160X200R6HX-D6	M16 x 2	110	22	—	12,0	6	DIN 376	6HX

Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043

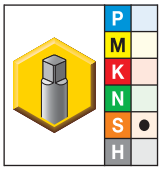






KSSH22 • TiCN for tapping cobalt and nickel alloys.

T610 • DIN 371 and 376 • Form D Plug Chamfer • Metric



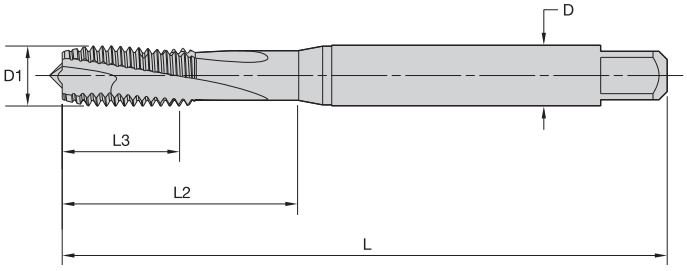
● first choice
○ alternate choice

KSSH22	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T610M030X050R6HX-D1	M3 x 0,5	56	11	18	3,5	2	DIN 371	6HX
T610M040X070R6HX-D1	M4 x 0,7	63	13	21	4,5	3	DIN 371	6HX
T610M050X080R6HX-D1	M5 x 0,8	70	15	25	6,0	3	DIN 371	6HX
T610M060X100R6HX-D1	M6 x 1	80	17	30	6,0	3	DIN 371	6HX
T610M080X125R6HX-D1	M8 x 1,25	90	20	35	8,0	3	DIN 371	6HX
T610M100X150R6HX-D1	M10 x 1,5	100	22	39	10,0	3	DIN 371	6HX
T610M120X175R6HX-D6	M12 x 1,75	110	24	—	9,0	3	DIN 376	6HX
T610M140X200R6HX-D6	M14 x 2	110	26	—	11,0	3	DIN 376	6HX
T610M160X200R6HX-D6	M16 x 2	110	27	—	12,0	3	DIN 376	6HX
T610M200X250R6HX-D6	M20 x 2,5	140	32	—	16,0	3	DIN 376	6HX

Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043

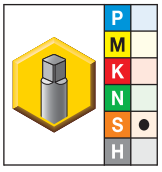






KSSH22 • TiCN for tapping cobalt and nickel alloys.

T612 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • Metric



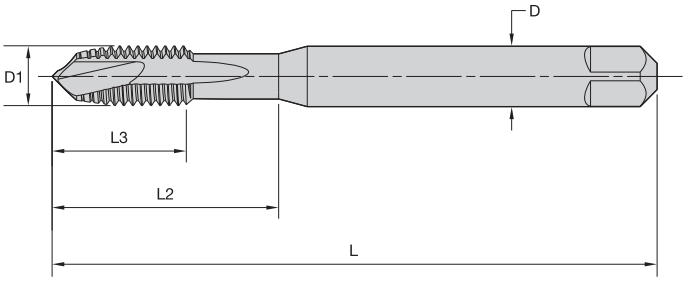
● first choice
○ alternate choice

KSSH22	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T612M030X050R6HX-D1	M3 x 0,5	56	11	18	3,5	2	DIN 371	6HX
T612M040X070R6HX-D1	M4 x 0,7	63	13	21	4,5	3	DIN 371	6HX
T612M050X080R6HX-D1	M5 x 0,8	70	15	25	6,0	3	DIN 371	6HX
T612M060X100R6HX-D1	M6 x 1	80	17	30	6,0	3	DIN 371	6HX
T612M080X125R6HX-D1	M8 x 1,25	90	20	35	8,0	3	DIN 371	6HX
T612M120X175R6HX-D6	M12 x 1,75	110	24	—	9,0	3	DIN 376	6HX
T612M100X150R6HX-D1	M10 x 1,5	100	22	39	10,0	3	DIN 371	6HX
T612M140X200R6HX-D6	M14 x 2	110	26	—	11,0	3	DIN 376	6HX
T612M160X200R6HX-D6	M16 x 2	110	27	—	12,0	3	DIN 376	6HX
T612M200X250R6HX-D6	M20 x 2,5	140	32	—	16,0	3	DIN 376	6HX

Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043

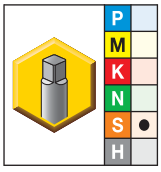






KSN25 • TiN/DLC for tapping titanium and titanium alloys.

T614 • DIN 371 and 376 • Form D Plug Chamfer • Metric



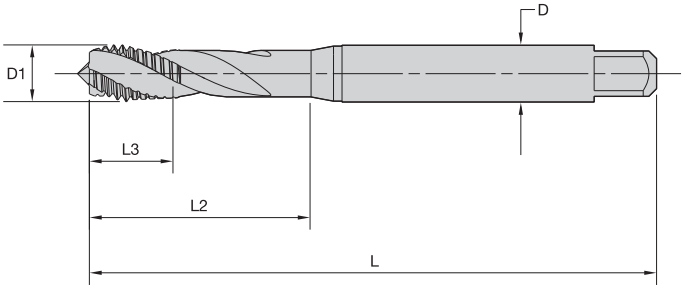
● first choice
○ alternate choice

KSN25	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T614M030X050R6HX-D1	M3 x 0,5	56	11	18	3,5	3	DIN 371	6HX
T614M040X070R6HX-D1	M4 x 0,7	63	13	21	4,5	3	DIN 371	6HX
T614M050X080R6HX-D1	M5 x 0,8	70	15	25	6,0	3	DIN 371	6HX
T614M060X100R6HX-D1	M6 x 1	80	17	30	6,0	3	DIN 371	6HX
T614M080X125R6HX-D1	M8 x 1,25	90	20	35	8,0	3	DIN 371	6HX
T614M100X150R6HX-D1	M10 x 1,5	100	22	39	10,0	3	DIN 371	6HX
T614M120X175R6HX-D6	M12 x 1,75	110	24	—	9,0	3	DIN 376	6HX

Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043

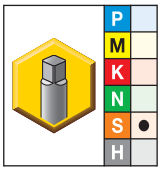






KSN25 • TiN/DLC for tapping titanium and titanium alloys.

T616 • DIN 371 • Form C Semi-Bottoming Chamfer • Metric



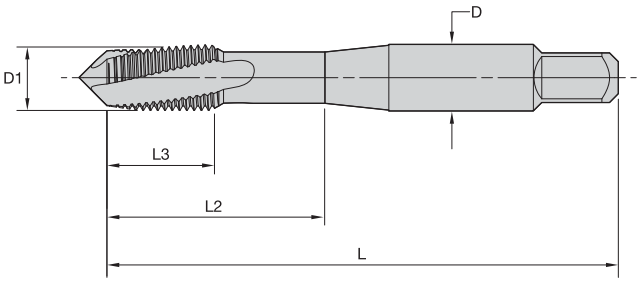
● first choice
○ alternate choice

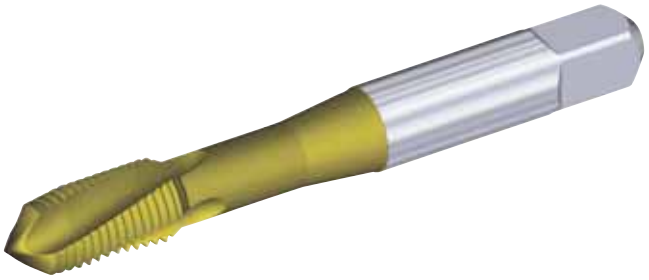
KSN25	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T616M030X050R6HX-D1	M3 x 0,5	56	6	18	3,5	3	DIN 371	6HX
T616M040X070R6HX-D1	M4 x 0,7	63	7	21	4,5	3	DIN 371	6HX
T616M050X080R6HX-D1	M5 x 0,8	70	8	25	6,0	3	DIN 371	6HX
T616M060X100R6HX-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6HX
T616M080X125R6HX-D1	M8 x 1,25	90	14	35	8,0	3	DIN 371	6HX
T616M100X150R6HX-D1	M10 x 1,5	100	16	39	10,0	3	DIN 371	6HX
T616M120X175R6HX-D1	M12 x 1,75	110	18	44	12,0	3	DIN 371	6HX

Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043

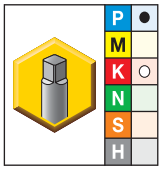


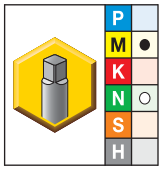




KM6515 • TiN+CrC/C for tapping stainless steel.
KP6525 • TiCN+TiN for tapping steel.

T620 • Machine Screw and Fractional • Form D Plug Chamfer





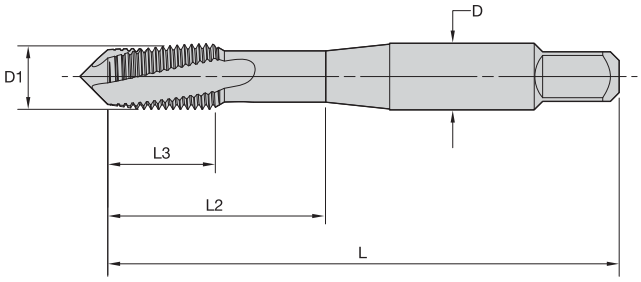
● first choice
○ alternate choice

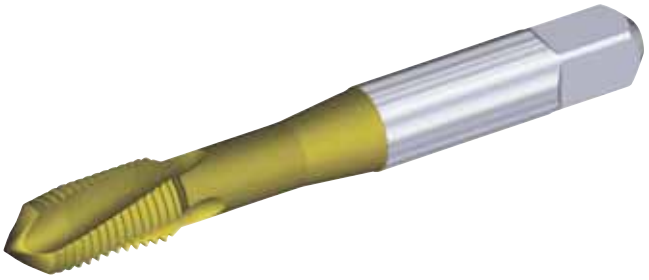
KP6525	KM6515	D1 size	L	L3	L2	D	number of flutes	class of fit
T620NC#02-56R3BX-A	T620NC#02-56R3BX-A	2 - 56	1.75	.44	.49	.141	2	3BX
T620NC#02-56R2BX-A	T620NC#02-56R2BX-A	2 - 56	1.75	.44	.49	.141	2	2BX
T620NC#04-40R2BX-A	T620NC#04-40R2BX-A	4 - 40	1.88	.56	.68	.141	2	2BX
T620NC#04-40R3BX-A	T620NC#04-40R3BX-A	4 - 40	1.88	.56	.68	.141	2	3BX
T620NC#05-40R3BX-A	T620NC#05-40R3BX-A	5 - 40	1.94	.63	.75	.141	2	3BX
T620NC#06-32R3BX-A	T620NC#06-32R3BX-A	6 - 32	1.99	.36	.71	.141	2	3BX
T620NC#06-32R2BX-A	T620NC#06-32R2BX-A	6 - 32	1.99	.36	.71	.141	2	2BX
T620NC#08-32R2BX-A	T620NC#08-32R2BX-A	8 - 32	2.12	.31	.76	.168	2	2BX
T620NC#08-32R3BX-A	T620NC#08-32R3BX-A	8 - 32	2.12	.31	.76	.168	2	3BX
T620NF#08-36R3BX-A	T620NF#08-36R3BX-A	8 - 36	2.12	.31	.76	.168	2	3BX
T620NC#10-24R3BX-A	T620NC#10-24R3BX-A	10 - 24	2.37	.47	.91	.194	3	3BX
T620NF#10-32R3BX-A	T620NF#10-32R3BX-A	10 - 32	2.36	.47	.91	.194	3	3BX
T620NF#10-32R2BX-A	T620NF#10-32R2BX-A	10 - 32	2.36	.47	.91	.194	3	2BX
T620NC#12-24R3BX-A	T620NC#12-24R3BX-A	12 - 24	2.37	.42	.96	.220	3	3BX
T620NC02500-20R3BX-A	T620NC02500-20R3BX-A	1/4 - 20	2.50	.44	1.01	.255	3	3BX
T620NC02500-20R2BX-A	T620NC02500-20R2BX-A	1/4 - 20	2.50	.44	1.01	.255	3	2BX
T620NF02500-28R3BX-A	T620NF02500-28R3BX-A	1/4 - 28	2.49	.43	1.00	.255	3	3BX
T620NF02500-28R2BX-A	T620NF02500-28R2BX-A	1/4 - 28	2.49	.43	1.00	.255	3	2BX
T620NC03125-18R2BX-A	T620NC03125-18R2BX-A	5/16 - 18	2.72	.49	1.13	.318	3	2BX
T620NC03125-18R3BX-A	T620NC03125-18R3BX-A	5/16 - 18	2.72	.49	1.13	.318	3	3BX
T620NF03125-24R3BX-A	T620NF03125-24R3BX-A	5/16 - 24	2.71	.48	1.13	.318	3	3BX
T620NC04375-14R3BX-A	T620NC04375-14R3BX-A	7/16 - 14	3.16	.71	1.49	.323	3	3BX
T620NF04375-20R3BX-A	T620NF04375-20R3BX-A	7/16 - 20	3.16	.71	1.49	.323	3	3BX
T620NC05000-13R3BX-A	T620NC05000-13R3BX-A	1/2 - 13	3.38	.77	1.74	.367	3	3BX
T620NF05000-20R3BX-A	T620NF05000-20R3BX-A	1/2 - 20	3.38	.77	1.74	.367	3	3BX
T620NC03750-16R2BX-A	T620NC03750-16R2BX-A	3/8 - 16	2.94	.60	1.27	.381	3	2BX
T620NC03750-16R3BX-A	T620NC03750-16R3BX-A	3/8 - 16	2.94	.60	1.27	.381	3	3BX
T620NF03750-24R3BX-A	T620NF03750-24R3BX-A	3/8 - 24	2.92	.58	1.25	.381	3	3BX
T620NC06250-11R3BX-A	T620NC06250-11R3BX-A	5/8 - 11	3.81	.91	1.89	.480	4	3BX
T620NC07500-10R3BX-A	T620NC07500-10R3BX-A	3/4 - 10	4.25	1.00	2.08	.590	4	3BX

Shank Tolerance

D fractional	tolerance h6
.250–.375	+0, -.0004
.438–.625	+0, -.0004

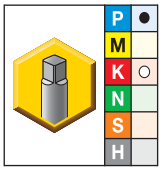


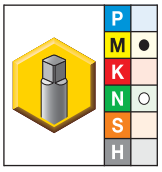




KM6515 • TiN+CrC/C for tapping stainless steel.
KP6525 • TiCN+TiN for tapping steel.

T620 • Form D Plug Chamfer • Metric ANSI





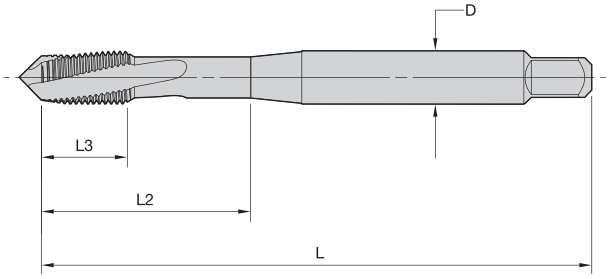
● first choice
○ alternate choice

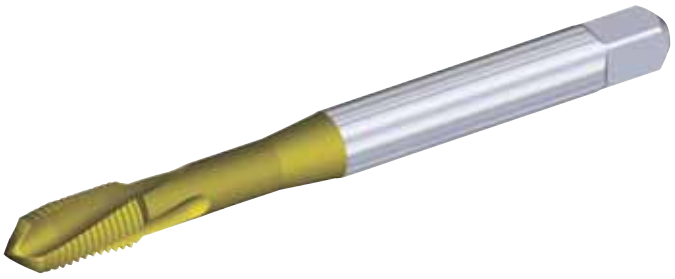
KP6525	KM6515	D1 size	L	L3	L2	D	number of flutes	class of fit
T620M030X050R6HX-A	**T620M030X050R6HX-A**	M3 x 0,5	1.94	.63	.75	.141	2	6HX
T620M040X070R6HX-A	**T620M040X070R6HX-A**	M4 x 0,7	2.12	.32	.76	.168	2	6HX
T620M050X080R6HX-A	**T620M050X080R6HX-A**	M5 x 0,8	2.37	.47	.91	.194	2	6HX
T620M060X100R6HX-A	**T620M060X100R6HX-A**	M6 x 1	2.50	.46	1.01	.255	3	6HX
T620M080X125R6HX-A	**T620M080X125R6HX-A**	M8 x 1,25	2.71	.48	1.13	.318	3	6HX
T620M100X150R6HX-A	**T620M100X150R6HX-A**	M10 x 1,5	2.92	.53	1.26	.381	3	6HX
T620M120X175R6HX-A	**T620M120X175R6HX-A**	M12 x 1,75	3.38	.77	1.74	.367	3	6HX

Shank Tolerance

D fractional	tolerance h6
.250–.375	+0, -.0004
.438–.625	+0, -.0004

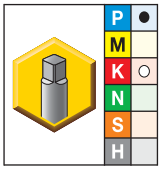


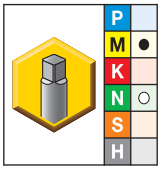




KM6515 • TiN + CrC/C for stainless steel.
KP6525 • TiCN+ TiN for steel.

T620 • DIN 371, 374, and 376 • Form D Plug Chamfer • Metric





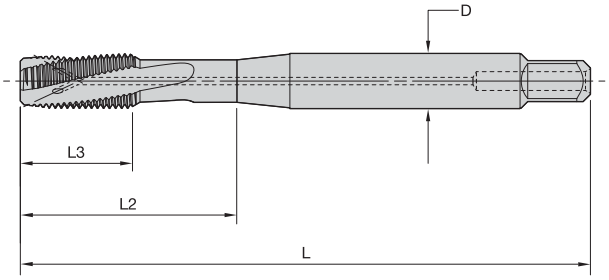
● first choice
○ alternate choice

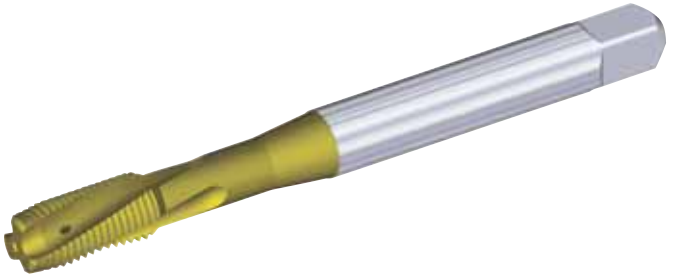
KP6525	KM6515	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T620M030X050R6HX-D1	T620M030X050R6HX-D1	M3 x 0,5	56	8	18	3,5	3	DIN 371	6HX
T620M040X070R6HX-D1	T620M040X070R6HX-D1	M4 x 0,7	63	10	21	4,5	3	DIN 371	6HX
T620M050X080R6HX-D1	T620M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T620M060X100R6HX-D1	T620M060X100R6HX-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6HX
T620MF080X100R6HX-D4	T620MF080X100R6HX-D4	M8 x 1	90	13	35	6,0	3	DIN 374	6HX
T620M080X125R6HX-D1	T620M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	3	DIN 371	6HX
T620MF100X100R6HX-D4	T620MF100X100R6HX-D4	M10 x 1	90	10	35	7,0	3	DIN 374	6HX
T620MF100X125R6HX-D4	–	M10 x 1,25	100	15	39	7,0	3	DIN 374	6HX
T620M100X150R6HX-D1	T620M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	3	DIN 371	6HX
T620MF120X150R6HX-D4	T620MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	3	DIN 374	6HX
T620M120X175R6HX-D6	T620M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	3	DIN 376	6HX
T620MF140X150R6HX-D4	T620MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T620M140X200R6HX-D6	T620M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T620MF160X150R6HX-D4	T620MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX
T620M160X200R6HX-D6	T620M160X200R6HX-D6	M16 x 2	110	20	51	12,0	4	DIN 376	6HX
T620MF180X150R6HX-D4	T620MF180X150R6HX-D4	M18 x 1,5	110	15	50	14,0	4	DIN 374	6HX
T620M200X250R6HX-D6	T620M200X250R6HX-D6	M20 x 2,5	140	25	64	16,0	4	DIN 376	6HX

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

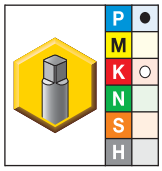


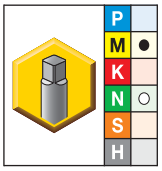




KM6515 • TiN + CrC/C for stainless steel.
KP6525 • TiCN+ TiN for steel.

T621 • DIN 371, 374, and 376 • Form D Plug Chamfer • Through Coolant • Metric





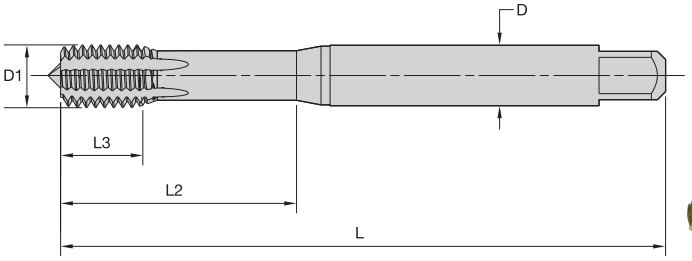
● first choice
○ alternate choice

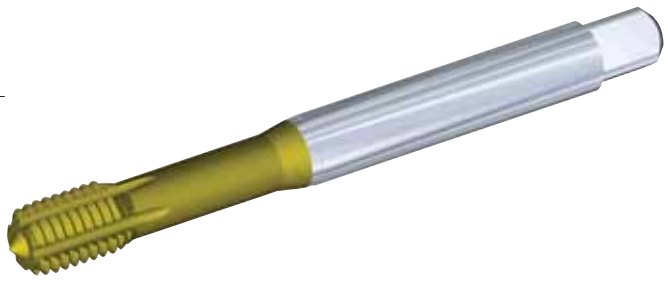
KP6525	KM6515	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T621M050X080R6HX-D1	T621M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	2	DIN 371	6HX
T621M060X100R6HX-D1	T621M060X100R6HX-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6HX
T621MF080X100R6HX-D4	T621MF080X100R6HX-D4	M8 x 1	90	13	35	6,0	3	DIN 374	6HX
T621M080X125R6HX-D1	T621M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	3	DIN 371	6HX
T621MF100X100R6HX-D4	T621MF100X100R6HX-D4	M10 x 1	90	10	35	7,0	3	DIN 374	6HX
T621MF100X125R6HX-D4	T621MF100X125R6HX-D4	M10 x 1,25	100	15	39	7,0	3	DIN 374	6HX
T621M100X150R6HX-D1	T621M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	3	DIN 371	6HX
T621MF120X125R6HX-D4	—	M12 x 1,25	100	15	39	9,0	3	DIN 374	6HX
T621MF140X125R6HX-D4	—	M14 x 1,25	100	15	47	11,0	4	DIN 374	6HX
T621MF120X150R6HX-D4	T621MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	3	DIN 374	6HX
T621M120X175R6HX-D6	T621M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	3	DIN 376	6HX
T621MF140X150R6HX-D4	T621MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T621M140X200R6HX-D6	T621M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T621MF160X150R6HX-D4	T621MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX
T621M160X200R6HX-D6	T621M160X200R6HX-D6	M16 x 2	110	20	51	12,0	4	DIN 376	6HX
T621MF180X150R6HX-D4	T621MF180X150R6HX-D4	M18 x 1,5	110	15	50	14,0	4	DIN 374	6HX
T621M180X250R6HX-D6	T621M180X250R6HX-D6	M18 x 2,5	125	25	58	14,0	4	DIN 376	6HX

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

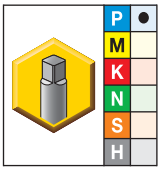


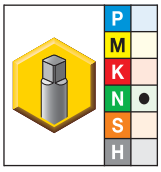




KSP21 • TiN for tapping steel.
KSN28 • DLC for tapping aluminum.

T622 • DIN 2174 • Form C Semi-Bottoming Entry Taper • Metric





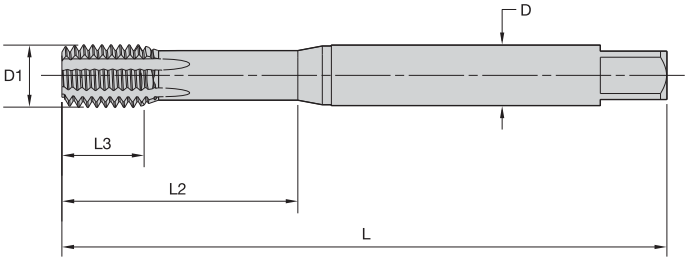
● first choice
○ alternate choice

KSP21	KSN28	D1 size	L	L3	L2	D	number of lube grooves	dimension standard	class of fit
T622M030X050R6HX-D74	T622M030X050R6HX-D74	M3 x 0,5	56	6	18	3,5	4	DIN 2174	6HX
T622M040X070R6HX-D74	T622M040X070R6HX-D74	M5 x 0,7	63	7	21	4,5	4	DIN 2174	6HX
T622M050X080R6HX-D74	T622M050X080R6HX-D74	M5 x 0,8	70	8	25	6,0	4	DIN 2174	6HX
T622M060X100R6HX-D74	T622M060X100R6HX-D74	M6 x 1	80	10	30	6,0	5	DIN 2174	6HX
T622MF080X100R6HX-D74	T622MF080X100R6HX-D74	M8 x 1	90	10	35	8,0	5	DIN 2174	6HX
T622M080X125R6HX-D74	T622M080X125R6HX-D74	M8 x 1,25	90	14	35	8,0	5	DIN 2174	6HX
T622MF100X100R6HX-D74	T622MF100X100R6HX-D74	M10 x 1	90	10	35	10,0	5	DIN 2174	6HX
T622MF100X125R6HX-D74	T622MF100X125R6HX-D74	M10 x 1,25	100	16	69	10,0	5	DIN 2174	6HX
T622M100X150R6HX-D74	T622M100X150R6HX-D74	M10 x 1,5	100	16	39	10,0	5	DIN 2174	6HX
T622MF120X125R6HX-D74	T622MF120X125R6HX-D74	M12 x 1,25	100	15	27	9,0	6	DIN 2174	6HX
T622MF120X150R6HX-D74	T622MF120X150R6HX-D74	M12 x 1,5	100	15	27	9,0	6	DIN 2174	6HX
T622M120X175R6HX-D74	T622M120X175R6HX-D74	M12 x 1,75	110	—	—	9,0	6	DIN 2174	6HX
T622MF140X150R6HX-D74	T622MF140X150R6HX-D74	M14 x 1,5	100	—	—	11,0	6	DIN 2174	6HX
T622MF160X150R6HX-D74	T622MF160X150R6HX-D74	M16 x 1,5	100	—	—	12,0	6	DIN 2174	6HX
T622M160X200R6HX-D74	T622M160X200R6HX-D74	M16 x 2	110	—	—	12,0	6	DIN 2174	6HX

Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043

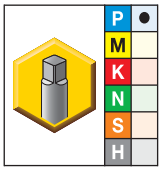


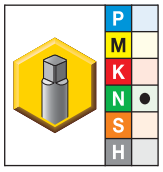




KSP21 • TiN for tapping steel.
KSP28 • DLC for tapping aluminum.

T623 • DIN 2174 • Form C Semi-Bottoming Entry Taper • Through Coolant • Metric





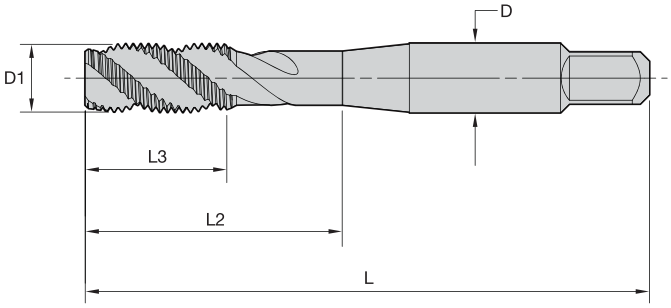
● first choice
○ alternate choice

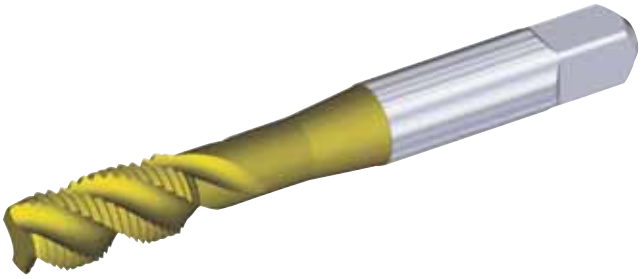
KSP21	KSN28	D1 size	L	L3	L2	D	number of lube grooves	dimension standard	class of fit
T623M050X080R6HX-D74	**T623M050X080R6HX-D74**	M5 x 0,8	70	8	25	6,0	4	DIN 2174	6HX
T623M060X100R6HX-D74	**T623M060X100R6HX-D74**	M6 x 1	80	10	30	6,0	5	DIN 2174	6HX
T623MF080X100R6HX-D74	**T623MF080X100R6HX-D74**	M8 x 1	90	10	35	8,0	5	DIN 2174	6HX
T623M080X125R6HX-D74	**T623M080X125R6HX-D74**	M8 x 1,25	90	14	35	8,0	5	DIN 2174	6HX
T623MF100X100R6HX-D74	**T623MF100X100R6HX-D74**	M10 x 1	90	10	35	10,0	5	DIN 2174	6HX
T623M100X150R6HX-D74	**T623M100X150R6HX-D1**	M10 x 1,5	100	16	39	10,0	5	DIN 2174	6HX
T623MF120X150R6HX-D74	**T623MF120X150R6HX-D74**	M12 x 1,5	100	15	27	9,0	6	DIN 2174	6HX
T623M120X175R6HX-D74	**T623M120X175R6HX-D74**	M12 x 1,75	110	18	30	9,0	6	DIN 2174	6HX
T623MF140X150R6HX-D74	**T623MF140X150R6HX-D74**	M14 x 1,5	100	15	—	11,0	6	DIN 2174	6HX
T623MF160X150R6HX-D74	**T623MF160X150R6HX-D74**	M16 x 1,5	100	15	—	12,0	6	DIN 2174	6HX
T623M160X200R6HX-D74	**T623M160X200R6HX-D74**	M16 x 2	110	22	—	12,0	6	DIN 2174	6HX

Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043

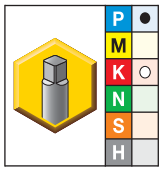


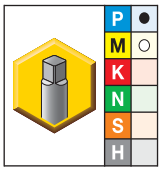


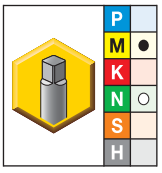


KM6515 • TiN+CrC/C for tapping stainless steel.
KP6525 • TiCN+TiN for tapping steel.
KP6505 • Oxide for tapping steel.

T630 • Machine Screw and Fractional • Form C Semi-Bottoming Chamfer







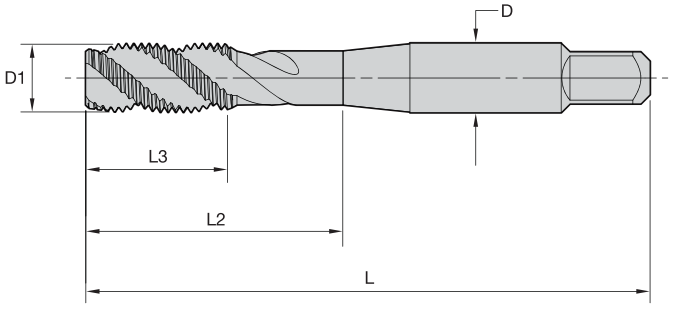
● first choice
○ alternate choice

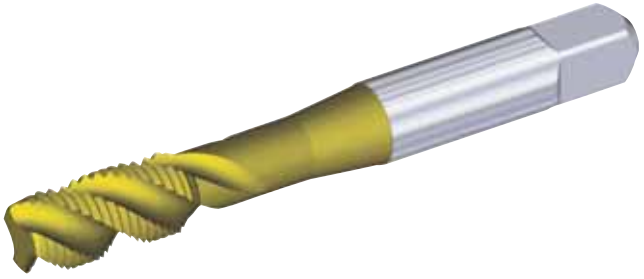
KP6525	KP6505	KM6515	D1 size	L	L3	L2	D	number of flutes	class of fit
T630NC#02-56R3BX-A	—	T630NC#02-56R3BX-A	2 - 56	1.75	.44	.49	.141	2	3BX
T630NC#04-40R3BX-A	T630NC#04-40R3BX-A	T630NC#04-40R3BX-A	4 - 40	1.88	.56	.68	.141	2	3BX
T630NC#04-40R2BX-A	—	T630NC#04-40R2BX-A	4 - 40	1.88	.56	.68	.141	2	2BX
T630NC#06-32R3BX-A	T630NC#06-32R3BX-A	T630NC#06-32R3BX-A	6 - 32	1.99	.36	.71	.141	3	3BX
T630NC#06-32R2BX-A	—	T630NC#06-32R2BX-A	6 - 32	1.99	.36	.71	.141	3	2BX
T630NC#08-32R3BX-A	T630NC#08-32R3BX-A	T630NC#08-32R3BX-A	8 - 32	2.12	.31	.76	.168	3	3BX
T630NF#10-32R2BX-A	—	T630NF#10-32R2BX-A	10 - 32	2.36	.47	.91	.194	3	2BX
T630NF#10-32R3BX-A	T630NF#10-32R3BX-A	T630NF#10-32R3BX-A	10 - 32	2.36	.47	.91	.194	3	3BX
T630NC#10-24R3BX-A	T630NC#10-24R3BX-A	T630NC#10-24R3BX-A	10 - 24	2.37	.47	.91	.194	3	3BX
T630NF02500-28R2BX-A	T630NF02500-28R2BX-A	T630NF02500-28R2BX-A	1/4 - 28	2.49	.43	1.00	.255	3	2BX
T630NF02500-28R3BX-A	T630NF02500-28R3BX-A	T630NF02500-28R3BX-A	1/4 - 28	2.49	.43	1.00	.255	3	3BX
T630NC02500-20R2BX-A	T630NC02500-20R2BX-A	T630NC02500-20R2BX-A	1/4 - 20	2.50	.44	1.01	.255	3	2BX
T630NC02500-20R3BX-A	T630NC02500-20R3BX-A	T630NC02500-20R3BX-A	1/4 - 20	2.50	.44	1.01	.255	3	3BX
T630NF03125-24R3BX-A	T630NF03125-24R3BX-A	T630NF03125-24R3BX-A	5/16 - 24	2.71	.48	1.13	.318	3	3BX
T630NF03125-24R2BX-A	—	T630NF03125-24R2BX-A	5/16 - 24	2.71	.48	1.13	.318	3	2BX
T630NC03125-18R2BX-A	T630NC03125-18R2BX-A	T630NC03125-18R2BX-A	5/16 - 18	2.72	.49	1.13	.318	3	2BX
T630NC03125-18R3BX-A	T630NC03125-18R3BX-A	T630NC03125-18R3BX-A	5/16 - 18	2.72	.49	1.13	.318	3	3BX
T630NF03750-24R3BX-A	—	T630NF03750-24R3BX-A	3/8 - 24	2.92	.59	1.25	.381	3	3BX
T630NC03750-16R2BX-A	T630NC03750-16R2BX-A	T630NC03750-16R2BX-A	3/8 - 16	2.94	.60	1.27	.381	3	2BX
T630NC03750-16R3BX-A	T630NC03750-16R3BX-A	T630NC03750-16R3BX-A	3/8 - 16	2.94	.60	1.27	.381	3	3BX
T630NC04375-14R3BX-A	T630NC04375-14R3BX-A	T630NC04375-14R3BX-A	7/16 - 14	3.16	.71	1.49	.323	5	3BX
T630NF04375-20R3BX-A	T630NF04375-20R3BX-A	T630NF04375-20R3BX-A	7/16 - 20	3.16	.71	1.49	.323	5	3BX
T630NC05000-13R3BX-A	T630NC05000-13R3BX-A	T630NC05000-13R3BX-A	1/2 - 13	3.38	.77	1.74	.367	5	3BX
T630NC05000-13R2BX-A	T630NC05000-13R2BX-A	T630NC05000-13R2BX-A	1/2 - 13	3.38	.77	1.74	.367	4	2BX
T630NF05000-20R3BX-A	T630NF05000-20R3BX-A	T630NF05000-20R3BX-A	1/2 - 20	3.38	.77	1.74	.367	5	3BX
T630NC06250-11R3BX-A	T630NC06250-11R3BX-A	T630NC06250-11R3BX-A	5/8 - 11	3.81	.91	1.89	.480	5	3BX
T630NC06250-11R2BX-A	—	T630NC06250-11R2BX-A	5/8 - 11	3.81	.91	1.89	.480	4	2BX
T630NC07500-10R3BX-A	T630NC07500-10R3BX-A	T630NC07500-10R3BX-A	3/4 - 10	4.25	1.00	2.08	.590	5	3BX
T630NC07500-10R2BX-A	—	T630NC07500-10R2BX-A	3/4 - 10	4.25	1.00	2.08	.590	4	2BX
T630NC10000-08R3BX-A	—	T630NC10000-08R3BX-A	1 - 8	5.13	1.25	2.58	.800	5	3BX

Shank Tolerance

D fractional	tolerance h6
.250–.375	+0, -.0004
.438–.625	+0, -.0004

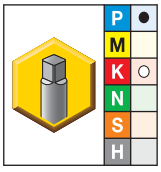


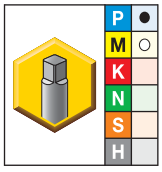


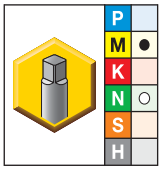


KM6515 • TiN+CrC/C for tapping stainless steel.
KP6525 • TiCN+TiN for tapping steel.
KP6505 • Oxide for tapping steel.

T630 • Form C Semi-Bottoming Chamfer • Metric ANSI







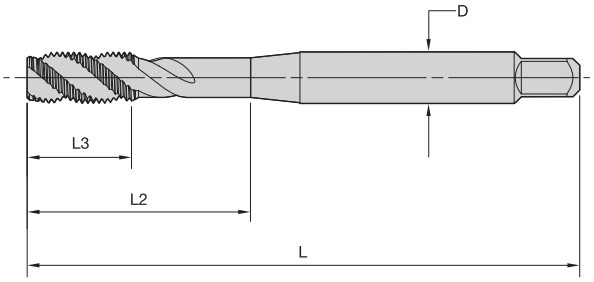
● first choice
○ alternate choice

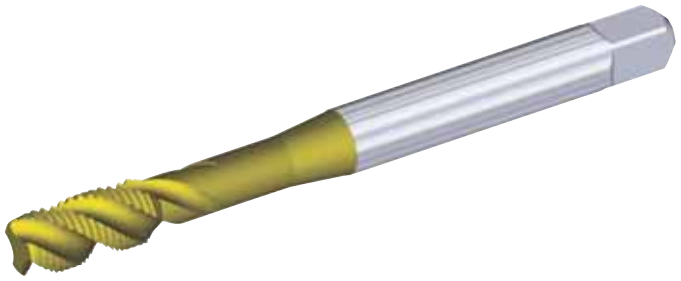
KP6525	KP6505	KM6515	D1 size	L	L3	L2	D	number of flutes	class of fit
T630M030X050R6HX-A	T630M030X050R6HX-A	T630M030X050R6HX-A	M3 x 0,5	1.94	.58	.75	.141	2	6HX
T630M040X070R6HX-A	T630M040X070R6HX-A	T630M040X070R6HX-A	M4 x 0,7	2.11	.31	.76	.168	3	6HX
T630M050X080R6HX-A	T630M050X080R6HX-A	T630M050X080R6HX-A	M5 x 0,8	2.37	.46	.91	.194	3	6HX
T630M060X100R6HX-A	T630M060X100R6HX-A	T630M060X100R6HX-A	M6 x 1	2.49	.45	1.00	.255	3	6HX
T630M080X125R6HX-A	T630M080X125R6HX-A	T630M080X125R6HX-A	M8 x 1,25	2.70	.47	1.12	.318	3	6HX
T630M100X150R6HX-A	T630M100X150R6HX-A	T630M100X150R6HX-A	M10 x 1,5	2.92	.52	1.25	.381	3	6HX
T630M120X175R6HX-A	T630M120X175R6HX-A	T630M120X175R6HX-A	M12 x 1,75	3.38	.77	1.74	.367	5	6HX
T630M140X200R6HX-A	T630M140X200R6HX-A	T630M140X200R6HX-A	M14 x 2	3.59	.83	1.74	.429	5	6HX
T630M160X200R6HX-A	T630M160X200R6HX-A	T630M160X200R6HX-A	M16 x 2	3.81	.91	1.89	.480	5	6HX

Shank Tolerance

D fractional	tolerance h6
.250–.375	+0, -.0004
.438–.625	+0, -.0004

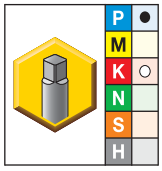


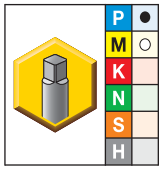


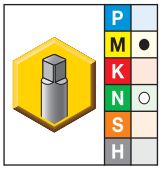


KM6515 • TiN + CrC/C for stainless steel.
KP6525 • TiCN+ TiN for steel.
KP6505 • Steam oxide for steel.

T630 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Metric







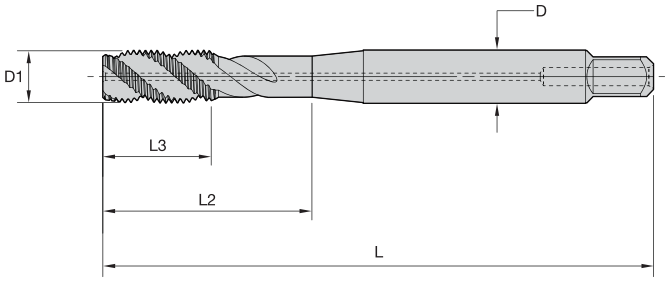
● first choice
○ alternate choice

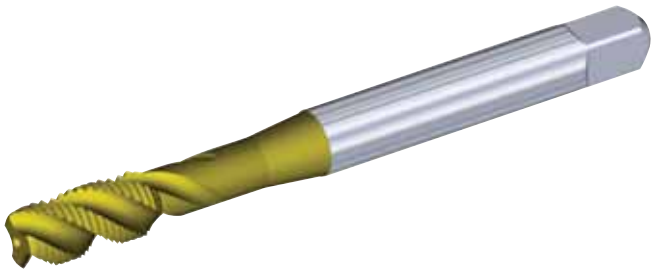
KP6525	KP6505	KM6515	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T630M030X050R6HX-D1	T630M030X050R6HX-D1	T630M030X050R6HX-D1	M3 x 0,5	56	8	18	3,5	3	DIN 371	6HX
T630M040X070R6HX-D1	T630M040X070R6HX-D1	T630M040X070R6HX-D1	M4 x 0,7	63	10	21	4,5	3	DIN 371	6HX
T630M050X080R6HX-D1	T630M050X080R6HX-D1	T630M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T630M060X100R6HX-D1	T630M060X100R6HX-D1	T630M060X100R6HX-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6HX
T630MF080X100R6HX-D4	—	T630MF080X100R6HX-D4	M8 x 1	90	13	35	6,0	3	DIN 374	6HX
T630M080X125R6HX-D1	T630M080X125R6HX-D1	T630M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	3	DIN 371	6HX
T630MF100X100R6HX-D4	—	T630MF100X100R6HX-D4	M10 x 1	90	10	35	7,0	3	DIN 374	6HX
T630MF100X125R6HX-D4	—	T630MF100X125R6HX-D4	M10 x 1,25	100	15	39	7,0	3	DIN 374	6HX
T630M100X150R6HX-D1	T630M100X150R6HX-D1	T630M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	3	DIN 371	6HX
T630MF120X150R6HX-D4	—	T630MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	3	DIN 374	6HX
T630M120X175R6HX-D6	T630M120X175R6HX-D6	T630M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	3	DIN 376	6HX
T630MF140X150R6HX-D4	—	T630MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T630M140X200R6HX-D6	T630M140X200R6HX-D6	T630M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T630MF160X150R6HX-D4	—	T630MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX
T630M160X200R6HX-D6	T630M160X200R6HX-D6	T630M160X200R6HX-D6	M16 x 2	110	20	51	12,0	4	DIN 376	6HX
T630MF180X150R6HX-D4	—	T630MF180X150R6HX-D4	M18 x 1,5	110	15	50	14,0	4	DIN 374	6HX
T630M180X250R6HX-D6	T630M180X250R6HX-D6	T630M180X250R6HX-D6	M18 x 2,5	125	25	58	14,0	4	DIN 376	6HX
—	T630M200X250R6HX-D6	—	M20 x 2,5	140	25	64	16,0	4	DIN 376	6HX

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

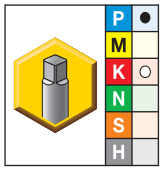


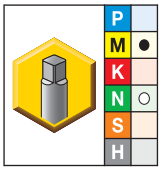




KM6515 • TiN + CrC/C for stainless steel.
KP6525 • TiCN+ TiN for steel.

T631 • DIN 371, 374, and 376 • Form C Semi-Bottoming Chamfer • Through Coolant • Metric





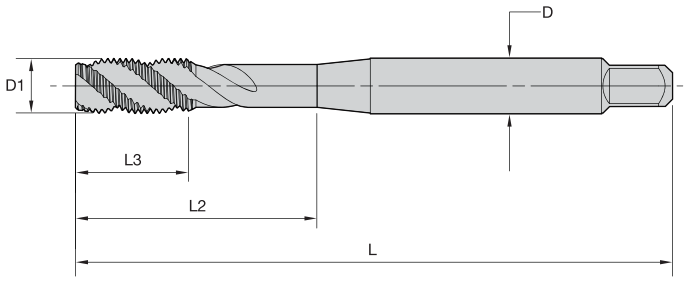
● first choice
○ alternate choice

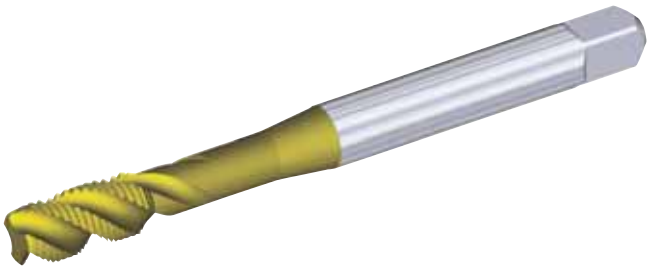
KP6525	KM6515	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T631M050X080R6HX-D1	T631M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T631M060X100R6HX-D1	T631M060X100R6HX-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6HX
T631MF080X100R6HX-D4	T631MF080X100R6HX-D4	M8 x 1	90	13	35	6,0	3	DIN 374	6HX
T631M080X125R6HX-D1	T631M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	3	DIN 371	6HX
T631MF100X100R6HX-D4	T631MF100X100R6HX-D4	M10 x 1	90	10	35	7,0	3	DIN 374	6HX
T631MF100X125R6HX-D4	T631MF100X125R6HX-D4	M10 x 1,25	100	15	39	7,0	3	DIN 374	6HX
T631M100X150R6HX-D1	T631M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	3	DIN 371	6HX
T631MF120X125R6HX-D4	T631MF120X125R6HX-D4	M12 x 1,25	100	15	39	9,0	4	DIN 374	6HX
T631MF140X125R6HX-D4	T631MF140X125R6HX-D4	M14 x 1,25	100	15	47	11,0	4	DIN 374	6HX
T631MF120X150R6HX-D4	T631MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	4	DIN 374	6HX
T631M120X175R6HX-D6	T631M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	4	DIN 376	6HX
T631MF140X150R6HX-D4	T631MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T631M140X200R6HX-D6	T631M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T631MF160X150R6HX-D4	T631MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX
T631M160X200R6HX-D6	T631M160X200R6HX-D6	M16 x 2	110	20	51	12,0	4	DIN 376	6HX
T631MF180X150R6HX-D4	T631MF180X150R6HX-D4	M18 x 1,5	110	15	50	14,0	4	DIN 374	6HX
T631M180X250R6HX-D6	T631M180X250R6HX-D6	M18 x 2,5	125	25	58	13,0	4	DIN 376	6HX

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

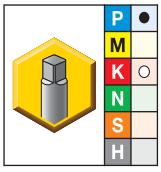






KP6525 • TiCN+TiN for tapping steel.

T632 • DIN 371, 374, and 376 • Form E Bottoming Chamfer • Metric



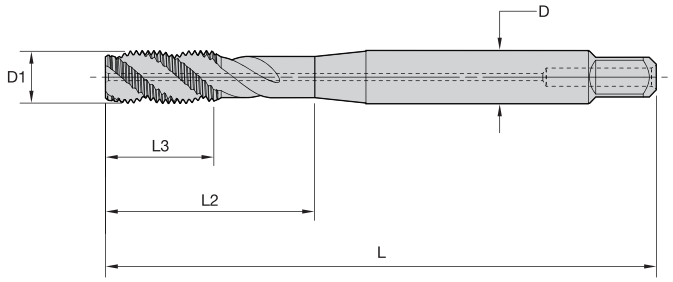
● first choice
○ alternate choice

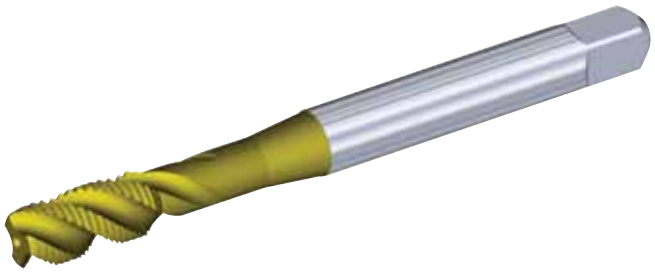
KP6525	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T632M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T632M060X100R6HX-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6HX
T632M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	3	DIN 371	6HX
T632M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	3	DIN 371	6HX
T632MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	4	DIN 374	6HX
T632M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	4	DIN 376	6HX
T632MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T632M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T632MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

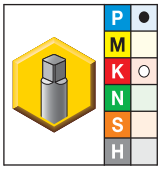






KP6525 • TiCN+TiN for tapping steel.

T633 • DIN 371, 374, and 376 • Form E Bottoming Chamfer • Through Coolant • Metric



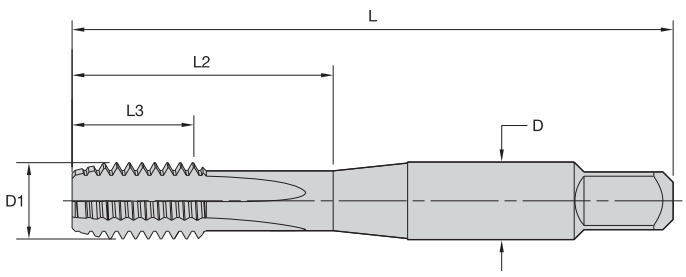
● first choice
○ alternate choice

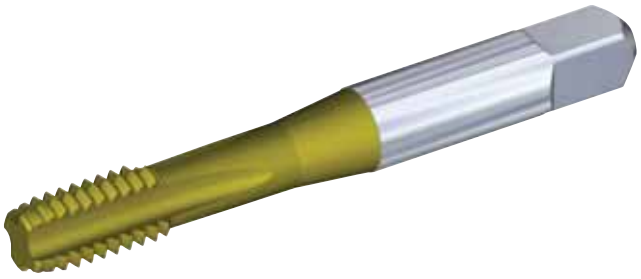
KP6525	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T633M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T633M060X100R6HX-D1	M6 x 1	80	10	30	6,0	3	DIN 371	6HX
T633M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	3	DIN 371	6HX
T633M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	3	DIN 371	6HX
T633MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	4	DIN 374	6HX
T633M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	4	DIN 376	6HX
T633MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T633M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T633MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

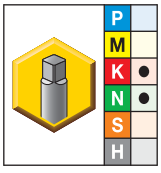






For through and blind holes.
TiCN+TiN for tapping.

T640 • Machine Screw and Fractional • Form C Semi-Bottoming Chamfer



● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T640NF#10-32R3BX-A	10 - 32	2.36	.47	.91	.194	3	3BX
T640NC#10-24R3BX-A	10 - 24	2.37	.47	.91	.194	3	3BX
T640NF02500-28R3BX-A	1/4 - 28	2.49	.43	1.00	.255	4	3BX
T640NF02500-28R2BX-A	1/4 - 28	2.49	.43	1.00	.255	4	2BX
T640NC02500-20R3BX-A	1/4 - 20	2.50	.44	1.01	.255	4	3BX
T640NC02500-20R2BX-A	1/4 - 20	2.50	.44	1.01	.255	4	2BX
T640NF03125-24R3BX-A	5/16 - 24	2.71	.48	1.13	.318	4	3BX
T640NC03125-18R2BX-A	5/16 - 18	2.72	.49	1.13	.318	4	2BX
T640NC03125-18R3BX-A	5/16 - 18	2.72	.49	1.13	.318	4	3BX
T640NF03750-24R3BX-A	3/8 - 24	2.92	.58	1.25	.381	4	3BX
T640NC03750-16R2BX-A	3/8 - 16	2.94	.60	1.27	.381	4	2BX
T640NC03750-16R3BX-A	3/8 - 16	2.94	.60	1.27	.381	4	3BX
T640NC04375-14R3BX-A	7/16 - 14	3.16	.71	1.49	.323	4	3BX
T640NF04375-20R3BX-A	7/16 - 20	3.16	.71	1.49	.323	4	3BX
T640NF05000-20R3BX-A	1/2 - 20	3.38	.77	1.74	.367	4	3BX
T640NC05000-13R3BX-A	1/2 - 13	3.38	.77	1.74	.367	4	3BX
T640NC06250-11R3BX-A	5/8 - 11	3.81	.91	1.89	.480	4	3BX
T640NC07500-10R3BX-A	3/4 - 10	4.25	1.00	2.08	.590	4	3BX

Shank Tolerance

D fractional	D inch
.250–.375	+0, -.0004
.438–.625	+0, -.0004

Looking for a product that's not shown in this catalog?
Check the Kennametal website!

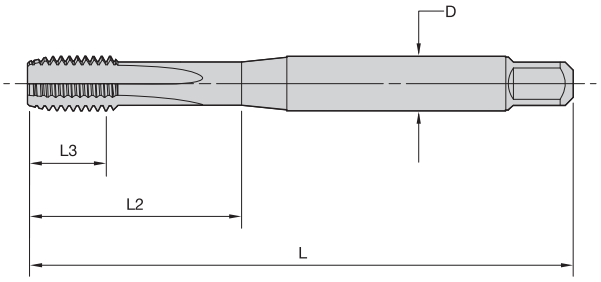


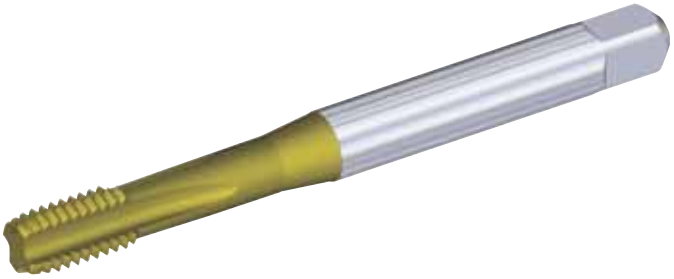
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KENNAMETAL

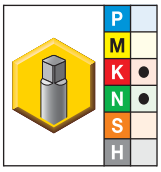






KP6525 • TiCN+ TiN for cast iron and cast aluminum.

T640 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • Metric



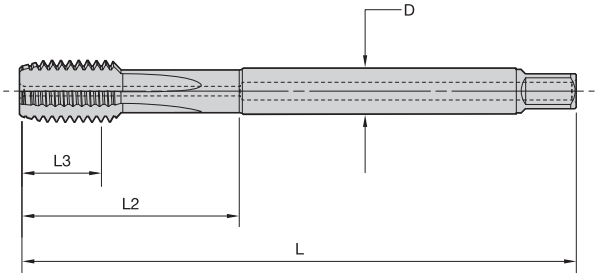
● first choice
○ alternate choice

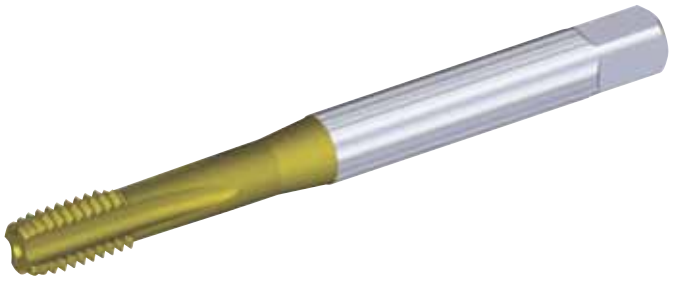
KP6525	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T640M040X070R6HX-D1	M4 x 0,7	63	10	21	4,5	3	DIN 371	6HX
T640M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T640M060X100R6HX-D1	M6 x 1	80	10	30	6,0	4	DIN 371	6HX
T640M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	4	DIN 371	6HX
T640M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	4	DIN 371	6HX
T640M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	4	DIN 376	6HX
T640M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T640M160X200R6HX-D6	M16 x 2	110	20	51	12,0	4	DIN 376	6HX
T640M180X250R6HX-D6	M18 x 2,5	125	25	58	14,0	4	DIN 376	6HX
T640M200X250R6HX-D6	M20 x 2,5	140	25	64	16,0	4	DIN 376	6HX
T640M220X250R6HX-D6	M22 x 2,5	140	25	64	16,0	4	DIN 376	6HX

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

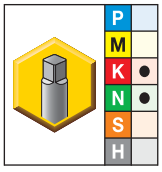






KP6525 • TiCN+ TiN for cast iron and cast aluminum.

T641 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • Through Coolant • Metric



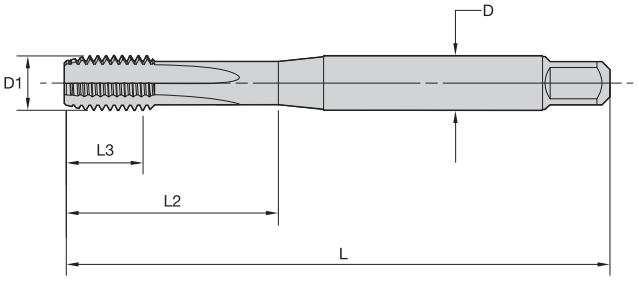
● first choice
○ alternate choice

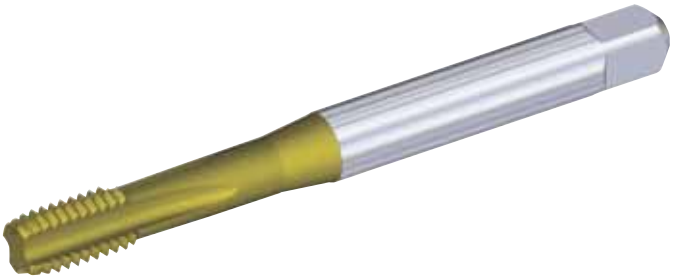
KP6525	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T641M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T641M060X100R6HX-D1	M6 x 1	80	10	30	6,0	4	DIN 371	6HX
T641M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	4	DIN 371	6HX
T641M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	4	DIN 371	6HX
T641M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	4	DIN 376	6HX
T641M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T641M160X200R6HX-D6	M16 x 2	110	20	51	12,0	4	DIN 376	6HX
T641M180X250R6HX-D6	M18 x 2,5	125	25	58	14,0	4	DIN 376	6HX
T641M200X250R6HX-D6	M20 x 2,5	140	25	64	16,0	4	DIN 376	6HX

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

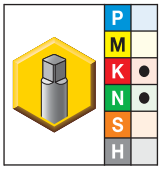






KP6525 • TiCN+TiN for cast iron and cast silicon aluminum.

T642 • DIN 371, 374, and 376 • Form E Bottoming Chamfer • Metric



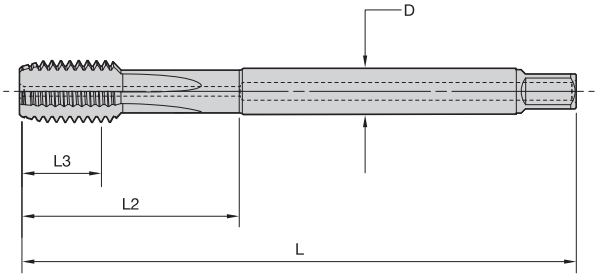
● first choice
○ alternate choice

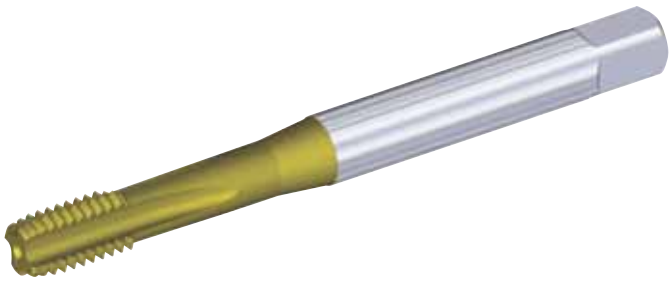
KP6525	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T642M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T642M060X100R6HX-D1	M6 x 1	80	10	30	6,0	4	DIN 371	6HX
T642M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	4	DIN 371	6HX
T642M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	4	DIN 371	6HX
T642MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	4	DIN 374	6HX
T642M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	4	DIN 376	6HX
T642MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T642M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T642MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

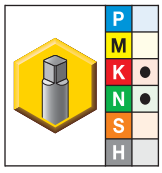






KP6525 • TiCN+TiN for tapping cast iron and cast silicon aluminum.

T643 • DIN 371, 374, and 376 • Form E Bottoming Chamfer • Through Coolant • Metric



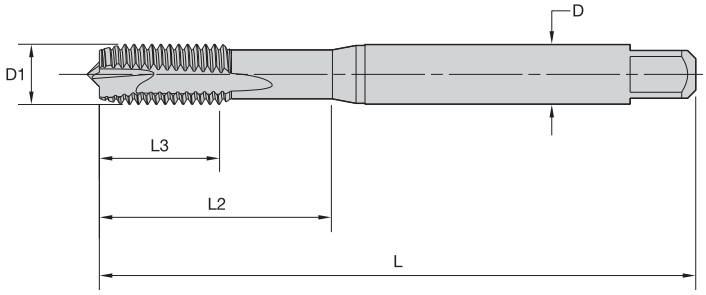
● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T643M050X080R6HX-D1	M5 x 0,8	70	10	25	6,0	3	DIN 371	6HX
T643M060X100R6HX-D1	M6 x 1	80	10	30	6,0	4	DIN 371	6HX
T643M080X125R6HX-D1	M8 x 1,25	90	13	35	8,0	4	DIN 371	6HX
T643M100X150R6HX-D1	M10 x 1,5	100	15	39	10,0	4	DIN 371	6HX
T643MF120X150R6HX-D4	M12 x 1,5	100	15	39	9,0	4	DIN 374	6HX
T643M120X175R6HX-D6	M12 x 1,75	110	18	44	9,0	4	DIN 376	6HX
T643MF140X150R6HX-D4	M14 x 1,5	100	15	47	11,0	4	DIN 374	6HX
T643M140X200R6HX-D6	M14 x 2	110	20	52	11,0	4	DIN 376	6HX
T643MF160X150R6HX-D4	M16 x 1,5	100	15	46	12,0	4	DIN 374	6HX

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–16	+0, -0,011

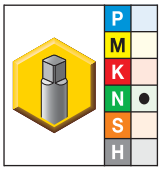






KSN38 • DLC for tapping aluminum.

T670 • DIN 371 and 376 • Form B Plug Chamfer • Metric



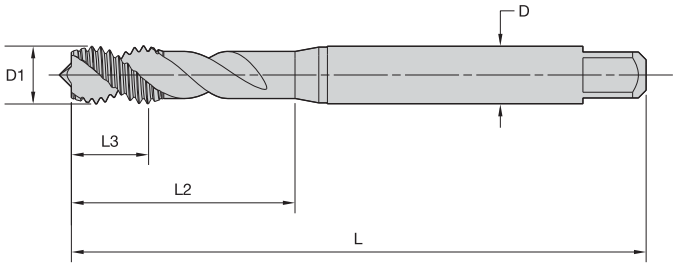
● first choice
○ alternate choice

KSN38	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T670M030X050R6H-D1	M3 x 0,5	56	11	18	3,5	2	DIN 371	6H
T670M040X070R6H-D1	M4 x 0,7	63	13	21	4,5	2	DIN 371	6H
T670M050X080R6H-D1	M5 x 0,8	70	15	25	6,0	2	DIN 371	6H
T670M060X100R6H-D1	M6 x 1	80	17	30	6,0	2	DIN 371	6H
T670M080X125R6H-D1	M8 x 1,25	90	20	35	8,0	2	DIN 371	6H
T670M100X150R6H-D1	M10 x 1,5	100	22	39	10,0	2	DIN 371	6H
T670M120X175R6H-D6	M12 x 1,75	110	24	—	9,0	3	DIN 376	6H
T670M160X200R6H-D6	M16 x 2	110	27	—	12,0	3	DIN 376	6H

Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043

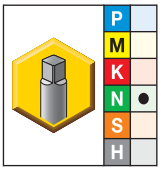






KSN38 • DLC for tapping aluminum.

T680 • DIN 371 and 376 • Form C Semi-Bottoming Chamfer • Metric



● first choice
○ alternate choice

KSN38	D1 size	L	L3	L2	D	number of flutes	dimension standard	class of fit
T680M030X050R6H-D1	M3 x 0,5	56	6	18	3,5	2	DIN 371	6H
T680M040X070R6H-D1	M4 x 0,7	63	7	21	4,5	2	DIN 371	6H
T680M050X080R6H-D1	M5 x 0,8	70	8	25	6,0	2	DIN 371	6H
T680M060X100R6H-D1	M6 x 1	80	10	30	6,0	2	DIN 371	6H
T680M080X125R6H-D1	M8 x 1,25	90	14	35	8,0	2	DIN 371	6H
T680M100X150R6H-D1	M10 x 1,5	100	16	39	10,0	2	DIN 371	6H
T680M120X175R6H-D6	M12 x 1,75	110	18	—	9,0	3	DIN 376	6H
T680M160X200R6H-D6	M16 x 2	110	22	—	12,0	3	DIN 376	6H
T680M200X250R6H-D6	M20 x 2,5	140	25	—	16,0	3	DIN 376	6H

Shank Tolerance

D	tolerance h9
1–3	+0, -0,025
3,5–6	+0, -0,030
7–10	+0, -0,036
11–18	+0, -0,043



Wind Energy Taps

Primary Application

The new high-performance, large-sized HSS-E-PM Wind Taps were developed for manufacturers of some of the most important wind turbine components to increase productivity because of increased demand and can be used in conventional non-rigid and CNC-synchronous tapping machines. These Wind Taps are manufactured to DIN 376 dimensions and an extra-long version is available to reach the longer overhang that is common on these big components.

The precision h6 shanks enable use in either conventional tap holders with square drive or in precision round holders.

Features and Benefits

T620 LH Spiral Flute

- For through hole tapping.
- Push chips ahead, enabling free tapping on long chipping material.
- Form D plug chamfer.
- DIN 376 and extra-long versions available.

T630 RH Spiral Flute

- For blind hole tapping.
- Preferred for vertical tapping application.
- Form D plug chamfer.
- Internal coolant available as standard; see T631.
- DIN 376 and extra-long versions available.

T650 RH Spiral Flute

- For blind hole tapping.
- Preferred for horizontal tapping application.
- Form D plug chamfer.
- Internal coolant available as standard; see T651.
- DIN 376 and extra-long versions available.

T650 HSS-E-PM • Proven Solution

Case study:

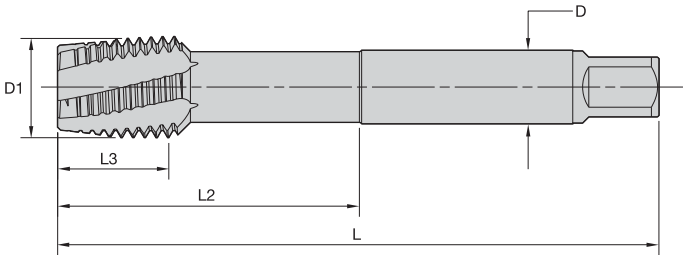
- Manufacturer of large diameter bearing for wind turbines.

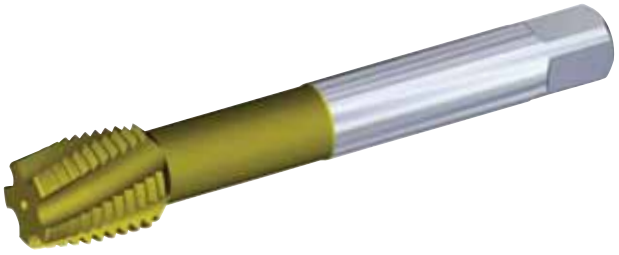
Conditions:

- Thread size: M24 x 2.5 6H
- Workpiece: bearing ring
- Material: low-carbon steel 1010 (C10)
- Thread depth: 35mm blind
- Tap drill size: 17,5mm
- Machine: CNC
- Coolant: water soluble



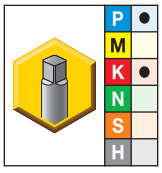






KP6525 • TiCN+TiN for tapping steel and cast iron.

T620 • DIN 376 • Form D Plug Chamfer • Larger Sizes • Metric



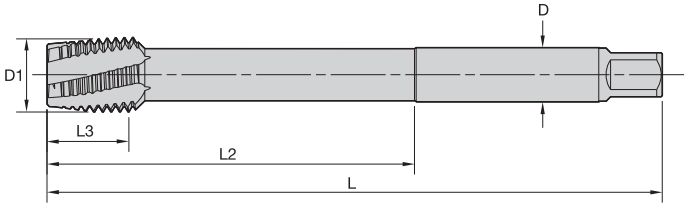
● first choice
○ alternate choice

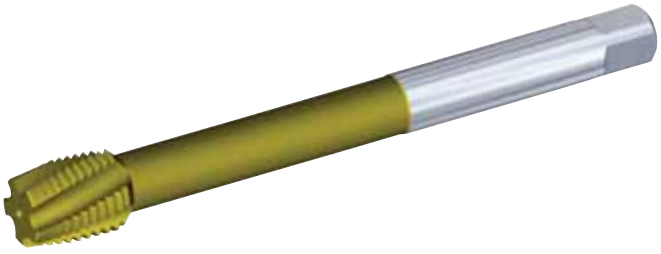
KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T620M240X300R6HX-D6	M24 x 3	160	30	77	18,0	5	6HX
T620M300X350R6HX-D6	M30 x 3,5	180	35	91	22,0	5	6HX
T620M330X350R6HX-D6	M33 x 3,5	180	35	100	25,0	5	6HX
T620M360X400R6HX-D6	M36 x 4	200	40	110	28,0	6	6HX
T620M420X450R6HX-D6	M42 x 4,5	200	45	120	32,0	6	6HX

Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016

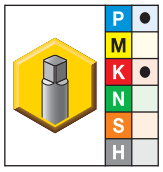






KP6525 • TiCN+TiN for tapping steel and cast iron.

T620 • Extra Long • Form D Plug Chamfer • Larger Sizes • Metric



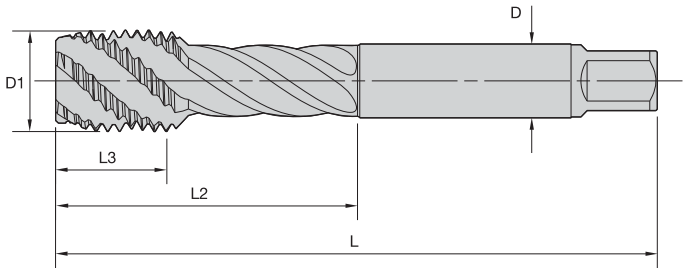
● first choice
○ alternate choice

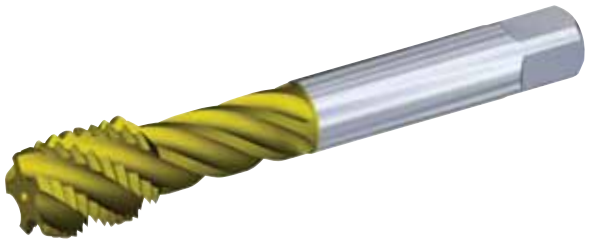
KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T620M240X300R6H-XL	M24 x 3	200	30	120	18,0	5	6HX
T620M300X350R6H-XL	M30 x 3,5	250	35	150	22,0	5	6HX
T620M330X350R6H-XL	M33 x 3,5	250	35	150	25,0	5	6HX
T620M360X400R6H-XL	M36 x 4	250	40	150	28,0	6	6HX
T620M420X450R6H-XL	M42 x 4,5	300	45	180	32,0	6	6HX

Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016

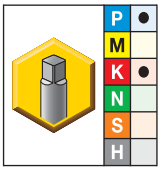






KP6525 • TiCN+TiN for tapping steel and cast iron.

T630 • DIN 376 • Form C Semi-Bottoming Chamfer • Larger Sizes • Metric



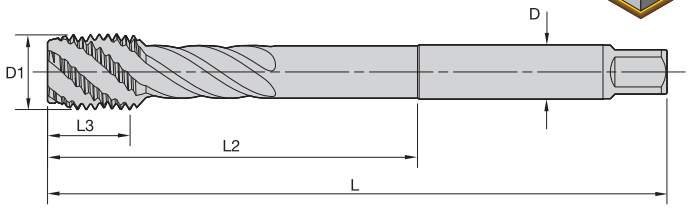
● first choice
○ alternate choice

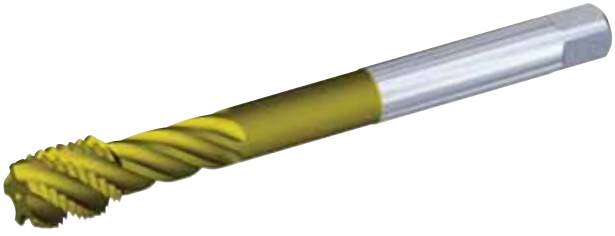
KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T630M240X300R6HX-D6	M24 x 3	160	30	77	18,0	5	6HX
T630M300X350R6HX-D6	M30 x 3,5	180	35	91	22,0	5	6HX
T630M330X350R6HX-D6	M33 x 3,5	180	35	100	25,0	5	6HX
T630M360X400R6HX-D6	M36 x 4	200	40	110	28,0	5	6HX
T630M420X450R6HX-D6	M42 x 4,5	200	45	120	32,0	5	6HX

Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016

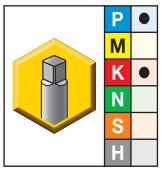






KP6525 • TiCN+TiN for tapping steel and cast iron.

T630 • Extra Long • Form C Semi-Bottoming Chamfer • Larger Sizes • Metric



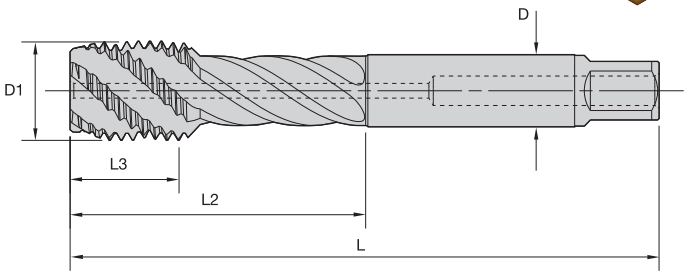
● first choice
○ alternate choice

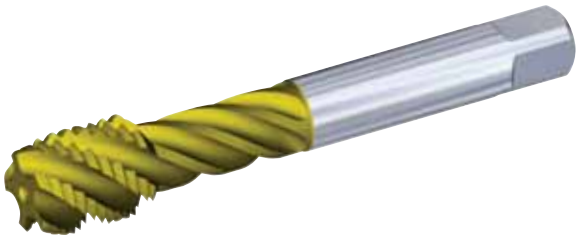
KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T630M240X300R6HX-XL	M24 x 3	200	30	120	18,0	5	6HX
T630M300X350R6HX-XL	M30 x 3,5	250	35	150	22,0	5	6HX
T630M330X350R6HX-XL	M33 x 3,5	250	35	150	25,0	5	6HX
T630M360X400R6HX-XL	M36 x 4	250	40	150	28,0	5	6HX
T630M420X450R6HX-XL	M42 x 4,5	300	45	180	32,0	5	6HX

Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016

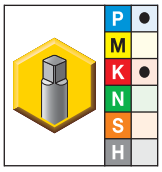






KP6525 • TiCN+TiN for tapping steel and cast iron.

T631 • DIN 376 • Form C Semi-Bottoming Chamfer • Through Coolant • Larger Sizes • Metric



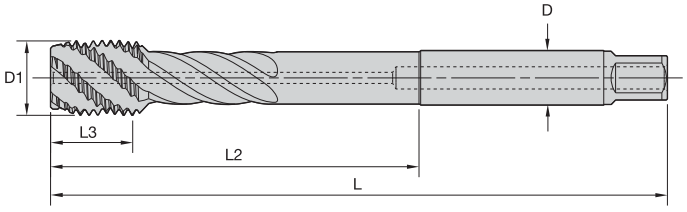
● first choice
○ alternate choice

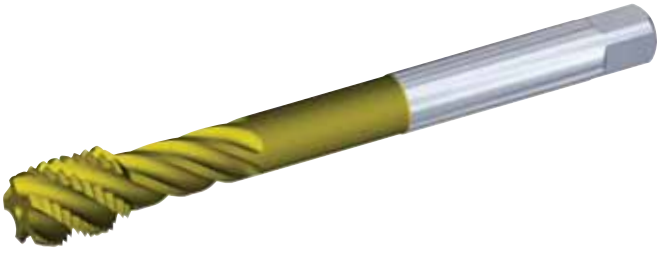
KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T631M240X300R6HX-D6	M24 x 3	160	30	77	18,0	5	6HX
T631M300X350R6HX-D6	M30 x 3,5	180	35	91	22,0	5	6HX
T631M330X350R6HX-D6	M33 x 3,5	180	35	100	25,0	5	6HX
T631M360X400R6HX-D6	M36 x 4	200	40	110	28,0	5	6HX
T631M420X450R6HX-D6	M42 x 4,5	200	45	120	32,0	5	6HX

Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016

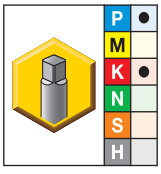






KP6525 • TiCN+TiN for tapping steel and cast iron.

T631 • Extra Long • Form C Semi-Bottoming Chamfer • Through Coolant • Larger Sizes • Metric

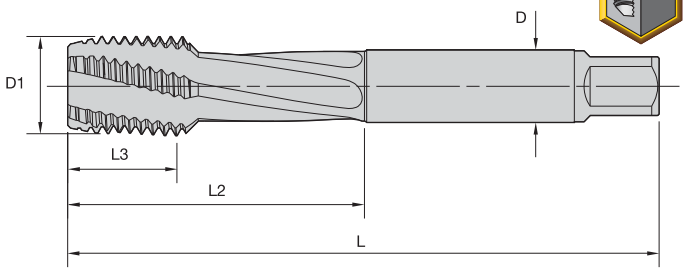


● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T631M240X300R6HX-XL	M24 x 3	200	30	120	18,0	5	6HX
T631M300X350R6HX-XL	M30 x 3,5	250	35	150	22,0	5	6HX
T631M330X350R6HX-XL	M33 x 3,5	250	35	150	25,0	5	6HX
T631M360X400R6HX-XL	M36 x 4	250	40	150	28,0	5	6HX
T631M420X450R6HX-XL	M42 x 4,5	300	45	180	32,0	5	6HX

Shank Tolerance

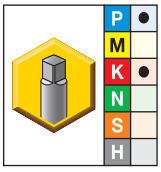
D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016





KP6525 • TiCN+TiN for tapping steel and cast iron.

T650 • DIN 376 • Form C Semi-Bottoming Chamfer • Larger Sizes • Metric

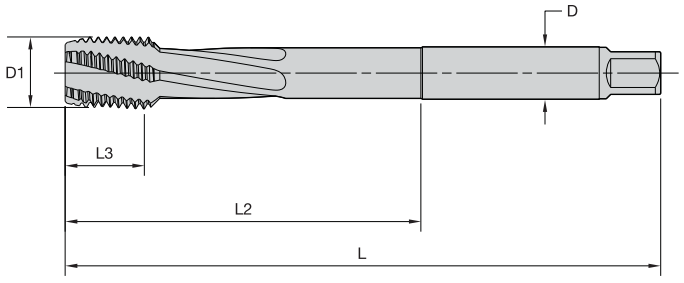


● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T650M240X300R6HX-D6	M24 x 3	160	30	77	18,0	4	6HX
T650M300X350R6HX-D6	M30 x 3,5	180	35	91	22,0	5	6HX
T650M330X350R6HX-D6	M33 x 3,5	180	35	100	25,0	5	6HX
T650M360X400R6HX-D6	M36 x 4	200	40	110	28,0	5	6HX
T650M420X450R6HX-D6	M42 x 4,5	200	45	120	32,0	6	6HX

Shank Tolerance

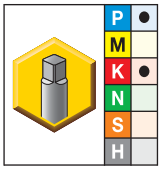
D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016





KP6525 • TiCN+TiN for tapping steel and cast iron.

T650 • Extra Long • Form C Semi-Bottoming Chamfer • Larger Sizes • Metric

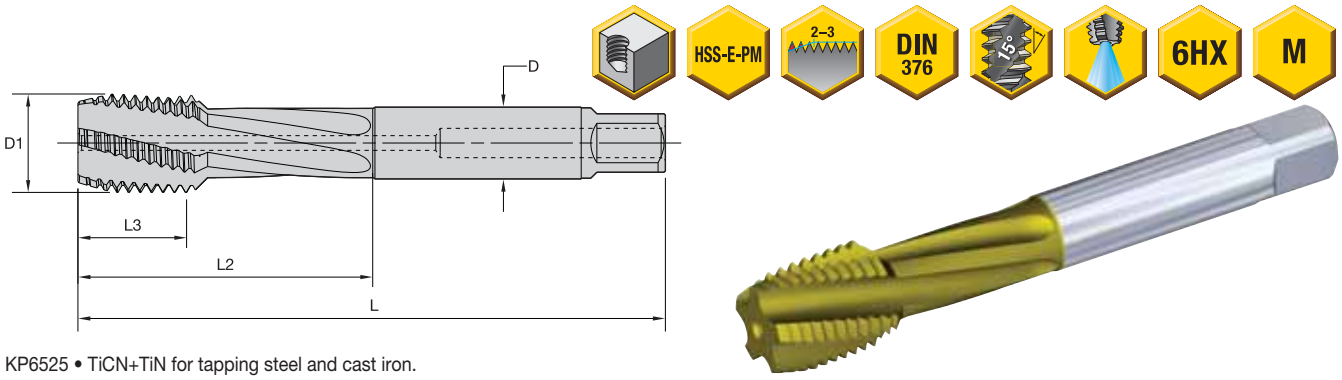


● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T650M240X300R6HX-XL	M24 x 3	200	30	120	18,0	4	6HX
T650M300X350R6HX-XL	M30 x 3,5	250	35	150	22,0	5	6HX
T650M330X350R6HX-XL	M33 x 3,5	250	35	150	25,0	5	6HX
T650M360X400R6HX-XL	M36 x 4	250	40	150	28,0	5	6HX
T650M420X450R6HX-XL	M42 x 4,5	300	45	180	32,0	6	6HX

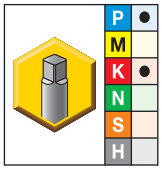
Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016



KP6525 • TiCN+TiN for tapping steel and cast iron.

T651 • DIN 376 • Form C Semi-Bottoming Chamfer • Through Hole • Larger Sizes • Metric

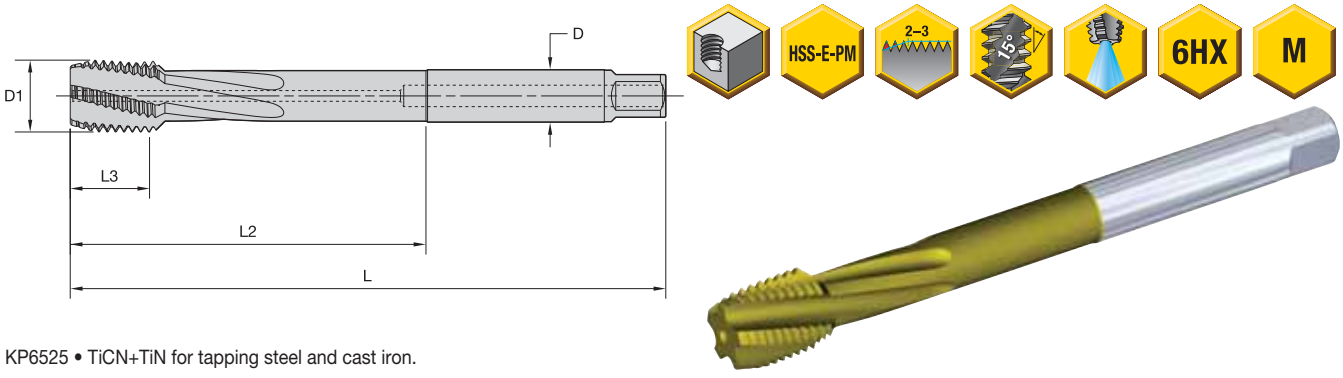


● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T651M240X300R6HX-D6	M24 x 3	160	30	77	18,0	4	6HX
T651M300X350R6HX-D6	M30 x 3,5	180	35	91	22,0	5	6HX
T651M330X350R6HX-D6	M33 x 3,5	180	35	100	25,0	5	6HX
T651M360X400R6HX-D6	M36 x 4	200	40	110	28,0	5	6HX
T651M420X450R6HX-D6	M42 x 4,5	200	45	120	32,0	6	6HX

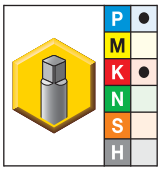
Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016



KP6525 • TiCN+TiN for tapping steel and cast iron.

T651 • Extra Long • Form C Semi-Bottoming Chamfer • Through Coolant • Larger Sizes • Metric



● first choice
○ alternate choice

KP6525	D1 size	L	L3	L2	D	number of flutes	class of fit
T651M240X300R6HX-XL	M24 x 3	200	30	120	18,0	4	6HX
T651M300X350R6HX-XL	M30 x 3,5	250	35	150	22,0	5	6HX
T651M330X350R6HX-XL	M33 x 3,5	250	35	150	25,0	5	6HX
T651M360X400R6HX-XL	M36 x 4	250	40	150	28,0	5	6HX
T651M420X450R6HX-XL	M42 x 4,5	300	45	180	32,0	6	6HX

Shank Tolerance

D	tolerance h6
12–18	+0, -0,011
20–30	+0, -0,013
32–36	+0, -0,016

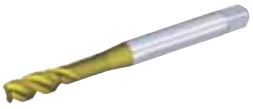
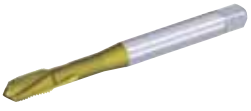
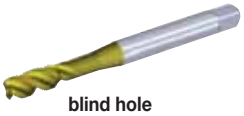
Material Group		Through Holes					Blind Holes				
				Range — m/min					Range — m/min		
		Tap Style	Grade	min	Starting Value	max	Tap Style	Grade	min	Starting Value	max
P	1	T620	KP6525	20	**30**	45	T630,T632,T650	KP6525	14	**21**	32
		T622	KSP21	18	**30**	50	T622	KSP21	13	**21**	35
	2	T620	KP6525	17	**25**	38	T630,T632,T650	KP6525	12	**18**	26
		T622	KSP21	15	**25**	42	T622	KSP21	10	**18**	29
	3	T620	KP6525	12	**15**	20	T630,T632,T650	KP6525	8	**11**	14
	4	T600	KSP21	5	**6**	8	T602, T604	KSP21	3	**4**	5
	5	T620	KP6525	12	**15**	20	T630,T632,T650	KP6525	8	**11**	14
	6	T600	KSP21	6	**8**	10	T602, T604	KSP21	4	**6**	7
M	1	T620	KM6515	12	**15**	20	T630,T632,T650	KM6515	8	**11**	14
	2	T620	KM6515	9	**12**	16	T630,T632,T650	KM6515	6	**8**	11
	3	T620	KM6515	8	**10**	13	T630,T632,T650	KM6515	5	**7**	9
K	1	T640	KP6525	35	**45**	59	T640, T642	KP6525	24	**32**	41
	2	T640	KP6525	31	**40**	52	T640, T642	KP6525	22	**28**	36
	3	T640	KP6525	23	**30**	39	T640, T642	KP6525	16	**21**	27
N	1	T670	KSN38	42	**55**	72	T680	KSN38	30	**39**	50
		T622	KSN28	37	**55**	83	T622	KSN28	26	**39**	58
	2	T640	KP6525	38	**50**	65	T640, T642	KP6525	27	**35**	46
		T622	KSN28	33	**50**	75	T622	KSN28	23	**35**	53
	4	T640	KP6525	4	**6**	9	T640, T642	KP6525	3	**4**	5
S	1	T620	KP6525	8	**12**	18	T630, T632	KP6525	6	**8**	11
	2	T610	KSSH22	3	**5**	8	T612	KSSH22	3	**4**	5
	3	T610	KSSH22	3	**4**	6	T612	KSSH22	2	**3**	4
	4	T614	KSN25	3	**4**	6	T616	KSN25	2	**3**	4
H	1	T606	KSSH22	1,3	**2,0**	3,0	T606	KSSH22	1,1	**1,4**	1,8
	2	T606	KSSH22	1,0	**1,5**	2,3	T606	KSSH22	0,8	**1,1**	1,4

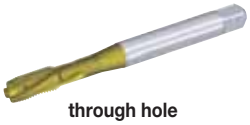
NOTE: Increase speed by up to 25% when using coolant taps (T621,T623,T631,T633,T641,T643,T651).
Use grade KP6505™ in steels. Use 50% of the recommended speed listed for grade KP6525™.

Material Group		Through Holes					Blind Holes				
				Range — SFM					Range — SFM		
		Tap Style	Grade	min	Starting Value	max	Tap Style	Grade	min	Starting Value	max
P	1	T620	KP6525	70	**100**	150	T630,T632,T650	KP6525	50	**70**	100
		T622	KSP21	60	**100**	160	T622	KSP21	40	**70**	120
	2	T620	KP6525	50	**80**	120	T630,T632,T650	KP6525	40	**60**	90
		T622	KSP21	50	**80**	140	T622	KSP21	30	**60**	100
	3	T620	KP6525	40	**50**	60	T630,T632,T650	KP6525	30	**30**	40
	4	T600	KSP21	15	**20**	26	T602, T604	KSP21	11	**14**	18
	5	T620	KP6525	40	**50**	60	T630,T632,T650	KP6525	30	**30**	40
	6	T600	KSP21	20	**30**	30	T602, T604	KSP21	10	**20**	20
M	1	T620	KM6515	40	**50**	60	T630,T632,T650	KM6515	30	**30**	40
	2	T620	KM6515	30	**40**	50	T630,T632,T650	KM6515	20	**30**	40
	3	T620	KM6515	30	**30**	40	T630,T632,T650	KM6515	20	**20**	30
K	1	T640	KP6525	110	**150**	190	T640, T642	KP6525	80	**100**	130
	2	T640	KP6525	100	**130**	170	T640, T642	KP6525	70	**90**	120
	3	T640	KP6525	80	**100**	130	T640, T642	KP6525	50	**70**	90
N	1	T670	KSN38	140	**180**	230	T680	KSN38	100	**130**	160
		T622	KSN28	120	**180**	270	T622	KSN28	80	**130**	190
	2	T640	KP6525	130	**160**	210	T640, T642	KP6525	90	**110**	150
		T622	KSN28	110	**160**	250	T622	KSN28	80	**110**	170
	4	T640	KP6525	13	**20**	30	T640, T642	KP6525	11	**14**	18
S	1	T620	KP6525	30	**40**	60	T630, T632	KP6525	21	**28**	36
	2	T610	KSSH22	11	**16**	25	T612	KSSH22	9	**11**	15
	3	T610	KSSH22	9	**13**	20	T612	KSSH22	7	**9**	12
	4	T614	KSN25	9	**13**	20	T616	KSN25	7	**9**	12
H	1	T606	KSSH22	4	**7**	10	T606	KSSH22	4	**5**	6
	2	T606	KSSH22	3	**5**	7	T606	KSSH22	3	**3**	4

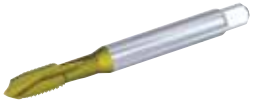
NOTE: Increase speed by up to 25% when using coolant taps (T621,T623,T631,T633,T641,T643,T651).
Use grade KP6505™ in steels. Use 50% of the recommended speed listed for grade KP6525™.

Steel • >32 HRC

typical thread sizes		required tap drill diameter				P		
						HSS-E-PM Taps — Tapping Steel >32 HRC		
								
cutting taps metric	inch	mm	inch	fraction	wire	blind hole T630_KP6525	through hole T620_KP6525	blind hole with coolant T631_KP6525
M3 x 0,50	—	2,500	.0984	—	—	T630M030X050R6HX-D1	T620M030X050R6HX-D1	—
—	5-40	2,578	.1015	—	38	T630NC#05-40R3BX-A	T620NC#05-40R3BX-A	—
—	6-32	2,705	.1065	—	36	T630NC#06-32R2BX-A	T620NC#06-32R2BX-A	—
M4 x 0,70	—	3,300	.1299	—	—	T630M040X070R6HX-D1	T620M040X070R6HX-D1	—
—	8-32	3,454	.1360	—	29	T630NC#08-32R2BX-A	T620NC#08-32R2BX-A	—
—	8-36	3,454	.1360	—	29	T630NF#08-36R3BX-A	T620NF#08-36R3BX-A	—
—	10-24	3,734	.1470	—	26	T630NC#10-24R3BX-A	T620NC#10-24R3BX-A	—
—	10-32	4,039	.1590	—	21	T630NF#10-32R2BX-A	T620NF#10-32R2BX-A	—
M5 x 0,80	—	4,200	.1654	—	—	T630M050X080R6HX-D1	T620M050X080R6HX-D1	T631M050X080R6HX-D1
—	12-24	4,496	.1770	—	16	T630NC#12-24R3BX-A	T620NC#12-24R3BX-A	—
M6 x 1,00	—	5,000	.1969	—	—	T630M060X100R6HX-D1	T620M060X100R6HX-D1	T631M060X100R6HX-D1
—	1/4-20	5,106	.2010	—	7	T630NC02500-20R2BX-A	T620NC02500-20R2BX-A	—
—	1/4-28	5,410	.2130	—	3	T630NF02500-28R2BX-A	T620NF02500-28R2BX-A	—
—	5/16-18	6,528	.2570	—	F	T630NC03125-18R2BX-A	T620NC03125-18R2BX-A	—
M8 x 1,25	—	6,700	.2638	—	—	T630M080X125R6HX-D1	T620M080X125R6HX-D1	T631M080X125R6HX-D1
M8 x 1,00	—	7,000	.2756	—	—	T630MF080X100R6HX D4	T620MF080X100R6HX D4	T631MF080X100R6HX D4
—	3/8-16	7,938	.3125	5/16	—	T630NC03750—16R3BX-A	T620NC03750-16R3BX-A	—
—	3/8-24	8,433	.3320	—	Q	T630NF03750—24R3BX-A	T620NF03750-24R3BX-A	—
M10 x 1,50	—	8,500	.3346	—	—	T630M100X150R6HX-D1	T620M100X150R6HX-D1	T631M100X150R6HX-D1
M10 x 1,25	—	8,700	.3425	—	—	T630MF100X125R6HX D4	—	T631MF100X125R6HX D4
M10 x 1,00	—	9,000	.3543	—	—	T630MF100X100R6HX D4	T620MF100X100R6HX D4	T631MF100X100R6HX D4
—	7/16-14	9,093	.3580	—	T	T630NC04375-14R3BX-A	T620NC04375-14R3BX-A	—
—	7/16-20	9,921	.3906	25/64	—	T630NF04375-20R3BX-A	T620NF04375-20R3BX-A	—
M12 x 1,75	—	10,200	.4016	—	—	T630M120X175R6HX-D6	T620M120X175R6HX-D6	T631M120X175R6HX-D6
M12 x 1,50	—	10,500	.4134	—	—	T630MF120X150R6HX-D4	T620MF120X150R6HX-D4	T631MF120X150R6HX-D4
—	1/2-13	10,716	.4219	27/64	—	T630NC05000-13R3BX-A	T620NC05000-13R3BX-A	—
M12 x 1,25	—	10,800	.4252	—	—	—	—	T631MF120X125R6HX-D4
—	1/2-20	11,509	.4531	29/64	—	T630NF05000-20R3BX-A	T620NF05000-20R3BX-A	—
M14 x 2,00	—	12,000	.4724	—	—	T630M140X200R6HX-D6	T620M140X200R6HX-D6	T631M140X200R6HX-D6
M14 x 1,50	—	12,500	.4921	—	—	T630MF140X150R6HX-D4	T620MF140X150R6HX-D4	T631MF140X150R6HX-D4
M16 x 2,00	—	14,000	.5512	—	—	T630M160X200R6HX-D6	T620M160X200R6HX-D6	T631M160X200R6HX-D6
M16 x 1,50	—	14,500	.5709	—	—	T630MF160X150R6HX-D4	T620MF160X150R6HX-D4	T631MF160X150R6HX-D4
M18 x 2,50	—	15,500	.6102	—	—	T630M180X250R6HX-D6	—	T631M180X250R6HX-D6
M18 x 1,50	—	16,500	.6496	—	—	T630MF180X150R6HX-D4	T620MF180X150R6HX-D4	T631MF180X150R6HX-D4
—	3/4-10	16,670	.6563	21/32	—	T630NC07500-10R3BX-A	T620NC07500-10R3BX-A	—
M20 x 2,50	—	17,500	.6890	—	—	T630M200X250R6HX-D6	T620M200X250R6HX-D6	T631M200X250R6HX-D6

	P		All Materials	
HSS-E-PM Taps — Tapping Steel >32 HRC	Recommended SC Drill		Alternate Tap Drill	
				
through hole with coolant T621_KP6525	approximately 3 x D with coolant B224_HP KCPK15	approximately 5 x D with coolant B225_HP KCPK15	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
—	—	—	B976Z02500	—
—	—	—	B976Z02578	—
—	—	—	B976Z02705	—
—	B224A03300HP	B225A03300HP	B976A03300	B977A03300
—	—	—	B976A03454	B977A03454
—	—	—	B976A03454	B977A03454
—	—	—	B976A03734	B977A03734
—	—	—	B976A04039	B977A04039
T621M050X080R6HX-D1	B224A04200HP	B225A04200HP	B976A04200	B977A04200
—	B224A04496HP	B225A04496HP	B976A04496	B977A04496
T621M060X100R6HX-D1	B224A05000HP	B225A05000HP	B976A05000	B977A05000
—	B224A05106HP	B225A05106HP	B976A05106	B977A05106
—	B224A05410HP	B225A05410HP	B976A05410	B977A05410
—	B224A06528HP	B225A06528HP	B976A06528	B977A06528
T621M080X125R6HX-D1	B224A06700HP	B225A06700HP	B976A06700	B977A06700
T621MF080X100R6HX D4	B224A07000HP	B225A07000HP	B976A07000	B977A07000
—	B224A07938HP	B225A07938HP	B976A07938	B977A07938
—	B224A08433HP	B225A08433HP	B976A08433	B977A08433
T621M100X150R6HX-D1	B224A08500HP	B225A08500HP	B976A08500	B977A08500
T621MF100X125R6HX D4	B224A08700HP	B225A08700HP	B976A08700	B977A08700
T621MF100X100R6HX D4	B224A09000HP	B225A09000HP	B976A09000	B977A09000
—	B224A09093HP	B225A09093HP	B976A09093	B977A09093
—	B224A09921HP	B225A09921HP	B976A09921	B977A09921
T621M120X175R6HX-D6	B224A10200HP	B225A10200HP	B976A10200	B977A10200
T621MF120X150R6HX-D4	B224A10500HP	B225A10500HP	B976A10500	B977A10500
—	B224A10716HP	B225A10716HP	B976A10716	B977A10716
T621MF120X125R6HX-D4	B224A10800HP	B225A10800HP	B976A10800	B977A10800
—	B224A11509HP	B225A11509HP	B976A11509	B977A11509
T621M140X200R6HX-D6	B224A12000HP	B225A12000HP	B976A12000	B977A12000
T621MF140X150R6HX-D4	B224A12500HP	B225A12500HP	B976A12500	B977A12500
T621M160X200R6HX-D6	B224A14000HP	B225A14000HP	B976A14000	B977A14000
T621MF160X150R6HX-D4	B224A14500HP	B225A14500HP	B976A14500	B977A14500
T621M180X250R6HX-D6	B224A15500HP	B225A15500HP	B976A15500	B977A15500
T621MF180X150R6HX-D4	B224A16500HP	B225A16500HP	B976A16500	B977A16500
—	—	B225A16670HP	B976A16670	B977A16670
—	B224A17500HP	B225A17500HP	B976A17500	B977A17500

Steel • 32–44 HRC

typical thread sizes	required tap drill diameter				P HSS-E-PM Taps — Tapping Steel 32–44 HRC		
							
cutting taps metric	mm	inch	fraction	wire	blind hole T602_KSP21	blind hole (3 x D) T604_KSH26	through hole T600_KSP21
M3 x 0,50	2,500	.0984	—	—	T602M030X050R6HX-D1	T604M030X050R6HX-D1	T600M030X050R6HX-D1
M4 x 0,70	3,300	.1299	—	—	T602M040X070R6HX-D1	T604M040X070R6HX-D1	T600M040X070R6HX-D1
M5 x 0,80	4,200	.1654	—	—	T602M050X080R6HX-D1	T604M050X080R6HX-D1	T600M050X080R6HX-D1
M6 x 1,00	5,000	.1969	—	—	T602M060X100R6HX-D1	T604M060X100R6HX-D1	T600M060X100R6HX-D1
M8 x 1,25	6,700	.2638	—	—	T602M080X125R6HX-D1	T604M080X125R6HX-D1	T600M080X125R6HX-D1
M8 x 1,00	7,000	.2756	—	—	T602MF080X100R6HX D4	T604MF080X100R6HX D4	T600MF080X100R6HX D4
M10 x 1,50	8,500	.3346	—	—	T602M100X150R6HX-D1	T604M100X150R6HX-D1	T600M100X150R6HX-D1
M10 x 1,25	8,700	.3425	—	—	T602MF100X125R6HX D4	T604MF100X125R6HX D4	T600MF100X125R6HX D4
M10 x 1,00	9,000	.3543	—	—	T602MF100X100R6HX D4	T604MF100X100R6HX D4	T600MF100X100R6HX D4
M12 x 1,75	10,200	.4016	—	—	T602M120X175R6H-D6	T604M120X175R6H-D6	T600M120X175R6HX-D6
M12 x 1,50	10,500	.4134	—	—	T602MF120X150R6H-D4	T604MF120X150R6H-D4	T600MF120X150R6HX-D4
M12 x 1,25	10,800	.4252	—	—	T602MF120X125R6H D4	T604MF120X125R6H D4	T600MF120X125R6HX D4
M14 x 2,00	12,000	.4724	—	—	T602M140X200R6H-D6	T604M140X200R6H-D6	T600M140X200R6HX-D6
M14 x 1,50	12,500	.4921	—	—	T602MF140X150R6H-D4	T604MF140X150R6H-D4	T600MF140X150R6HX-D4
M16 x 2,00	14,000	.5512	—	—	T602M160X200R6H-D6	T604M160X200R6H-D6	T600M160X200R6HX-D6
M16 x 1,50	14,500	.5709	—	—	T602MF160X150R6H-D4	T604MF160X150R6H-D4	T600MF160X150R6HX-D4
M18 x 2,50	15,500	.6102	—	—	T602M180X250R6H-D6	—	—
M18 x 1,50	16,500	.6496	—	—	T602MF180X150R6H-D4	T604MF180X150R6H-D4	T600MF180X150R6HX-D4
M20 x 2,50	17,500	.6890	—	—	T602M200X250R6H-D6	T604M200X250R6H-D6	T600M200X250R6HX-D6

Steel • Forming Taps

typical thread sizes	required tap drill diameter				P HSS-E-PM Taps — Forming Steel >32 HRC	
						
forming taps metric	mm	inch	fraction	wire	blind and through hole T622_KSP21	blind and through hole with coolant T623_KSP21
M3 x 0,50	2,800	.1102	—	—	T622M030X050R6HX-D74	—
M4 x 0,70	3,700	.1457	—	—	T622M040X070R6HX-D74	—
M5 x 0,80	4,700	.1850	—	13	T622M050X080R6HX-D74	T623M050X080R6HX-D74
M6 x 1,00	5,600	.2205	—	—	T622M060X100R6HX-D74	T623M060X100R6HX-D74
M8 x 1,25	7,400	.2913	—	—	T622M080X125R6HX-D74	T623M080X125R6HX-D74
M8 x 1,00	7,600	.2992	—	—	T622MF080X100R6HX-D74	T623MF080X100R6HX-D74
M10 x 1,50	9,400	.3701	—	—	T622M100X150R6HX-D74	T623M100X150R6HX-D74
M10 x 1,00	9,500	.3740	—	—	T622MF100X100R6HX-D74	T623MF100X100R6HX-D74
M12 x 1,75	11,300	.4449	—	—	T622M120X175R6HX-D74	T623M120X175R6HX-D74
M12 x 1,50	11,300	.4449	—	—	T622MF120X150R6HX-D74	T623MF120X150R6HX-D74
M12 x 1,25	11,500	.4528	—	—	T622MF120X125R6HX-D74	T623MF120X125R6HX-D74
M14 x 1,50	13,400	.5276	—	—	T622MF140X150R6HX-D74	T623MF140X150R6HX-D74
M16 x 2,00	15,200	.5984	—	—	T622M160X200R6HX-D74	T623M160X200R6HX-D74
M16 x 1,50	15,400	.6063	—	—	T622MF160X150R6HX-D74	T623MF160X150R6HX-D74

	P		All Materials	
	Recommended SC Drill		Alternate Tap Drill	
				
	approximately 3 x D with coolant B224_HP KCPK15	approximately 5 x D with coolant B225_HP KCPK15	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
	—	—	B976Z02500	—
	B224A03300HP	B225A03300HP	B976A03300	B977A03300
	B224A04200HP	B225A04200HP	B976A04200	B977A04200
	B224A05000HP	B225A05000HP	B976A05000	B977A05000
	B224A06700HP	B225A06700HP	B976A06700	B977A06700
	B224A07000HP	B225A07000HP	B976A07000	B977A07000
	B224A08500HP	B225A08500HP	B976A08500	B977A08500
	B224A08700HP	B225A08700HP	B976A08700	B977A08700
	B224A09000HP	B225A09000HP	B976A09000	B977A09000
	B224A10200HP	B225A10200HP	B976A10200	B977A10200
	B224A10500HP	B225A10500HP	B976A10500	B977A10500
	B224A10800HP	B225A10800HP	B976A10800	B977A10800
	B224A12000HP	B225A12000HP	B976A12000	B977A12000
	B224A12500HP	B225A12500HP	B976A12500	B977A12500
	B224A14000HP	B225A14000HP	B976A14000	B977A14000
	B224A14500HP	B225A14500HP	B976A14500	B977A14500
	B224A15500HP	B225A15500HP	B976A15500	B977A15500
	B224A16500HP	B225A16500HP	B976A16500	B977A16500
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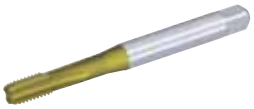
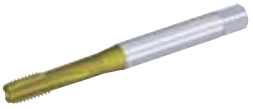
	P		All Materials	
	Recommended SC Drill		Alternate Tap Drill	
				
	approximately 3 x D with coolant B224_HP KCPK15	approximately 5 x D with coolant B225_HP KCPK15	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
	—	—	B976Z02800	—
	B224A03700HP	B225A03700HP	B976A03700	B977A03700
	B224A04700HP	B225A04700HP	B976A04700	B977A04700
	B224A05600HP	B225A05600HP	B976A05600	B977A05600
	B224A07400HP	B225A07400HP	B976A07400	B977A07400
	—	B225A07600HP	—	B977A07600
	B224A09400HP	B225A09400HP	B976A09400	B977A09400
	B224A09500HP	B225A09500HP	B976A09500	B977A09500
	—	B225A11300HP	B976A11300	B977A11300
	—	B225A11300HP	B976A11300	B977A11300
	B224A11500HP	B225A11500HP	B976A11500	B977A11500
	—	B225A13400HP	—	—
	—	B225A15200HP	—	—
	—	B225A15400HP	—	—

Stainless Steel

typical thread sizes		required tap drill diameter				M HSS-E-PM Taps		
								
cutting taps						blind hole	through hole	blind hole with coolant
metric	inch	mm	inch	fraction	wire	T630_KM6515	T620_KM6515	T631_KM6515
—	2-56	1.778	0.07	—	50	T630NC#02-56R3BX-A	T620NC#02-56R3BX-A	—
—	4-40	2.261	0.089	—	43	T630NC#04-40R2BX-A	T620NC#04-40R2BX-A	—
M3 x 0,50	—	2.500	.0984	—	—	T630M030X050R6HX-D1	T620M030X050R6HX-D1	—
—	5-40	2.578	.1015	—	38	T630NC#05-40R2BX-A	T620NC#05-40R2BX-A	—
—	6-32	2.705	.1065	—	36	T630NC#06-32R2BX-A	T620NC#06-32R2BX-A	—
M4 x 0,70	—	3.300	.1299	—	—	T630M040X070R6HX-D1	T620M040X070R6HX-D1	—
—	8-32	3.454	.1360	—	29	T630NC#08-32R2BX-A	T620NC#08-32R2BX-A	—
—	8-36	3.454	.1360	—	29	T630NF#08-36R3BX-A	T620NF#08-36R3BX-A	—
—	10-24	3.734	.1470	—	26	T630NC#10-24R3BX-A	T620NC#10-24R3BX-A	—
—	10-32	4.039	.1590	—	21	T630NF#10-32R2BX-A	T620NF#10-32R2BX-A	—
M5 x 0,80	—	4.200	.1654	—	—	T630M050X080R6HX-D1	T620M050X080R6HX-D1	T631M050X080R6HX-D1
—	12-24	4.496	.1770	—	16	T630NC#12-24R3BX-A	T620NC#12-24R3BX-A	—
M6 x 1,00	—	5.000	.1969	—	—	T630M060X100R6HX-D1	T620M060X100R6HX-D1	T631M060X100R6HX-D1
—	1/4-20	5.106	.2010	—	7	T630NC02500-20R2BX-A	T620NC02500-20R2BX-A	—
—	1/4-28	5.410	.2130	—	3	T630NF02500-28R2BX-A	T620NF02500-28R2BX-A	—
—	5/16-18	6.528	.2570	—	F	T630NC03125-18R2BX-A	T620NC03125-18R2BX-A	—
M8 x 1,25	—	6.700	.2638	—	—	T630M080X125R6HX-D1	T620M080X125R6HX-D1	T631M080X125R6HX-D1
—	5/16-24	6.909	.2720	—	I	—	T620NF03125-24R3BX-A	—
M8 x 1,00	—	7.000	.2756	—	—	T630MF080X100R6HX D4	T620MF080X100R6HX D4	T631MF080X100R6HX D4
—	3/8-16	7.938	.3125	5/16	—	T630NC03750-16R3BX-A	T620NC03750-16R3BX-A	—
—	3/8-24	8.433	.3320	—	Q	T630NF03750-24R3BX-A	T620NF03750-24R3BX-A	—
M10 x 1,50	—	8.500	.3346	—	—	T630M100X150R6HX-D1	T620M100X150R6HX-D1	T631M100X150R6HX-D1
M10 x 1,25	—	8.700	.3425	—	—	T630MF100X125R6HX D4	—	T631MF100X125R6HX D4
M10 x 1,00	—	9.000	.3543	—	—	T630MF100X100R6HX D4	T620MF100X100R6HX D4	T631MF100X100R6HX D4
—	7/16-14	9.093	.3580	—	T	T630NC04375-14R3BX-A	T620NC04375-14R3BX-A	—
—	7/16-20	9.921	.3906	25/64	—	T630NF04375-20R3BX-A	T620NF04375-20R3BX-A	—
M12 x 1,75	—	10.200	.4016	—	—	T630M120X175R6HX-D6	T620M120X175R6HX-D6	T631M120X175R6HX-D6
M12 x 1,50	—	10.500	.4134	—	—	T630MF120X150R6HX-D4	T620MF120X150R6HX-D4	T631MF120X150R6HX-D4
—	1/2-13	10.716	.4219	27/64	—	T630NC05000-13R3BX-A	T620NC05000-13R3BX-A	—
M12 x 1,25	—	10.800	.4252	—	—	—	—	T631MF120X125R6HX-D4
—	1/2-20	11.509	.4531	29/64	—	T630NF05000-20R3BX-A	T620NF05000-20R3BX-A	—
M14 x 2,00	—	12.000	.4724	—	—	T630M140X200R6HX-D6	T620M140X200R6HX-D6	T631M140X200R6HX-D6
M14 x 1,50	—	12.500	.4921	—	—	T630MF140X150R6HX-D4	T620MF140X150R6HX-D4	T631MF140X150R6HX-D4
M14 x 1,25	—	12.800	.5039	—	—	—	—	T631MF140X125R6HX-D4
—	5/8-11	13.495	.5313	17/32	—	T630NC06250-10R3BX-A	T620NC06250-10R3BX-A	—
M16 x 2,00	—	14.000	.5512	—	—	T630M160X200R6HX-D6	T620M160X200R6HX-D6	T631M160X200R6HX-D6
M16 x 1,50	—	14.500	.5709	—	—	T630MF160X150R6HX-D4	T620MF160X150R6HX-D4	T631MF160X150R6HX-D4
M18 x 2,50	—	15.500	.6102	—	—	T630M180X250R6HX-D6	—	T631M180X250R6HX-D6
M18 x 1,50	—	16.500	.6496	—	—	T630MF180X150R6HX-D4	T620MF180X150R6HX-D4	T631MF180X150R6HX-D4
—	3/4-10	16.670	.6563	21/32	—	T630NC07500-10R3BX-A	T620NC07500-10R3BX-A	—
M20 x 2,50	—	17.500	.6890	—	—	T630M200X250R6HX-D6	T620M200X250R6HX-D6	—

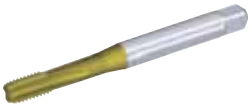
	M		All Materials	
HSS-E-PM Taps	Recommended Drill		Alternative Tap Drill	
				
through hole with coolant T621_KM6515	approximately 3 x D with coolant B210_HP KCM15	approximately 5 x D with coolant B211_HP KCM15	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
–	–	–	–	–
–	–	–	–	–
–	–	–	B976Z02500	–
–	–	–	B976Z02578	–
–	–	–	B976Z02705	–
–	B210A03300HP	B211A03300HP	B976A03300	B977A03300
–	–	B211A03454HP	B976A03454	B977A03454
–	–	B211A03454HP	B976A03454	B977A03454
–	–	–	B976A03734	B977A03734
–	–	–	B976A04039	B977A04039
T621M050X080R6HX-D1	B210A04200HP	B211A04200HP	B976A04200	B977A04200
–	–	–	B976A04496	B977A04496
T621M060X100R6HX-D1	B210A05000HP	B211A05000HP	B976A05000	B977A05000
–	B210A05106HP	–	B976A05106	B977A05106
–	B210A05410HP	–	B976A05410	B977A05410
–	B210A06528HP	–	B976A06528	B977A06528
T621M080X125R6HX-D1	B210A06700HP	B211A06700HP	B976A06700	B977A06700
–	–	-	B976A06909	B977A06909
T621MF080X100R6HX D4	B210A07000HP	B211A07000HP	B976A07000	B977A07000
–	B210A07938HP	–	B976A07938	B977A07938
–	B210A08433HP	–	B976A08433	B977A08433
T621M100X150R6HX-D1	B210A08500HP	B211A08500HP	B976A08500	B977A08500
T621MF100X125R6HX D4	B210A08700HP	B211A08700HP	B976A08700	B977A08700
T621MF100X100R6HX D4	B210A09000HP	B211A09000HP	B976A09000	B977A09000
–	B210A09093HP	–	B976A09093	B977A09093
–	B210A09921HP	–	B976A09921	B977A09921
T621M120X175R6HX-D6	B210A10200HP	B211A10200HP	B976A10200	B977A10200
T621MF120X150R6HX-D4	B210A10500HP	B211A10500HP	B976A10500	B977A10500
–	B210A10716HP	–	B976A10716	B977A10716
T621MF120X125R6HX-D4	B210A10800HP	B211A10800HP	B976A10800	B977A10800
–	B210A11509HP	–	B976A11509	B977A11509
T621M140X200R6HX-D6	B210A12000HP	B211A12000HP	B976A12000	B977A12000
T621MF140X150R6HX-D4	B210A12500HP	B211A12500HP	B976A12500	B977A12500
–	B210A12800HP	B211A12800HP	B976A12800	B977A12800
–	B210A13495HP	–	B976A13495	B977A13495
T621M160X200R6HX-D6	B210A14000HP	B211A14000HP	B976A14000	B977A14000
T621MF160X150R6HX-D4	B210A14500HP	B211A14500HP	B976A14500	B977A14500
T621M180X250R6HX-D6	B210A15500HP	B211A15500HP	B976A15500	B977A15500
T621MF180X150R6HX-D4	B210A16500HP	B211A16500HP	B976A16500	B977A16500
–	B210A16670HP	B211A16670HP	B976A16670	B977A16670
–	B210A17500HP	B211A17500HP	B976A17500	B977A17500

Cast and Ductile Iron

typical thread sizes		required tap drill diameter				K HSS-E-PM Taps	
							
cutting taps						blind and through hole	blind and through hole with coolant
metric	inch	mm	inch	fraction	wire	T640 KP6525	T641 KP6525
M4 x 0,7	—	3,3	.1299	—	—	T640M040X070R6HX-D1	—
—	10-24	3,734	.1470	—	26	T640NC#10-24R3B-A	—
—	10-32	4,039	.1590	—	21	T640NF#10-32R3B-A	—
M5 x 0,8	—	4,2	.1654	—	—	T640M050X080R6HX-D1	T641M050X080R6HX-D1
M6 x 1,0	—	5,0	.1969	—	—	T640M060X100R6HX-D1	T641M060X100R6HX-D1
—	—	5,791	.2280	—	1	T640NC02500-20R3B-A	—
—	—	5,944	.2340	—	A	T640NF02500-28R3B-A	—
—	5/16-18	6,528	.2570	—	F	T640NC03125-18R3B-A	—
M8 x 1,25	—	6,7	.2638	—	—	T640M080X125R6HX-D1	T641M080X125R6HX-D1
—	5/16-24	6,909	.2720	—	I	T640NF03125-24R3B-A	—
—	3/8-16	7,938	.3125	5/16	—	T640NC03750-16R3B-A	—
—	3/8-24	8,433	.3320	—	Q	T640NF03750-24R3B-A	—
M10 x 1,5	—	8,5	.3346	—	—	T640M100X150R6HX-D1	T641M100X150R6HX-D1
—	7/16-14	9,093	.3580	—	T	T640NC04375-14R3B-A	—
—	7/16-20	9,921	.3906	25/64	—	T640NF04375-20R3B-A	—
M12 x 1,75	—	10,2	.4016	—	—	T640M120X175R6HX-D6	T641M120X175R6HX-D6
—	1/2-13	10,716	.4219	27/64	—	T640NC05000-13R3B-A	—
—	1/2-20	11,509	.4531	29/64	—	T640NF05000-20R3B-A	—
M14 x 2,0	—	12,0	.4724	—	—	T640M140X200R6HX-D6	T641M140X200R6HX-D6
—	5/8-11	13,495	.5313	17/32	—	T640NC06250-11R3B-A	—
M16 x 2,0	—	14,0	.5512	—	—	T640M160X200R6HX-D6	T641M160X200R6HX-D6
M18 x 2,5	—	15,5	.6102	—	—	T640M180X250R6HX-D6	T641M180X250R6HX-D6
—	3/4-10	16,67	.6563	21/32	—	T640NC07500-10R3B-A	—
M20 x 2,5	—	17,5	.6890	—	—	T640M200X250R6HX-D6	T641M200X250R6HX-D6
M22 x 2,5	—	19,5	.7677	—	—	T640M220X250R6HX-D6	—

	K		All Materials	
	Recommended Drill		Alternate Tap Drill	
				
	3 x D with coolant B254_YPC KCK10	5 x D with coolant B255_YPC KCK10	3 x D with coolant B976 KC7315	5 x D with coolant B977 KC7315
	B254A03300YPC	B255A03300YPC	B976A03300	B977A03300
	B254A03734YPC	B255A03734YPC	B976A03734	B977A03734
	B254A04039YPC	B255A04039YPC	B976A04039	B977A04039
	B254A04200YPC	B255A04200YPC	B976A04200	B977A04200
	B254A05000YPC	B255A05000YPC	B976A05000	B977A05000
	B254A05791YPC	B255A05791YPC	B976A05791	B977A05791
	B254A05944YPC	B255A05944YPC	B976A05944	B977A05944
	B254A06528YPC	B255A06528YPC	B976A06528	B977A06528
	B254A06700YPC	B255A06700YPC	B976A06700	B977A06700
	B254A06909YPC	B255A06909YPC	B976A06909	B977A06909
	B254A07938YPC	B255A07940YPC	B976A07938	B977A07938
	B254A08433YPC	B255A08433YPC	B976A08433	B977A08433
	B254A08500YPC	B255A08500YPC	B976A08500	B977A08500
	B254A09093YPC	B255A09093YPC	B976A09093	B977A09093
	B254A09921YPC	B255A09920YPC	B976A09921	B977A09921
	B254A10200YPC	B255A10200YPC	B976A10200	B977A10200
	B254A10716YPC	B255A10716YPC	B976A10716	B977A10716
	B254A11509YPC	B255A11509YPC	B976A11509	B977A11509
	B254A12000YPC	B255A12000YPC	B976A12000	B977A12000
	B254A13495YPC	B255A13495YPC	B976A13495	B977A13495
	B254A14000YPC	B255A14000YPC	B976A14000	B977A14000
	B254A15500YPC	B255A15500YPC	B976A15500	B977A15500
	B254A16670YPC	B255A16670YPC	B976A16670	B977A16670
	B254A17500YPC	B255A17500YPC	B976A17500	B977A17500
	B254A19500YPC	B255A19500YPC	B976A19500	B977A19500

Aluminum

typical thread sizes		required tap drill diameter				N	
						HSS-E Taps — Tapping Aluminum (Wrought, low Si)	HSS-E-PM Taps — Tapping Cast Aluminum (Si <12%)
							 
cutting taps						through hole	blind hole	blind and through hole
metric	inch	mm	inch	fraction	wire	T680_KSN38	T670_KSN38	T640 KP6525
M3 x 0,50	—	2,500	.0984	—	—	T680M030X050R6H-D1	T670M030X050R6H-D1	—
M4 x 0,70	—	3,300	.1299	—	—	T680M040X070R6H-D1	T670M040X070R6H-D1	T640M040X070R6HX-D1
—	10-24	3,734	.1470	—	26	—	—	T640NC#10-24R3B-A
—	10-32	4,039	.1590	—	21	—	—	T640NF#10-32R3B-A
M5 x 0,80	—	4,200	.1654	—	—	T680M050X080R6H-D1	T670M050X080R6H-D1	T640M050X080R6HX-D1
M6 x 1,00	—	5,000	.1969	—	—	T680M060X100R6H-D1	T670M060X100R6H-D1	T640M060X100R6HX-D1
—	—	5,791	.2280	—	1	—	—	T640NC02500-20R3B-A
—	—	5,944	.2340	—	A	—	—	T640NF02500-28R3B-A
—	5/16-18	6,528	.2570	—	F	—	—	T640NC03125-18R3B-A
M8 x 1,25	—	6,700	.2638	—	—	T680M080X125R6H-D1	T670M080X125R6H-D1	T640M080X125R6HX-D1
—	5/16-24	6,909	.2720	—	I	—	—	T640NF03125-24R3B-A
—	3/8-16	7,938	.3125	5/16	—	—	—	T640NC03750-16R3B-A
—	3/8-24	8,433	.3320	—	Q	—	—	T640NF03750-24R3B-A
M10 x 1,50	—	8,500	.3346	—	—	T680M100X150R6H-D1	T670M100X150R6H-D1	T640M100X150R6HX-D1
—	7/16-14	9,093	.3580	—	T	—	—	T640NC04375-14R3B-A
—	7/16-20	9,921	.3906	25/64	—	—	—	T640NF04375-20R3B-A
M12 x 1,75	—	10,200	.4016	—	—	T680M120X175R6H-D6	T670M120X175R6H-D6	T640M120X175R6HX-D6
—	1/2-13	10,716	.4219	27/64	—	—	—	T640NC05000-13R3B-A
—	1/2-20	11,509	.4531	29/64	—	—	—	T640NF05000-20R3B-A
M14 x 2,00	—	12,000	.4724	—	—	—	—	T640M140X200R6HX-D6
—	5/8-111	13,495	.5313	17/32	—	—	—	T640NC06250-11R3B-A
M16 x 2,00	—	14,000	.5512	—	—	T680M160X200R6H-D6	T670M160X200R6H-D6	T640M160X200R6HX-D6
M18 x 2,50	—	15,500	.6102	—	—	—	—	T640M180X250R6HX-D6
—	3/4-10	16,670	.6563	21/32	—	—	—	T640NC07500-10R3B-A
M20 x 2,50	—	17,500	.6890	—	—	T680M200X250R6H-D6	—	T640M200X250R6HX-D6
M22 x 2,50	—	19,500	.7677	—	—	—	—	T640M220X250R6HX-D6

Aluminum • Forming Taps

typical thread sizes		required tap drill diameter		N	
				HSS-E-PM Taps — Forming Aluminum (Wrought, low Si)	
					
forming taps				blind and through hole	blind and through hole with coolant
metric	inch	mm	inch	T622 KSN38	T623 KSN38
M3 x 0,50	—	2,800	.1102	T622M030X050R6HX-D74	—
—	—	3,734	.1470	T622M040X070R6HX-D74	—
—	—	5,000	.1969	T622M050X080R6HX-D74	T623M050X080R6HX-D74
—	1/4-20	5,791	.2280	T622M060X100R6HX-D74	T623M060X100R6HX-D74
—	5/16-24	7,493	.2950	T622M080X125R6HX-D74	T623M080X125R6HX-D74
—	—	7,938	.3125	T622MF080X100R6HX-D74	T623MF080X100R6HX-D74
M10 x 1,25	—	9,500	.3740	T622M100X150R6HX-D74	T623M100X150R6HX-D74
—	—	9,921	.3906	T622MF100X100R6HX-D74	T623MF100X100R6HX-D74
M12 x 1,50	—	11,300	.4449	T622M120X175R6HX-D74	T623M120X175R6HX-D74
M12 x 1,25	—	11,500	.4528	T622MF120X150R6HX-D74	T623MF120X150R6HX-D74
—	—	11,509	.4531	T622MF120X125R6HX-D74	T623MF120X125R6HX-D74
M14 x 1,25	—	13,400	.5276	T622MF140X150R6HX-D74	T623MF140X150R6HX-D74
—	5/8-18	15,250	.6004	T622M160X200R6HX-D74	T623M160X200R6HX-D74
—	—	15,500	.6102	T622MF160X150R6HX-D74	T623MF160X150R6HX-D74

N			All Materials	
HSS-E-PM Taps — Tapping Cast Aluminum (Si <12%)	Recommended SC Drill		Alternate Tap Drill	
				
approximately 3 x D with coolant T641 KP6525	approximately 3 x D with coolant B284_(HP) K715	approximately 5 x D with coolant B411 KF1	approximately 5 x D with coolant B976_KC7315	with coolant B977_KC7315
—	—	—	B976Z02500	—
—	—	B411A03300	B976A03300	B977A03300
—	—	—	B976A03734	B977A03734
—	—	—	B976A04039	B977A04039
T641M050X080R6HX-D1	B284A04200	B411A04200	B976A04200	B977A04200
T641M060X100R6HX-D1	B284A05000	B411A05000	B976A05000	B977A05000
—	—	—	B976A05791	B977A05791
—	—	—	B976A05944	B977A05944
—	—	—	B976A06528	B977A06528
T641M080X125R6HX-D1	—	—	B976A06700	B977A06700
—	—	—	B976A06909	B977A06909
—	—	—	B976A07938	B977A07938
—	—	—	B976A08433	B977A08433
T641M100X150R6HX-D1	—	B411A08500	B976A08500	B977A08500
—	—	—	B976A09093	B977A09093
—	K284A03906	—	B976A09921	B977A09921
T641M120X175R6HX-D6	—	B411A10200	B976A10200	B977A10200
—	—	—	B976A10716	B977A10716
—	K284A04531	—	B976A11509	B977A11509
T641M140X200R6HX-D6	—	B411A12000	B976A12000	B977A12000
—	—	—	B976A13495	B977A13495
T641M160X200R6HX-D6	—	B411A14000	B976A14000	B977A14000
T641M180X250R6HX-D6	—	B411A15500	B976A15500	B977A15500
—	—	—	B976A16670	B977A16670
T641M200X250R6HX-D6	—	B411A17500	B976A17500	B977A17500
—	—	B411A19500	B976A19500	B977A19500

N		All Materials	
Recommended SC Drill		Alternate Tap Drill	
			
approximately 3 x D with coolant B284_(HP) K715	approximately 5 x D with coolant B411 KF1	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
—	—	B976Z02800	—
—	—	B976A03734	B977A03734
B284A05000	B411A05000	B976A05000	B977A05000
—	—	B976A05791	B977A05791
—	—	—	—
—	—	B976A07938	B977A07938
—	B411A09500	B976A09500	B977A09500
—	K284A03906	B976A09921	B977A09921
—	—	B976A11300	B977A11300
—	B411A11500	B976A11500	B977A11500
K284A04531	—	B976A11509	B977A11509
—	—	—	—
—	—	—	—
—	B411A15500	B976A15500	B977A15500

High-Temperature Alloys

typical thread sizes	required tap drill diameter		S		
			HSS-E-PM Taps — Tapping Titanium Alloys		HSS-E-PM Taps — Tapping Nickel and Cobalt Alloys
					
cutting taps metric	mm	inch	blind hole T616_KSN25	through hole T614_KSN25	blind hole T612_KSSH22
M3 x 0,50	2,500	.0984	T616M030X050R6HX-D1	T614M030X050R6HX-D1	T616M030X050R6HX-D1
M4 x 0,70	3,300	.1299	T616M040X070R6H-D1	T614M040X070R6H-D1	T616M040X070R6H-D1
M5 x 0,80	4,200	.1654	T616M050X080R6H-D1	T614M050X080R6H-D1	T616M050X080R6H-D1
M6 x 1,00	5,000	.1969	T616M060X100R6H-D1	T614M060X100R6H-D1	T616M060X100R6H-D1
M8 x 1,25	6,700	.2638	T616M080X125R6H-D1	T614M080X125R6H-D1	T616M080X125R6H-D1
M10 x 1,50	8,500	.3346	T616M100X150R6H-D1	T614M100X150R6H-D1	T616M100X150R6H-D1
M12 x 1,75	10,200	.4016	T616M120X175R6H-D6	T614M120X175R6H-D6	T616M120X175R6H-D6
M14 x 2,00	12,000	.4724	—	—	T612M140X200R6HX-D6
M16 x 2,00	14,000	.5512	—	—	T612M160X200R6HX-D6
M20 x 2,50	17,500	.6890	—	—	T612M200X250R6HX-D6

Hard Materials

typical thread sizes	required tap drill diameter		H	
			HSS-E-PM Taps — Tapping Hard Materials 44–55 HRC	Carbide Taps — Tapping Hard Materials 55–63 HRC
				
cutting taps metric	mm	inch	blind and through hole T606_KSSH22	blind and through hole T410_KCU36
M5 x 0,80	4,200	.1654	—	T410M050X080R6HX-D1
M6 x 1,00	5,000	.1969	T606M060X100R6HX-D1	T410M060X100R6HX-D1
M8 x 1,25	6,700	.2638	T606M080X125R6HX-D1	T410M080X125R6HX-D1
M8 x 1,00	7,000	.2756	T606MF080X100R6HX-D4	T410MF080X100R6HX-D4
M10 x 1,50	8,500	.3346	T606M100X150R6HX-D1	T410M100X150R6HX-D1
M10 x 1,00	9,000	.3543	T606MF100X100R6HX-D4	T410MF100X100R6HX-D4
M12 x 1,75	10,200	.4016	T606M120X175R6HX-D6	T410M120X175R6HX-D6
M12 x 1,50	10,500	.4134	T606MF120X150R6HX-D4	T410MF120X150R6HX-D4
M14 x 2,00	12,000	.4724	—	T410M140X200R6HX-D6
M14 x 1,50	12,500	.4921	T606MF140X150R6HX-D4	T410MF140X150R6HX-D4
M16 x 2,00	14,000	.5512	T606M160X200R6HX-D6	T612M160X200R6HX-D6
M16 x 1,50	14,500	.5709	T606MF160X150R6HX-D4	T410MF160X150R6HX-D4

S			All Materials	
HSS-E-PM Taps — Tapping Nickel and Cobalt Alloys	Recommended SC Drill		Alternate Tap Drill	
				
through hole T610_KSSH22	approximately 3 x D with coolant B291_YPL KC7315	approximately 5 x D with coolant B292_YPL KC7315	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
T610M030X050R6HX-D1	—	—	B976Z02500	—
T610M040X070R6H-D1	B291A03300YPL	B292A03300YPL	B976A03300	B977A03300
T610M050X080R6H-D1	—	B292A04200YPL	B976A04200	B977A04200
T610M060X100R6H-D1	B291A05000YPL	B292A05000YPL	B976A05000	B977A05000
T610M080X125R6H-D1	—	—	B976A06700	B977A06700
T610M100X150R6H-D1	B291A08500YPL	B292A08500YPL	B976A08500	B977A08500
T610M120X175R6H-D6	B291A10200YPL	B292A10200YPL	B976A10200	B977A10200
T610M140X200R6HX-D6	B291A12000YPL	B292A12000YPL	B976A12000	B977A12000
T610M160X200R6HX-D6	B291A14000YPL	B292A14000YPL	B976A14000	B977A14000
T610M200X250R6HX-D6	B291A17500YPL	B292A17500YPL	B976A17500	B977A17500

H		All Materials	
Recommended SC Drill		Alternative Tap Drill	
			
approximately 3 x D with coolant B291_YPL KC7315	approximately 5 x D with coolant B292_YPL KC7315	approximately 3 x D with coolant B976_KC7315	approximately 5 x D with coolant B977_KC7315
—	B292A04200YPL	B976A04200	B977A04200
B291A05000YPL	B292A05000YPL	B976A05000	B977A05000
—	—	B976A06700	B977A06700
B291A07000YPL	B292A07000YPL	B976A07000	B977A07000
B291A08500YPL	B292A08500YPL	B976A08500	B977A08500
B291A09000YPL	B292A09000YPL	B976A09000	B977A09000
B291A10200YPL	B292A10200YPL	B976A10200	B977A10200
B291A10500YPL	B292A10500YPL	B976A10500	B977A10500
B291A12000YPL	B292A12000YPL	B976A12000	B977A12000
B291A12500YPL	B292A12500YPL	B976A12500	B977A12500
B291A14000YPL	B292A14000YPL	B976A14000	B977A14000
B291A14500YPL	B292A14500YPL	B976A14500	B977A14500

Steel • Wind Energy

typical thread sizes	required tap drill diameter		P HSS-E-PM Taps — Tapping Steel >32 HRC		
					
cutting taps metric	mm	inch	blind hole T630_KP6525	blind hole T650_KP6525	through hole T620_KP6525
M24 x 3,00	21,000	.8268	T630M240X300R6HX-D6	T650M240X300R6HX-D6	T620M240X300R6HX-D6
M30 x 3,50	26,500	1.0433	T630M300X350R6HX-D6	T650M300X350R6HX-D6	T620M300X350R6HX-D6
M33 x 3,50	29,500	1.1614	T630M330X350R6HX-D6	T650M330X350R6HX-D6	T620M330X350R6HX-D6
M36 x 4,00	32,000	1.2598	T630M360X400R6HX-D6	T650M360X400R6HX-D6	T620M360X400R6HX-D6
M42 x 4,50	37,500	1.4764	T630M420X450R6HX-D6	T650M420X450R6HX-D6	T620M420X450R6HX-D6

Steel • Wind Energy • Extra Long

typical thread sizes	required tap drill diameter		P HSS-E-PM Taps — Tapping Steel >32 HRC		
					
cutting taps metric	mm	inch	blind hole T630_KP6525	blind hole T650_KP6525	through hole T620_KP6525
M24 x 3,00	21,000	.8268	T630M240X300R6HX-XL	T650M240X300R6HX-XL	T620M240X300R6HX-XL
M30 x 3,50	26,500	1.0433	T630M300X350R6HX-XL	T650M300X350R6HX-XL	T620M300X350R6HX-XL
M33 x 3,50	29,500	1.1614	T630M330X350R6HX-XL	T650M330X350R6HX-XL	T620M330X350R6HX-XL
M36 x 4,00	32,000	1.2598	T630M360X400R6HX-XL	T650M360X400R6HX-XL	T620M360X400R6HX-XL
M42 x 4,50	37,500	1.4764	T630M420X450R6HX-XL	T650M420X450R6HX-XL	T620M420X450R6HX-XL

Cast Iron • Wind Energy

typical thread sizes	required tap drill diameter		K HSS-E-PM Taps — Cast Iron		
					
cutting taps metric	mm	inch	blind hole T630_KP6525	blind hole T650_KP6525	through hole T620_KP6525
M24 x 3,00	21,000	.8268	T630M240X300R6HX-D6	T650M240X300R6HX-D6	T620M240X300R6HX-D6
M30 x 3,50	26,500	1.0433	T630M300X350R6HX-D6	T650M300X350R6HX-D6	T620M300X350R6HX-D6
M33 x 3,50	29,500	1.1614	T630M330X350R6HX-D6	T650M330X350R6HX-D6	T620M330X350R6HX-D6
M36 x 4,00	32,000	1.2598	T630M360X400R6HX-D6	T650M360X400R6HX-D6	T620M360X400R6HX-D6
M42 x 4,50	37,500	1.4764	T630M420X450R6HX-D6	T650M420X450R6HX-D6	T620M420X450R6HX-D6

Cast Iron • Wind Energy • Extra Long

typical thread sizes	required tap drill diameter		K HSS-E-PM Taps — Cast Iron		
					
cutting taps metric	mm	inch	blind hole T630_KP6525	blind hole T650_KP6525	through hole T620_KP6525
M24 x 3,00	21,000	.8268	T630M240X300R6HX-XL	T650M240X300R6HX-XL	T620M240X300R6HX-XL
M30 x 3,50	26,500	1.0433	T630M300X350R6HX-XL	T650M300X350R6HX-XL	T620M300X350R6HX-XL
M33 x 3,50	29,500	1.1614	T630M330X350R6HX-XL	T650M330X350R6HX-XL	T620M330X350R6HX-XL
M36 x 4,00	32,000	1.2598	T630M360X400R6HX-XL	T650M360X400R6HX-XL	T620M360X400R6HX-XL
M42 x 4,50	37,500	1.4764	T630M420X450R6HX-XL	T650M420X450R6HX-XL	T620M420X450R6HX-XL

P HSS-E-PM Taps — Tapping Steel >32 HRC		P Recommended Modular Drill	
			
blind hole with coolant T631_KP6525	blind hole with coolant T651_KP6525	KSEM PLUS™ insert KCP15	KSEM PLUS™ tool body 3 x D
T631M240X300R6HX-D6	T651M240X300R6HX-D6	KTIP2100HPM	KSEM PLUS
T631M300X350R6HX-D6	T651M300X350R6HX-D6	KTIP2650HPM	KSEM PLUS
T631M330X350R6HX-D6	T651M330X350R6HX-D6	KSEM PLUS	KSEM PLUS
T631M360X400R6HX-D6	T651M360X400R6HX-D6	KSEM PLUS	KSEM PLUS
T631M420X450R6HX-D6	T651M420X450R6HX-D6	KSEM PLUS	KSEM PLUS

P HSS-E-PM Taps — Tapping Steel >32 HRC		P Recommended Modular Drill	
			
blind hole with coolant T631_KP6525	blind hole with coolant T651_KP6525	KSEM PLUS™ insert KCP15	KSEM PLUS™ tool body 3 x D
T631M240X300R6HX-XL	T651M240X300R6HX-XL	KTIP2100HPM	KSEM PLUS
T631M300X350R6HX-XL	T651M300X350R6HX-XL	KTIP2650HPM	KSEM PLUS
T631M330X350R6HX-XL	T651M330X350R6HX-XL	KSEM PLUS	KSEM PLUS
T631M360X400R6HX-XL	T651M360X400R6HX-XL	KSEM PLUS	KSEM PLUS
T631M420X450R6HX-XL	T651M420X450R6HX-XL	KSEM PLUS	KSEM PLUS

K HSS-E-PM Taps — Cast Iron		K Recommended Modular Drill	
			
blind hole with coolant T631_KP6525	blind hole with coolant T651_KP6525	KSEM PLUS™ insert KC7140	KSEM PLUS™ tool body 3 x D
T631M240X300R6HX-D6	T651M240X300R6HX-D6	KTIP2100HPM	KSEM PLUS
T631M300X350R6HX-D6	T651M300X350R6HX-D6	KTIP2650HPM	KSEM PLUS
T631M330X350R6HX-D6	T651M330X350R6HX-D6	KSEM PLUS	KSEM PLUS
T631M360X400R6HX-D6	T651M360X400R6HX-D6	KSEM PLUS	KSEM PLUS
T631M420X450R6HX-D6	T651M420X450R6HX-D6	KSEM PLUS	KSEM PLUS

K HSS-E-PM Taps — Cast Iron		K Recommended Modular Drill	
			
blind hole with coolant T631_KP6525	blind hole with coolant T651_KP6525	KSEM PLUS™ insert KC7140	KSEM PLUS™ tool body 3 x D
T631M240X300R6HX-XL	T651M240X300R6HX-XL	KTIP2100HPM	KSEM PLUS
T631M300X350R6HX-XL	T651M300X350R6HX-XL	KTIP2650HPM	KSEM PLUS
T631M330X350R6HX-XL	T651M330X350R6HX-XL	KSEM PLUS	KSEM PLUS
T631M360X400R6HX-XL	T651M360X400R6HX-XL	KSEM PLUS	KSEM PLUS
T631M420X450R6HX-XL	T651M420X450R6HX-XL	KSEM PLUS	KSEM PLUS



High-Performance K Series Taps

Our family of K Series taps are specially designed to thread a broad assortment of materials for unrivaled high-performance tapping. The K Series taps are designed and manufactured to successfully thread high- and low-volume applications in aluminum, stainless steel, nickel alloys, titanium alloys, mold steels, irons, brass, bronze, and plastics. The formulation of premium steel tap base material is unique for every application. The combination of a special geometry, tap surface treatment, and premium steel gives these taps the highest level of performance.

Features and Benefits

Unmatched Performance

- Enhanced tool geometry.
- Less tapping torque.
- Better chip removal.

Premium Steels

- Special HSS-E compositions containing chromium, tungsten, molybdenum, vanadium, and cobalt, depending on the application.
- Improved tap performance resulting in improved product finish and pitch diameter size.
- Excellent heat and abrasion resistance.
- Maintains the same quality from the first hole to the very last.



Broad Offering of Diameter Limits

- Pitch diameters from H2–H7 and metric pitch diameters from D3–D7 are stocked as standards in many styles, at no premium in price.
- Rigid setups enable higher pitch diameter limits.
- Offers many size options to produce the class of thread desired.

K Series HP HSS-E Taps • ANSI Inch and Metric

● first choice
○ alternate choice

K Series High-Performance HSS-E Taps	series	coating	tap dimension	P	M	K	N	S	H
	**K-SS SPPT**	TiCN, TiN, oxide, uncoated	ANSI 302A	●	○	○	○		
	**K-SS SPPT**	TiCN, TiN, oxide, uncoated	ANSI 302A	●	○	○	○		
	**K-SS SPPT 6"**	oxide	extend 6"	●	○	○			
	**K-SS SPFL**	TiCN, TiN, oxide, uncoated	ANSI 302A	●	○	○	○		
	**K-SS SPFL**	oxide	ANSI 302A	●	○	○			
	**K-SS SPFL**	TiCN, TiN, oxide, uncoated	ANSI 302A	●	○	○	○		
	**K-SS SPFL**	oxide	ANSI 302A	●	○	○			
	**K-SS SPFL 6"**	oxide	extend 6"	●	○	○			
	**K-SS PIPE**	TiN, oxide, uncoated	ANSI 311	●	○	○	●		
	**K-AL SPPT**	nitride	ANSI-DIN length				●		
	**K-AL SPPT**	nitride	ANSI-DIN length				●		
	**K-ALS 25° SPFL**	nitride	ANSI-DIN length				●		
	**K-ALS 25° SPFL**	nitride	ANSI-DIN length				●		
	**K-AL 45° SPFL**	nitride	ANSI-DIN length				●		
	**K-AL 45° SPFL**	nitride	ANSI-DIN length				●		
	**K-NI SPPT**	TiCN, oxide nitride, uncoated	ANSI 302A	○	○	○		●	
	**K-NI SPPT**	TiCN, oxide nitride	ANSI 302A	○	○	○		●	
	**K-NI SPFL**	TiCN, oxide nitride	ANSI 302A	○	○	○		●	
	**K-NI SPFL**	oxide nitride	ANSI 302A	○	○	○		●	
	**K-NI SPFL**	TiCN, oxide nitride	ANSI 302A	○	○	○		●	
	**K-TI LHSF**	nitride	ANSI 302A				○	●	
	**K-TI LHSF**	nitride	ANSI 302A				○	●	

size range (inch and metric) size min–max	through hole	blind hole	chamfer form	helix angle	coolant	page(s)	recommended cutting parameters
#2–2 4 1/2"						L98	L135
M3–M18						L100	L134
#2–1/2"						L101	L135
#2–2 4 1/2"						L102	L135
#4–3/4"						L104	L135
M3–M18						L106	L134
M3–M18						L107	L134
#2–1/2"						L108	L135
1/16"–1 - 11 1/2						L109	L135
#2–1/2"						L110	L135
M3–M12						L111	L134
#2–1/2"						L112	L135
M3–M12						L112	L134
#2–1/2"						L113	L135
M3–M12						L114	L134
#2–3/4"						L115	L135
M2,5–M12						L117	L134
#2–3/4"						L118	L135
#4–3/4"						L120	L135
M2,5–M12						L121	L134
#2–1/2"						L122	L135
M2,5–M12						L123	L134

(continued)

(continued)

K Series HP HSS-E Taps • ANSI Inch and Metric

● first choice
○ alternate choice

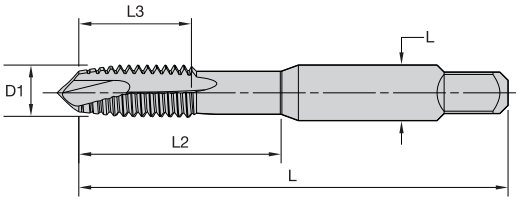
K Series High-Performance HSS-E Taps	series	coating	tap dimension	P	M	K	N	S	H
	**K-TI SPFL**	nitride	ANSI 302A				○	●	
	**K-TI SPFL**	nitride	ANSI 302A				○	●	
	**K-TI SPFL**	nitride	ANSI 302A				○	●	
	**K-MS**	uncoated	ANSI 302A	○		○			
	**K-MS PIPE**	uncoated	ANSI 311	○		○	○		

K Series High-Performance HSS-E Forming Taps

	**K-TLD**	TiCN	ANSI-DIN length	●	○		○		
	**K-TLD**	TiCN	ANSI-DIN length	●	○		○		
	**K-TL**	TiCN	ANSI-DIN length	●	○		○		
	**K-TL**	TiCN	ANSI-DIN length	●	○		○		
	**K-TL**	TiCN	ANSI-DIN length	●	○		○		
	**K-TL**	TiCN	ANSI-DIN length	●	○		○		

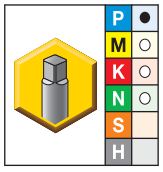
size range (inch and metric) size min–max	through hole	blind hole	chamfer form	helix angle	coolant	page(s)	recommended cutting parameters
#2–1/2"						L124	L135
#4–1/2"						L125	L135
M2,5–M12						L126	L134
#4–3/4"						L127	L135
1/8–3/4						L128	L135
#2–1/4"						L129	L135
M3–M6						L129	L134
#2–1/2"						L130	L135
M3–M12						L131	L134
#2–1/2"						L132	L135
M3–M12						L133	L134

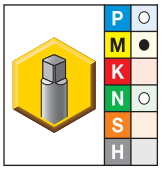


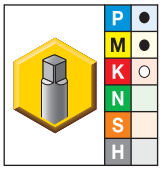




K-Stainless • Machine Screw and Fractional • Plug Chamfer





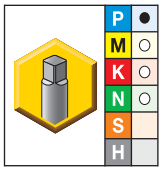


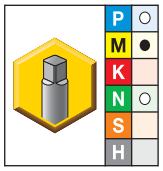
● first choice
○ alternate choice

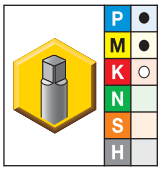
TiCN	TiN	oxide	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
–	–	40510200001	2 - 56	1.75	.26	.44	.141	2	H2
–	–	40510200002	2 - 56	1.75	.26	.44	.141	2	H3
–	–	40510200003	2 - 56	1.75	.26	.44	.141	2	H4
–	–	40510200004	3 - 48	1.81	.30	.50	.141	2	H2
40512201041	40510200729	40510200005	4 - 40	1.88	.34	.56	.141	2	H2
–	–	40510200006	4 - 40	1.88	.34	.56	.141	2	H3
–	–	40510200007	4 - 40	1.88	.34	.56	.141	2	H4
–	–	40510200008	4 - 40	1.88	.34	.56	.141	2	H5
–	–	40510200009	4 - 40	1.88	.34	.56	.141	2	H6
–	–	40510200010	4 - 48	1.88	.34	.56	.141	2	H2
–	–	40510200011	4 - 48	1.88	.34	.56	.141	2	H4
–	–	40510200012	5 - 40	1.94	.37	.63	.141	3	H2
–	–	40510200013	6 - 32	2.00	.41	.69	.141	3	H2
40512201046	40510200731	40510200014	6 - 32	2.00	.41	.69	.141	3	H3
–	–	40510200015	6 - 32	2.00	.41	.69	.141	3	H4
–	–	40510200016	6 - 32	2.00	.41	.69	.141	3	H5
–	–	40510200017	6 - 32	2.00	.41	.69	.141	3	H6
–	–	40510200018	6 - 32	2.00	.41	.69	.141	3	H7
–	–	40510200019	6 - 40	2.00	.41	.69	.141	3	H2
–	–	40510200020	6 - 40	2.00	.41	.69	.141	3	H3
–	–	40510200021	8 - 32	2.13	.45	.75	.168	3	H2
40512201048	40510200732	40510200022	8 - 32	2.13	.45	.75	.168	3	H3
–	–	40510200023	8 - 32	2.13	.45	.75	.168	3	H4
–	–	40510200024	8 - 32	2.13	.45	.75	.168	3	H5
–	–	40510200025	8 - 32	2.13	.45	.75	.168	3	H6
–	–	40510200026	8 - 32	2.13	.45	.75	.168	3	H7
–	–	40510200027	8 - 36	2.13	.45	.75	.168	3	H2
40512201034	40510200733	40510200028	10 - 24	2.38	.53	.88	.194	3	H3
–	–	40510200030	10 - 24	2.38	.53	.88	.194	3	H5
–	–	40510200032	10 - 24	2.38	.53	.88	.194	3	H7
–	–	40510200033	10 - 32	2.38	.53	.88	.194	3	H2
40512201035	40510200756	40510200034	10 - 32	2.38	.53	.88	.194	3	H3
–	–	40510200035	10 - 32	2.38	.53	.88	.194	3	H4
–	–	40510200036	10 - 32	2.38	.53	.88	.194	3	H5
–	–	40510200037	10 - 32	2.38	.53	.88	.194	3	H6
–	–	40510200038	10 - 32	2.38	.53	.88	.194	3	H7
–	–	40510200039	12 - 24	2.38	.57	.94	.220	3	H3
–	–	40510200040	12 - 28	2.38	.57	.94	.220	3	H3
–	–	40510200041	1/4 - 20	2.50	.59	1.00	.255	3	H2
40512201032	40510200757	40510200042	1/4 - 20	2.50	.59	1.00	.255	3	H3
–	–	40510200043	1/4 - 20	2.50	.59	1.00	.255	3	H5
–	–	40510200044	1/4 - 20	2.50	.59	1.00	.255	3	H7

(continued)

(K-Stainless • Machine Screw and Fractional • Plug Chamfer continued)



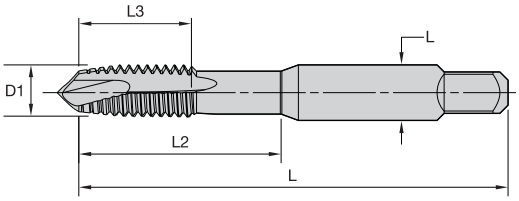




TiCN	TiN	oxide	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
—	—	40510200045	1/4 - 28	2.50	.59	1.00	.255	3	H2
40512201033	40510200758	40510200046	1/4 - 28	2.50	.59	1.00	.255	3	H3
—	—	40510200047	1/4 - 28	2.50	.59	1.00	.255	3	H4
—	—	40510200048	1/4 - 28	2.50	.59	1.00	.255	3	H5
—	—	40510200049	1/4 - 28	2.50	.59	1.00	.255	3	H6
—	—	40510200050	1/4 - 28	2.50	.59	1.00	.255	3	H7
40512201042	40510200759	40510200051	5/16 - 18	2.72	.67	1.13	.318	3	H3
—	—	40512201026	5/16 - 18	2.72	.67	1.13	.318	3	H5
—	—	40510200053	5/16 - 18	2.72	.67	1.13	.318	3	H7
40512201043	40510200760	40510200054	5/16 - 24	2.72	.67	1.13	.318	3	H3
—	—	40510200055	5/16 - 24	2.72	.67	1.13	.318	3	H4
—	—	40510200056	5/16 - 24	2.72	.67	1.13	.318	3	H5
—	—	40510200057	5/16 - 24	2.72	.67	1.13	.318	3	H6
—	—	40510200058	5/16 - 24	2.72	.67	1.13	.318	3	H7
40512201039	40510200761	40510200059	3/8 - 16	2.94	.75	1.25	.381	3	H3
—	—	40510200060	3/8 - 16	2.94	.75	1.25	.381	3	H5
—	—	40510200061	3/8 - 16	2.94	.75	1.25	.381	3	H7
40512201040	40510200762	40512201025	3/8 - 24	2.94	.75	1.25	.381	3	H3
—	—	40510200063	3/8 - 24	2.94	.75	1.25	.381	3	H4
—	—	40510200064	3/8 - 24	2.94	.75	1.25	.381	3	H5
—	—	40510200065	3/8 - 24	2.94	.75	1.25	.381	3	H6
—	—	40510200066	3/8 - 24	2.94	.75	1.25	.381	3	H7
—	40510200763	40510200067	7/16 - 14	3.16	.89	—	.323	3	H3
—	—	40510200068	7/16 - 14	3.16	.89	—	.323	3	H5
—	40510200764	40510200070	7/16 - 20	3.16	.89	—	.323	3	H3
—	—	40510200071	7/16 - 20	3.16	.89	—	.323	3	H5
—	—	40510200072	7/16 - 20	3.16	.89	—	.323	3	H6
—	—	40510200073	7/16 - 20	3.16	.89	—	.323	3	H7
40512201030	40510200765	40510200074	1/2 - 13	3.38	.98	—	.367	3	H3
—	—	40510200075	1/2 - 13	3.38	.98	—	.367	3	H5
—	—	40510200076	1/2 - 13	3.38	.98	—	.367	3	H7
40512201031	40510200766	40510200077	1/2 - 20	3.38	.98	—	.367	3	H3
—	—	40510200078	1/2 - 20	3.38	.98	—	.367	3	H5
—	—	40510200079	1/2 - 20	3.38	.98	—	.367	3	H6
—	—	40512201023	1/2 - 20	3.38	.98	—	.367	3	H7
40512201049	40510200767	40510200081	9/16 - 12	3.59	.98	—	.429	3	H3
	40510200768	40510200082	9/16 - 18	3.59	.98	—	.429	3	H3
40512201044	40510200769	40510200083	5/8 - 11	3.81	1.08	—	.480	3	H3
—	—	40510200084	5/8 - 11	3.81	1.08	—	.480	3	H5
—	—	40510200085	5/8 - 11	3.81	1.08	—	.480	3	H7
40512201045	40510200770	40510200086	5/8 - 18	3.81	1.08	—	.480	3	H3
—	—	40510200087	5/8 - 18	3.81	1.08	—	.480	3	H5
—	—	40512201027	5/8 - 18	3.81	1.08	—	.480	3	H6
40512201037	40510200771	40510200090	3/4 - 10	4.25	1.20	—	.590	3	H3
40512201038	40510200772	40512201024	3/4 - 16	4.25	1.20	—	.590	3	H3
40512201047	40512201029	40510200092	7/8 - 9	4.69	1.34	—	.697	3	H4
	40510200774	40510200093	7/8 - 14	4.69	1.34	—	.697	3	H4
40512201036	40512201028	40510200094	1 - 8	5.13	1.50	—	.800	3	H4
—	—	40510200095	1 - 12	5.13	1.50	—	.800	3	H4
—	—	40510200983	1 1/8 - 7	5.44	2.56	—	.896	4	H6
—	—	40510200984	1 1/8 - 12	5.44	2.56	—	.896	4	H5
—	—	40510200985	1 1/4 - 7	5.75	2.56	—	1.021	4	H6

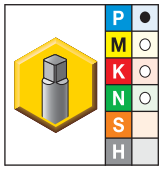
NOTE: K-SS taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

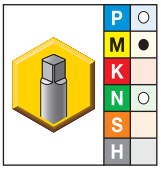


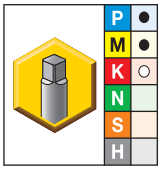


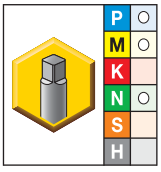


K-Stainless • Plug Chamfer • Metric ANSI







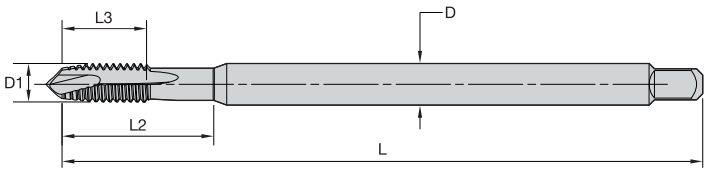


● first choice
○ alternate choice

TiCN	TiN	oxide	uncoated	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40512201109	40512201101	40510200238	–	M3 x 0,5	1.94	.31	.63	.141	3	D3
–	–	40510200239	–	M3,5 x 0,6	2.00	.38	.69	.141	3	D4
40512201110	40512201102	40510200240	–	M4 x 0,7	2.13	.38	.75	.168	3	D4
40512201111	40512201103	40510200241	–	M5 x 0,8	2.38	.50	.88	.194	3	D4
40512201112	40512201104	40510200242	40512201095	M6 x 1	2.50	.63	1.00	.255	3	D5
–	–	40510200243	–	M7 x 1	2.72	.69	1.13	.318	3	D5
–	–	40510200244	–	M8 x 1	2.72	.69	1.13	.318	3	D5
40512201113	40512201105	40510200245	40512201096	M8 x 1,25	2.72	.69	1.13	.318	3	D5
–	–	40510200246	–	M10 x 1,25	2.94	.75	1.25	.381	3	D5
40512201106	40512201097	40510200247	40512201093	M10 x 1,5	2.94	.75	1.25	.381	3	D6
–	–	40510200248	–	M12 x 1,25	3.38	.94	–	.367	3	D5
40512201107	40512201098	40510200249	–	M12 x 1,75	3.38	.94	–	.367	3	D6
–	–	40510200250	–	M14 x 1,5	3.59	1.00	–	.429	3	D6
–	–	40510200251	–	M14 x 2	3.59	1.00	–	.429	3	D7
–	40512201099	40510200252	–	M16 x 1,5	3.81	1.09	–	.480	3	D6
40512201108	40512201100	40510200253	40512201094	M16 x 2	3.81	1.09	–	.480	3	D7
–	–	40510200255	–	M18 x 2,5	4.03	1.09	–	.542	3	D7

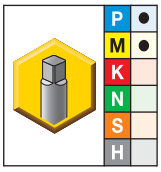
NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.







K-Stainless 6" • Machine Screw and Fractional • Plug Chamfer

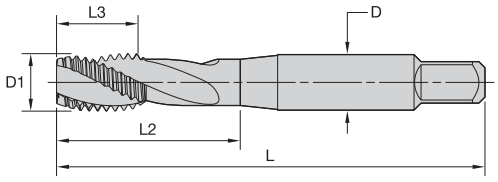


● first choice
○ alternate choice

oxide	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40510200801	2 - 56	6.00	.44	—	.141	2	H2
40510200803	3 - 48	6.00	.50	—	.141	2	H2
40510200804	4 - 40	6.00	.31	.56	.141	2	H2
40510200806	6 - 32	6.00	.38	.69	.141	3	H3
40510200807	8 - 32	6.00	.38	.75	.168	3	H3
40510200810	10 - 24	6.00	.50	.88	.194	3	H3
40510200812	10 - 32	6.00	.50	.88	.194	3	H3
40510200813	1/4 - 20	6.00	.63	1.00	.255	3	H3
40510200815	1/4 - 28	6.00	.63	1.00	.255	3	H3
40510200816	5/16 - 18	6.00	.69	1.13	.318	3	H3
40510200817	5/16 - 24	6.00	.69	1.13	.318	3	H3
40510200818	3/8 - 16	6.00	.75	1.25	.381	3	H3
40510200734	3/8 - 24	6.00	.75	1.25	.381	3	H3
40510200735	7/16 - 14	6.00	.88	—	.323	3	H3
40510200736	7/16 - 20	6.00	.88	—	.323	3	H3
40510200737	1/2 - 13	6.00	.94	—	.367	3	H3
40510200738	1/2 - 20	6.00	.94	—	.367	3	H3

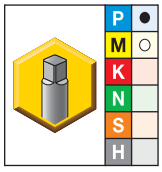
NOTE: K-SS taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

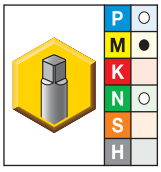


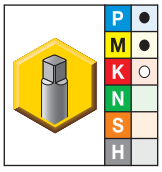




K-Stainless Spiral Flute • Machine Screw and Fractional • Chamfer 2 1/2–3 1/2 Pitches





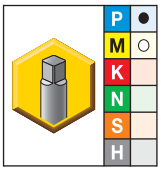


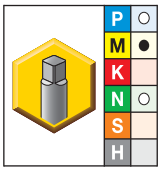
● first choice
○ alternate choice

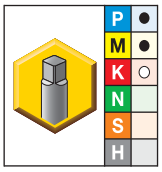
TiCN	TiN	oxide	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
–	–	40510200096	2 - 56	1.75	.44	–	.141	2	H2
–	–	40510200097	3 - 48	1.81	.50	–	.141	2	H2
40512201069	40510200776	40510200098	4 - 40	1.88	.24	.56	.141	2	H2
–	–	40510200100	4 - 40	1.88	.24	.56	.141	2	H3
–	–	40510200102	4 - 40	1.88	.24	.56	.141	2	H4
–	–	40510200103	4 - 40	1.88	.24	.56	.141	2	H5
–	–	40510200106	4 - 48	1.88	.24	.56	.141	2	H2
–	40510200777	40510200108	5 - 40	1.94	.24	.63	.141	3	H2
–	–	40510200110	6 - 32	2.00	.28	.69	.141	3	H2
40512201074	40510200778	40510200112	6 - 32	2.00	.28	.69	.141	3	H3
–	–	40510200114	6 - 32	2.00	.28	.69	.141	3	H4
–	–	40510200115	6 - 32	2.00	.28	.69	.141	3	H5
–	–	40510200117	6 - 32	2.00	.28	.69	.141	3	H7
–	–	40510200118	6 - 40	2.00	.28	.69	.141	3	H2
–	–	40510200121	6 - 40	2.00	.28	.69	.141	3	H3
–	–	40510200123	8 - 32	2.13	.28	.75	.168	3	H2
40512201078	40510200779	40510200125	8 - 32	2.13	.28	.75	.168	3	H3
–	–	40510200127	8 - 32	2.13	.28	.75	.168	3	H4
–	–	40510200128	8 - 32	2.13	.28	.75	.168	3	H5
–	–	40512201054	8 - 32	2.13	.28	.75	.168	3	H6
–	–	40510200131	8 - 32	2.13	.28	.75	.168	3	H7
–	–	40510200132	10 - 24	2.38	.35	.88	.194	3	H2
40512201062	40510200780	40510200133	10 - 24	2.38	.35	.88	.194	3	H3
–	–	40510200135	10 - 24	2.38	.35	.88	.194	3	H4
–	–	40510200136	10 - 24	2.38	.35	.88	.194	3	H5
–	–	40510200138	10 - 24	2.38	.35	.88	.194	3	H7
–	–	40510200139	10 - 32	2.38	.28	.88	.194	3	H2
40512201063	40510200781	40510200140	10 - 32	2.38	.28	.88	.194	3	H3
–	–	40510200142	10 - 32	2.38	.28	.88	.194	3	H4
–	–	40510200143	10 - 32	2.38	.28	.88	.194	3	H5
–	–	40510200145	10 - 32	2.38	.28	.88	.194	3	H6
–	–	40510200146	10 - 32	2.38	.28	.88	.194	3	H7
–	–	40510200147	12 - 24	2.38	.35	.94	.220	3	H3
–	–	40510200149	1/4 - 20	2.50	.43	1.00	.255	3	H2
40512201060	40510200782	40510200150	1/4 - 20	2.50	.43	1.00	.255	3	H3
–	–	40510200152	1/4 - 20	2.50	.43	1.00	.255	3	H5
–	–	40510200154	1/4 - 20	2.50	.43	1.00	.255	3	H7
–	–	40510200155	1/4 - 28	2.50	.35	1.00	.255	3	H2
40512201061	40510200783	40510200156	1/4 - 28	2.50	.35	1.00	.255	3	H3
–	–	40510200158	1/4 - 28	2.50	.35	1.00	.255	3	H4

(continued)

(K-Stainless Spiral Flute • Machine Screw and Fractional • Chamfer 2 1/2–3 1/2 Pitches continued)



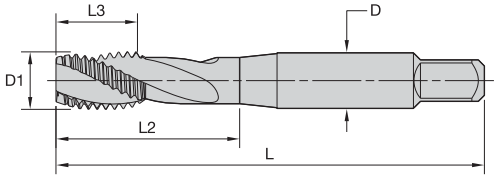




TiCN	TiN	oxide	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
—	—	40510200159	1/4 - 28	2.50	.35	1.00	.255	3	H5
—	—	40510200161	1/4 - 28	2.50	.35	1.00	.255	3	H6
—	—	40510200162	1/4 - 28	2.50	.35	1.00	.255	3	H7
40512201070 —	40510200784	40510200163	5/16 - 18	2.72	.47	1.13	.318	3	H3
—	—	40510200165	5/16 - 18	2.72	.47	1.13	.318	3	H5
—	—	40510200167	5/16 - 18	2.72	.47	1.13	.318	3	H7
40512201071	40510200785	40510200168	5/16 - 24	2.72	.39	1.13	.318	3	H3
—	—	40510200170	5/16 - 24	2.72	.39	1.13	.318	3	H4
—	—	40510200171	5/16 - 24	2.72	.39	1.13	.318	3	H5
—	—	40510200174	5/16 - 24	2.72	.39	1.13	.318	3	H7
40512201067	40510200786	40510200175	3/8 - 16	2.94	.55	1.25	.381	3	H3
—	—	40510200177	3/8 - 16	2.94	.55	1.25	.381	3	H5
—	—	40510200179	3/8 - 16	2.94	.55	1.25	.381	3	H7
40512201068	40510200787	40510200181	3/8 - 24	2.94	.39	1.25	.381	3	H3
—	—	40510200183	3/8 - 24	2.94	.39	1.25	.381	3	H4
40512201075	40510200788		7/16 - 14	3.16	.59	—	.323	3	H3
—	—	40510200191	7/16 - 14	3.16	.59	—	.323	3	H5
—	—	40510200193	7/16 - 14	3.16	.59	—	.323	3	H7
40512201076	40510200789	40510200194	7/16 - 20	3.16	.47	—	.323	3	H3
—	—	40510200196	7/16 - 20	3.16	.47	—	.323	3	H5
—	—	40510200198	7/16 - 20	3.16	.47	—	.323	3	H6
—	—	40510200199	7/16 - 20	3.16	.47	—	.323	3	H7
40512201058	40510200790	40510200200	1/2 - 13	3.38	.63	—	.367	3	H3
—	—	40510200202	1/2 - 13	3.38	.63	—	.367	3	H5
—	—	40510200204	1/2 - 13	3.38	.63	—	.367	3	H7
40512201059	40510200791	40510200205	1/2 - 20	3.38	.47	—	.367	3	H3
—	—	40510200207	1/2 - 20	3.38	.47	—	.367	3	H5
—	—	40510200209	1/2 - 20	3.38	.47	—	.367	3	H6
—	—	40510200210	1/2 - 20	3.38	.47	—	.367	3	H7
—	40510200792	40510200211	9/16 - 12	3.59	.71	—	.429	3	H3
—	—	40510200213	9/16 - 12	3.59	.71	—	.429	3	H5
40512201079	40510200793	40510200214	9/16 - 18	3.59	.51	—	.429	3	H3
—	—	40512201055	9/16 - 18	3.59	.51	—	.429	3	H5
40512201072	40510200794	40510200217	5/8 - 11	3.81	.75	—	.480	3	H3
—	—	40510200219	5/8 - 11	3.81	.75	—	.480	3	H5
—	—	40510200221	5/8 - 11	3.81	.75	—	.480	3	H7
40512201073	40510200795	40510200222	5/8 - 18	3.81	.51	—	.480	3	H3
—	—	40510200224	5/8 - 18	3.81	.51	—	.480	3	H5
—	—	40510200226	5/8 - 18	3.81	.51	—	.480	3	H6
—	—	40510200227	5/8 - 18	3.81	.51	—	.480	3	H7
40512201065	40510200796	40510200228	3/4 - 10	4.25	.83	—	.590	4	H3
—	—	40510200230	3/4 - 10	4.25	.83	—	.590	4	H5
40512201066	40510200797	40510200231	3/4 - 16	4.25	.59	—	.590	4	H3
—	—	40510200233	3/4 - 16	4.25	.59	—	.590	4	H5
—	40510200799	40510200235	7/8 - 14	4.69	.71	—	.697	4	H4
40512201077	40510200798	40510200234	7/8 - 9	4.69	.83	—	.697	4	H4
—	—	40510200237	1 - 12	5.13	.71	—	.800	4	H4
—	—	40512201050	1 - 12	5.13	.71	—	.800	4	H4
40512201064	40510200800	40510200236	1 - 8	5.13	.98	—	.800	4	H4

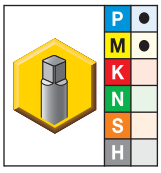
NOTE: K-SS taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







K-Stainless Spiral Flute • Machine Screw and Fractional • Full-Bottoming Chamfer

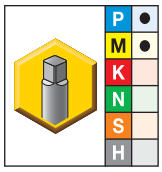


● first choice
○ alternate choice

oxide	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40510200099	4 - 40	1.88	.24	.56	.141	2	H2
40510200101	4 - 40	1.88	.24	.56	.141	2	H3
40510200104	4 - 40	1.88	.24	.56	.141	2	H5
40510200107	4 - 48	1.88	.24	—	.141	2	H2
40510200109	5 - 40	1.94	.24	.63	.141	3	H2
40510200111	6 - 32	2.00	.28	.69	.141	3	H2
40510200113	6 - 32	2.00	.28	.69	.141	3	H3
40510200116	6 - 32	2.00	.28	.69	.141	3	H5
40510200119	6 - 40	2.00	.28	.69	.141	3	H2
40510200122	6 - 40	2.00	.28	.69	.141	3	H3
40510200124	8 - 32	2.13	.28	.75	.168	3	H2
40510200126	8 - 32	2.13	.28	.75	.168	3	H3
40510200129	8 - 32	2.13	.28	.75	.168	3	H5
40510200134	10 - 24	2.38	.35	.88	.194	3	H3
40510200137	10 - 24	2.38	.35	.88	.194	3	H5
40510200141	10 - 32	2.38	.28	.88	.194	3	H3
40510200144	10 - 32	2.38	.28	.88	.194	3	H5
D0510200151	1/4 - 20	2.50	.43	1.00	.255	3	H3
40510200153	1/4 - 20	2.50	.43	1.00	.255	3	H5
40510200157	1/4 - 28	2.50	.35	1.00	.255	3	H3
40510200160	1/4 - 28	2.50	.35	1.00	.255	3	H5
40510200164	5/16 - 18	2.72	.47	1.13	.318	3	H3

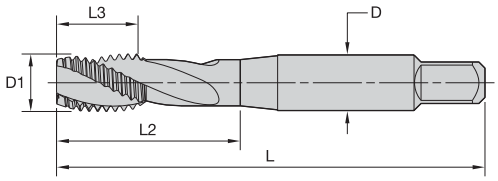
(continued)

(K-Stainless Spiral Flute • Machine Screw and Fractional • Full-Bottoming Chamfer continued)



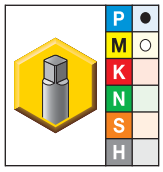
oxide	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40510200166	5/16 - 18	2.72	.47	1.13	.318	3	H5
40510200169	5/16 - 24	2.72	.39	1.13	.318	3	H3
40510200172	5/16 - 24	2.72	.39	1.13	.318	3	H5
40510200176	3/8 - 16	2.94	.55	1.25	.381	3	H3
40510200178	3/8 - 16	2.94	.55	1.25	.381	3	H5
40510200180	3/8 - 16	2.94	.55	1.25	.381	3	H7
40510200182	3/8 - 24	2.94	.39	1.25	.381	3	H3
40510200184	3/8 - 24	2.94	.39	1.25	.381	3	H4
40510200186	3/8 - 24	2.94	.39	1.25	.381	3	H5
40510200190	7/16 - 14	3.16	.59	—	.323	3	H3
40510200192	7/16 - 14	3.16	.59	—	.323	3	H5
40510200195	7/16 - 20	3.16	.47	—	.323	3	H3
40510200197	7/16 - 20	3.16	.47	—	.323	3	H5
40510200201	1/2 - 13	3.38	.63	—	.367	3	H3
40510200203	1/2 - 13	3.38	.63	—	.367	3	H5
40510200206	1/2 - 20	3.38	.47	—	.367	3	H3
40510200212	9/16 - 12	3.59	.71	—	.429	3	H3
40510200215	9/16 - 18	3.59	.51	—	.429	3	H3
40510200218	5/8 - 11	3.81	.75	—	.480	3	H3
40510200220	5/8 - 11	3.81	.75	—	.480	3	H5
40510200223	5/8 - 18	3.81	.51	—	.480	3	H3
40512201053	5/8 - 18	3.81	.51	—	.480	3	H5
40510200225	5/8 - 18	3.81	.51	—	.480	3	H5
40510200229	3/4 - 10	4.25	.83	—	.590	4	H3
40510200232	3/4 - 16	4.25	.59	—	.590	4	H3

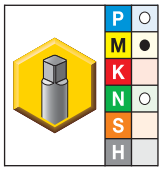
NOTE: K-Stainless taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

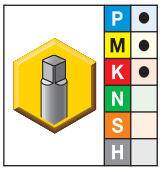




K-Stainless Spiral Flute • Chamfer 2 1/2–3 1/2 Pitches • Metric ANSI



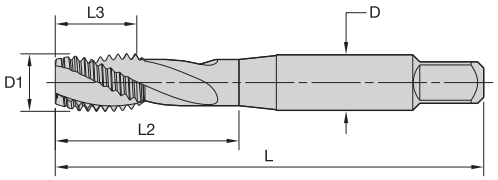




● first choice
○ alternate choice

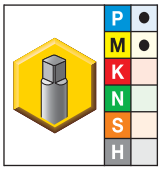
TiCN	TiN	oxide	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40512201123	**–**	**40510200256**	M3 x 0,5	1.94	.31	.56	.141	3	D3
–	**–**	**40510200258**	M3,5 x 0,6	2.00	.38	.63	.141	3	D4
40512201124	**–**	**40510200260**	M4 x 0,7	2.13	.38	.75	.168	3	D4
40512201125	**40512201118**	**40510200262**	M5 x 0,8	2.38	.50	.88	.194	3	D4
40512201126	**40512201119**	**40510200264**	M6 x 1	2.50	.63	1.00	.255	3	D5
–	**–**	**40510200266**	M7 x 1	2.72	.69	1.13	.318	3	D5
–	**–**	**40510200268**	M8 x 1	2.72	.69	1.13	.318	3	D5
40512201127	**40512201120**	**40510200270**	M8 x 1,25	2.72	.69	1.13	.318	3	D5
–	**–**	**40510200272**	M10 x 1,25	2.94	.75	1.25	.381	3	D5
40512201121	**40512201116**	**40510200274**	M10 x 1,5	2.94	.75	1.25	.381	3	D6
–	**–**	**40510200276**	M12 x 1,25	3.38	.94	–	.367	3	D5
40512201122	**40512201117**	**40510200278**	M12 x 1,75	3.38	.94	–	.367	3	D6
–	**–**	**40510200280**	M14 x 1,5	3.59	1.00	–	.429	3	D6
–	**–**	**40510200282**	M14 x 2	3.59	1.00	–	.429	3	D7
–	**–**	**40510200284**	M16 x 1,5	3.81	1.09	–	.480	3	D6
–	**–**	**40510200286**	M16 x 2	3.81	1.09	–	.480	3	D7
–	**–**	**40510200290**	M18 x 2,5	4.03	.79	–	.542	3	D7

NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.





K-Stainless Spiral Flute • Full-Bottoming Chamfer • Metric ANSI

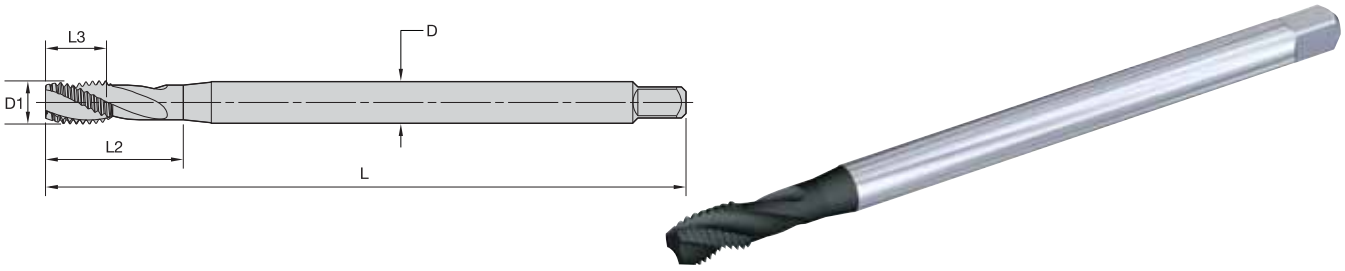


● first choice
○ alternate choice

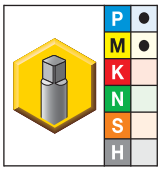
oxide	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40510200257	M3 x 0,5	1.94	.31	.56	.141	3	D3
40510200259	M3,5 x 0,6	2.00	.38	.63	.141	3	D4
40510200261	M4 x 0,7	2.13	.38	.75	.168	3	D4
40510200263	M5 x 0,8	2.38	.50	.88	.194	3	D4
40510200265	M6 x 1	2.50	.63	1.00	.255	3	D5
40510200267	M7 x 1	2.72	.69	1.13	.318	3	D5
40510200269	M8 x 1	2.72	.69	1.13	.318	3	D5
40510200271	M8 x 1,25	2.72	.69	1.13	.318	3	D5
40510200273	M10 x 1,25	2.94	.75	1.25	.381	3	D5
40510200275	M10 x 1,5	2.94	.75	1.25	.381	3	D6
40510200277	M12 x 1,25	3.38	.94	—	.367	3	D5
40510200279	M12 x 1,75	3.38	.94	—	.367	3	D6
40510200281	M14 x 1,5	3.59	1.00	—	.429	3	D6
40510200283	M14 x 2	3.59	1.00	—	.429	3	D7
40510200285	M16 x 1,5	3.81	1.09	—	.480	3	D6
40510200287	M16 x 2	3.81	1.09	—	.480	3	D7
40510200289	M18 x 1,5	4.03	1.09	—	.542	3	D6

NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.





K-Stainless Spiral Flute 6" • Machine Screw and Fractional • Modified Bottoming Chamfer



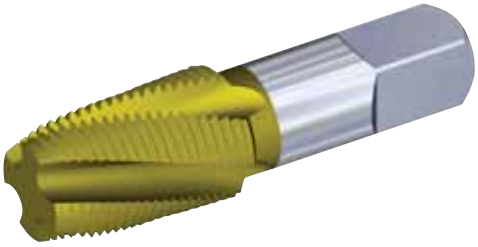
● first choice
○ alternate choice

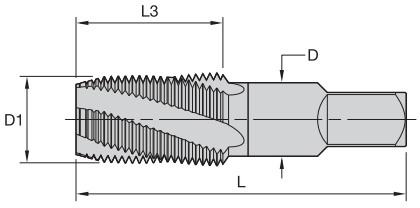
oxide	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40510200739	2 - 56	6.00	.44	—	.141	2	H2
40510200740	3 - 48	6.00	.50	—	.141	2	H2
40510200741	4 - 40	6.00	.24	.56	.141	2	H2
40510200742	6 - 32	6.00	.28	.69	.141	3	H3
40510200743	8 - 32	6.00	.28	.75	.168	3	H3
40510200744	10 - 24	6.00	.35	.88	.194	3	H3
40510200745	10 - 32	6.00	.28	.88	.194	3	H3
40510200746	1/4 - 20	6.00	.43	1.00	.255	3	H3
40510200747	1/4 - 28	6.00	.35	1.00	.255	3	H3
40510200748	5/16 - 18	6.00	.47	1.13	.318	3	H3
40510200749	5/16 - 24	6.00	.39	1.13	.318	3	H3
40510200750	3/8 - 16	6.00	.55	1.25	.381	3	H3
40510200751	3/8 - 24	6.00	.39	1.25	.381	3	H3
40510200752	7/16 - 14	6.00	.59	—	.323	3	H3
40510200753	7/16 - 20	6.00	.47	—	.323	3	H3
40510200754	1/2 - 13	6.00	.63	—	.367	3	H3
40510200755	1/2 - 20	6.00	.47	—	.367	3	H3

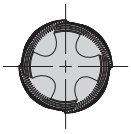
NOTE: K-SS taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

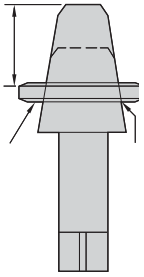
- Ground thread pipe taps are standard in American Standard Pipe Thread (NPT) and American Standard Dryseal Pipe Thread (NPTF).
- NPT threads require the use of a sealer such as Teflon® tape or pipe compound.
- NPTF dryseal threads give a pressure-tight joint without the use of sealer.
- Standard projection.
- Unique, slow, spiral-tap geometry for improved thread finish when tapping stainless steels.





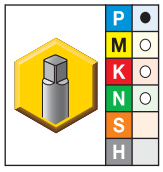


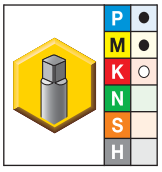




*Standard Projection
L1 Ring Gage
Basic Size

K-SS Spiral-Flute Pipe • Standard Chamfer





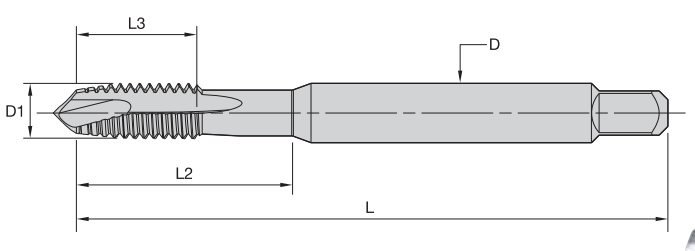
● first choice
○ alternate choice

TiN	oxide	D1 size	L	L3	D	number of flutes	thread type
40512201080	**40510200838**	1/16 - 27	2.13	.69	.313	4	NPT
–	**40510200855**	1/16 - 27	2.13	.69	.313	4	NPTF
40512201086	**40510200840**	1/8 - 27	2.13	.75	.313	4	NPT
40512201088	**40510200859**	1/8 - 27	2.13	.75	.313	4	NPTF
40512201085	**40510200839**	1/8 - 27	2.13	.75	.438	4	NPT
40512201087	**40510200856**	1/8 - 27	2.13	.75	.438	4	NPTF
40512201083	**40510200841**	1/4 - 18	2.44	1.06	.563	4	NPT
40512201084	**40510200860**	1/4 - 18	2.44	1.06	.563	4	NPTF
40512201091	**40510200842**	3/8 - 18	2.56	1.06	.703	4	NPT
40512201092	**40510200861**	3/8 - 18	2.56	1.06	.703	4	NPTF
40512201081	**40510200844**	1/2 - 14	3.13	1.38	.688	4	NPT
40512201082	**40510200862**	1/2 - 14	3.13	1.38	.688	4	NPTF
40512201090	**40510200846**	3/4 - 14	3.25	1.38	.906	4	NPT
–	**40510200863**	3/4 - 14	3.25	1.38	.906	4	NPTF
40512201089	**40510200848**	1 - 11 1/2	3.75	1.75	1.125	4	NPT
–	**40510200864**	1 - 11 1/2	3.75	1.75	1.125	4	NPTF

* Pipe tap projection is the distance the small end of the tap projects through an American National Standard L1 Pipe Thread Ring Gage.

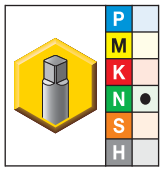
NOTE: Large shank available on D1=1/8–27.
For gage measurement projection, see technical page L287.







K-AL • Machine Screw and Fractional • Plug Chamfer • DIN Length

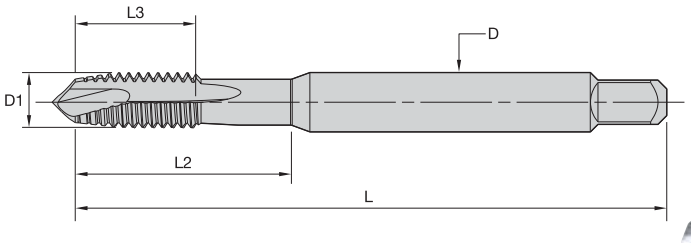


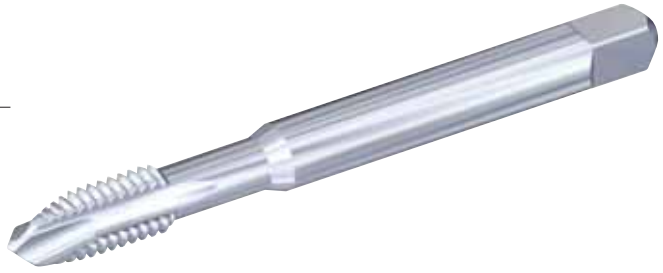
● first choice
○ alternate choice

nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40510286200	2 - 56	1.77	.28	.47	.141	2	H2
40510286201	4 - 40	2.21	.43	.71	.141	2	H2
40510286202	5 - 40	2.21	.43	.71	.141	3	H2
40510286203	6 - 32	2.21	.51	.79	.141	3	H3
40510286204	8 - 32	2.48	.51	.83	.168	3	H3
40510286205	10 - 24	2.76	.63	.98	.194	3	H3
40510286206	10 - 32	2.76	.63	.98	.194	3	H3
40510286207	1/4 - 20	3.15	.75	1.18	.255	3	H3
40510286208	1/4 - 20	3.15	.75	1.18	.255	3	H5
40510286209	1/4 - 28	3.15	.75	1.18	.255	3	H3
40510286211	1/4 - 28	3.15	.75	1.18	.255	3	H4
40510286212	5/16 - 18	3.54	.87	1.38	.318	3	H3
40510286213	5/16 - 18	3.54	.87	1.38	.318	3	H5
40510286214	5/16 - 24	3.54	.87	1.38	.318	3	H3
40510286215	5/16 - 24	3.54	.87	1.38	.318	3	H4
40510286216	3/8 - 16	3.94	.95	1.54	.381	3	H3
40510286217	3/8 - 16	3.94	.95	1.54	.381	3	H5
40510286218	3/8 - 24	3.54	.79	1.54	.381	3	H3
40510286219	3/8 - 24	3.54	.79	1.54	.381	3	H4
40510286222	7/16 - 14	3.94	.95	1.65	.323	3	H3
40510286221	7/16 - 14	3.94	.95	1.65	.323	3	H5
40510286220	7/16 - 20	3.94	.95	1.65	.323	3	H3
40510286223	7/16 - 20	3.94	.95	1.65	.323	3	H5
40510286224	1/2 - 13	4.33	1.14	1.77	.367	3	H3
40510286225	1/2 - 13	4.33	1.14	1.77	.367	3	H5
40510286226	1/2 - 20	3.94	.87	1.77	.367	3	H3
40510286227	1/2 - 20	3.94	.87	1.77	.367	3	H5

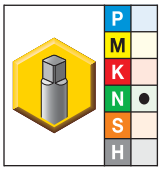
NOTE: K-AL taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







K-AL • Plug Chamfer • DIN Length • ANSI Shank • Metric

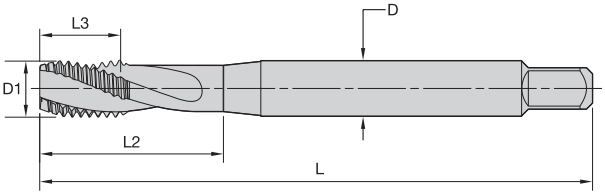


● first choice
○ alternate choice

nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40510286228	M3 x 0,5	2.21	.43	.71	.141	3	D3
40510286229	M3,5 x 0,6	2.21	.51	.79	.141	3	D4
40510286230	M4 x 0,7	2.48	.51	.83	.168	3	D4
40510286231	M5 x 0,8	2.76	.63	.98	.194	3	D4
40510286232	M6 x 1	3.15	.75	1.18	.255	3	D5
40510286233	M7 x 1	3.15	.75	1.18	.318	3	D5
40510286234	M8 x 1	3.54	.87	1.38	.318	3	D5
40510286235	M8 x 1,25	3.54	.87	1.38	.318	3	D5
40510286236	M10 x 1,25	3.94	.95	1.54	.381	3	D5
40510286237	M10 x 1,5	3.94	.95	1.54	.381	3	D6
40510286238	M12 x 1,25	3.94	.87	1.77	.367	3	D5
40510286239	M12 x 1,5	3.94	.87	1.77	.367	3	D5
40510286240	M12 x 1,75	4.33	1.14	1.77	.367	3	D6

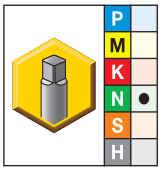
NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.







K-ALS • Machine Screw and Fractional • Semi-Bottoming Chamfer • DIN Length • ANSI Shank



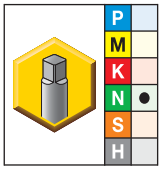
● first choice
○ alternate choice

nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40512201006	2 - 56	1.77	.28	.47	.141	3	H2
40512201008	4 - 40	2.21	.43	.71	.141	3	H2
40512201011	6 - 32	2.25	.51	.79	.141	3	H3
40512201013	8 - 32	2.48	.51	.83	.168	3	H3
40512201004	10 - 24	2.76	.63	.98	.194	3	H3
40512201005	10 - 32	2.76	.63	.98	.194	3	H3
40512201003	1/4 - 20	3.15	.75	1.18	.255	3	H3
40512201009	5/16 - 18	3.54	.87	1.38	.318	3	H3
40512201010	5/16 - 24	3.54	.87	1.38	.318	3	H3
40512201007	3/8 - 16	3.54	.95	1.54	.381	3	H3
40512201012	7/16 - 20	3.94	.95	1.65	.323	3	H3
40512201001	1/2 - 13	4.33	1.14	1.77	.367	3	H5
40512201002	1/2 - 20	3.94	.87	1.77	.367	3	H3

NOTE: K-ALS taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.



K-ALS • Semi-Bottoming Chamfer • DIN Length • ANSI Shank • Metric Sizes

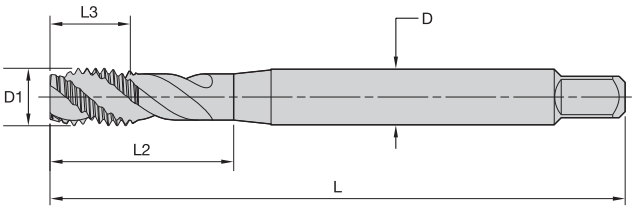


● first choice
○ alternate choice

nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40512201018	M3 x 0,5	2.21	.43	.71	.141	3	D3
40512201019	M4 x 0,7	2.48	.51	.83	.168	3	D4
40512201020	M5 x 0,8	2.76	.63	.98	.194	3	D4
40512201021	M6 x 1	3.15	.75	1.18	.255	3	D5
40512201022	M8 x 1,25	3.54	.87	1.38	.318	3	D5
40512201016	M10 x 1,5	3.94	.95	1.54	.381	3	D6
40512201017	M12 x 1,5	3.94	.87	1.50	.367	3	D5

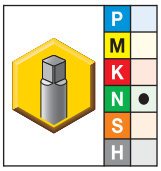
NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.







K-AL Spiral Flute • Machine Screw and Fractional • Semi-Bottoming Chamfer • DIN Length • ANSI Shank

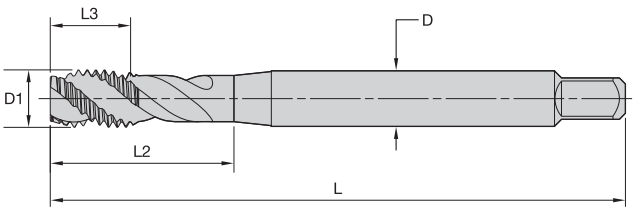


● first choice
○ alternate choice

nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40510286500	2 - 56	1.77	.28	.47	.141	2	H2
40510286501	4 - 40	2.21	.43	.71	.141	2	H2
40510286502	5 - 40	2.21	.43	.71	.141	3	H2
40510286503	6 - 32	2.21	.51	.79	.141	3	H3
40510286504	8 - 32	2.48	.51	.83	.168	3	H3
40510286505	10 - 24	2.76	.63	.98	.194	3	H3
40510286506	10 - 32	2.76	.63	.98	.194	3	H3
40510286507	1/4 - 20	3.15	.75	1.18	.255	3	H3
40510286508	1/4 - 20	3.15	.75	1.18	.255	3	H5
40510286509	1/4 - 28	3.15	.75	1.18	.255	3	H3
40510286511	1/4 - 28	3.15	.75	1.18	.255	3	H4
40512201014	5/16 - 18	3.54	.87	1.38	.318	3	H3
40510286513	5/16 - 18	3.54	.87	1.38	.318	3	H5
40510286514	5/16 - 24	3.54	.87	1.38	.318	3	H3
40510286515	5/16 - 24	3.54	.87	1.38	.318	3	H4
40510286516	3/8 - 16	3.94	.95	1.54	.381	3	H3
40510286517	3/8 - 16	3.94	.95	1.54	.381	3	H5
40510286518	3/8 - 24	3.54	.79	1.54	.381	3	H3
40510286519	3/8 - 24	3.54	.79	1.54	.381	3	H4
40510286520	7/16 - 14	3.94	.95	1.65	.323	3	H3
40510286521	7/16 - 14	3.94	.95	1.65	.323	3	H5
40510286522	7/16 - 20	3.94	.95	1.65	.323	3	H3
40510286523	7/16 - 20	3.94	.95	1.65	.323	3	H5
40510286524	1/2 - 13	4.33	1.14	1.77	.367	3	H3
40510286525	1/2 - 13	4.33	1.14	1.77	.367	3	H5
40510286526	1/2 - 20	3.94	.87	1.77	.367	3	H3
40510286527	1/2 - 20	3.94	.87	1.77	.367	3	H5

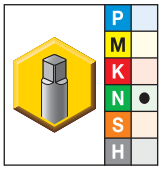
NOTE: K-AL taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







K-AL Spiral-Flute • Semi-Bottoming Chamfer • DIN Length • ANSI Shank • Metric Sizes

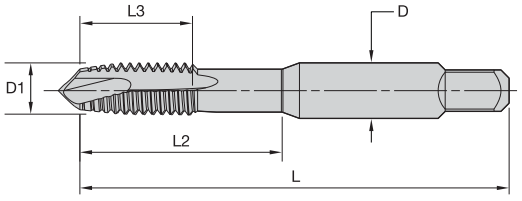


● first choice
○ alternate choice

nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40512201015	M3 x 0,5	2.21	.43	.79	.141	3	D3
40510286529	M3,5 x 0,6	2.21	.51	.83	.141	3	D4
40510286530	M4 x 0,7	2.48	.51	.83	.168	3	D4
40510286531	M5 x 0,8	2.76	.63	.98	.194	3	D4
40510286532	M6 x 1	3.15	.75	1.18	.255	3	D5
40510286533	M7 x 1	3.15	.75	1.18	.318	3	D5
40510286534	M8 x 1	3.54	.87	1.38	.318	3	D5
40510286535	M8 x 1,25	3.54	.87	1.38	.318	3	D5
40510286536	M10 x 1,25	3.94	.95	1.54	.381	3	D5
40510286537	M10 x 1,5	3.94	.95	1.54	.381	3	D6
40510286538	M12 x 1,25	3.94	.87	1.50	.367	3	D5
40510286539	M12 x 1,5	3.94	.87	1.50	.367	3	D5
40510286540	M12 x 1,75	4.33	1.14	2.05	.367	3	D6

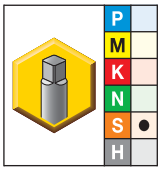
NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.

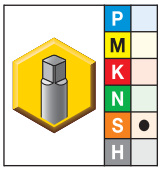






K-NI • Machine Screw and Fractional • Plug Chamfer



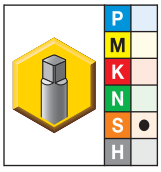


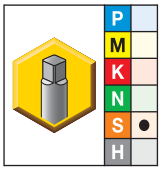
● first choice
○ alternate choice

TiCN	oxide/nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
—	40510200291	2 - 56	1.75	.26	—	.141	2	H2
40512201211	40510200292	4 - 40	1.88	.34	.56	.141	2	H2
—	40510200293	4 - 40	1.88	.34	.56	.141	2	H3
—	40510200295	4 - 48	1.88	.34	.56	.141	2	H2
—	40510200296	5 - 40	1.94	.37	.62	.141	3	H2
40512201214	40510200298	6 - 32	2.00	.41	.69	.141	3	H3
—	40510200299	6 - 32	2.00	.41	.69	.141	3	H5
—	40510200301	6 - 40	2.00	.41	.69	.141	3	H2
40512201217	40510200303	8 - 32	2.13	.45	.75	.168	3	H3
—	40512201202	8 - 32	2.13	.45	.75	.168	3	H4
—	40510200305	8 - 32	2.13	.45	.75	.168	3	H5
—	40510200306	8 - 32	2.13	.45	.75	.168	3	H6
40512201207	40510200308	10 - 24	2.38	.53	.88	.194	3	H3
—	40510200309	10 - 24	2.38	.53	.88	.194	3	H4
—	40510200310	10 - 24	2.38	.53	.88	.194	3	H5
—	40512201200	10 - 32	2.38	.53	.88	.194	3	H2
40512201208	40510200313	10 - 32	2.38	.53	.88	.194	3	H3
—	40510200314	10 - 32	2.38	.53	.88	.194	3	H4
—	40510200315	10 - 32	2.38	.53	.88	.194	3	H5
—	40510200316	10 - 32	2.38	.53	.88	.194	3	H6
40512201205	40510200318	1/4 - 20	2.50	.59	1.00	.255	3	H3
—	40510200319	1/4 - 20	2.50	.59	1.00	.255	3	H5
40512201206	40510200321	1/4 - 28	2.50	.59	1.00	.255	3	H3
—	40510200322	1/4 - 28	2.50	.59	1.00	.255	3	H4
—	40510200323	1/4 - 28	2.50	.59	1.00	.255	3	H5
—	40510200324	1/4 - 28	2.50	.59	1.00	.255	3	H6
—	40512201199	1/4 - 28	2.50	.59	1.00	.255	3	H7
40512201212	40510200326	5/16 - 18	2.72	.67	1.13	.318	3	H3

(continued)

(K-NI • Machine Screw and Fractional • Plug Chamfer continued)

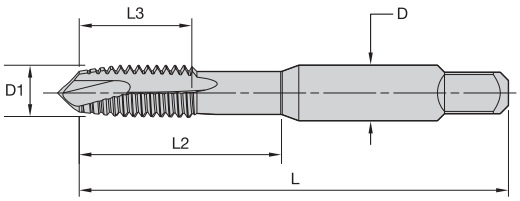




TiCN	oxide/nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
–	40510200327	5/16 - 18	2.72	.67	1.13	.318	3	H5
–	40510200328	5/16 - 18	2.72	.67	1.13	.318	3	H7
40512201213	40510200329	5/16 - 24	2.72	.67	1.13	.318	3	H3
–	40510200330	5/16 - 24	2.72	.67	1.13	.318	3	H4
–	40510200331	5/16 - 24	2.72	.67	1.13	.318	3	H5
–	40512201201	5/16 - 24	2.72	.67	1.13	.318	3	H6
–	40510200333	5/16 - 24	2.72	.67	1.13	.318	3	H7
40512201209	40510200334	3/8 - 16	2.94	.75	1.25	.381	3	H3
–	40510200335	3/8 - 16	2.94	.75	1.25	.381	3	H5
–	40510200336	3/8 - 16	2.94	.75	1.25	.381	3	H7
40512201210	40510200337	3/8 - 24	2.94	.75	1.25	.381	3	H3
–	40510200338	3/8 - 24	2.94	.75	1.25	.381	3	H4
–	40510200339	3/8 - 24	2.94	.75	1.25	.381	3	H5
–	40510200340	3/8 - 24	2.94	.75	1.25	.381	3	H6
–	40510200341	3/8 - 24	2.94	.75	1.25	.381	3	H7
40512201215	40510200342	7/16 - 14	3.16	.87	–	.323	3	H3
40512201216	40510200344	7/16 - 20	3.16	.87	–	.323	3	H3
–	40510200345	7/16 - 20	3.16	.87	–	.323	3	H5
40512201203	40510200346	1/2 - 13	3.38	.96	–	.367	3	H3
–	40510200347	1/2 - 13	3.38	.96	–	.367	3	H5
–	40510200348	1/2 - 13	3.38	.96	–	.367	3	H7
40512201204	40510200349	1/2 - 20	3.38	.96	–	.367	3	H3
–	40510200350	1/2 - 20	3.38	.96	–	.367	3	H5
–	40510200351	1/2 - 20	3.38	.96	–	.367	3	H7
–	40510200352	5/8 - 11	3.81	1.08	–	.480	3	H3
–	40510200353	5/8 - 18	3.81	1.08	–	.480	3	H3
–	40510200354	3/4 - 10	4.25	1.20	–	.590	3	H3
–	40510200355	3/4 - 16	4.25	1.20	–	.590	3	H3

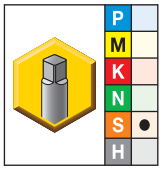
NOTE: K-NI taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

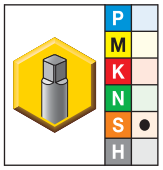






K-NI • Plug Chamfer • Metric ANSI



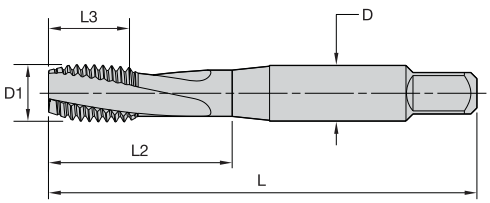


● first choice
○ alternate choice

TiCN	oxide/nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
–	40512201244	M2,5 x 0,45	1.81	.30	.50	.141	3	D3
40512201253	40512201245	M3 x 0,5	1.94	.37	.63	.141	3	D3
–	40510201036	M3,5 x 0,6	2.00	.41	.69	.141	3	D4
40512201254	40512201246	M4 x 0,7	2.13	.45	.75	.168	3	D4
40512201255	40512201247	M5 x 0,8	2.38	.53	.88	.194	3	D4
40512201256	40512201248	M6 x 1	2.50	.59	1.00	.255	3	D5
–	40510201040	M7 x 1	2.72	.67	1.13	.318	3	D5
–	40512201249	M8 x 1	2.72	.67	1.13	.318	3	D5
40512201257	40512201250	M8 x 1,25	2.72	.67	1.13	.318	3	D5
–	40510201043	M10 x 1,25	2.94	.75	1.25	.381	3	D5
40512201251	–	M10 x 1,5	2.94	.75	1.25	.381	3	D6
–	40510201044	M10 x 1,5	2.94	.75	1.25	.381	3	D6
–	40510201045	M12 x 1,25	3.38	.98	–	.367	3	D5
40512201252	40510201046	M12 x 1,75	3.38	.98	–	.367	3	D6

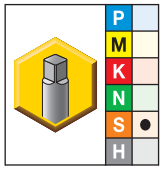
NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.

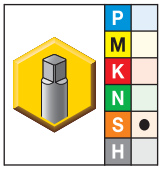






K-NI Spiral Flute • Machine Screw and Fractional • 3–4 Pitches Chamfer



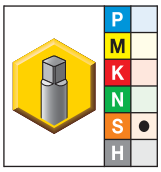


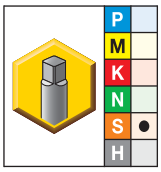
● first choice
○ alternate choice

TiCN	oxide/nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
–	40510200356	2 - 56	1.75	.44	–	.141	3	H2
–	40510200357	3 - 48	1.81	.50	–	.141	3	H2
40512201236	40510200358	4 - 40	1.88	.31	.56	.141	3	H2
–	40510200361	4 - 40	1.88	.31	.56	.141	3	H3
–	40510200364	4 - 40	1.88	.31	.56	.141	3	H5
–	40510200366	4 - 48	1.88	.31	.56	.141	3	H2
40512201237	40510200368	5 - 40	1.94	.31	.63	.141	3	H2
–	40510200370	6 - 32	2.00	.38	.69	.141	3	H2
40512201240	40510200372	6 - 32	2.00	.38	.69	.141	3	H3
–	40510200374	6 - 32	2.00	.38	.69	.141	3	H5
–	40510200376	6 - 32	2.00	.38	.69	.141	3	H7
–	40510200377	6 - 40	2.00	.38	.69	.141	3	H2
–	40512201226	8 - 32	2.13	.38	.75	.168	3	H2
40512201243	40510200381	8 - 32	2.13	.38	.75	.168	3	H3
–	40510200383	8 - 32	2.13	.38	.75	.168	3	H4
–	40510200384	8 - 32	2.13	.38	.75	.168	3	H5
–	40512201227	8 - 32	2.13	.38	.75	.168	3	H6
40512201232	40512201219	10 - 24	2.38	.50	.88	.194	3	H3
–	40510200390	10 - 24	2.38	.50	.88	.194	3	H4
–	40510200391	10 - 24	2.38	.50	.88	.194	3	H5
–	40510200393	10 - 24	2.38	.50	.88	.194	3	H7
–	40512201220	10 - 32	2.38	.50	.88	.194	3	H2
40512201233	40510200395	10 - 32	2.38	.50	.88	.194	3	H3
–	40510200398	10 - 32	2.38	.50	.88	.194	3	H5
–	40510200401	10 - 32	2.38	.50	.88	.194	3	H7
40512201230	40510200402	1/4 - 20	2.50	.63	1.00	.255	3	H3
–	40510200404	1/4 - 20	2.50	.63	1.00	.255	3	H5
40512201231	40510200407	1/4 - 28	2.50	.63	1.00	.255	3	H3
–	40510200409	1/4 - 28	2.50	.63	1.00	.255	3	H4
–	40510200413	1/4 - 28	2.50	.63	1.00	.255	3	H6
–	40510200414	1/4 - 28	2.50	.63	1.00	.255	3	H7
40512201238	40510200415	5/16 - 18	2.72	.69	1.13	.318	3	H3

(continued)

(K-NI Spiral Flute • Machine Screw and Fractional • 3–4 Pitches Chamfer continued)

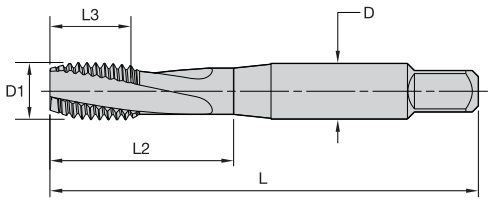




TiCN	oxide/nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
—	**40510200417**	5/16 - 18	2.72	.69	1.13	.318	3	H5
—	**40510200419**	5/16 - 18	2.72	.69	1.13	.318	3	H7
40512201239	**40510200420**	5/16 - 24	2.72	.69	1.13	.318	3	H3
—	**40510200422**	5/16 - 24	2.72	.69	1.13	.318	3	H4
—	**40510200424**	5/16 - 24	2.72	.69	1.13	.318	3	H5
—	**40510200426**	5/16 - 24	2.72	.69	1.13	.318	3	H6
—	**40510200427**	5/16 - 24	2.72	.69	1.13	.318	3	H7
40512201234	**40510200428**	3/8 - 16	2.94	.75	1.25	.381	3	H3
—	**40510200430**	3/8 - 16	2.94	.75	1.25	.381	3	H5
—	**40510200432**	3/8 - 16	2.94	.75	1.25	.381	3	H7
40512201235	**40510200433**	3/8 - 24	2.94	.75	1.25	.381	3	H3
—	**40510200435**	3/8 - 24	2.94	.75	1.25	.381	3	H4
—	**40510200437**	3/8 - 24	2.94	.75	1.25	.381	3	H5
—	**40510200439**	3/8 - 24	2.94	.75	1.25	.381	3	H6
—	**40510200440**	3/8 - 24	2.94	.75	1.25	.381	3	H7
40512201241	**40510200441**	7/16 - 14	3.16	.88	—	.323	3	H3
—	**40512201225**	7/16 - 14	3.16	.88	—	.323	3	H5
40512201242	**40510200445**	7/16 - 20	3.16	.88	—	.323	3	H3
—	**40510200447**	7/16 - 20	3.16	.88	—	.323	3	H5
40512201228	**40510200449**	1/2 - 13	3.38	.94	—	.367	3	H3
—	**40510200451**	1/2 - 13	3.38	.94	—	.367	3	H5
—	**40510200453**	1/2 - 13	3.38	.94	—	.367	3	H7
40512201229	**40510200454**	1/2 - 20	3.38	.94	—	.367	3	H3
—	**40510200456**	1/2 - 20	3.38	.94	—	.367	3	H5
—	**40510200458**	1/2 - 20	3.38	.94	—	.367	3	H7
—	**40510200459**	5/8 - 11	3.81	1.09	—	.480	4	H3
—	**40510200461**	5/8 - 18	3.81	1.09	—	.480	4	H3
—	**40510200463**	3/4 - 10	4.25	1.22	—	.590	4	H3
—	**40512201221**	3/4 - 10	4.25	1.22	—	.590	4	H5
—	**40510200465**	3/4 - 16	4.25	1.22	—	.590	4	H3
—	**40512201222**	3/4 - 16	4.25	1.22	—	.590	4	H5

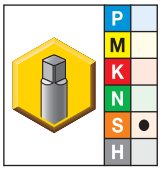
NOTE: K-NI taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







K-NI Spiral Flute • Machine Screw and Fractional • Full-Bottoming Chamfer

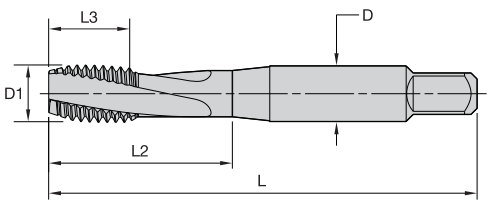


● first choice
○ alternate choice

oxide/nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40510200359	4 - 40	1.88	.31	.56	.141	3	H2
40510200362	4 - 40	1.88	.31	.56	.141	3	H3
40510200365	4 - 40	1.88	.31	.56	.141	3	H5
40510200367	4 - 48	1.88	.31	.56	.141	3	H2
40510200369	5 - 40	1.94	.31	.63	.141	3	H2
40510200373	6 - 32	2.00	.38	.69	.141	3	H3
40510200375	6 - 32	2.00	.38	.69	.141	3	H5
40510200378	6 - 40	2.00	.28	.69	.141	3	H2
40510200380	8 - 32	2.13	.38	.75	.168	3	H2
40510200382	8 - 32	2.13	.38	.75	.168	3	H3
40510200389	10 - 24	2.38	.50	.88	.194	3	H3
40510200396	10 - 32	2.38	.50	.88	.194	3	H3
40510200405	1/4 - 20	2.50	.63	1.00	.255	3	H5
40510200403	1/4 - 20	2.50	.63	1.00	.255	3	H3
40510200408	1/4 - 28	2.50	.63	1.00	.255	3	H3
40512201218	1/4 - 28	2.50	.63	1.00	.255	3	H4
40510200416	5/16 - 18	2.72	.69	1.13	.318	3	H3
40510200421	5/16 - 24	2.72	.69	1.13	.318	3	H3
40510200423	5/16 - 24	2.72	.69	1.13	.318	3	H4
40510200429	3/8 - 16	2.94	.75	1.25	.381	3	H3
40510200431	3/8 - 16	2.94	.75	1.25	.381	3	H5
40510200434	3/8 - 24	2.94	.75	1.25	.381	3	H3
40510200438	3/8 - 24	2.94	.75	1.25	.381	3	H5
40510200442	7/16 - 14	3.16	.88	—	.323	3	H3
40510200444	7/16 - 14	3.16	.88	—	.323	3	H5
40510200446	7/16 - 20	3.16	.88	—	.323	3	H3
40510200448	7/16 - 20	3.16	.88	—	.323	3	H5
40510200450	1/2 - 13	3.38	.94	—	.367	3	H3
40510200452	1/2 - 13	3.38	.94	—	.367	3	H5
40510200455	1/2 - 20	3.38	.94	—	.367	3	H3
40510200457	1/2 - 20	3.38	.94	—	.367	3	H5
40510200460	5/8 - 11	3.81	1.09	—	.480	4	H3
40512201223	5/8 - 11	3.81	1.09	—	.480	4	H5
40512201224	5/8 - 11	3.81	1.09	—	.480	4	H7
40510200462	5/8 - 18	3.81	1.09	—	.480	4	H3
40510200464	3/4 - 10	4.25	1.22	—	.590	4	H3

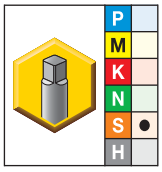
NOTE: K-NI taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

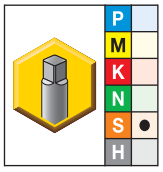






K-NI Spiral Flute • 3–4 Pitches Chamfer • Metric ANSI



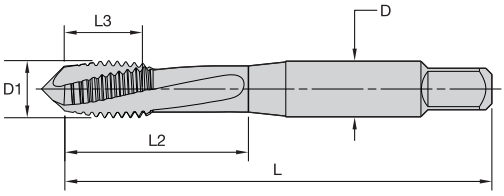


● first choice
○ alternate choice

TiCN	oxide/nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
–	40512201260	M2,5 x 0,45	1.81	.50	–	.141	3	D3
40512201268	40510201061	M3 x 0,5	1.94	.31	.63	.141	3	D3
–	40510201062	M3,5 x 0,6	2.00	.28	.63	.141	3	D4
–	40512201261	M4 x 0,7	2.13	.38	.75	.168	3	D4
40512201269	40512201262	M5 x 0,8	2.38	.50	.88	.194	3	D4
40512201270	40512201263	M6 x 1	2.50	.63	1.00	.255	3	D5
–	40510201066	M7 x 1	2.72	.43	1.13	.318	3	D5
–	40512201264	M8 x 1	2.72	.69	1.13	.318	3	D5
40512201271	40512201265	M8 x 1,25	2.72	.69	1.13	.318	3	D5
–	40512201258	M10 x 1,25	2.94	.75	1.25	.381	3	D5
–	40510201070	M10 x 1,5	2.94	.75	1.25	.381	3	D6
40512201266	–	M10 x 1,5	2.94	.75	1.25	.381	3	D6
–	40510201071	M12 x 1,25	3.38	.55	–	.367	3	D5
40512201267	40512201259	M12 x 1,75	3.38	.94	–	.367	3	D6

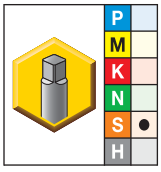
NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.







K-TI • Machine Screw and Fractional • Plug Chamfer

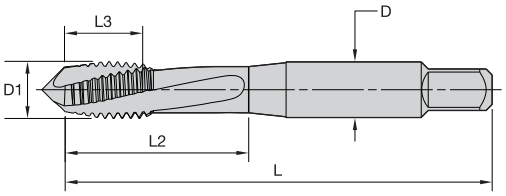


● first choice
○ alternate choice

nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40512201272	2 - 56	1.75	.26	.44	.141	2	H2
40510200581	4 - 40	1.88	.34	.56	.141	3	H2
40510200582	5 - 40	1.94	.37	.63	.141	3	H2
40510200583	6 - 32	2.00	.41	.69	.141	3	H3
40510200584	6 - 32	2.00	.41	.69	.141	3	H5
40510200585	8 - 32	2.13	.45	.75	.168	3	H3
40510200586	8 - 32	2.13	.45	.75	.168	3	H5
40510200587	10 - 24	2.38	.53	.88	.194	3	H3
40510200588	10 - 24	2.38	.53	.88	.194	3	H5
40510200589	10 - 32	2.38	.53	.88	.194	3	H3
40510200590	10 - 32	2.38	.53	.88	.194	3	H5
40510200591	1/4 - 20	2.50	.59	1.00	.255	3	H3
40510200592	1/4 - 20	2.50	.59	1.00	.255	3	H5
40510200593	1/4 - 28	2.50	.59	1.00	.255	3	H3
40510200594	1/4 - 28	2.50	.59	1.00	.255	3	H5
40510200595	5/16 - 18	2.72	.67	1.13	.318	3	H3
40510200596	5/16 - 18	2.72	.67	1.13	.318	3	H5
40510200598	5/16 - 24	2.72	.67	1.13	.318	3	H5
40510200599	3/8 - 16	2.94	.75	1.25	.381	3	H3
40510200600	3/8 - 16	2.94	.75	1.25	.381	3	H5
40510200601	3/8 - 24	2.94	.75	1.25	.381	3	H3
40510200602	3/8 - 24	2.94	.75	1.25	.381	3	H5
40510200603	7/16 - 14	3.16	.87	—	.323	3	H3
40510200604	7/16 - 14	3.16	.87	—	.323	3	H5
40510200605	7/16 - 20	3.16	.87	—	.323	3	H3
40510200607	1/2 - 13	3.38	.98	—	.367	3	H3
40510200609	1/2 - 20	3.38	.98	—	.367	3	H3

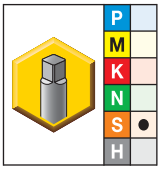
NOTE: K-TI taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







K-TI • Plug Chamfer • Metric ANSI

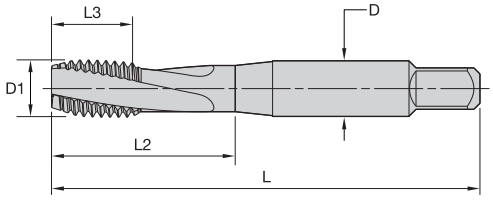


● first choice
○ alternate choice

nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40512201278	M2,5 x 0,45	1.81	.30	.50	.141	3	D3
40512201280	M3 x 0,5	1.94	.37	.63	.141	3	D3
40512201279	M3,5 x 0,6	2.00	.41	.69	.141	3	D4
40512201281	M4 x 0,7	2.13	.45	.75	.168	3	D4
40512201282	M5 x 0,8	2.38	.53	.88	.194	3	D4
40512201283	M6 x 1	2.50	.59	1.00	.255	3	D5
40512201284	M7 x 1	2.72	.67	1.13	.318	3	D5
40510201028	M8 x 1	2.72	.67	1.13	.318	3	D5
40512201285	M8 x 1,25	2.72	.67	1.13	.318	3	D5
40510201030	M10 x 1,25	2.94	.75	1.25	.381	3	D5
40512201277	M10 x 1,5	2.94	.75	1.25	.381	3	D6
40510201032	M12 x 1,25	3.38	.98	—	.367	3	D5
40510201033	M12 x 1,75	3.38	.98	—	.367	3	D6

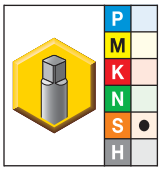
NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.







K-TI Spiral-Flute • Machine Screw and Fractional • 3–4 Pitches Chamfer

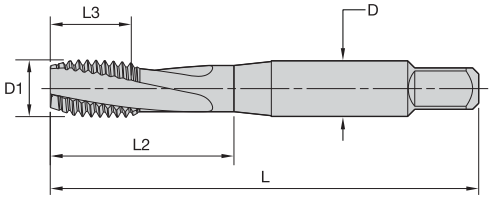


● first choice
○ alternate choice

nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40512201275	2 - 56	1.75	.16	.44	.141	3	H2
40510200611	4 - 40	1.88	.24	.56	.141	3	H2
40512201276	4 - 40	1.88	.24	.56	.141	3	H4
40510200614	5 - 40	1.94	.24	.63	.141	3	H3
40510200615	6 - 32	2.00	.28	.69	.141	3	H3
40510200617	6 - 32	2.00	.28	.69	.141	3	H5
40510200618	8 - 32	2.13	.28	.75	.168	3	H3
40510200620	8 - 32	2.13	.28	.75	.168	3	H5
40510200621	10 - 24	2.38	.35	.88	.194	3	H3
40510200623	10 - 32	2.38	.28	.88	.194	3	H3
40510200625	10 - 32	2.38	.28	.88	.194	3	H5
40510200626	1/4 - 20	2.50	.43	1.00	.255	3	H3
40510200628	1/4 - 20	2.50	.43	1.00	.255	3	H5
40510200630	1/4 - 28	2.50	.35	1.00	.255	3	H3
40512201274	1/4 - 28	2.50	.35	1.00	.255	3	H5
40510200634	5/16 - 18	2.72	.47	1.13	.318	3	H3
40510200636	5/16 - 18	2.72	.47	1.13	.318	3	H5
40510200638	5/16 - 24	2.72	.39	1.13	.318	3	H3
40510200640	5/16 - 24	2.72	.39	1.13	.318	3	H5
40510200641	3/8 - 16	2.94	.55	1.25	.381	3	H3
40510200643	3/8 - 16	2.94	.55	1.25	.381	3	H5
40510200645	3/8 - 24	2.94	.39	1.25	.381	3	H3
40510200647	3/8 - 24	2.94	.39	1.25	.381	3	H5
40510200648	7/16 - 14	3.16	.59	—	.323	3	H3
40510200650	7/16 - 20	3.16	.47	—	.323	3	H3
40510200653	1/2 - 13	3.38	.63	—	.367	3	H3
40512201273	1/2 - 20	3.38	.47	—	.367	3	H3
40510200658	1/2 - 20	3.38	.47	—	.367	3	H5

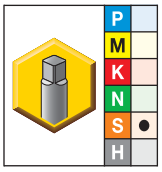
NOTE: K-TI taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







K-TI Spiral-Flute • Machine Screw and Fractional • Full Bottoming Chamfer

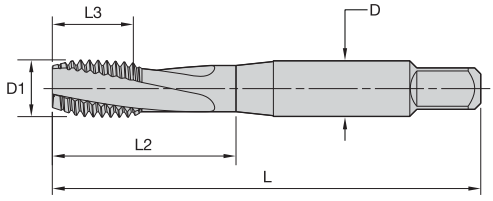


● first choice
○ alternate choice

nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40510200612	4 - 40	1.88	.24	.56	.141	3	H4
40510200616	6 - 32	2.00	.28	.69	.141	3	H3
40510200619	8 - 32	2.13	.28	.75	.168	3	H3
40510200622	10 - 24	2.38	.35	.88	.194	3	H3
40510200624	10 - 32	2.38	.28	.88	.194	3	H3
40510200627	1/4 - 20	2.50	.43	1.00	.255	3	H3
40510200631	1/4 - 28	2.50	.35	1.00	.255	3	H3
40510200635	5/16 - 18	2.72	.47	1.13	.318	3	H3
40510200637	5/16 - 18	2.72	.47	1.13	.318	3	H5
40510200639	5/16 - 24	2.72	.39	1.13	.318	3	H3
40510200642	3/8 - 16	2.94	.55	1.25	.381	3	H3
40510200644	3/8 - 16	2.94	.55	1.25	.381	3	H5
40510200646	3/8 - 24	2.94	.39	1.25	.381	3	H3
40510200649	7/16 - 14	3.16	.59	—	.323	3	H3
40510200651	7/16 - 20	3.16	.47	—	.323	3	H3
40510200654	1/2 - 13	3.38	.63	—	.367	3	H3
40510200657	1/2 - 20	3.38	.47	—	.367	3	H3

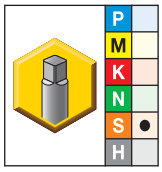
NOTE: K-TI taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







K-TI Spiral-Flute • 3–4 Pitches Chamfer • Metric ANSI

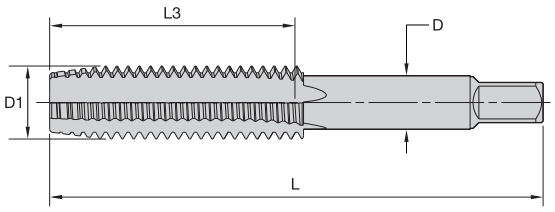


● first choice
○ alternate choice

nitride	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
40512201287	M2,5 x 0,45	1.81	.30	.50	.141	3	D3
40512201288	M3 x 0,5	1.94	.20	.63	.141	3	D3
40510201049	M3,5 x 0,6	2.00	.28	.75	.141	3	D4
40512201289	M4 x 0,7	2.13	.28	.75	.168	3	D4
40512201290	M5 x 0,8	2.38	.35	.88	.194	3	D4
40512201291	M6 x 1	2.50	.43	1.00	.255	3	D5
40512201292	M7 x 1	2.72	.43	1.13	.318	3	D5
40510201054	M8 x 1	2.72	.47	1.13	.318	3	D5
40512201293	M8 x 1,25	2.72	.47	1.13	.318	3	D5
40510201056	M10 x 1,25	2.94	.47	1.25	.381	3	D5
40512201286	M10 x 1,5	2.94	.51	1.25	.381	3	D6
40510201058	M12 x 1,25	3.38	.55	—	.367	3	D5
40510201059	M12 x 1,75	3.38	.59	—	.367	3	D6

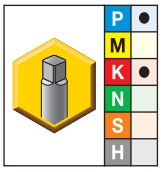
NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.







K-MS • Machine Screw and Fractional • Plug Chamfer

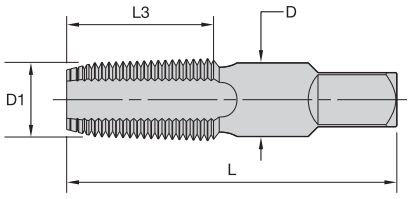


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
40510200802	4 - 40	1.88	.56	.141	3	H2
40510200805	5 - 40	1.94	.63	.141	3	H2
40510200808	6 - 32	2.00	.69	.141	3	H3
40510200809	8 - 32	2.13	.75	.168	3	H3
40510200811	10 - 24	2.38	.88	.194	3	H3
40510200814	10 - 32	2.38	.88	.194	3	H3
40510200819	1/4 - 20	2.50	1.00	.255	3	H3
40510200820	1/4 - 28	2.50	1.00	.255	3	H3
40510200821	5/16 - 18	2.72	1.13	.318	4	H3
40510200822	5/16 - 24	2.72	1.13	.318	4	H3
40510200823	3/8 - 16	2.94	1.25	.381	4	H3
40510200824	3/8 - 24	2.94	1.25	.381	4	H3
40510200825	7/16 - 14	3.16	1.44	.323	4	H3
40510200827	1/2 - 13	3.38	1.66	.367	4	H3
40510200828	1/2 - 20	3.38	1.66	.367	4	H3
40510200829	5/8 - 11	3.81	1.81	.480	4	H3
40510200830	5/8 - 18	3.81	1.81	.480	4	H3
40510200831	3/4 - 10	4.25	2.00	.590	4	H3
40510200832	3/4 - 16	4.25	2.00	.590	4	H3

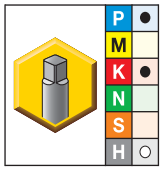
NOTE: Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







K-MS Pipe • NPT Pipe • Chamfer 2 1/2–3 1/2 Pitches

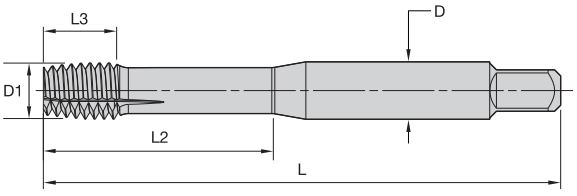


● first choice
○ alternate choice

uncoated	D1 size	L	L3	L2	D	number of flutes
40510200833	1/8 - 27	2.13	.75	.75	.313	4
40510200834	1/4 - 18	2.44	1.06	1.06	.563	4
40510200835	3/8 - 18	2.56	1.06	1.06	.703	4
40510200836	1/2 - 14	3.13	1.38	1.38	.367	4
40510200837	3/4 - 14	3.25	1.38	1.38	.906	5

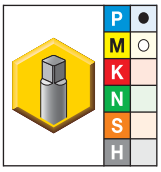
NOTE: Pipe tap projection is the distance the small end of the tap projects through an American National Standard L1 Pipe Thread Ring Gage. For gage measurement projection, see technical page L287.







K-TLD • Machine Screw and Fractional • Plug Entry Taper • DIN Length • Minimum Quantity Lubrication (MQL)

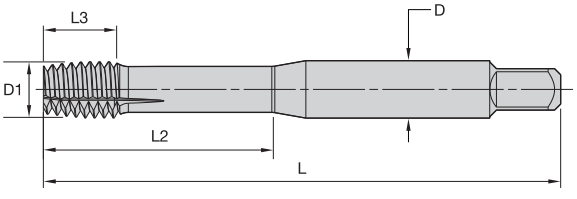


● first choice
○ alternate choice

TiCN	D1 size	L	L3	L2	D	number of lube grooves	pitch diameter limit
40512201194	2 - 56	1.77	.35	.35	.141	—	H3
40512201195	4 - 40	2.21	.43	.71	.141	—	H5
40512201196	8 - 32	2.48	.51	.83	.168	—	H5
40512201192	10 - 24	2.76	.63	.98	.194	—	H6
40512201193	10 - 32	2.76	.63	.98	.194	—	H6
40512201191	1/4 - 20	3.15	.75	1.18	.255	—	H6

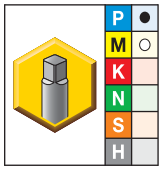
NOTE: K-TLD form taps can be run 1.5–2x faster than the tapping speeds recommended for thread cutting taps.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







K-TLD • Plug Entry Taper • Minimum Quantity Lubrication (MQL) • DIN Length • ANSI Shank • Metric Sizes

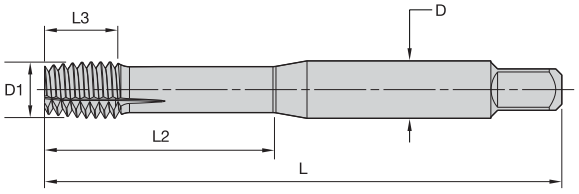


● first choice
○ alternate choice

TiCN	D1 size	L	L3	L2	D	number of lube grooves	pitch diameter limit
40512201197	M3 x 0,5	2.21	.43	.71	.141	—	D5
40512201198	M6 x 1	3.15	.75	1.18	.255	—	D8

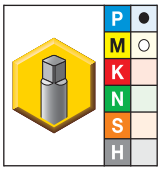
NOTE: K-TLD form taps can be run 1.5–2x faster than the tapping speeds recommended for thread cutting taps.
Metric tap shank dimensions are equivalent to inch taps.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.







K-TL • Machine Screw and Fractional • Bottom Entry Taper • DIN Length

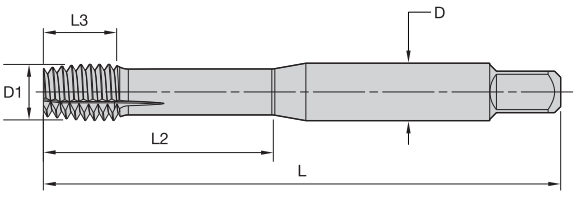


● first choice
○ alternate choice

TiCN	D1 size	L	L3	L2	D	number of lube grooves	pitch diameter limit
40512201160	2 - 56	1.77	.35	—	.141	—	H3
40512201164	3 - 48	1.97	.28	.49	.141	—	H3
40512201165	4 - 40	2.21	.43	.71	.141	—	H3
40512201166	4 - 40	2.21	.43	.71	.141	—	H5
40512201170	6 - 32	2.21	.51	.79	.141	2	H3
40512201171	6 - 32	2.21	.51	.79	.141	2	H5
40512201172	8 - 32	2.48	.51	.83	.168	2	H3
40512201173	8 - 32	2.48	.51	.83	.168	2	H5
40512201155	10 - 24	2.76	.63	.98	.194	2	H4
40512201157	10 - 24	2.76	.63	.98	.194	2	H6
40512201158	10 - 32	2.76	.63	.98	.194	2	H4
40512201159	10 - 32	2.76	.63	.98	.194	2	H6
40512201151	1/4 - 20	3.15	.75	1.18	.255	2	H4
40512201152	1/4 - 20	3.15	.75	1.18	.255	2	H6
40512201153	1/4 - 28	3.15	.75	1.18	.255	2	H4
40512201154	1/4 - 28	3.15	.75	1.18	.255	2	H6
40512201167	5/16 - 18	3.54	.87	1.38	.318	3	H5
40512201168	5/16 - 18	3.54	.87	1.38	.318	3	H7
40512201169	5/16 - 24	3.54	.87	1.38	.318	3	H7
40512201161	3/8 - 16	3.94	.95	1.54	.381	3	H5
40512201162	3/8 - 16	3.94	.95	1.54	.381	3	H7
40512201163	3/8 - 24	3.94	.79	1.54	.381	3	H5
40512201149	1/2 - 13	4.33	1.14	—	.367	4	H5
40512201150	1/2 - 13	4.33	1.14	—	.367	4	H7

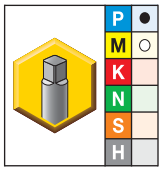
NOTE: K-TL form taps can be run 1.5–2x faster than the tapping speeds recommended for thread cutting taps.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.
Made to DIN tap lengths, ANSI shank dimensions.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







K-TL • Bottom Entry Taper • DIN Length • ANSI Shank • Metric Sizes

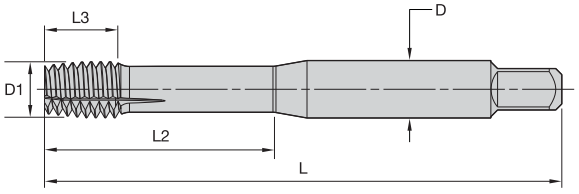


● first choice
○ alternate choice

TiCN	D1 size	L	L3	L2	D	number of lube grooves	pitch diameter limit
40512201186	M3 x 0,5	2.21	.43	.71	.141	2	D5
40512201185	M3,5 x 0,6	2.21	.51	.79	.141	2	D6
40512201187	M4 x 0,7	2.48	.51	.83	.168	2	D6
40512201188	M5 x 0,8	2.76	.63	.98	.194	2	D7
40512201189	M6 x 1	3.15	.75	1.18	.255	2	D8
40512201190	M8 x 1,25	3.54	.87	1.38	.318	3	D9
40512201183	M10 x 1,5	3.94	.95	1.54	.381	4	D10
40512201184	M12 x 1,75	4.33	1.14	—	.367	4	D11

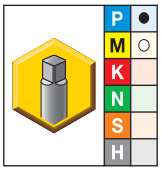
NOTE: K-TL form taps can be run 1.5–2x faster than the tapping speeds recommended for thread cutting taps.
Metric tap shank dimensions are equivalent to inch taps.
Made to DIN tap lengths, ANSI shank dimensions.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.







K-TL • Machine Screw and Fractional • Plug Entry Taper • DIN Length

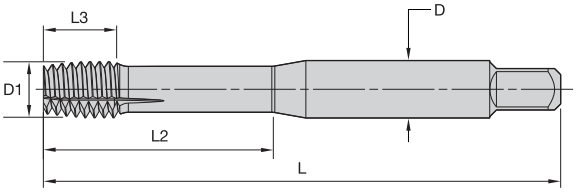


● first choice
○ alternate choice

TiCN	D1 size	L	L3	L2	D	number of lube grooves	pitch diameter limit
40512201160	2 - 56	1.77	.35	—	.141	—	H3
40512201164	3 - 48	1.97	.28	.49	.141	—	H3
40512201165	4 - 40	2.21	.43	.71	.141	—	H3
40512201166	4 - 40	2.21	.43	.71	.141	—	H5
40512201170	6 - 32	2.21	.51	.79	.141	2	H3
40512201171	6 - 32	2.21	.51	.79	.141	2	H5
40512201172	8 - 32	2.48	.51	.83	.168	2	H3
40512201173	8 - 32	2.48	.51	.83	.168	2	H5
40512201155	10 - 24	2.76	.63	.98	.194	2	H4
40512201157	10 - 24	2.76	.63	.98	.194	2	H6
40512201158	10 - 32	2.76	.63	.98	.194	2	H4
40512201159	10 - 32	2.76	.63	.98	.194	2	H6
40512201151	1/4 - 20	3.15	.75	1.18	.255	2	H4
40512201152	1/4 - 20	3.15	.75	1.18	.255	2	H6
40512201153	1/4 - 28	3.15	.75	1.18	.255	2	H4
40512201154	1/4 - 28	3.15	.75	1.18	.255	2	H6
40512201167	5/16 - 18	3.54	.87	1.38	.318	3	H5
40512201168	5/16 - 18	3.54	.87	1.38	.318	3	H7
40512201169	5/16 - 24	3.54	.87	1.38	.318	3	H7
40512201161	3/8 - 16	3.94	.95	1.54	.381	3	H5
40512201162	3/8 - 16	3.94	.95	1.54	.381	3	H7
40512201163	3/8 - 24	3.94	.79	1.54	.381	3	H5
40512201149	1/2 - 13	4.33	1.14	—	.367	4	H5
40512201150	1/2 - 13	4.33	1.14	—	.367	4	H7

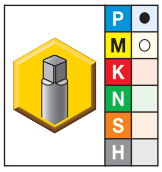
NOTE: K-TL form taps can be run 1.5–2x faster than the tapping speeds recommended for thread cutting taps.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.
Made to DIN tap lengths, ANSI shank dimensions.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







K-TL • Plug Entry Taper • DIN Length • ANSI Shank • Metric Sizes



● first choice
○ alternate choice

TiCN	D1 size	L	L3	L2	D	number of lube grooves	pitch diameter limit
40512201179	M3 x 0,5	2.21	.43	.71	.141	2	D5
40512201180	M4 x 0,7	2.48	.51	.83	.168	2	D6
40512201181	M6 x 1	3.15	.75	1.18	.255	2	D8
40512201182	M8 x 1,25	3.54	.87	1.38	.318	3	D9
40512201174	M10 x 1,25	3.94	.95	1.54	.381	4	D9
40512201175	M10 x 1,5	3.94	.95	1.54	.381	4	D10
40512201176	M12 x 1,25	3.94	.87	—	.367	4	D9
40512201177	M12 x 1,5	3.94	.87	—	.367	4	D9
40512201178	M12 x 1,75	4.33	1.14	—	.367	4	D11

NOTE: K-TL form taps can be run 1.5–2x faster than the tapping speeds recommended for thread cutting taps.
Metric tap shank dimensions are equivalent to inch taps.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.

Metric

Material Group		Through Holes				Blind Holes			
			Range — m/min				Range — m/min		
		Tap Style	min	Starting Value	max	Tap Style	min	Starting Value	max
P	1	K-SS Spiral Point	15	**18**	23	K-SS Spiral Flute	7	**9**	11
		K-TLD Forming	15	**18**	27	K-TLD Forming	7	**9**	14
	2	K-SS Spiral Point	11	**14**	17	K-SS Spiral Flute	5	**7**	9
		K-TLD Forming	11	**14**	21	K-TLD Forming	5	**7**	10
	3	K-SS Spiral Point	7	**9**	11	K-SS Spiral Flute	4	**5**	6
	4	K-MS Hand	3	**4**	5	K-MS Hand	1	**2**	2
	5	K-SS Spiral Point	6	**8**	10	K-SS Spiral Flute	3	**4**	5
	6	K-NI Spiral Point	4	**5**	7	K-NI Spiral Flute	2	**3**	3
M	1	K-SS Spiral Point	7	**9**	11	K-SS Spiral Flute	4	**5**	6
	2	K-SS Spiral Point	6	**8**	10	K-SS Spiral Flute	3	**4**	5
	3	K-SS Spiral Point	5	**6**	8	K-SS Spiral Flute	2	**3**	4
K	1	K-NI Spiral Point	24	**30**	38	K-NI Spiral Flute	12	**15**	19
	2	K-SS Spiral Point	21	**26**	32	K-SS Spiral Flute	10	**13**	16
	3	K-NI Spiral Point	18	**23**	29	K-NI Spiral Flute	9	**11**	14
N	1	K-AL Spiral Point	29	**37**	46	K-AL Spiral Flute	15	**18**	23
		K-TLD Forming	29	**37**	55	K-TLD Forming	15	**18**	27
	2	K-AL Spiral Point	24	**30**	38	K-ALS Spiral Flute	12	**15**	19
		K-TLD Forming	24	**30**	46	K-TLD Forming	12	**15**	23
	4	K-AL Spiral Point	5	**6**	8	K-AL Spiral Flute	2	**3**	4
S	1	K-SS Spiral Point	6	**8**	10	K-SS Spiral Flute	3	**4**	5
	2	K-NI Spiral Point	2	**3**	4	K-NI Spiral Flute	1	**2**	2
	3	K-NI Spiral Point	2	**2**	3	K-NI Spiral Flute	1	**1**	2
	4	K-TI LH Spiral Flute	2	**2**	3	K-TI RH Spiral Flute	1	**1**	2

NOTE: Increase speed by up to 50% when using coated taps (TiN, TiCN, TiN+CrC/C).

Inch

Material Group		Through Holes				Blind Holes			
			Range — SFM				Range — SFM		
		Tap Style	min	Starting Value	max	Tap Style	min	Starting Value	max
P	1	K-SS Spiral Point	48	**60**	75	K-SS Spiral Flute	24	**30**	38
		K-TLD Forming	48	**60**	90	K-TLD Forming	24	**30**	45
	2	K-SS Spiral Point	36	**45**	56	K-SS Spiral Flute	18	**23**	28
		K-TLD Forming	36	**45**	68	K-TLD Forming	18	**23**	34
	3	K-SS Spiral Point	24	**30**	38	K-SS Spiral Flute	12	**15**	19
	4	K-MS Hand	10	**12**	15	K-MS Hand	5	**6**	8
	5	K-SS Spiral Point	20	**25**	31	K-SS Spiral Flute	10	**13**	16
	6	K-NI Spiral Point	14	**18**	23	K-NI Spiral Flute	7	**9**	11
M	1	K-SS Spiral Point	24	**30**	38	K-SS Spiral Flute	12	**15**	19
	2	K-SS Spiral Point	20	**25**	31	K-SS Spiral Flute	10	**13**	16
	3	K-SS Spiral Point	16	**20**	25	K-SS Spiral Flute	8	**10**	13
K	1	K-NI Spiral Point	80	**100**	125	K-NI Spiral Flute	40	**50**	63
	2	K-SS Spiral Point	68	**85**	106	K-SS Spiral Flute	34	**43**	53
	3	K-NI Spiral Point	60	**75**	94	K-NI Spiral Flute	30	**38**	47
N	1	K-AL Spiral Point	96	**120**	150	K-AL Spiral Flute	48	**60**	75
		K-TLD Forming	96	**120**	180	K-TLD Forming	48	**60**	90
	2	K-AL Spiral Point	80	**100**	125	K-ALS Spiral Flute	40	**50**	63
		K-TLD Forming	80	**100**	150	K-TLD Forming	40	**50**	75
	4	K-AL Spiral Point	16	**20**	25	K-AL Spiral Flute	8	**10**	13
S	1	K-SS Spiral Point	20	**25**	31	K-SS Spiral Flute	10	**13**	16
	2	K-NI Spiral Point	8	**10**	13	K-NI Spiral Flute	4	**5**	6
	3	K-NI Spiral Point	6	**8**	10	K-NI Spiral Flute	3	**4**	5
	4	K-TI LH Spiral Flute	6	**8**	10	K-TI RH Spiral Flute	3	**4**	5

NOTE: Increase speed by up to 50% when using coated taps (TiN, TiCN, TiN+CrC/C).



General-Purpose Taps

Production Taps

Kennametal offers an extensive line of thread-cutting and thread-forming taps for any industrial application, manufactured using the highest quality materials and workmanship since 1872.

Alternate Coatings

Kennametal's in-house tool coating capabilities lead the industry! Choose from a wide range of sizes, tap limits, chamfers, and styles for through and blind holes.

New Additions to the General Purpose Line

New T920 Series Spiral-Point Taps

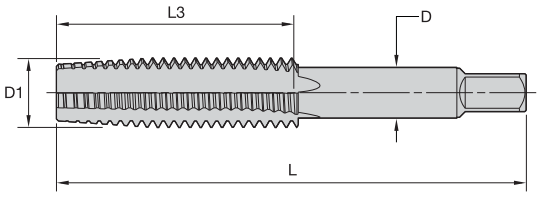
- The new T920 series spiral point taps have an optimized flute design for lower tapping torque and improved neck design for more efficient coolant flow.
- Higher quality thread and tool life.
- Enhanced performance with tool life at least 35% better than current Spiral Point taps.
- Uncoated, TiCN, and TiN+CrC/C coatings available for tapping a broad range of materials.

New KHSST Forming Taps

- The next generation of forming taps.
- Made from vanadium high-speed steel for extending wear life and better part finish.
- New tap lobe design improves thread forming in ductile steels and non-ferrous materials for better tool life.
- Necked design with short thread length for tapping at reduced torque levels.
- Plug and bottoming chamfers for form tapping without troublesome chips that clog and break taps.
- Performance-enhancing surface treatment available as stock standards with alternate coatings available as stocks modifications.

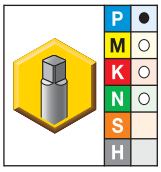








KHSST Hand • Machine Screw Sizes • Taper Chamfer Tap

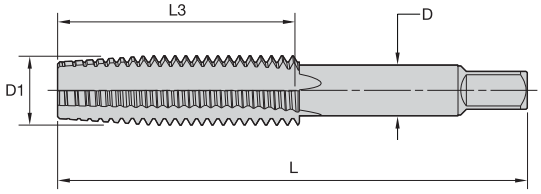


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
KHSST28370	0 - 80	1.63	.31	.141	2	H1
KHSST28378	2 - 56	1.75	.44	.141	3	H2
KHSST28382	3 - 48	1.81	.50	.141	3	H2
KHSST08086	4 - 40	1.88	.56	.141	3	H2
KHSST28386	5 - 40	1.94	.63	.141	3	H2
KHSST28391	6 - 32	2.00	.69	.141	3	H3
KHSST28393	6 - 40	2.00	.69	.141	3	H2
KHSST08184	8 - 32	2.13	.75	.168	4	H2
KHSST08191	8 - 32	2.13	.75	.168	4	H3
KHSST08233	10 - 24	2.38	.88	.194	4	H3
KHSST08267	10 - 32	2.38	.88	.194	4	H3
KHSST28415	12 - 24	2.38	.94	.220	4	H3

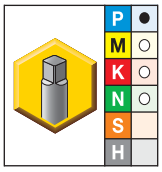
NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







KHSST Hand • Fractional Sizes • Taper Chamfer Tap

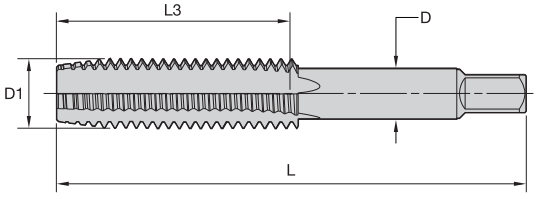


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
KHSST08319	1/4 - 20	2.50	1.00	.255	4	H3
KHSST08352	1/4 - 28	2.50	1.00	.255	4	H3
KHSST28316	5/16 - 18	2.72	1.13	.318	4	H3
KHSST28321	5/16 - 24	2.72	1.13	.318	4	H3
KHSST08433	3/8 - 16	2.94	1.25	.381	4	H3
KHSST08458	3/8 - 24	2.94	1.25	.381	4	H3
KHSST08476	7/16 - 14	3.16	1.44	.323	4	H3
KHSST28328	7/16 - 20	3.16	1.44	.323	4	H3
KHSST08507	1/2 - 13	3.38	1.66	.367	4	H3
KHSST08529	1/2 - 20	3.38	1.66	.367	4	H3
KHSST28335	9/16 - 12	3.59	1.66	.429	4	H3
KHSST28337	9/16 - 18	3.59	1.66	.429	4	H3
KHSST08560	5/8 - 11	3.81	1.81	.480	4	H3
KHSST28324	5/8 - 18	3.81	1.81	.480	4	H3
KHSST08594	3/4 - 10	4.25	2.00	.590	4	H3
KHSST28303	3/4 - 16	4.25	2.00	.590	4	H3
KHSST08615	7/8 - 9	4.69	2.22	.697	4	H4
KHSST28332	7/8 - 14	4.69	2.22	.697	4	H4
KHSST28285	1 - 8	5.13	2.50	.800	4	H4
KHSST28280	1 - 12	5.13	2.50	.800	4	H4
KHSST28284	1 - 14	5.13	2.50	.800	4	H4
KHSST28034	1 1/8 - 7	5.44	2.56	.896	4	H4
KHSST28030	1 1/8 - 12	5.44	2.56	.896	4	H4
KHSST28022	1 1/4 - 7	5.75	2.56	1.021	4	H4
KHSST28017	1 1/4 - 12	5.75	2.56	1.021	6	H4
KHSST28044	1 3/8 - 6	6.06	3.00	1.108	4	H4
KHSST28041	1 3/8 - 12	6.06	3.00	1.108	6	H4
KHSST28010	1 1/2 - 6	6.38	3.00	1.233	4	H4
KHSST28005	1 1/2 - 12	6.38	3.00	1.233	6	H4

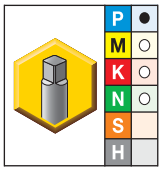
NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

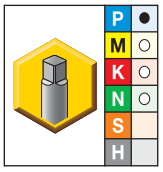


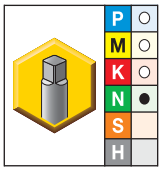




KHSST Hand • Machine Screw Sizes • Plug Chamfer Tap





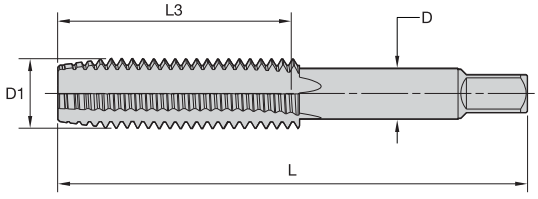


● first choice
○ alternate choice

TiCN	TiN	uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
–	KHSST09000	KHSST08003	0 - 80	1.63	.31	.141	2	H2
–	–	KHSST08015	1 - 64	1.69	.38	.141	2	H2
–	KHSST28129	KHSST08039	2 - 56	1.75	.44	.141	3	H2
–	KHSST28426	–	2 - 56	1.75	.44	.141	2	H2
–	KHSST28134	–	3 - 48	1.81	.50	.141	2	H2
–	KHSST28427	KHSST08082	4 - 40	1.88	.56	.141	2	H2
KHSST28433	KHSST09004	KHSST08087	4 - 40	1.88	.56	.141	3	H2
–	–	KHSST08112	5 - 40	1.94	.63	.141	2	H2
–	–	KHSST08116	5 - 40	1.94	.63	.141	3	H2
KHSST09582	KHSST09008	KHSST08148	6 - 32	2.00	.69	.141	3	H2
KHSST28440	–	–	6 - 32	2.00	.69	.141	3	H3
–	KHSST28428	–	6 - 32	2.00	.69	.141	2	H3
–	KHSST28136	–	8 - 32	2.13	.75	.168	3	H3
–	KHSST09010	–	8 - 32	2.13	.75	.168	4	H2
–	–	KHSST08192	8 - 32	2.13	.75	.168	4	H3
–	–	KHSST08218	8 - 36	2.13	.75	.168	4	H2
–	–	KHSST08238	10 - 24	2.38	.88	.194	2	H3
–	KHSST09012	KHSST08234	10 - 24	2.38	.88	.194	4	H3
–	KHSST09014	KHSST08268	10 - 32	2.38	.88	.194	4	H3
–	KHSST28425	–	10 - 32	2.38	.88	.194	2	H3
–	KHSST28424	–	10 - 32	2.38	.88	.194	3	H2
–	KHSST28132	–	12 - 24	2.38	.94	.220	4	H3

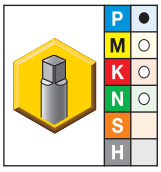
NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

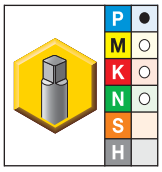


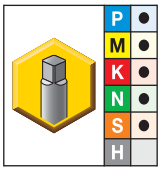


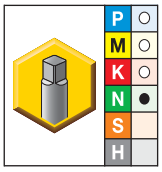


KHSST Hand • Fractional Sizes • Plug Chamfer Tap







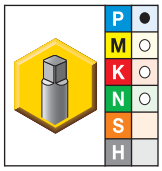


● first choice
○ alternate choice

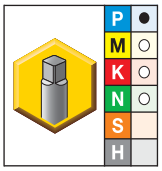
TiCN	TiN	oxide	uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
–	–	–	KHSST08316	1/4 - 20	2.50	1.00	.255	4	H2
–	KHSST28358	–	KHSST08324	1/4 - 20	2.50	1.00	.255	2	H3
–	KHSST28355	–	KHSST28296	1/4 - 20	2.50	1.00	.255	3	H3
KHSST28364	KHSST09018	KHSST28343	KHSST08320	1/4 - 20	2.50	1.00	.255	4	H3
–	–	–	KHSST28298	1/4 - 20	2.50	1.00	.255	4	H5
–	–	–	KHSST08355	1/4 - 28	2.50	1.00	.255	3	H3
–	–	–	KHSST08353	1/4 - 28	2.50	1.00	.255	4	H3
–	KHSST28356	–	KHSST28318	5/16 - 18	2.72	1.13	.318	2	H3
–	KHSST28127	–	KHSST28314	5/16 - 18	2.72	1.13	.318	3	H3
–	KHSST09022	–	KHSST08380	5/16 - 18	2.72	1.13	.318	4	H3
–	–	–	KHSST08411	5/16 - 24	2.72	1.13	.318	3	H3
–	–	KHSST28349	KHSST08409	5/16 - 24	2.72	1.13	.318	4	H3
–	KHSST28359	–	KHSST28309	3/8 - 16	2.94	1.25	.381	3	H3
–	KHSST09026	KHSST28348	KHSST08434	3/8 - 16	2.94	1.25	.381	4	H3
–	–	–	KHSST08461	3/8 - 24	2.94	1.25	.381	3	H3
–	KHSST09028	–	KHSST08459	3/8 - 24	2.94	1.25	.381	4	H3
–	KHSST09030	–	KHSST08477	7/16 - 14	3.16	1.44	.323	4	H3
–	KHSST28123	–	KHSST08493	7/16 - 20	3.16	1.44	.323	4	H3
–	KHSST28357	–	KHSST08510	1/2 - 13	3.38	1.66	.367	3	H3
KHSST28361	KHSST28116	KHSST28341	KHSST08508	1/2 - 13	3.38	1.66	.367	4	H3
–	–	–	KHSST28291	1/2 - 20	3.38	1.66	.367	3	H3
–	–	–	KHSST08530	1/2 - 20	3.38	1.66	.367	4	H3
–	–	–	KHSST28293	1/2 - 20	3.38	1.66	.367	4	H5
–	–	–	KHSST08545	9/16 - 12	3.59	1.66	.429	4	H3
–	–	–	KHSST08553	9/16 - 18	3.59	1.66	.429	4	H3
KHSST28366	KHSST28120	KHSST28351	KHSST08561	5/8 - 11	3.81	1.81	.480	4	H3
–	–	–	KHSST28323	5/8 - 11	3.81	1.81	.480	4	H5
–	KHSST28121	–	KHSST08574	5/8 - 18	3.81	1.81	.480	4	H3
–	–	–	KHSST28242	5/8 - 18	3.81	1.81	.480	4	H5
–	–	–	KHSST28103	11/16 - 16	4.03	1.06	.542	4	H3
KHSST28365	KHSST09042	KHSST28345	KHSST08595	3/4 - 10	4.25	2.00	.590	4	H3
–	–	–	KHSST28302	3/4 - 10	4.25	2.00	.590	4	H5
–	KHSST28118	KHSST28346	KHSST08608	3/4 - 16	4.25	2.00	.590	4	H3
–	–	–	KHSST28305	3/4 - 16	4.25	2.00	.590	4	H5

(continued)

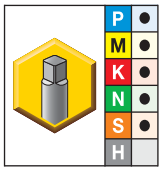
(KHSST Hand • Fractional Sizes • Plug Chamfer continued)



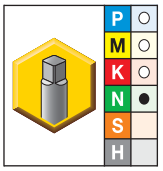
TiCN



TiN



oxide

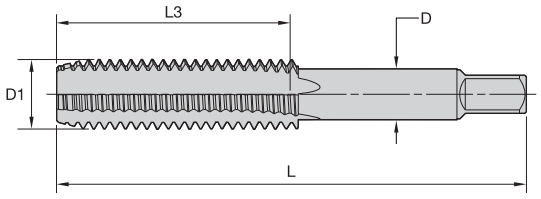


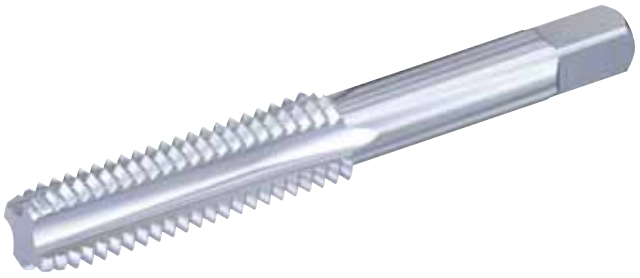
uncoated

TiCN	TiN	oxide	uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
–	**KHSST28125**	**KHSST28352**	**KHSST08616**	7/8 - 9	4.69	2.22	.697	4	H4
–	**KHSST09048**	–	**KHSST28330**	7/8 - 14	4.69	2.22	.697	4	H4
–	**KHSST28115**	**KHSST28339**	**KHSST08630**	1 - 8	5.13	2.50	.800	4	H4
–	–	–	**KHSST28286**	1 - 8	5.13	2.50	.800	4	H6
–	–	–	**KHSST28279**	1 - 12	5.13	2.50	.800	4	H4
–	–	–	**KHSST28281**	1 - 14	5.13	2.50	.800	4	H2
–	–	–	**KHSST28283**	1 - 14	5.13	2.50	.800	4	H4
–	–	–	**KHSST28033**	1 1/8 - 7	5.44	2.56	.896	4	H4
–	–	–	**KHSST28029**	1 1/8 - 12	5.44	2.56	.896	4	H4
–	–	–	**KHSST28021**	1 1/4 - 7	5.75	2.56	1.021	4	H4
–	–	–	**KHSST28016**	1 1/4 - 12	5.75	2.56	1.021	6	H4
–	–	–	**KHSST28043**	1 3/8 - 6	6.06	3.00	1.108	4	H4
–	–	–	**KHSST28040**	1 3/8 - 12	6.06	3.00	1.108	6	H4
–	–	–	**KHSST28009**	1 1/2 - 6	6.38	3.00	1.233	4	H4
–	–	–	**KHSST28004**	1 1/2 - 12	6.38	3.00	1.233	6	H4

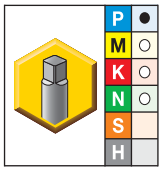
NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

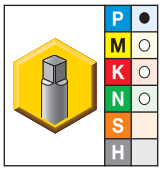


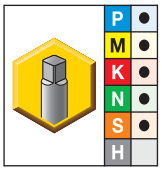


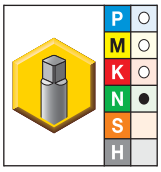


KHSST Hand • Machine Screw Sizes • Bottoming Chamfer Tap







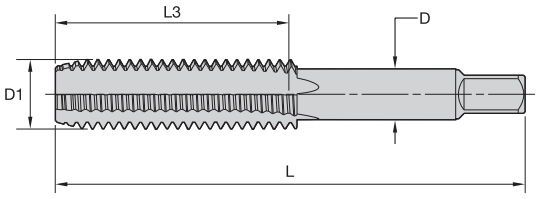


● first choice
○ alternate choice

TiCN	TiN	oxide	uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
–	–	–	KHSST28368	0 - 80	1.63	.31	.141	2	H1
KHSST28430	KHSST28128	–	KHSST28371	0 - 80	1.63	.31	.141	2	H2
–	–	–	KHSST28373	1 - 72	1.69	.38	.141	2	H1
–	–	–	KHSST28374	2 - 56	1.75	.44	.141	2	H2
KHSST28431	KHSST09003	–	KHSST28375	2 - 56	1.75	.44	.141	3	H2
–	–	–	KHSST28379	3 - 48	1.81	.50	.141	3	H2
–	–	–	KHSST08083	4 - 40	1.88	.56	.141	2	H2
KHSST28432	KHSST28130	KHSST28420	KHSST08088	4 - 40	1.88	.56	.141	3	H2
–	–	–	KHSST28384	4 - 48	1.88	.56	.141	3	H2
–	–	–	KHSST08117	5 - 40	1.94	.63	.141	3	H2
–	KHSST28135	–	KHSST28388	6 - 32	2.00	.69	.141	2	H3
–	KHSST09009	–	KHSST08149	6 - 32	2.00	.69	.141	3	H2
–	–	–	KHSST08152	6 - 32	2.00	.69	.141	3	H3
–	–	–	KHSST08173	6 - 40	2.00	.69	.141	3	H2
–	–	–	KHSST28394	8 - 32	2.13	.75	.168	2	H2
–	–	–	KHSST08197	8 - 32	2.13	.75	.168	2	H3
–	KHSST28429	–	KHSST28399	8 - 32	2.13	.75	.168	3	H3
–	KHSST09011	–	KHSST28395	8 - 32	2.13	.75	.168	4	H2
KHSST28441	–	KHSST28423	KHSST08193	8 - 32	2.13	.75	.168	4	H3
–	–	–	KHSST28403	8 - 36	2.13	.75	.168	4	H2
–	–	–	KHSST08239	10 - 24	2.38	.88	.194	2	H3
–	–	–	KHSST28406	10 - 24	2.38	.88	.194	3	H3
–	KHSST09013	–	KHSST08235	10 - 24	2.38	.88	.194	4	H3
–	–	–	KHSST08273	10 - 32	2.38	.88	.194	2	H3
–	KHSST28133	–		10 - 32	2.38	.88	.194	3	H2
–	–	–	KHSST28412	10 - 32	2.38	.88	.194	3	H3
–	–	–	KHSST08262	10 - 32	2.38	.88	.194	4	H2
KHSST28436	KHSST09015	KHSST28419	KHSST08269	10 - 32	2.38	.88	.194	4	H3
–	KHSST28131	–	KHSST08295	12 - 24	2.38	.94	.220	4	H3
–	–	–	KHSST28416	12 - 28	2.38	.94	.220	4	H3

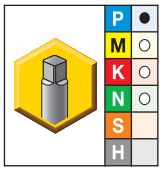
NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

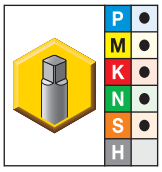


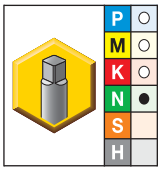




KHSST Hand • Fractional Sizes • Bottoming Chamfer Tap







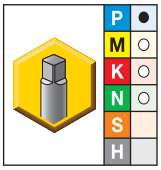
● first choice
○ alternate choice

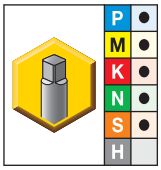
TiN	oxide	uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
–	–	KHSST08317	1/4 - 20	2.50	1.00	.255	4	H2
KHSST28353	–	KHSST28294	1/4 - 20	2.50	1.00	.255	2	H3
KHSST28354	–	KHSST28295	1/4 - 20	2.50	1.00	.255	3	H3
KHSST09019	KHSST28342	KHSST08321	1/4 - 20	2.50	1.00	.255	4	H3
–	–	KHSST08327	1/4 - 20	2.50	1.00	.255	4	H5
–	–	KHSST08356	1/4 - 28	2.50	1.00	.255	3	H3
KHSST09021	–	KHSST08354	1/4 - 28	2.50	1.00	.255	4	H3
–	–	KHSST08392	5/16 - 18	2.72	1.13	.318	2	H3
–	–	KHSST28313	5/16 - 18	2.72	1.13	.318	3	H3
KHSST28119	–	KHSST08381	5/16 - 18	2.72	1.13	.318	4	H3
–	–	KHSST28317	5/16 - 18	2.72	1.13	.318	4	H5
KHSST09025	–	KHSST28319	5/16 - 24	2.72	1.13	.318	4	H3
KHSST28126	–	KHSST28308	3/8 - 16	2.94	1.25	.381	3	H3
KHSST09027	KHSST28347	KHSST08435	3/8 - 16	2.94	1.25	.381	4	H3
–	–	KHSST28311	3/8 - 16	2.94	1.25	.381	4	H5
KHSST09029	–	KHSST08460	3/8 - 24	2.94	1.25	.381	4	H3
–	–	KHSST08478	7/16 - 14	3.16	1.44	.323	4	H3
KHSST28122	–	KHSST08494	7/16 - 20	3.16	1.44	.323	4	H3
–	–	KHSST28290	1/2 - 13	3.38	1.66	.367	3	H3
KHSST09035	KHSST28340	KHSST28287	1/2 - 13	3.38	1.66	.367	4	H3
–	–	KHSST28289	1/2 - 13	3.38	1.66	.367	4	H5
–	–	KHSST08531	1/2 - 20	3.38	1.66	.367	4	H3
–	–	KHSST08546	9/16 - 12	3.59	1.66	.429	4	H3
–	–	KHSST08554	9/16 - 18	3.59	1.66	.429	4	H3
KHSST09039	KHSST28350	KHSST08562	5/8 - 11	3.81	1.81	.480	4	H3
–	–	KHSST28235	5/8 - 11	3.81	1.81	.480	4	H5
KHSST09041	–	KHSST08575	5/8 - 18	3.81	1.81	.480	4	H3
–	–	KHSST28241	5/8 - 18	3.81	1.81	.480	4	H5
–	–	KHSST28102	11/16 - 16	4.03	1.06	.542	4	H3
KHSST09043	KHSST28344	KHSST08596	3/4 - 10	4.25	2.00	.590	4	H3

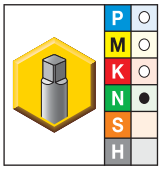
NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

(continued)

(KHSST Hand • Fractional Sizes • Bottoming Chamfer continued)



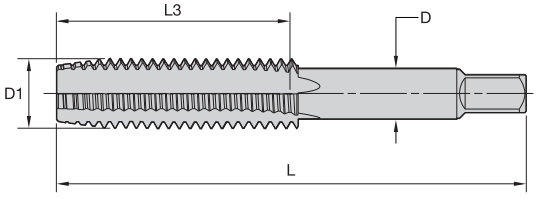




TiN	oxide	uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
–	–	**KHSST28301**	3/4 - 10	4.25	2.00	.590	4	H5
KHSST28117	–	**KHSST08609**	3/4 - 16	4.25	2.00	.590	4	H3
–	–	**KHSST28304**	3/4 - 16	4.25	2.00	.590	4	H5
KHSST09047	–	**KHSST08617**	7/8 - 9	4.69	2.22	.697	4	H4
KHSST28124	–	**KHSST28329**	7/8 - 14	4.69	2.22	.697	4	H4
KHSST28114	**KHSST28338**	**KHSST08631**	1 - 8	5.13	2.50	.800	4	H4
–	–	**KHSST28278**	1 - 12	5.13	2.50	.800	4	H4
–	–	**KHSST28282**	1 - 14	5.13	2.50	.800	4	H4
–	–	**KHSST28032**	1 1/8 - 7	5.44	2.56	.896	4	H4
–	–	**KHSST28028**	1 1/8 - 12	5.44	2.56	.896	4	H4
–	–	**KHSST28020**	1 1/4 - 7	5.75	2.56	1.021	4	H4
–	–	**KHSST28015**	1 1/4 - 12	5.75	2.56	1.021	6	H4
–	–	**KHSST28042**	1 3/8 - 6	6.06	3.00	1.108	4	H4
–	–	**KHSST28039**	1 3/8 - 12	6.06	3.00	1.108	6	H4
–	–	**KHSST28008**	1 1/2 - 6	6.38	3.00	1.233	4	H4
–	–	**KHSST28003**	1 1/2 - 12	6.38	3.00	1.233	6	H4

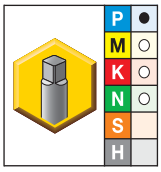
NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







KHSST Hand • Machine Screw and Fractional Sizes • Sets of One Each Taper, Plug, and Bottoming Chamfer

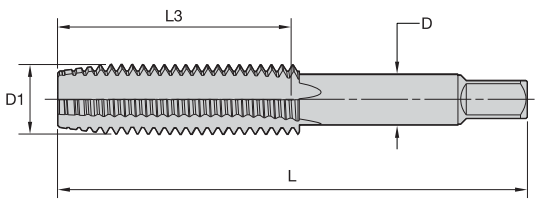


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
KHSST28369	0 - 80	1.63	.31	.141	2	H1
KHSST28377	2 - 56	1.75	.44	.141	3	H2
KHSST28381	3 - 48	1.81	.50	.141	3	H2
KHSST28383	4 - 40	1.88	.56	.141	3	H2
KHSST28385	5 - 40	1.94	.63	.141	3	H2
KHSST28387	6 - 32	2.00	.69	.141	3	H2
KHSST28390	6 - 32	2.00	.69	.141	3	H3
KHSST28392	6 - 40	2.00	.69	.141	3	H2
KHSST28398	8 - 32	2.13	.75	.168	4	H2
KHSST28402	8 - 32	2.13	.75	.168	4	H3
KHSST28404	8 - 36	2.13	.75	.168	4	H2
KHSST28408	10 - 24	2.38	.88	.194	4	H3
KHSST28409	10 - 32	2.38	.88	.194	4	H3
KHSST28414	12 - 24	2.38	.94	.220	4	H3
KHSST28418	12 - 28	2.38	.94	.220	4	H3
KHSST28297	1/4 - 20	2.50	1.00	.255	4	H3
KHSST28299	1/4 - 28	2.50	1.00	.255	4	H3
KHSST28315	5/16 - 18	2.72	1.13	.318	4	H3
KHSST28320	5/16 - 24	2.72	1.13	.318	4	H3
KHSST28310	3/8 - 16	2.94	1.25	.381	4	H3
KHSST28312	3/8 - 24	2.94	1.25	.381	4	H3
KHSST28326	7/16 - 14	3.16	1.44	.323	4	H3
KHSST28327	7/16 - 20	3.16	1.44	.323	4	H3
KHSST28288	1/2 - 13	3.38	1.66	.367	4	H3
KHSST28292	1/2 - 20	3.38	1.66	.367	4	H3
KHSST28334	9/16 - 12	3.59	1.66	.429	4	H3
KHSST28336	9/16 - 18	3.59	1.66	.429	4	H3
KHSST28322	5/8 - 11	3.81	1.81	.480	4	H3
KHSST28325	5/8 - 18	3.81	1.81	.480	4	H3
KHSST28300	3/4 - 10	4.25	2.00	.590	4	H3
KHSST28306	3/4 - 16	4.25	2.00	.590	4	H3
KHSST28333	7/8 - 9	4.69	2.22	.697	4	H4
KHSST28331	7/8 - 14	4.69	2.22	.697	4	H4

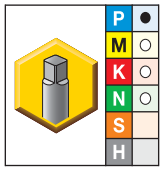
NOTE: Hand taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Tap sets: one of each taper, plug, and bottoming chamfers.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

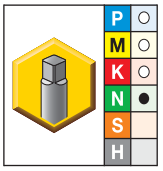






KHSST Hand • Plug Chamfer Tap • Metric ANSI



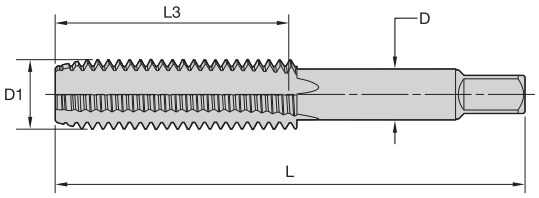


● first choice
○ alternate choice

TiN	uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
–	**KHSST28682**	M1,6 x 0,35	1.63	.31	.141	2	D3
–	**KHSST27709**	M2 x 0,4	1.75	.44	.141	3	D3
–	**KHSST27721**	M3 x 0,5	1.94	.63	.141	3	D3
–	**KHSST27729**	M4 x 0,7	2.13	.75	.168	4	D4
–	**KHSST27733**	M4,5 x 0,75	2.38	.88	.194	4	D4
KHSST09052	**KHSST27737**	M5 x 0,8	2.38	.88	.194	4	D4
KHSST09054	**KHSST27741**	M6 x 1	2.50	1.00	.255	4	D5
KHSST09056	**KHSST27749**	M8 x 1,25	2.72	1.13	.318	4	D5
KHSST09058	**KHSST27757**	M10 x 1,5	2.94	1.25	.381	4	D6
–	**KHSST27765**	M12 x 1,75	3.38	1.66	.367	4	D6
–	**KHSST27773**	M14 x 2	3.59	1.66	.429	4	D7
–	**KHSST27785**	M16 x 1,5	3.81	1.81	.480	4	D7
–	**KHSST27781**	M16 x 2	3.81	1.81	.480	4	D7
–	**KHSST27793**	M18 x 2,5	4.03	1.06	.542	4	D7
–	**KHSST27800**	M20 x 1,5	4.47	2.00	.652	4	D6
–	**KHSST27796**	M20 x 2,5	4.47	2.00	.652	4	D7
–	**KHSST27809**	M24 x 3	4.91	2.22	.760	4	D8
–	**KHSST28695**	M30 x 3,5	5.44	2.56	1.021	4	D9
–	**KHSST28698**	M36 x 4	6.06	3.00	1.233	4	D9

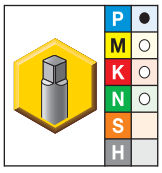
NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page L292 for the recomended pitch diameter limit for 6H class of fit.

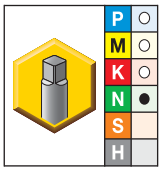






KHSST HAND • Bottoming Chamfer Tap • Metric ANSI



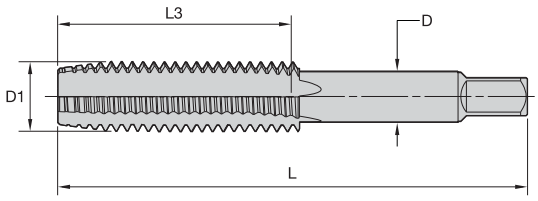


● first choice
○ alternate choice

TiN	uncoated	D1 size	L	L3	D	Z	pitch diameter limit
–	KHSST27710	M2 x 0,4	1.75	.44	.141	3	D3
–	KHSST27722	M3 x 0,5	1.94	.63	.141	3	D3
–	KHSST27730	M4 x 0,7	2.13	.75	.168	4	D4
–	KHSST27738	M5 x 0,8	2.38	.88	.194	4	D4
KHSST28154	KHSST27742	M6 x 1	2.50	1.00	.255	4	D5
KHSST09057	KHSST27750	M8 x 1,25	2.72	1.13	.318	4	D5
KHSST09059	KHSST27758	M10 x 1,5	2.94	1.25	.381	4	D6
KHSST09061	KHSST27766	M12 x 1,75	3.38	1.66	.367	4	D6
KHSST28153	–	M12 x 1,75	3.38	1.66	.367	4	D6
–	KHSST28455	M14 x 2	3.59	1.66	.429	4	D7
–	KHSST28458	M16 x 2	3.81	1.81	.480	4	D7
–	KHSST28462	M20 x 2,5	4.47	2.00	.652	4	D7
–	KHSST28465	M24 x 3	4.91	2.22	.760	4	D8
–	KHSST28694	M30 x 3,5	5.44	2.56	1.021	4	D9
–	KHSST28697	M36 x 4	6.06	3.00	1.233	4	D9

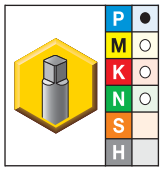
NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.







KHSST Hand • Sets of One of Each Taper, Plug, Bottoming Chamfer Taps • Metric ANSI

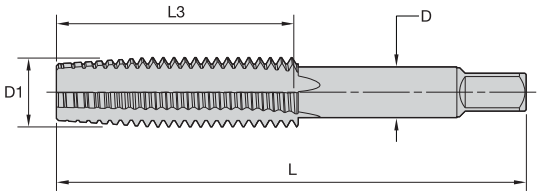


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
KHSST28468	M3 x 0,5	1.94	.63	.141	3	D3
KHSST28470	M4 x 0,7	2.13	.75	.168	4	D4
KHSST28472	M5 x 0,8	2.38	.88	.194	4	D4
KHSST28473	M6 x 1	2.50	1.00	.255	4	D5
KHSST28475	M8 x 1,25	2.72	1.13	.318	4	D5
KHSST28452	M10 x 1,5	2.94	1.25	.381	4	D6
KHSST28454	M12 x 1,75	3.38	1.66	.367	4	D6
KHSST28457	M14 x 2	3.59	1.66	.429	4	D7
KHSST28460	M16 x 2	3.81	1.81	.480	4	D7
KHSST28464	M20 x 2,5	4.47	2.00	.652	4	D7

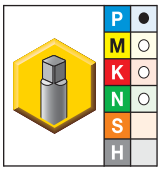
NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.







KHSST Hand • Taper Chamfer Tap • Metric ANSI

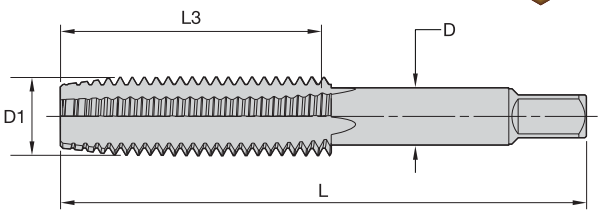


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
KHSST28466	M2 x 0,4	1.75	.44	.141	3	D3
KHSST28467	M3 x 0,5	1.94	.63	.141	3	D3
KHSST28469	M4 x 0,7	2.13	.75	.168	4	D4
KHSST28471	M5 x 0,8	2.38	.88	.194	4	D4
KHSST28474	M8 x 1,25	2.72	1.13	.318	4	D5
KHSST28451	M10 x 1,5	2.94	1.25	.381	4	D6
KHSST28453	M12 x1,75	3.38	1.66	.367	4	D6
KHSST28456	M14 x 2	3.59	1.66	.429	4	D7
KHSST28459	M16 x 2	3.81	1.81	.480	4	D7
KHSST28461	M18 x 2,5	4.03	1.06	.542	4	D7
KHSST28463	M20 x 2,5	4.47	2.00	.652	4	D7
KHSST28691	M24 x 3	4.91	2.22	.760	4	D8
KHSST28696	M30 x 3,5	5.44	2.56	1.021	4	D9
KHSST28699	M36 x 4	6.06	3.00	1.233	4	D9

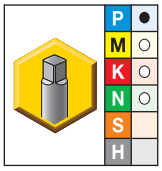
NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.







KHSST Left Hand • Fractional Sizes • Plug Chamfer Taps

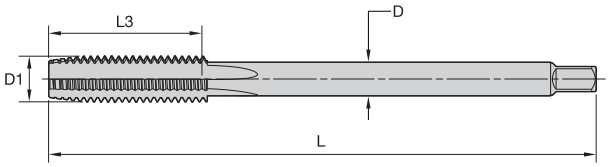


● first choice
○ alternate choice

plug chamfer 3–5 pitch	D1 size	L	L3	D	number of flutes	pitch diameter limit
KHSST28086	1/4 - 28	2.50	1.00	.255	4	H3
KHSST28207	3/8 - 24	2.94	1.25	.381	4	H3
KHSST28675	7/16 - 20	3.16	1.44	.323	4	H3
KHSST28053	1/2 - 13	3.38	1.66	.367	4	H3
KHSST28064	1/2 - 20	3.38	1.66	.367	4	H3
KHSST28233	5/8 - 11	3.81	1.81	.480	4	H3
KHSST28239	5/8 - 18	3.81	1.81	.480	4	H3
KHSST28167	3/4 - 10	4.25	2.00	.590	4	H3
KHSST28184	3/4 - 16	4.25	2.00	.590	4	H3

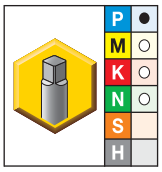
NOTE: Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







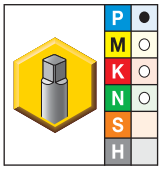
KHSST Extended-Length Hand Taps • Machine Screw and Fractional • Plug Chamfer Tap



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
KHSST28781	6 - 32	6.00	.69	.141	3	H3
KHSST28791	8 - 32	6.00	.75	.168	4	H3
KHSST28742	10 - 24	6.00	.88	.194	4	H3
KHSST28752	10 - 32	6.00	.88	.194	4	H3
KHSST28078	1/4 - 20	6.00	1.00	.255	4	H3
KHSST28085	1/4 - 28	6.00	1.00	.255	4	H3
KHSST28218	5/16 - 18	6.00	.67	.318	4	H3
KHSST28195	3/8 - 16	6.00	1.25	.381	4	H3

KHSST Extended-Length Hand Taps • Machine Screw and Fractional • Bottoming Chamfer Tap

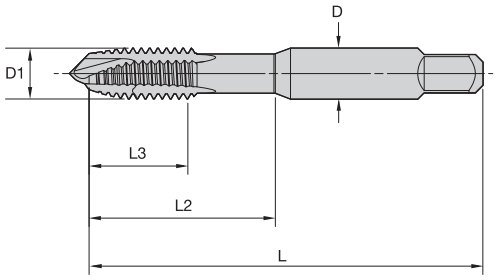


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
KHSST28751	10 - 32	6.00	.88	.194	4	H3
KHSST28077	1/4 - 20	6.00	1.00	.255	4	H3
KHSST28217	5/16 - 18	6.00	.67	.318	4	H3
KHSST28226	5/16 - 24	6.00	.59	.318	4	H3
KHSST28194	3/8 - 16	6.00	1.25	.381	4	H3

NOTE: Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.



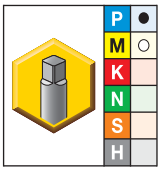


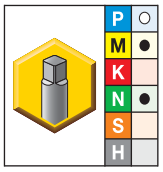


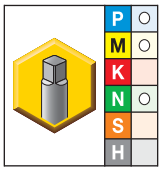
NEW!

KSU52 TiCN for steel.
KSU54 TiN+CrC/C for stainless steel.
KSU50 uncoated for aluminum.

Spiral Point • Machine Screw and Fractional • Spiral-Point Plug Chamfer Tap



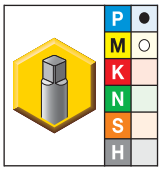




● first choice
○ alternate choice

KSU52	KSU54	KSU50	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
T922NC#4-40RH2-A	T922NC#4-40RH2-A	T922NC#4-40RH2-A	4 - 40	1.88	.56	.69	.141	2	H2
T922NC#5-40RH2-A	T922NC#5-40RH2-A	T922NC#5-40RH2-A	5 - 40	1.94	.63	.75	.141	2	H2
T922NC#6-32RH2-A	T922NC#6-32RH2-A	T922NC#6-32RH2-A	6 - 32	2.00	.39	.88	.141	2	H2
T922NC#6-32RH3-A	T922NC#6-32RH3-A	T922NC#6-32RH3-A	6 - 32	2.00	.39	.88	.141	2	H3
T922NC#8-32RH2-A	T922NC#8-32RH2-A	T922NC#8-32RH2-A	8 - 32	2.13	.39	.92	.168	2	H2
T922NC#8-32RH3-A	T922NC#8-32RH3-A	T922NC#8-32RH3-A	8 - 32	2.13	.39	.92	.168	2	H3
T922NC#10-24RH2-A	T922NC#10-24RH2-A	T922NC#10-24RH2-A	10 - 24	2.38	.51	1.07	.194	2	H2
T922NC#10-24RH3-A	T922NC#10-24RH3-A	T922NC#10-24RH3-A	10 - 24	2.38	.51	1.07	.194	2	H3
T922NF#10-32RH2-A	T922NF#10-32RH2-A	T922NF#10-32RH2-A	10 - 32	2.37	.51	1.04	.194	2	H2
T922NF#10-32RH3-A	T922NF#10-32RH3-A	T922NF#10-32RH3-A	10 - 32	2.37	.51	1.04	.194	2	H3
T922NC#12-24RH3-A	T922NC#12-24RH3-A	T922NC#12-24RH3-A	12 - 24	2.38	.51	1.05	.220	2	H3
T922NC02500-20RH3-A	T922NC02500-20RH3-A	T922NC02500-20RH3-A	1/4 - 20	2.50	.61	1.16	.255	2	H3
T922NC02500-20RH5-A	T922NC02500-20RH5-A	T922NC02500-20RH5-A	1/4 - 20	2.50	.61	1.16	.255	2	H5
T922NF02500-28RH2-A	T922NF02500-28RH2-A	T922NF02500-28RH2-A	1/4 - 28	2.49	.61	1.15	.255	2	H2
T922NF02500-28RH3-A	T922NF02500-28RH3-A	T922NF02500-28RH3-A	1/4 - 28	2.49	.61	1.15	.255	2	H3
T922NC03125-18RH3-A	T922NC03125-18RH3-A	T922NC03125-18RH3-A	5/16 - 18	2.72	.68	1.32	.318	2	H3
T922NC03125-18RH5-A	T922NC03125-18RH5-A	T922NC03125-18RH5-A	5/16 - 18	2.72	.68	1.32	.318	2	H5
T922NF03125-24RH3-A	T922NF03125-24RH3-A	T922NF03125-24RH3-A	5/16 - 24	2.71	.67	1.31	.318	2	H3

Spiral Point • Machine Screw and Fractional • Spiral-Point Plug Chamfer Tap • DIN Length

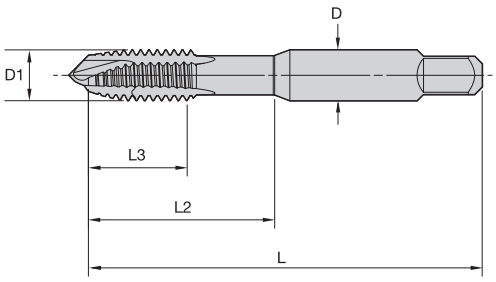


● first choice
○ alternate choice

KSU52	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
T922NC#4-40RH2-AD	4 - 40	2.09	.31	.71	.141	2	H2
T922NC#6-32RH3-AD	6 - 32	2.21	.38	.79	.141	2	H3
T923NC#8-32RH3-AD	8 - 32	2.48	.38	.83	.168	3	H3
T923NC#10-24RH3-AD	10 - 24	2.76	.50	.98	.194	3	H3
T923NF#10-32RH3-AD	10 - 32	2.76	.50	.98	.194	3	H3
T923NC02500-20RH3-AD	1/4 - 20	3.15	.63	1.18	.255	3	H3
T923NF02500-28RH3-AD	1/4 - 28	3.15	.63	1.18	.255	3	H3
T923NC03125-18RH3-AD	5/16 - 18	3.54	.69	1.38	.318	3	H3
T923NC03750-16RH3-AD	3/8 - 16	3.94	.75	1.54	.381	3	H3
T923NC05000-13RH3-AD	1/2 - 13	4.33	.94	1.14	.367	3	H3

NOTE: Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.



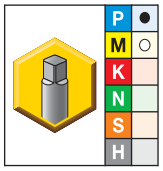


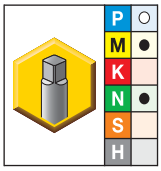


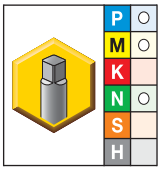
NEW!

KSU52 TiCN for steel.
KSU54 TiN+CrC/C for stainless steel.
KSU50 uncoated for aluminum.

Spiral Point • Plug Chamfer Tap • Metric ANSI



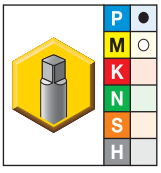




● first choice
○ alternate choice

KSU52	KSU54	KSU50	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
T922M030X050RD3-A	T922M030X050RD3-A	T922M030X050RD3-A	M3 x 0,5	1.94	.63	.75	.140	2	D3
T922M035X060RD4-A	T922M035X060RD4-A	T922M035X060RD4-A	M3,5 x 0,6	2.00	.38	.88	.141	2	D4
T922M040X070RD4-A	T922M040X070RD4-A	T922M040X070RD4-A	M4 x 0,7	2.13	.39	.92	.168	2	D4
T922M050X080RD4-A	T922M050X080RD4-A	T922M050X080RD4-A	M5 x 0,8	2.38	.51	1.07	.194	2	D4
T922M060X100RD5-A	T922M060X100RD5-A	T922M060X100RD5-A	M6 x 1	2.50	.61	1.16	.255	2	D5
T922M063X100RD5-A	T922M063X100RD5-A	T922M063X100RD5-A	M6.3 x 1	2.49	.61	1.15	.255	2	D5
T923M060X100RD5-A	T923M060X100RD5-A	T923M060X100RD5-A	M6 x 1	2.50	.61	1.16	.255	3	D5
T922M080X125RD5-A	T922M080X125RD5-A	T922M080X125RD5-A	M8 x 1,25	2.72	.67	1.31	.318	2	D5
T923M080X125RD5-A	T923M080X125RD5-A	T923M080X125RD5-A	M8 x 1,25	2.72	.67	1.32	.318	3	D5
T923M100X150RD6-A	T923M100X150RD6-A	T923M100X150RD6-A	M10 x 1,5	2.93	.76	1.41	.381	3	D6
T923M120X175RD6-A	T923M120X175RD6-A	T923M120X175RD6-A	M12 x 1,75	3.38	.97	1.61	.367	3	D6
T923M140X200RD7-A	T923M140X200RD7-A	T923M140X200RD7-A	M14 x 2	3.59	1.00	1.61	.429	3	D7
T923M160X200RD7-A	T923M160X200RD7-A	T923M160X200RD7-A	M16 x 2	3.81	1.12	1.74	.480	3	D7

Spiral Point • Plug Chamfer Tap • DIN Length • Metric ANSI

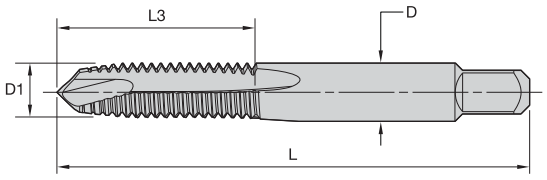


● first choice
○ alternate choice

KSU52	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
T922M030X050RD3-AD	M3 x 0,5	2.21	.38	.71	.141	2	D3
T923M040X070RD4-AD	M4 x 0,7	2.48	.38	.83	.168	3	D4
T923M050X080RD4-AD	M5 x 0,8	2.76	.50	.98	.194	3	D4
T923M060X100RD5-AD	M6 x 1	3.15	.63	1.18	.255	3	D5
T923M080X125RD5-AD	M8 x 1,25	3.54	.69	1.38	.318	3	D5
T923M100X150RD6-AD	M10 x 1,5	3.94	.75	1.54	.381	3	D6
T923M120X175RD6-AD	M12 x 1,75	4.33	.94	1.14	.367	3	D6

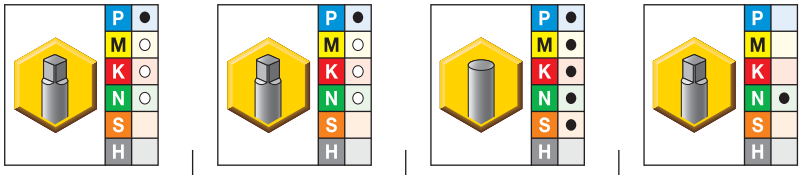
NOTE: Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.







KHSST Spiral Point • Machine Screw and Fractional Sizes • Plug Chamfer Tap

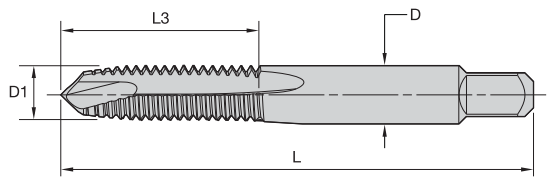


● first choice
○ alternate choice

TiCN	TiN	oxide	uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
KHSST28732	KHSST28733	–	KHSST28731	0 - 80	1.63	.31	.141	2	H2
–	–	–	KHSST28757	1 - 72	1.69	.38	.141	2	H2
–	KHSST09101	KHSST28252	KHSST08043	2 - 56	1.75	.44	.141	2	H2
–	–	–	KHSST08061	3 - 48	1.81	.50	.141	2	H2
KHSST28274	KHSST09103	KHSST28253	KHSST08090	4 - 40	1.88	.56	.141	2	H2
–	–	–	KHSST08104	4 - 48	1.88	.56	.141	2	H2
–	KHSST09104	–	KHSST08119	5 - 40	1.94	.63	.141	2	H2
–	KHSST09105	KHSST28254	KHSST08156	6 - 32	2.00	.69	.141	2	H2
KHSST28276	KHSST09106	KHSST28255	KHSST08157	6 - 32	2.00	.69	.141	2	H3
–	–	–	KHSST08175	6 - 40	2.00	.69	.141	2	H2
–	KHSST09108	KHSST28256	KHSST08203	8 - 32	2.13	.75	.168	2	H2
KHSST28277	KHSST09109	KHSST28257	KHSST08205	8 - 32	2.13	.75	.168	2	H3
–	–	–	KHSST28244	8 - 36	2.13	.75	.168	2	H2
–	–	–	KHSST08243	10 - 24	2.38	.88	.194	2	H2
KHSST09608	KHSST28113	KHSST28262	KHSST08245	10 - 24	2.38	.88	.194	2	H3
–	KHSST09111	KHSST28263	KHSST08280	10 - 32	2.38	.88	.194	2	H2
KHSST09609	KHSST09112	KHSST28264	KHSST08282	10 - 32	2.38	.88	.194	2	H3
–	–	–	KHSST28248	10 - 32	2.38	.88	.194	2	H7
–	KHSST09113	–	KHSST08296	12 - 24	2.38	.94	.220	2	H3
–	KHSST09114	–	KHSST08331	1/4 - 20	2.50	1.00	.255	2	H2
–	KHSST09115	KHSST28260	KHSST08332	1/4 - 20	2.50	1.00	.255	2	H3
–	KHSST28111	–	KHSST08336	1/4 - 20	2.50	1.00	.255	2	H5
KHSST09611	KHSST09116	–	KHSST08334	1/4 - 20	2.50	1.00	.255	3	H3
–	KHSST28112	KHSST28261	KHSST08364	1/4 - 28	2.50	1.00	.255	2	H3
–	KHSST09119	KHSST28267	KHSST08391	5/16 - 18	2.72	1.13	.318	2	H3
KHSST28275	–	–	KHSST08393	5/16 - 18	2.72	1.13	.318	3	H3
–	KHSST09120	KHSST28268	KHSST08419	5/16 - 24	2.72	1.13	.318	2	H3
KHSST09615	KHSST09121	KHSST28266	KHSST08443	3/8 - 16	2.94	1.25	.381	3	H3
–	–	–	KHSST08444	3/8 - 16	2.94	1.25	.381	3	H5
–	KHSST09122	–	KHSST08467	3/8 - 24	2.94	1.25	.381	3	H3
–	KHSST09123	KHSST28270	KHSST08484	7/16 - 14	3.16	1.44	.323	3	H3
–	KHSST09124	KHSST28271	KHSST08498	7/16 - 20	3.16	1.44	.323	3	H3
KHSST28272	KHSST09125	KHSST28258	KHSST08516	1/2 - 13	3.38	1.66	.367	3	H3
–	–	–	KHSST28245	1/2 - 13	3.38	1.66	.367	3	H5
–	KHSST09126	KHSST28259	KHSST08537	1/2 - 20	3.38	1.66	.367	3	H3
–	–	–	KHSST08549	9/16 - 18	3.59	1.66	.429	3	H3
KHSST28273	KHSST09127	KHSST28269	KHSST08566	5/8 - 11	3.81	1.81	.480	3	H3
–	–	–	KHSST08578	5/8 - 18	3.81	1.81	.480	3	H3
–	KHSST09128	KHSST28265	KHSST08599	3/4 - 10	4.25	2.00	.590	3	H3
–	–	–	KHSST28249	3/4 - 10	4.25	2.00	.590	3	H5

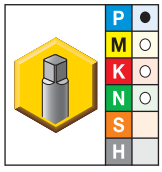
NOTE: Spiral-point taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







KHSST Oversized Spiral Point • Fractional Sizes • Plug Chamfer Taps

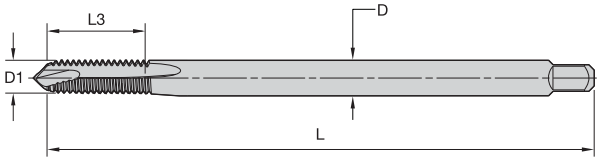


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
KHSST28247	1/4 - 20	2.50	1.00	.255	2	H11
KHSST28251	5/16 - 18	2.72	1.13	.318	2	H11
KHSST28246	1/2 - 13	3.38	1.66	.367	3	H11
KHSST28250	3/8 - 16	2.94	1.25	.381	3	H11

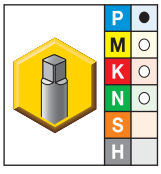
NOTE: Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







KHSST Spiral Point 6" • Fractional Sizes • Plug Chamfer Taps

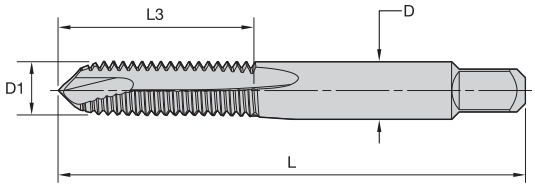


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes
KHSST28776	6 - 32	6.00	.69	.141	2
KHSST28784	8 - 32	6.00	.75	.168	2
KHSST28737	10 - 24	6.00	.88	.194	2
KHSST28744	10 - 32	6.00	.88	.194	2
KHSST28072	1/4 - 20	6.00	1.00	.255	2
KHSST28080	1/4 - 28	6.00	1.00	.255	2
KHSST28209	5/16 - 18	6.00	1.13	.318	2
KHSST28220	5/16 - 24	6.00	1.13	.318	2
KHSST28192	3/8 - 16	6.00	1.25	.381	3
KHSST28204	3/8 - 24	6.00	1.25	.381	3

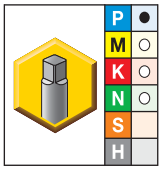
NOTE: Spiral-point taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







KHSST Heavy-Duty Spiral Point • Machine Screw and Fractional • Plug Chamfer Taps

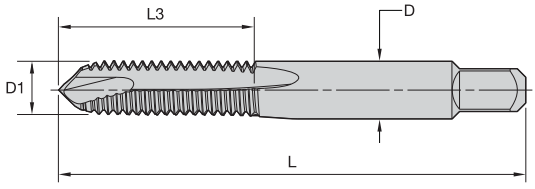


● first choice
○ alternate choice

oxide/nitride	D1 size	L	L3	D	number of flutes
KHSST28526	6 - 32	2.00	.69	.141	3
KHSST28527	8 - 32	2.13	.75	.168	3
KHSST28531	10 - 24	2.38	.88	.194	3
KHSST28532	10 - 32	2.38	.88	.194	3
KHSST28529	1/4 - 20	2.50	1.00	.255	3
KHSST28530	1/4 - 28	2.50	1.00	.255	3
KHSST28534	5/16 - 18	2.72	1.13	.318	3
KHSST28533	3/8 - 16	2.94	1.25	.381	3
KHSST28205	3/8 - 24	2.94	1.25	.381	3
KHSST28528	1/2 - 13	3.38	1.66	.367	3
KHSST28228	5/8 - 11	3.81	1.81	.480	3
KHSST28162	3/4 - 10	4.25	2.00	.590	3

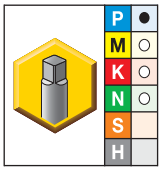
NOTE: Spiral-point taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.







KHSST Spiral Point • Machine Screw and Fractional • Bottoming-Chamfer Taps

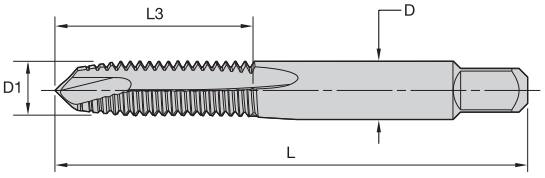


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
KHSST28730	0 - 80	1.63	.31	.141	2	H2
KHSST08091	4 - 40	1.88	.56	.141	2	H2
KHSST08159	6 - 32	2.00	.69	.141	2	H2
KHSST08160	6 - 32	2.00	.69	.141	2	H3
KHSST08246	10 - 24	2.38	.88	.194	2	H3
KHSST28743	10 - 32	2.38	.88	.194	2	H2
KHSST08333	1/4 - 20	2.50	1.00	.255	2	H3
KHSST28219	5/16 - 24	2.72	1.13	.318	2	H3
KHSST08044	2 - 56	1.75	.44	.141	3	H2

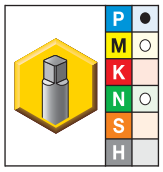
NOTE: Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

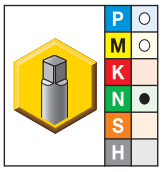






Spiral Point • Plug Chamfer Taps • Metric ANSI



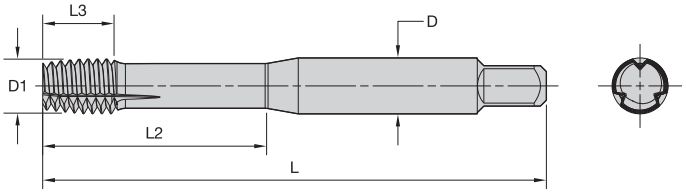


● first choice
○ alternate choice

TiN	uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
—	**KHSST28681**	M1,6 x 0,35	1.63	.31	.141	2	D3
—	**KHSST27711**	M2 x 0,4	1.75	.44	.141	2	D3
—	**KHSST27719**	M2,5 x 0,45	1.81	.50	.141	2	D3
KHSST09129	**KHSST27723**	M3 x 0,5	1.94	.63	.141	2	D3
KHSST09130	**KHSST27731**	M4 x 0,7	2.13	.75	.168	2	D4
KHSST09131	**KHSST27739**	M5 x 0,8	2.38	.88	.194	2	D4
KHSST09132	**KHSST27743**	M6 x 1	2.50	1.00	.255	2	D5
KHSST09133	**KHSST27751**	M8 x 1,25	2.72	1.13	.318	2	D5
KHSST28152	**KHSST27759**	M10 x 1,5	2.94	1.25	.381	3	D6
KHSST09135	**KHSST27767**	M12 x 1,75	3.38	1.66	.367	3	D6
—	**KHSST28447**	M14 x 2	3.59	1.66	.429	3	D7
—	**KHSST27787**	M16 x 2	3.81	1.81	.480	3	D6
—	**KHSST28448**	M16 x 2	3.81	1.81	.480	3	D7
—	**KHSST27798**	M20 x 2,5	4.47	2.00	.652	4	D7

NOTE: Metric taps for 6H class of fit are suitable for MJ aerospace internal threading applications.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.

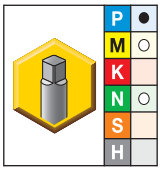


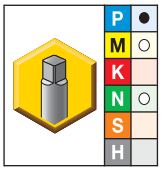




NEW!

KHSST Forming Taps • Machine Screw and Fractional • Plug Entry Taper Tap



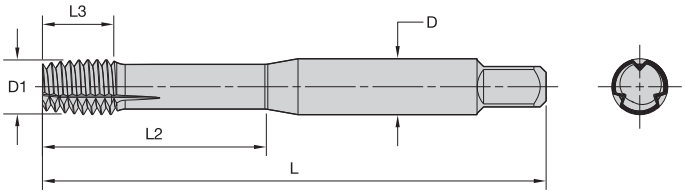


● first choice
○ alternate choice

TiCN	TiN	D1 size	L	L3	L2	D	number of lube grooves	pitch diameter limit
KHSST28578	KHSST28579	6 - 32	2.00	.38	.69	.141	4	H3
KHSST28580	KHSST28581	6 - 32	2.00	.38	.69	.141	4	H5
KHSST28582	KHSST28583	6 - 40	2.00	.38	.69	.141	4	H3
KHSST28584	KHSST28585	6 - 40	2.00	.38	.69	.141	4	H5
KHSST28586	KHSST28587	8 - 32	2.13	.38	.75	.168	4	H3
KHSST28588	KHSST28589	8 - 32	2.13	.38	.75	.168	4	H5
KHSST28552	KHSST28553	10 - 24	2.38	.50	.88	.194	4	H4
KHSST28554	KHSST28555	10 - 24	2.38	.50	.88	.194	4	H6
KHSST28556	KHSST28557	10 - 32	2.38	.50	.88	.194	4	H4
KHSST28558	KHSST28559	10 - 32	2.38	.50	.88	.194	4	H6
KHSST28560	KHSST28561	12 - 24	2.38	.50	.94	.220	4	H4
KHSST28562	KHSST28563	12 - 24	2.38	.50	.94	.220	4	H6
KHSST28544	KHSST28545	1/4 - 20	2.50	.63	1.00	.255	4	H4
KHSST28546	KHSST28547	1/4 - 20	2.50	.63	1.00	.255	4	H6
KHSST28548	KHSST28549	1/4 - 28	2.50	.63	1.00	.255	4	H4
KHSST28550	KHSST28551	1/4 - 28	2.50	.63	1.00	.255	4	H6
KHSST28570	KHSST28571	5/16 - 18	2.72	.69	1.13	.318	4	H5
KHSST28572	KHSST28573	5/16 - 18	2.72	.69	1.13	.318	4	H7
KHSST28574	KHSST28575	5/16 - 24	2.72	.69	1.13	.318	4	H5
KHSST28576	KHSST28577	5/16 - 24	2.72	.69	1.13	.318	4	H7
KHSST28564	KHSST28565	3/8 - 16	2.94	.75	1.25	.381	4	H5
KHSST28566	KHSST28567	3/8 - 16	2.94	.75	1.25	.381	4	H7
KHSST28568	KHSST28569	3/8 - 24	2.94	.75	1.55	.381	4	H5
KHSST28538	KHSST28539	1/2 - 13	3.38	.94	—	.367	4	H5
KHSST28540	KHSST28541	1/2 - 13	3.38	.94	—	.367	4	H7
KHSST28542	KHSST28543	1/2 - 20	3.38	.94	—	.367	4	H5

NOTE: Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

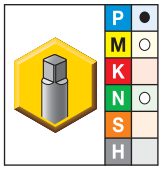


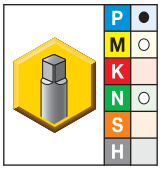




NEW!

Forming Taps • Machine Screw and Fractional • Bottom Entry Taper Tap

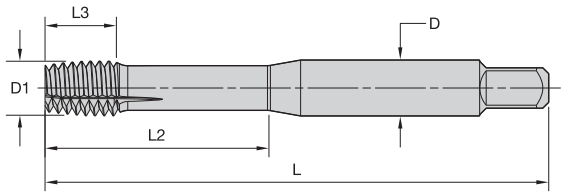




● first choice
○ alternate choice

TiCN	TiN	D1 size	L	L3	L2	D	number of lube grooves	pitch diameter limit
KHSST28630	**KHSST28631**	6 - 32	2.00	.38	.69	.141	4	H3
KHSST28632	**KHSST28633**	6 - 32	2.00	.38	.69	.141	4	H5
KHSST28634	**KHSST28635**	6 - 40	2.00	.38	.69	.141	4	H3
KHSST28636	**KHSST28637**	6 - 40	2.00	.38	.69	.141	4	H5
KHSST28638	**KHSST28639**	8 - 32	2.13	.38	.75	.168	4	H3
KHSST28640	**KHSST28641**	8 - 32	2.13	.38	.75	.168	4	H5
KHSST28642	**KHSST28643**	8 - 36	2.13	.38	.75	.168	4	H3
KHSST28644	**KHSST28645**	8 - 36	2.13	.38	.75	.168	4	H5
KHSST28604	**KHSST28605**	10 - 24	2.38	.50	.88	.194	4	H4
KHSST28606	**KHSST28607**	10 - 24	2.38	.50	.88	.194	4	H6
KHSST28608	**KHSST28609**	10 - 32	2.38	.50	.88	.194	4	H4
KHSST28610	**KHSST28611**	10 - 32	2.38	.50	.88	.194	4	H6
KHSST28612	**KHSST28613**	12 - 24	2.38	.50	.94	.220	4	H4
KHSST28596	**KHSST28597**	1/4 - 20	2.50	.63	1.00	.255	4	H4
KHSST28598	**KHSST28599**	1/4 - 20	2.50	.63	1.00	.255	4	H6
KHSST28600	**KHSST28601**	1/4 - 28	2.50	.63	1.00	.255	4	H4
KHSST28602	**KHSST28603**	1/4 - 28	2.50	.63	1.00	.255	4	H6
KHSST28622	**KHSST28623**	5/16 - 18	2.72	.69	1.13	.318	4	H5
KHSST28624	**KHSST28625**	5/16 - 18	2.72	.69	1.13	.318	4	H7
KHSST28626	**KHSST28627**	5/16 - 24	2.72	.69	1.13	.318	4	H5
KHSST28628	**KHSST28629**	5/16 - 24	2.72	.69	1.13	.318	4	H7
KHSST28614	**KHSST28615**	3/8 - 16	2.94	.75	1.25	.381	4	H5
KHSST28616	**KHSST28617**	3/8 - 16	2.94	.75	1.25	.381	4	H7
KHSST28618	**KHSST28619**	3/8 - 24	2.94	.75	1.25	.381	4	H5
KHSST28620	**KHSST28621**	3/8 - 24	2.94	.75	1.25	.381	4	H7
KHSST28590	**KHSST28591**	1/2 - 13	3.38	.94	—	.367	4	H5
KHSST28592	**KHSST28593**	1/2 - 13	3.38	.94	—	.367	4	H7
KHSST28594	**KHSST28595**	1/2 - 20	3.38	.94	—	.367	4	H5

NOTE: Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

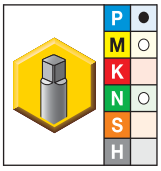


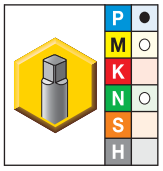




NEW!

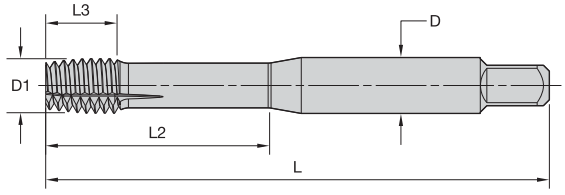
KHSST Forming Taps • Plug Entry Taper Tap • Metric ANSI





● first choice
○ alternate choice

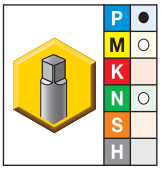
TiCN	TiN	D1 size	L	L3	L2	D	number of lube grooves	pitch diameter limit
KHSST28650	**KHSST28651**	M4 x 0,7	2.13	.38	.75	.168	4	D6
KHSST28652	**KHSST28653**	M5 x 0,8	2.38	.50	.88	.194	4	D7
KHSST28654	**KHSST28655**	M6 x 1	2.50	.63	1.00	.255	4	D8
KHSST28656	**KHSST28657**	M8 x 1,25	2.72	.69	1.13	.318	4	D9
KHSST28646	**KHSST28647**	M10 x 1,5	2.94	.75	1.25	.381	4	D10
KHSST28648	**KHSST28649**	M12 x 1,75	3.38	.94	—	.367	4	D11

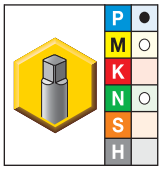






KHSST Forming Taps • Bottom Entry Taper Tap • Metric ANSI



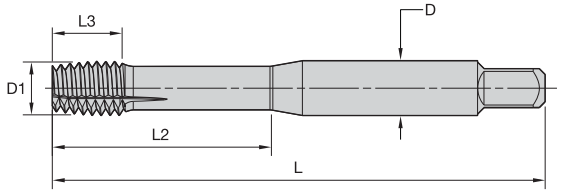


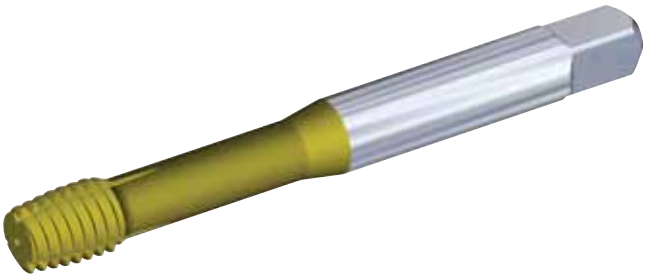
● first choice
○ alternate choice

TiCN	TiN	D1 size	L	L3	L2	D	number of lube grooves	pitch diameter limit
KHSST28662	**KHSST28663**	M4 x 0,7	2.13	.38	.75	.168	4	D6
KHSST28664	**KHSST28665**	M5 x 0,8	2.38	.50	.88	.194	4	D7
KHSST28666	**KHSST28667**	M6 x 1	2.50	.63	1.00	.255	4	D8
KHSST28668	**KHSST28669**	M8 x 1,25	2.72	.69	1.13	.318	4	D9
KHSST28658	**KHSST28659**	M10 x 1,5	2.94	.75	1.25	.381	4	D10
KHSST28660	**KHSST28661**	M12 x 1,75	3.38	.94	—	.367	4	D11

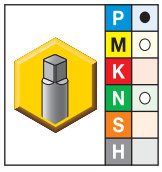
NOTE: Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.
Refer to table on page L292 for the recomended pitch diameter limit for 6H class of fit.

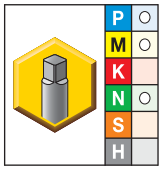






KHSST Forming Tap • Machine Screw and Fractional • Plug Entry Taper Tap



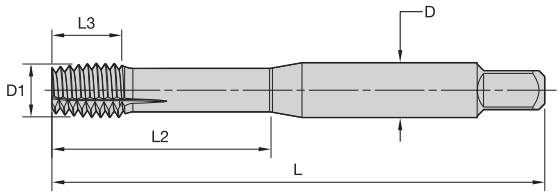


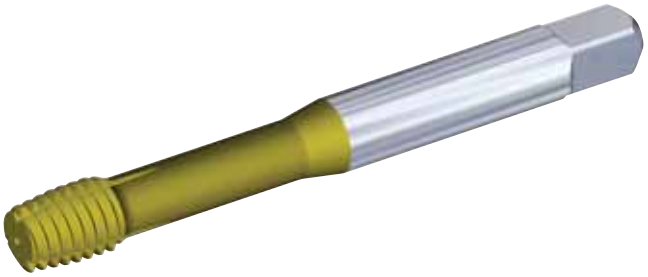
● first choice
○ alternate choice

TiN	uncoated	D1 size	L	L3	L2	D	number of lube grooves	pitch diameter limit
KHSST28769	KHSST28768	4 - 40	1.88	.31	.56	.141	—	H3
—	KHSST28771	4 - 40	1.88	.31	.56	.141	—	H5
—	KHSST28773	5 - 40	1.94	.31	.63	.141	4	H3
KHSST09301	KHSST28482	6 - 32	2.00	.38	.69	.141	4	H3
KHSST09302	KHSST10034	6 - 32	2.00	.38	.69	.141	4	H5
KHSST09303	KHSST28483	8 - 32	2.13	.38	.75	.168	4	H3
KHSST28161	KHSST10043	8 - 32	2.13	.38	.75	.168	4	H5
KHSST09305	KHSST28485	10 - 24	2.38	.50	.88	.194	4	H4
—	KHSST28486	10 - 24	2.38	.50	.88	.194	4	H6
KHSST09306	KHSST28487	10 - 32	2.38	.50	.88	.194	4	H4
—	KHSST10058	10 - 32	2.38	.50	.88	.194	4	H6
—	KHSST28755	12 - 24	2.38	.50	.94	.220	4	H4
—	KHSST28756	12 - 24	2.38	.50	.94	.220	4	H6
KHSST09307	KHSST28484	1/4 - 20	2.50	.63	1.00	.255	4	H4
—	KHSST10072	1/4 - 20	2.50	.63	1.00	.255	4	H6
KHSST28090	KHSST28089	1/4 - 28	2.50	.63	1.00	.255	4	H4
KHSST09309	—	5/16 - 18	2.70	.69	1.13	.318	4	H5
—	KHSST28489	5/16 - 18	2.72	.69	1.13	.318	4	H5
—	KHSST10084	5/16 - 18	2.72	.69	1.13	.318	4	H7
—	KHSST28227	5/16 - 24	2.72	.69	1.13	.318	4	H5
KHSST09310	KHSST28488	3/8 - 16	2.94	.75	1.25	.381	4	H5
—	KHSST10096	3/8 - 16	2.94	.75	1.25	.381	4	H7
—	KHSST28208	3/8 - 24	2.94	.75	—	.323	4	H8
—	KHSST28056	1/2 - 13	3.38	.94	—	.367	4	H5
—	KHSST10116	1/2 - 13	3.38	.94	—	.367	4	H8
—	KHSST28066	1/2 - 20	3.38	.94	—	.367	4	H5
—	KHSST28237	5/8 - 11	3.81	1.09	—	.480	4	H7
—	KHSST28171	3/4 - 10	4.25	1.22	—	.590	4	H7
—	KHSST28186	3/4 - 16	4.25	1.22	—	.590	4	H7

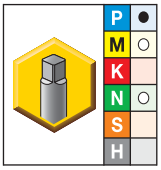
NOTE: Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

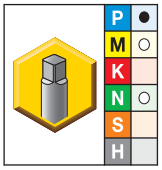


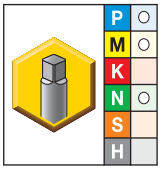




KHSST Form • Machine Screw and Fractional • Bottoming Chamfer Tap







● first choice
○ alternate choice

TiCN	TiN	uncoated	D1 size	L	L3	L2	D	number of lube grooves	pitch diameter limit
KHSST28508	KHSST28735	KHSST28734	0 - 80	1.63	.31	—	.141	—	H2
—	—	KHSST28736	0 - 80	1.63	.31	—	.141	—	H3
KHSST09624	—	—	2 - 56	1.75	.44	—	.141	—	H2
KHSST28510	KHSST28759	KHSST28758	2 - 56	1.75	.44	—	.141	—	H2
—	—	KHSST28760	2 - 56	1.75	.44	—	.141	—	H3
KHSST28512	KHSST28767	KHSST28766	4 - 40	1.88	.31	.56	.141	—	H3
—	—	KHSST28770	4 - 40	1.88	.31	.56	.141	—	H5
—	—	KHSST28772	5 - 40	1.94	.31	.63	.141	4	H3
KHSST28504	KHSST09316	KHSST28490	6 - 32	2.00	.38	.69	.141	4	H3
KHSST28505	KHSST09317	KHSST28491	6 - 32	2.00	.38	.69	.141	4	H5
KHSST28506	KHSST09318	KHSST28492	8 - 32	2.13	.38	.75	.168	4	H3
KHSST28507	KHSST09319	KHSST28493	8 - 32	2.13	.38	.75	.168	4	H5
KHSST28502	KHSST09320	KHSST28496	10 - 24	2.38	.50	.88	.194	4	H4
—	—	KHSST10053	10 - 24	2.38	.50	.88	.194	4	H6
KHSST28503	KHSST09321	KHSST28497	10 - 32	2.38	.50	.88	.194	4	H4
—	—	KHSST28498	10 - 32	2.38	.50	.88	.194	4	H6
KHSST28509	KHSST09322	KHSST28494	1/4 - 20	2.50	.63	1.00	.255	4	H4
—	—	KHSST28495	1/4 - 20	2.50	.63	1.00	.255	4	H6
KHSST28088	—	KHSST28087	1/4 - 28	2.50	.63	1.00	.255	4	H4
—	—	KHSST10079	1/4 - 28	2.50	.63	1.00	.255	4	H6
—	—	—	5/16 - 18	2.72	.69	1.13	.318	4	H5
KHSST28513	KHSST09324	KHSST28500	5/16 - 18	2.72	.69	1.13	.318	4	H5
—	—	KHSST28501	5/16 - 18	2.72	.69	1.13	.318	4	H7
KHSST28511	KHSST09325	KHSST28499	3/8 - 16	2.94	.75	1.25	.381	4	H5
—	—	KHSST10097	3/8 - 16	2.94	.75	1.25	.381	4	H7
—	—	KHSST28055	1/2 - 13	3.38	.94	—	.367	4	H5
—	—	KHSST10117	1/2 - 13	3.38	.94	—	.367	4	H8
—	—	KHSST28065	1/2 - 20	3.38	.94	—	.367	4	H5
—	—	KHSST28236	5/8 - 11	3.81	1.09	—	.480	4	H7
—	—	KHSST28243	5/8 - 18	3.81	1.09	—	.480	4	H7
		KHSST28170	3/4 - 10	4.25	1.22	—	.590	4	H7

NOTE: Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.



Quick Ship Services

Rely on the Kennametal Quick Ship Services to deliver the special taps you need, when and where you need them. Within minutes, we can quote, process, and release your order to the factory.

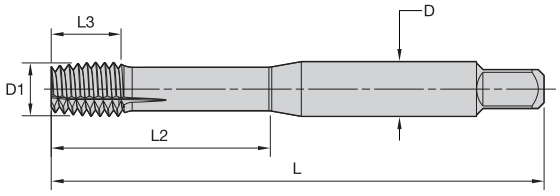
- Non-standard tap sizes, pitches, PDs, coatings, etc.
- Special taps can be used for tapping steel, cast iron, aluminum or brass.
- Custom ordered taps can be designed to thread INCONEL®, titanium, and high-temp alloys.
- Always accurate thread pitch diameters and gage fits.

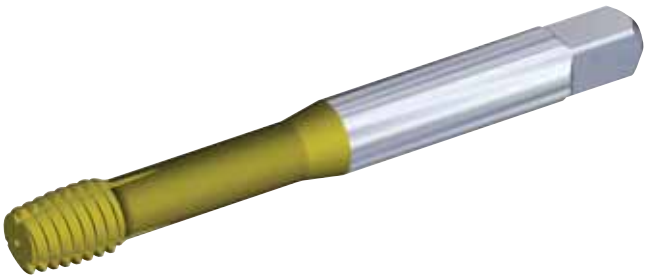
Let our Kennametal Quick Ship Services spark your production.
Contact your Authorized Kennametal Distributor or at **www.kennametal.com**.

www.kennametal.com

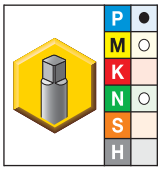
KENNAMETAL®

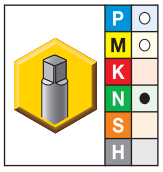






KHSST Form • Plug Entry Taper Tap • Metric ANSI





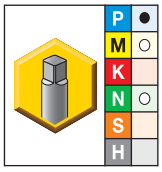
● first choice
○ alternate choice

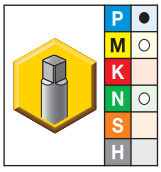
TiN	uncoated	D1 size	L	L3	L2	D	number of lube grooves	pitch diameter limit
KHSST28706	**KHSST28705**	M3 x 0,5	1.94	.31	.63	.141	4	D5
KHSST09327	**KHSST28515**	M4 x 0,7	2.13	.38	.75	.168	4	D6
KHSST28715	**–**	M5 x 0,8	2.38	.50	.88	.194	4	D7
KHSST09329	**KHSST28516**	M6 x 1	2.50	.63	1.00	.255	4	D8
KHSST09330	**KHSST28517**	M8 x 1,25	2.72	.69	1.13	.318	4	D9
KHSST09331	**KHSST28514**	M10 x 1,5	2.94	.75	1.25	.381	4	D10
KHSST09332	**–**	M12 x 1,75	3.38	1.66	–	.367	4	D11

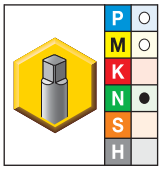
NOTE: Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.



KHSST Forming Tap • Bottom Entry Taper Tap • Metric ANSI





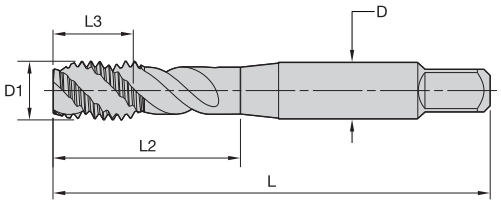


● first choice
○ alternate choice

TiCN	TiN	uncoated	D1 size	L	L3	L2	D	number of lube grooves	pitch diameter limit
KHSST28522	**KHSST28704**	**KHSST28703**	M3 x 0,5	1.94	.31	.63	.141	4	D5
KHSST28523	**KHSST09334**	**KHSST28519**	M4 x 0,7	2.13	.38	.75	.168	4	D6
KHSST09640	**KHSST28714**	**KHSST28718**	M5 x 0,8	2.38	.50	.88	.194	4	D7
KHSST28524	**KHSST09336**	**KHSST28520**	M6 x 1	2.50	.63	1.00	.255	4	D8
KHSST28525	**KHSST09337**	**KHSST28521**	M8 x 1,25	2.72	.69	1.13	.318	4	D9
KHSST09643	**KHSST09338**	**KHSST28518**	M10 x 1,5	2.94	.75	1.25	.381	4	D10
KHSST09644	**KHSST28689**	**–**	M12 x 1,75	3.38	.94	–	.367	4	D11

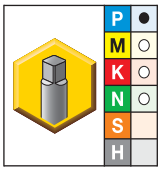
NOTE: Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Form taps require a larger drilled hole size prior to tapping than corresponding cutting taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.

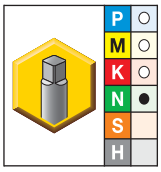






KHSST Spiral Flute • Machine Screw and Fractional • Plug Chamfer Tap



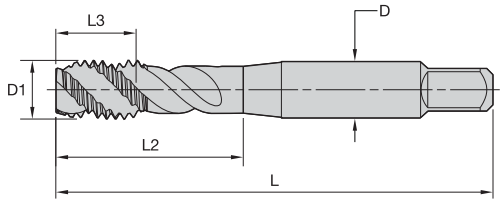


● first choice
○ alternate choice

TiN	uncoated	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
KHSST28763	**KHSST28765**	4 - 40	1.88	.56	—	.141	2	H2
KHSST28775	**KHSST28778**	6 - 32	2.00	.38	.69	.141	2	H3
KHSST28788	**KHSST28790**	8 - 32	2.13	.38	.75	.168	3	H3
—	**KHSST28741**	10 - 24	2.38	.50	.88	.194	3	H3
KHSST28748	**KHSST28750**	10 - 32	2.38	.50	.88	.194	3	H3
KHSST28138	**KHSST28076**	1/4 - 20	2.50	.63	1.00	.255	3	H3
—	**KHSST28084**	1/4 - 28	2.50	.63	1.00	.255	3	H3
KHSST28214	**KHSST28216**	5/16 - 18	2.72	.69	1.12	.318	3	H3
KHSST28224	—	5/16 - 24	2.72	.69	1.12	.318	3	H3
KHSST28190	**KHSST28193**	3/8 - 16	2.94	.75	1.25	.381	3	H3
—	**KHSST28206**	3/8 - 24	2.94	.75	1.25	.381	3	H3
—	**KHSST28673**	7/16 - 14	3.16	.88	—	.323	3	H3
KHSST28050	**KHSST28052**	1/2 - 13	3.38	.94	—	.367	3	H3
—	**KHSST28234**	5/8 - 11	3.81	1.09	—	.480	4	H3
—	**KHSST28168**	3/4 - 10	4.25	1.22	—	.590	4	H3

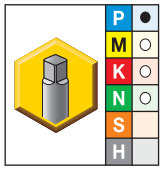
NOTE: Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

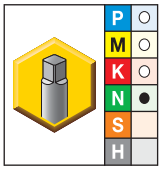






KHSST Spiral Flute • Machine Screw and Fractional • Bottoming Chamfer Tap



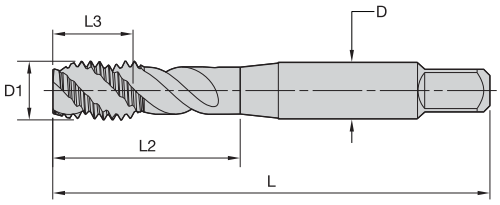


● first choice
○ alternate choice

TiN	uncoated	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
KHSST28761	**KHSST28762**	4 - 40	1.88	.56	—	.141	2	H2
KHSST28779	**KHSST28774**	6 - 32	2.00	.38	.69	.141	2	H3
KHSST28785	**KHSST28787**	8 - 32	2.13	.38	.75	.168	3	H3
KHSST28738	**KHSST28740**	10 - 24	2.38	.50	.88	.194	3	H3
KHSST28745	**KHSST28747**	10 - 32	2.38	.50	.88	.194	3	H3
KHSST28137	**KHSST28074**	1/4 - 20	2.50	.63	1.00	.255	3	H3
KHSST28081	**KHSST28083**	1/4 - 28	2.50	.63	1.00	.255	3	H3
KHSST28211	**KHSST28213**	5/16 - 18	2.72	.69	1.12	.318	3	H3
KHSST28221	**KHSST28223**	5/16 - 24	2.72	.69	1.12	.318	3	H3
KHSST28187	**KHSST28189**	3/8 - 16	2.94	.75	1.25	.381	3	H3
KHSST28201	**KHSST28203**	3/8 - 24	2.94	.75	1.25	.381	3	H3
KHSST28670	**KHSST28672**	7/16 - 14	3.16	.88	—	.323	3	H3
—	**KHSST28674**	7/16 - 20	3.16	.88	—	.323	3	H3
KHSST28047	**KHSST28049**	1/2 - 13	3.38	.94	—	.367	3	H3
—	**KHSST28062**	1/2 - 20	3.38	.94	—	.367	3	H3
—	**KHSST28231**	5/8 - 11	3.81	1.09	—	.480	4	H3
—	**KHSST28165**	3/4 - 10	4.25	1.22	—	.590	4	H3

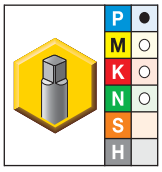
NOTE: Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

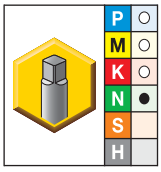






KHSST Spiral Flute • Plug Chamfer Tap • Metric ANSI



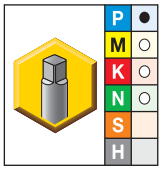


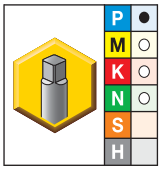
● first choice
○ alternate choice

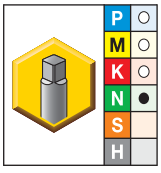
TiN	uncoated	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
KHSST28701	**KHSST28693**	M3 x 0,5	1.94	.31	—	.141	2	D3
KHSST28711	**KHSST28708**	M4 x 0,7	2.13	.38	.75	.168	3	D4
—	**KHSST28717**	M5 x 0,8	2.38	.50	.88	.194	3	D4
KHSST28725	**KHSST28722**	M6 x 1	2.50	.63	1.00	.255	3	D5
KHSST28729	**KHSST28727**	M8 x 1,25	2.72	.69	1.12	.318	3	D5
KHSST28686	**KHSST28684**	M10 x 1,5	2.94	.75	1.25	.381	3	D6
KHSST28690	**KHSST28688**	M12 x 1,75	3.38	.94	—	.367	3	D6



KHSST Spiral Flute • Bottoming Chamfer Tap • Metric ANSI





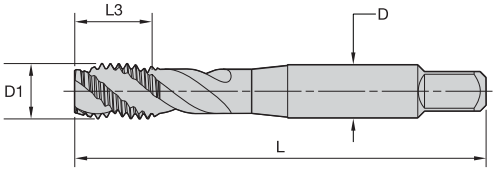


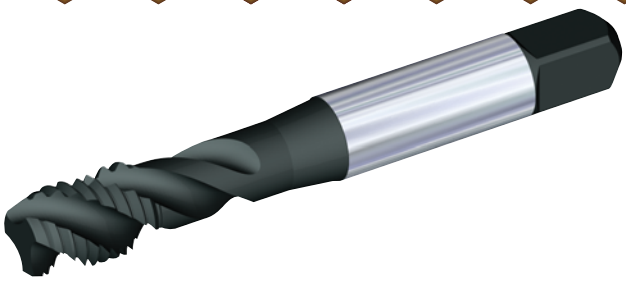
● first choice
○ alternate choice

TiCN	TiN	uncoated	D1 size	L	L3	L2	D	number of flutes	pitch diameter limit
KHSST28478	**KHSST28700**	**KHSST28692**	M3 x 0,5	1.94	.31	—	.141	2	D3
KHSST28709	**KHSST28710**	**KHSST28707**	M4 x 0,7	2.13	.38	.75	.168	3	D4
KHSST28479	**KHSST28719**	**KHSST28716**	M5 x 0,8	2.38	.50	.88	.194	3	D4
KHSST28723	**KHSST28724**	**KHSST28721**	M6 x 1	2.50	.38	.75	.255	3	D5
KHSST28480	**KHSST28728**	**KHSST28726**	M8 x 1,25	2.72	.69	1.12	.318	3	D5
KHSST28476	**KHSST28685**	**KHSST28683**	M10 x 1,5	2.94	.75	1.25	.381	3	D6
KHSST28477	**—**	**KHSST28687**	M12 x 1,75	3.38	.94	—	.367	3	D6

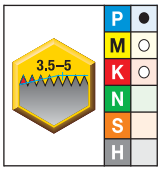
NOTE: Metric D limits are suitable for ISO 6H tolerance class.
Metric taps are manufactured to USCTI specifications and dimensions.
Metric tap blank dimensions are equivalent to inch taps.
Refer to table on page L292 for the recommended pitch diameter limit for 6H class of fit.

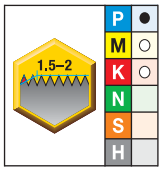






KHSST Heavy-Duty Spiral Flute • Machine Screw and Fractional • Plug Chamfer Tap





● first choice
○ alternate choice

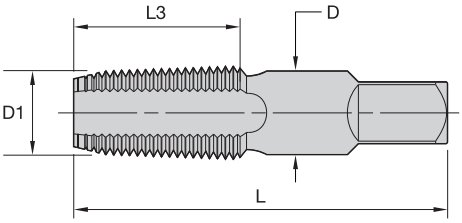
plug chamfer	bottoming chamfer	D1 size	L	L3	D	number of flutes	pitch diameter limit
KHSST28780	**KHSST28782**	6 - 32	2.00	.38	.141	3	H3
KHSST28786	**KHSST28789**	8 - 32	2.13	.38	.168	3	H3
KHSST28739	**–**	10 - 24	2.38	.50	.194	3	H3
KHSST28746	**KHSST28749**	10 - 32	2.38	.50	.194	3	H3
KHSST28073	**KHSST28075**	1/4 - 20	2.50	.63	.255	3	H3
KHSST28082	**–**	1/4 - 28	2.50	.63	.255	3	H3
KHSST28212	**KHSST28215**	5/16 - 18	2.72	.69	.318	3	H3
KHSST28222	**KHSST28225**	5/16 - 24	2.72	.69	.318	3	H3
KHSST28188	**KHSST28191**	3/8 - 16	2.94	.75	.381	3	H3
KHSST28202	**–**	3/8 - 24	2.94	.75	.381	3	H3
KHSST28671	**–**	7/16 - 14	3.16	.88	.323	3	H3
KHSST28048	**KHSST28051**	1/2 - 13	3.38	.94	.367	3	H3
KHSST28229	**KHSST28232**	5/8 - 11	3.81	1.09	.480	4	H3
KHSST28163	**KHSST28166**	3/4 - 10	4.25	1.22	.590	4	H3

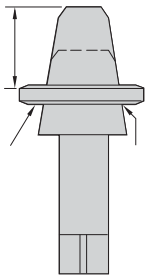
NOTE: KHSST taps for 3B class of fit are suitable for UNJ aerospace internal threading applications.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.

- Manufactured from select high-speed steel.
- Ground thread pipe taps are standard in American Standard Pipe Form (NPT) and American Standard Dryseal Pipe Thread Form (NPTF).
- NPT threads require the use of a sealer, such as Teflon® tape or pipe compound.
- NPTF dryseal threads give a pressure-tight joint without the use of sealer.
- The nominal size of a pipe tap is that of the pipe fitting to be tapped, not the actual size of the tap; thread taper is 3/4" per foot.
- Alternate tap coatings are available as stock modifications.



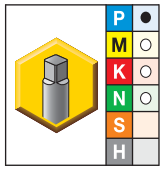


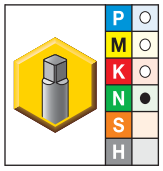




*Standard Projection
Shortest Projection
L1 Ring Gage
Basic Size

KHSST Taper Pipe Tap • Chamfer 2 1/2–3 1/2 Pitches





● first choice
○ alternate choice

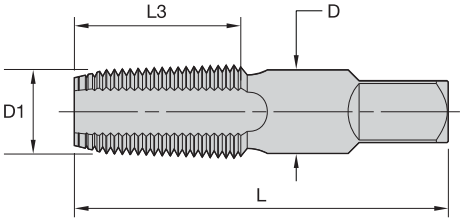
TiN	uncoated	D1 size	L	L3	D	number of flutes	thread type
KHSST09137	KHSST28443	1/16 - 27	2.13	.69	.313	4	NPT/ANPT
KHSST09140	KHSST08703	1/8 - 27	2.13	.75	.313	4	NPT/ANPT
KHSST28141	KHSST08705	1/8 - 27	2.13	.75	.313	4	NPTF
KHSST28139	KHSST08704	1/8 - 27	2.13	.75	.438	4	NPT/ANPT
KHSST28140	–	1/8 - 27	2.13	.75	.438	4	NPTF
KHSST09143	KHSST08709	1/4 - 18	2.44	1.06	.563	4	NPT/ANPT
–	KHSST28445	1/4 - 18	2.44	1.06	.563	4	NPTF
KHSST28142	KHSST28446	3/8 - 18	2.56	1.06	.700	4	NPT/ANPT
–	KHSST08712	3/8 - 18	2.56	1.06	.700	4	NPTF
KHSST09147	KHSST08715	1/2 - 14	3.13	1.66	.687	4	NPT/ANPT
KHSST28060	KHSST28444	1/2 - 14	3.13	1.66	.687	4	NPTF
KHSST28178	KHSST28177	3/4 - 14	3.25	1.38	.906	5	NPT/ANPT
KHSST28182	KHSST28181	3/4 - 14	3.25	1.38	.906	5	NPTF
KHSST09151	KHSST28106	1 - 11 1/2	3.75	1.75	1.125	5	NPT/ANPT
–	KHSST28107	1 - 11 1/2	3.75	1.75	1.125	5	NPTF
–	KHSST08724	1 1/4 - 11 1/2	4.00	1.75	1.313	5	NPT/ANPT
–	KHSST28002	1 1/2 - 11 1/2	4.25	3.00	1.500	7	NPT/ANPT
–	KHSST28109	2 - 11 1/2	4.25	1.75	1.875	7	NPT/ANPT
–	KHSST28110	2 - 11 1/2	4.25	1.75	1.875	7	NPTF

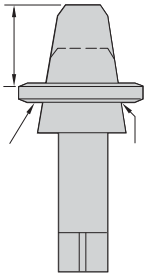
* Pipe tap projection is the distance the small end of the tap projects through an American National Standard Pipe Tap Thread Ring Gage.
NOTE: ANPT Taps marked NPT may be used for NPT and ANPT applications.

- Manufactured from select high-speed steel.
- Interrupted threads to reduce drag while taper pipe threading.
- Use where chip disposal is a concern.
- Odd number of flutes standard.
- NPT threads require the use of a sealer, such as Teflon® tape or pipe compound.
- NPTF dryseal threads give a pressure-tight joint without the use of sealer.



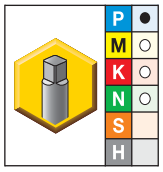


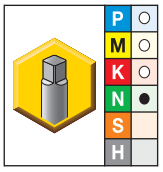




*Standard Projection
Shortest Projection
L1 Ring Gage
Basic Size

KHSST Taper Pipe Interruped Threads • Standard Pipe Chamfer Tap • Chamfer 2 1/2–3 1/2 Pitches





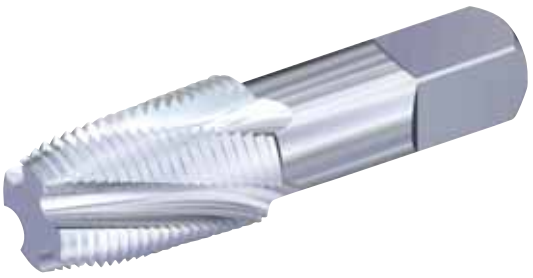
● first choice
○ alternate choice

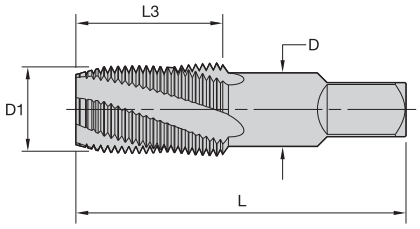
oxide	uncoated	D1 size	L	L3	D	number of flutes	thread type
KHSST28096	**KHSST28097**	1/8 - 27	2.13	.75	.313	5	NPT/ANPT
–	**KHSST28100**	1/8 - 27	2.13	.75	.313	5	NPTF
–	**KHSST28098**	1/8 - 27	2.13	.75	.438	5	NPT/ANPT
–	**KHSST28101**	1/8 - 27	2.13	.75	.438	5	NPTF
KHSST28070	**KHSST28071**	1/4 - 18	2.44	1.06	.563	5	NPT/ANPT
KHSST28059	**KHSST08772**	1/2 - 14	3.13	1.66	.688	5	NPT/ANPT
–	**KHSST28061**	1/2 - 14	3.13	1.66	.688	5	NPTF
–	**KHSST08769**	3/8 - 18	2.56	1.06	.700	5	NPT
KHSST28199	**KHSST28200**	3/8 - 18	2.56	1.06	.700	5	NPT/ANPT
KHSST28175	**KHSST28176**	3/4 - 14	3.25	1.38	.906	5	NPT/ANPT
–	**KHSST28179**	3/4 - 14	3.25	1.38	.906	5	NPTF
–	**KHSST28108**	1 - 11 1/2	3.75	1.75	1.125	5	NPT/ANPT
–	**KHSST08781**	1 1/4 - 11 1/2	4.00	1.75	1.313	5	NPT/ANPT
–	**KHSST28001**	1 1/2 - 11 1/2	4.25	3.00	1.500	7	NPT/ANPT

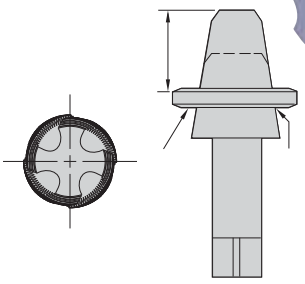
* Pipe tap projection is the distance the small end of the tap projects through an American National Standard Pipe Tap Thread Ring Gage.
NOTE: NPT taps may be used for ANPT applications.

- Manufactured from select tap high-speed steel.
- Ground threads standard in American Standard Pipe Form (NPT) and American Standard Dryseal Pipe Form (NPTF).
- NPT threads require the use of a sealer, such as Teflon® tape or pipe compound.
- NPTF dryseal threads give a pressure-tight joint without the use of sealer.
- Uncoated taps standard; coatings available as a stock modification.
- Spiral flutes lift chips out of the tapped hole reducing stop lines.
- Most effective in materials that produce long, stringy chips.



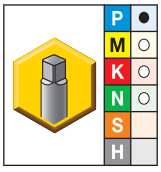






*Standard Projection
Shortest Projection
L1 Ring Gage
Basic Size

KHSST Spiral-Flute Taper Pipe • Standard Pipe Chamfer 2 1/2–3 1/2 Pitches



● first choice
○ alternate choice

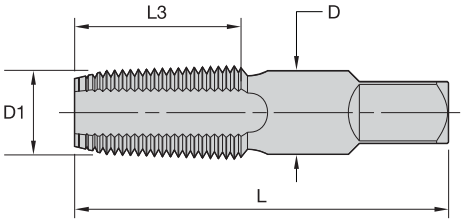
uncoated	D1 size	L	L3	D	number of flutes	thread type
KHSST28095	1/8 - 27	2.13	.75	.438	4	NPT/ANPT
KHSST28099	1/8 - 27	2.13	.75	.438	4	NPTF
KHSST28069	1/4 - 18	2.44	1.06	.563	4	NPT/ANPT
KHSST08859	1/2 - 14	3.13	1.66	.688	4	NPT/ANPT
KHSST28198	3/8 - 18	2.56	1.06	.700	4	NPT/ANPT
KHSST08861	3/4 - 14	3.25	1.38	.906	5	NPT
KHSST28180	3/4 - 14	3.25	1.38	.906	5	NPTF

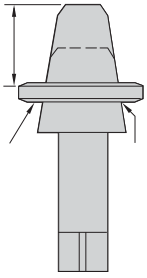
* Pipe tap projection is the distance the small end of the tap projects through an American National Standard Pipe Tap Thread Ring Gage.
NOTE: NPT taps may be used for ANPT applications.

- Manufactured from select high-speed steel.
- Ground thread pipe taps are standard in American Standard Pipe Form (NPT) and American Standard Dryseal Pipe Thread Form (NPTF).
- NPT threads require the use of a sealer, such as Teflon® tape or pipe compound.
- NPTF dryseal threads give a pressure-tight joint without the use of sealer.
- Uncoated taps standard; coatings available as specials.
- Hook designed for use in ductile materials that produce long, continuous chips.



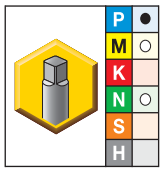






*Standard Projection
Shortest Projection
L1 Ring Gage
Basic Size

KHSST High-Hook Taper Pipe • Standard Pipe Chamfer 2 1/2–3 1/2 Pitches

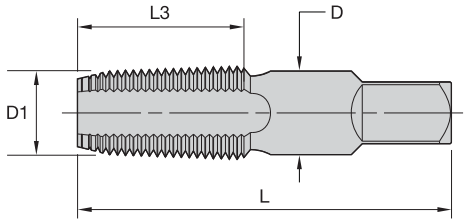


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	thread type
KHSST28536	1/4 - 18	2.44	1.06	.563	4	NPT/ANPT
KHSST28535	1/2 - 14	3.13	1.66	.688	4	NPT/ANPT
KHSST28537	3/8 - 18	2.56	1.06	.700	4	NPT/ANPT
KHSST28174	3/4 - 14	3.25	1.38	.906	5	NPT/ANPT
KHSST28105	1 - 11 1/2	3.75	1.75	1.125	5	NPT/ANPT

* Pipe tap projection is the distance the small end of the tap projects through an American National Standard Pipe Tap Thread Ring Gage.
NOTE: NPT taps may be used for ANPT applications.

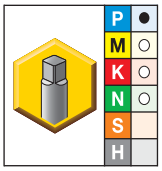
- Manufactured from select tap high-speed steel.
- Ground thread pipe taps are standard in American National Standard Straight Pipe (NPS) thread form and American National Standard Dryseal Straight Pipe (NPSF) thread form.
- NPS threads are suitable for tapping holes or couplings for low pressure work when used with a sealer; also suitable for NPSC and NPSM work.
- NPSF dryseal taps are intended for low pressure work such as fuel and oil lines where a sealer is not used.
- Dryseal threads give a low-pressure, pressure-tight joint without the use of sealer.







KHSST Straight Pipe • Modified Bottoming Chamfer Tap



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	thread series
KHSST28091	1/8 - 27	2.13	.75	.313	4	NPS
KHSST28093	1/8 - 27	2.13	.75	.313	4	NPSF
KHSST28094	1/8 - 27	2.13	.75	.438	4	NPSF
KHSST28092	1/8 - 27	2.13	.75	.438	4	NPS
KHSST28067	1/4 - 18	2.44	1.06	.563	4	NPS
KHSST28068	1/4 - 18	2.44	1.06	.563	4	NPSF
KHSST28058	1/2 - 14	3.13	1.66	.688	4	NPSF
KHSST28057	1/2 - 14	3.13	1.66	.688	4	NPS
KHSST28196	3/8 - 18	2.56	1.06	.700	4	NPS
KHSST28197	3/8 - 18	2.56	1.06	.700	4	NPSF
KHSST28173	3/4 - 14	3.25	1.38	.906	5	NPSF
KHSST28172	3/4 - 14	3.25	1.38	.906	5	NPS
KHSST28104	1 - 11 1/2	3.75	1.75	1.125	5	NPS



High-Performance Solid Carbide Thread Mills

Primary Application

Our solid thread mills are designed to deliver high-quality internal threading on 3-axis CNC machines. Because these mills are made of carbide, they are capable of easily cutting most difficult materials up to 63 HRC. Thread mills make interrupted cuts and short chips.

The combination of these design elements offers a range of benefits to improve overall thread quality and tool production. Short, easily evacuated chips generate less heat and friction, so there is a lower risk of damage to threading. Also, the superior carbide grades make threading easier and machining times shorter.

Features and Benefits

System Requirements

- 3-axis CNC machine.
- Good clamping for tool and workpiece.
- Internal coolant supply.

Features

- Interrupted cuts.
- Short chips.
- Optimized carbide grades.
- Drill, thread, countersink.

Advantages

- Versatile.
- Better surface quality.
- No chip problems.
- No need to reverse the spindle.
- More production safety.



Through and Blind Holes (2 x D)

		Thread Mill	Thread Mill and Chamfer	Drill, Thread Mill, and Chamfer	Mill, Thread Mill, and Chamfer
P	<35 HRC	TM711	TM721	—	TM741_RHSF
P	35–43 HRC	—	TM721	—	TM741_RHSF
M		TM711	TM721	—	TM741_RHSF
K		TM711	TM721	TM731	TM741_RHSF
N	Wrought	TM711	TM721	—	TM731
N	Cast	TM711	TM721	TM731	TM741_RHSF
S		TM711	TM721	—	TM741_LHSF
H	44–63 HRC	—	—	—	TM741_RHSF TM741_LHSF



High-Performance
Solid Carbide Thread Mills

Our solid thread mills are designed to deliver high-quality internal threading on 3-axis CNC machines. Because these mills are made of carbide, they are capable of easily cutting most difficult materials up to 63 HRC. Thread mills make interrupted cuts and short chips. The combination of these design elements offers a range of benefits to improve overall thread quality and tool production. Short, easily evacuated chips generate less heat and friction, so there is a lower risk of damage to threading. Also, the superior carbide grades make threading easier and machining times shorter.

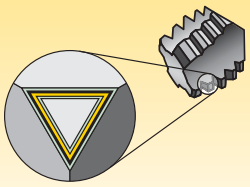
Features:

- 3-axis CNC machine.
- Good clamping for tool and workpiece.
- Internal coolant supply.
- Interrupted cuts.
- Short chips.
- Optimized carbide grades.
- Drill, thread, countersink.
- Versatile.
- Better surface quality.
- No chip problems.
- No need to reverse the spindle.
- More production safety.

Visit **www.kennametal.com** or contact your local Authorized Kennametal Distributor.

www.kennametal.com

KENNAMETAL®

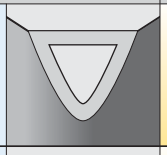
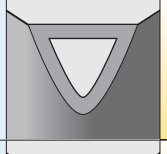
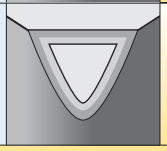


Coatings provide high-speed capability and are engineered for finishing to light roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous Materials
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grade

Coating		Grade Description	05 10 15 20 25 30 35 40 45
NEW! KCU32		Coated carbide. PVD — Fine-grain carbide substrate with high hardness TiCN coating. Universal grade for thread milling most materials.	P M K N S
NEW! KCU33		Coated carbide. PVD — Carbide substrate with heat-resistant TiAlN coating. Universal grade for thread milling most materials.	P M K N S
NEW! KCU36		Coated carbide. PVD — two-layer coating with heat-resistant TiAlN base layer and low-friction MoS_2 top layer over carbide substrate. Use for thread milling most materials including high hardness materials.	P M K N S H

Solid Thread Mills Identification System



Metric

TM721	MF	120	X	150	R	2D	HA

Inch

TM721	NC	06250	-	11	R	2D	HA
Tap Design	Type of Thread	Nominal Diameter of Thread		Pitch	Cutting Dimension	Depth of Cut	Shank
		mm or inch (depending on type)		mm or TPI (depending on type)			

M = Metric coarse-pitch thread (ISO form)

MF = Metric fine-pitch thread (ISO form)

NC = Unified coarse series thread

NF = Unified fine series thread

DIN 6535

HA = Plain Shank

HB = Weldon® Shank

HE = Whistle Notch™ Shank

Style

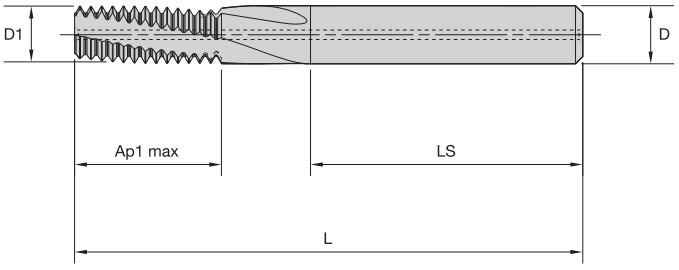
TM711 = Solid Thread Mill; through coolant

TM721 = Solid Thread Mill and Chamfer; through coolant

TM731 = Solid Thread Mill, Chamfer, and Drill; through coolant

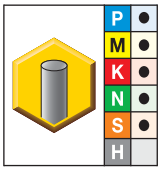
TM741 = Solid Thread Mill, Chamfer, and Mill; through coolant







TM711 • Through Coolant • Metric and Metric Fine



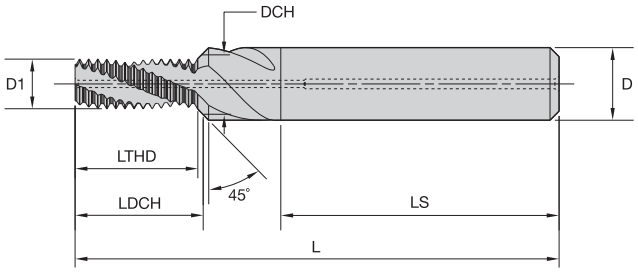
● first choice
○ alternate choice

KCU32	D1 size	D1	Ap1 max	L	LS	D	cutting edges
TM711M030X050R2DHA	M3 x 0.5	2,4	6,2	42	28	4,0	3
TM711MF040X050R2DHA	M4 x 0.5	3,4	8,2	55	36	6,0	3
TM711M040X070R2DHA	M4 x 0.7	3,2	8,7	55	36	6,0	3
TM711MF050X050R2DHA	M5 x 0.5	4,3	10,2	55	36	6,0	3
TM711M050X080R2DHA	M5 x 0.8	4,0	10,8	55	36	6,0	3
TM711MF060X075R2DHA	M6 x 0.75	5,0	12,4	55	36	6,0	3
TM711M060X100R2DHA	M6 x 1	4,8	12,5	55	36	6,0	3
TM711MF080X075R2DHA	M8 x 0.75	5,9	16,8	63	36	6,0	3
TM711MF080X100R2DHA	M8 x 1	5,9	16,4	63	36	6,0	3
TM711M080X125R2DHA	M8 x 1.25	5,9	16,8	63	36	6,0	3
TM711MF100X100R2DHA	M10 x 1	7,9	20,5	70	36	8,0	3
TM711M100X150R2DHA	M10 x 1.5	7,9	20,2	70	36	8,0	3
TM711MF120X100R2DHA	M12 x 1	9,9	24,5	80	40	10,0	4
TM711MF120X150R2DHA	M12 x 1.5	9,9	24,7	80	40	10,0	4
TM711M120X175R2DHA	M12 x 1.75	9,9	25,3	80	40	10,0	4
TM711MF140X150R2DHA	M14 x 1.5	9,9	29,2	80	40	10,0	4
TM711M140X200R2DHA	M14 x 2	11,6	29,0	90	45	12,0	4
TM711MF160X150R2DHA	M16 x 1.5	11,9	32,2	90	45	12,0	4
TM711M160X200R2DHA	M16 x 2	11,9	32,9	90	45	12,0	4
TM711MF180X150R2DHA	M18 x 1.5	13,9	36,7	90	45	14,0	4
TM711M180X250R2DHA	M18 x 2.5	13,9	38,7	90	45	14,0	4
TM711MF200X150R2DHA	M20 x 1.5	13,9	41,2	90	45	14,0	4
TM711M200X250R2DHA	M20 x 2.5	13,9	41,2	90	45	14,0	4

Shank Tolerance

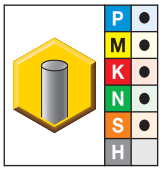
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–18	+0, -0,011
20–30	+0, -0,013







TM721 • UNC • Through Coolant • Inch

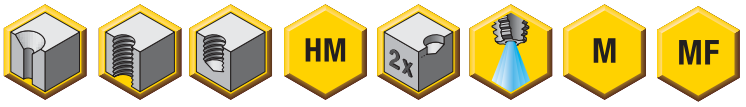


● first choice
○ alternate choice

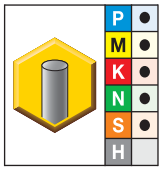
KCU32	D1 size	D1	DCH	LTHD	LDCH	L	LS	D	cutting edges
TM721NC2500-20R2DHA	1/4 - 20	4,7	6,7	13,36	14,23	62	36	8,0	3
TM721NC3125-18R2DHA	5/16 - 18	6,2	8,3	16,26	17,19	74	40	10,0	3
TM721NC3750-16R2DHA	3/8 -16	7,7	9,8	19,89	20,85	80	45	12,0	3
TM721NC4375-14R2DHA	7/16 - 14	9,0	11,4	22,72	23,79	80	45	12,0	3
TM721NC0500-13R2DHA	1/2 - 13	10,4	13,0	26,43	27,60	90	45	14,0	4
TM721NC5625-12R2DHA	9/16 - 12	11,8	14,6	30,75	31,99	100	48	16,0	4
TM721NC0625-11R2DHA	5/8 - 11	13,1	16,2	33,54	34,89	102	48	18,0	4

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–18	+0, -0,011
20–30	+0, -0,013

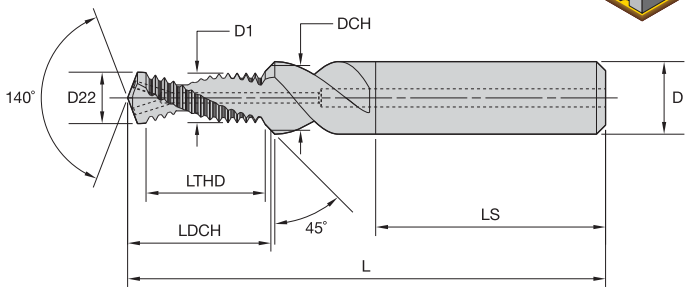


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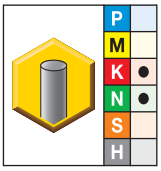
● first choice
○ alternate choice

KCU32	D1 size	D1	DCH	LTHD	LDCH	L	LS	D	cutting edges
TM721M050X080R2DHA	M5 x 0.8	4,0	5,3	10,82	11,40	55	36	6,0	3
TM721MF060X075R2DHA	M6 x 0.75	5,0	6,3	12,40	12,97	62	36	8,0	3
TM721M060X100R2DHA	M6 x 1	4,8	6,3	12,52	13,19	62	36	8,0	3
TM721MF080X100R2DHA	M8 x 1	6,7	8,3	16,53	17,23	74	40	10,0	3
TM721M080X125R2DHA	M8 x 1.25	6,5	8,3	16,91	17,71	74	40	10,0	3
TM721MF100X100R2DHA	M10 x 1	8,7	10,3	20,55	21,23	80	45	12,0	3
TM721MF100X125R2DHA	M10 x 1.25	8,4	10,3	20,67	21,50	80	45	12,0	3
TM721M100X150R2DHA	M10 x 1.5	8,2	10,3	20,29	21,22	80	45	12,0	3
TM721MF120X100R2DHA	M12 x 1	10,6	12,3	24,56	25,27	90	45	14,0	4
TM721MF120X125R2DHA	M12 x 1.25	10,4	12,3	24,43	25,24	90	45	14,0	4
TM721MF120X150R2DHA	M12 x 1.5	10,1	12,3	24,80	25,76	90	45	14,0	4
TM721M120X175R2DHA	M12 x 1.75	9,9	12,3	25,42	26,48	90	45	14,0	4
TM721MF140X150R2DHA	M14 x 1.5	12,1	14,3	29,31	30,25	100	48	16,0	4
TM721M140X200R2DHA	M14 x 2	11,6	14,3	29,05	30,24	100	48	16,0	4
TM721MF160X150R2DHA	M16 x 1.5	14,0	16,3	32,31	33,30	102	48	18,0	4
TM721M160X200R2DHA	M16 x 2	13,6	16,3	33,05	34,24	102	48	18,0	4





TM731 • UNC • Through Coolant • Inch



● first choice
○ alternate choice

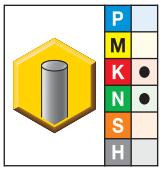
KCU32	D1 size	D22	D1	DCH	LTHD	LDCH	L	LS	D	cutting edges
TM731NC2500-20R2DHA	1/4 - 20	5,2	4,9	6,7	12,80	15,87	62	36	8,0	2
TM731NC3125-18R2DHA	5/16 - 18	6,6	6,3	8,3	15,63	19,19	74	40	10,0	2
TM731NC3750-16R2DHA	3/8 - 16	8,0	7,7	9,8	19,16	23,25	79	45	12,0	2
TM731NC4375-14R2DHA	7/16 - 14	9,4	9,0	11,4	21,89	26,58	79	45	12,0	2
TM731NC0500-13R2DHA	1/2 - 13	10,8	10,4	13,0	25,52	30,71	89	45	14,0	2
TM731NC5625-12R2DHA	9/16 - 12	12,3	11,8	14,6	27,66	33,37	102	48	16,0	2
TM731NC0625-11R2DHA	5/8 - 11	13,5	13,1	16,2	30,14	36,40	102	48	18,0	2

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–18	+0, -0,011
20–30	+0, -0,013



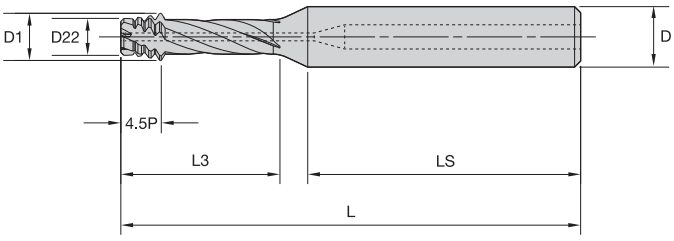
TM731 • Through Coolant • Metric and Metric Fine



● first choice
○ alternate choice

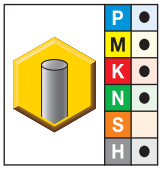
KCU32	D1 size	D22	D1	DCH	LTHD	LDCH	L	LS	D	cutting edges
TM731M040X070R2DHA	M4 x 0.7	3,3	3,2	4,3	7,74	9,59	49	36	6,0	2
TM731M050X080R2DHA	M5 x 0.8	4,2	4,0	5,3	9,65	11,82	55	36	6,0	2
TM731MF060X075R2DHA	M6 x 0.75	5,3	5,1	6,3	12,07	14,37	62	36	8,0	2
TM731M060X100R2DHA	M6 x 1	5,0	4,8	6,3	12,06	14,69	62	36	8,0	2
TM731MF080X100R2DHA	M8 x 1	7,0	6,8	8,3	16,09	19,10	74	40	10,0	2
TM731M080X125R2DHA	M8 x 1.25	6,8	6,5	8,3	15,08	18,42	74	40	10,0	2
TM731MF100X100R2DHA	M10 x 1	9,0	8,7	10,3	20,11	23,52	79	45	12,0	2
TM731MF100X125R2DHA	M10 x 1.25	8,8	8,4	10,3	20,11	23,87	79	45	12,0	2
TM731M100X150R2DHA	M10 x 1.5	8,5	8,2	10,3	19,59	23,65	79	45	12,0	2
TM731MF120X125R2DHA	M12 x 1.25	10,8	10,4	12,3	23,88	28,00	89	45	14,0	2
TM731MF120X150R2DHA	M12 x 1.5	10,5	10,2	12,3	24,12	28,57	89	45	14,0	2
TM731M120X175R2DHA	M12 x 1.75	10,3	9,9	12,3	22,86	27,63	89	45	14,0	2
TM731MF140X150R2DHA	M14 x 1.5	12,5	12,1	14,3	27,14	31,98	102	48	16,0	2
TM731M140X200R2DHA	M14 x 2	12,0	11,6	14,3	28,12	33,62	102	48	16,0	2
TM731MF160X150R2DHA	M16 x 1.5	14,5	14,1	16,3	31,65	36,87	102	48	18,0	2
TM731M160X200R2DHA	M16 x 2	14,0	13,6	16,3	32,13	38,00	102	48	18,0	2







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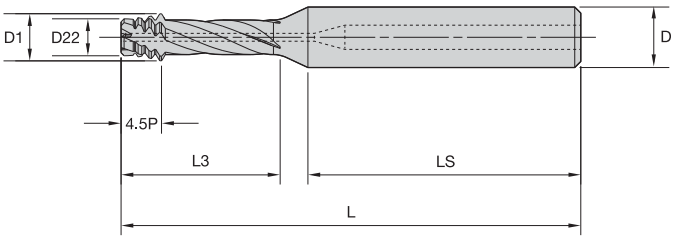
● first choice
○ alternate choice

KCU36	D1 size	D1	D22	L3	L	LS	D	cutting edges
TM741NC2500-20R2DHA	1/4 - 20	4,64	3,34	17,0	60	36	8,0	3
TM741NF2500-28R2DHA	1/4 - 28	4,66	3,62	17,0	60	36	8,0	3
TM741NC3125-18R2DHA	5/16 - 18	5,64	4,12	21,9	76	40	10,0	4
TM741NF3125-24R2DHA	5/16 - 24	5,64	4,48	21,9	76	40	10,0	4
TM741NC3750-16R2DHA	3/8 - 16	7,16	5,42	26,3	76	40	10,0	4
TM741NF3750-24R2DHA	3/8 - 24	7,14	6,00	26,3	76	40	10,0	4
TM741NF4375-20R2DHA	7/16 - 20	8,45	7,06	33,0	86	45	12,0	4
TM741NC4375-14R2DHA	7/16 - 24	8,47	6,49	31,0	86	45	12,0	4
TM741NC0500-13R2DHA	1/2 - 13	10,08	7,95	33,4	86	45	12,0	4
TM741NF0500-20R2DHA	1/2 - 20	8,45	7,06	33,0	86	45	12,0	4
TM741NC5625-12R2DHA	9/16 - 12	11,28	8,98	41,0	98	48	16,0	4
TM741NF5625-18R2DHA	9/16 - 18	11,27	9,72	41,0	98	48	16,0	4
TM741NC0625-11R2DHA	5/8 - 11	12,89	10,40	42,0	98	48	16,0	4
TM741NF0625-18R2DHA	5/8 - 18	12,38	10,83	42,0	98	48	16,0	4
TM741NC0750-11R2DHA	3/4 - 10	15,50	12,77	51,3	111	50	20,0	5
TM741NC0750-16R2DHA	3/4 - 16	15,38	13,65	51,3	111	50	20,0	5

Shank Tolerance

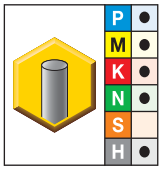
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–18	+0, -0,011
20–30	+0, -0,013







n TM741 • Through Coolant • Right Hand • Metric and Metric Fine



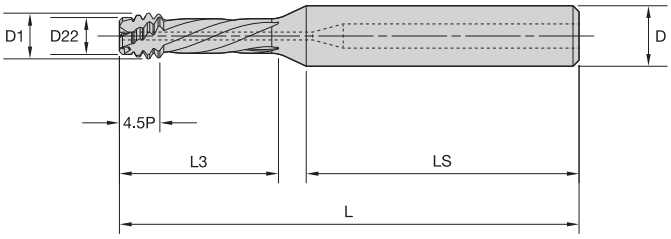
● first choice
○ alternate choice

KCU36	D1 size	D1	D22	L3	L	LS	D	cutting edges
TM741M060X100R2DHA	M6 x 1	4,51	3,41	16,5	60	36	8,0	3
TM741M070X100R2DHA	M7 x 1	4,51	3,41	16,5	60	36	8,0	3
TM741MF080X100R2DHA	M8 x 1	6,23	5,13	21,9	71	40	10,0	4
TM741M080X125R2DHA	M8 x 1.25	6,23	4,91	21,9	71	40	10,0	4
TM741MF090X100R2DHA	M9 x 1	6,23	5,13	21,9	71	40	10,0	4
TM741M090X125R2DHA	M9 x 1.25	6,23	4,91	21,9	71	40	10,0	4
TM741MF100X100R2DHA	M10 x 1	6,23	5,13	21,9	71	40	10,0	4
TM741MF100X125R2DHA	M10 x 1.25	6,23	4,91	21,9	71	40	10,0	4
TM741M100X150R2DHA	M10 x 1.5	7,75	6,11	26,3	76	40	10,0	4
TM741M110X150R2DHA	M11 x 1.5	7,75	6,11	26,3	76	40	10,0	4
TM741MF120X100R2DHA	M12 x 1	9,15	8,06	30,0	86	45	12,0	4
TM741MF120X150R2DHA	M12 x 1.5	7,75	6,11	26,3	76	40	10,0	4
TM741M120X175R2DHA	M12 x 1.75	9,16	7,21	32,4	86	45	12,0	4
TM741MF140X100R2DHA	M14 x 1	9,15	8,06	30,0	86	45	12,0	4
TM741MF140X150R2DHA	M14 x 1.5	10,83	9,15	37,4	98	48	16,0	4
TM741M140X200R2DHA	M14 x 2	11,08	8,91	41,0	98	48	16,0	4
TM741MF160X150R2DHA	M16 x 1.5	10,83	9,15	37,4	98	48	16,0	4
TM741M160X200R2DHA	M16 x 2	11,08	8,91	41,0	98	48	16,0	4
TM741MF180X150R2DHA	M18 x 1.5	14,83	13,15	47,0	98	48	16,0	4
TM741M180X250R2DHA	M18 x 2.5	14,38	11,71	51,3	111	50	20,0	5
TM741MF200X150R2DHA	M20 x 1.5	14,83	13,15	47,0	98	48	16,0	4
TM741M200X250R2DHA	M20 x 2.5	14,38	11,71	51,3	111	50	20,0	5
TM741MF220X150R2DHA	M22 x 1.5	18,23	16,55	56,0	111	50	20,0	5
TM741MF240X150R2DHA	M24 x 1.5	18,23	16,55	56,0	111	50	20,0	5
TM741M070X100L2DHA	M7 x 1	4,51	3,41	16,5	60	36	8,0	3
TM741M060X100L2DHA	M6 x 1	4,51	3,41	16,5	60	36	8,0	3
TM741M090X125L2DHA	M9 x 1.25	6,23	4,91	21,9	71	40	10,0	4
TM741M080X125L2DHA	M8 x 1.25	6,23	4,91	21,9	71	40	10,0	4
TM741M110X150L2DHA	M11 x 1.5	7,75	6,11	26,3	76	40	10,0	4
TM741M100X150L2DHA	M10 x 1.5	7,75	6,11	26,3	76	40	10,0	4
TM741MF120X150L2DHA	M12 x 1.5	9,17	7,21	32,4	86	45	12,0	4

Shank Tolerance

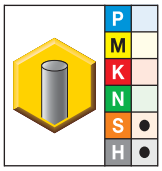
D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–18	+0, -0,011
20–30	+0, -0,013







n TM741 • Through Coolant • Left Hand • Metric and Metric Fine



● first choice
○ alternate choice

KCU36	D1 size	D1	D22	L3	L	LS	D	cutting edges
TM741M060X100L2DHA	M6 x 1	4,51	3,41	16,5	60	36	8,0	3
TM741M070X100L2DHA	M7 x 1	4,51	3,41	16,5	60	36	8,0	3
TM741M080X125L2DHA	M8 x 1.25	6,23	4,91	21,9	71	40	10,0	4
TM741M090X125L2DHA	M9 x 1.25	6,23	4,91	21,9	71	40	10,0	4
TM741M100X150L2DHA	M10 x 1.5	7,75	6,11	26,3	76	40	10,0	4
TM741M110X150L2DHA	M11 x 1.5	7,75	6,11	26,3	76	40	10,0	4
TM741MF120X150L2DHA	M12 x 1.5	9,17	7,21	32,4	86	45	12,0	4

Shank Tolerance

D	tolerance h6
6	+0, -0,008
8–10	+0, -0,009
12–18	+0, -0,011
20–30	+0, -0,013



Thread Mill TM711



Thread Mill and Chamfer TM721

Material Group		Cutting Speed — vc Range — m/min			Feed/Tooth by Diameter			Cutting Speed — vc Range — m/min			Feed/Tooth by Diameter		
		min	Starting Value	max		<10mm	>10mm	min	Starting Value	max		<10mm	>10mm
P	1	90	**115**	150	mm/r	0,05	0,08	140	**185**	240	mm/r	0,06	0,10
	2	90	**115**	150	mm/r	0,05	0,08	140	**185**	240	mm/r	0,06	0,10
	3	40	**50**	70	mm/r	0,02	0,03	70	**90**	120	mm/r	0,03	0,04
	4	–	**–**	–	–	–	–	70	**90**	120	mm/r	0,03	0,04
	5	60	**80**	100	mm/r	0,04	0,06	70	**90**	120	mm/r	0,05	0,08
	6	–	**–**	–	–	–	–	–	**–**	–	–	–	–
M	1	60	**80**	100	mm/r	0,04	0,06	70	**90**	120	mm/r	0,05	0,08
	2	60	**80**	100	mm/r	0,04	0,06	70	**90**	120	mm/r	0,05	0,08
	3	–	**–**	–	–	–	–	–	**–**	–	–	–	–
K	1	120	**150**	200	mm/r	0,06	0,10	130	**170**	220	mm/r	0,06	0,11
	2	120	**150**	200	mm/r	0,06	0,10	130	**170**	220	mm/r	0,06	0,11
	3	90	**115**	150	mm/r	0,05	0,07	110	**140**	180	mm/r	0,05	0,07
N	1	250	**275**	300	mm/r	0,07	0,09	270	**300**	330	mm/r	0,08	0,16
	2	200	**225**	250	mm/r	0,05	0,06	270	**300**	330	mm/r	0,08	0,16
	3	170	**190**	210	mm/r	0,04	0,05	160	**175**	190	mm/r	0,08	0,16
	4	250	**275**	300	mm/r	0,07	0,09	270	**300**	330	mm/r	0,08	0,16
	5	270	**300**	330	mm/r	0,12	0,13	250	**275**	300	mm/r	0,11	0,20
	6	170	**190**	210	mm/r	0,05	0,06	90	**100**	110	mm/r	0,11	0,20
S	1	60	**80**	100	mm/r	0,04	0,06	70	**90**	120	mm/r	0,05	0,08
	2	50	**65**	80	mm/r	0,03	0,04	50	**60**	80	mm/r	0,03	0,05
	3	50	**65**	80	mm/r	0,03	0,04	50	**60**	80	mm/r	0,03	0,05
	4	50	**65**	80	mm/r	0,03	0,04	50	**60**	80	mm/r	0,03	0,05



Thread Mill TM711



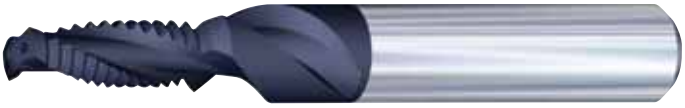
Thread Mill and Chamfer TM721

Material Group		Cutting Speed — vc Range — SFM			Feed/Tooth by Diameter			Cutting Speed — vc Range — SFM			Feed/Tooth by Diameter		
		min	Starting Value	max		<0.375"	>0.375"	min	Starting Value	max		<0.375"	>0.375"
P	1	300	**380**	490	IPR	0.002	0.003	460	**610**	790	IPR	0.002	0.004
	2	300	**380**	490	IPR	0.002	0.003	460	**610**	790	IPR	0.002	0.004
	3	130	**160**	230	IPR	0.001	0.001	230	**300**	390	IPR	0.001	0.001
	4	–	**–**	–	–	–	–	230	**300**	390	IPR	0.001	0.001
	5	200	**260**	330	IPR	0.002	0.002	230	**300**	390	IPR	0.002	0.003
	6	–	**–**	–	–	–	–	–	**–**	–	–	–	–
M	1	200	**260**	330	IPR	0.002	0.002	230	**300**	390	IPR	0.002	0.003
	2	200	**260**	330	IPR	0.002	0.002	230	**300**	390	IPR	0.002	0.003
	3	–	**–**	–	–	–	–	–	**–**	–	–	–	–
K	1	390	**490**	660	IPR	0.002	0.004	430	**560**	720	IPR	0.002	0.004
	2	390	**490**	660	IPR	0.002	0.004	430	**560**	720	IPR	0.002	0.004
	3	300	**380**	490	IPR	0.002	0.003	360	**460**	590	IPR	0.002	0.003
N	1	820	**900**	980	IPR	0.003	0.004	890	**980**	1080	IPR	0.003	0.006
	2	660	**740**	820	IPR	0.002	0.002	890	**980**	1080	IPR	0.003	0.006
	3	560	**620**	690	IPR	0.002	0.002	520	**570**	620	IPR	0.003	0.006
	4	820	**900**	980	IPR	0.003	0.004	890	**980**	1080	IPR	0.003	0.006
	5	890	**980**	1080	IPR	0.005	0.005	820	**900**	980	IPR	0.004	0.008
	6	560	**620**	690	IPR	0.002	0.002	300	**330**	360	IPR	0.004	0.008
S	1	200	**260**	330	IPR	0.002	0.002	230	**300**	390	IPR	0.002	0.003
	2	160	**210**	260	IPR	0.001	0.002	160	**200**	260	IPR	0.001	0.002
	3	160	**210**	260	IPR	0.001	0.002	160	**200**	260	IPR	0.001	0.002
	4	160	**210**	260	IPR	0.001	0.002	160	**200**	260	IPR	0.001	0.002



Drill, Chamfer, and Thread Mill TM731

Material Group		Cutting Speed — vc Range — m/min			Drilling				Milling			
					Recommended Feed by Diameter				Feed/Tooth by Diameter			
		min	Starting Value	max		<6mm	6–10mm	10–16mm		<6mm	6–10mm	10–16mm
K	1	130	**175**	230	mm/r	0,10	0,16	0,30	mm/r	0,05	0,07	0,10
N	2	270	**300**	330	mm/r	0,15	0,25	0,34	mm/r	0,06	0,08	0,12
N	3	140	**150**	170	mm/r	0,15	0,25	0,34	mm/r	0,06	0,08	0,12
N	4	270	**300**	330	mm/r	0,15	0,25	0,34	mm/r	0,06	0,08	0,12
N	5	110	**120**	130	mm/r	0,12	0,20	0,32	mm/r	0,06	0,08	0,12



Drill, Chamfer, and Thread Mill TM731

Material Group		Cutting Speed — vc Range — SFM			Drilling				Milling			
					Recommended Feed by Diameter				Feed/Tooth by Diameter			
		min	Starting Value	max		<0.250"	0.250–0.375"	0.375–0.625"		<0.250"	0.250–0.375"	0.375–0.625"
K	1	430	**570**	750	IPR	0.004	0.006	0.012	IPR	0.002	0.003	0.004
N	2	890	**980**	1080	IPR	0.006	0.010	0.013	IPR	0.002	0.003	0.005
N	3	460	**490**	560	IPR	0.006	0.010	0.013	IPR	0.002	0.003	0.005
N	4	890	**980**	1080	IPR	0.006	0.010	0.013	IPR	0.002	0.003	0.005
N	5	360	**390**	430	IPR	0.005	0.008	0.013	IPR	0.002	0.003	0.005

Carbide Recycling

Help preserve and protect our planet!

It's easy for your company to be environmentally conscious with the Kennametal Carbide Recycling Program.

By sending us your used carbide tools, you help preserve and protect the environment and ensure that these products are recycled responsibly. Kennametal accepts any coated or non-coated carbide items, including inserts, drills, reamers, and taps.



By using the Kennametal Carbide Recycling Program, you will receive:

- A partner who cares about a sustainable environment.
- Easy-to-use web portal to value your used carbide.
- Access to our popular Green Box™ options for carbide collection.
- Systematic and efficient disposal of carbide materials.
- Improved profitability.

Program is not currently available in all geographical areas.
For more information, please visit **www.kennametal.com/carbiderecycling.**



Mill, Chamfer, and Thread Mill TM741

Material Group		TM Style	Grade	Cutting Speed — vc Range — m/min min	Starting Value	max		Feed/Tooth by Diameter <10mm	>10mm
P	1	TM741 R	KCU36	170	**225**	290	mm/r	0,05	0,08
	2	TM741 R	KCU36	170	**225**	290	mm/r	0,05	0,08
	3	TM741 R	KCU36	120	**150**	200	mm/r	0,03	0,05
	4	TM741 R	KCU36	100	**125**	160	mm/r	0,03	0,05
	5	TM741 R	KCU36	120	**150**	200	mm/r	0,03	0,04
	6	TM741 R	KCU36	60	**80**	100	mm/r	0,03	0,04
M	1	TM741 R	KCU36	120	**150**	200	mm/r	0,03	0,04
	2	TM741 R	KCU36	120	**150**	200	mm/r	0,03	0,04
	3	TM741 R	KCU36	120	**150**	200	mm/r	0,03	0,04
K	1	TM741 R	KCU36	190	**250**	330	mm/r	0,06	0,10
	2	TM741 R	KCU36	190	**250**	330	mm/r	0,06	0,10
	3	TM741 R	KCU36	140	**185**	240	mm/r	0,04	0,07
N	1	–	–	–	**–**	–	–	–	–
	2	–	–	–	**–**	–	–	–	–
	3	TM741 R	KCU36	180	**230**	300	mm/r	0,06	0,07
	4	TM741 R	KCU36	210	**275**	360	mm/r	0,06	0,07
	5	–	–	–	**–**	–	–	–	–
	6	TM741 R	KCU36	210	**275**	360	mm/r	0,06	0,07
S	1	TM741 L	KCU36	120	**150**	200	mm/r	0,025	0,045
	2	TM741 L	KCU36	50	**60**	80	mm/r	0,015	0,025
	3	TM741 L	KCU36	50	**60**	80	mm/r	0,015	0,025
	4	TM741 L	KCU36	70	**90**	120	mm/r	0,025	0,035
H	1	TM741	KCU36	80	**100**	130	mm/r	0,030	0,050
	2	TM741	KCU36	80	**100**	130	mm/r	0,030	0,050
	3	TM741	KCU36	50	**65**	80	mm/r	0,020	0,030
	4	TM741	KCU36	50	**65**	80	mm/r	0,020	0,030



Mill, Chamfer, and Thread Mill TM741

Material Group		TM Style	Grade	Cutting Speed — vc Range — SFM min	Starting Value	max		Feed/Tooth By Diameter <0.375"	>0.375"
P	1	TM741 R	KCU36	560	**740**	950	IPR	0.002	0.003
	2	TM741 R	KCU36	560	**740**	950	IPR	0.002	0.003
	3	TM741 R	KCU36	390	**490**	660	IPR	0.001	0.002
	4	TM741 R	KCU36	330	**410**	520	IPR	0.001	0.002
	5	TM741 R	KCU36	390	**490**	660	IPR	0.001	0.002
	6	TM741 R	KCU36	200	**260**	330	IPR	0.001	0.002
M	1	TM741 R	KCU36	390	**490**	660	IPR	0.001	0.002
	2	TM741 R	KCU36	390	**490**	660	IPR	0.001	0.002
	3	TM741 R	KCU36	390	**490**	660	IPR	0.001	0.002
K	1	TM741 R	KCU36	620	**820**	1080	IPR	0.002	0.004
	2	TM741 R	KCU36	620	**820**	1080	IPR	0.002	0.004
	3	TM741 R	KCU36	460	**610**	790	IPR	0.002	0.003
N	1	–	–	–	**–**	–	–	–	–
	2	–	–	–	**–**	–	–	–	–
	3	TM741 R	KCU36	590	**750**	980	IPR	0.002	0.003
	4	TM741 R	KCU36	690	**900**	1180	IPR	0.002	0.003
	5	–	–	–	**–**	–	–	–	–
	6	TM741 R	KCU36	690	**900**	1180	IPR	0.002	0.003
S	1	TM741 L	KCU36	390	**490**	660	IPR	0.001	0.002
	2	TM741 L	KCU36	160	**200**	260	IPR	0.001	0.001
	3	TM741 L	KCU36	160	**200**	260	IPR	0.001	0.001
	4	TM741 L	KCU36	230	**300**	390	IPR	0.001	0.001
H	1	TM741	KCU36	260	**330**	430	IPR	0.001	0.002
	2	TM741	KCU36	260	**330**	430	IPR	0.001	0.002
	3	TM741	KCU36	160	**210**	260	IPR	0.001	0.001
	4	TM741	KCU36	160	**210**	260	IPR	0.001	0.001

NOTE: For thread depths over 2 x D up to 3 x D, reduce speed and feed by 25%.

Milling Methods

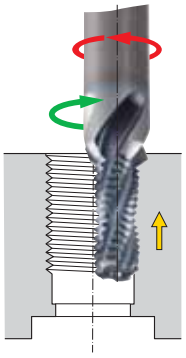
Climb Milling

Properties:

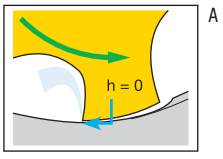
- Tool rotation direction clockwise
- Tool moves counter-clockwise
- Pitch “upwards”

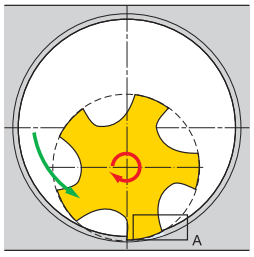
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- Right-hand thread



Climb milling is always when the cutting edge goes out of the material with a chip thickness h = 0





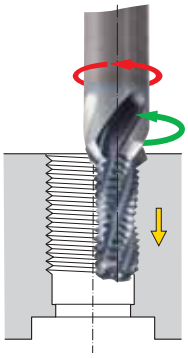
Conventional Milling

Properties:

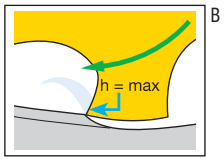
- Tool rotation direction clockwise
- Tool moves clockwise
- Pitch “downwards”

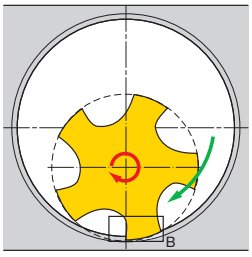
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- Right-hand thread



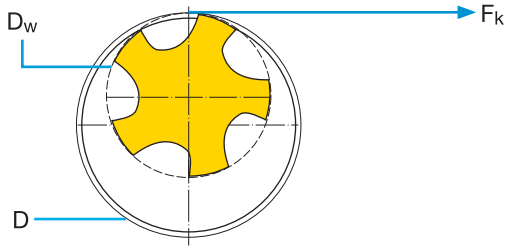
Conventional milling is always when the cutting edge goes out of the material with a chip thickness h = max





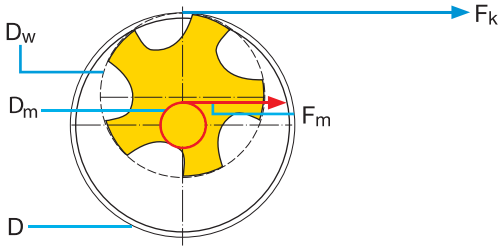
Counter Feed F_k

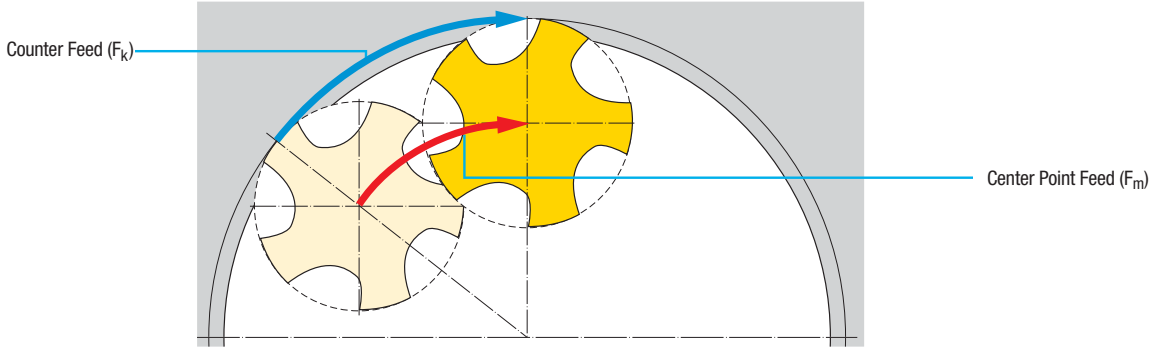
$$F_k = n \cdot f_z \cdot Z \text{ [mm/min]}$$



Center Point Feed F_m

$$F_m = \frac{F_k \cdot (D\text{-}D_w)}{D} \text{ [mm/min]}$$



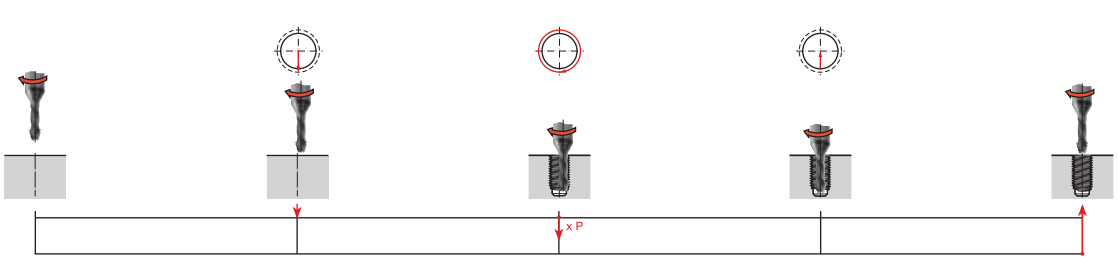


D_w = Tool diameter [mm]
n = RPM [min^{-1}]
f_z = Feed per tooth [mm]
Z = Number of teeth on tool (radial)
D = Nominal diameter of thread = Diameter of external contour [mm]
D_m = Diameter of the center point (D-D_w) [mm]

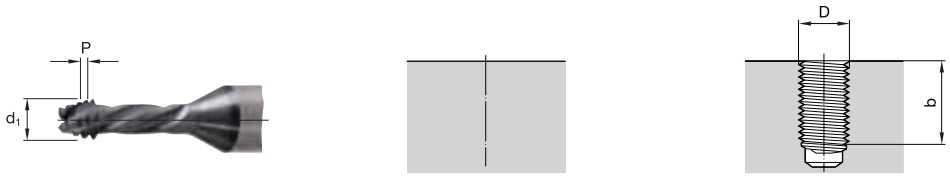
Drill Thread Mill TM741 • Right Hand

Preparation	None
Process Principle	Milling thread and core hole, countersinking (conventional milling)

Cycle



Required Specification Values



Example

Size — M10-6H
Thread diameter D 10mm
Pitch P.....1,5mm
Core hole diameter D_1.....8,5mm

Material — Hard steel, 50 HRC

Grade — KCU36

Tool — TM741 Right Hand
Catalog number TM741M100X150R2DHA
Number of teeth Z 4
Tool diameter d_1 .....7,75mm*
Tool radius compensation k [1].....0,08mm**
Tool radius to be programmed [2] 3,795mm***
Thread depth b.....20mm
Cutting speed v_c .....100 m/min
Feed (milling) f_z.....0,04 mm/tooth
Number of turns [5].....17

*(measured on the cutting part) **0.01 x D; adjust to application ***(1/2 d_1 - k)

$$N = \frac{V_c \cdot 1000}{d_1 \cdot \pi} \qquad S = 4109$$

$$v_f = f_z \cdot Z \cdot n \qquad F = 657 \text{ (contour)}$$

$$N = \frac{v_f \text{ contour} \cdot (D-d_1)}{D} \qquad F = 148 \text{ (center point)}$$

Program to DIN 66025 (conventional milling, on the contour, incremental)

Positioning the tool	N 10	G 54	G 90	G 00	X…	Y…	Z 1.500	S 4109	T01 [2]	M03 [6]
Incremental programming	N 20	G 91								
Moving sideways to the starting point	N 30	G 42	G 01	X 0	Y-5	F 657 (contour)		[F 148] [4] (center point)		
Thread milling	N 40	G 02		X 0	Y 0	Z-1.500	I 0	J 5.000		
Repeat thread milling	… [5]									
Exit	N 50	G 40	G 01	X 0	Y 5					
Retracting tool to positioning level	N 70	G 90	G 00	Z 2						

Cutting time t_h	**51.6 seconds**

NOTES:
[1] The cutter radius measured over the tooth crests of the threaded part must be reduced by the amount of the cutter radius compensation. This is necessary to achieve a depth of cut to the middle of the 6H/ISO2 nut tolerance. Please note, however, that this also depends on the radial deflection of the tool (tensile strength of the material, projecting length of the tool).
[2] The cutter radius to be programmed is normally included in the tool memory.
[3] The thread depth b must be divisible by the thread pitch P.
[4] The feed values in brackets must be used for controllers, which do not calculate the center point feed themselves.
[5] **Set N40 must be repeated with the number of threads.** Repetitions N = thread depth b/pitch P (rounded up to the nearest integer).

Drill Thread Mill TM741 • Left Hand

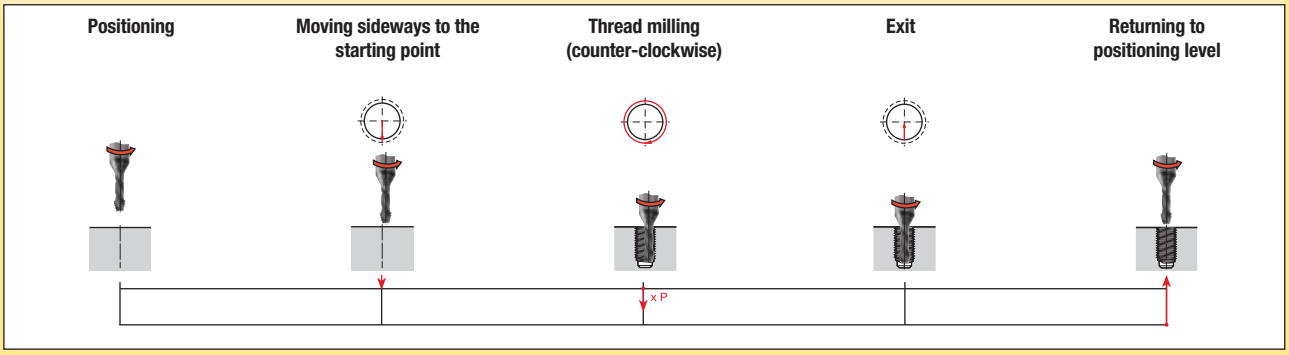
Preparation

None

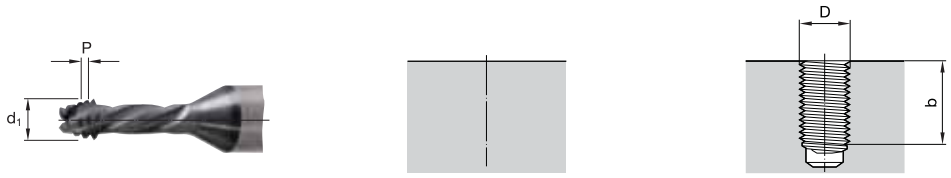
Process Principle

Milling thread and core hole, countersinking (climb milling)

Cycle



Required Specification Values



Example

Size — M10-6H
Thread diameter D 10mm
Pitch P.....1,5mm
Core hole diameter D_1.....8,5mm

Material — TiAl6V4 titanium

Grade — KCU36

Tool — TM741 Left Hand
Catalog number.....TM741M100X150L2DHA
Number of teeth Z 4
Tool diameter d_1 .....7,75mm*
Tool radius compensation k [1].....0,08mm**
Tool radius to be programmed [2] 3,795mm***
Drilling/countersink depth l_E.....20mm
Cutting speed v_c .....100 m/min
Feed (milling) f_z.....0,03 mm/tooth
Number of turns [5].....17

*(measured on the cutting part) **(0.01 x D) ***(1/2 d_1 - k)

$$N = \frac{V_c \cdot 1000}{d_1 \cdot \pi} \qquad S = 4109$$

$$v_f = f_z \cdot Z \cdot n \qquad F = 493 \text{ (contour)}$$

$$v_f = \frac{v_f \text{ contour} \cdot (D-d_1)}{D} \qquad F = 111 \text{ (center point)}$$

Program to DIN 66025 (climb milling, on the contour, incremental)

Positioning the tool	N 10	G 54	G 90	G 00	X…	Y…	Z 1.500	S 4109	T01 [2]	M04
Incremental programming	N 20	G 91								
Moving sideways to the starting point	N 30	G 42	G 01	X 0	Y-5	F 493 (contour)		[F 111] [4] (center point)		
Thread milling	N 40	G 02		X 0	Y 0	Z-1.500	I 0	J 5.000		
Repeat thread milling	… [5]									
Exit	N 50	G 40	G 01	X 0	Y 5					
Retracting tool to positioning level	N 70	G 90	G 00	Z 2						

Cutting time t_h

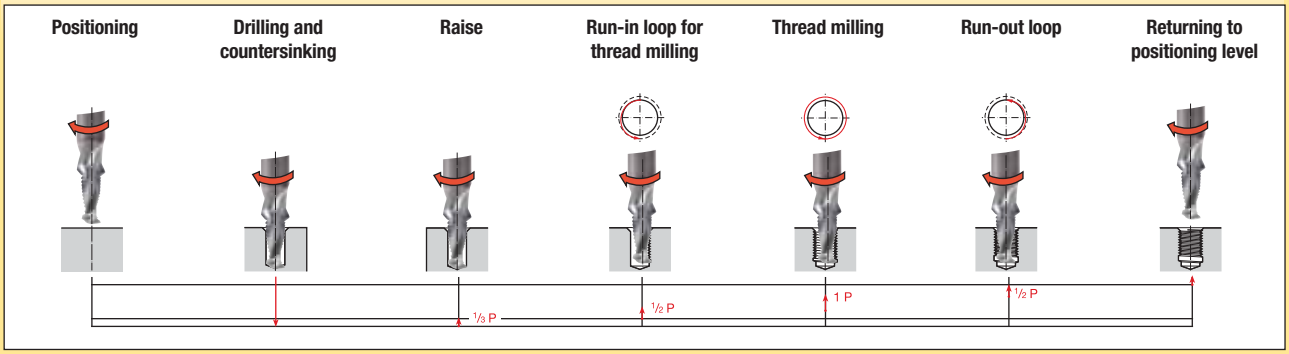
68.8 seconds

NOTES:
[1] The cutter radius measured over the tooth crests of the threaded part must be reduced by the amount of the cutter radius compensation. This is necessary to achieve a depth of cut to the middle of the 6H/ISO2 nut tolerance. Please note, however, that this also depends on the radial deflection of the tool (tensile strength of the material, projecting length of the tool).
[2] The cutter radius to be programmed is normally included in the tool memory.
[3] The thread depth b must be divisible by the thread pitch P.
[4] The feed values in brackets must be used for controllers, which do not calculate the center point feed themselves.
[5] **Set N40 must be repeated with the number of threads.** Repetitions N = thread depth b/pitch P (rounded up to the nearest integer).

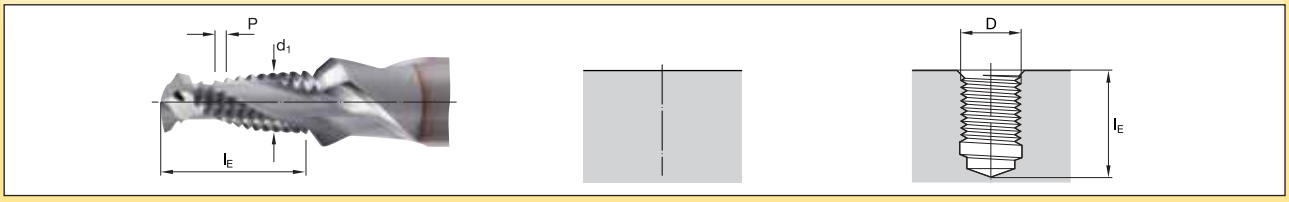
Drill Thread Mill TM731

Preparation	None
Process Principle	Drilling, countersinking, thread milling (climb milling)

Cycle



Required Specification Values



Example

Size — M10-6H
Thread diameter D 10mm
Pitch P.....1,5mm
Core hole diameter D_1.....8,5mm

Material — Gray cast iron

Grade — KCU32

Tool — TM731
Catalog number TM731M100X150R2DHA
Number of teeth Z 2
Tool diameter d_1 .....8,2mm*
Tool radius compensation k [1].....0,1mm**
Tool radius to be programmed [2] 4mm***
Drilling/countersink depth l_E 19,11mm
Cutting speed v_c .....250 m/min
Feed (drilling, countersinking) f_b .....0,25 mm/U
Feed (milling) f_z.....0,1 mm/tooth

*(measured on the cutting part) **(0.01 x D) ***(1/2 d_1 - k)

$N = \frac{V_c \cdot 1000}{d_1 \cdot \pi}$	S = 9709
$v_b = f_b \cdot n$	F = 2427 (drilling, countersinking)
$v_f = f_z \cdot Z \cdot n$	F = 1942 (contour)
$v_f = \frac{v_f \text{ contour} \cdot (D-d_1)}{D}$	F = 350 (center point)

Program to DIN 66025 (climb milling, on the contour, incremental)

Positioning the tool	N 10	G 54	G 90	G 00	X…	Y…	Z 2	S 9709	T01 [2]	M03
Drilling and countersinking	N 20	G 91	G 01	Z-21.110	F 2427 (drill, countersink)					
Raise	N 30	G 01	Z 0.500							
Moving sideways to the starting point	N 40	G 41	Y-4.250	F 971 (milling, 1/2 contour)				[F 175] [3] (1/2 center point)		
Run-in loop in arc	N 50	G 03	X 0	Y 9.250	Z 0.750	I 0	J 4.625			
Thread milling	N 60	G 03	X 0	Y 0	Z 1.500	I 0	J -5.000	F1942 [F 350] [3] (center point)		
Run-out loop in arc	N 70	G 03	X 0	Y-9.250	Z 0.750	I 0	J- 4.625			
Exit	N 80	G 00	G 40	X 0	Y 4.250					
Retracting tool to positioning level	N 90	G 90	Z 2							

Cutting time t_h	**2.3 seconds**

NOTES:
[1] The cutter radius measured over the tooth crests of the threaded part must be reduced by the amount of the cutter radius compensation. This is necessary to achieve a depth of cut to the middle of the 6H/ISO2 nut tolerance. Please note, however, that this also depends on the radial deflection of the tool (tensile strength of the material, projecting length of the tool).
[2] The cutter radius to be programmed is normally included in the tool memory.
[3] The feed values in brackets must be used for controllers, which do not calculate the center point feed themselves.

Thread Mill TM721

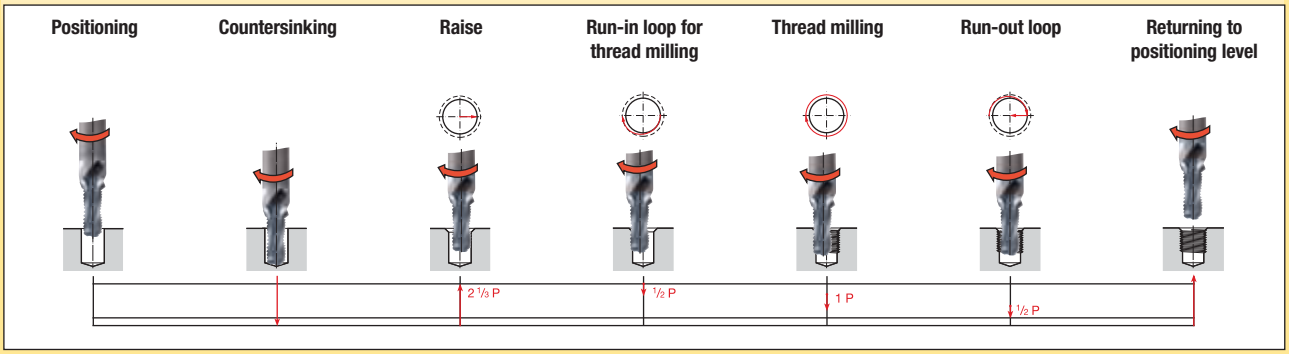
Preparation

Drilling of thread hole

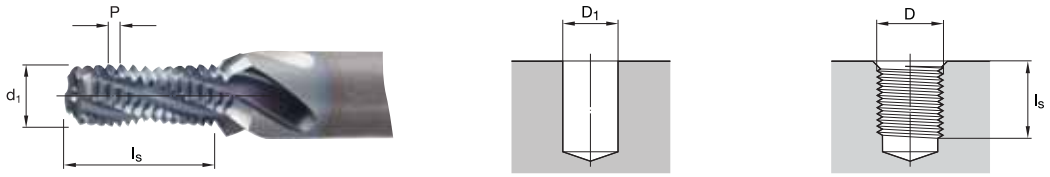
Process Principle

Countersinking, thread milling (conventional milling)

Cycle



Required Specification Values



Example

Size — M10-6H
Thread diameter D 10mm
Pitch P.....1,5mm
Core hole diameter D_1.....8,5mm

Material — Cast aluminum

Grade — KCU32

Tool — TM721
Catalog number TM721M100X150R2DHA
Number of teeth Z 3
Tool diameter d_1 .....8,2mm*
Tool radius compensation k [1].....0,1mm**
Tool radius to be programmed [2] 4mm***
Countersink depth l_s 21,2mm
Cutting speed v_c .....250 m/min
Feed (countersinking) f_s .....0,3 mm/U
Feed (milling) f_z.....0,09 mm/tooth

*(measured on the cutting part) **(0.01 x D) ***(1/2 d_1 - k)

$N = \frac{V_c \cdot 1000}{d_1 \cdot \pi}$	S = 9709
$v_s = f_s \cdot n$	F = 2913 (countersinking)
$v_f = f_z \cdot Z \cdot n$	F = 2622 (contour)
$v_f = \frac{v_f \text{ contour} \cdot (D-d_1)}{D}$	F = 472 (center point)

Program to DIN 66025 (conventional milling, on the contour, incremental)

Positioning the tool	N 10	G 54	G 90	G 00	X…	Y…	Z 2	S 9709	T01 [2]	M03
Advancing tool to full thread depth	N 20	G 91	Z-21.200							
Countersinking	N 30	G 01	Z-2	F 2913 (countersink)						
Raise	N 40	G 00	Z 3.450							
Moving sideways to the starting point	N 50	G 42	G01	X 4.250	F 1311 (milling, 1/2 contour)		[F 236] [3] (milling,1/2 center point)			
Run-in loop in arc	N 60	G 02	X-9.25	Y 0.000	Z-0.750	I-4.625	J 0			
Thread milling	N 70	G 02	X 0	Y 0	Z-1.500	I 5	J 0.000	F2622 [F 472] [3] (center point)		
Run-out loop in arc	N 80	G 02	X 9.25	Y 0.000	Z-0.750	I 4.625	J 0			
Exit	N 90	G 40	G 01	X-4.25						
Retracting tool to positioning level	N 100	G 90	G 00	Z 2						

Cutting time t_h

1.4 seconds

NOTES:
[1] The cutter radius measured over the tooth crests of the threaded part must be reduced by the amount of the cutter radius compensation. This is necessary to achieve a depth of cut to the middle of the 6H/ISO2 nut tolerance. Please note, however, that this also depends on the radial deflection of the tool (tensile strength of the material, projecting length of the tool).
[2] The cutter radius to be programmed is normally included in the tool memory.
[3] The feed values in brackets must be used for controllers, which do not calculate the center point feed themselves.



Quick Ship

How to Order Special Taps; Delivery Matrix L198

Surface Treatments, Additional Features and Options, Coating Recommendation Chart L199

Common Specials L200–L218

Hand Taps L200–L208

Spiral-Point Taps L209–L210

Spiral-Flute Taps L211

Hand Taps, Metric Sizes L212–L217

Spiral-Point Taps, Metric Sizes L218

Special Taps from Blanks L219–L279

Hand Taps L219–L237

Spiral-Point Taps L238–L249

Spiral-Flute Taps L250–L252

Forming Taps L253–L254

K-SS Spiral-Point Taps L255–L257

K-SS Spiral-Flute Taps L258–L261

K-NI Spiral-Point Taps L262–L263

K-NI Spiral-Flute Taps L264–L265

K-TI Left-Hand Spiral-Flute Taps L266–L267

K-TI Spiral-Flute Taps L268–L269

Taper Pipe Taps L270

Taper Pipe Taps • Interrupted Threads L271

British Whitworth Taper Pipe Taps L272

British Whitworth Taper Pipe Taps • Interrupted Threads L273

Straight-Pipe Taps L274

British Whitworth Straight-Pipe Taps L275

Taper Pipe Taps • 6" L276

Taper Pipe Taps • 6" • Interrupted Threads L277

British Whitworth Taper Pipe Taps • 6" L278

British Whitworth Taper Pipe Taps • 6" • Interrupted Thread L279



Quick Ship

Rely on the Kennametal Quick Ship Services to deliver the special taps you need, when and where you need them. Within minutes, we can quote, process, and release your order to the factory.

Features and Benefits

- Non-standard tap sizes, pitches, PDs, coatings, etc.
- Special taps can be used for tapping steel, cast iron, aluminum or brass.
- Custom ordered taps can be designed to thread INCONEL®, titanium, and high-temp alloys.
- Always accurate thread pitch diameters and gage fits.
- Select products available for shipping within 24 hours.

24-hour shipping



How to Order Special Taps

Kennametal leads the industry in quoting technology. Experienced quotation specialists and product engineers use in-house designed software to generate a quote from a customer inquiry and design cutting tools with the requested features, modifications, options, and surface treatments. We are tool coating specialists.

Use the following outline when selecting a tap:

1. Determine the tap that will fulfill your cutting tool needs. For assistance, consult the Tap Selection Manual.
2. Consult the new Kennametal Innovations Master catalog, and check the Quick Ship section.
3. The Quick Ship section is organized in two sections: Common Special Taps and Special Taps from Blanks. Common Specials are manufactured from in-stock blanks and should be considered first. These items can be ordered by simply referencing a catalog number. For those items not listed in Common Specials, consult the Special Taps from Blanks section for availability.
4. If the style, size, and/or quantity is not listed, consult customer service for a factory quote. Kennametal is fully equipped and ready to design your tool to your unique specifications.

Please use the following guidelines when placing an order:

1. Tap style and required quantity.
2. Catalog number, if available.
3. Size and pitch (nominal diameter and threads per inch or mm pitch).
4. Number of flutes (if spiral flute state right or left hand and helix angle desired).
5. Chamfer (taper, plug, modified bottoming, or bottoming).
6. Surface treatments.
7. Right or left hand (we will assume right hand).
8. Additional features or options.

NOTE: If you do not specify the pitch, number of flutes, and/or chamfer, standard specifications will be applied and shipped uncoated.

Any additional information, such as material to be tapped, type of hole, and any general dimensions, such as overall length and shank diameter, will ensure a correct tap for your application.

Delivery Matrix

Common Special Taps and Special Taps from Blanks

sizes	max quantity	lead time
up to 13/16", M20	72 pcs.	24 hours
7/8–1", M22–M25	24 pcs.	24 hours
1 1/16–2", M27–M48	12 pcs.	24 hours
2 1/8–2 1/2", M56	6 pcs.	24 hours
larger than 2 1/2"	2 pcs.	24 hours
Rp (BSPP), Rc (BSPT), G (BSPF)	47 pcs.	72 hours

NOTE: For orders greater than specified maximum quantity, consult customer service.

Surface Treatments

(Add to lead time designated for special taps)

treatment	lead time	price
TiN — Titanium Nitride	24 hours	consult customer service
Steam Oxide	24 hours	N/C
Nitride	24 hours	N/C
Steam Oxide/Nitride	48 hours	N/C
TiCN — Titanium Carbonitride	1 week	consult customer service
TiAlN — Titanium Aluminum Nitride	2 weeks	consult customer service
CrN — Chromium Nitride	2 weeks	consult customer service
TiN+CrC/C — Titanium Nitride + Chromium Nitride	2 weeks	consult customer service

Additional Features and Options

(Add to lead time designated for special taps)

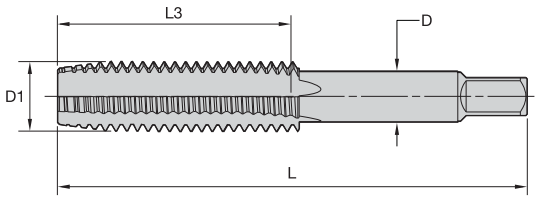
feature/option	lead time
controlled root (minor diameter ±.001")	no additional time
double lead (except form taps)	24 hours
triple lead	24 hours
interrupted threads, taper or straight flute, odd number	24 hours
external centers removed	no additional time
special marking	no additional time
special K-series Taps	5 days
STI Taps	24 hours

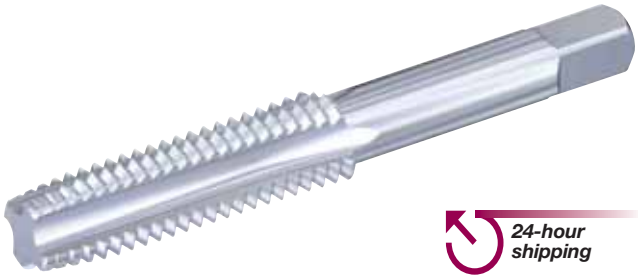
Coating Recommendation Chart

● first choice
○ alternate choice

material	oxide	nitride	TiN	TiCN	TiAiN	CrN	TiN+CrCC
P	○		○	●	○		○
M	○		○	○	○	○	●
K	○	○	○	●	○		
N		●	○	○			●
S		○	○	○	●	○	
H							
speed (SFM) increase	0%	0%	50%	50%	100%	0%	50%

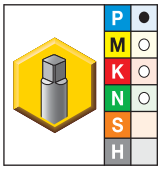






24-hour shipping

KHSST Hand • Machine Screw and Fractional Sizes • Taper Chamfer



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K27612	#12 - 28	2.38	0.94	0.220	4	H11
K26076	#12 - 32	2.38	0.94	0.220	4	H3
K26080	#12 - 36	2.38	0.94	0.220	4	H2
K27616	1/4 - 20	2.50	1.00	0.255	4	H11
K26097	1/4 - 24	2.50	1.00	0.255	4	H3
K26116	1/4 - 32	2.50	1.00	0.255	4	H3
K26134	1/4 - 40	2.50	1.00	0.255	4	H2
K28382	1/4 - 48	2.50	1.00	0.255	4	H3
K27627	5/8 - 11	3.81	1.81	0.480	4	H11
K27628	5/8 - 11	3.81	1.81	0.480	4	H11
K27631	11/16 - 24	4.03	1.81	0.542	4	H3
K14503	7/8 - 9	4.69	2.22	0.697	4	H4
K27639	7/8 - 14	4.69	2.22	0.697	4	H11
K14548	1 - 8	5.13	2.50	0.800	4	H4
K14561	1 - 12	5.13	2.50	0.800	4	H4
K14572	1 - 14	5.13	2.50	0.800	4	H4
K26535	1 1/16 - 12	5.13	2.50	0.896	4	H4

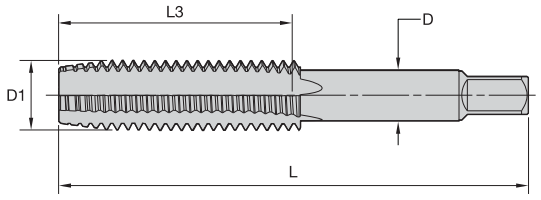
Ships in 24 Hours

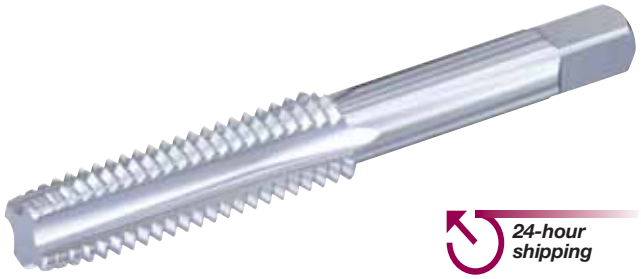
NOTE: UNC and UNF taps may be used in UNJC and UNJF applications respectively.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72

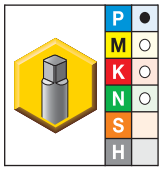
HSS 3.5–5 2B 3B UNF UNC ANSI





24-hour shipping

KHSST Hand • Machine Screw and Fractional Sizes • Plug Chamfer

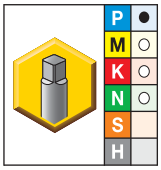


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K26002	#2 - 56	1.75	0.38	0.141	4	H4
K26008	#4 - 32	1.94	0.56	0.141	4	H2
K26017	#4 - 40	1.94	0.56	0.141	4	H3
K26043	#6 - 32	2.00	0.69	0.141	2	H11
K26039	#6 - 32	2.00	0.69	0.141	2	H7
K26031	#6 - 32	2.00	0.69	0.141	2	H3
K26035	#6 - 32	2.00	0.69	0.141	2	H5
K27301	#6 - 48	2.00	0.69	0.141	4	H2
K27305	#8 - 24	2.13	0.75	0.168	4	H3
K27318	#8 - 32	2.13	0.75	0.168	4	H11
K27312	#8 - 32	2.13	0.75	0.168	4	H5
K27308	#8 - 32	2.13	0.75	0.168	4	H3
K27322	#8 - 40	2.13	0.75	0.168	4	H2
K27337	#10 - 24	2.38	0.94	0.190	4	H11
K27334	#10 - 24	2.38	0.94	0.190	4	H7
K27330	#10 - 24	2.38	0.94	0.190	4	H5
K27326	#10 - 24	2.38	0.94	0.190	4	H3
K27341	#10 - 28	2.38	0.94	0.190	4	H3
K26045	#10 - 30	2.38	0.88	0.190	4	H3
K26057	#10 - 32	2.38	0.88	0.190	4	H11
K26054	#10 - 32	2.38	0.88	0.190	4	H7
K26050	#10 - 32	2.38	0.88	0.190	4	H5
K26061	#10 - 36	2.38	0.88	0.190	4	H2
K26064	#10 - 40	2.38	0.88	0.190	4	H2
K27609	#12 - 24	2.38	0.94	0.220	4	H11
K27613	#12 - 28	2.38	0.94	0.220	4	H11
K26077	#12 - 32	2.38	0.94	0.220	4	H3
K26081	#12 - 36	2.38	0.94	0.220	4	H2
K26084	#14 - 20	2.50	0.94	0.255	4	H3
K26087	#14 - 24	2.50	0.94	0.255	4	H3
K26093	1/4 - 20	2.50	1.00	0.255	4	H7
K26098	1/4 - 24	2.50	1.00	0.255	4	H3
K26102	1/4 - 27	2.50	1.00	0.255	4	H3
K26115	1/4 - 28	2.50	1.00	0.255	4	H11
K26110	1/4 - 28	2.50	1.00	0.255	4	H7
K26106	1/4 - 28	2.50	1.00	0.255	4	H5
K26113	1/4 - 28	2.50	1.00	0.255	4	H11
K26124	1/4 - 32	2.50	1.00	0.255	4	H5
K26117	1/4 - 32	2.50	1.00	0.255	4	H3
K26127	1/4 - 36	2.50	1.00	0.255	4	H2

(continued)

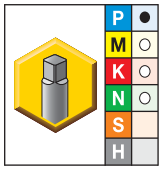
(KHSST Hand • Machine Screw and Fractional Sizes • Plug Chamfer continued)



uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K26131	1/4 - 36	2.50	1.00	0.255	4	H3
K26138	1/4 - 40	2.50	1.00	0.255	4	H3
K26135	1/4 - 40	2.50	1.00	0.255	4	H2
K26142	5/16 - 18	2.72	1.13	0.318	4	H7
K26147	5/16 - 20	2.72	1.13	0.318	4	H3
K26157	5/16 - 24	2.72	1.13	0.318	4	H11
K26151	5/16 - 24	2.72	1.13	0.318	4	H5
K26155	5/16 - 24	2.72	1.13	0.318	4	H6
K26161	5/16 - 27	2.72	1.13	0.318	4	H3
K26164	5/16 - 28	2.72	1.13	0.318	4	H3
K26171	5/16 - 32	2.72	1.13	0.318	4	H5
K26167	5/16 - 32	2.72	1.13	0.318	4	H3
K26174	5/16 - 40	2.72	1.13	0.318	4	H2
K26179	3/8 - 16	2.94	1.25	0.381	4	H7
K26184	3/8 - 18	2.94	1.25	0.381	4	H3
K26187	3/8 - 20	2.94	1.25	0.381	4	H3
K26200	3/8 - 24	2.94	1.25	0.381	4	H11
K26197	3/8 - 24	2.94	1.25	0.381	4	H7
K26193	3/8 - 24	2.94	1.25	0.381	4	H5
K26205	3/8 - 27	2.94	1.25	0.381	4	H3
K26208	3/8 - 28	2.94	1.25	0.381	4	H3
K26211	3/8 - 32	2.94	1.25	0.381	4	H3
K26215	3/8 - 32	2.94	1.25	0.381	4	H5
K26220	3/8 - 40	2.94	1.25	0.381	4	H3
K26218	3/8 - 40	2.94	1.25	0.381	4	H2
K26223	7/16 - 14	3.16	1.44	0.323	4	H11
K26230	7/16 - 18	3.16	1.44	0.323	4	H3
K26235	7/16 - 20	3.16	1.44	0.323	4	H11
K26233	7/16 - 20	3.16	1.44	0.323	4	H6
K26242	7/16 - 24	3.16	1.44	0.323	4	H5
K26239	7/16 - 24	3.16	1.44	0.323	4	H3
K26245	7/16 - 27	3.16	1.44	0.323	4	H3
K26251	7/16 - 28	3.16	1.44	0.323	4	H5
K26248	7/16 - 28	3.16	1.44	0.323	4	H3
K26254	7/16 - 32	3.16	1.44	0.323	4	H3
K26257	1/2 - 12	3.38	1.66	0.367	4	H3
K26263	1/2 - 13	3.38	1.66	0.367	4	H7
K26265	1/2 - 13	3.38	1.66	0.367	4	H11
K26269	1/2 - 14	3.38	1.66	0.367	4	H3
K26272	1/2 - 16	3.38	1.66	0.367	4	H3
K26275	1/2 - 18	3.38	1.66	0.367	4	H3
K26281	1/2 - 20	3.38	1.66	0.367	4	H11
K26279	1/2 - 20	3.38	1.66	0.367	4	H7
K26285	1/2 - 24	3.38	1.66	0.367	4	H3
K26288	1/2 - 27	3.38	1.66	0.367	4	H3
K26295	1/2 - 28	3.38	1.66	0.367	4	H5
K26291	1/2 - 28	3.38	1.66	0.367	4	H3
K26298	1/2 - 32	3.38	1.66	0.367	2	H3
K26301	1/2 - 40	3.38	1.66	0.367	4	H2
K26304	9/16 - 16	3.59	1.66	0.542	4	H3

(continued)

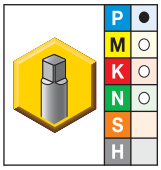
(KHSST Hand • Machine Screw and Fractional Sizes • Plug Chamfer continued)



uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K26310	9/16 - 18	3.59	1.66	0.542	4	H11
K26314	9/16 - 20	3.59	1.66	0.542	4	H3
K26317	9/16 - 24	3.59	1.66	0.542	4	H3
K26320	9/16 - 24	3.59	1.66	0.542	4	H5
K26323	9/16 - 27	3.59	1.66	0.542	2	H3
K26326	5/8 - 10	3.81	1.81	0.480	4	H3
K26331	5/8 - 11	3.81	1.81	0.480	4	H11
K26335	5/8 - 12	3.81	1.81	0.480	4	H3
K26349	5/8 - 18	3.81	1.81	0.480	4	H11
K26347	5/8 - 18	3.81	1.81	0.480	4	H7
K26352	5/8 - 20	3.81	1.81	0.480	4	H3
K26358	5/8 - 24	3.81	1.81	0.480	4	H5
K26355	5/8 - 24	3.81	1.81	0.480	4	H3
K26364	5/8 - 28	3.81	1.81	0.480	2	H3
K26370	11/16 - 18	4.03	1.81	0.542	4	H3
K26373	11/16 - 20	4.03	1.81	0.542	2	H3
K26376	11/16 - 24	4.03	1.81	0.542	4	H3
K27632	11/16 - 24	4.03	1.81	0.542	4	H3
K26382	11/16 - 28	4.03	1.81	0.542	2	H3
K26389	3/4 - 10	4.25	2.00	0.590	4	H11
K26387	3/4 - 10	4.25	2.00	0.590	4	H11
K26393	3/4 - 12	4.25	2.00	0.590	4	H4
K26408	3/4 - 16	4.25	2.00	0.590	4	H11
K26406	3/4 - 16	4.25	2.00	0.590	4	H8
K26403	3/4 - 16	4.25	2.00	0.590	4	H7
K26411	3/4 - 18	4.25	2.00	0.590	4	H3
K26417	3/4 - 20	4.25	2.00	0.590	4	H5
K26414	3/4 - 20	4.25	2.00	0.590	4	H3
K26420	3/4 - 24	4.25	2.00	0.590	4	H3
K26423	3/4 - 27	4.25	2.00	0.590	4	H3
K26425	13/16 - 10	4.47	2.00	0.652	4	H4
K26428	13/16 - 12	4.47	2.00	0.652	4	H4
K26431	13/16 - 16	4.47	2.00	0.652	4	H3
K26434	13/16 - 18	4.47	2.00	0.652	4	H3
K26440	13/16 - 20	4.47	2.00	0.652	2	H5
K26437	13/16 - 20	4.47	2.00	0.652	2	H3
K26443	13/16 - 24	4.47	2.00	0.652	4	H3
K26448	7/8 - 9	4.69	2.22	0.697	4	H11
K14504	7/8 - 9	4.69	2.22	0.697	4	H4
K26451	7/8 - 10	4.69	2.22	0.697	4	H4
K26463	7/8 - 14	4.69	2.22	0.697	4	H11
K26458	7/8 - 14	4.69	2.22	0.697	4	H5
K26461	7/8 - 14	4.69	2.22	0.697	4	H6
K26466	7/8 - 16	4.69	2.22	0.697	4	H3
K26469	7/8 - 18	4.69	2.22	0.697	4	H3
K26472	7/8 - 20	4.69	2.22	0.697	2	H3
K26475	7/8 - 20	4.69	2.22	0.697	2	H5
K26478	7/8 - 24	4.69	2.22	0.697	4	H3
K26481	15/16 - 12	4.91	2.22	0.760	4	H4
K26487	15/16 - 16	4.91	2.22	0.760	3	H3

(continued)

(KHSST Hand • Machine Screw and Fractional Sizes • Plug Chamfer continued)



uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K26490	15/16 - 18	4.91	2.22	0.760	3	H3
K26493	15/16 - 20	4.91	2.22	0.760	2	H3
K26496	15/16 - 20	4.91	2.22	0.760	2	H5
K26506	1 - 8	5.13	2.50	0.800	4	H11
K14549	1 - 8	5.13	2.50	0.800	4	H4
K26510	1 - 10	5.13	2.50	0.800	4	H4
K26516	1 - 12	5.13	2.50	0.800	4	H11
K26513	1 - 12	5.13	2.50	0.800	4	H6
K14562	1 - 12	5.13	2.50	0.800	4	H4
K26519	1 - 14	5.13	2.50	0.800	4	H6
K14573	1 - 14	5.13	2.50	0.800	4	H4
K26521	1 - 14	5.13	2.50	0.800	4	H11
K26524	1 - 16	5.13	2.50	0.800	3	H3
K26527	1 - 18	5.13	2.50	0.800	3	H3
K26533	1 - 20	5.13	2.50	0.800	2	H5
K26530	1 - 20	5.13	2.50	0.800	2	H3
K26539	1 1/16 - 12	5.13	2.50	0.896	4	H5
K26536	1 1/16 - 12	5.13	2.50	0.896	4	H4
K26563	1 1/8 - 8	5.44	2.56	0.896	4	H5
K26629	1 1/4 - 8	5.75	2.56	1.021	4	H5
K28638	1 1/2 - 8	6.38	3.00	1.233	4	H5
K26776	1 3/4 - 12	5.00	2.00	1.430	4	H6

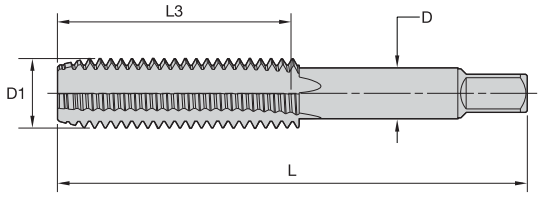
Ships in 24 Hours

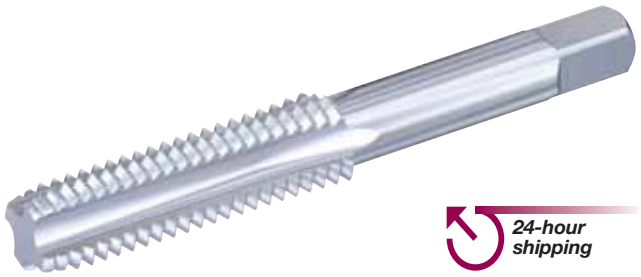
NOTE: UNC and UNF taps may be used in UNJC and UNJF applications respectively.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72

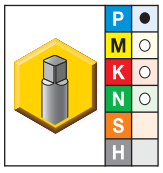
HSS 1–2 2B 3B UNF UNC ANSI





24-hour shipping

KHSST Hand • Machine Screw and Fractional Sizes • Bottoming Chamfer

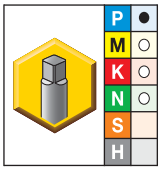


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K26003	#2 - 56	1.75	0.38	0.141	2	H4
K26009	#4 - 32	1.94	0.56	0.141	3	H2
K26018	#4 - 40	1.94	0.56	0.141	3	H3
K26044	#6 - 32	2.00	0.69	0.141	3	H11
K26036	#6 - 32	2.00	0.69	0.141	3	H5
K26032	#6 - 32	2.00	0.69	0.141	3	H3
K26040	#6 - 32	2.00	0.69	0.141	3	H7
K27302	#6 - 48	2.00	0.69	0.141	3	H2
K27306	#8 - 24	2.13	0.75	0.168	4	H3
K27319	#8 - 32	2.13	0.75	0.168	4	H11
K27316	#8 - 32	2.13	0.75	0.168	4	H7
K27313	#8 - 32	2.13	0.75	0.168	4	H5
K27309	#8 - 32	2.13	0.75	0.168	4	H3
K27323	#8 - 40	2.13	0.75	0.168	4	H2
K27338	#10 - 24	2.38	0.94	0.190	4	H11
K27331	#10 - 24	2.38	0.94	0.190	4	H5
K27327	#10 - 24	2.38	0.94	0.190	4	H3
K27335	#10 - 24	2.38	0.94	0.190	4	H7
K27342	#10 - 28	2.38	0.94	0.190	4	H3
K26046	#10 - 30	2.38	0.88	0.190	4	H3
K26058	#10 - 32	2.38	0.88	0.190	4	H11
K26055	#10 - 32	2.38	0.88	0.190	4	H7
K26051	#10 - 32	2.38	0.88	0.190	4	H5
K26062	#10 - 36	2.38	0.88	0.190	4	H2
K26065	#10 - 40	2.38	0.88	0.190	4	H2
K26069	0.210 - 36	2.50	0.94	0.220	4	H3
K27610	#12 - 24	2.38	0.94	0.220	4	H11
K27614	#12 - 28	2.38	0.94	0.220	4	H11
K26078	#12 - 32	2.38	0.94	0.220	4	H3
K26082	#12 - 36	2.38	0.94	0.220	4	H2
K26085	#14 - 14	2.50	0.94	0.255	4	H3
K26088	#14 - 24	2.50	0.94	0.255	4	H3
K26096	1/4 - 20	2.50	1.00	0.255	4	H11
K26094	1/4 - 20	2.50	1.00	0.255	4	H7
K26099	1/4 - 24	2.50	1.00	0.255	4	H3
K26103	1/4 - 27	2.50	1.00	0.255	4	H3
K26114	1/4 - 28	2.50	1.00	0.255	4	H11
K26111	1/4 - 28	2.50	1.00	0.255	4	H7
K26107	1/4 - 28	2.50	1.00	0.255	4	H5
K26125	1/4 - 32	2.50	1.00	0.255	4	H5

(continued)

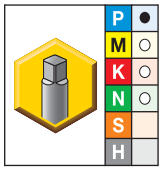
(KHSST Hand • Machine Screw and Fractional Sizes • Bottoming Chamfer continued)



uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K26118	1/4 - 32	2.50	1.00	0.255	4	H3
K26128	1/4 - 36	2.50	1.00	0.255	4	H2
K26132	1/4 - 36	2.50	1.00	0.255	4	H3
K26139	1/4 - 40	2.50	1.00	0.255	4	H3
K26136	1/4 - 40	2.50	1.00	0.255	4	H2
K28383	1/4 - 48	2.50	1.00	0.255	4	H3
K26145	5/16 - 18	2.72	1.13	0.318	4	H11
K26143	5/16 - 18	2.72	1.13	0.318	4	H7
K26148	5/16 - 20	2.72	1.13	0.318	4	H3
K26158	5/16 - 24	2.72	1.13	0.318	4	H11
K26156	5/16 - 24	2.72	1.13	0.318	4	H6
K26152	5/16 - 24	2.72	1.13	0.318	4	H5
K26162	5/16 - 27	2.72	1.13	0.318	4	H3
K26165	5/16 - 28	2.72	1.13	0.318	4	H3
K26172	5/16 - 32	2.72	1.13	0.318	4	H5
K26168	5/16 - 32	2.72	1.13	0.318	4	H3
K26175	5/16 - 40	2.72	1.13	0.318	4	H2
K26182	3/8 - 16	2.94	1.25	0.381	4	H11
K26180	3/8 - 16	2.94	1.25	0.381	4	H7
K26185	3/8 - 18	2.94	1.25	0.381	4	H3
K26188	3/8 - 20	2.94	1.25	0.381	4	H3
K26201	3/8 - 24	2.94	1.25	0.381	4	H11
K26198	3/8 - 24	2.94	1.25	0.381	4	H7
K26194	3/8 - 24	2.94	1.25	0.381	4	H5
K26206	3/8 - 27	2.94	1.25	0.381	4	H3
K26209	3/8 - 28	2.94	1.25	0.381	4	H3
K26216	3/8 - 32	2.94	1.25	0.381	4	H5
K26212	3/8 - 32	2.94	1.25	0.381	4	H3
K26221	3/8 - 40	2.94	1.25	0.381	4	H3
K26219	3/8 - 40	2.94	1.25	0.381	4	H2
K26224	7/16 - 14	3.16	1.44	0.323	4	H11
K26231	7/16 - 18	3.16	1.44	0.323	4	H3
K26236	7/16 - 20	3.16	1.44	0.323	4	H11
K26234	7/16 - 20	3.16	1.44	0.323	4	H6
K26243	7/16 - 24	3.16	1.44	0.323	4	H5
K26240	7/16 - 24	3.16	1.44	0.323	4	H3
K26246	7/16 - 27	3.16	1.44	0.323	4	H3
K26252	7/16 - 28	3.16	1.44	0.323	4	H5
K26249	7/16 - 28	3.16	1.44	0.323	4	H3
K26255	7/16 - 32	3.16	1.44	0.323	4	H3
K26258	1/2 - 12	3.38	1.66	0.367	4	H3
K26266	1/2 - 13	3.38	1.66	0.367	4	H11
K26264	1/2 - 13	3.38	1.66	0.367	4	H7
K26270	1/2 - 14	3.38	1.66	0.367	4	H3
K26273	1/2 - 16	3.38	1.66	0.367	4	H3
K26276	1/2 - 18	3.38	1.66	0.367	4	H3
K26282	1/2 - 20	3.38	1.66	0.367	4	H11
K26280	1/2 - 20	3.38	1.66	0.367	4	H7
K26278	1/2 - 20	3.38	1.66	0.367	4	H5
K26286	1/2 - 24	3.38	1.66	0.367	4	H3
K26289	1/2 - 27	3.38	1.66	0.367	4	H3
K26296	1/2 - 28	3.38	1.66	0.367	4	H5

(continued)

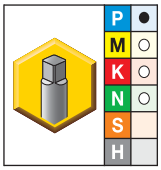
(KHSST Hand • Machine Screw and Fractional Sizes • Bottoming Chamfer continued)



uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K26292	1/2 - 28	3.38	1.66	0.367	4	H3
K26299	1/2 - 32	3.38	1.66	0.367	6	H3
K26302	1/2 - 40	3.38	1.66	0.367	6	H2
K26305	9/16 - 16	3.59	1.66	0.429	4	H3
K26311	9/16 - 18	3.59	1.66	0.429	4	H11
K26307	9/16 - 18	3.59	1.66	0.429	4	H5
K26315	9/16 - 20	3.59	1.66	0.429	4	H3
K26318	9/16 - 24	3.59	1.66	0.429	4	H3
K26321	9/16 - 24	3.59	1.66	0.429	4	H5
K26324	9/16 - 27	3.59	1.66	0.429	6	H3
K26327	5/8 - 10	3.81	1.81	0.480	4	H3
K26332	5/8 - 11	3.81	1.81	0.480	4	H11
K26336	5/8 - 12	3.81	1.81	0.480	4	H3
K26350	5/8 - 18	3.81	1.81	0.480	4	H11
K26348	5/8 - 18	3.81	1.81	0.480	4	H7
K26353	5/8 - 20	3.81	1.81	0.480	4	H3
K26359	5/8 - 24	3.81	1.81	0.480	6	H5
K26356	5/8 - 24	3.81	1.81	0.480	6	H3
K26365	5/8 - 28	3.81	1.81	0.480	6	H3
K26371	11/16 - 18	4.03	1.81	0.542	4	H3
K26374	11/16 - 20	4.03	1.81	0.542	6	H3
K27633	11/16 - 24	4.03	1.81	0.542	4	H3
K26377	11/16 - 24	4.03	1.81	0.542	6	H3
K26383	11/16 - 28	4.03	1.81	0.542	6	H3
K26390	3/4 - 10	4.25	2.00	0.590	4	H11
K26388	3/4 - 10	4.25	2.00	0.590	4	H11
K26394	3/4 - 12	4.25	2.00	0.590	4	H4
K26409	3/4 - 16	4.25	2.00	0.590	4	H11
K26407	3/4 - 16	4.25	2.00	0.590	4	H8
K26404	3/4 - 16	4.25	2.00	0.590	4	H7
K26412	3/4 - 18	4.25	2.00	0.590	4	H3
K26418	3/4 - 20	4.25	2.00	0.590	6	H5
K26415	3/4 - 20	4.25	2.00	0.590	6	H3
K26421	3/4 - 24	4.25	2.00	0.590	6	H3
K26424	3/4 - 27	4.25	2.00	0.590	6	H3
K26426	13/16 - 10	4.47	2.00	0.652	4	H4
K26429	13/16 - 12	4.47	2.00	0.652	4	H4
K26432	13/16 - 16	4.47	2.00	0.652	4	H3
K26435	13/16 - 18	4.47	2.00	0.652	4	H3
K26441	13/16 - 20	4.47	2.00	0.652	6	H5
K26438	13/16 - 20	4.47	2.00	0.652	6	H3
K26444	13/16 - 24	4.47	2.00	0.652	6	H3
K26449	7/8 - 9	4.69	2.22	0.697	4	H11
K14505	7/8 - 9	4.69	2.22	0.697	4	H4
K26452	7/8 - 10	4.69	2.22	0.697	4	H4
K26464	7/8 - 14	4.69	2.22	0.697	4	H11
K26462	7/8 - 14	4.69	2.22	0.697	4	H6
K26459	7/8 - 14	4.69	2.22	0.697	4	H5
K26467	7/8 - 16	4.69	2.22	0.697	4	H3
K26470	7/8 - 18	4.69	2.22	0.697	4	H3
K26476	7/8 - 20	4.69	2.22	0.697	6	H5
K26473	7/8 - 20	4.69	2.22	0.697	6	H3

(continued)

(KHSST Hand • Machine Screw and Fractional Sizes • Bottoming Chamfer continued)



uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K26479	7/8 - 24	4.69	2.22	0.697	6	H3
K26482	15/16 - 12	4.91	2.22	0.760	4	H4
K26488	15/16 - 16	4.91	2.22	0.760	6	H3
K26491	15/16 - 18	4.91	2.22	0.760	6	H3
K26497	15/16 - 20	4.91	2.22	0.760	6	H5
K26494	15/16 - 20	4.91	2.22	0.760	6	H3
K26507	1 - 8	5.13	2.50	0.800	4	H11
K14550	1 - 8	5.13	2.50	0.800	4	H4
K26511	1 - 10	5.13	2.50	0.800	4	H4
K26517	1 - 12	5.13	2.50	0.800	4	H11
K26514	1 - 12	5.13	2.50	0.800	4	H6
K14563	1 - 12	5.13	2.50	0.800	4	H4
K26522	1 - 14	5.13	2.50	0.800	4	H11
K26520	1 - 14	5.13	2.50	0.800	4	H6
K14574	1 - 14	5.13	2.50	0.800	4	H4
K26525	1 - 16	5.13	2.50	0.800	6	H3
K26528	1 - 18	5.13	2.50	0.800	6	H3
K26534	1 - 20	5.13	2.50	0.800	6	H5
K26531	1 - 20	5.13	2.50	0.800	6	H3
K26540	1 1/16 - 12	5.13	2.50	0.896	4	H5
K26537	1 1/16 - 12	5.13	2.50	0.896	4	H4
K26564	1 1/8 - 8	5.44	2.56	0.896	4	H5
K26630	1 1/4 - 8	5.75	2.56	1.021	4	H5
K28639	1 1/2 - 8	6.38	3.00	1.233	4	H5
K26777	1 3/4 - 12	5.00	2.00	1.430	6	H6

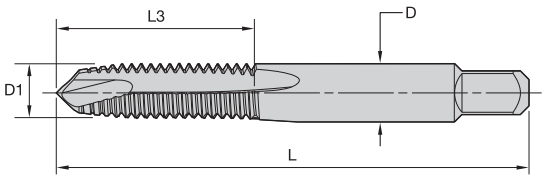
Ships in 24 Hours

NOTE: UNC and UNF taps may be used in UNJC and UNJF applications respectively.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

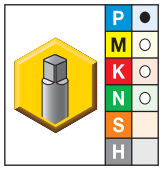
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







KHSST Spiral Point • Machine Screw and Fractional Sizes • Plug Chamfer

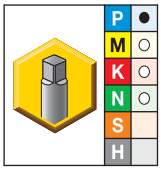


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K26005	#2 - 56	1.75	0.38	0.141	2	H5
K26004	#2 - 56	1.75	0.38	0.141	2	H4
K26000	#2 - 56	1.75	0.38	0.141	2	H3
K26020	#4 - 40	1.94	0.56	0.141	2	H7
K26019	#4 - 40	1.94	0.56	0.141	2	H3
K26029	#5 - 40	1.94	0.63	0.141	2	H5
K27295	#6 - 32	2.00	0.69	0.141	2	H11
K26037	#6 - 32	2.00	0.69	0.141	2	H5
K27299	#6 - 40	2.00	0.69	0.141	2	H3
K27303	#6 - 48	2.00	0.69	0.141	2	H2
K27320	#8 - 32	2.13	0.75	0.168	2	H11
K27314	#8 - 32	2.13	0.75	0.168	2	H5
K27339	#10 - 24	2.38	0.94	0.194	2	H11
K27332	#10 - 24	2.38	0.94	0.194	2	H5
K27328	#10 - 24	2.38	0.94	0.194	2	H3
K26059	#10 - 32	2.38	0.94	0.194	2	H11
K26052	#10 - 32	2.38	0.94	0.194	2	H5
K26048	#10 - 32	2.38	0.94	0.194	2	H4
K26047	#10 - 32	2.38	0.94	0.194	2	H3
K26066	#10 - 40	2.38	0.94	0.194	2	H2
K26095	1/4 - 20	2.50	1.00	0.255	2	H7
K26091	1/4 - 20	2.50	1.00	0.255	2	H3
K26112	1/4 - 28	2.50	1.00	0.255	2	H7
K26108	1/4 - 28	2.50	1.00	0.255	2	H5
K26104	1/4 - 28	2.50	1.00	0.255	2	H3
K26122	1/4 - 32	2.50	1.00	0.255	2	H3
K26140	5/16 - 18	2.72	1.13	0.318	2	H3
K26159	5/16 - 24	2.72	1.13	0.318	2	H11
K26153	5/16 - 24	2.72	1.13	0.318	2	H5
K26149	5/16 - 24	2.72	1.13	0.318	2	H3
K26169	5/16 - 32	2.72	1.13	0.318	2	H3
K26177	3/8 - 16	2.94	1.25	0.381	2	H3
K26176	3/8 - 16	2.94	1.25	0.381	3	H3
K26202	3/8 - 24	2.94	1.25	0.381	3	H11
K26195	3/8 - 24	2.94	1.25	0.381	3	H5
K26225	7/16 - 14	3.16	1.44	0.323	3	H11
K26262	1/2 - 13	3.38	1.66	0.429	3	H3
K26283	1/2 - 20	3.38	1.66	0.429	3	H11
K26277	1/2 - 20	3.38	1.66	0.429	3	H3
K28490	9/16 - 12	3.59	1.66	0.542	3	H3

(continued)

(KHSST Spiral Point • Machine Screw and Fractional Sizes • Plug Chamfer continued)



uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K26306	9/16 - 18	3.59	1.66	0.542	3	H3
K26345	5/8 - 18	3.81	1.81	0.480	3	H5
K27630	5/8 - 24	3.81	1.81	0.480	3	H3
K26391	3/4 - 10	4.25	2.00	0.590	3	H11
K26398	3/4 - 16	4.25	2.00	0.590	3	H5
K26397	3/4 - 16	4.25	2.00	0.590	3	H3
K26447	7/8 - 9	4.69	2.22	0.697	3	H4
K26456	7/8 - 14	4.69	2.22	0.697	3	H4
K26505	1 - 8	5.13	2.50	0.800	3	H4
K26508	1 - 8	5.13	2.50	0.800	3	H11

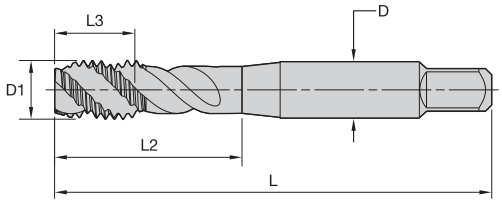
Ships in 24 Hours

NOTE: UNC and UNF taps may be used in UNJC and UNJF applications respectively.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

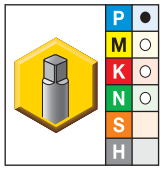
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







KHSST Spiral Flute • Machine Screw and Fractional Sizes • Plug Chamfer



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K26010	#4 - 40	1.94	0.56	0.141	2	H3
K26089	1/4 - 20	2.50	0.63	0.255	3	H5
K26189	3/8 - 24	2.94	0.73	0.381	3	H5
K26342	5/8 - 18	3.81	1.81	0.480	4	H3
K26340	5/8 - 18	3.81	1.81	0.480	4	H3
K26328	5/8 - 11	3.81	1.81	0.480	4	H3
K26395	3/4 - 16	4.25	2.00	0.590	4	H3
K26384	3/4 - 10	4.25	2.00	0.590	4	H3
K26445	7/8 - 9	4.69	2.22	0.697	4	H4
K26501	1 - 8	5.13	2.50	0.800	4	H4

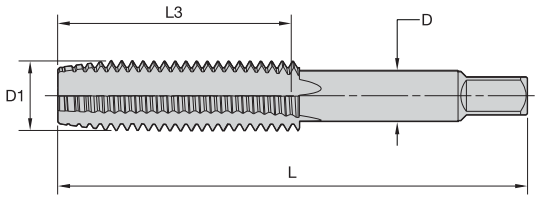
Ships in 24 Hours

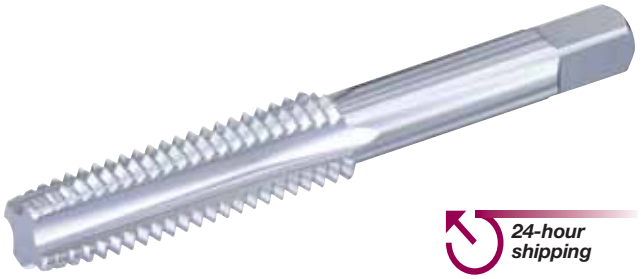
NOTE: UNC and UNF taps may be used in UNJC and UNJF applications respectively.
Refer to table on pages L291–L292 for the recommended pitch diameter limit for 2B or 3B class of fit.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72

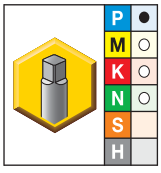






24-hour shipping

KHSST Hand • Metric Sizes ANSI • Taper Chamfer

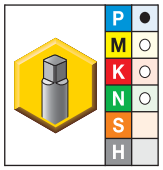


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K26877	M1,8 x 0,35	1.69	0.38	0.141	2	D3
K26881	M2,2 x 0,45	1.75	0.44	0.141	3	D3
K26887	M2,5 x 0,45	1.81	0.44	0.141	3	D1
K26885	M2,5 x 0,45	1.81	0.44	0.141	3	D3
K26891	M3 x 0,50	1.94	0.63	0.141	3	D1
K26897	M3,5 x 0,6	2.00	0.69	0.141	3	D1
K26895	M3,5 x 0,6	2.00	0.69	0.141	3	D4
K26904	M3,5 x 0,6	2.00	0.69	0.141	3	D11
K26908	M4 x 0,7	2.13	0.75	0.168	4	D2
K26915	M4 x 0,7	2.13	0.75	0.168	4	D11
K26928	M4,5 x 0,75	2.38	0.88	0.194	4	D11
K26921	M4,5 x 0,75	2.38	0.88	0.194	4	D2
K26919	M4,5 x 0,75	2.38	0.88	0.194	4	D4
K26943	M5 x 0,50	2.38	0.94	0.194	4	D3
K26932	M5 x 0,8	2.38	0.94	0.194	4	D11
K26939	M5 x 0,8	2.38	0.94	0.194	4	D11
K26947	M6 x 1	2.50	1.00	0.255	4	D3
K26954	M6 x 1	2.50	1.00	0.255	4	D11
K26958	M6 x 0,75	2.50	1.00	0.255	4	D3
K26962	M6 x 0,5	2.50	1.00	0.255	4	D3
K26965	M7 x 1	2.72	1.13	0.318	4	D3
K26972	M7 x 1	2.72	1.13	0.318	4	D11
K26991	M8 x 1	2.72	1.13	0.318	4	D3
K26987	M8 x 1	2.72	1.13	0.318	4	D5
K26998	M8 x 1	2.72	1.13	0.318	4	D11
K26976	M8 x 1,25	2.72	1.13	0.318	4	D3
K26983	M8 x 1,25	2.72	1.13	0.318	4	D11
K27002	M8 x 0,75	2.72	1.13	0.318	4	D5
K27034	M10 x 1	2.94	1.25	0.381	4	D5
K27031	M10 x 1	2.94	1.25	0.381	4	D3
K27020	M10 x 1,25	2.94	1.25	0.381	4	D3
K27016	M10 x 1,25	2.94	1.25	0.381	4	D5
K27027	M10 x 1,25	2.94	1.25	0.381	4	D11
K27005	M10 x 1,5	2.94	1.25	0.381	4	D3
K27012	M10 x 1,5	2.94	1.25	0.381	4	D11
K27045	M11 x 1	3.16	1.44	0.323	4	D5
K27041	M11 x 1,5	3.16	1.44	0.323	4	D6
K27076	M12 x 1	3.38	1.66	0.367	4	D5
K27073	M12 x 1,25	3.38	1.66	0.367	4	D11
K27066	M12 x 1,25	3.38	1.66	0.367	4	D3

(continued)

(KHSST Hand • Metric Sizes ANSI • Taper Chamfer continued)



uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K27062	M12 x 1,25	3.38	1.66	0.367	4	D5
K27059	M12 x 1,5	3.38	1.66	0.367	4	D6
K27048	M12 x 1,75	3.38	1.66	0.367	4	D3
K27055	M12 x 1,75	3.38	1.66	0.367	4	D11
K27101	M14 x 1	3.59	1.66	0.429	4	D5
K27098	M14 x 1,25	3.59	1.66	0.429	4	D4
K27087	M14 x 1,5	3.59	1.66	0.429	4	D6
K27091	M14 x 1,5	3.59	1.66	0.429	4	D3
K27080	M14 x 2	3.59	1.66	0.429	4	D3
K27104	M15 x 1	3.81	1.81	0.480	4	D5
K27122	M16 x 1,5	3.81	1.81	0.480	4	D3
K27118	M16 x 1,5	3.81	1.81	0.480	4	D6
K27107	M16 x 2	3.81	1.81	0.480	4	D4
K27114	M16 x 2	3.81	1.81	0.480	4	D11
K27147	M18 x 1	4.03	1.81	0.542	4	D5
K27141	M18 x 1,5	4.03	1.81	0.542	4	D3
K27138	M18 x 1,5	4.03	1.81	0.542	4	D4
K27135	M18 x 1,5	4.03	1.81	0.542	4	D6
K27129	M18 x 2.5	4.03	1.81	0.542	4	D4
K27162	M20 x 1,5	4.47	2.00	0.652	4	D3
K27159	M20 x 1,5	4.47	2.00	0.652	4	D6
K27168	M20 x 1,5	4.47	2.00	0.652	4	D11
K27150	M20 x 2.5	4.47	2.00	0.652	4	D4
K27189	M22 x 1,5	4.69	2.22	0.697	4	D11
K27174	M22 x 2,5	4.69	2.22	0.697	4	D4
K27180	M22 x 2,5	4.69	2.22	0.697	4	D6
K27183	M22 x 2,5	4.69	2.22	0.697	4	D3
K27189	M22 x 2,5	4.69	2.22	0.697	4	D11
K27192	M24 x 3	4.91	2.22	0.76	4	D4
K27201	M24 x 2	4.91	2.22	0.76	4	D7
K27204	M24 x 2	4.91	2.22	0.76	4	D4
K27210	M24 x 1,5	4.91	2.22	0.76	4	D6
K27243	M24 x 1,25	5.44	2.56	1.021	6	D6

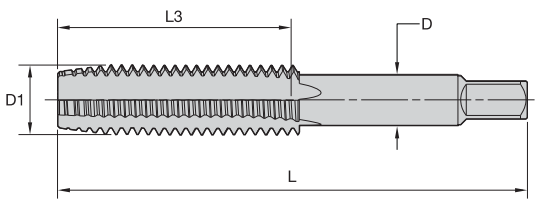
Ships in 24 Hours

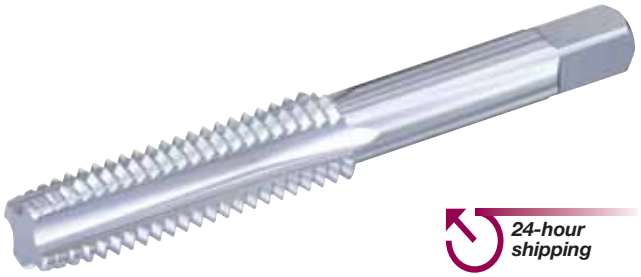
NOTE: M and MF taps may be used in MJ and MJF applications respectively.
Refer to table on page L292 for the recommended pitch diameter limit for class of fit.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72

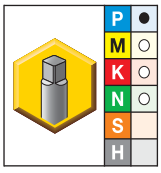






24-hour shipping

KHSST Hand • Metric Sizes ANSI • Plug Chamfer

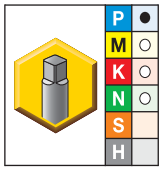


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K26878	M1,8 x 0,35	1.69	0.38	0.141	2	D3
K26882	M2,2 x 0,45	1.75	0.44	0.141	3	D3
K26888	M2,2 x 0,45	1.75	0.44	0.141	3	D1
K26892	M3 x 0,5	1.94	0.63	0.141	3	D1
K26898	M3,5 x 0,6	2.00	0.69	0.141	3	D1
K26905	M3,5 x 0,6	2.00	0.69	0.141	3	D11
K26909	M4 x 0,7	2.13	0.75	0.168	4	D2
K26916	M4 x 0,7	2.13	0.75	0.168	4	D11
K26922	M4,5 x 0,75	2.38	0.88	0.194	4	D2
K26929	M4,5 x 0,75	2.38	0.88	0.194	4	D11
K26944	M5 x 0,5	2.38	0.94	0.194	4	D3
K26940	M5 x 0,8	2.38	0.94	0.194	4	D11
K26933	M5 x 0,8	2.38	0.94	0.194	4	D2
K26955	M6 x 1	2.50	1.00	0.255	4	D11
K26948	M6 x 1	2.50	1.00	0.255	4	D3
K26963	M6 x 0,5	2.50	1.00	0.255	4	D3
K26959	M6 x 0,75	2.50	1.00	0.255	4	D3
K26973	M7 x 1	2.72	1.13	0.318	4	D11
K26966	M7 x 1	2.72	1.13	0.318	4	D3
K26992	M8 x 1	2.72	1.13	0.318	4	D3
K26988	M8 x 1	2.72	1.13	0.318	4	D5
K26999	M8 x 1	2.72	1.13	0.318	4	D11
K27003	M8 x 0,75	2.72	1.13	0.318	4	D5
K26984	M8 x 1,25	2.72	1.13	0.318	4	D11
K26977	M8 x 1,25	2.72	1.13	0.318	4	D3
K27035	M10 x 1	2.94	1.25	0.381	4	D5
K27032	M10 x 1	2.94	1.25	0.381	4	D3
K27028	M10 x 1,25	2.94	1.25	0.381	4	D11
K27021	M10 x 1,25	2.94	1.25	0.381	4	D3
K27017	M10 x 1,25	2.94	1.25	0.381	4	D5
K27013	M10 x 1,5	2.94	1.25	0.381	4	D11
K27006	M10 x 1,5	2.94	1.25	0.381	4	D3
K27046	M11 x 1	3.16	1.44	0.323	4	D5
K27042	M11 x 1,5	3.16	1.44	0.323	4	D6
K27077	M12 x 1	3.38	1.66	0.367	4	D5
K27074	M12 x 1,25	3.38	1.66	0.367	4	D11
K27067	M12 x 1,25	3.38	1.66	0.367	4	D3
K27063	M12 x 1,25	3.38	1.66	0.367	4	D5
K27060	M12 x 1,5	3.38	1.66	0.367	4	D6
K27056	M12 x 1,75	3.38	1.66	0.367	4	D11

(continued)

(KHSST Hand • Metric Sizes ANSI • Plug Chamfer continued)



uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K27049	M12 x 1,75	3.38	1.66	0.367	4	D3
K27102	M14 x 1	3.59	1.66	0.429	4	D5
K27081	M14 x 2	3.59	1.66	0.429	4	D3
K27099	M14 x 1,25	3.59	1.66	0.429	4	D4
K27088	M14 x 1,5	3.59	1.66	0.429	4	D6
K27092	M14 x 1,5	3.59	1.66	0.429	4	D3
K27105	M15 x 1	3.81	1.81	0.480	4	D5
K27115	M16 x 2	3.81	1.81	0.480	4	D11
K27108	M16 x 2	3.81	1.81	0.480	4	D4
K27123	M16 x 1,5	3.81	1.81	0.480	4	D3
K27119	M16 x 1,5	3.81	1.81	0.480	4	D6
K27148	M18 x 1	4.03	1.81	0.542	4	D5
K27139	M18 x 1,5	4.03	1.81	0.542	4	D4
K27136	M18 x 1,5	4.03	1.81	0.542	4	D6
K27142	M18 x 1,5	4.03	1.81	0.542	4	D3
K27130	M18 x 2,5	4.03	1.81	0.542	4	D4
K27169	M20 x 1,5	4.47	2.00	0.652	4	D11
K27163	M20 x 1,5	4.47	2.00	0.652	4	D3
K27160	M20 x 1,5	4.47	2.00	0.652	4	D6
K27151	M20 x 2,5	4.47	2.00	0.652	4	D4
K27184	M22 x 1,5	4.69	2.22	0.697	4	D3
K27181	M22 x 1,5	4.69	2.22	0.697	4	D6
K27190	M22 x 1,5	4.69	2.22	0.697	4	D11
K27175	M22 x 2,5	4.69	2.22	0.697	4	D4
K27172	M22 x 2,5	4.69	2.22	0.697	4	D7
K27205	M24 x 2	4.91	2.22	0.760	4	D4
K27202	M24 x 2	4.91	2.22	0.760	4	D7
K27193	M24 x 3	4.91	2.22	0.760	4	D4
K27211	M24 x 1,5	4.91	2.22	0.760	4	D6
K27244	M30 x 1,5	5.44	2.56	1.021	6	D6

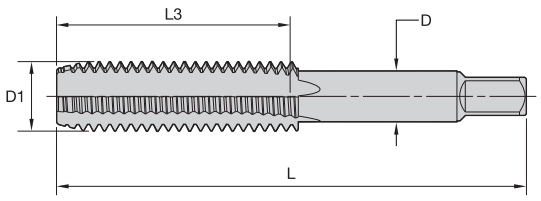
Ships in 24 Hours

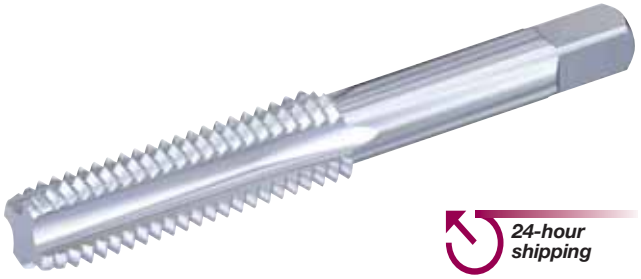
NOTE: M and MF taps may be used in MJ and MJF applications respectively.
Refer to table on page L292 for the recommended pitch diameter limit for class of fit.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72

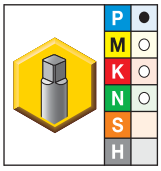






24-hour shipping

KHSST Hand • Metric Sizes ANSI • Bottoming Chamfer

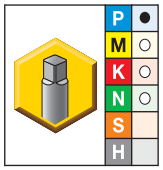


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K26879	M1,8 x 0,35	1.69	0.38	0.141	2	D3
K26883	M2,2 x 0,45	1.75	0.44	0.141	3	D3
K26889	M2,2 x 0,45	1.81	0.44	0.141	3	D1
K26886	M2,2 x 0,45	1.81	0.44	0.141	3	D3
K26893	M3 x 0,5	1.94	0.63	0.141	3	D11
K26899	M3,5 x 0,6	2.00	0.69	0.141	3	D1
K26896	M3,5 x 0,6	2.00	0.69	0.141	3	D4
K26906	M3,5 x 0,6	2.00	0.69	0.141	3	D11
K26917	M4 x 0,6	2.13	0.75	0.168	4	D11
K26910	M4 x 0,6	2.13	0.75	0.168	4	D2
K26920	M4,5 x 0,6	2.38	0.88	0.194	4	D4
K26923	M4,5 x 0,6	2.38	0.88	0.194	4	D2
K26930	M4,5 x 0,6	2.38	0.88	0.194	4	D11
K26945	M5 x 0,5	2.38	0.94	0.194	4	D3
K26934	M5 x 0,6	2.38	0.94	0.194	4	D2
K26941	M5 x 0,6	2.38	0.94	0.194	4	D11
K26960	M6 x 0,75	2.50	1.00	0.255	4	D3
K26964	M6 x 0,5	2.50	1.00	0.255	4	D3
K26956	M6 x 1	2.50	1.00	0.255	4	D11
K26949	M6 x 1	2.50	1.00	0.255	4	D3
K26967	M7 x 1	2.72	1.13	0.318	4	D3
K26974	M7 x 1	2.72	1.13	0.318	4	D11
K27004	M8 x 0,75	2.72	1.13	0.318	4	D5
K26993	M8 x 1	2.72	1.13	0.318	4	D3
K26989	M8 x 1	2.72	1.13	0.318	4	D5
K27000	M8 x 1	2.72	1.13	0.318	4	D11
K26985	M8 x 1,25	2.72	1.13	0.318	4	D11
K26978	M8 x 1,25	2.72	1.13	0.318	4	D3
K27033	M10 x 1	2.94	1.25	0.381	4	D3
K27036	M10 x 1	2.94	1.25	0.381	4	D5
K27029	M10 x 1,25	2.94	1.25	0.381	4	D11
K27022	M10 x 1,25	2.94	1.25	0.381	4	D3
K27018	M10 x 1,25	2.94	1.25	0.381	4	D5
K27014	M10 x 1,5	2.94	1.25	0.381	4	D11
K27007	M10 x 1,5	2.94	1.25	0.381	4	D3
K27047	M11 x 1	3.16	1.44	0.323	4	D5
K27043	M11 x 1,5	3.16	1.44	0.323	4	D6
K27078	M12 x 1	3.38	1.66	0.367	4	D5
K27068	M12 x 1,25	3.38	1.66	0.367	4	D3
K27064	M12 x 1,25	3.38	1.66	0.367	4	D5

(continued)

(KHSST Hand • Metric Sizes ANSI • Bottoming Chamfer continued)



uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K27075	M12 x 1,25	3.38	1.66	0.367	4	D11
K27061	M12 x 1,5	3.38	1.66	0.367	4	D6
K27057	M12 x 1,75	3.38	1.66	0.367	4	D11
K27050	M12 x 1,75	3.38	1.66	0.367	4	D3
K27103	M14 x 1	3.59	1.66	0.429	4	D5
K27100	M14 x 1,25	3.59	1.66	0.429	4	D4
K27089	M14 x 1,5	3.59	1.66	0.429	4	D6
K27093	M14 x 1,5	3.59	1.66	0.429	4	D3
K27082	M14 x 2	3.59	1.66	0.429	4	D3
K27106	M15 x 1	3.81	1.81	0.48	4	D5
K27124	M16 x 1,5	3.81	1.81	0.48	4	D3
K27120	M16 x 1,5	3.81	1.81	0.48	4	D6
K27109	M16 x 2	3.81	1.81	0.48	4	D4
K27116	M16 x 2	3.81	1.81	0.48	4	D11
K27149	M18 x 1	4.03	1.81	0.542	4	D5
K27140	M18 x 1,5	4.03	1.81	0.542	4	D4
K27137	M18 x 1,5	4.03	1.81	0.542	4	D6
K27143	M18 x 1,5	4.03	1.81	0.542	4	D3
K27131	M18 x 2,5	4.03	1.81	0.542	4	D4
K27164	M20 x 1,5	4.47	2.00	0.652	4	D3
K27161	M20 x 1,5	4.47	2.00	0.652	4	D6
K27170	M20 x 1,5	4.47	2.00	0.652	4	D11
K27152	M20 x 2,5	4.47	2.00	0.652	4	D4
K27185	M22 x 1,5	4.69	2.22	0.697	4	D3
K27182	M22 x 1,5	4.69	2.22	0.697	4	D6
K27191	M22 x 1,5	4.69	2.22	0.697	4	D11
K27176	M22 x 2,5	4.69	2.22	0.697	4	D4
K27173	M22 x 2,5	4.69	2.22	0.697	4	D7
K27212	M24 x 1,5	4.91	2.22	0.76	4	D6
K27206	M24 x 2	4.91	2.22	0.76	4	D4
K27203	M24 x 2	4.91	2.22	0.76	4	D7
K27194	M24 x 3	4.91	2.22	0.76	4	D4
K27245	M30 x 1,5	5.44	2.56	1.021	6	D6

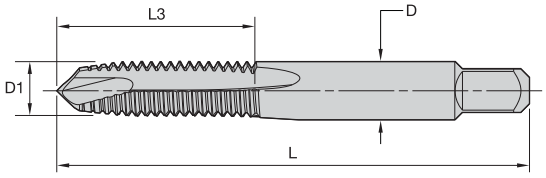
Ships in 24 Hours

NOTE: M and MF taps may be used in MJ and MJF applications respectively.
Refer to table on page L292 for the recommended pitch diameter limit for class of fit.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72

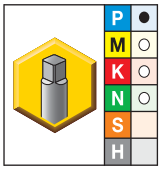






24-hour shipping

KHSST Spiral Point • Metric Sizes ANSI • Plug Chamfer



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	pitch diameter limit
K26880	M1,8 x 0,35	1.69	0.38	0.141	2	D3
K26884	M2,2 x 0,45	1.75	0.44	0.141	2	D3
K26890	M2,2 x 0,45	1.81	0.44	0.141	2	D1
K26918	M4 x 0,70	2.13	0.75	0.168	2	D11
K26946	M5 x 0,50	2.38	0.94	0.194	2	D3
K26942	M5 x 0,80	2.38	0.94	0.194	2	D11
K26957	M6 x 1	2.50	1.00	0.255	2	D11
K26961	M6 x 0,75	2.50	1.00	0.255	2	D3
K26990	M8 x 1	2.72	1.13	0.318	2	D5
K26986	M8 x 1,25	2.72	1.13	0.318	2	D11
K27040	M10 x 1	2.94	1.25	0.381	3	D5
K27023	M10 x 1,25	2.94	1.25	0.381	3	D3
K27019	M10 x 1,25	2.94	1.25	0.381	3	D5
K27015	M10 x 1,5	2.94	1.25	0.381	3	D11
K27044	M11 x 1,5	3.16	1.44	0.323	3	D6
K27079	M12 x 1	3.38	1.66	0.367	3	D5
K27065	M12 x 1,25	3.38	1.66	0.367	3	D5
K27058	M12 x 1,75	3.38	1.66	0.367	3	D11
K27090	M14 x 1,5	3.59	1.66	0.429	3	D6
K27121	M16 x 1,5	3.81	1.81	0.48	3	D6

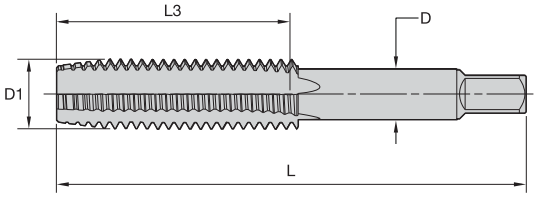
Ships in 24 Hours

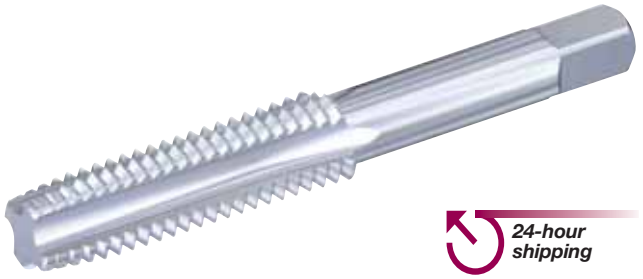
NOTE: M and MF taps may be used in MJ and MJF applications respectively.
Refer to table on page L292 for the recommended pitch diameter limit for class of fit.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

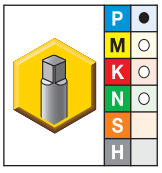
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







KHSST Hand • Machine Screw and Fractional Sizes • Taper, Plug, or Bottoming Chamfer

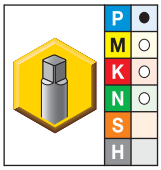


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	H limit max	TPI max
K64250	#0	1.63	0.31	0.141	2	3	100
K64251	#1	1.69	0.38	0.141	2	4	100
K64252	#2	1.75	0.44	0.141	2	4	100
K64264	#2	1.75	0.44	0.141	3	4	100
K64253	#3	1.81	0.50	0.141	2	5	100
K64265	#3	1.81	0.50	0.141	3	5	100
K64254	#4	1.88	0.56	0.141	2	5	100
K64266	#4	1.75	0.56	0.141	3	5	100
K64255	#5	1.94	0.63	0.141	2	5	100
K64267	#5	1.81	0.63	0.141	3	5	100
K64256	#6	2.00	0.69	0.141	2	7	100
K64268	#6	2.00	0.69	0.141	3	7	100
K64836	#6	2.00	0.69	0.141	4	7	100
K64257	#8	2.13	0.75	0.168	2	7	100
K64269	#8	2.13	0.75	0.168	3	7	100
K64278	#8	2.13	0.75	0.168	4	7	100
K64258	#10	2.38	0.88	0.194	2	7	100
K64270	#10	2.38	0.88	0.194	3	7	100
K64279	#10	2.38	0.88	0.194	4	7	100
K64260	#12	2.38	0.94	0.220	2	7	100
K65692	#12	2.38	0.94	0.220	3	7	100
K64281	#12	2.38	0.94	0.220	4	7	100
K64261	1/4	2.50	1.00	0.255	2	7	80
K64272	1/4	2.50	1.00	0.255	3	7	80
K64282	1/4	2.50	1.00	0.255	4	7	80
K64262	5/16	2.72	1.13	0.318	2	7	80
K64273	5/16	2.72	1.13	0.318	3	7	80
K64283	5/16	2.72	1.13	0.318	4	7	80
K64263	3/8	2.94	1.25	0.381	2	7	80
K64274	3/8	2.94	1.25	0.381	3	7	80
K64284	3/8	2.94	1.25	0.381	4	7	80
K64276	7/16	3.16	1.44	0.323	3	15	80
K64286	7/16	3.16	1.44	0.323	4	15	80
K64277	1/2	3.38	1.66	0.367	3	15	80

(continued)

(KHSST Hand • Machine Screw and Fractional Sizes • Taper, Plug, or Bottoming Chamfer continued)



uncoated	D1 size	L	L3	D	number of flutes	H limit max	TPI max
K64287	1/2	3.38	1.66	0.367	4	15	80
K65693	1/2	3.38	1.66	0.367	6	15	80
K65100	9/16	3.59	1.66	0.429	3	15	64
K64288	9/16	3.59	1.66	0.429	4	15	64
K65694	9/16	3.59	1.66	0.429	6	15	64
K65101	5/8	3.81	1.81	0.480	3	15	64
K64289	5/8	3.81	1.81	0.480	4	15	64
K65695	5/8	3.81	1.81	0.480	6	15	64
K64290	11/16	4.03	1.81	0.542	4	15	64
K65696	11/16	4.03	1.81	0.542	6	15	64
K65103	3/4	4.25	2.00	0.590	3	15	64
K64291	3/4	4.25	2.00	0.590	4	15	64
K65697	3/4	4.25	2.00	0.590	6	15	64
K64292	13/16	4.47	2.00	0.652	4	15	64
K65698	13/16	4.47	2.00	0.652	6	15	64
K64293	7/8	4.69	2.22	0.697	4	15	64
K65699	7/8	4.69	2.22	0.697	6	15	64
K64294	15/16	4.91	2.22	0.760	4	15	64
K65700	15/16	4.91	2.22	0.760	6	15	64
K64295	1	3.75	2.50	0.800	4	15	64
K65701	1	5.13	2.50	0.800	6	15	64

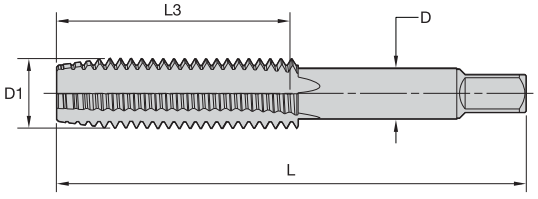
Ships in 24 Hours

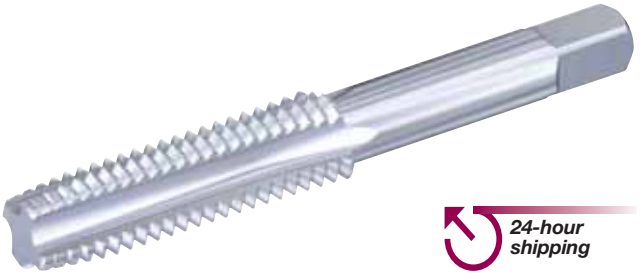
NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

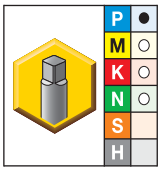
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







KHSST Oversized Hand • Machine Screw and Fractional Sizes • Taper, Plug, or Bottoming Chamfer



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	H limit max	TPI max
K65730	#4	1.88	0.56	0.141	2	11	100
K65731	#5	1.94	0.63	0.141	2	11	100
K65732	#6	2.00	0.69	0.141	2	13	100
K65735	#6	2.00	0.69	0.141	3	13	100
K65733	#8	2.13	0.75	0.168	2	13	100
K65736	#8	2.13	0.75	0.168	3	13	100
K64811	#8	2.13	0.75	0.168	4	13	100
K65734	#10	2.38	0.88	0.194	2	13	100
K65737	#10	2.38	0.88	0.194	3	13	100
K64812	#10	2.38	0.88	0.194	4	13	100
K65738	#12	2.38	0.94	0.220	3	13	100
K65752	#12	2.38	0.94	0.220	4	13	100
K65739	1/4	2.50	1.00	0.255	3	13	80
K64813	1/4	2.50	1.00	0.255	4	13	80
K65740	5/16	2.72	1.13	0.318	3	13	80
K64814	5/16	2.72	1.13	0.318	4	13	80
K65741	3/8	2.94	1.25	0.381	3	13	80
K64815	3/8	2.94	1.25	0.381	4	13	80

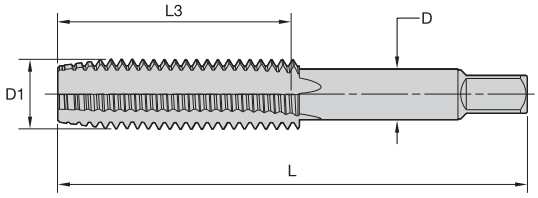
Ships in 24 Hours

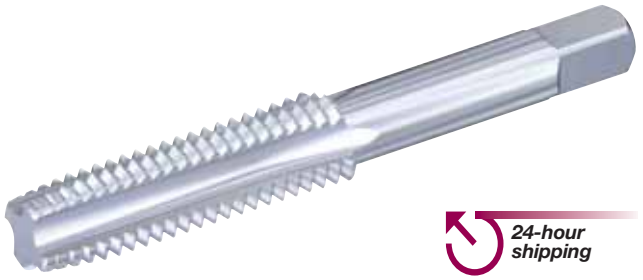
NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48

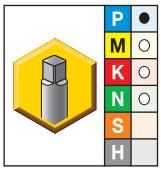






24-hour shipping

KHSST Hand • Large Fractional Sizes • Long Series • Taper, Plug or Bottoming Chamfer Tap

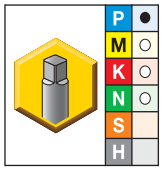


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	H limit max	TPI max
K64296	1 1/16	5.13	2.50	0.896	4	21	13
K65702	1 1/16	5.13	2.50	0.896	6	21	13
K64298	1 1/8	5.44	2.56	0.896	4	21	13
K65703	1 1/8	5.44	2.56	0.896	6	21	13
K64300	1 3/16	5.44	2.56	1.021	4	21	13
K64306	1 3/16	5.44	2.56	1.021	6	21	13
K64301	1 1/4	5.75	2.56	1.021	4	21	13
K64308	1 1/4	5.75	2.56	1.021	6	21	13
K64302	1 5/16	5.75	2.56	1.108	4	21	13
K64310	1 5/16	5.75	2.56	1.108	6	21	13
K64303	1 3/8	6.06	3.00	1.108	4	21	13
K64312	1 3/8	6.06	3.00	1.108	6	21	13
K64304	1 7/16	6.06	3.00	1.233	4	21	13
K65704	1 7/16	6.06	3.00	1.233	6	21	13
K64305	1 1/2	6.38	3.00	1.233	4	21	13
K64316	1 1/2	6.38	3.00	1.233	6	21	13
K64318	1 5/8	6.69	3.19	1.305	6	21	9
K64319	1 3/4	7.00	3.19	1.430	6	21	9
K64320	1 7/8	7.31	3.56	1.519	6	21	9
K65107	1 7/8	7.31	3.56	1.519	8	21	9
K64321	2	7.63	3.56	1.644	6	21	9
K65109	2	7.63	3.56	1.644	8	21	9
K64322	2 1/8	8.00	3.56	1.769	6	21	9
K64323	2 1/4	8.25	3.56	1.894	6	21	9

(*continued*)

(KHSST Hand • Large Fractional Sizes • Long Series • Taper, Plug or Bottoming Chamfer Tap continued)



uncoated	D1 size	L	L3	D	number of flutes	H limit max	TPI max
K65113	2 1/4	8.25	3.56	1.894	8	21	9
K64324	2 3/8	8.50	4.00	2.019	6	21	9
K64325	2 1/2	8.75	4.00	2.100	6	21	9
K65117	2 1/2	8.75	4.00	2.100	8	21	9
K64326	2 5/8	8.75	4.00	2.225	6	21	9
K65119	2 5/8	8.75	4.00	2.225	8	21	9
K64327	2 3/4	9.25	4.00	2.350	6	21	9
K65121	2 3/4	9.25	4.00	2.350	10	21	9

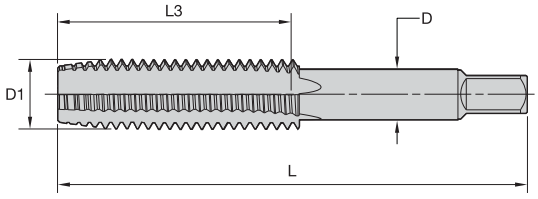
Ships in 24 Hours

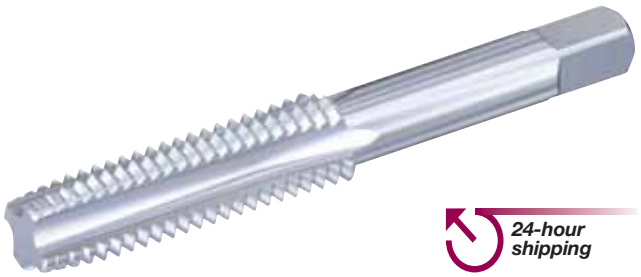
NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	24

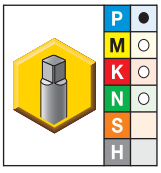






24-hour shipping

KHSST Hand • Large Fractional Sizes • Short Series • Plug or Bottoming Chamfer

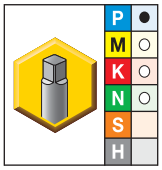


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	H limit max	TPI min	TPI max
K64297	1 1/6	4.00	1.50	0.896	6	21	14	55
K64835	1 1/8	4.00	1.50	0.896	4	21	14	55
K64299	1 1/8	4.00	1.50	0.896	6	21	14	55
K64307	1 3/16	4.00	1.50	1.021	6	21	14	55
K64309	1 1/4	4.00	1.50	1.021	6	21	14	55
K64311	1 5/16	4.00	1.50	1.108	6	21	14	55
K64313	1 3/8	4.00	1.50	1.108	6	21	14	55
K64315	1 7/16	4.00	1.50	1.233	6	21	14	55
K64317	1 1/2	4.00	1.50	1.233	6	21	14	55
K65104	1 9/16	5.00	2.00	1.305	6	21	10	55
K64334	1 5/8	5.00	2.00	1.305	6	21	10	55
K65105	1 11/16	5.00	2.00	1.430	6	21	10	55
K64335	1 3/4	5.00	2.00	1.430	6	21	10	55
K65106	1 13/16	5.00	2.00	1.519	6	21	10	55
K64336	1 7/8	5.00	2.00	1.519	6	21	10	55
K65108	1 7/8	5.00	2.00	1.519	8	21	10	55
K64337	2	5.00	2.00	1.644	6	21	10	55
K64841	2	5.00	2.00	1.644	8	21	10	55
K64338	2 1/8	5.25	2.00	1.769	6	21	10	47
K65112	2 1/8	5.25	2.00	1.769	8	21	10	47
K64339	2 1/4	5.25	2.00	1.894	6	21	10	47
K65114	2 1/4	5.25	2.00	1.849	8	21	10	47

(continued)

(KHSST Hand • Large Fractional Sizes • Short Series • Plug or Bottoming Chamfer continued)



uncoated	D1 size	L	L3	D	number of flutes	H limit max	TPI min	TPI max
K64340	2 3/8	5.25	2.00	2.019	6	21	10	47
K65116	2 3/8	5.25	2.00	2.019	8	21	10	47
K64341	2 1/2	5.25	2.00	2.100	6	21	10	47
K65118	2 1/2	5.25	2.00	2.100	8	21	10	47
K63942	2 5/8	5.50	2.00	2.100	6	21	10	47
K65120	2 5/8	5.50	2.00	2.100	8	21	10	47
K64342	2 3/4	5.50	2.00	2.100	6	21	10	47
K65122	2 3/4	5.50	2.00	2.100	10	21	10	47

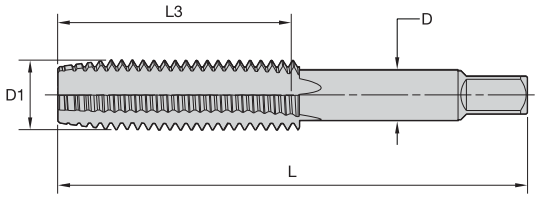
Ships in 24 Hours

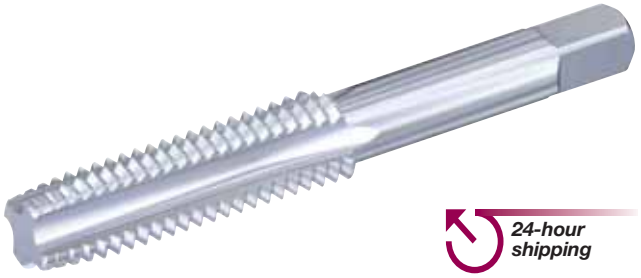
NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	24

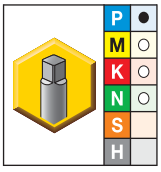






24-hour shipping

KHSST Hand • Taper, Plug, or Bottoming Chamfer • Metric ANSI

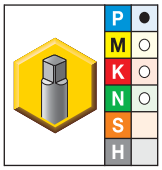


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	D limit max	pitch min
K65288	M1.5	1.63	0.31	0.141	2	3	0.3
K65708	M1.6	1.69	0.31	0.141	2	3	0.3
K65289	M1.8	1.69	0.38	0.141	2	4	0.3
K65290	M2	1.75	0.44	0.141	2	4	0.3
K65301	M2	1.75	0.44	0.141	3	4	0.3
K65713	M2.2	1.75	0.44	0.141	3	4	0.3
K65291	M2.5	1.81	0.50	0.141	2	5	0.3
K65302	M2.5	1.81	0.50	0.141	3	5	0.3
K65292	M3	1.94	0.63	0.141	2	5	0.3
K65303	M3	1.94	0.63	0.141	3	5	0.3
K64852	M3	1.94	0.63	0.141	4	5	0.3
K65293	M3.5	2.00	0.69	0.141	2	7	0.3
K65304	M3.5	2.00	0.69	0.141	3	7	0.3
K64850	M3.5	2.00	0.69	0.141	4	7	0.3
K65294	M4	2.13	0.75	0.168	2	7	0.3
K65305	M4	2.13	0.75	0.168	3	7	0.3
K65317	M4	2.13	0.75	0.168	4	7	0.3
K65306	M4.5	2.38	0.88	0.194	3	7	0.3
K65318	M4.5	2.38	0.88	0.194	4	7	0.3
K64259	M5	2.38	0.88	0.194	2	7	0.3
K64271	M5	2.38	0.88	0.194	3	7	0.3
K64280	M5	2.38	0.88	0.194	4	7	0.3
K65298	M6	2.50	1.00	0.255	2	7	0.3
K65308	M6	2.50	1.00	0.255	3	7	0.3
K65321	M6	2.50	1.00	0.255	4	7	0.3
K65715	M6.3	2.50	1.00	0.255	3	7	0.3
K65717	M6.3	2.50	1.00	0.255	4	7	0.3
K65299	M7	2.72	1.13	0.318	2	7	0.3
K65309	M7	2.72	1.13	0.318	3	7	0.3
K65322	M7	2.72	1.13	0.318	4	7	0.3
K65711	M8	2.72	1.13	0.318	2	7	0.3
K65716	M8	2.72	1.13	0.318	3	7	0.3
K65718	M8	2.72	1.13	0.318	4	7	0.3
K65300	M9	2.94	1.25	0.381	2	7	0.3

(continued)

(KHSST Hand • Taper, Plug, or Bottoming Chamfer • Metric ANSI continued)



uncoated	D1 size	L	L3	D	number of flutes	D limit max	pitch min
K65310	M9	2.94	1.25	0.381	3	7	0.3
K65323	M9	2.94	1.25	0.381	4	7	0.3
K65712	M10	2.94	1.25	0.381	2	7	0.3
K64275	M10	2.94	1.25	0.381	3	7	0.3
K64285	M10	2.94	1.25	0.381	4	7	0.3
K65312	M11	3.16	1.44	0.323	3	15	0.3
K65325	M11	3.16	1.44	0.323	4	15	0.3
K65313	M12	3.38	1.66	0.367	3	15	0.3
K65326	M12	3.38	1.66	0.367	4	15	0.3
K65719	M12	3.38	1.66	0.367	6	15	0.3
K65314	M14	3.59	1.66	0.429	3	15	0.4
K65327	M14	3.59	1.66	0.429	4	15	0.4
K65720	M14	3.59	1.66	0.429	6	15	0.4
K64831	M15	3.81	1.81	0.480	4	15	0.4
K65315	M16	3.81	1.81	0.480	3	15	0.4
K65328	M16	3.81	1.81	0.480	4	15	0.4
K65721	M16	3.81	1.81	0.480	6	15	0.4
K65316	M18	4.03	1.81	0.542	3	15	0.4
K65329	M18	4.03	1.81	0.542	4	15	0.4
K65722	M18	4.03	1.81	0.542	6	15	0.4
K65330	M20	4.47	2.00	0.652	4	15	0.4
K65723	M20	4.47	2.00	0.652	6	15	0.4
K65331	M22	4.69	2.22	0.697	4	15	0.4
K65724	M22	4.69	2.22	0.697	6	15	0.4
K65332	M24	4.91	2.22	0.760	4	15	0.4
K65725	M24	4.91	2.22	0.760	6	15	0.4
K65333	M25	3.75	2.50	0.800	4	15	0.4
K65726	M25	5.13	2.50	0.800	6	15	0.4

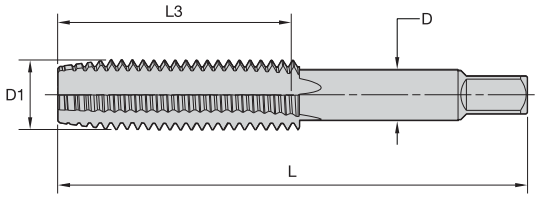
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72

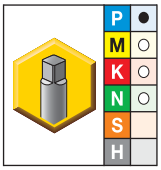






24-hour shipping

KHSST Oversized Hand • Taper, Plug, or Bottoming Chamfer • Metric ANSI



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	D limit max	pitch min
K65783	M3.5	2.00	0.69	0.141	3	13	0.3
K65433	M4	2.13	0.75	0.168	4	13	0.3
K65784	M4	2.13	0.75	0.168	3	13	0.3
K65434	M4.5	2.38	0.88	0.194	4	13	0.3
K65804	M5	2.38	0.88	0.194	3	13	0.3
K65806	M5	2.38	0.88	0.194	4	13	0.3
K65436	M6	2.50	1.00	0.255	4	13	0.3
K65787	M6	2.50	1.00	0.255	3	13	0.3
K65437	M7	2.72	1.13	0.318	4	13	0.3
K65789	M8	2.72	1.13	0.318	3	13	0.3
K65800	M8	2.72	1.13	0.318	4	13	0.3
K65438	M9	2.94	1.25	0.381	4	13	0.3
K65808	M10	2.94	1.25	0.381	4	13	0.3

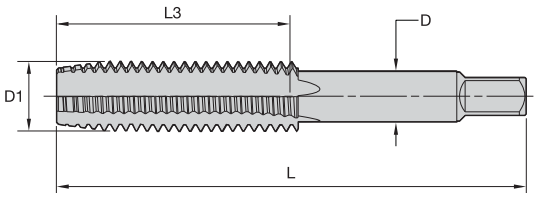
Ships in 24 Hours

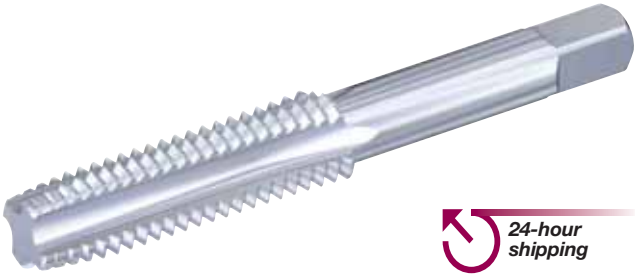
NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48

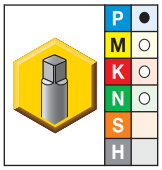






24-hour shipping

KHSST Hand • Large Metric Sizes • Long Series • Taper, Plug or Bottoming Chamfer • Metric ANSI



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	D limit max	pitch min
K65334	M27	5.13	2.50	0.896	4	21	2
K65727	M27	5.13	2.50	0.896	6	21	2
K65335	M28	5.44	2.56	0.896	4	21	2
K65728	M28	5.44	2.56	0.896	6	21	2
K65336	M30	5.44	2.56	1.021	4	21	2
K65342	M30	5.44	2.56	1.021	6	21	2
K65337	M33	5.75	2.56	1.108	4	21	2
K65344	M33	5.75	2.56	1.108	6	21	2
K65338	M36	6.06	3.00	1.108	4	21	2
K65729	M36	6.06	3.00	1.108	6	21	2
K65339	M38	6.38	3.00	1.233	4	21	2
K65347	M38	6.38	3.00	1.233	6	21	2
K65349	M39	6.69	3.19	1.305	6	21	3
K64856	M42	7.00	3.19	1.430	6	21	3
K65362	M45	7.31	3.56	1.519	8	21	3
K65351	M45	7.31	3.56	1.519	6	21	3
K65353	M48	7.63	3.56	1.644	6	21	3
K65364	M48	7.63	3.56	1.644	8	21	3
K65355	M56	8.25	3.56	1.894	6	21	3
K65366	M56	8.25	3.56	1.894	8	21	3
K65368	M64	8.75	4.00	2.250	8	21	3
K65357	M64	8.75	4.00	2.250	6	21	3

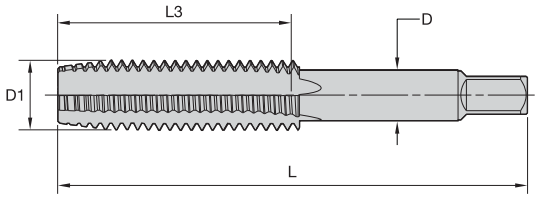
Ships in 24 Hours

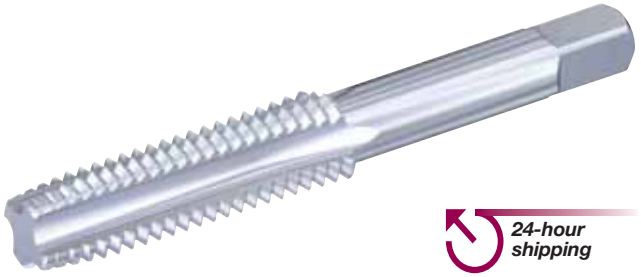
NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	24

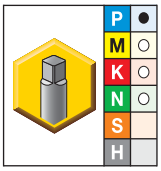






24-hour shipping

KHSST Hand • Large Metric Sizes • Short Series • Plug or Bottoming Chamfer • Metric ANSI



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	D limit max	pitch min	pitch max
K65340	M27	4.00	1.50	0.896	6	21	0.5	3
K65430	M27	4.00	1.50	0.896	6	21	0.5	3
K65341	M28	4.00	1.50	0.896	6	21	0.5	3
K65343	M30	4.00	1.50	1.021	6	21	0.5	3
K65345	M33	4.00	1.50	1.108	6	21	0.5	3
K65346	M36	4.00	1.50	1.233	6	21	0.5	3
K65348	M38	4.00	1.50	1.233	6	21	0.5	3
K65350	M39	5.00	2.00	1.305	6	21	0.5	3
K65352	M45	5.00	2.00	1.519	6	21	0.5	3
K65354	M48	5.00	2.00	1.644	6	21	0.5	3
K65356	M56	5.25	2.00	1.894	6	21	0.6	3
K65358	M64	5.50	2.00	2.100	6	21	0.6	3

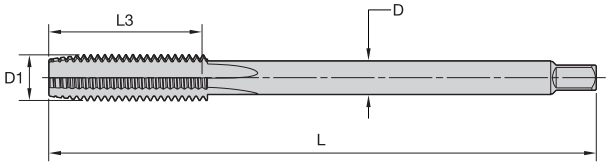
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	24







24-hour shipping

KHSST Extended-Length Hand Taps • Machine Screw and Fractional • Taper, Plug, or Bottoming Chamfer

L=4" uncoated	L=6" uncoated	L=8" uncoated	L=10" uncoated	D1 size	L3	D	number of flutes	H limit max	TPI max
K65814	K65815	–	–	#6	0.69	0.141	2	13	100
K65214	K64575	–	–	#6	0.69	0.141	3	13	100
K67184	–	–	–	#6	0.69	0.141	4	13	100
K65816	K65817	–	–	#8	0.75	0.168	2	13	100
K65826	K65827	–	–	#8	0.75	0.168	3	13	100
K65215	K65202	–	–	#8	0.75	0.168	4	13	100
K65818	K65819	–	–	#10	0.88	0.194	2	13	100
K65828	K65829	–	–	#10	0.88	0.194	3	13	100
K65216	K64577	–	–	#10	0.88	0.194	4	13	100
–	K65820	K65821	–	1/4	1.00	0.255	2	13	80
–	K65830	K65831	–	1/4	1.00	0.255	3	13	80
–	K65230	K65254	–	1/4	1.00	0.255	4	13	80
–	K65823	K65824	–	5/16	1.13	0.318	2	13	80
–	K65833	K65834	K65835	5/16	1.13	0.318	3	13	80
–	K67231	K65255	K65279	5/16	1.13	0.318	4	13	80
–	K67259	–	–	3/8	1.25	0.381	2	13	80
–	K65836	K65837	–	3/8	1.25	0.381	3	13	80
–	K65232	K65256	K65280	3/8	1.25	0.381	4	13	80
–	K65839	–	–	7/16	1.44	0.323	3	15	80
–	K65234	K65258	K65282	7/16	1.44	0.323	4	15	80
–	K65842	K65843	–	1/2	1.66	0.367	3	15	80
–	K65235	K65259	K65283	1/2	1.66	0.367	4	15	80
–	K65845	K65846	K65847	5/8	1.81	0.480	3	15	64
–	K65236	K65260	K65284	5/8	1.81	0.480	4	15	64
–	K65848	K65849	K65850	3/4	2.00	0.590	3	15	64
–	K65237	K65261	K65285	3/4	2.00	0.590	4	15	64

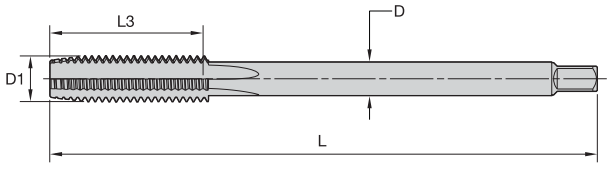
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48







24-hour shipping

KHSST Extended Length Hand Taps • Taper, Plug or Bottoming Chamfer Tap

L=4" uncoated	L=6" uncoated	D1 size	L	L3	D	number of flutes	H limit max	TPI max
K67208	**K67211**	1/4	4.00	1.00	0.185	2	13	80
K67209	**K67212**	1/4	4.00	1.00	0.185	3	13	80
K67210	**K67213**	1/4	4.00	1.00	0.185	4	13	80
K67226	**K67229**	5/16	4.00	1.13	0.240	2	13	80
K67227	**K67230**	5/16	4.00	1.13	0.240	3	13	80
K67228	**—**	5/16	4.00	1.13	0.240	4	13	80
K67253	**K67256**	3/8	4.00	1.25	0.275	2	13	80
K67254	**K67257**	3/8	4.00	1.25	0.275	3	13	80
K67255	**K67258**	3/8	4.00	1.25	0.275	4	13	80

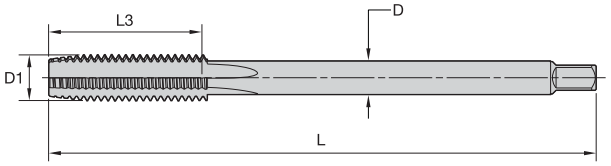
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48







24-hour shipping

KHSST Extended-Length Hand Taps • Taper, Plug, or Bottoming Chamfer • Metric ANSI

L=4" uncoated	L=6" uncoated	L=8" uncoated	L=10" uncoated	D1 size	L3	D	number of flutes	H limit max	TPI max
K65871	–	–	–	M3.5	0.69	0.141	2	13	0.3
K65491	–	–	–	M3.5	0.69	0.141	3	13	0.3
K67188	K67189	–	–	M3.5	0.69	0.141	4	13	0.3
K65873	K65874	–	–	M4	0.75	0.168	2	13	0.3
–	K65890	–	–	M4	0.75	0.168	3	13	0.3
–	K65495	–	–	M4	0.75	0.168	4	13	0.3
K65917	K65918	–	–	M5	0.88	0.194	3	13	0.3
K65919	K65920	–	–	M5	0.88	0.194	4	13	0.3
–	K65877	–	K65895	M6	1.00	0.255	2	13	0.3
–	K65893	–	K65581	M6	1.00	0.255	3	13	0.3
–	K65571	–	–	M6	1.00	0.255	4	13	0.3
–	–	K65887	–	M8	1.13	0.318	2	13	0.3
–	K65902	K65903	K65904	M8	1.13	0.318	3	13	0.3
–	K65859	K65860	K65861	M8	1.13	0.318	4	13	0.3
–	K67269	–	–	M9	1.25	0.381	2	13	0.3
–	K67279	–	–	M10	1.25	0.381	2	13	0.3
–	K65905	K65906	K65907	M10	1.25	0.381	3	13	0.3
–	K65233	K65257	K65281	M10	1.25	0.381	4	13	0.3
–	K65865	–	–	M11	1.44	0.323	3	15	0.3
–	K65911	K65912	K65910	M11	1.44	0.323	4	15	0.3
–	K65908	K65909	K65584	M12	1.44	0.367	3	15	0.4
–	K65574	K65579	–	M12	1.44	0.367	4	15	0.4
–	K65868	K65869	K65870	M16	1.81	0.480	3	15	0.4
–	K65914	K65915	K65916	M16	1.81	0.480	4	15	0.4

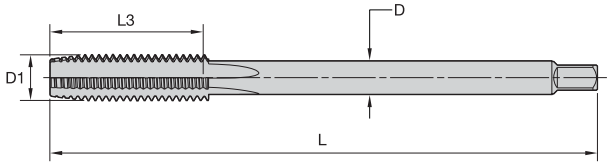
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48







24-hour shipping

KHSST Extended-Length Hand Taps • Small Shank • Taper, Plug, or Bottoming Chamfer • Metric ANSI

L=4" uncoated	L=6" uncoated	D1 size	L3	D	number of flutes	H limit max	TPI max
K67217	**K67220**	M6	1.00	0.185	2	13	0.3
K67218	**K67221**	M6	1.00	0.185	3	13	0.3
K67219	**K67222**	M6	1.00	0.185	4	13	0.3
K67235	**K67238**	M7	1.13	0.240	2	13	0.3
K67236	**K67239**	M7	1.13	0.240	3	13	0.3
K67237	**K67240**	M7	1.13	0.240	4	13	0.3
K67244	**K67247**	M8	1.13	0.240	2	13	0.3
K67245	**K67248**	M8	1.13	0.240	3	13	0.3
K67246	**K67249**	M8	1.13	0.240	4	13	0.3
K67263	**K67266**	M9	1.25	0.275	2	13	0.3
K67264	**K67267**	M9	1.25	0.275	3	13	0.3
K67265	**K67268**	M9	1.25	0.275	4	13	0.3
K67273	**K67276**	M10	1.25	0.275	2	13	0.3
K67274	**K67277**	M10	1.25	0.275	3	13	0.3
K67275	**K67278**	M10	1.25	0.275	4	13	0.3

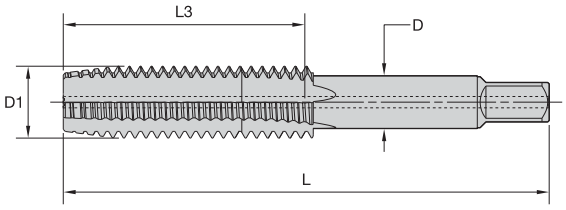
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

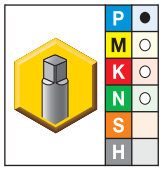
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48







KHSST Hand • Fractional Sizes • Plug or Bottoming Chamfer • Internal Coolant



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	H limit max	TPI max
K65753	3/8	2.94	0.75	0.381	3	13	80
K65754	7/16	3.16	0.88	0.323	4	13	80
K65755	1/2	3.38	0.94	0.367	4	13	80
K65756	9/16	3.59	1.00	0.429	4	13	64
K65757	5/8	3.81	1.09	0.480	4	13	64
K65758	3/4	4.25	1.22	0.590	4	13	64
K65760	1	5.13	1.50	0.800	4	13	64

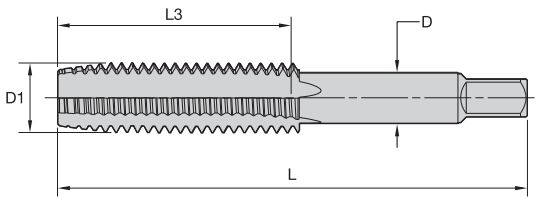
Ships in 24 Hours

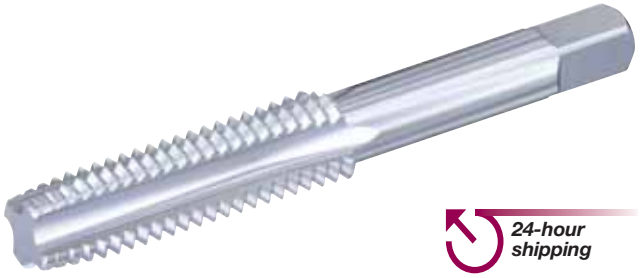
NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch.
For through hole application, oil hole taps with coolant exiting in the chamfer area are recommended; please consult customer service for price and delivery.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72

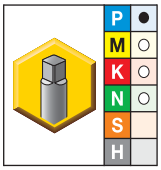






24-hour shipping

KHSST STI Hand • Machine Screw and Fractional Sizes • Taper, Plug, or Bottoming Chamfer

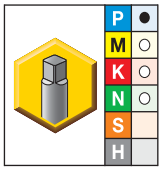


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	H limit max
K67604	#2 - 56	1.88	0.56	0.141	2	5
K65286	#2 - 56	1.75	0.56	0.141	3	5
K67605	#3 - 48	2.00	0.63	0.141	2	5
K65287	#3 - 48	2.00	0.63	0.141	3	5
K67606	#3 - 48	2.00	0.63	0.141	4	5
K68376	#3 - 56	1.81	0.63	0.141	3	5
K67607	#4 - 40	2.00	0.69	0.141	2	7
K64616	#4 - 40	2.00	0.69	0.141	3	7
K67608	#4 - 40	2.00	0.69	0.141	4	7
K68315	#4 - 48	2.00	0.69	0.141	3	7
K67609	#5 - 40	2.13	0.75	0.168	2	7
K64617	#5 - 40	2.13	0.75	0.168	3	7
K67610	#5 - 40	2.13	0.75	0.168	4	7
K67611	#6 - 32	2.38	0.88	0.194	2	7
K64618	#6 - 32	2.38	0.88	0.194	3	7
K67612	#6 - 32	2.38	0.88	0.194	4	7
K68316	#6 - 40	2.38	0.88	0.194	3	7
K64830	#8 - 32	2.38	0.94	0.220	2	7
K65147	#8 - 32	2.38	0.94	0.220	3	7
K67613	#8 - 32	2.38	0.94	0.220	4	7
K67614	#8 - 36	2.38	0.94	0.220	2	7
K66281	#8 - 36	2.38	0.94	0.220	3	7
K67615	#8 - 36	2.38	0.94	0.220	4	7
K67616	#10 - 24	2.50	1.00	0.255	2	7
K64619	#10 - 24	2.50	1.00	0.255	3	7
K67617	#10 - 24	2.50	1.00	0.255	4	7
K67620	#10 - 24	2.50	1.00	0.255	4	7
K64846	#10 - 32	2.50	1.00	0.255	2	7
K67619	#10 - 32	2.50	1.00	0.255	2	7
K66282	#10 - 32	2.50	1.00	0.255	3	7
K67622	1/4 - 20	2.72	1.13	0.318	2	7
K64621	1/4 - 20	2.72	1.13	0.318	3	7
K67623	1/4 - 20	2.72	1.13	0.318	4	7
K67625	1/4 - 28	2.72	1.13	0.318	2	7

(continued)

(KHSST STI Hand • Machine Screw and Fractional Sizes • Taper, Plug, or Bottoming Chamfer continued)



uncoated	D1 size	L	L3	D	number of flutes	H limit max
K66283	1/4 - 28	2.72	1.13	0.318	3	7
K67626	1/4 - 28	2.72	1.13	0.318	4	7
K67628	5/16 - 18	2.94	1.25	0.381	2	7
K67629	5/16 - 18	2.94	1.25	0.381	3	7
K64630	5/16 - 18	2.94	1.25	0.381	4	7
K67631	5/16 - 24	2.94	1.25	0.381	2	7
K67632	5/16 - 24	2.94	1.25	0.381	3	7
K66284	5/16 - 24	2.94	1.25	0.381	4	7
K67634	3/8 - 16	3.38	1.66	0.367	3	7
K64631	3/8 - 16	3.38	1.66	0.367	4	7
K67636	3/8 - 24	3.16	1.44	0.323	3	7
K66285	3/8 - 24	3.16	1.44	0.323	4	7
K67638	7/16 - 14	3.59	1.66	0.429	3	15
K64632	7/16 - 14	3.59	1.66	0.429	4	15
K67640	7/16 - 20	3.38	1.66	0.367	3	15
K66286	7/16 - 20	3.38	1.66	0.367	4	15
K67642	1/2 - 13	3.81	1.81	0.480	3	15
K64633	1/2 - 13	3.81	1.81	0.480	4	15
K67644	1/2 - 20	3.59	1.66	0.429	3	15
K66287	1/2 - 20	3.59	1.66	0.429	4	15
K67646	9/16 - 12	4.03	1.81	0.542	3	15
K67648	9/16 - 18	3.81	1.81	0.480	3	15
K66288	9/16 - 18	3.81	1.81	0.480	4	15
K67650	5/8 - 11	4.25	2.00	0.590	3	15
K64635	5/8 - 11	4.25	2.00	0.590	4	15
K67652	5/8 - 18	4.03	1.81	0.542	3	15
K66289	5/8 - 18	4.03	1.81	0.542	4	15
K67654	3/4 - 10	4.69	2.22	0.697	3	15
K64636	3/4 - 10	4.69	2.22	0.697	4	15
K67656	3/4 - 16	4.47	2.00	0.651	3	15
K66290	3/4 - 16	4.47	2.00	0.651	4	15
K67658	7/8 - 14	5.13	2.50	0.800	3	15
K64638	7/8 - 9	5.13	2.50	0.896	4	15

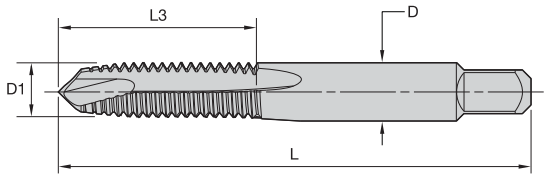
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72

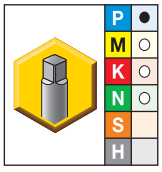






24-hour shipping

KHSST Spiral Point • Machine Screw and Fractional Sizes • Plug or Bottoming Chamfer Tap

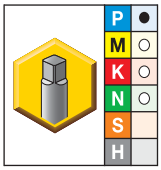


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	H limit max	TPI max
K64350	#0	1.63	0.31	0.141	2	3	100
K64351	#1	1.69	0.38	0.141	2	4	100
K64352	#2	1.75	0.44	0.141	2	4	100
K64353	#3	1.81	0.50	0.141	2	5	100
K64354	#4	1.88	0.56	0.141	2	5	100
K64736	#5	1.94	0.63	0.141	2	5	100
K64355	#5	1.94	0.63	0.141	2	5	100
K64356	#6	2.00	0.69	0.141	2	7	100
K64839	#6	2.00	0.69	0.141	3	7	100
K64357	#8	2.13	0.75	0.168	2	7	100
K65193	#8	2.13	0.75	0.168	3	7	100
K64358	#10	2.38	0.88	0.194	2	7	100
K65142	#10	2.38	0.88	0.194	3	7	100
K64840	#10	2.38	0.88	0.194	4	7	100
K64360	#12	2.38	0.94	0.220	2	7	100
K65143	#12	2.38	0.94	0.220	3	7	100
K64361	1/4	2.50	1.00	0.255	2	7	80
K64376	1/4	2.50	1.00	0.255	3	7	80

(continued)

(KHSST Spiral Point • Machine Screw and Fractional Sizes • Plug or Bottoming Chamfer Tap continued)



uncoated	D1 size	L	L3	D	number of flutes	H limit max	TPI max
K64832	1/4	2.50	1.00	0.255	4	7	80
K64362	5/16	2.72	1.13	0.318	2	7	80
K64377	5/16	2.72	1.13	0.318	3	7	80
K64854	3/8	2.94	1.25	0.381	2	7	80
K64378	3/8	2.94	1.25	0.381	3	7	80
K64380	7/16	3.16	1.44	0.323	3	15	80
K64381	1/2	3.38	1.66	0.367	3	15	80
K64382	9/16	3.59	1.66	0.429	3	15	64
K64826	9/16	3.59	1.66	0.429	4	15	64
K64383	5/8	3.81	1.81	0.480	3	15	64
K64838	5/8	3.81	1.81	0.480	4	15	64
K64384	11/16	4.03	1.81	0.542	3	15	64
K64385	3/4	4.25	2.00	0.590	3	15	64
K64829	3/4	4.25	2.00	0.590	4	15	64
K64386	13/16	4.47	2.00	0.652	3	15	64
K64387	7/8	4.69	2.22	0.697	3	15	64
K65144	15/16	4.91	2.22	0.3759	3	15	64
K64388	1	5.13	2.50	0.800	3	15	64

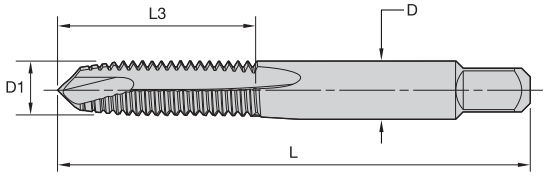
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72

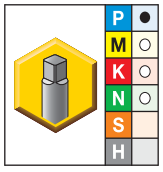






24-hour shipping

KHSST Spiral Point • Plug or Bottoming Chamfer Tap • Metric ANSI

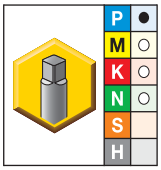


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	D limit max	pitch min
K65381	M1.5	1.625	0.31	0.141	2	3	0.30
K65766	M1.6	1.688	0.31	0.141	2	3	0.30
K65382	M1.8	1.688	0.38	0.141	2	4	0.30
K65383	M2	1.750	0.44	0.141	2	4	0.30
K65767	M2.2	1.750	0.44	0.141	2	4	0.30
K65384	M2.5	1.813	0.50	0.141	2	5	0.30
K65385	M3	1.938	0.63	0.141	2	5	0.30
K65386	M3.5	2.000	0.69	0.141	2	7	0.30
K64849	M3.5	2.000	0.69	0.141	3	7	0.30
K65387	M4	2.125	0.75	0.168	2	7	0.30
K65393	M4	2.125	0.75	0.168	3	7	0.30
K65388	M4.5	2.375	0.88	0.194	2	7	0.30
K65394	M4.5	2.375	0.88	0.194	3	7	0.30
K64359	M5	2.375	0.88	0.194	2	7	0.30
K65395	M5	2.375	0.88	0.194	3	7	0.30
K64827	M5	2.375	0.88	0.194	4	7	0.30
K65390	M5.5	2.375	0.88	0.190	2	7	0.30
K65391	M6	2.500	1.00	0.255	2	7	0.30
K65397	M6	2.500	1.00	0.255	3	7	0.30
K65768	M6.3	2.500	1.00	0.255	2	7	0.30
K65770	M6.3	2.500	1.00	0.255	3	7	0.30
K65392	M7	2.719	1.13	0.318	2	7	0.30
K65398	M7	2.719	1.13	0.318	3	7	0.30
K65769	M8	2.719	1.13	0.318	2	7	0.30
K65771	M8	2.719	1.13	0.318	3	7	0.30
K64845	M8	2.719	1.13	0.318	4	7	0.30
K65399	M9	2.938	1.25	0.381	3	7	0.30
K64847	M10	2.938	1.25	0.381	2	7	0.30

(continued)

(KHSST Spiral Point • Plug or Bottoming Chamfer Tap • Metric ANSI continued)



uncoated	D1 size	L	L3	D	number of flutes	D limit max	pitch min
K64379	M10	2.938	1.25	0.381	3	7	0.30
K65401	M11	3.156	1.44	0.323	3	15	0.30
K65402	M12	3.375	1.66	0.367	3	15	0.30
K65403	M14	3.594	1.66	0.429	3	15	0.40
K65404	M16	3.813	1.81	0.480	3	15	0.40
K64828	M16	3.813	1.81	0.480	4	15	0.40
K65405	M18	4.031	1.81	0.542	3	15	0.40
K64833	M18	4.031	1.81	0.542	4	15	0.40
K65406	M20	4.468	2.00	0.652	3	15	0.40
K65407	M22	4.688	2.22	0.697	3	15	0.40
K65408	M24	4.906	2.22	0.760	3	15	0.40
K65409	M25	5.125	2.50	0.800	3	15	0.40

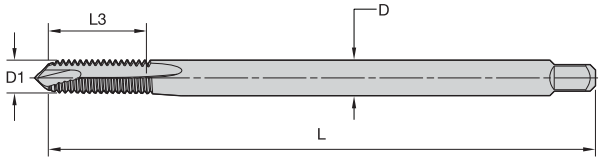
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







24-hour shipping

KHSST Spiral Point • Machine Screw or Fractional Sizes • Plug or Bottoming Chamfer Tap

L=4" uncoated	L=6" uncoated	L=8" uncoated	L=10" uncoated	D1 size	L3	D	number of flutes	H limit max	TPI max
K65206	K64566	–	–	#6	0.69	0.141	2	13	100
K65207	K64567	–	–	#8	0.75	0.168	2	13	100
K65211	K65225	–	–	#8	0.75	0.168	3	13	100
K65208	K64568	–	–	#10	0.88	0.194	2	13	100
K65212	–	–	–	#10	0.88	0.194	3	13	100
–	K64570	K65238	K65262	1/4	1.00	0.255	2	13	80
–	K65228	K65246	–	1/4	1.00	0.255	3	13	80
–	K64571	K65239	–	5/16	1.13	0.318	2	13	80
–	K65229	K65247	–	5/16	1.13	0.318	3	13	80
–	K64572	K65248	K65272	3/8	1.25	0.381	3	13	80
–	K65269	K65250	K65274	7/16	1.44	0.323	3	15	80
–	K64574	K65251	K65275	1/2	1.66	0.367	3	13	80
–	K65268	K65252	K65276	5/8	1.81	0.480	3	15	64
–	K65267	K65253	K65277	3/4	2.00	0.590	3	15	64

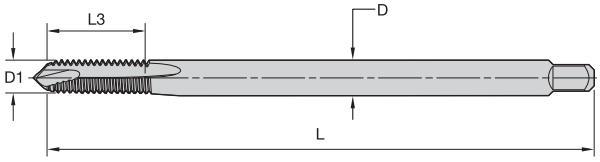
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48







24-hour shipping

KHSST Spiral Point • Fractional Sizes • Small Shank • Plug or Bottoming Chamfer Tap

L=4" uncoated	L=6" uncoated	L=8" uncoated	L=10" uncoated	D1 size	L3	D	number of flutes	H limit max	TPI max
K67293	**K67296**	–	–	1/4	1.00	0.185	2	13	80
K67294	**K67297**	–	–	1/4	1.00	0.185	3	13	80
K67317	**K67320**	–	–	5/16	1.12	0.240	2	13	80
K67318	**K67321**	–	–	5/16	1.12	0.240	3	13	80
K67358	**K67361**	–	–	3/8	1.25	0.275	2	13	80
K67359	**K67362**	–	–	3/8	1.25	0.275	3	13	80

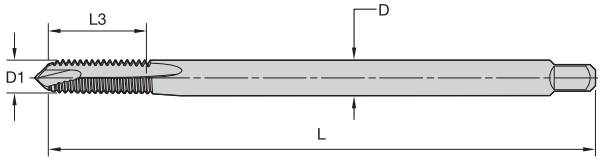
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48







24-hour shipping

KHSST Spiral Point • Plug or Bottoming Chamfer Tap • Metric ANSI

L=4" uncoated	L=6" uncoated	L=8" uncoated	L=10" uncoated	D1 size	L3	D	number of flutes	D limit max	pitch min
K65470	**–**	**–**	**–**	M3.5	0.69	0.141	3	13	0.3
K65450	**K65453**	**–**	**–**	M4	0.75	0.168	2	13	0.3
K65471	**–**	**–**	**–**	M4	0.75	0.168	3	13	0.3
K65472	**–**	**–**	**–**	M4.5	0.88	0.194	3	13	0.3
–	**K64569**	**–**	**–**	M5	0.88	0.194	2	13	0.3
K65213	**K65227**	**–**	**–**	M5	0.88	0.194	3	13	0.3
–	**K65455**	**–**	**–**	M6	1.00	0.255	2	13	0.3
–	**K65476**	**K65481**	**K65486**	M6	1.00	0.255	3	13	0.3
–	**K65458**	**–**	**–**	M6.3	1.00	0.255	3	13	0.3
–	**K65477**	**–**	**–**	M7	1.13	0.318	3	13	0.3
–	**K65464**	**K65466**	**K65678**	M8	1.13	0.318	3	13	0.3
–	**K65457**	**–**	**–**	M9	1.25	0.381	3	13	0.3
–	**K64573**	**K65249**	**K65273**	M10	1.25	0.381	3	13	0.3
–	**K65681**	**–**	**–**	M11	1.44	0.323	3	15	0.3
–	**K65468**	**K65484**	**K65489**	M12	1.66	0.367	3	15	0.3
–	**K65480**	**K65485**	**K65490**	M16	1.81	0.48	3	15	0.4

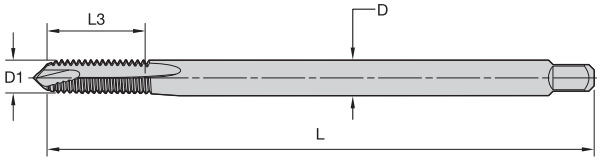
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48







24-hour shipping

KHSST Spiral Point • Small Shank • Plug or Bottoming Chamfer Tap • Metric ANSI

L=4" uncoated	L=6" uncoated	L=8" uncoated	L=10" uncoated	D1 size	L3	D	number of flutes	D limit max	pitch min
K67305	**K67308**	—	—	M6	1.00	0.185	2	13	0.3
K67306	**K67309**	—	—	M6	1.00	0.185	3	13	0.3
K67328	**K67331**	—	—	M7	1.12	0.240	2	13	0.3
K67329	**K67332**	—	—	M7	1.12	0.240	3	13	0.3
K67343	**K67346**	—	—	M8	1.12	0.240	2	13	0.3
K67344	**K67347**	—	—	M8	1.12	0.240	3	13	0.3
K67373	**K67376**	—	—	M9	1.25	0.275	2	13	0.3
K67374	**K67377**	—	—	M9	1.25	0.275	3	13	0.3
K67388	**K67391**	—	—	M10	1.25	0.275	2	13	0.3
K67389	**K67392**	—	—	M10	1.25	0.275	3	13	0.3

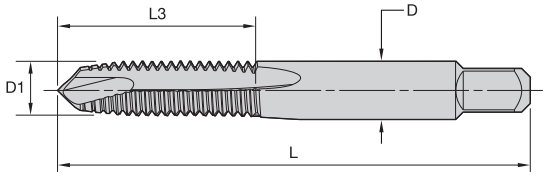
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48

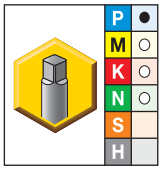






24-hour shipping

KHSST Oversized Spiral Point • Fractional Sizes • Plug or Bottoming Chamfer Tap



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	H limit max	TPI max
K64735	#4	1.875	0.56	0.141	2	11	100
K64737	#6	2.000	0.69	0.141	2	11	100
K65182	#6	2.000	0.69	0.141	3	13	100
K64738	#8	2.125	0.75	0.168	2	13	100
K65183	#8	2.125	0.75	0.168	3	13	100
K64739	#10	2.375	0.88	0.194	2	13	100
K65184	#10	2.375	0.88	0.194	3	13	100
K64740	#12	2.375	0.94	0.220	2	13	100
K64741	1/4	2.500	1.00	0.255	2	13	80
K65186	1/4	2.500	1.00	0.255	3	13	80
K64742	5/16	2.719	1.13	0.318	2	13	80
K65187	5/16	2.719	1.13	0.318	3	13	80
K64767	3/8	2.938	1.25	0.381	3	13	80

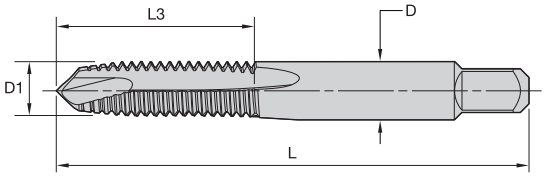
Ships in 24 Hours

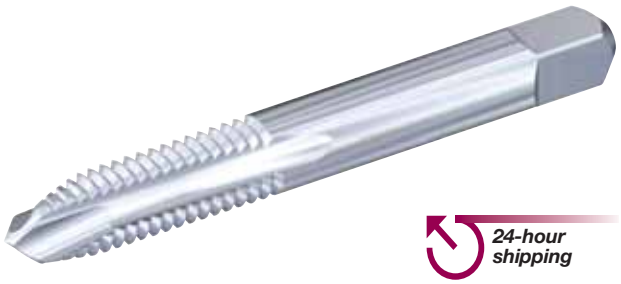
NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72

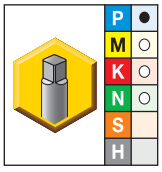






24-hour shipping

KHSST Oversized Spiral Point • Plug or Bottoming Chamfer Tap • Metric ANSI



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	D limit max	pitch min
K65416	M3.5	2.00	0.69	0.141	3	13	0.3
K65411	M4	2.13	0.75	0.168	2	13	0.3
K65809	M5	2.38	0.88	0.194	2	13	0.3
K65811	M5	2.38	0.88	0.194	3	13	0.3
K65414	M6	2.50	1.00	0.255	2	13	0.3
K65420	M6	2.50	1.00	0.255	3	13	0.3
K65421	M7	2.72	1.13	0.318	3	13	0.3
K65801	M8	2.72	1.13	0.318	2	13	0.3
K65802	M8	2.72	1.13	0.318	3	13	0.3
K65813	M10	2.94	1.25	0.381	3	13	0.3

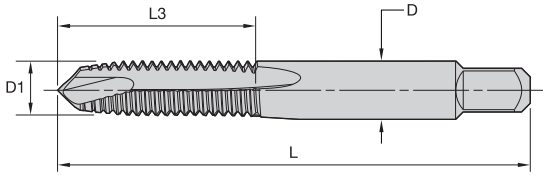
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

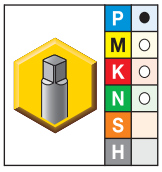
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







KHSST STI Spiral Point • Plug or Bottoming Chamfer Tap • Metric ANSI

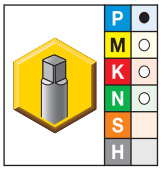


● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	H limit max
K66291	#2 - 56	1.875	0.56	0.141	2	5
K67660	#2 - 56	1.875	0.56	0.141	3	5
K66292	#3 - 48	2.000	0.63	0.141	2	5
K67661	#3 - 48	2.000	0.63	0.141	3	5
K68333	#3 - 56	1.938	0.63	0.141	2	5
K66293	#4 - 40	2.000	0.69	0.141	2	7
K67662	#4 - 40	2.000	0.69	0.141	3	7
K72015	#4 - 48	2.000	0.69	0.141	2	7
K66294	#5 - 40	2.125	0.75	0.168	2	7
K67663	#5 - 40	2.125	0.75	0.168	3	7
K66295	#6 - 32	2.375	0.88	0.194	2	7
K67664	#6 - 32	2.375	0.88	0.194	3	7
K68323	#6 - 40	2.375	0.88	0.194	2	7
K66296	#8 - 32	2.375	0.94	0.220	2	7
K67665	#8 - 32	2.375	0.94	0.220	3	7
K64890	#8 - 32	2.375	0.94	0.220	3	7
K67666	#8 - 32	2.375	0.94	0.220	4	7
K66297	#8 - 36	2.375	0.94	0.220	2	7
K67667	#8 - 36	2.375	0.94	0.220	3	7
K67668	#8 - 36	2.375	0.94	0.220	4	7
K64653	#10 - 24	2.500	1.00	0.255	2	7
K67669	#10 - 24	2.500	1.00	0.255	3	7
K67670	#10 - 24	2.500	1.00	0.255	4	7
K66298	#10 - 32	2.500	1.00	0.255	2	7
K67671	#10 - 32	2.500	1.00	0.255	3	7
K67672	#10 - 32	2.500	1.00	0.255	4	7
K64655	1/4 - 20	2.719	1.13	0.318	2	7
K67673	1/4 - 20	2.719	1.13	0.318	3	7
K67674	1/4 - 20	2.719	1.13	0.318	4	7
K66299	1/4 - 28	2.719	1.13	0.318	2	7
K67675	1/4 - 28	2.719	1.13	0.318	3	7
K67676	1/4 - 28	2.719	1.13	0.318	4	7
K67677	5/16 - 18	2.938	1.25	0.381	2	7
K64656	5/16 - 18	2.938	1.25	0.381	3	7

(continued)

(KHSST STI Spiral Point • Plug or Bottoming Chamfer Tap • Metric ANSI, continued)



uncoated	D1 size	L	L3	D	number of flutes	H limit max
K67678	5/16 - 18	2.938	1.25	0.381	4	7
K67679	5/16 - 24	2.938	1.25	0.381	2	7
K66300	5/16 - 24	2.938	1.25	0.381	3	7
K67680	5/16 - 24	2.938	1.25	0.381	4	7
K64657	3/8 - 16	3.375	1.66	0.367	3	7
K67681	3/8 - 16	3.375	1.66	0.367	4	7
K66301	3/8 - 24	3.156	1.44	0.323	3	7
K67682	3/8 - 24	3.156	1.44	0.323	4	7
K64658	7/16 - 14	3.594	1.66	0.429	3	15
K67683	7/16 - 14	3.594	1.66	0.429	4	15
K66302	7/16 - 20	3.375	1.66	0.367	3	15
K67684	7/16 - 20	3.375	1.66	0.367	4	15
K64659	1/2 - 13	3.813	1.81	0.480	3	15
K67685	1/2 - 13	3.813	1.81	0.480	4	15
K66309	1/2 - 20	3.594	1.66	0.429	3	15
K67686	1/2 - 20	3.594	1.66	0.429	4	15
K67687	9/16 - 12	4.031	1.81	0.542	3	15
K67688	9/16 - 12	4.031	1.81	0.542	4	15
K67689	9/16 - 18	3.813	1.81	0.480	3	15
K67690	9/16 - 18	3.813	1.81	0.480	4	15
K67691	5/8 - 11	4.250	2.00	0.590	3	15
K67692	5/8 - 11	4.250	2.00	0.590	4	15
K67693	5/8 - 18	4.031	1.81	0.542	3	15
K67694	5/8 - 18	4.031	1.81	0.542	4	15
K67695	3/4 - 10	4.688	2.22	0.697	3	15
K67696	3/4 - 10	4.688	2.22	0.697	4	15
K67697	3/4 - 16	4.468	2.00	0.489	3	15
K67698	3/4 - 16	4.468	2.00	0.489	4	15
K67699	7/8 - 14	5.125	2.50	0.800	3	15
K67700	7/8 - 14	5.125	2.50	0.800	4	15

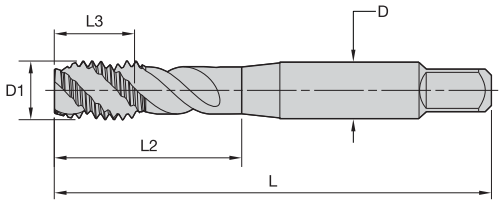
48 Hour Lead Time

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







KHSST Spiral Flute • Machine Screw and Fractional • Plug or Bottoming Chamfer





● first choice
○ alternate choice

uncoated	uncoated	D1 size	L	L3	L2	D	number of flutes	H limit max	TPI max
K65160	**K65161**	#2	1.75	0.44	—	0.141	2	4	100
K64455	**K64466**	#3	1.81	0.50	—	0.141	2	5	100
K64456	**K64467**	#4	1.88	0.56	—	0.141	2	5	100
K64457	**K64468**	#5	1.94	0.63	—	0.141	2	5	100
K65167	**K65172**	#6	2.00	0.38	0.69	0.141	3	7	100
K65168	**K64476**	#8	2.13	0.38	0.75	0.168	3	7	100
K65169	**K64477**	#10	2.38	0.50	0.88	0.194	3	7	100
K65171	**K64479**	#12	2.38	0.50	0.94	0.220	3	7	100
K64470	**K64480**	1/4	2.50	0.63	1.00	0.255	3	7	80
K64471	**K64481**	5/16	2.72	0.69	1.12	0.318	3	7	80
K64472	**K64482**	3/8	2.94	0.75	1.25	0.381	3	7	80
K64474	**K64484**	7/16	3.16	0.88	—	0.323	3	15	80
K64475	**K64485**	1/2	3.38	0.94	—	0.367	3	15	80
K64848	**—**	—	—	—	—	—	—	—	—
K64496	**K64502**	9/16	3.59	1.00	—	0.429	4	15	64
K64497	**K64503**	5/8	3.81	1.09	—	0.480	4	15	64
K64498	**K64504**	11/16	4.03	1.09	—	0.542	4	15	64
K64499	**K64505**	3/4	4.25	1.22	—	0.590	4	15	64
K65690	**K65691**	13/16	4.47	1.22	—	0.652	4	15	64
K64500	**K64506**	7/8	4.69	1.34	—	0.697	4	15	64
K65173	**K65174**	15/16	4.91	1.34	—	0.760	4	15	64
K64501	**K64507**	1	5.13	1.50	—	0.800	4	15	64

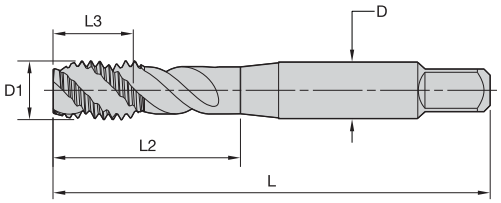
Ships in 24 Hours

NOTE: Spiral-flute taps optional with no neck available per table 302 dimensions (page L284); consult customer service for delivery time and price. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







KHSST Spiral Flute • Plug or Bottoming Chamfer Tap • Metric ANSI





● first choice
○ alternate choice

uncoated	uncoated	D1 size	L	L3	L2	D	number of flutes	D limit max	pitch min
K65479	**K65506**	M2	1.75	0.44	—	0.141	2	4	0.30
—	**K65773**	M2.2	1.81	0.44	—	0.141	2	4	0.30
K65498	**K65507**	M2.5	1.81	0.50	—	0.141	2	5	0.30
—	**K65508**	M3	1.94	0.63	—	0.141	2	5	0.30
K65515	**K65526**	M3.5	2.00	0.38	0.69	0.141	3	7	0.30
K65516	**K65527**	M4	2.13	0.38	0.75	0.168	3	7	0.30
K65517	**K65528**	M4.5	2.38	0.50	0.88	0.194	3	7	0.30
K64478	**—**	—	—	—	—	—	—	—	—
K65520	**K65531**	M6	2.50	0.63	1.00	0.255	3	7	0.30
K65521	**K65532**	M7	2.72	0.69	1.12	0.318	3	7	0.30
K65775	**K65777**	M8	2.72	0.69	1.12	0.318	3	7	0.30
K65522	**K65533**	M9	2.94	0.75	1.25	0.381	3	7	0.30
K64473	**K64483**	M10	2.94	0.75	1.25	0.381	3	7	0.30
—	**K65535**	M11	3.375	0.94	—	0.367	3	15	0.30
K65525	**K65536**	M12	3.38	0.94	—	0.367	3	15	0.30
K65537	**K65543**	M14	3.59	1.00	—	0.429	4	15	0.40
K65538	**K65544**	M16	3.81	1.09	—	0.480	4	15	0.40
K65539	**K65545**	M18	4.03	1.09	—	0.542	4	15	0.40
K65778	**K65779**	M20	4.47	1.22	—	0.652	4	15	0.40
K65540	**K65546**	M22	4.69	1.34	—	0.697	4	15	0.40
K65541	**K65547**	M24	4.91	1.34	—	0.760	4	15	0.40

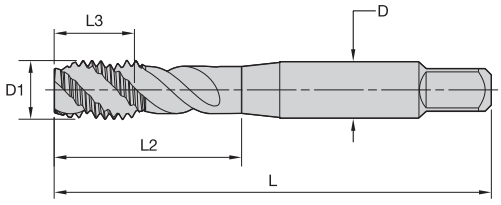
Ships in 24 Hours

NOTE: Spiral-flute taps optional with no neck available per table 302 dimensions (page L284); consult customer service for delivery time and price. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







KHSST STI Spiral Flute • Machine Screw and Fractional • Plug or Bottoming Chamfer

uncoated	uncoated	D1 size	L	L3	L2	D	number of flutes	H limit max	TPI max
K67701	K68281	#2 - 56	1.88	0.56	—	0.141	2	5	100
K67702	K68282	#3 - 48	2.00	0.63	—	0.141	2	7	100
K67703	K68283	#3 - 48	1.94	0.63	—	0.141	3	5	100
K67704	K68284	#4 - 40	2.00	0.69	—	0.141	2	7	100
K67705	K68285	#4 - 40	2.00	0.69	—	0.141	3	7	100
K67706	K68286	#5 - 40	2.13	0.75	—	0.168	2	7	100
K67707	K68287	#5 - 40	2.13	0.75	—	0.168	3	7	100
K67708	K68288	#6 - 32	2.38	0.88	0.69	0.194	2	7	100
K68472	K68317	#6 - 32	2.38	0.88	0.69	0.194	3	7	100
—	K68411	#6 - 40	2.38	0.37	0.69	0.168	3	7	100
K67709	K68289	#8 - 32	2.38	0.94	0.75	0.220	3	7	100
K67710	K68290	#8 - 36	2.38	0.94	0.75	0.220	3	7	100
K67711	K68291	#10 - 24	2.50	1.00	0.88	0.255	3	7	80
K67712	K68292	#10 - 32	2.5	1	0.88	0.255	3	7	80
K67713	K68293	1/4 - 20	2.72	1.13	1.00	0.318	3	7	80
K67714	K68294	1/4 - 28	2.72	1.13	1.00	0.318	3	7	80
K67715	K68295	5/16 - 18	2.94	1.25	1.12	0.381	3	7	80
K67716	K68296	5/16 - 24	2.94	1.25	1.12	0.381	3	7	80
K67717	K68297	3/8 - 16	3.38	1.66	1.25	0.367	3	7	80
K67718	K68298	3/8 - 24	3.16	1.44	1.25	0.323	3	7	80
K67719	K68299	7/16 - 14	3.59	1.66	—	0.429	3	15	80
K67720	K68300	7/16 - 20	3.375	1.656	—	0.367	3	15	80
K67721	K68301	1/2 - 13	3.813	1.81	—	0.480	3	15	64
K67722	K68302	1/2 - 20	3.594	1.66	—	0.429	3	15	64
K67723	K68303	9/16 - 12	4.031	1.81	—	0.542	3	15	64
K67724	K68304	9/16 - 18	3.813	1.81	—	0.480	3	15	64
K67725	K68305	5/8 - 11	4.25	2	—	0.590	3	15	64
K67726	K68306	5/8 - 18	4.25	2	—	0.590	3	15	64
K67727	K68307	3/4 - 10	4.688	2.22	—	0.697	3	15	64
K67728	K68308	3/4 - 16	4.468	2	—	0.489	3	15	64
K67729	K68309	7/8 - 14	5.125	2.5	—	0.800	3	15	64

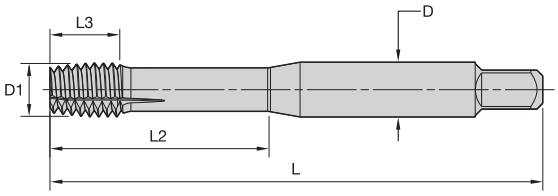
48 Hour Lead Time (up to 47 pieces)

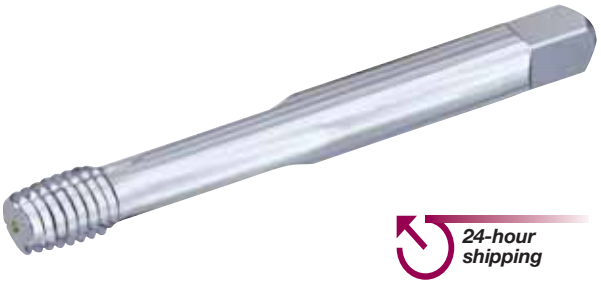
NOTE: Spiral-flute taps optional with no neck available per table 302 dimensions (page L284); consult customer service for delivery time and price. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72

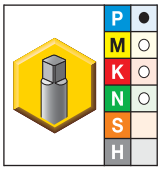






24-hour shipping

KHSST Forming Taps • Machine Screw and Fractional • Plug or Bottoming Entry Taper



● first choice
○ alternate choice

uncoated	D1 size	L	L3	L2	D	number of oil grooves	H limit max	TPI max
K64508	#0	1.63	0.31	—	0.141	—	7	100
K64509	#1	1.69	0.38	—	0.141	—	7	100
K64510	#2	1.75	0.44	—	0.141	—	11	100
K64511	#3	1.81	0.50	—	0.141	—	11	100
K64512	#4	1.88	0.56	—	0.141	—	11	100
K64513	#5	1.94	0.63	—	0.141	4	11	100
K64514	#6	2.00	0.38	0.69	0.141	4	11	100
K64515	#8	2.13	0.38	0.75	0.168	4	13	100
K64516	#10	2.38	0.50	0.88	0.194	4	13	100
K64518	#12	2.38	0.50	0.94	0.220	4	13	100
K64519	1/4"	2.50	0.63	1.00	0.255	4	13	80
K64520	5/16"	2.72	0.69	1.13	0.318	4	13	80
K64521	3/8"	2.94	0.75	1.25	0.381	4	13	80
K64523	7/16"	3.16	0.88	—	0.323	4	15	80
K64524	1/2"	3.38	0.94	—	0.367	4	15	80
K64525	9/16"	3.59	1.00	—	0.429	6	15	64
K64526	5/8"	3.81	1.09	—	0.480	6	15	64
K64527	3/4"	4.25	1.22	—	0.590	6	15	64
K65176	7/8"	4.69	1.33	—	0.697	6	15	64
K65178	1"	5.13	1.50	—	0.800	6	15	64

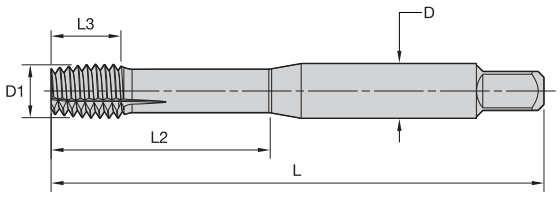
Ships in 24 Hours

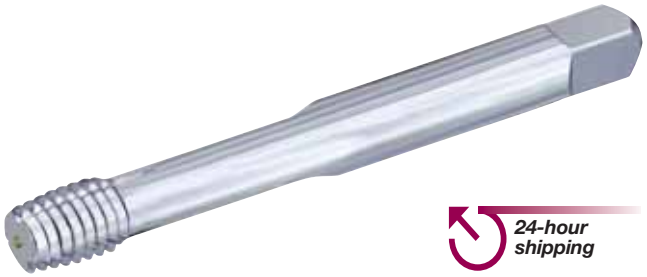
NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch.
Forming taps larger than #4 will be supplied with Table 302A (page L285) dimensions and oil grooves unless otherwise specified.
Forming taps without neck can be supplied according Table 302 (page L284) dimensions, consult our customer service for prices and delivery time.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

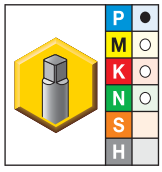
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







KHSST Forming Taps • Plug or Bottom Entry Taper • Metric ANSI



● first choice
○ alternate choice

uncoated	D1 size	L	L3	L2	D	number of oil grooves	D limit max	pitch min
K65549	M1.6	1.63	0.31	—	0.141	—	7	0.30
K65550	M1.8	1.69	0.38	—	0.141	—	7	0.30
K65551	M2	1.75	0.44	—	0.141	—	11	0.30
K65552	M2.5	1.81	0.50	—	0.141	—	11	0.30
K65553	M3	1.94	0.63	—	0.141	4	11	0.30
K65554	M3.5	2.00	0.38	0.69	0.141	4	11	0.30
K65555	M4	2.13	0.38	0.75	0.168	4	13	0.30
K65556	M4.5	2.38	0.50	0.88	0.194	4	13	0.30
K64517	M5	2.38	0.50	0.88	0.194	4	13	0.30
K65559	M6	2.50	0.63	1.00	0.255	4	13	0.30
K65560	M8	2.72	0.69	1.13	0.318	4	13	0.30
K65561	M9	2.94	0.75	1.25	0.381	4	13	0.30
K64522	M10	2.94	0.75	1.25	0.381	4	13	0.30
K65563	M11	3.16	0.88	—	0.323	4	15	0.30
K65564	M12	3.38	0.94	—	0.367	4	15	0.30
K65565	M14	3.59	1.00	—	0.429	6	15	0.4
K65566	M16	3.81	1.09	—	0.480	6	15	0.4
K65567	M20	4.47	1.31	—	0.652	6	15	0.4
K65568	M22	4.69	1.33	—	0.697	6	15	0.4
K65569	M24	4.91	1.34	—	0.760	6	15	0.4
K65570	M25	5.13	1.50	—	0.800	6	15	0.4

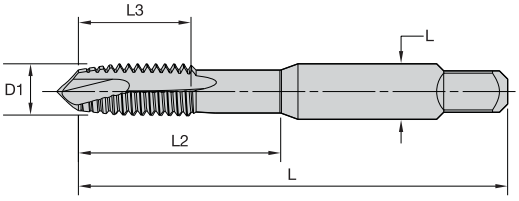
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch.
Forming taps larger than #4 will be supplied with Table 302A (page L285) dimensions and oil grooves unless otherwise specified.
Forming taps without neck can be supplied according Table 302 (page L284) dimensions, consult our customer service for prices and delivery time.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

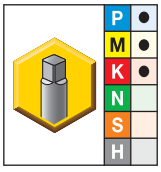
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







K-SS Spiral Point • Machine Screw and Fractional • Plug Chamfer



● first choice
○ alternate choice

oxide	D1 size	L	L3	L2	D	number of flutes	H limit max	TPI max
K83000	#2	1.75	0.44	—	0.141	2	13	100
K83001	#3	1.81	0.50	—	0.141	2	13	100
K83002	#4	1.88	0.34	0.56	0.141	2	13	100
K83003	#5	1.94	0.37	0.62	0.141	3	13	100
K83004	#6	2.00	0.39	0.81	0.141	3	13	100
K83005	#8	2.00	0.43	0.87	0.168	3	13	100
K83006	#10	2.38	0.51	1.06	0.194	3	13	100
K83007	#12	2.38	0.55	1.15	0.220	3	13	100
K83008	1/4	2.50	0.56	1.23	0.255	3	13	80
K83009	5/16	2.72	0.63	1.39	0.318	3	13	80
K83010	3/8	2.94	0.71	1.55	0.381	3	13	80
K83011	7/16	3.16	0.88	—	0.323	3	15	80
K83012	1/2	3.38	0.92	—	0.367	3	15	80
K83013	9/16	3.59	0.98	—	0.429	3	15	64
K83014	5/8	3.81	1.06	—	0.480	3	15	64
K64844	11/16	4.031	1.25	—	0.542	3	15	64
K83015	3/4	4.25	1.21	—	0.59	3	15	64

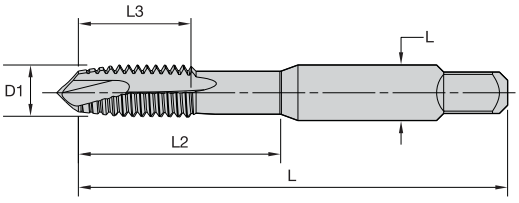
5 Day Lead Time

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

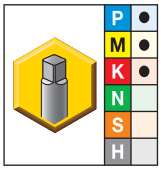
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







K-SS Spiral Point • Plug Chamfer • Metric ANSI



● first choice
○ alternate choice

oxide	D1 size	L	L3	L2	D	number of flutes	D limit max	pitch min
K68488	M2	1.75	0.44	—	0.141	2	11	0.3
K68438	M2.5	1.81	0.50	—	0.141	2	11	0.3
K83052	M3	1.94	0.37	0.62	0.141	3	13	0.3
K83053	M3.5	2.00	0.39	0.81	0.141	3	13	0.3
K83054	M4	2.00	0.43	0.87	0.168	3	13	0.3
K83055	M5	2.38	0.51	1.06	0.190	3	13	0.3
K83056	M6	2.50	0.56	1.23	0.255	3	13	0.3
K83057	M7	2.72	0.63	1.39	0.318	3	13	0.3
K83058	M8	2.72	0.63	1.39	0.318	3	13	0.3
K72214	M9	2.94	0.71	1.55	0.381	3	13	0.3
K83060	M10	2.94	0.71	1.55	0.381	3	13	0.3
K72136	M11	3.16	0.88	—	0.323	3	15	0.3
K83062	M12	3.38	0.92	—	0.367	3	15	0.3
K83064	M14	3.59	0.98	—	0.429	3	15	0.4
K83199	M15	3.81	1.06	—	0.480	3	15	0.4
K83066	M16	3.813	1.06	—	0.48	3	15	0.4
K83068	M18	4.031	1.07	—	0.542	3	15	0.4

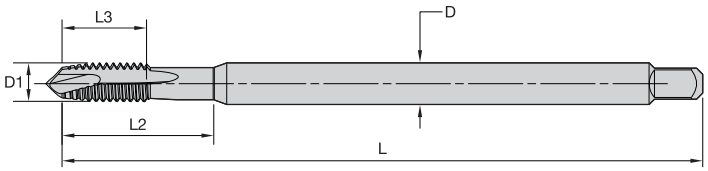
5 Day Lead Time

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

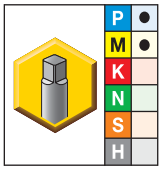
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







K-SS 6" • Machine Screw and Fractional • Plug Chamfer



● first choice
○ alternate choice

oxide	D1 size	L	L3	L2	D	number of flutes	H limit max	TPI max
K83032	#4	6.00	0.34	0.56	0.141	2	13	100
K83033	#6	6.00	0.39	0.81	0.141	3	13	100
K83034	#8	6.00	0.43	0.87	0.168	3	13	100
K83035	#10	6.00	0.51	1.06	0.194	3	13	100
K83036	1/4	6.00	0.56	1.23	0.255	3	13	80
K83037	5/16	6.00	0.63	1.39	0.318	3	13	80
K83038	3/8	6.00	0.71	1.55	0.381	3	13	80
K83039	7/16	6.00	0.88	—	0.323	3	15	80
K83040	1/2	6.00	0.92	—	0.367	3	15	80
K83178	M5	6.00	0.51	1.06	0.194	3	13	0.3
K83179	M6	6.00	0.56	1.23	0.255	3	13	0.3
K68312	M8	6.00	0.63	1.39	0.318	3	13	0.3
K68313	M10	6.00	0.71	1.55	0.381	3	13	0.3

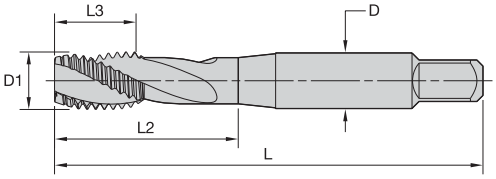
5 Day Lead Time

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

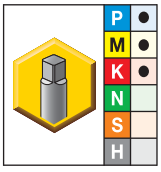
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







K-SS Spiral Flute • Machine Screw and Fractional • Chamfer 2 1/2–3 1/2 Pitches



● first choice
○ alternate choice

oxide	D1 size	L	L3	L2	D	number of flutes	H limit max	TPI max
K83016	#4	1.88	0.31	0.56	0.141	2	13	100
K83017	#5	1.94	0.19	0.63	0.141	3	13	100
K83018	#6	2.00	0.26	0.81	0.141	3	13	100
K83019	#8	2.13	0.26	0.87	0.168	3	13	100
K83020	#10	2.38	0.33	1.06	0.194	3	13	100
K83021	#12	2.38	0.34	1.12	0.220	3	13	100
K83022	1/4	2.50	0.40	1.23	0.255	3	13	80
K83023	5/16	2.72	0.43	1.39	0.318	3	13	80
K83024	3/8	2.94	0.51	1.55	0.381	3	13	80
K83025	7/16	3.16	0.50	—	0.323	3	15	80
K83026	1/2	3.38	0.57	—	0.367	3	15	80
K83027	9/16	3.59	0.63	—	0.429	3	15	64
K83028	5/8	3.81	0.69	—	0.480	3	15	64
K64843	11/16	4.03	0.61	—	0.542	3	15	64
K83029	3/4	4.25	0.76	—	0.590	4	15	64

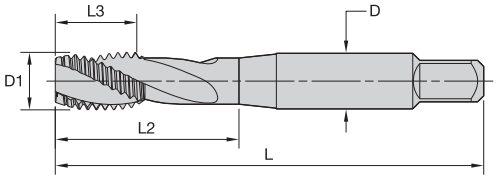
5 Day Lead Time

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

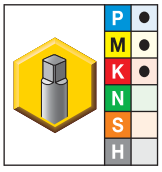
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







K-SS Spiral Flute • Chamfer 2 1/2–3 1/2 Pitches



● first choice
○ alternate choice

oxide	D1 size	L	L3	L2	D	number of flutes	D limit max	pitch min
K83070	M3	1.94	0.19	0.63	0.141	3	13	0.3
K83071	M3.5	2.00	0.26	0.81	0.141	3	13	0.3
K83072	M4	2.13	0.26	0.87	0.168	3	13	0.3
K72181	M4.5	2.38	0.33	1.06	0.194	3	13	0.3
K83073	M5	2.38	0.33	1.06	0.194	3	13	0.3
K83074	M6	2.50	0.40	1.23	0.255	3	13	0.3
K83075	M7	2.72	0.43	1.39	0.318	3	13	0.3
K83076	M8	2.72	0.43	1.39	0.318	3	13	0.3
K68480	M9	2.94	0.51	1.55	0.381	3	13	0.3
K83078	M10	2.94	0.51	1.55	0.381	3	13	0.3
K83176	M11	3.16	0.50	—	0.323	3	13	0.3
K83080	M12	3.38	0.57	—	0.367	3	15	0.3
K83082	M14	3.59	0.63	—	0.429	3	15	0.4
K83084	M16	3.81	0.69	—	0.480	3	15	0.4
K83086	M18	4.03	0.61	—	0.542	4	15	0.4

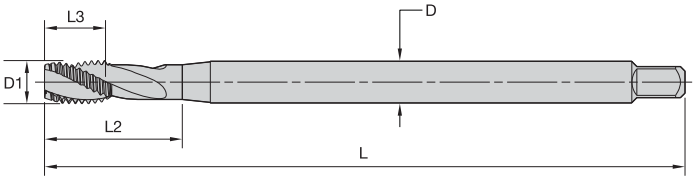
5 Day Lead Time

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

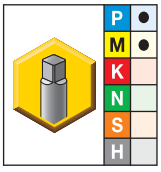
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







K-SS Spiral Flute 6" • Machine Screw and Fractional • Chamfer 2 1/2–3 1/2 Pitches



● first choice
○ alternate choice

oxide	D1 size	L	L3	L2	D	number of flutes	H limit max	TPI max
K83043	#4	6.00	0.34	0.56	0.141	2	11	100
K83044	#6	6.00	0.39	0.81	0.141	3	13	100
K83045	#8	6.00	0.43	0.87	0.168	3	13	100
K83046	#10	6.00	0.51	1.06	0.194	3	13	100
K83047	1/4	6.00	0.56	1.23	0.255	3	13	80
K83048	5/16	6.00	0.63	1.39	0.318	3	13	80
K83049	3/8	6.00	0.71	1.55	0.381	3	13	80
K83050	7/16	6.00	0.88	—	0.323	3	15	80
K83051	1/2	6.00	0.92	—	0.367	3	15	80

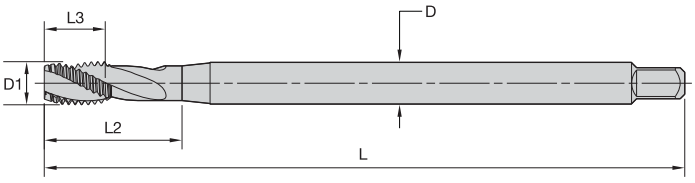
Ships in 5 days

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72

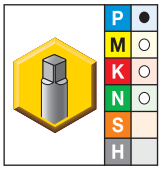






24-hour shipping

K-SS Spiral Flute 6" • Metric ANSI • Chamfer 2 1/2–3 1/2 Pitches



● first choice
○ alternate choice

oxide	D1 size	L	L3	L2	D	number of flutes	D limit max	pitch min
K83163	M4	6.00	0.43	0.87	0.168	3	13	0.3
K72159	M5	6.00	0.51	1.06	0.194	3	13	0.3
K68489	M6	6.00	0.56	1.23	0.255	3	13	0.3
K68490	M7	6.00	0.63	1.39	0.318	3	13	0.3
K83149	M8	6.00	0.63	1.39	0.318	3	15	0.3
K68491	M9	6.00	0.71	1.55	0.381	3	13	0.3
K83155	M10	6.00	0.71	1.55	0.381	3	15	0.3
K68492	M11	6.00	0.88	—	0.323	3	15	0.3
K68493	M12	6.00	0.92	—	0.367	3	15	0.3
K68494	M12.5	6.00	0.92	—	0.367	3	15	0.3

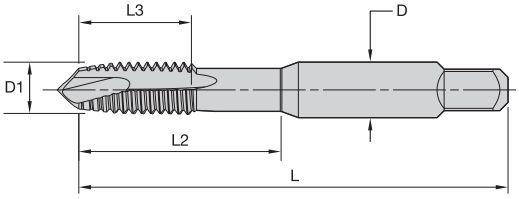
Ships in 24 Hours

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

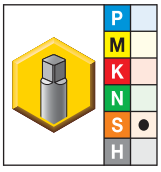
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







K-NI Spiral Point • Machine Screw and Fractional • Plug Chamfer



● first choice
○ alternate choice

oxide/nitride	D1 size	L	L3	L2	D	number of flutes	H limit max	TPI max
K83104	#2	1.75	0.44	—	0.141	2	13	100
K83105	#4	1.88	0.34	0.56	0.141	2	13	100
K83106	#5	1.94	0.37	0.62	0.141	3	13	100
K83107	#6	2.00	0.39	0.81	0.141	3	13	100
K83108	#8	2.00	0.43	0.87	0.168	3	13	100
K83109	#10	2.38	0.51	1.06	0.194	3	13	80
K83110	1/4	2.50	0.56	1.23	0.255	3	13	80
K83111	5/16	2.72	0.63	1.39	0.318	3	13	80
K83112	3/8	2.94	0.71	1.55	0.381	3	13	80
K83113	7/16	3.16	0.88	—	0.323	3	15	80
K83114	1/2	3.38	0.92	—	0.367	3	15	80
K72009	9/16	3.59	0.98	—	0.429	3	15	64
K83115	5/8	3.81	1.06	—	0.480	3	15	64
K83116	3/4	4.25	1.21	—	0.59	3	15	64

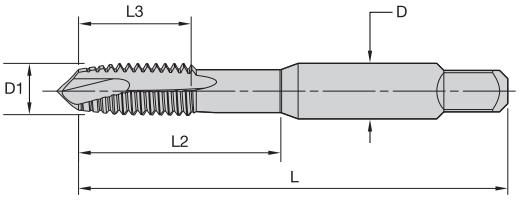
5 Day Lead Time

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

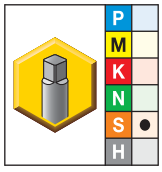
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







K-NI Spiral Point • Plug Chamfer • Metric ANSI



● first choice
○ alternate choice

oxide/nitride	D1 size	L	L3	L2	D	number of flutes	D limit max	pitch min
K68479	M2	1.75	0.44	–	0.141	2	11	0.3
K68439	M2.2	1.75	0.44	–	0.141	2	11	0.3
K83200	M2.5	1.81	0.50	–	0.141	2	11	0.3
K83181	M3	1.94	0.37	0.62	0.141	2	13	0.3
K83168	M3.5	2.13	0.39	0.81	0.141	3	13	0.3
K83180	M4	2.13	0.43	0.87	0.168	3	13	0.3
K83470	M5	2.38	0.51	1.06	0.190	3	13	0.3
K72067	M6	2.50	0.56	1.23	0.255	3	13	0.3
K72061	M6.3	2.50	0.56	1.23	0.255	3	13	0.3
K72075	M7	2.72	0.63	1.39	0.318	3	13	0.3
K83469	M8	2.72	0.63	1.39	0.318	3	13	0.3
K67550	M9	2.94	0.71	1.55	0.381	3	13	0.3
K83202	M9	2.94	0.71	1.55	0.381	3	13	0.3
K72083	M10	2.94	0.71	1.55	0.381	3	13	0.3
K83185	M11	3.16	0.88	–	0.323	3	15	0.3
K72078	M12	3.38	0.92	–	0.367	3	15	0.3
K72158	M14	3.594	0.98	–	0.429	3	15	0.4
K83161	M16	3.813	1.06	–	0.48	3	15	0.4

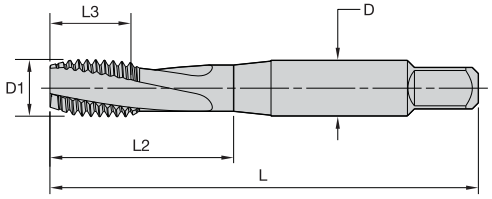
5 Day Lead Time

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

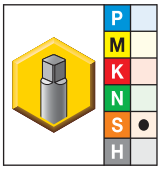
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







K-NI Spiral Flute • Machine Screw and Fractional • 3–4 Pitches Chamfer



● first choice
○ alternate choice

oxide/nitride	D1 size	L	L3	L2	D	number of flutes	H limit max	TPI max
K83117	#2	1.75	0.44	—	0.141	3	13	100
K83118	#4	1.88	0.34	0.56	0.141	3	13	100
K83119	#5	1.94	0.37	0.62	0.141	3	13	100
K83120	#6	2.00	0.39	0.81	0.141	3	13	100
K83121	#8	2.13	0.43	0.87	0.168	3	13	100
K83122	#10	2.38	0.51	1.06	0.194	3	13	100
K83123	1/4	2.50	0.56	1.23	0.255	3	13	80
K83124	5/16	2.72	0.63	1.39	0.318	3	13	80
K83125	3/8	2.94	0.71	1.55	0.381	3	13	80
K83126	7/16	3.16	0.88	—	0.323	3	15	80
K83127	1/2	3.38	0.92	—	0.367	3	15	80
K72099	9/16	3.59	0.98	—	0.429	4	15	64
K83128	5/8	3.81	1.06	—	0.480	4	15	64
K83129	3/4	4.25	1.21	—	0.590	—	15	64

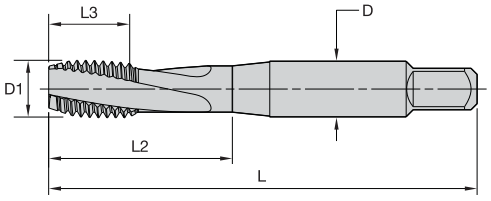
5 Day Lead Time

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

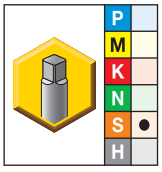
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







K-NI Spiral Flute • 3–4 Pitches Chamfer • Metric ANSI



● first choice
○ alternate choice

oxide/nitride	D1 size	L	L3	L2	D	number of flutes	D limit max	pitch min
K83177	M2	1.75	0.44	—	0.141	2	13	0.3
K72055	M2.2	1.75	0.44	—	0.141	3	13	0.3
K83171	M3	1.94	0.37	0.62	0.141	3	13	0.3
K72144	M3.5	2.00	0.39	0.81	0.141	3	13	0.3
K72119	M4	2.13	0.43	0.87	0.168	3	13	0.3
K72108	M5	2.38	0.51	1.06	0.194	3	13	0.3
K83157	M6	2.50	0.56	1.23	0.255	3	13	0.3
K72143	M7	2.72	0.63	1.39	0.318	3	13	0.3
K83154	M8	2.72	0.63	1.39	0.318	3	13	0.3
K83160	M9	2.94	0.71	1.55	0.381	3	13	0.3
K83158	M10	2.94	0.71	1.55	0.381	3	13	0.3
K83167	M11	3.16	0.88	—	0.323	3	15	0.3
K83159	M12	3.38	0.92	—	0.367	3	15	0.3
K72211	M14	3.59	0.98	—	0.429	3	15	0.4
K68461	M16	3.81	1.06	—	0.480	4	15	0.4
K72212	M18	4.03	1.07	—	0.541	4	15	0.4

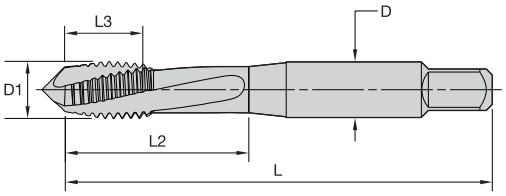
5 Day Lead Time

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

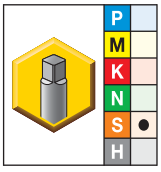
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







K-TI Left-Hand Spiral Flute • Machine Screw and Fractional • Plug Chamfer



● first choice
○ alternate choice

nitride	D1 size	L	L3	L2	D	number of flutes	H limit max	TPI max
K83130	#4	1.88	0.34	0.56	0.141	3	13	100
K83131	#5	1.94	0.37	0.62	0.141	3	13	100
K83133	#8	2.00	0.43	0.87	0.168	3	13	100
K83132	#6	2.13	0.39	0.81	0.141	3	13	100
K83134	#10	2.38	0.51	1.06	0.194	3	13	100
K83135	1/4	2.50	0.56	1.23	0.255	3	13	80
K83136	5/16	2.72	0.63	1.39	0.318	3	13	80
K83137	3/8	2.94	0.71	1.55	0.381	3	13	80
K83138	7/16	3.16	0.88	—	0.323	3	15	80
K83139	1/2	3.38	0.92	—	0.367	3	15	80

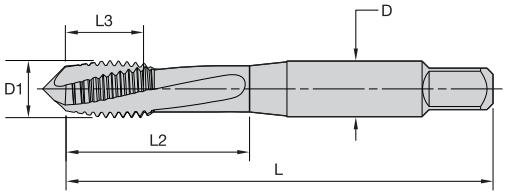
5 Day Lead Time

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

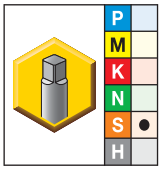
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







K-TI Left-Hand Spiral Flute • Plug Chamfer • Metric ANSI



● first choice
○ alternate choice

nitride	D1 size	L	L3	L2	D	number of flutes	D limit max	pitch min
K72017	M3	1.94	0.37	0.62	0.141	3	13	0.3
K83151	M3.5	2.13	0.39	0.81	0.141	3	13	0.3
K72059	M4	2.00	0.43	0.87	0.168	3	13	0.3
K83152	M5	2.38	0.51	1.06	0.190	3	13	0.3
K83165	M6	2.50	0.56	1.23	0.255	3	13	0.3
K83156	M10	2.94	0.71	1.55	0.381	3	13	0.3
K83170	M12	3.38	0.92	—	0.367	3	15	0.3

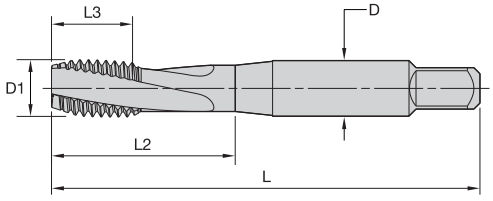
5 Day Lead Time

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

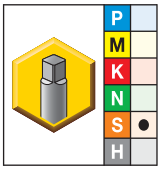
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







K-TI Spiral Flute • Machine Screw and Fractional • 3–4 Pitches Chamfer



● first choice
○ alternate choice

nitride	D1 size	L	L3	L2	D	number of flutes	H limit max	TPI max
K83140	#4	1.88	0.34	0.56	0.141	3	13	100
K83102	#5	1.94	0.37	0.62	0.141	3	13	100
K83141	#6	2.00	0.39	0.81	0.141	3	13	100
K83142	#8	2.13	0.43	0.87	0.168	3	13	100
K83143	#10	2.38	0.51	1.06	0.194	3	13	100
K83144	1/4	2.50	0.56	1.23	0.255	3	13	80
K83145	5/16	2.72	0.63	1.39	0.318	3	13	80
K83146	3/8	2.94	0.71	1.55	0.381	3	13	80
K83147	7/16	3.16	0.88	—	0.323	3	15	80
K83148	1/2	3.38	0.92	—	0.367	3	15	80

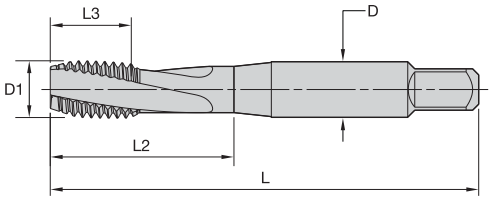
5 Day Lead Time

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch. Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

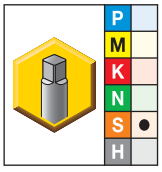
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







K-TI Spiral Flute • 3–4 Pitches Chamfer • Metric ANSI



● first choice
○ alternate choice

nitride	D1 size	L	L3	L2	D	number of flutes	D limit max	pitch min
K72087	M3	1.94	0.37	0.62	0.141	3	13	0.3
K83183	M4	2.13	0.43	0.87	0.168	3	13	0.3
K83184	M4.5	2.38	0.51	1.06	0.194	3	13	0.3
K83184	M5	2.38	0.51	1.06	0.194	3	13	0.3
K83150	M6	2.50	0.56	1.23	0.255	3	13	0.3
K68353	M8	2.72	0.63	1.39	0.318	3	13	0.3
K83468	M10	2.94	0.71	1.55	0.381	3	13	0.3
K83162	M12	3.38	0.92	—	0.367	3	15	0.3

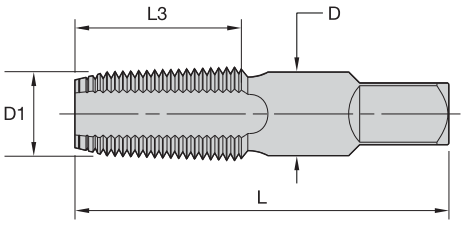
5 Day Lead Time

NOTE: Consult customer service for price and delivery of taps with more threads per inch or finer pitch.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

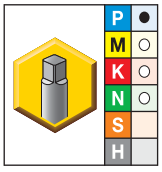
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	47
48	72







KHSST Taper Pipe Tap



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	thread form	projection min
K64687	1/16 - 27	2.13	0.69	0.380	4	NPT	0.136
K64688	1/8 - 27	2.13	0.75	0.438	4	NPT	0.136
K64689	1/8 - 27	2.13	0.75	0.313	4	NPT	0.136
K64690	1/4 - 18	2.44	1.06	0.563	4	NPT	0.221
K64691	3/8 - 18	2.56	1.06	0.700	4	NPT	0.221
K64692	1/2 - 14	3.13	1.38	0.688	4	NPT	0.285
K64706	3/4 - 14	3.25	1.38	0.906	5	NPT	0.285
K64707	1 - 11 1/2	3.75	1.75	1.125	5	NPT	0.360
K64708	1 1/4 - 11 1/2	4.00	1.75	1.313	5	NPT	0.368
K64713	1 1/2 - 11 1/2	4.25	1.75	1.500	7	NPT	0.381
K64714	2 - 11 1/2	4.50	1.75	1.880	7	NPT	0.349
K64715	2 1/2 - 8	5.50	2.56	2.250	7	NPT	0.488
K64716	3 - 8	6.00	2.63	2.630	7	NPT	0.488
K64717	3 1/2 - 8	6.50	2.69	2.813	9	NPT	0.500
K65181	4 - 8	6.75	2.75	3.000	9	NPT	0.512
K66225	1/16 - 27	2.13	0.69	0.380	4	NPTF	0.136
K66226	1/8 - 27	2.13	0.75	0.438	4	NPTF	0.136
K66227	1/8 - 27	2.13	0.75	0.313	4	NPTF	0.136
K66228	1/4 - 18	2.44	1.06	0.563	4	NPTF	0.221
K66229	3/8 - 18	2.56	1.06	0.700	4	NPTF	0.221
K66230	1/2 - 14	3.13	1.38	0.688	4	NPTF	0.285
K66231	3/4 - 14	3.25	1.38	0.906	5	NPTF	0.285
K66232	1 - 11 1/2	3.75	1.75	1.125	5	NPTF	0.360
K66233	1 1/4 - 11 1/2	4.00	1.75	1.000	5	NPTF	0.368
K66234	1 1/2 - 11 1/2	4.25	1.75	1.500	7	NPTF	0.381
K66235	2 - 11 1/2	4.50	1.75	1.880	7	NPTF	0.349
K66236	2 1/2 - 8	5.50	2.56	2.250	7	NPTF	0.488

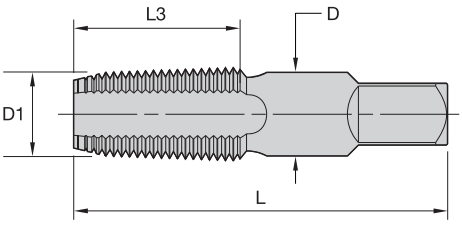
Ships in 24 Hours

NOTE: Projection tolerance +/- 1/32 unless otherwise specified.
Additional lead time for surface treatments.
Quantities above max will be delivered as regular special order.
NPT taps may be used for ANPT applications.

Pricing Based on Order Quantity

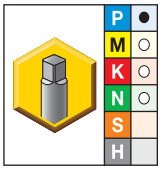
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48







KHSST Taper Pipe • Interrupted Threads



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	thread form	projection min
K65638	1/16 - 27	2.13	0.69	0.380	3	NPT	0.136
K65639	1/8 - 27	2.13	0.75	0.438	5	NPT	0.136
K65640	1/8 - 27	2.13	0.75	0.313	5	NPT	0.136
K65641	1/4 - 18	2.44	1.06	0.563	5	NPT	0.221
K65642	3/8 - 18	2.56	1.06	0.700	5	NPT	0.221
K65643	1/2 - 14	3.13	1.38	0.688	5	NPT	0.285
K65632	3/4 - 14	3.25	1.38	0.906	5	NPT	0.285
K65633	1 - 11 1/2	3.75	1.75	1.125	5	NPT	0.360
K65634	1 1/4 - 11 1/2	4.00	1.75	1.313	5	NPT	0.368
K65635	1 1/2 - 11 1/2	4.25	1.75	1.500	7	NPT	0.381
K65636	2 - 11 1/2	4.50	1.75	1.880	7	NPT	0.349
K65637	2 1/2 - 8	5.50	2.56	2.250	7	NPT	0.488
K65644	3 - 8	6.00	2.63	2.630	7	NPT	0.488
K65645	3 1/2 - 8	6.50	2.69	2.813	9	NPT	0.500
K65662	1/16 - 27	2.13	0.69	0.380	3	NPTF	0.136
K65663	1/8 - 27	2.13	0.75	0.438	5	NPTF	0.136
K65664	1/8 - 27	2.13	0.75	0.313	5	NPTF	0.136
K65665	1/4 - 18	2.44	1.06	0.563	5	NPTF	0.221
K65666	3/8 - 18	2.56	1.38	0.688	5	NPTF	0.221
K65667	1/2 - 14	3.13	1.38	0.906	5	NPTF	0.285
K65668	3/4 - 14	3.25	1.75	1.125	5	NPTF	0.285
K65669	1 - 11 1/2	3.75	1.75	1.000	5	NPTF	0.360
K65670	1 1/4 - 11 1/2	4.00	1.75	1.500	5	NPTF	0.368
K65671	1 1/2 - 11 1/2	4.25	1.75	1.880	7	NPTF	0.381
K66261	2 - 11 1/2	4.50	2.56	2.250	7	NPTF	0.349
K66263	3 - 8	6.00	2.63	2.630	7	NPTF	0.488

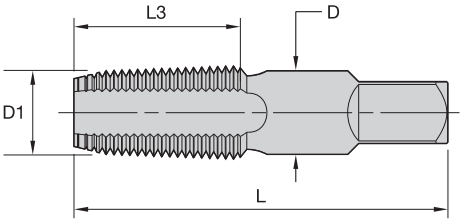
Ships in 48 Hours

NOTE: Projection tolerance +/- 1/32 unless otherwise specified.
Additional lead time for surface treatments.
Quantities above max will be delivered as regular special order.
NPT taps may be used for ANPT applications.

Pricing Based on Order Quantity

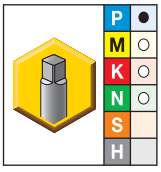
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48







KHSST British Whitworth Taper Pipe



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	thread designation
K66240	1/16 - 28	2.13	0.69	0.313	4	Rc (BSPT)
K66246	1/16 - 28	2.13	0.69	0.313	5	Rc (BSPT)
K66247	1/8 - 28	2.13	0.75	0.438	5	Rc (BSPT)
K66241	1/8 - 28	2.13	0.75	0.438	4	Rc (BSPT)
K66242	1/8 - 28	2.13	0.75	0.313	4	Rc (BSPT)
K66248	1/8 - 28	2.13	0.75	0.313	5	Rc (BSPT)
K66243	1/4 - 19	2.44	1.06	0.563	4	Rc (BSPT)
K66249	1/4 - 19	2.44	1.06	0.563	5	Rc (BSPT)
K65956	3/8 - 19	2.56	1.06	0.700	4	Rc (BSPT)
K66244	3/8 - 19	2.56	1.06	0.700	4	Rc (BSPT)
K66250	3/8 - 19	2.56	1.06	0.700	5	Rc (BSPT)
K66245	1/2 - 14	3.13	1.38	0.688	4	Rc (BSPT)
K66251	1/2 - 14	3.13	1.38	0.688	5	Rc (BSPT)
K66252	3/4 - 14	3.25	1.38	0.906	5	Rc (BSPT)
K66253	1 - 11	3.75	1.75	1.125	5	Rc (BSPT)
K66254	1 1/4 - 11	4.00	1.75	1.313	5	Rc (BSPT)
K66255	1 1/2 - 11	4.25	1.75	1.500	7	Rc (BSPT)
K66256	2 - 11	4.50	1.75	1.875	7	Rc (BSPT)
K66257	2 1/2 - 11	5.50	2.56	2.250	7	Rc (BSPT)
K66258	3 - 11	6.00	2.63	2.625	7	Rc (BSPT)

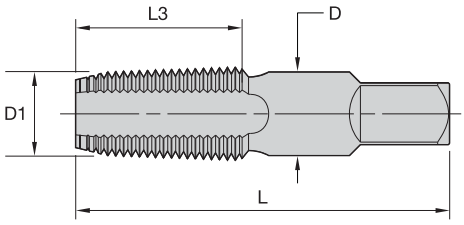
72 Hour Lead Time (up to 47 pieces)

NOTE: Special hook or rake available on sizes 1/16" through 1".
Projection Tolerance +/- 1/32 unless otherwise specified.
Additional lead time for surface treatments.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

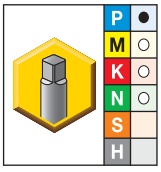
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48







KHSST British Whitworth Taper Pipe • Interrupted Thread



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	thread designation
K66266	1/16 - 28	2.13	0.69	0.313	3	Rc (BSPT)
K66268	1/8 - 28	2.13	0.75	0.313	5	Rc (BSPT)
K66267	1/8 - 28	2.13	0.75	0.438	5	Rc (BSPT)
K66269	1/4 - 19	2.44	1.06	0.563	5	Rc (BSPT)
K66270	3/9 - 19	2.56	1.06	0.700	5	Rc (BSPT)
K66271	1/2 - 14	3.13	1.38	0.688	5	Rc (BSPT)
K66272	3/4 - 14	3.25	1.38	0.906	5	Rc (BSPT)
K66273	1 - 11	3.75	1.75	1.125	5	Rc (BSPT)
K66274	1 1/4 - 11	4.00	1.75	1.313	5	Rc (BSPT)
K66275	1 1/2 - 11	4.25	1.75	1.500	7	Rc (BSPT)
K66276	2 - 11	4.50	1.75	1.875	7	Rc (BSPT)

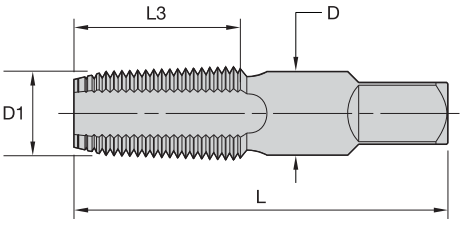
96 Hour Lead Time (up to 47 pieces)

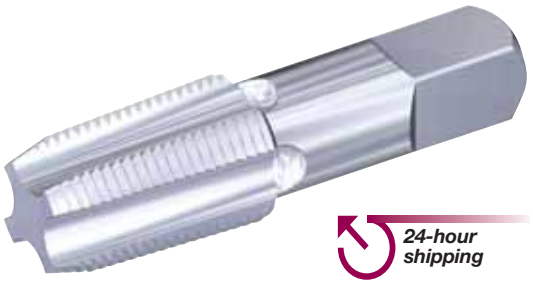
NOTE: Special hook or rake available on sizes 1/16" through 1".
Projection Tolerance +/- 1/32 unless otherwise specified.
Additional lead time for surface treatments.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

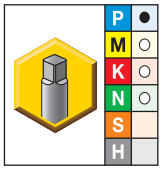
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48







KHSST Straight Pipe



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	thread form
K64718	1/16 - 27	2.13	0.69	0.313	4	NPS
K64719	1/8 - 27	2.13	0.75	0.313	4	NPS
K64720	1/8 - 27	2.13	0.75	0.438	4	NPS
K64721	1/4 - 18	2.50	1.06	0.563	4	NPS
K64722	3/8 - 18	2.56	1.06	0.700	4	NPS
K64723	1/2 - 14	3.13	1.38	0.688	4	NPS
K64724	3/4 - 14	3.25	1.38	0.906	5	NPS
K64725	1 - 11 1/2	3.75	1.75	1.125	5	NPS
K64726	1 1/4 - 11 1/2	4.00	1.75	1.313	5	NPS
K64727	1 1/2 - 11 1/2	4.25	1.75	1.500	7	NPS
K65982	1/16 - 27	2.13	0.69	0.313	4	NPSF
K65983	1/8 - 27	2.13	0.75	0.313	4	NPSF
K65984	1/8 - 27	2.13	0.75	0.438	4	NPSF
K65985	1/4 - 18	2.50	1.06	0.563	4	NPSF
K65986	3/8 - 18	2.56	1.06	0.700	4	NPSF
K65987	1/2 - 14	3.13	1.38	0.688	4	NPSF
K65988	3/4 - 14	3.25	1.38	0.906	5	NPSF
K65989	1 - 11 1/2	3.75	1.75	1.125	5	NPSF
K65990	1 1/4 - 11 1/2	4.00	1.75	1.313	5	NPSF
K65991	1 1/2 - 11 1/2	4.25	1.75	1.500	7	NPSF
K65992	2 - 11 1/2	4.50	1.75	1.875	7	NPSF

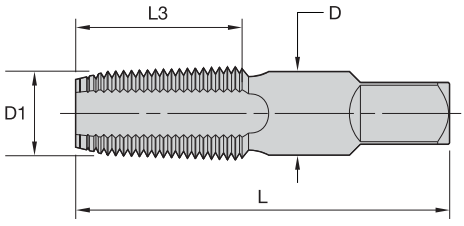
Ships in 24 Hours

NOTE: Special hook or rake available on sizes 1/16" through 1".
Projection tolerance +/- 1/32 unless otherwise specified.
Additional lead time for surface treatments.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

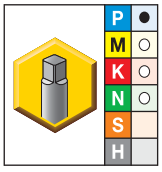
min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48







KHSST British Whitworth Straight Pipe



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	thread designation
K65993	1/16 - 28	2.13	0.69	0.313	4	G (BSPF)
K65994	1/8 - 28	2.13	0.75	0.313	4	G (BSPF)
K65995	1/8 - 28	2.13	0.75	0.438	4	G (BSPF)
K65996	1/4 - 19	2.50	1.06	0.563	4	G (BSPF)
K65997	3/8 - 19	2.56	1.06	0.700	4	G (BSPF)
K65998	1/2 - 14	3.13	1.38	0.688	4	G (BSPF)
K65999	3/4 - 14	3.25	1.38	0.906	5	G (BSPF)
K65153	1 - 11	3.75	1.75	1.125	5	G (BSPF)
K65154	1 1/4 - 11	4.00	1.75	1.313	5	G (BSPF)
K65155	1 1/2 - 11	4.25	1.75	1.500	7	G (BSPF)
K65156	2 - 11	4.50	1.75	1.875	7	G (BSPF)
K72161	1/16 - 28	2.13	0.69	0.313	4	RP (BSPP)
K72162	1/8 - 28	2.13	0.75	0.313	4	RP (BSPP)
K72163	1/8 - 28	2.13	0.75	0.438	4	RP (BSPP)
K72164	1/4 - 19	2.50	1.06	0.563	4	RP (BSPP)
K72165	3/8 - 19	2.56	1.06	0.700	4	RP (BSPP)
K72166	1/2 - 14	3.13	1.38	0.688	4	RP (BSPP)
K72167	3/4 - 14	3.25	1.38	0.906	5	RP (BSPP)
K72168	1 - 11	3.75	1.75	1.125	5	RP (BSPP)
K72169	1 1/4 - 11	4.00	1.75	1.313	5	RP (BSPP)
K72170	1 1/2 - 11	4.25	1.75	1.500	7	RP (BSPP)
K72171	2 - 11	4.50	1.75	1.875	7	RP (BSPP)

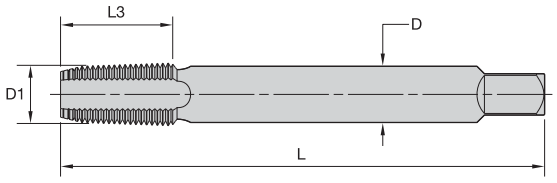
72 Hour Lead Time (up to 47 pieces)

NOTE: Special hook or rake available on sizes 1/16" through 1".
Projection Tolerance +/- 1/32 unless otherwise specified.
Additional lead time for surface treatments.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	23
24	48

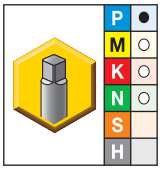








KHSST Taper Pipe Tap • Extended 6" Length



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	thread form	projection min
K64729	1/8 - 27	6.00	0.75	0.380	4	NPT	0.136
K64730	1/4 - 18	6.00	1.06	0.438	4	NPT	0.221
K64731	3/8 - 18	6.00	1.06	0.700	4	NPT	0.221
K64732	1/2 - 14	6.00	1.38	0.688	4	NPT	0.285
K64733	3/4 - 14	6.00	1.38	0.906	5	NPT	0.285
K64734	1 - 11 1/2	6.00	1.75	1.125	5	NPT	0.360
K65942	1/8 - 27	6.00	0.75	0.380	4	NPTF	0.136
K65943	1/4 - 18	6.00	1.06	0.438	4	NPTF	0.221
K65944	3/8 - 18	6.00	1.06	0.700	4	NPTF	0.221
K65945	1/2 - 14	6.00	1.38	0.688	4	NPTF	0.285
K65946	3/4 - 14	6.00	1.38	0.906	5	NPTF	0.285
K65947	1 - 11 1/2	6.00	1.75	1.125	5	NPTF	0.360

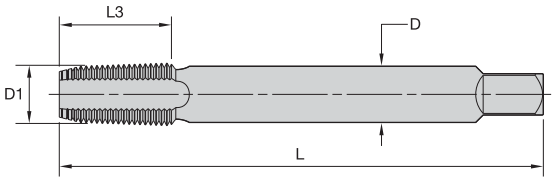
Ships in 48 Hours

NOTE: Additional lead time for surface treatments.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	24

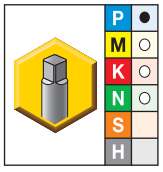








KHSST Taper Pipe • Interrupted Threads • Extended 6" Length



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	thread form	projection min
K65672	1/8 - 27	6.00	0.75	0.380	5	NPT	0.136
K65673	1/4 - 18	6.00	1.06	0.438	5	NPT	0.221
K65674	3/8 - 18	6.00	1.06	0.700	5	NPT	0.221
K65675	1/2 - 14	6.00	1.38	0.688	5	NPT	0.285
K65676	3/4 - 14	6.00	1.38	0.906	5	NPT	0.285
K65677	1 - 11 1/2	6.00	1.75	1.125	5	NPT	0.360
K65924	1/8 - 27	6.00	0.75	0.380	5	NPTF	0.136
K65925	1/4 - 18	6.00	1.06	0.438	5	NPTF	0.221
K65926	3/8 - 18	6.00	1.06	0.700	5	NPTF	0.221
K65927	1/2 - 14	6.00	1.38	0.688	5	NPTF	0.285
K65928	3/4 - 14	6.00	1.38	0.906	5	NPTF	0.285
K65929	1 - 11 1/2	6.00	1.75	1.125	5	NPTF	0.360

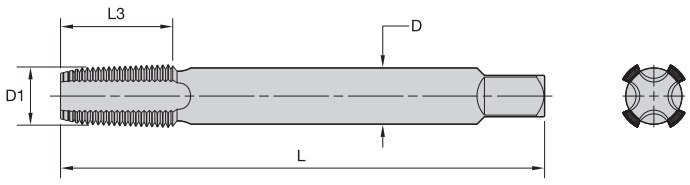
Ships in 72 Hours

NOTE: Additional lead time for surface treatments.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

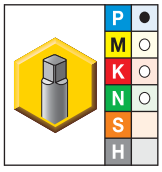
min	max
1	1
2	2
3	5
6	8
9	11
12	24







KHSST British Whitworth Taper Pipe • 6" Extension



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	thread designation
K65954	1/8 - 28	6.00	0.75	0.438	4	Rc (BSPT)
K65955	1/4 - 19	6.00	1.06	0.563	4	Rc (BSPT)
K65956	3/9 - 19	6.00	1.06	0.700	4	Rc (BSPT)
K65957	1/2 - 14	6.00	1.38	0.688	4	Rc (BSPT)
K65958	3/4 - 14	6.00	1.38	0.906	5	Rc (BSPT)
K65959	1 - 11	6.00	1.75	1.125	5	Rc (BSPT)

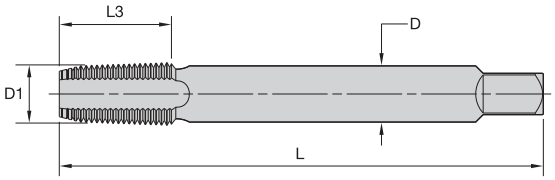
72 Hour Lead Time (up to 23 pieces)

NOTE: Additional lead time for surface treatments.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	24

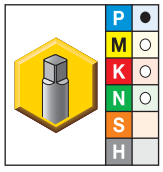








KHSST British Whitworth Taper Pipe • 6" Extension • Interrupted Thread



● first choice
○ alternate choice

uncoated	D1 size	L	L3	D	number of flutes	thread designation
K65936	1/8 - 28	6.00	0.75	0.438	5	Rc (BSPT)
K65937	1/4 - 19	6.00	1.06	0.563	5	Rc (BSPT)
K65938	3/9 - 19	6.00	1.06	0.700	5	Rc (BSPT)
K65939	1/2 - 14	6.00	1.38	0.688	5	Rc (BSPT)
K65940	3/4 - 14	6.00	1.38	0.906	5	Rc (BSPT)
K65941	1 - 11	6.00	1.75	1.125	5	Rc (BSPT)

72 Hour Lead Time (up to 23 pieces)

NOTE: Additional lead time for surface treatments.
Quantities above max will be delivered as regular special order.

Pricing Based on Order Quantity

min	max
1	1
2	2
3	5
6	8
9	11
12	24



Taps and Thread Milling Technical Information

The technical information in the following section can be used to assist you with your tapping and thread milling operations. Whether you are simply searching for information about tap dimensions and recommendations, or you're trying to solve basic tapping and thread milling problems, you will find the relevant data here.

This Section Includes the Following Information:

- Illustrations of tap terms.
- Explanations of tap chamfers.
- Dimensional information for various tap styles and lengths.
- Tap limitation data.
- Chip handling methods for different tap styles.
- Tap recommendations.
- Descriptions of screw thread tolerance and tolerance information.
- Information regarding surface treatments and coatings.
- Guidelines and tables for determining tapping speeds.
- Troubleshooting charts.
- Hardness conversion table.
- A guide to Kennametal tapping application icons.
- Taps custom order worksheet.
- Thread Milling application sheet.

This section will further your knowledge of tapping and thread milling operations enabling you to maximize the value of your tools.

How to Apply This Technical Information

Below is an example of where the technical information in this catalog can be useful:

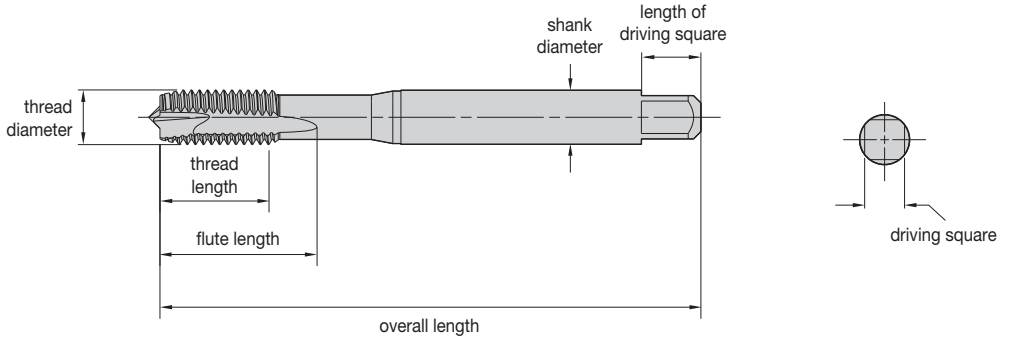
Problem

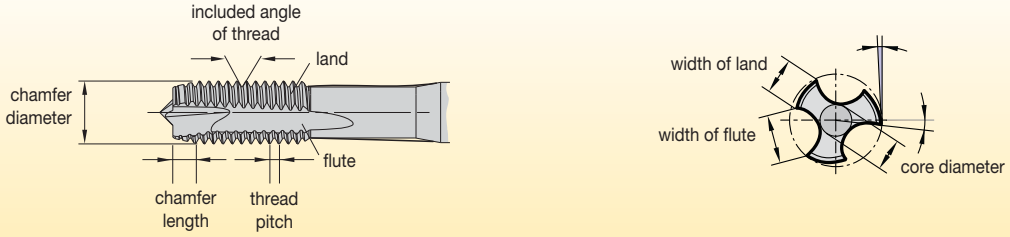
- Thread holes are oversized and taps are experiencing low life when working with stainless steel materials.

Solution

- Consult the troubleshooting portion of the Technical Information section to discover ways to correct the issue.

Definitions and Angles, Centers and Flute Forms





Flute Forms



Straight-flute, form C plug chamfer **without spiral point**



Right-hand spiral flute

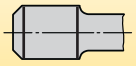
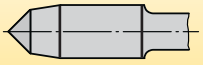
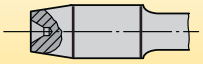


Straight-flute, form B plug chamfer **with spiral point**



Left-hand spiral flute

Types of Centers (Standard to DIN 2197/DIN 2175)

center on thread section			
tap diameter range			
≤M10, 3/8 bottom or semi-bottom chamfer	≤M10, 3/8 plug chamfer	>M10, 3/8 all chamfers	
			
external center removed	full external center	partial external center	internal center

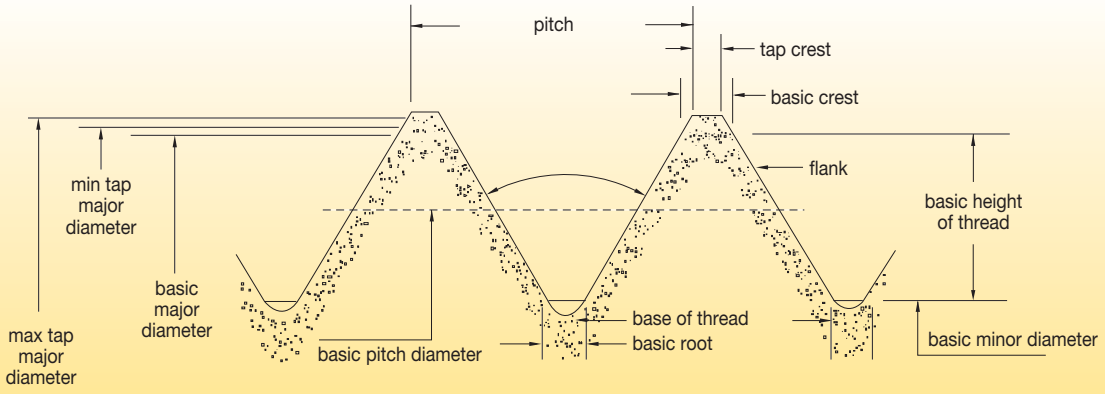
Coolant Hole Types

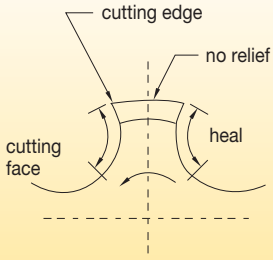


Axial coolant delivery with axial coolant exit hole

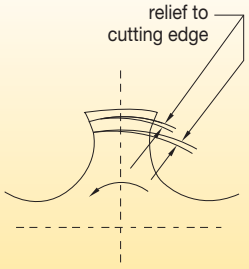


Axial coolant delivery with radial coolant hole exiting in the flutes

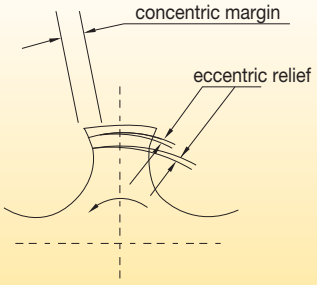




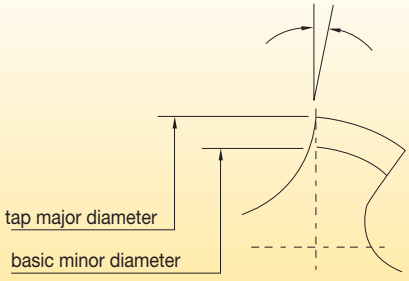
Concentric



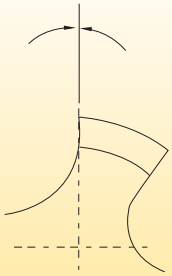
Eccentric Relief



Con-Eccentric Relief



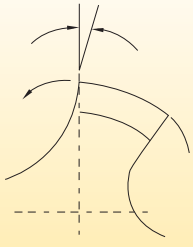
Negative Hook



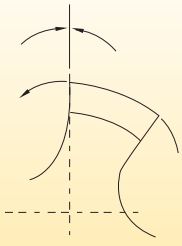
0° Hook



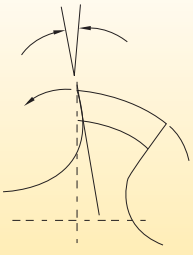
Positive Hook



Negative Rake



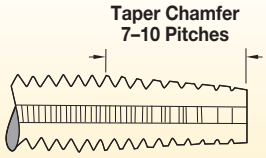
Radial Rake



Positive Rake

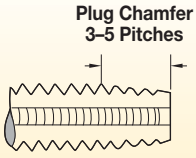
Reprinted with permission from United States Cutting Tool Institute (USCTI).

Tap Chamfers • ANSI Taps



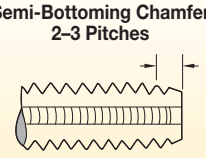
Taper (7–10 pitches)

The taper chamfer has the longest standard chamfer ensuring easier starting. It provides the longest life because of more working teeth.



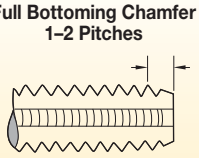
Plug (3–5 pitches)

The most common chamfer for use by hand or machine in through. This chamfer is more efficient than a bottoming or modified bottoming chamfer.



Semi-Bottom (2–3 pitches)

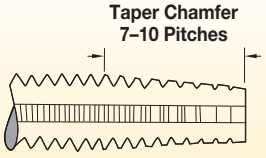
This short chamfer enables threading close to the bottom of blind holes. Due to the slightly longer chamfer and more working teeth, this chamfer is more efficient than a bottoming chamfer.



Bottoming (1–2 pitches)

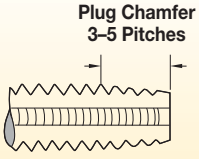
For threading close to the bottom of blind holes, the bottoming chamfer is the least efficient chamfer available.

Tap Chamfers • DIN Taps



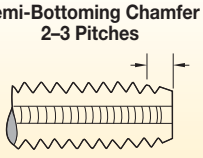
Form A (6–8 pitches)

The Form A chamfer has the longest standard chamfer ensuring easier starting. It provides the longest life because of more working teeth.



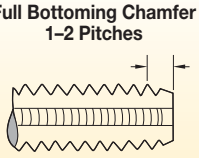
Form B/D (3.5–5 pitches)

The most common chamfers for use by hand or machine in through machine in through hole. Form B applies to spiral-point taps, and Form D applies to straight-flute and spiral-flute taps. This chamfer is more efficient than a Form E or Form C chamfers.



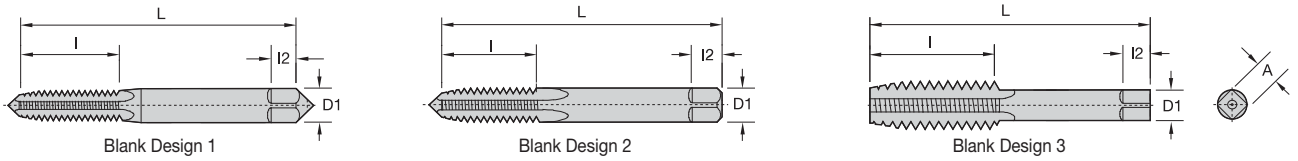
Form C (2–3 pitches)

This short chamfer enables threading close to the bottom of blind holes. Due to the slightly longer chamfer and more working teeth, this chamfer is more efficient than a Form E chamfer.



Form E (1.5–2 pitches)

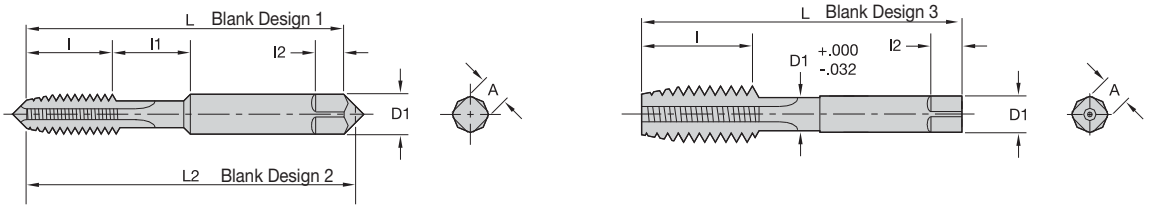
For threading close to the bottom of blind holes, the Form E chamfer is the least efficient chamfer available.



Blank Design 1 | Blank Design 2 | Blank Design 3

nominal diameter range (in)	machine screw size number (in)	nominal fractional diameter (in)	nominal metric diameter mm (in)	blank design number	overall length L	thread length l	square length l2	shank diameter D1	square size A
.052–.065	0 (.0600)	–	M1.6 (.0630)	1	1.63	.31	.19	.1410	.110
.065–.078	1 (.0730)		M1.8 (.0709)	1	1.69	.38	.19	.1410	.110
.078–.091	2 (.0860)	–	M2 (0787), M2.2 (.0866)	1	1.75	.44	.19	.1410	.110
.091–.104	3 (.0990)		M2.5 (.0984)	1	1.81	.50	.19	.1410	.110
.104–.117	4 (.1120)	–	— —	1	1.88	.56	.19	.1410	.110
.117–.130	5 (.1250)		M3 (.1181)	1	1.94	.63	.19	.1410	.110
.130–.145	6 (.1380)	–	M3.5 (.1378)	1	2.00	.69	.19	.1410	.110
.145–.171	8 (.1640)		M4 (.1575)	1	2.13	.75	.25	.1680	.131
.171–.197	10 (.1900)	–	M4.5 (.1772), M5 (.1969)	1	2.38	.88	.25	.1940	.152
.197–.223	12 (.2160)		— —	1	2.38	.94	.28	.2200	.165
.223–.260	–	1/4 (.2500)	M6 (.2362)	2	2.50	1.00	.31	.2550	.191
.260–.323		5/16 (.3125)	M7 (.2756), M8 (.3150)	2	2.72	1.13	.38	.3180	.238
.323–.395	–	3/8 (.3750)	M10 (.3937)	2	2.94	1.25	.44	.3810	.286
.395–.448		7/16 (.4375)	— —	3	3.16	1.44	.41	.3230	.242
.448–.510	–	1/2 (.5000)	M12 (.4724)	3	3.38	1.66	.44	.3670	.275
.510–.573		9/16 (.5625)	M14 (.5512)	3	3.59	1.66	.50	.4290	.322
.573–.635	–	5/8 (.6250)	M16 (.6299)	3	3.81	1.81	.56	.4800	.360
.635–.709		11/16 (.6875)	M18 (.7087)	3	4.03	1.81	.63	.5420	.406
.709–.760	–	3/4 (.7500)	— —	3	4.25	2.00	.69	.5900	.442
.760–.823		13/16 (.8125)	M20 (.7874)	3	4.47	2.00	.69	.6520	.489
.823–.885	–	7/8 (.8750)	M22 (.8661)	3	4.69	2.22	.75	.6970	.523
.885–.948		15/16 (.9375)	M24 (.9449)	3	4.91	2.22	.75	.7600	.570
.948–1.010	–	1 (1.0000)	M25 (.9843)	3	5.13	2.50	.81	.8000	.600
1.010–1.073		1 1/16 (1.0625)	M27 (1.0630)	3	5.13	2.50	.88	.8960	.672
1.073–1.135	–	1 1/8 (1.1250)	— —	3	5.44	2.56	.88	.8960	.672
1.135–1.198		1 3/16 (1.1875)	M30 (1.1811)	3	5.44	2.56	1.00	1.0210	.766
1.198–1.260	–	1 1/4 (1.2500)	— —	3	5.75	2.56	1.00	1.0210	.766
1.260–1.323		1 5/16 (1.3125)	M33 (1.2992)	3	5.75	2.56	1.06	1.1080	.831
1.323–1.385	–	1 3/8 (1.3750)	— —	3	6.06	3.00	1.06	1.1080	.831
1.358–1.448		1 7/16 (1.4375)	M36 (1.4173)	3	6.06	3.00	1.13	1.2330	.925
1.448–1.510	–	1 1/2 (1.5000)	— —	3	6.38	3.00	1.13	1.2330	.925
1.510–1.635		1 5/8 (1.6250)	M39 (1.5354)	3	6.69	3.19	1.13	1.3050	.979
1.635–1.760	–	1 3/4 (1.7500)	M42 (1.6535)	3	7.00	3.19	1.25	1.4300	1.072
1.760–1.885		1 7/8 (1.8750)	— —	3	7.31	3.56	1.25	1.5190	1.139
1.885–2.010	–	2 (2.0000)	M48 (1.8898)	3	7.63	3.56	1.38	1.6440	1.233
2.010–2.135		2 1/8 (2.1250)	— —	3	8.00	3.56	1.38	1.7690	1.327
2.135–2.260	–	2 1/4 (2.2500)	M56 (2.2047)	3	8.25	3.56	1.44	1.8940	1.420
2.260–2.385		2 3/8 (2.3750)	— —	3	8.50	4.00	1.44	2.0190	1.514
2.385–2.510	–	2 1/2 (2.5000)	— —	3	8.75	4.00	1.50	2.1000	1.575
2.510–2.635		2 5/8 (2.6250)	M64 (2.5197)	3	8.75	4.00	1.50	2.2250	1.669
2.635–2.760	–	2 3/4 (2.7500)	— —	3	9.25	4.00	1.56	2.3500	1.762
2.760–2.885		2 7/8 (2.8750)	M72 (2.8346)	3	9.25	4.00	1.56	2.4750	1.856
2.885–3.010	–	3 (3.0000)	— —	3	9.75	4.56	1.63	2.5430	1.907
3.010–3.135		3 1/8 (3.1250)	— —	3	9.75	4.56	1.63	2.6680	2.001
3.135–3.260	–	3 1/4 (3.2500)	M80 (3.1496)	3	10.00	4.56	1.75	2.7930	2.095
3.260–3.385		3 3/8 (3.3750)	— —	3	10.00	4.56	1.75	2.8830	2.162
3.385–3.510	–	3 1/2 (3.5000)	— —	3	10.25	4.94	2.00	3.0080	2.256
3.510–3.635		3 5/8 (3.6250)	M90 (3.5433)	3	10.25	4.94	2.00	3.1330	2.350
3.635–3.760	–	3 3/4 (3.7500)	— —	3	10.50	5.31	2.13	3.2170	2.413
3.760–3.885		3 7/8 (3.8750)	— —	3	10.50	5.31	2.13	3.3420	2.506
3.885–4.010	–	4 (4.0000)	M100 (3.9370)	3	10.75	5.31	2.25	3.4670	2.600

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General Dimensions

nominal diameter range (in)		machine screw size number (in)	nominal fractional diameter (in)		nominal metric diameter mm (in)		blank design number	Tap Dimensions—Inches overall length L	thread length l	neck length l1	square length l2	shank diameter D1	size of square A
.104	.117	4 (.1120)	—		—	—	1	1.88	.31	.25	.19	.1410	.110
.117	.130	5 (.1250)			M3	(.1181)	1	1.94	.31	.31	.19	.1410	.110
.130	.145	6 (.1380)	—		M3.5	(.1378)	1	2.00	.38	.31	.19	.1410	.110
.145	.171	8 (.1640)			M4	(.1575)	1	2.13	.38	.38	.25	.1680	.131
.171	.197	10 (.1900)	—		M4.5	(.1772)	1	2.38	.50	.38	.25	.1940	.152
—	—	— —			M5	(.1969)	—	—	—	—	—	—	—
.197	.223	12 (.2160)	—	—	—	—	1	2.38	.50	.44	.28	.2200	.165
.223	.260	—	1/4	(.2500)	M6	(.2362)	2	2.50	.63	.38	.31	.2550	.191
.260	.323	—	5/16	(.3125)	M7 (.2756),	M8 (.3150)	2	2.72	.69	.44	.38	.3180	.238
.323	.395		3/8	(.3750)	M10	(.3937)	2	2.94	.75	.50	.44	.3810	.286
.395	.448	—	7/16	(.4375)	—	—	3	3.16	.88	—	.41	.3230	.242
.448	.510		1/2	(.5000)	M12	(.4724)	3	3.38	.94	—	.44	.3670	.275
.510	.573	—	9/16	(.5625)	M14	(.5541)	3	3.59	1.00	—	.50	.4290	.322
.573	.635		5/8	(.6250)	M16	(.6299)	3	3.81	1.09	—	.56	.4800	.360
.635	.709	—	11/16	(.6875)	M18	(.7087)	3	4.03	1.09	—	.63	.5420	.406
.709	.760		3/4	(.7500)	—	—	3	4.25	1.22	—	.69	.5900	.442
.760	.823	—	13/16	(.8125)	M20	(.7874)	3	4.47	1.22	—	.69	.6520	.489
.823	.885		7/8	(.8750)	M22	(.8661)	3	4.69	1.34	—	.75	.3670	.523
.885	.948	—	15/16	(.9375)	M24	(.9449)	3	4.91	1.34	—	.75	.7600	.570
.948	1.010		1	(1.0000)	M25	(.9843)	3	5.13	1.50	—	.81	.8000	.600

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NOTES: Thread length l is based on a length of 12 pitches of the UNC thread series. Thread length l is a minimum value and has no tolerance. When thread length l is added to neck length l1, the total shall be no less than the minimum USCTI Table 302 thread length l. Unless otherwise specified, all tolerances are in accordance with USCTI Table 302. For eccentricity tolerances, see USCTI Table 317. Table 302 is provided for reference only. Kennametal's tap dimensions may differ.

Tolerances

element	nominal diameter range (in)	direction	tolerance (in)
length overall — L	.0520–1.0100	plus or minus	.031
	1.0100–4.0100	plus or minus	.063
length of thread — l	.0520–.2230	plus or minus	.047
	.2230–.5100	plus or minus	.063
	.5100–1.5100	plus or minus	.094
	1.5100–4.0100	plus or minus	.125
length of square — l2	.0520–1.0100	plus or minus	.031
	1.0100–4.0100	plus or minus	.063
diameter of shank — d1	.0520–.2230	minus	.0015
	.2230–.6350	minus	.0015
	.6350–1.0100	minus	.0020
	1.0100–1.5100	minus	.0020
	1.5100–2.0100	minus	.0030
	2.0100–4.0100	minus	.0030
size of square — A	.0520–.5100	minus	.004
	.5100–1.0100	minus	.006
	1.0100–2.0100	minus	.008
	2.0100–4.0100	minus	.010

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Special Taps

Unless otherwise specified:

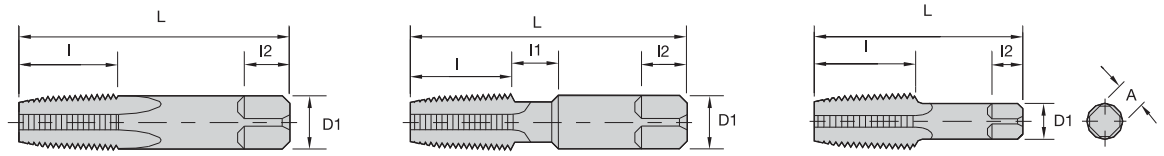
Special taps over 1.010–1.510" diameter inclusive, having 14 or more threads per inch or 1.75mm pitch and finer, and sizes over 1.510" diameter with 10 or more threads per inch or 2,5mm pitch and finer, are made to general dimensions shown in USCTI Table 303.

Special tap thread limits are determined using the formulas shown in USCTI Table 331 for Unified Inch Screw Threads and USCTI Table 341 for metric m-profile screw threads.

NOTES: Tap sizes .395" and smaller have an external center on the thread end (may be removed on bottoming taps). Sizes .125" and smaller have an external center on the shank end. Sizes .224–.395" have truncated partial cone centers on the shank end (length of cone approximately 1/4 of diameter of shank). Sizes over .395" have internal centers on both the thread and shank ends.

For standard thread limits and tolerances for Unified Inch Screw Threads, see USCTI Table 327, and for metric threads, see USCTI Table 337.

For eccentricity tolerances of tap elements, see USCTI Table 317.



General Dimensions

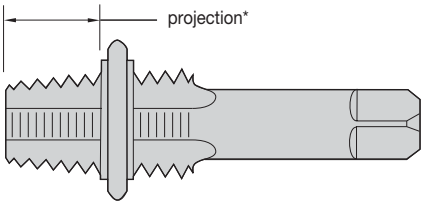
nominal size (in)	dimensions (in) length overall L	length of thread l	length of square l2	diameter of shank D1	size of square A	length optional neck l1
1/16	2.13	.69	.38	.3125	.234	.375
1/8	2.13	.75	.38	.3125	.234	–
1/8	2.13	.75	.38	.4375	.328	.375
1/4	2.44	1.06	.44	.5625	.421	.375
3/8	2.56	1.06	.50	.7000	.531	.375
1/2	3.13	1.38	.63	.6875	.515	–
3/4	3.25	1.38	.69	.9063	.679	–
1	3.75	1.75	.81	1.1250	.843	–
1 1/4	4.00	1.75	.94	1.3125	.984	–
1 1/2	4.25	1.75	1.00	1.5000	1.125	–
2	4.25	1.75	1.13	1.8750	1.406	–
2 1/2	5.50	2.56	1.25	2.2500	1.687	–
3	6.00	2.63	1.38	2.6250	1.968	–
3 1/2	6.50	2.69	1.50	2.8125	2.108	–
4	6.75	2.75	1.56	3.0000	2.250	–

Tolerances

element	range	direction	tolerance
length overall — L	1/16–3/4 inc.	plus/minus	.031
	1–4 inc.	plus/minus	.063
length of thread — l	1/16–3/4 inc.	plus/minus	.063
	1–1 1/4 inc.	plus/minus	.094
	1 1/2–4	plus/minus	.125
length of square — l2	1/16–3/4 inc.	plus/minus	.031
	1–4 inc.	plus/minus	.063
diameter of shank — d1	1/16–1/8	minus	.0015
	1/4–1 inc.	minus	.0020
	1 1/4–4 inc.	minus	.0030
size of square — a	1/16–1/8	minus	.004
	1/4–3/4 inc.	minus	.006
	1–4 inc.	minus	.008

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American National Standard Taper Pipe Thread Form (NPT)
Aeronautical National Taper Pipe Thread Form (ANPT)
Dryseal American National Standard Taper Pipe Thread Form (NPTF)



nominal size (in)	threads per inch	projection* (in)	projection tolerance + / –	taper per foot limits min	taper per foot limits max	length L1	tap drill size** NPT, ANPT, NFTF
1/16	27	.312	.063	.719	.781	.160	C
1/8	27	.312	.063	.719	.781	.1615	Q
1/4	18	.459	.063	.719	.781	.2278	7/16
3/8	18	.454	.063	.719	.781	.240	9/16
1/2	14	.579	.063	.719	.781	.320	45/64
3/4	14	.565	.063	.719	.781	.339	29/32
1	11 1/2	.678	.094	.719	.781	.400	1 9/64
1 1/4	11 1/2	.686	.094	.719	.781	.420	1 31/64
1 1/2	11 1/2	.699	.094	.719	.781	.420	1 23/32
2	11 1/2	.667	.094	.719	.781	.436	2 3/16
2 1/2	8	.925	.094	.734	.781	.682	2 39/64
3	8	.925	.094	.734	.781	.766	3 15/64
3 1/2	8	.938	.125	.734	.781	.821	–
4	8	.950	.125	.734	.781	.844	–

NOTE: *Distance small end of tap projects through L1 taper thread ring gage.
**Recommended size given permits direct tapping without reaming the hole, but only gives a full thread for approximately the L1 length.

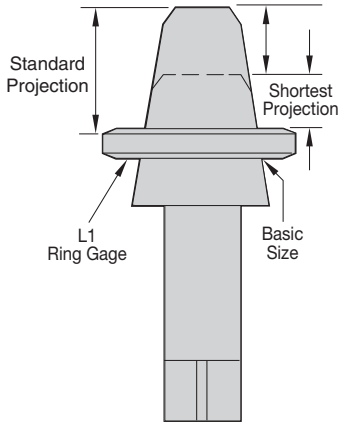
Pipe Taps

General-purpose pipe taps are appropriate for threading a wide variety of materials, both ferrous and non-ferrous.

Ground thread pipe taps are standard in American Standard Pipe Form (NPT) and American Standard Dryseal Pipe Form (NPFT). NPT threads require the use of a sealer, like Teflon® tape or pipe compound. Dryseal taps are used to tap fittings which will give a pressure-tight joint without the use of a sealer.

The nominal size of a pipe tap is that of the pipe fitting to be tapped, not the actual size of the tap. The thread tapers 3/4" per foot.

All pipe taps are furnished with 2 1/2–3 1/2 thread chamfer.

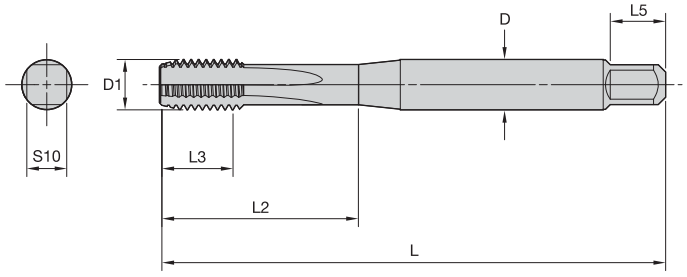


Short projection pipe taps are made with a projection shorter than standard for taper pipe tapping where the depth of tapping is limited.

Special short projection taper pipe taps can be furnished with American National Standard Taper Pipe thread (ANPT) or Dryseal American National Standard Taper Pipe thread (NPTF, PTF-SAE Short, or PTF-SPL Extra Short).

For information on short projection pipe taps and hole preparation for NPT, NPTF, and ANPT internal pipe threads, consult Kennameal Technical Bulletins.

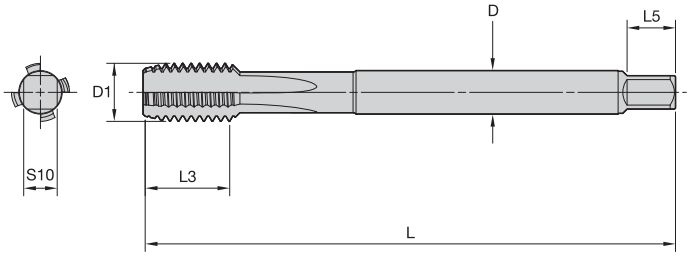
Special short projection pipe taps and left-hand pipe taps are available through Lightning Service.



DIN 371

D1	pitch	D	L	L3*	L2	L5	S10
M3	0.5	3.5	56	11	18	6	2.7
M3.5	0.6	4	56	12	20	6	3
M4	0.7	4.5	63	13	21	6	3.4
M4.5	0.75	6	70	16	25	8	4.9
M5	0.8	6	70	16	25	8	4.9
M6	1	6	80	19	30	8	4.9
M7	1	7	80	19	30	8	5.5
M8	0.75	8	80	18	30	9	6.2
M8	1.25	8	90	22	35	9	6.2
M9	0.75	9	80	18	30	10	7
M9	1.25	9	90	22	35	10	7
M10	1	10	90	20	35	11	8
M10	1.5	10	100	24	39	11	8

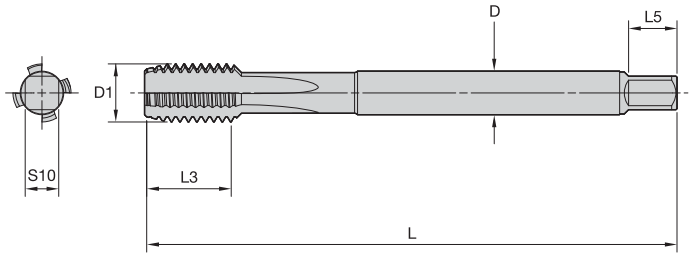
*Maximum



DIN 376

D1	pitch	D	L	L3*	L5	S10
M8	1.25	6	90	22	8	4.9
M9	1.25	7	90	22	8	5.5
M10	1.5	7	100	24	8	5.5
M11	1.5	8	100	24	9	6.2
M12	1.75	9	110	28	10	7
M14	2	11	110	30	12	9
M16	2	12	110	32	12	9
M18	2.5	14	125	34	14	11
M20	2.5	16	140	34	15	12
M22	2.5	18	140	34	17	14.5
M24	3	18	160	38	17	14.5
M27	3	20	160	38	19	16
M30	3.5	22	180	45	21	18
M33	3.5	25	180	50	23	20
M36	4	28	200	56	25	22
M39	4	32	200	60	27	24
M42	4.5	32	200	60	27	24
M45	4.5	36	220	65	32	29

*Maximum



DIN 374

D1	pitch minimum	pitch maximum	D	L	L3*	L5	S10
M8	0.2	0.75	6	80	18	8	4.9
M8	–	1	6	90	22	8	4.9
M9	0.2	0.75	7	80	18	8	5.5
M9	–	1	7	90	22	8	5.5
M10	0.2	1	7	90	20	8	5.5
M10	–	1.25	7	100	24	8	5.5
M11	0.35	1	8	90	20	9	6.2
M12	0.35	1.5	9	100	22	10	7
M14	0.35	1.5	11	100	22	12	9
M16	0.35	1.5	12	100	22	12	9
M16	–	2	12	110	32	12	9
M18	0.35	1.5	14	110	25	14	11
M18	–	2	14	125	34	14	11
M20	0.35	1.5	16	125	25	15	12
M20	–	2	16	140	34	15	12
M22	0.35	1.5	18	125	25	17	14.5
M22	–	2	18	140	34	17	14.5
M24	0.35	2	18	140	28	17	14.5
M27	0.35	2	20	140	28	19	16
M30	0.35	2	22	150	28	21	18
M30	–	3	22	180	45	21	18

*Maximum

Through Holes Push Chips





- Spiral point or LHSF (Left-Hand Spiral Flute).
- Ideal for materials with long chips.

Blind Holes Pull Chips

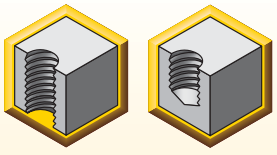




- RHSF (Right-Hand Spiral Flute).
- Ideal for materials with long chips.

Blind or Through Holes Store Chips

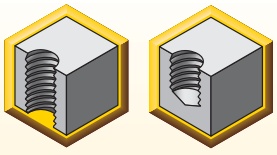




- STFL (Straight Flute).
- Ideal for materials with short chips.

Blind or Through Holes No Chips





- Forming.
- Ideal for ductile materials <32 HRC.

Unified Inch Screw Threads

size	threads per inch		recommended tap limits		internal thread pitch diameter limits (in)		
	NC UNC	NC UNC	class 2B	class 3B	min all classes (BASIC)	max class 2B	max class 3B
0	—	80	H2	H1	.0519	.0542	.0536
1 1	64 —	— 72	H2 H2	H1 H1	.0629 .0640	.0655 .0665	.0648 .0659
2 2	56 —	— 64	H2 H2	H1 H1	.0744 .0759	.0772 .0786	.0765 .0779
3 3	48 —	— 56	H2 H2	H1 H1	.0855 .0874	.0885 .0902	.0877 .0895
4 4	40 —	— 48	H2 H2	H2 H1	.0958 .0985	.0991 .1016	.0982 .100
5 5	40 —	— 44	H2 H2	H2 H1	.1088 .1102	.1121 .1134	.1113 .1126
6 6	32 —	— 40	H3 H2	H2 H2	.1177 .1218	.1214 .1252	.1204 .1243
8 8	32 —	— 36	H3 H2	H2 H2	.1437 .1460	.1475 .1496	.1465 .1487
10 10	24 —	— 32	H3 H3	H3 H2	.1629 .1697	.1672 .1736	.1661 .1726
12 12	24 —	— 28	H3 H3	H3 H3	.1889 .1928	.1933 .1970	.1922 .1959
1/4 1/4	20 —	— 28	H5 H4	H3 H3	.2175 .2268	.2224 .2311	.2211 .2300
5/16 5/16	18 —	— 24	H5 H4	H3 H3	.2764 .2854	.2817 .2902	.2803 .2890
3/8 3/8	16 —	— 24	H5 H4	H3 H3	.3344 .3479	.3401 .3528	.3387 .3516
7/16 7/16	14 —	— 20	H5 H5	H3 H3	.3911 .4050	.3972 .4104	.3957 .4091
1/2 1/2	13 —	— 20	H5 H5	H3 H3	.4500 .4675	.4565 .4731	.4548 .4717
9/16 9/16	12 —	— 18	H5 H5	H3 H3	.5084 .5264	.5152 .5323	.5135 .5308
5/8 5/8	11 —	— 18	H5 H5	H3 H3	.5660 .5889	.5732 .5949	.5714 .5934
3/4 3/4	10 —	— 16	H5 H5	H5 H3	.6850 .7094	.6927 .7159	.6907 .7143
7/8 7/8	9 —	— 14	H6 H6	H4 H4	.8028 .8286	.8110 .8356	.8089 .8339

NOTE: The above recommended taps normally produce the class of thread indicated in average materials when used with reasonable care. However, if the tap specified does not give a satisfactory gage fit in the work, a choice of some other limit tap will be necessary.

Unified Inch Screw Threads

size	threads per inch NC UNC	threads per inch NC UNC	recommended tap limits class 2B	recommended tap limits class 3B	internal thread pitch diameter limits (in) min all classes (BASIC)	internal thread pitch diameter limits (in) max class 2B	internal thread pitch diameter limits (in) max class 3B
1	8	—	H8	H4	.9188	.9276	.9254
1	—	12	H8	H4	.9188	.9276	.9254
1	15 NS		H6	H4	.9536	.9609	.9590
2	7	—	H8	H4	1.0332	1.0416	1.0393
2	—	12	H6	H4	1.0709	1.0787	1.0768
1 1/4	7	—	H8	H4	1.1572	1.1668	1.1644
1 1/4	—	12	H6	H4	1.1959	1.2039	1.2019
1 3/8	6	—	H8	H4	1.2667	1.2771	1.2745
1 3/8	—	12	H6	H4	1.3209	1.3291	1.3270
1 1/2	6	—	H8	H4	1.3917	1.4022	1.3996
1 1/2	—	12	H6	H4	1.4459	1.4542	1.4522

Tap Recommendations for Class 6H Metric Screw Threads

thread size nominal diameter (mm)	thread size pitch (mm)	recommended tap limit number	internal thread — product limits — class 6H pitch diameter (mm) min	pitch diameter (mm) max	pitch diameter (in) min	pitch diameter (in) max
1,6	0,35	D3	1,373	1,458	.05406	.05740
2	0,4	D3	1,740	1,830	.06850	.07205
2.5	0,45	D3	2,208	2,303	.08693	.09067
3	0,5	D3	2,675	2,775	.10531	.10925
3,5	0,6	D4	3,110	3,222	.12244	.12685
4	0,7	D4	3,545	3,663	.13957	.14421
4,5	0,75	D4	4,013	4,131	.15789	.16264
5	0,8	D4	4,480	4,605	.17638	.18130
6	1	D5	5,350	5,500	.21063	.21654
7	1	D5	6,350	6,500	.25000	.25591
8	1,25	D5	7,188	7,348	.28299	.28929
10	1,5	D6	9,026	9,206	.35535	.36244
12	1,75	D6	10,863	11,063	.42768	.43555
14	2	D7	12,701	12,913	.50004	.50839
16	2	D7	14,701	14,913	.57878	.58713
20	2,5	D7	18,376	18,600	.72346	.73228
24	3	D8	22,051	22,316	.86815	.87858
30	3,5	D9	27,727	28,007	1.09161	1.10264
36	4	D9	33,402	33,702	1.31504	1.32685

In addition to the nominal size and pitch of a tap, there is another important dimensional factor to be considered when selecting a ground thread tap for a given job. This factor is the pitch diameter tap limit, “H” and “L”. “H” represents (high) above basic pitch diameter; “L” (low) is below basic pitch diameter. Tap limits have been established to provide a choice in the selection of the tap size best suited to produce the class of thread desired.

Figure 1 Illustrates the numbering system and the .0005" diameter increment separation between successive limits. Because the starting point is basic pitch diameter, dividing the limit number by two establishes, in thousandths of an inch, the amount the maximum tap pitch diameter is above basic in the “H” series and the amount the minimum tap pitch diameter is under basic in the “L” series.

Figure 2 Illustrates the positioning of the tap limits in relation to the various classes of threads for a 1/4–20 size.

Figure 1

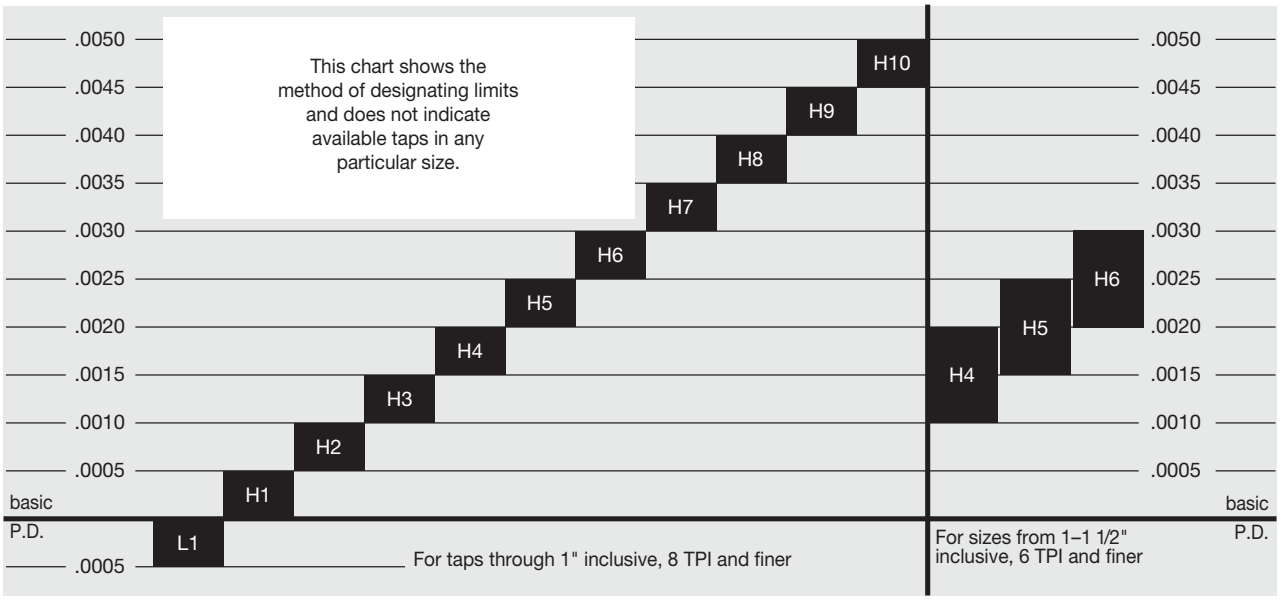
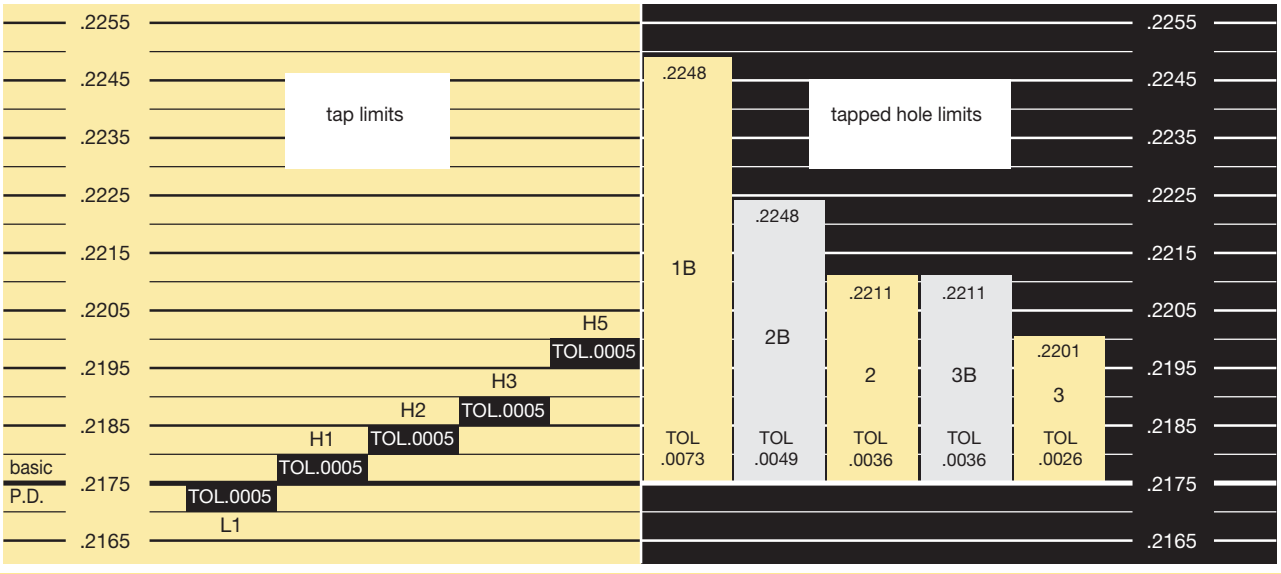
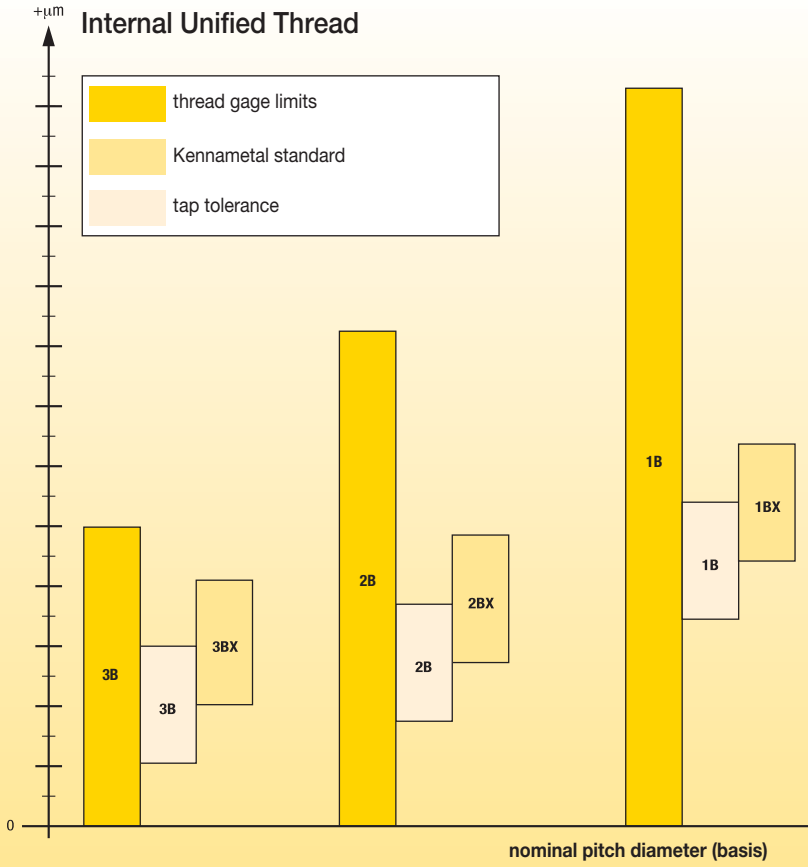


Figure 2 Class of Thread — 1/4–20 UNC and NC



Internal Unified Thread



For the tap user's convenience, new generation Kennametal taps are sized for the intended class of fit of the internal screw thread. ISO standard 2857 specifies the manufacturing tolerances of the tap pitch diameters for ISO metric threads of tolerances classes 4H to 8H and 4G to 6G.

Examples:

4H tap corresponds to ISO 1

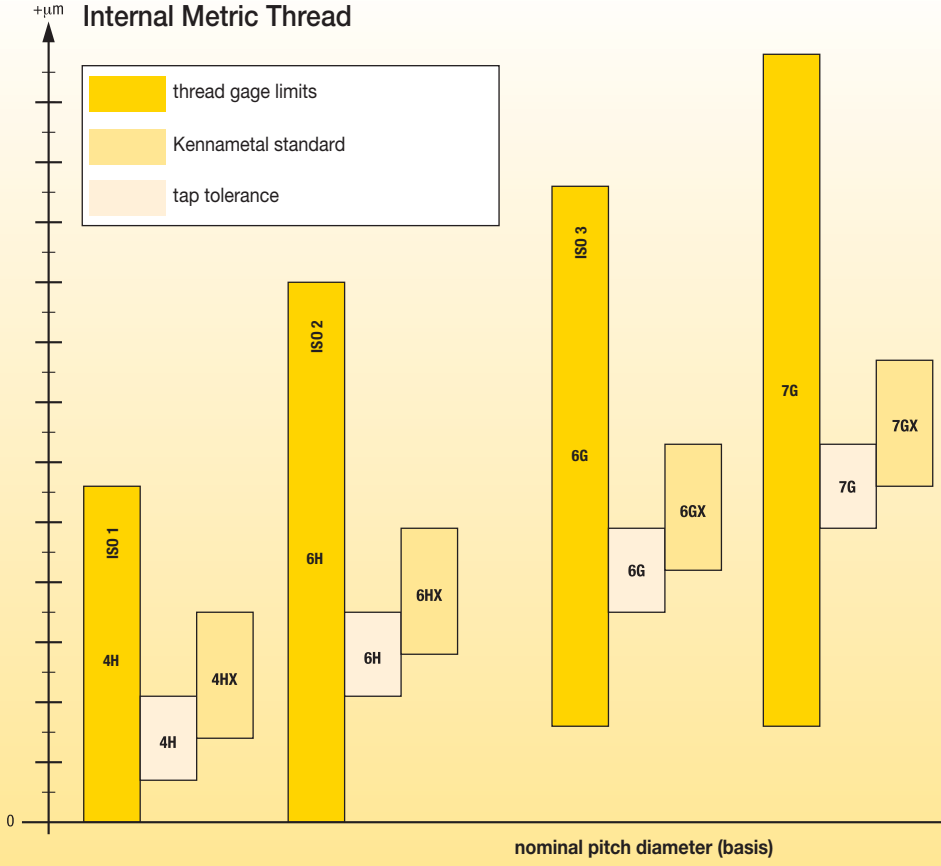
6H tap corresponds to ISO 2

6G tap corresponds to ISO 3

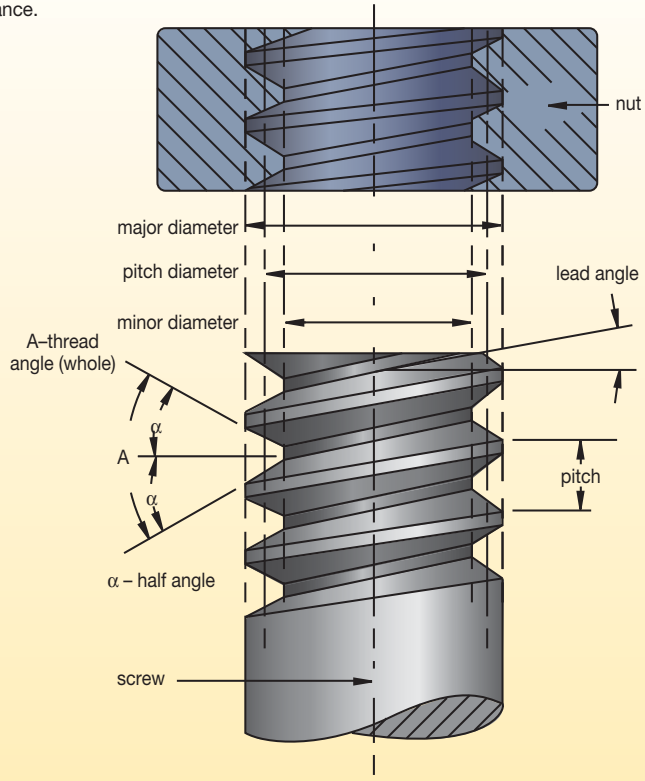
Similarly, ASME B1.1 recommends tap pitch diameter tolerances for 1B, 2B, and 3B classes of fit.

However, it is recognized in many tapping applications that taps should have a pitch diameter that is larger than industry standards. These applications include tapping abrasive materials or CNC applications where machine and tool concentricity is excellent. Taps manufactured to Kennametal standards are designated with an X after the class of fit (example 6HX or 3BX). These graphs illustrate the differences.

Internal Metric Thread



It is generally recognized that, in mass production, it is impossible to reproduce in exact detail the theoretically perfect product as laid out on the drawing board. The allowed slight variation between the theoretically perfect product drawing and each unit of the actual product is called the tolerance.



Allowance

An intentional difference in correlated dimensions of mating parts. It is the minimum clearance or maximum interference between such parts.

Angle of Thread

The angle included between the flanks of the thread measured in an axial plane.

Half Angle of Thread

The angle included between a flank of the thread and the normal (90°) to the axis, measured in an axial plane.

Lead of Thread

The distance a screw thread advances axially in one turn. On a single-thread screw, the lead and pitch are identical. On a double thread, the lead is 2x pitch; on a triple thread, the lead is 3x pitch, etc.

Major Diameter

The largest diameter of a straight-screw thread.

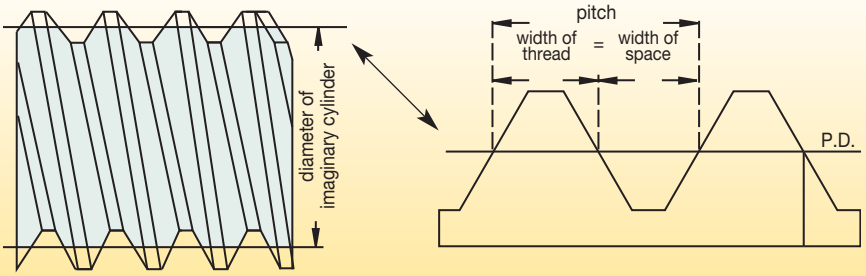
Minor Diameter

The smallest diameter of a straight-screw thread.

Pitch

The distance from a point on a screw thread to a corresponding point on the next thread measured parallel to the axis.

The pitch in inches = $\frac{1}{\text{number of threads per inch}}$



Pitch Diameter

On a straight-screw thread, the diameter of an imaginary cylinder that would pass through the threads at such points as to make equal the width of the threads and the width of the spaces cut by the surface of the cylinder.

Factors when trying to determine the best tapping speeds:

- Material to be tapped
- Length of chamfer on tap
- Percentage of full thread to be cut
- Length of hole (depth of thread)
- Pitch of thread
- Cutting fluids
- Machine equipment
- Horizontal or vertical tapping

The best and most efficient operating speeds for taps cannot be calculated with the same certainty, as for many other metalcutting tools.

With other tools, the feed per revolution can be set at any desired point and can be varied as conditions demand. Taps, on the other hand, must always be advanced at a rate equal to one pitch for every revolution, or one lead in the case of multi-start threads.

The style of tap may vary the conditions. For example, with a bottoming tap, the chamfer cuts a heavy chip while with a taper tap, the chamfer cuts a very thin chip.

The depth of thread also varies, depending on the pitch. The coarser the thread, the greater the advance of the tap per revolution and the greater the amount of material removed.

The method of feeding the tap, and the type of equipment for driving, also influences the permissible speeds. If taps are mechanically fed at the proper rate of advance, they can be operated at higher speeds than if used with flexible tapping holders on machines with poor feed control.

Speeds may be modified to take into account any or all of these factors:

- Speeds must be lowered as length of thread increases because, in deep thread holes, the accumulated chips increase friction and interfere with lubrication.
- Bottoming taps must be run slower than plug taps.
- Tapping full height of thread calls for slower speed than if the commercial 75% height only is required.
- Coarse-thread taps in the larger diameters should be run more slowly than fine-thread taps of the same diameters.
- The quantity and quality of cutting fluid may affect the permissible speeds as much as 100%.
- Taper threaded taps, such as pipe taps, should be operated from 1/2–3/4 the speed of a straight thread tap of comparable major diameter.
- Increase the speed of coolant taps up to 25%.

RPM Formulas

SFM = Surface Feet per Minute

RPM = Revolutions per Minute

IPM = Inches per Minute

TPI = Threads per Inch

S m/min = Surface Meters per Minute

$\Pi = 3.1416$

mm/min = millimeters per minute

P = Pitch (1/number of threads per inch)

Inch Sizes

$$SFM = \frac{RPM \times \text{tool diameter}}{3.82} \quad \text{or} \quad 0.26 \times RPM \times \text{tool diameter}$$

$$RPM = \frac{3.82 \times SFM}{\text{tool diameter}}$$

$$IPM = \frac{RPM}{TPI^*} \quad \text{or} \quad {}^*P \times RPM$$

Metric Sizes

$$S\ m/min = \frac{\Pi \times \text{tool diameter} \times RPM}{1000}$$

$$RPM = \frac{mm/min \times 1000}{\Pi \times \text{tool diameter}}$$

$$mm/min = mm\ P \times RPM$$

UNC/UNF and NPT/NPTF

tap size	taper pipe taps	surface feet per minute (SFM) 5'	10'	15'	20'	25'	30'	40'	50'	60'	70'	80'	90'	100'	110'	120'	130'	140'	150'
		revolutions per minute (RPM)																	
0		318	637	955	1273	1592	1910	2546	3183	3820	4456	5093	5729	6366	7003	7639	8276	8913	9549
1		273	546	819	1046	1308	1570	2093	2617	3140	3663	4186	4710	5233	5756	6279	6805	7326	1849
2		212	424	637	888	1110	1333	1777	2221	2665	3109	3554	3999	4442	4886	5330	5774	6218	6662
3		191	382	573	772	964	1157	1543	1929	2315	2701	3086	3472	3858	4244	4629	5015	5401	5787
4		174	347	521	682	853	1023	1364	1705	2046	2387	2728	3069	3411	3751	4092	4434	4775	5115
5		147	294	441	611	764	917	1222	1528	1833	2139	2445	2750	3056	3361	3667	3973	4278	4584
6		136	273	409	553	691	829	1106	1382	1859	1935	2212	2488	2766	3042	3318	3595	3871	4148
8		119	239	358	466	583	699	932	1165	1398	1631	1864	2097	2330	2563	2796	3029	3262	3495
10		101	201	302	402	502	603	804	1005	1205	1406	1607	1808	2009	2210	2411	2612	2813	3014
12		87	174	260	354	442	531	707	884	1061	1238	1415	1592	1769	1945	2122	2300	2476	2653
1/4		76	153	229	306	382	458	611	764	917	1070	1222	1375	1528	1681	1833	1986	2139	2292
5/16		62	123	185	245	306	367	489	611	733	856	978	1100	1222	1345	1467	1589	1711	1833
3/8		50	101	151	204	255	305	407	509	611	713	815	917	1019	1120	1222	1324	1426	1528
7/16	1/8	43	87	130	175	219	262	349	437	524	611	698	786	873	960	1048	1135	1222	1310
1/2	—	38	76	115	153	191	229	305	382	458	535	611	688	764	840	917	993	1070	1146
9/16	1/4	34	68	102	137	172	206	274	342	410	478	547	616	683	752	820	888	952	1020
5/8	—	32	64	96	122	153	183	244	306	367	428	489	550	611	672	733	794	856	917
11/16	3/8	28	55	83	111	138	167	222	278	333	389	444	500	556	611	667	722	778	833
3/4	—	25	51	76	102	128	153	203	255	305	357	407	458	509	560	611	662	713	764
7/8	1/2	22	43	65	87	109	131	175	218	262	306	350	392	437	480	524	568	611	655
1	—	19	38	57	76	96	115	153	191	230	268	305	344	382	420	458	497	535	573
1 1/8	3/4	17	34	51	68	84	102	136	170	204	238	272	306	340	373	407	441	475	509
1 1/4	—	15	31	46	61	76	92	122	153	183	214	244	275	305	336	367	397	428	458
1 3/8	1	14	28	42	56	69	83	111	139	167	194	222	250	278	306	333	361	389	417
1 1/2	—	13	25	38	51	63	76	102	127	153	178	204	229	255	280	305	331	356	382
1 5/8		12	23	35	47	59	71	94	118	141	165	188	212	235	259	282	306	329	353
1 3/4		11	22	33	44	55	65	87	109	131	153	175	196	218	240	262	284	306	327
1 7/8		10	20	30	41	51	61	81	102	122	143	163	183	204	224	244	265	285	306
2		9	19	29	38	48	57	76	96	115	134	153	172	191	210	229	248	267	287

Metric

metric taps	vc = meters per minute (m/min) 1,5	3	4,5	6	7,5	10	12	15	18	21	24	27	30	33	36	39	42	45
	revolutions per minute (RPM)																	
M1	490	979	1469	1959	2449	2938	3918	4897	5877	6856	7836	8815	9795	10774	11754	12733	13713	14692
M2	242	484	725	967	1209	1451	1934	2418	2901	3385	3868	4352	4835	5319	5803	6286	6770	7253
M3	162	324	486	347	809	971	1295	1619	1942	2266	2590	2914	3237	3561	3885	4208	4532	4856
M3.5	138	277	415	554	692	830	1107	1384	1661	1938	2214	1491	2768	3045	3322	3599	3875	4152
M4	122	243	365	487	608	730	973	1217	1460	1703	1946	2190	2433	2676	2920	3163	3406	3650
M5	97	194	291	388	485	582	776	970	1163	1357	1551	1745	1939	2133	2327	2521	2715	2905
M6	81	162	243	324	405	486	647	809	971	1133	1295	1457	1619	1781	1942	2104	2266	2428
M7	69	138	208	277	346	415	554	692	830	969	1107	1246	1384	1522	1661	1799	1938	2076
M8	61	121	182	243	303	364	485	606	728	849	970	1091	1213	1334	1455	1577	1698	1819
M10	48	97	145	194	242	291	388	485	582	679	776	873	970	1067	1163	1260	1357	1454
M12	40	81	121	162	202	243	324	405	486	567	647	728	809	890	971	1052	1133	1214
M14	35	69	104	139	173	208	277	347	416	485	555	624	693	763	832	901	971	1040
M16	30	61	91	121	152	182	243	303	364	424	485	546	606	667	728	788	849	910
M18	27	54	81	108	135	162	216	269	323	377	431	485	539	593	647	700	754	808
M20	24	49	73	97	121	146	194	243	291	340	388	437	485	534	582	631	680	728
M22	22	44	66	88	110	132	176	221	265	309	353	397	441	485	529	573	618	662
M24	20	40	61	81	101	121	162	202	243	283	323	364	404	445	485	526	566	606
M27	18	36	54	72	90	108	144	180	216	252	287	323	359	395	431	467	503	539
M30	16	32	49	65	81	97	129	162	194	226	259	291	323	356	388	420	453	485

Partial List of Solutions to Tapping Problems

application	symptom	common cause	remedy
general	gage out of limits	tap size and gage mismatch	select tap size for gage
	oversize thread	alignment, spindle feed	correct
	oversize at top	runout or alignment	correct
	go gage binds part way	worn tool, tap cuts off lead	replace tap, synchronous holder
	thread shaving	feed error, high axial force	program, synchronous holder
	chipping	high cutting force, worn tap	tap geometry, replace tap
	breakage	chip jamming flutes	tap geometry, tapping depth
	—	worn tool, high torque	replace tap with new tool
	short life, low speed	excessive wear	SC or HSS-E-PM HP taps
steel	birdnest blind hole	long, ductile chips	T630 KP6505 (oxide), peck feed
	chipping	high material hardness	T600, T602 KSP21 (TiN)
	breakage in blind holes	hole depth >2D, chip jamming	T604 KHS26 (TiN/MoS_2)
stainless steel	oversize thread, low life	galling	T620, T630 KM6515 (TiN-CrC/C)
	short life	work hardened core hole	replace drill
cast iron	excessive wear	abrasion	T640 KP6525 (TiCN)
aluminum, cast	excessive wear	high silicon	T640 KP6525 (TiCN)
aluminum, wrought	oversize thread	galling	T670, T680 KSN38 (DLC)
nickel, cobalt alloys	short life	high cutting temperature	T610, T612 KSSH22 (TiCN)
titanium	short life	high cutting temperature	T614, T616 KSN25 (TiN-DLC)

coating	properties and application	precautions
Titanium Nitride (TiN)	Proprietary TiN coating (hardness 2300 Vickers) offers significantly improved wear life and thread finish, often at higher tapping speeds, in a broad range of materials, especially steels, irons, and plastics. Golden color.	Use with caution in non-ferrous materials such as aluminum because of tendency to gall.
Titanium Carbonitride (TiCN)	Proprietary TiCN coating (hardness 3000 Vickers) is harder, tougher, and more wear resistant than TiN under conditions of moderate cutting temperatures. Like TiN, TiCN may be used at higher cutting speeds in a broad range of materials, especially steels and irons. Blue-gray color.	Use with caution in non-ferrous materials such as aluminum because of tendency to gall. TiAlN is a better choice when used at extreme temperatures.
Titanium Nitride + Chromium Carbide Carbon (TiN + CrC/C)	Proprietary coating (hardness 2300 Vickers) that combines the wear resistance of smooth TiN coating with a lubricous top layer of chromium carbide carbon. Effective in stainless steel and non-ferrous materials including aluminum and titanium. Ideal choice for 300 series stainless steels, wrought, and die cast aluminums. Black/gray color.	Effective in both ferrous and non-ferrous materials.
Titanium Aluminum Nitride (TiAlN)	Nanolayer TiAlN coating (hardness 3300 Vickers) offers improved wear life and thread finish, especially in conditions where high temperatures can be generated. Use for PH stainless steels and nickel-based alloys like INCONEL®. Violet/gray color.	Use with caution in non-ferrous materials because of tendency to gall.
Chromium Nitride (CrN)	CrN is medium hard (hardness 1800 Vickers) and has a lower wear resistance than TiN, TiCN, and TiAlN. However, unlike these coatings, CrN does not gall when used in some non-ferrous work materials. Use for brass, bronze, zinc alloys, and magnesium alloys. Silver color.	Ineffective in ferrous materials.
Nitride	Hardened case extends wear life in abrasive materials. Use for aluminum and other non-ferrous materials.	Avoid on taper pipe, fast spiral, and small diameter (<#6) or fine pitch taps due to tendency for thread chipping.
Oxide	Helps prevent galling in ferrous (iron-based) materials. For free machining steel. Use for steels, stainless steels, and irons.	Has a tendency to cause galling in non-ferrous materials such as aluminum.
Nitride and Oxide	Combines the benefits of nitride and oxide surface treatments. For steels, stainless steels, and nickel alloys.	See precautions for nitride and oxide surface treatments.

Thread Mills

	vibration marks	major crest wear	edge chipping	cone shaped thread	entry marks
cutting speed	check	reduce	–	–	–
feed per tooth	check	increase	reduce	–	–
workpiece clamping	improve	improve	improve	–	improve
machine tool stability	improve	improve	improve	–	improve
cantilever arm	shorten	shorten	–	–	shorten
helix angle	increase	reduce	–	–	–
radial runout	check	check	–	–	–
coating	–	improve	improve	–	–
milling operation	–	climb mill	climb mill	climb mill	–
line feed/ entry ramp	check	check	–	–	improve
coolant pressure	–	check (>20 bar, 290 psi)	check (>20 bar, 290 psi)	–	–

drill size	decimal (in)	drill size	decimal (in)	drill size	decimal (in)	drill size	decimal (in)	drill size	decimal (in)	drill size	decimal (in)
0,30mm	.0118	54	.0550	3,10mm	.1220	5,50mm	.2165	8,50mm	.3346	9/16	.5625
0,32mm	.0126	1,40mm	.0551	1/18	.1250	7/32	.2188	8,60mm	.3386	14,50mm	.5709
80	.0135	1,45mm	.0571	3,20mm	.1260	5,60mm	.2205	R	.3390	37/64	.5781
0,35mm	.0138	1,50mm	.0591	30	.1285	2	.2210	8,70mm	.3425	14,75mm	.5807
79	.0145	53	.0595	3,30mm	.1299	5,70mm	.2244	11/32	.3438	15,00mm	.5906
0,38mm	.0150	1,55mm	.0610	3,40mm	.1339	1	.2280	8,80mm	.3465	19/32	.5938
1/64	.0156	1/16	.0625	29	.1360	5,80mm	.2283	S	.3480	15,25mm	.6004
0,40mm	.0157	1,60mm	.0630	3,50mm	.1378	5,90mm	.2323	8,90mm	.3504	39/64	.6094
78	.0160	52	.0635	28	.1405	A	.2340	9,00mm	.3543	15,50mm	.6102
0,42mm	.0165	1,65mm	.0650	9/64	.1406	15/64	.2344	T	.3580	15,75mm	.6201
0,45mm	.0177	1,70mm	.0669	3,60mm	.1417	6,00mm	.2362	9,10mm	.3583	5/8	.6250
77	.0180	51	.0670	27	.1440	B	.2380	23/64	.3594	16,00mm	.6299
0,48mm	.0189	1,75mm	.0689	3,70mm	.1457	6,10mm	.2402	9,20mm	.3622	16,25mm	.6398
0,50mm	.0197	50	.0700	26	.1470	C	.2420	9,30mm	.3661	41/64	.6406
76	.0200	1,80mm	.0709	25	.1495	6,20mm	.2441	U	.3680	16,50mm	.6496
75	.0210	1,85mm	.0728	3,80mm	.1496	D	.2460	9,40mm	.3701	21/32	.6562
0,55mm	.0217	49	.0730	24	.1520	6,30mm	.2480	9,50mm	.3740	16,75mm	.6594
74	.0225	1,90mm	.0748	3,90mm	.1535	1/4, E	.2500	3/8	.3750	17,00mm	.6693
0,60mm	.0236	48	.0760	23	.1540	6,40mm	.2520	V	.3770	43/64	.6719
73	.0240	1,95mm	.0768	5/32	.1562	6,50mm	.2559	9,60mm	.3780	17,25mm	.6791
0,62mm	.0244	5/64	.0781	22	.1570	F	.2570	9,70mm	.3819	11/16	.6875
72	.0250	47	.0785	4,00mm	.1575	6,60mm	.2598	9,80mm	.3858	17,50mm	.6890
0,65mm	.0256	2,00mm	.0787	21	.1590	G	.2610	W	.3860	45/64	.7031
71	.0260	2,05mm	.0807	20	.1610	6,70mm	.2638	9,90mm	.3898	18,00mm	.7087
0,70mm	.0276	46	.0810	4,10mm	.1614	17/64	.2656	25/64	.3906	23/32	.7188
70	.0280	45	.0820	4,20mm	.1654	H	.2660	10,00mm	.3937	18,50mm	.7283
69	.0292	2,10mm	.0827	19	.1660	6,80mm	.2677	X	.3970	47/64	.7344
0,75mm	.0295	2,15mm	.0846	4,30mm	.1693	6,90mm	.2717	10,20mm	.4016	19,00mm	.7480
68	.0310	44	.0860	18	.1695	I	.2720	Y	.4040	3/4	.7500
1/32	.0312	2,20mm	.0866	11/64	.1719	7,00mm	.2756	13/32	.4062	49/64	.7656
0,80mm	.0315	2,25mm	.0886	17	.1730	J	.2770	Z	.4130	19,50mm	.7677
67	.0320	43	.0890	4,40mm	.1732	7,10mm	.2795	10,50mm	.4134	25/32	.7812
66	.0330	2,30mm	.0906	16	.1770	K	.2810	27/64	.4219	20,00mm	.7874
0,85mm	.0335	2,35mm	.0925	4,50mm	.1772	9/32	.2812	10,80mm	.4252	51/64	.7969
65	.0350	42	.0935	15	.1800	7,20mm	.2835	11,00mm	.4331	20,50mm	.8071
0,90mm	.0354	3/32	.0938	4,60mm	.1811	7,30mm	.2874	7/16	.4375	13/16	.8125
64	.0360	2,40mm	.0945	14	.1820	L	.2900	11,20mm	.4409	21,00mm	.8268
63	.0370	41	.0960	4,70mm, 13	.1850	7,40mm	.2913	11,50mm	.4528	53/64	.8281
0,95mm	.0374	2,45mm	.0965	3/16	.1875	M	.2950	29/64	.4531	27/32	.8438
62	.0380	40	.0980	4,80mm, 12	.1890	7,50mm	.2953	11,80mm	.4646	21,50mm	.8465
61	.0390	2,50mm	.0984	11	.1910	19/64	.2969	15/32	.4688	55/64	.8594
1,00mm	.0394	39	.0995	4,90mm	.1929	7,60mm	.2992	12,00mm	.4724	22,00mm	.8661
60	.0400	38	.1015	10	.1935	N	.3020	12,20mm	.4803	7/8	.8750
59	.0410	2,60mm	.1024	9	.1960	7,70mm	.3031	31/64	.4844	22,50mm	.8858
1,05mm	.0413	37	.1040	5,00mm	.1969	7,80mm	.3071	12,50mm	.4921	57/64	.8906
58	.0420	2,70mm	.1063	8	.1990	7,90mm	.3110	1/2	.5000	23,00mm	.9055
57	.0430	36	.1065	5,10mm	.2008	5/16	.3125	12,80mm	.5039	29/32	.9062
1,10mm	.0433	7/64	.1094	7	.2010	8,00mm	.3150	13,00mm	.5118	59/64	.9219
1,15mm	.0453	35	.1100	13/64	.2031	O	.3160	33/64	.5156	23,50mm	.9252
56	.0465	2,80mm	.1102	6	.2040	8,10mm	.3189	13,20mm	.5197	15/16	.9375
3/64	.0469	34	.1110	5,20mm	.2047	8,20mm	.3228	17/32	.5312	24,00mm	.9449
1,20mm	.0472	33	.1130	5	.2055	P	.3230	13,50mm	.5315	61/64	.9531
1,25mm	.0492	2,90mm	.1142	5,30mm	.2087	8,30mm	.3268	13,80mm	.5433	24,50mm	.9646
1,30mm	.0512	32	.1160	4	.2090	21/64	.3281	35/64	.5469	31/32	.9688
55	.0520	3,00mm	.1181	5,40mm	.2126	8,40mm	.3307	14,00mm	.5512	25,00mm	.9843
1,35mm	.0531	31	.1200	3	.2130	Q	.3320	14,25mm	.5610	63/64	.9844
—	—	—	—	—	—	—	—	—	—	1"	1.0000

Metric Fractional Wire gage Letter size

Tap Custom-Order Worksheet

Use this Custom-Order Worksheet to modify an existing product to meet your specifications. If your custom requirements do not fall into these categories, simply contact your Kennametal Distributor.

Trust our experienced distributors and Kennametal engineering team to design the best solution for you.

1. Start with the standard product most similar to your specifications:

catalog number _____ **grade/coating** _____

2. Type of tap needed:

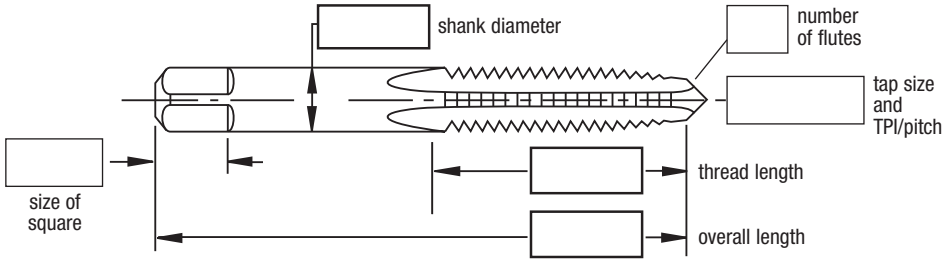
☐ solid carbide ☐ high performance HSS ☐ general purpose ☐ spiral point
☐ hand ☐ forming ☐ spiral flute
_____ pipe (and style) _____ other

3. Direction of cut (circle one)**:** left hand right hand

4. Material overview:

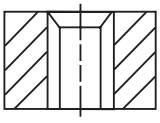
☐ ANSI ☐ DIN ☐ JIS ☐ other

5. Desired dimension:

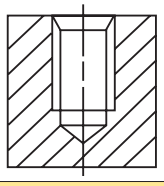


6. Choose one:

through hole:
hole diameter _____
hole depth _____



blind hole:
hole diameter _____
hole depth _____



7. Chamfer:

☐ taper: 7–10 pitch ☐ plug: 3–5 pitch ☐ semi-bottom: 2–3 pitch ☐ bottom: 1–2 pitch



8. Class of fit: **H limit** _____ **metric D limit** _____ **diameter pitch limit** _____

9. Workpiece material: _____

10. Hardness: _____

11. Number of taps required: _____

12. Price
Contact your Authorized Kennametal Distributor partners.

13. Other comments or special characteristics:

customer company name	**date**
address	**phone number**
city, state, zip	**fax number**
customer contact	**customer email address**
sales representative	

Taps

Application Sheet for Thread Milling

Test form thread data:	Date:

Customer Data

Company:	Department:
Street:	Position:
Postal code:	Telephone:
City:	Fax:
Country:	E-mail:

Tool Data

Engaged Kennametal tool:	Tool life:
Competitive tool:	

Workpiece Data

Thread size:		Name of workpiece:
Class of fit:		Picture, sketch...
Thread depth:	mm	
Thread type:	☐ Through hole	☐ Blind hole
Drill hole ø:	mm	
Depth of drill hole:	mm	
Type of drilled hole:	☐ Drilled	☐ No hole
Material:		
Hardness:		

Machine Data

Manufacturer:			Description:		
CNC-machine type:	☐ Turning machine	☐ Milling machine	Working direction:	☐ Horizontal	☐ Vertical
Control type:	☐ DIN	☐ Heidenhain	Coolant:	☐ Emulsion	☐ MQL
				☐ Compressed air	☐ Dry
Coolant supply type:	☐ Internal	☐ External	Coolant pressure:		☐ Bar
Revolutions max:		☐ 1/min	Spindle power:		kW
Clamping device:	☐ Weldon®	☐ Collet			
	☐ Shrinking	☐ Hydraulic expansion			

Cutting Conditions

Cutting speed vc:		m/min	Revolutions:		1/min
Feed fz:		mm/tooth	Programmed feed:		mm/min
Milling direction	☐ Climb milling	☐ Down milling	Type of feed:	☐ Feed on contour	☐ Feed on center
Allocated cut over depth of thread:	☐ Yes	☐ No	Allocated cut over profile:	☐ By depth of profile	☐ By thread depth
Number of cuts:			Number of cuts:		

Knowing the hardness of the work material to be tapped is essential in selecting the best tap for the job.

10 mm/min ball 3000 kg	120° cone 150 kg	1/16" ball 100 kg	model C	1000 lb per sq. in.	10 mm/min ball 3000 kg	120° cone 150 kg	1/16" ball 100 kg	model C	1000 lb per sq. in.
Brinell	Rockwell C	Rockwell B	Shore Scleroscope	tensile strength	Brinell	Rockwell C	Rockwell B	Shore Scleroscope	tensile strength
800	72	–	100	–	276	30	105	42	136
780	71	–	99	–	269	29	104	41	132
760	70	–	98	–	261	28	103	40	129
745	68	–	97	367	258	27	102	39	127
725	67	–	96	357	255	26	102	39	125
712	66	–	95	350	249	25	101	38	123
682	65	–	93	337	245	24	100	37	119
668	64	–	91	326	240	23	99	36	117
652	63	–	89	318	237	23	99	35	115
626	62	–	87	306	229	22	98	34	113
614	61	–	85	299	224	21	97	33	110
601	60	–	83	292	217	20	96	33	107
590	59	–	81	290	211	19	95	32	104
576	57	–	79	281	206	18	94	32	102
552	56	–	76	270	203	17	94	31	100
545	55	–	75	268	200	16	93	31	98
529	54	–	74	259	196	15	92	30	96
514	53	120	72	254	191	14	92	30	94
502	52	119	70	247	187	13	91	29	92
495	51	119	69	244	185	12	91	29	91
477	49	118	67	233	183	11	90	28	90
461	48	117	66	227	180	10	89	28	89
451	47	117	65	223	175	9	88	27	86
444	46	116	64	219	170	7	87	27	84
427	46	115	62	209	167	6	87	27	82
415	44	115	60	204	165	5	86	26	81
401	43	114	58	196	163	4	85	26	80
388	42	114	57	191	160	3	84	25	78
375	41	113	55	184	156	2	83	25	76
370	40	112	54	182	154	1	82	25	75
362	39	111	53	179	152	–	82	24	74
351	38	111	51	173	150	–	81	24	74
346	37	110	50	170	147	–	80	24	72
341	37	110	49	168	145	–	79	23	71
331	36	109	47	163	143	–	79	23	70
323	35	109	46	158	141	–	78	23	69
311	34	108	46	153	140	–	77	22	69
301	33	107	45	148	135	–	75	22	67
293	32	106	44	144	130	–	72	22	65
285	31	105	43	140	–	–	–	–	–

Application Icons

 Countersinking/ Stroke Chamfering	 Drilling: Flat Bottom	 Drilling: Blind	 Tapping: Through Hole	 Tapping: Blind Hole
 Tapping: Pipe Thread	 HSS: High-Speed Steel	 HSS-E: High-Speed Steel with Cobalt Alloy for Materials with Higher Hardness	 HSS-E-PM: High-Speed Steel with Cobalt Alloy for Materials with Higher Hardness (PM = Powder Metal Steel)	 HM: (Carbide)
 Drilling Depth: 2x	 Threading: Through Hole	 Threading: Blind Hole		

Geometry Icons

 Corner Style: Ball Nose	 Shank: Cylindrical Plain	 Shank: Cylindrical with Square	 Square Shank: L = 4"	 Square Shank: L = 6"
 Square Shank: L = 8"	 Square Shank: L = 10"	 Chamfer Form A (6–8)	 Chamfer Form B (3–5)	 Chamfer Form: (3–4)
 Chamfer Form C (2–3)	 Chamfer Form D (3,5–5)	 Chamfer Form E (1,5–2)	 Chamfer Form: (2,5–3,5)	 Chamfer Form: (4–6)
 Chamfer Form: (1–2)	 Tapping Helix Angle: 0°	 Tapping Helix Angle: L8°	 Tapping Helix Angle: 10°	 Tapping Helix Angle: 15°
 Tapping Helix Angle: L15°	 Tapping Helix Angle: 25°	 Tapping Helix Angle: 30°	 Tapping Helix Angle: 42°	 Tapping Helix Angle: 45°
 Tapping Helix Angle: 49°				

Feature Icons

DIN 371 DIN Number 371	DIN 374 DIN Number 374	DIN 376 DIN Number 376	DIN 2174 DIN Number 2174	Tapping: Through Coolant
Flood Coolant: Tapping	Coolant: Through Coolant	Through Coolant: Axial: Tapping	2B Class of Fit: 2B	3B Class of Fit: 3B
6H Class of Fit: 6H	6HX Class of Fit: 6HX	2BX Class of Fit: 2BX	3BX Class of Fit: 3BX	NPT American Tapered Pipe Thread for Threads **with Dryseal Material**
NPTF American Tapered Pipe Thread for Threads **without Dryseal Material**	ANSI American National Standards Institute	NPS American Standard Straight Pipe Threads	NPSF American Standard Straight Pipe Threads Dryseal	BSPF British Standard Pipe Fitting Thread
BSPT British Standard Pipe Taper Thread	G Whitworth Pipe Thread	Rp Cylindrical Whitworth Pipe Thread	Rc Tapered Whitworth Pipe Thread	UNF Unified Fine Thread
UNC Unified Coarse Thread	M ISO Metric Coarse Thread	MF ISO Metric Fine Thread		

DIN — German Institute for Standardization

ANSI — American National Standards Institute