

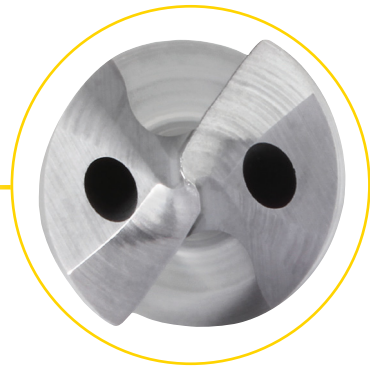


INNOVATIONS
2021 | 01 | METRIC

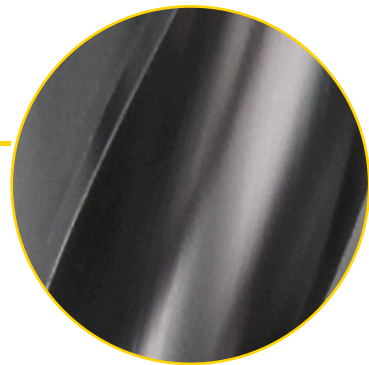
HPX DRILL

For high-volume steel production.

Material-specific HPX drill point — Patented HPX point provides excellent self-centring capabilities, reduces thrust, and enables precise centre chip formation.



Material-specific HPX edge preparation — A straight cutting edge reduces build-up and chipping on cutting edge and margin land.



Ultra-high polished chip flutes reduce friction, improve chip evacuation, and increase tool life.

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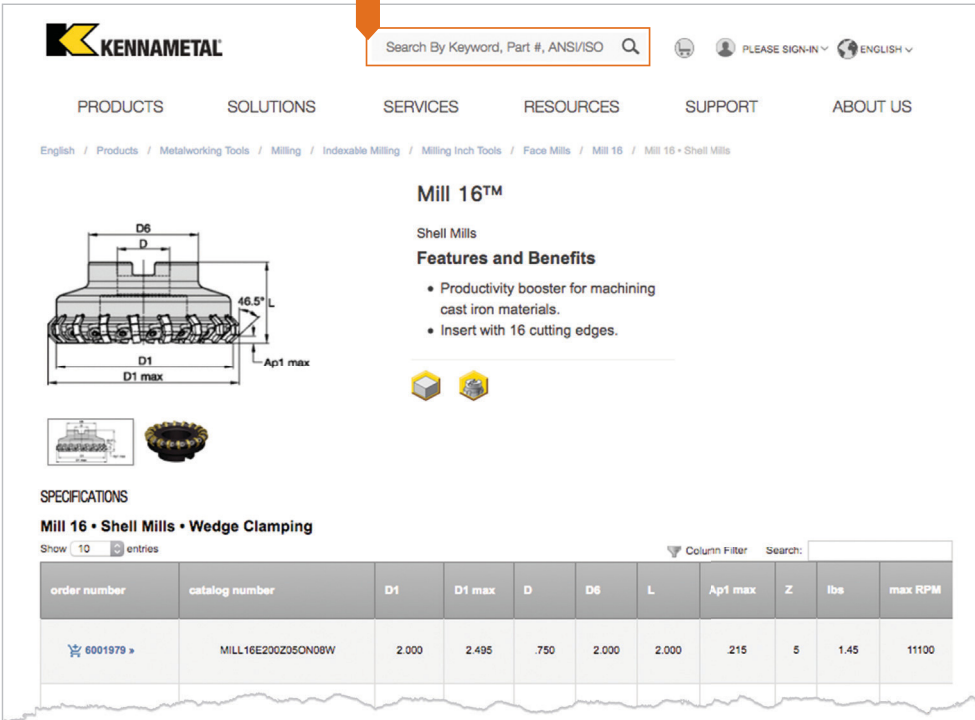


Spare Parts & Accessories Information

Lost a screw? Have to replace worn-out clamping wedges? Need to find and re-order those spare parts?

Are you in need of some accessories, like a torque wrench or coolant shower plate? These tools are at your fingertips! Go to **kennametal.com** and find what you need in seconds. Enter the catalog number of the corresponding tool, and it will display.

1 STEP 1 Enter the tool catalogue number here



Mill 16™
Shell Mills
Features and Benefits

- Productivity booster for machining cast iron materials.
- Insert with 16 cutting edges.

SPECIFICATIONS
Mill 16 • Shell Mills • Wedge Clamping

Show 10 entries

order number	catalog number	D1	D1 max	D	D6	L	Ap1 max	Z	lbs	max RPM
6001979	MILL16E200Z35ON08W	2.000	2.495	.750	2.000	2.000	.215	5	1.45	11100

2 STEP 2 Select the spare parts & accessories

PRODUCT USAGE

Insert Selection Inserts Tool Body Speeds & Feeds Grades **Spare Parts**

Spare Parts

D1	wedge	wedge screw	in. lbs.	wrench	mounting screw with coolant grooves	adjustable torque wrench	bit SW3 for adjustable torque wrench
2.000	CW16	12748601000	62	12148044900	KLSS0714C	DTQ50140	BTQSW3L90



Digitally access spare parts and accessories information to ensure you keep your operation running.

Visit kennametal.com/novo and download today.
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Online Catalogue

Can't find your paper copy of our catalogue anymore?

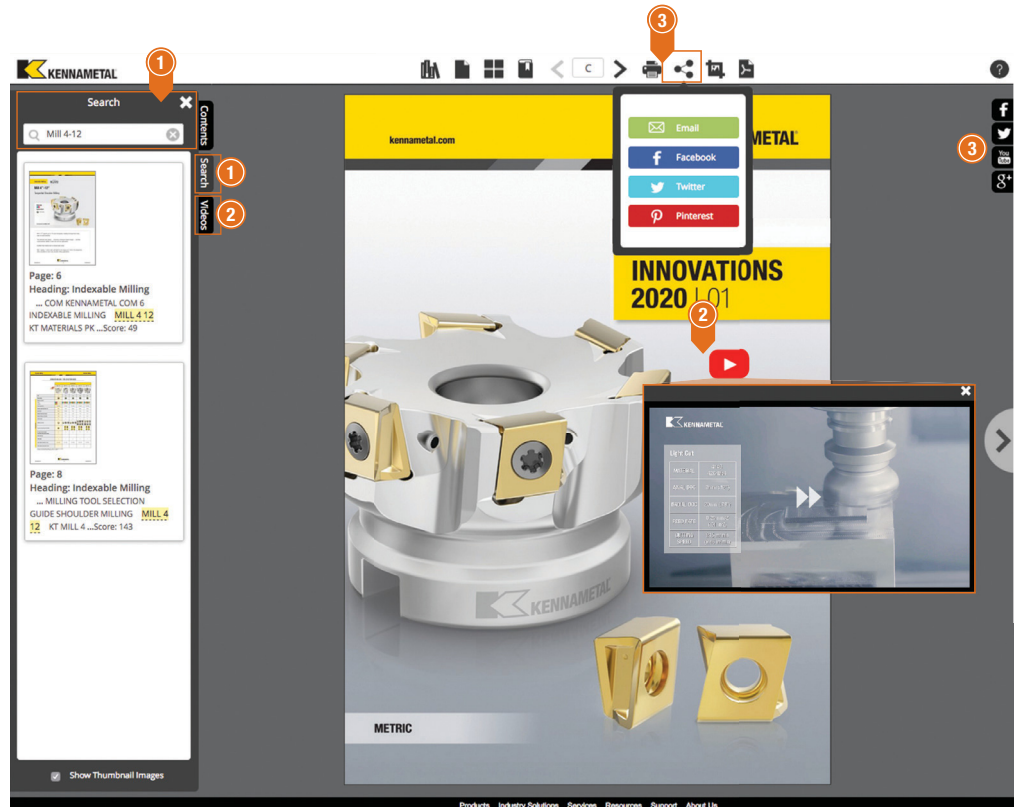
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the App Store®



HPX Drill

High-Performance Solid Carbide Drill

Materials

P

Applications



Drilling



Drilling:
Stacked Plates

kennametal.com/HPX-Drill



The new HPX drill series is the high-performance solution for any high-volume steel production.

Material-specific HPX edge preparation — A straight cutting edge reduces build-up and chipping on cutting edge and margin land.

Material-specific HPX drill point — Patented HPX point provides excellent self-centring capabilities, reduces thrust, and enables precise centre chip formation.

Material-specific HPX margins — 2 margin lands provide stability and reduce friction.

Straight cutting edge — Reduces build-up and chipping on cutting edge and margin land.

140° point angle — For ideal cutting conditions. Perfect for pilot drilling of deep holes.



Corner chamfer — Built-in cutting edge corner protection, reduces chipping and extends tool life.

2 margin lands for stability and less friction.

Up to 8 x D drilling.

Standard MQL backend.



The HPX drill design — Up to 3x higher cutting parameters, saving machining time and freeing up capacity.

Ultra-high polished chip flutes reduce friction, improve chip evacuation, and increase tool life.

A continuous chip-flute cross-section reduces vibrations and cutting edge chipping.

TOOL SELECTION GUIDE • MATERIAL SPECIFIC DRILLS

	HPX Drills	HPX Drills	SGL Drills	HPS Drills	Y-TECH™ Drills	KMH Drills	KMH Drills
							
							
Series	B221_HP B222_HP	B224_HP B225_HP B226_HP	B210_SGL B211_SGL B212_SGL	B284_HPS B285_HPS B286_HPS	B291_YPL B292_YPL	B941A	B951A
Page	11, 14	16, 18, 21	G38*	G88*	G94*	G126*	G127*
Workpiece material							
Primary	P	P	M S	N	M S	H	H
Secondary	K		P		P	P K	P K
Hole tolerance	IT9-IT10	IT9-IT10	IT9-IT10	IT9-IT10	IT9-IT10	IT9-IT10	IT9-IT10
Standard range							
Cutting diameter [D1]	3,0-20,0mm	3,0-20,0mm	2,5-20,0mm	3,0-20,0mm	3,0-20,0mm	2,5-14,0mm	3,0-16,0mm
Drill length [L4 max]	14,0-85,0mm	14,0-160,0mm	12,0-160,0mm	14,0-124,0mm	14,0-77,0mm	14,0-43,0mm	14,0-45,0mm
Drilling depth L/D1	3-5 x D	3-8 x D	3-8 x D	3-8 x D	3-5 x D	3 x D	3 x D
Point angle	140°	140°	140°	135°	140°	142°	140°
Flute angle	30°	30°	30°	30°	30°	15°	30°
Coolant	 	 		 	 	 	 
Operations	 	 	 	 		  	  
Flutes and margin							
Corner chamfer							
Shank							

* See page in the Kennametal Master Catalogue 2018 • Volume Two • Rotating Tools, A-16-05217.

- Primary
- Secondary

TOOL SELECTION GUIDE • VERSATILE DRILLS

	G0drill™	G0drill	Kenna Universal™ Drills	Kenna Universal Drills
				
				
Series	B041A_CPG B042A_CPG	B051A_CPG B052A_CPG B053A_CPG	B966A B967A	B976A B977A B978A
Page	G8*	G18*	G132*	G138/G146*
Workpiece material				
Primary	P M K N S	P M K N S	P K	P K
Secondary	H	H	M N S	M N S
Hole tolerance	IT9–IT10	IT9–IT10	IT9–IT10	IT9–IT10
Standard range				
Cutting diameter [D1]	1,0–20,0mm	1,0–20,0mm	3,0–20,0mm	2,4–20,0mm
Drill length [L4 max]	5,0–77,0mm	5,0–124,0mm	14,0–85,0mm	12,0–124,0mm
Drilling depth L/D1	3–5 x D	3–8 x D	3–5 x D	3–8 x D
Point angle	140°	140°	140°	140°/132°
Flute angle	30°	30°	30°	30°
Coolant			 	 
Operations			   	   
Flutes and margin				
Corner chamfer				
Shank	 	 	 	 

* See page in the Kennametal Master Catalogue 2018 • Volume Two • Rotating Tools, A-16-05217.

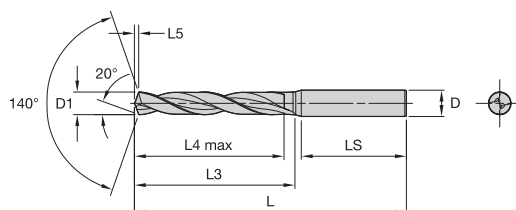
- Primary
- Secondary

Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



B	22	1	A	03000	HPX
Style	Drill Series	Length/ Coolant	Shank	Diameter	Point Geometry/ Application
B = Metric K = Inch	22* = Steel Drills	1 = ~3 x D non-coolant 2 = ~5 x D non-coolant 4 = ~3 x D internal coolant 5 = ~5 x D internal coolant 6 = ~8 x D internal coolant	A = Form HA, straight round shank F = Form FE, Whistle Notch 2° (B series DIN 6535–2mm steps)	03000 = 3mm 06350 = 1/4" = E = 6,35mm	HPX = Next generation HP point for steel

HPX • B221 • 3 X D



● first choice

○ alternate choice

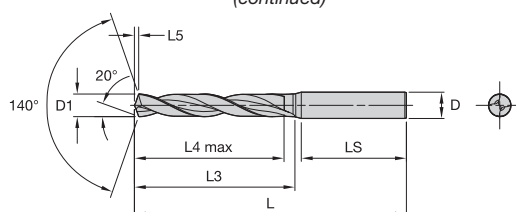
P	●
M	●
K	●
N	●
S	●
H	●

catalogue number	D1	L	L3	L4 max	L5	LS	D	KCP15B
B221A03000HPX	3,00	62	20	14	0,7	36	6	●
B221A03048HPX	3,05	62	20	14	0,7	36	6	●
B221A03100HPX	3,10	62	20	14	0,7	36	6	●
B221A03175HPX	3,18	62	20	14	0,7	36	6	●
B221A03200HPX	3,20	62	20	14	0,7	36	6	●
B221A03264HPX	3,26	62	20	14	0,8	36	6	●
B221A03300HPX	3,30	62	20	14	0,8	36	6	●
B221A03400HPX	3,40	62	20	14	0,8	36	6	●
B221A03455HPX	3,46	62	20	14	0,8	36	6	●
B221A03500HPX	3,50	62	20	14	0,8	36	6	●
B221A03571HPX	3,57	62	20	14	0,8	36	6	●
B221A03600HPX	3,60	62	20	14	0,8	36	6	●
B221A03658HPX	3,66	62	20	14	0,8	36	6	●
B221A03700HPX	3,70	62	20	14	0,8	36	6	●
B221A03800HPX	3,80	66	24	17	0,9	36	6	●
B221A03900HPX	3,90	66	24	17	0,9	36	6	●
B221A03970HPX	3,97	66	24	17	0,9	36	6	●
B221A04000HPX	4,00	66	24	17	0,9	36	6	●
B221A04039HPX	4,04	66	24	17	0,9	36	6	●
B221A04100HPX	4,10	66	24	17	0,9	36	6	●
B221A04200HPX	4,20	66	24	17	0,9	36	6	●
B221A04217HPX	4,22	66	24	17	1,0	36	6	●
B221A04300HPX	4,30	66	24	17	1,0	36	6	●
B221A04366HPX	4,37	66	24	17	1,0	36	6	●
B221A04400HPX	4,40	66	24	17	1,0	36	6	●
B221A04500HPX	4,50	66	24	17	1,0	36	6	●
B221A04600HPX	4,60	66	24	17	1,0	36	6	●
B221A04623HPX	4,62	66	24	17	1,0	36	6	●
B221A04700HPX	4,70	66	24	17	1,1	36	6	●
B221A04763HPX	4,76	66	28	20	1,1	36	6	●
B221A04800HPX	4,80	66	28	20	1,1	36	6	●
B221A04852HPX	4,85	66	28	20	1,1	36	6	●
B221A04900HPX	4,90	66	28	20	1,1	36	6	●
B221A05000HPX	5,00	66	28	20	1,1	36	6	●
B221A05100HPX	5,10	66	28	20	1,1	36	6	●
B221A05106HPX	5,11	66	28	20	1,1	36	6	●
B221A05159HPX	5,16	66	28	20	1,1	36	6	●
B221A05200HPX	5,20	66	28	20	1,2	36	6	●
B221A05300HPX	5,30	66	28	20	1,2	36	6	●
B221A05400HPX	5,40	66	28	20	1,2	36	6	●
B221A05410HPX	5,41	66	28	20	1,2	36	6	●
B221A05500HPX	5,50	66	28	20	1,2	36	6	●
B221A05558HPX	5,56	66	28	20	1,2	36	6	●
B221A05600HPX	5,60	66	28	20	1,2	36	6	●
B221A05700HPX	5,70	66	28	20	1,3	36	6	●
B221A05791HPX	5,79	66	28	20	1,3	36	6	●
B221A05800HPX	5,80	66	28	20	1,3	36	6	●
B221A05900HPX	5,90	66	28	20	1,3	36	6	●
B221A05954HPX	5,95	66	28	20	1,3	36	6	●
B221A06000HPX	6,00	66	28	20	1,3	36	6	●
B221A06100HPX	6,10	79	34	24	1,3	36	8	●
B221A06200HPX	6,20	79	34	24	1,4	36	8	●
B221A06300HPX	6,30	79	34	24	1,4	36	8	●
B221A06350HPX	6,35	79	34	24	1,4	36	8	●
B221A06400HPX	6,40	79	34	24	1,4	36	8	●
B221A06500HPX	6,50	79	34	24	1,4	36	8	●
B221A06528HPX	6,53	79	34	24	1,4	36	8	●
B221A06600HPX	6,60	79	34	24	1,4	36	8	●
B221A06700HPX	6,70	79	34	24	1,5	36	8	●
B221A06746HPX	6,75	79	34	24	1,5	36	8	●

				NOVO
154	156	10	4	160

HPX • B221 • 3 X D

(continued)



● first choice

○ alternate choice

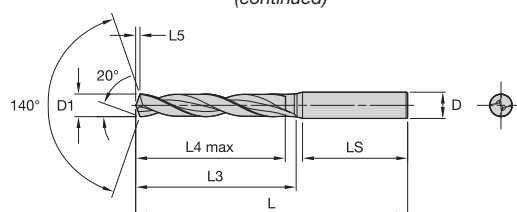
P		
M		
K		
N		
S		
H		

catalogue number	D1	L	L3	L4 max	L5	LS	D	KCP15B
B221A06800HPX	6,80	79	34	24	1,5	36	8	●
B221A06900HPX	6,90	79	34	24	1,5	36	8	●
B221A07000HPX	7,00	79	34	24	1,5	36	8	●
B221A07100HPX	7,10	79	41	29	1,5	36	8	●
B221A07145HPX	7,15	79	41	29	1,6	36	8	●
B221A07200HPX	7,20	79	41	29	1,6	36	8	●
B221A07300HPX	7,30	79	41	29	1,6	36	8	●
B221A07400HPX	7,40	79	41	29	1,6	36	8	●
B221A07500HPX	7,50	79	41	29	1,6	36	8	●
B221A07541HPX	7,54	79	41	29	1,6	36	8	●
B221A07600HPX	7,60	79	41	29	1,6	36	8	●
B221A07700HPX	7,70	79	41	29	1,7	36	8	●
B221A07800HPX	7,80	79	41	29	1,7	36	8	●
B221A07900HPX	7,90	79	41	29	1,7	36	8	●
B221A07938HPX	7,94	79	41	29	1,7	36	8	●
B221A08000HPX	8,00	79	41	29	1,7	36	8	●
B221A08100HPX	8,10	89	47	35	1,7	40	10	●
B221A08200HPX	8,20	89	47	35	1,8	40	10	●
B221A08300HPX	8,30	89	47	35	1,8	40	10	●
B221A08334HPX	8,33	89	47	35	1,8	40	10	●
B221A08400HPX	8,40	89	47	35	1,8	40	10	●
B221A08500HPX	8,50	89	47	35	1,8	40	10	●
B221A08600HPX	8,60	89	47	35	1,8	40	10	●
B221A08700HPX	8,70	89	47	35	1,9	40	10	●
B221A08733HPX	8,73	89	47	35	1,9	40	10	●
B221A08800HPX	8,80	89	47	35	1,9	40	10	●
B221A08900HPX	8,90	89	47	35	1,9	40	10	●
B221A09000HPX	9,00	89	47	35	1,9	40	10	●
B221A09100HPX	9,10	89	47	35	1,9	40	10	●
B221A09129HPX	9,13	89	47	35	2,0	40	10	●
B221A09200HPX	9,20	89	47	35	2,0	40	10	●
B221A09300HPX	9,30	89	47	35	2,0	40	10	●
B221A09347HPX	9,35	89	47	35	2,0	40	10	●
B221A09400HPX	9,40	89	47	35	2,0	40	10	●
B221A09500HPX	9,50	89	47	35	2,0	40	10	●
B221A09525HPX	9,53	89	47	35	2,0	40	10	●
B221A09600HPX	9,60	89	47	35	2,0	40	10	●
B221A09700HPX	9,70	89	47	35	2,1	40	10	●
B221A09800HPX	9,80	89	47	35	2,1	40	10	●
B221A09900HPX	9,90	89	47	35	2,1	40	10	●
B221A09921HPX	9,92	89	47	35	2,1	40	10	●
B221A10000HPX	10,00	89	47	35	2,1	40	10	●
B221A10100HPX	10,10	102	55	40	2,1	45	12	●
B221A10200HPX	10,20	102	55	40	2,2	45	12	●
B221A10300HPX	10,30	102	55	40	2,2	45	12	●
B221A10320HPX	10,32	102	55	40	2,2	45	12	●
B221A10400HPX	10,40	102	55	40	2,2	45	12	●
B221A10500HPX	10,50	102	55	40	2,2	45	12	●
B221A10600HPX	10,60	102	55	40	2,2	45	12	●
B221A10700HPX	10,70	102	55	40	2,3	45	12	●
B221A10716HPX	10,72	102	55	40	2,3	45	12	●
B221A10800HPX	10,80	102	55	40	2,3	45	12	●
B221A11000HPX	11,00	102	55	40	2,3	45	12	●
B221A11100HPX	11,10	102	55	40	2,3	45	12	●
B221A11113HPX	11,11	102	55	40	2,3	45	12	●
B221A11200HPX	11,20	102	55	40	2,4	45	12	●
B221A11300HPX	11,30	102	55	40	2,4	45	12	●
B221A11400HPX	11,40	102	55	40	2,4	45	12	●
B221A11500HPX	11,50	102	55	40	2,4	45	12	●
B221A11509HPX	11,51	102	55	40	2,4	45	12	●

				NOVO
154	156	10	4	160

HPX • B221 • 3 X D

(continued)



● first choice

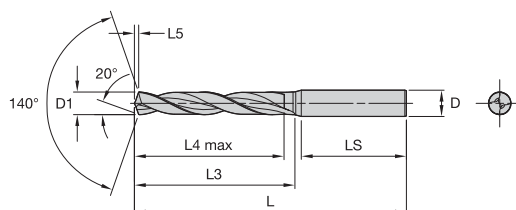
○ alternate choice

P	●
M	●
K	●
N	●
S	●
H	●

catalogue number	D1	L	L3	L4 max	L5	LS	D	KCP15B
B221A11600HPX	11,60	102	55	40	2,4	45	12	●
B221A11700HPX	11,70	102	55	40	2,5	45	12	●
B221A11800HPX	11,80	102	55	40	2,5	45	12	●
B221A11900HPX	11,90	102	55	40	2,5	45	12	●
B221A11908HPX	11,91	102	55	40	2,5	45	12	●
B221A12000HPX	12,00	102	55	40	2,5	45	12	●
B221A12100HPX	12,10	107	60	43	2,5	45	14	●
B221A12200HPX	12,20	107	60	43	2,6	45	14	●
B221A12300HPX	12,30	107	60	43	2,6	45	14	●
B221A12304HPX	12,30	107	60	43	2,6	45	14	●
B221A12400HPX	12,40	107	60	43	2,6	45	14	●
B221A12500HPX	12,50	107	60	43	2,6	45	14	●
B221A12600HPX	12,60	107	60	43	2,6	45	14	●
B221A12700HPX	12,70	107	60	43	2,7	45	14	●
B221A12800HPX	12,80	107	60	43	2,7	45	14	●
B221A12900HPX	12,90	107	60	43	2,7	45	14	●
B221A13000HPX	13,00	107	60	43	2,7	45	14	●
B221A13100HPX	13,10	107	60	43	2,7	45	14	●
B221A13300HPX	13,30	107	60	43	2,8	45	14	●
B221A13500HPX	13,50	107	60	43	2,8	45	14	●
B221A13700HPX	13,70	107	60	43	2,9	45	14	●
B221A13800HPX	13,80	107	60	43	2,9	45	14	●
B221A14000HPX	14,00	107	60	43	2,9	45	14	●
B221A14100HPX	14,10	115	65	45	2,9	48	16	●
B221A14200HPX	14,20	115	65	45	3,0	48	16	●
B221A14288HPX	14,29	115	65	45	3,0	48	16	●
B221A14300HPX	14,30	115	65	45	3,0	48	16	●
B221A14500HPX	14,50	115	65	45	3,0	48	16	●
B221A14600HPX	14,60	115	65	45	3,0	48	16	●
B221A14700HPX	14,70	115	65	45	3,1	48	16	●
B221A15000HPX	15,00	115	65	45	3,1	48	16	●
B221A15100HPX	15,10	115	65	45	3,1	48	16	●
B221A15300HPX	15,30	115	65	45	3,2	48	16	●
B221A15500HPX	15,50	115	65	45	3,2	48	16	●
B221A15600HPX	15,60	115	65	45	3,2	48	16	●
B221A15700HPX	15,70	115	65	45	3,3	48	16	●
B221A15800HPX	15,80	115	65	45	3,3	48	16	●
B221A15875HPX	15,88	115	65	45	3,3	48	16	●
B221A16000HPX	16,00	115	65	45	3,3	48	16	●
B221A16500HPX	16,50	123	73	51	3,4	48	18	●
B221A17000HPX	17,00	123	73	51	3,5	48	18	●
B221A17463HPX	17,46	123	73	51	3,6	48	18	●
B221A17500HPX	17,50	123	73	51	3,6	48	18	●
B221A17700HPX	17,70	123	73	51	3,7	48	18	●
B221A18000HPX	18,00	123	73	51	3,7	48	18	●
B221A18500HPX	18,50	131	79	55	3,8	50	20	●
B221A19000HPX	19,00	131	79	55	3,9	50	20	●
B221A19050HPX	19,05	131	79	55	3,9	50	20	●
B221A19500HPX	19,50	131	79	55	4,0	50	20	●
B221A20000HPX	20,00	131	79	55	4,1	50	20	●

				NOVO
154	156	10	4	160

HPX • B222 • 5 X D



● first choice

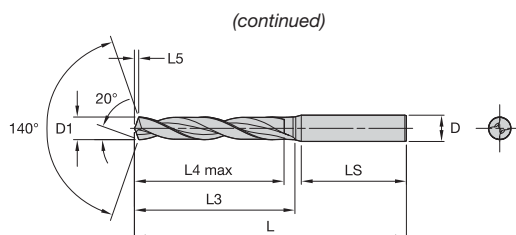
○ alternate choice

P	●
M	●
K	●
N	●
S	●
H	●

catalogue number	D1	L	L3	L4 max	L5	LS	D	KCP15B
B222A03000HPX	3,00	66	28	23	0,7	36	6	●
B222A03048HPX	3,05	66	28	23	0,7	36	6	●
B222A03100HPX	3,10	66	28	23	0,7	36	6	●
B222A03175HPX	3,18	66	28	23	0,7	36	6	●
B222A03200HPX	3,20	66	28	23	0,7	36	6	●
B222A03264HPX	3,26	66	28	23	0,8	36	6	●
B222A03300HPX	3,30	66	28	23	0,8	36	6	●
B222A03400HPX	3,40	66	28	23	0,8	36	6	●
B222A03455HPX	3,46	66	28	23	0,8	36	6	●
B222A03500HPX	3,50	66	28	23	0,8	36	6	●
B222A03571HPX	3,57	66	28	23	0,8	36	6	●
B222A03600HPX	3,60	66	28	23	0,8	36	6	●
B222A03700HPX	3,70	66	28	23	0,8	36	6	●
B222A03800HPX	3,80	74	36	29	0,9	36	6	●
B222A03900HPX	3,90	74	36	29	0,9	36	6	●
B222A03970HPX	3,97	74	36	29	0,9	36	6	●
B222A04000HPX	4,00	74	36	29	0,9	36	6	●
B222A04100HPX	4,10	74	36	29	0,9	36	6	●
B222A04200HPX	4,20	74	36	29	0,9	36	6	●
B222A04300HPX	4,30	74	36	29	1,0	36	6	●
B222A04400HPX	4,40	74	36	29	1,0	36	6	●
B222A04500HPX	4,50	74	36	29	1,0	36	6	●
B222A04600HPX	4,60	74	36	29	1,0	36	6	●
B222A04700HPX	4,70	74	36	29	1,1	36	6	●
B222A04763HPX	4,76	82	44	35	1,1	36	6	●
B222A04800HPX	4,80	82	44	35	1,1	36	6	●
B222A04900HPX	4,90	82	44	35	1,1	36	6	●
B222A05000HPX	5,00	82	44	35	1,1	36	6	●
B222A05100HPX	5,10	82	44	35	1,1	36	6	●
B222A05106HPX	5,11	82	44	35	1,1	36	6	●
B222A05159HPX	5,16	82	44	35	1,1	36	6	●
B222A05200HPX	5,20	82	44	35	1,2	36	6	●
B222A05300HPX	5,30	82	44	35	1,2	36	6	●
B222A05400HPX	5,40	82	44	35	1,2	36	6	●
B222A05410HPX	5,41	82	44	35	1,2	36	6	●
B222A05500HPX	5,50	82	44	35	1,2	36	6	●
B222A05558HPX	5,56	82	44	35	1,2	36	6	●
B222A05600HPX	5,60	82	44	35	1,2	36	6	●
B222A05700HPX	5,70	82	44	35	1,3	36	6	●
B222A05791HPX	5,79	82	44	35	1,3	36	6	●
B222A05800HPX	5,80	82	44	35	1,3	36	6	●
B222A05900HPX	5,90	82	44	35	1,3	36	6	●
B222A06000HPX	6,00	82	44	35	1,3	36	6	●
B222A06100HPX	6,10	91	53	43	1,3	36	8	●
B222A06200HPX	6,20	91	53	43	1,4	36	8	●
B222A06300HPX	6,30	91	53	43	1,4	36	8	●
B222A06350HPX	6,35	91	53	43	1,4	36	8	●
B222A06400HPX	6,40	91	53	43	1,4	36	8	●
B222A06500HPX	6,50	91	53	43	1,4	36	8	●
B222A06600HPX	6,60	91	53	43	1,4	36	8	●
B222A06700HPX	6,70	91	53	43	1,5	36	8	●
B222A06746HPX	6,75	91	53	43	1,5	36	8	●
B222A06800HPX	6,80	91	53	43	1,5	36	8	●
B222A06900HPX	6,90	91	53	43	1,5	36	8	●
B222A07000HPX	7,00	91	53	43	1,5	36	8	●
B222A07100HPX	7,10	91	53	43	1,5	36	8	●
B222A07145HPX	7,15	91	53	43	1,6	36	8	●
B222A07200HPX	7,20	91	53	43	1,6	36	8	●
B222A07300HPX	7,30	91	53	43	1,6	36	8	●
B222A07400HPX	7,40	91	53	43	1,6	36	8	●

				NOVO
154	156	10	4	160

HPX • B222 • 5 X D



● first choice

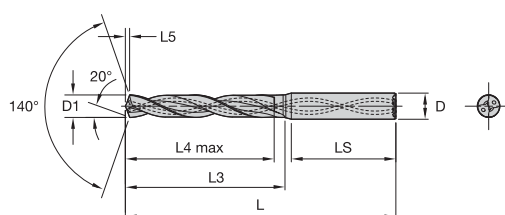
○ alternate choice

P	●
M	●
K	●
N	●
S	●
H	●

catalogue number	D1	L	L3	L4 max	L5	LS	D	KCP15B
B222A07500HPX	7,50	91	53	43	1,6	36	8	●
B222A07541HPX	7,54	91	53	43	1,6	36	8	●
B222A07800HPX	7,80	91	53	43	1,7	36	8	●
B222A07938HPX	7,94	91	53	43	1,7	36	8	●
B222A08000HPX	8,00	91	53	43	1,7	36	8	●
B222A08100HPX	8,10	103	61	49	1,7	40	10	●
B222A08200HPX	8,20	103	61	49	1,8	40	10	●
B222A08334HPX	8,33	103	61	49	1,8	40	10	●
B222A08500HPX	8,50	103	61	49	1,8	40	10	●
B222A08700HPX	8,70	103	61	49	1,9	40	10	●
B222A08733HPX	8,73	103	61	49	1,9	40	10	●
B222A08800HPX	8,80	103	61	49	1,9	40	10	●
B222A09000HPX	9,00	103	61	49	1,9	40	10	●
B222A09129HPX	9,13	103	61	49	2,0	40	10	●
B222A09400HPX	9,40	103	61	49	2,0	40	10	●
B222A09500HPX	9,50	103	61	49	2,0	40	10	●
B222A09525HPX	9,53	103	61	49	2,0	40	10	●
B222A09800HPX	9,80	103	61	49	2,1	40	10	●
B222A10000HPX	10,00	103	61	49	2,1	40	10	●
B222A10200HPX	10,20	118	71	56	2,2	45	12	●
B222A10300HPX	10,30	118	71	56	2,2	45	12	●
B222A10320HPX	10,32	118	71	56	2,2	45	12	●
B222A10500HPX	10,50	118	71	56	2,2	45	12	●
B222A10716HPX	10,72	118	71	56	2,3	45	12	●
B222A10800HPX	10,80	118	71	56	2,3	45	12	●
B222A11000HPX	11,00	118	71	56	2,3	45	12	●
B222A11113HPX	11,11	118	71	56	2,3	45	12	●
B222A11500HPX	11,50	118	71	56	2,4	45	12	●
B222A11509HPX	11,51	118	71	56	2,4	45	12	●
B222A12000HPX	12,00	118	71	56	2,5	45	12	●
B222A12500HPX	12,50	124	77	60	2,6	45	14	●
B222A12700HPX	12,70	124	77	60	2,7	45	14	●
B222A13000HPX	13,00	124	77	60	2,7	45	14	●
B222A13500HPX	13,50	124	77	60	2,8	45	14	●
B222A14000HPX	14,00	124	77	60	2,9	45	14	●
B222A14288HPX	14,29	133	83	63	3,0	48	16	●
B222A14500HPX	14,50	133	83	63	3,0	48	16	●
B222A15000HPX	15,00	133	83	63	3,1	48	16	●
B222A15500HPX	15,50	133	83	63	3,2	48	16	●
B222A15875HPX	15,88	133	83	63	3,3	48	16	●
B222A16000HPX	16,00	133	83	63	3,3	48	16	●
B222A16500HPX	16,50	143	93	71	3,4	48	18	●
B222A17000HPX	17,00	143	93	71	3,5	48	18	●
B222A17500HPX	17,50	143	93	71	3,6	48	18	●
B222A18000HPX	18,00	143	93	71	3,7	48	18	●
B222A18500HPX	18,50	153	101	77	3,8	50	20	●
B222A19000HPX	19,00	153	101	77	3,9	50	20	●
B222A20000HPX	20,00	153	101	77	4,1	50	20	●

154	156	10	4	160

HPX • B224 • 3 X D • THROUGH COOLANT



● first choice

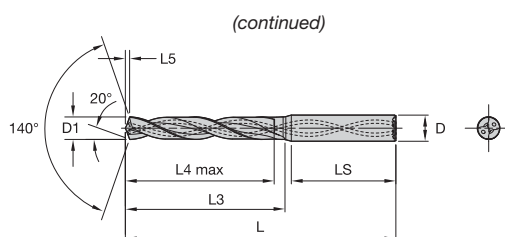
○ alternate choice

P	●
M	●
K	●
N	●
S	●
H	●

catalogue number	D1	L	L3	L4 max	L5	LS	D	KCP15B
B224A03000HPX	3,00	62	20	14	0,7	36	6	●
B224A03048HPX	3,05	62	20	14	0,7	36	6	●
B224A03100HPX	3,10	62	20	14	0,7	36	6	●
B224A03175HPX	3,18	62	20	14	0,7	36	6	●
B224A03200HPX	3,20	62	20	14	0,7	36	6	●
B224A03264HPX	3,26	62	20	14	0,8	36	6	●
B224A03300HPX	3,30	62	20	14	0,8	36	6	●
B224A03400HPX	3,40	62	20	14	0,8	36	6	●
B224A03455HPX	3,46	62	20	14	0,8	36	6	●
B224A03500HPX	3,50	62	20	14	0,8	36	6	●
B224A03571HPX	3,57	62	20	14	0,8	36	6	●
B224A03600HPX	3,60	62	20	14	0,8	36	6	●
B224A03658HPX	3,66	62	20	14	0,8	36	6	●
B224A03700HPX	3,70	62	20	14	0,8	36	6	●
B224A03800HPX	3,80	66	24	17	0,9	36	6	●
B224A03900HPX	3,90	66	24	17	0,9	36	6	●
B224A03970HPX	3,97	66	24	17	0,9	36	6	●
B224A04000HPX	4,00	66	24	17	0,9	36	6	●
B224A04100HPX	4,10	66	24	17	0,9	36	6	●
B224A04200HPX	4,20	66	24	17	0,9	36	6	●
B224A04217HPX	4,22	66	24	17	1,0	36	6	●
B224A04300HPX	4,30	66	24	17	1,0	36	6	●
B224A04400HPX	4,40	66	24	17	1,0	36	6	●
B224A04500HPX	4,50	66	24	17	1,0	36	6	●
B224A04600HPX	4,60	66	24	17	1,0	36	6	●
B224A04700HPX	4,70	66	24	17	1,1	36	6	●
B224A04763HPX	4,76	66	28	20	1,1	36	6	●
B224A04800HPX	4,80	66	28	20	1,1	36	6	●
B224A04852HPX	4,85	66	28	20	1,1	36	6	●
B224A04900HPX	4,90	66	28	20	1,1	36	6	●
B224A05000HPX	5,00	66	28	20	1,1	36	6	●
B224A05100HPX	5,10	66	28	20	1,1	36	6	●
B224A05106HPX	5,11	66	28	20	1,1	36	6	●
B224A05159HPX	5,16	66	28	20	1,1	36	6	●
B224A05200HPX	5,20	66	28	20	1,2	36	6	●
B224A05300HPX	5,30	66	28	20	1,2	36	6	●
B224A05400HPX	5,40	66	28	20	1,2	36	6	●
B224A05410HPX	5,41	66	28	20	1,2	36	6	●
B224A05500HPX	5,50	66	28	20	1,2	36	6	●
B224A05558HPX	5,56	66	28	20	1,2	36	6	●
B224A05600HPX	5,60	66	28	20	1,2	36	6	●
B224A05700HPX	5,70	66	28	20	1,3	36	6	●
B224A05791HPX	5,79	66	28	20	1,3	36	6	●
B224A05800HPX	5,80	66	28	20	1,3	36	6	●
B224A05900HPX	5,90	66	28	20	1,3	36	6	●
B224A06000HPX	6,00	66	28	20	1,3	36	6	●
B224A06100HPX	6,10	79	34	24	1,3	36	8	●
B224A06200HPX	6,20	79	34	24	1,4	36	8	●
B224A06300HPX	6,30	79	34	24	1,4	36	8	●
B224A06350HPX	6,35	79	34	24	1,4	36	8	●
B224A06400HPX	6,40	79	34	24	1,4	36	8	●
B224A06500HPX	6,50	79	34	24	1,4	36	8	●
B224A06600HPX	6,60	79	34	24	1,4	36	8	●
B224A06700HPX	6,70	79	34	24	1,5	36	8	●
B224A06746HPX	6,75	79	34	24	1,5	36	8	●
B224A06800HPX	6,80	79	34	24	1,5	36	8	●
B224A07000HPX	7,00	79	34	24	1,5	36	8	●
B224A07100HPX	7,10	79	41	29	1,5	36	8	●
B224A07145HPX	7,15	79	41	29	1,6	36	8	●
B224A07200HPX	7,20	79	41	29	1,6	36	8	●

154	156	10	4	160

HPX • B224 • 3 X D • THROUGH COOLANT



● first choice

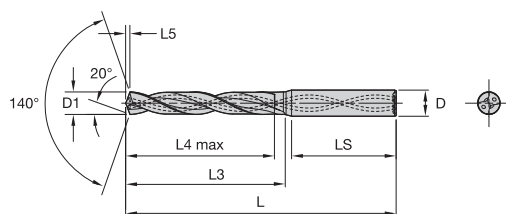
○ alternate choice

P	●
M	●
K	●
N	●
S	●
H	●

catalogue number	D1	L	L3	L4 max	L5	LS	D	KCP15B
B224A07300HPX	7,30	79	41	29	1,6	36	8	●
B224A07400HPX	7,40	79	41	29	1,6	36	8	●
B224A07500HPX	7,50	79	41	29	1,6	36	8	●
B224A07541HPX	7,54	79	41	29	1,6	36	8	●
B224A07800HPX	7,80	79	41	29	1,7	36	8	●
B224A07938HPX	7,94	79	41	29	1,7	36	8	●
B224A08000HPX	8,00	79	41	29	1,7	36	8	●
B224A08100HPX	8,10	89	47	35	1,7	40	10	●
B224A08200HPX	8,20	89	47	35	1,8	40	10	●
B224A08334HPX	8,33	89	47	35	1,8	40	10	●
B224A08500HPX	8,50	89	47	35	1,8	40	10	●
B224A08700HPX	8,70	89	47	35	1,9	40	10	●
B224A08733HPX	8,73	89	47	35	1,9	40	10	●
B224A08800HPX	8,80	89	47	35	1,9	40	10	●
B224A09000HPX	9,00	89	47	35	1,9	40	10	●
B224A09100HPX	9,10	89	47	35	1,9	40	10	●
B224A09129HPX	9,13	89	47	35	2,0	40	10	●
B224A09400HPX	9,40	89	47	35	2,0	40	10	●
B224A09500HPX	9,50	89	47	35	2,0	40	10	●
B224A09525HPX	9,53	89	47	35	2,0	40	10	●
B224A09800HPX	9,80	89	47	35	2,1	40	10	●
B224A10000HPX	10,00	89	47	35	2,1	40	10	●
B224A10200HPX	10,20	102	55	40	2,2	45	12	●
B224A10300HPX	10,30	102	55	40	2,2	45	12	●
B224A10320HPX	10,32	102	55	40	2,2	45	12	●
B224A10500HPX	10,50	102	55	40	2,2	45	12	●
B224A10716HPX	10,72	102	55	40	2,3	45	12	●
B224A10800HPX	10,80	102	55	40	2,3	45	12	●
B224A11000HPX	11,00	102	55	40	2,3	45	12	●
B224A11113HPX	11,11	102	55	40	2,3	45	12	●
B224A11500HPX	11,50	102	55	40	2,4	45	12	●
B224A11509HPX	11,51	102	55	40	2,4	45	12	●
B224A12000HPX	12,00	102	55	40	2,5	45	12	●
B224A12500HPX	12,50	107	60	43	2,6	45	14	●
B224A12700HPX	12,70	107	60	43	2,7	45	14	●
B224A13000HPX	13,00	107	60	43	2,7	45	14	●
B224A13500HPX	13,50	107	60	43	2,8	45	14	●
B224A14000HPX	14,00	107	60	43	2,9	45	14	●
B224A14288HPX	14,29	115	65	45	3,0	48	16	●
B224A14500HPX	14,50	115	65	45	3,0	48	16	●
B224A15000HPX	15,00	115	65	45	3,1	48	16	●
B224A15500HPX	15,50	115	65	45	3,2	48	16	●
B224A15875HPX	15,88	115	65	45	3,3	48	16	●
B224A16000HPX	16,00	115	65	45	3,3	48	16	●
B224A16500HPX	16,50	123	73	51	3,4	48	18	●
B224A17000HPX	17,00	123	73	51	3,5	48	18	●
B224A17500HPX	17,50	123	73	51	3,6	48	18	●
B224A18000HPX	18,00	123	73	51	3,7	48	18	●
B224A18500HPX	18,50	131	79	55	3,8	50	20	●
B224A19000HPX	19,00	131	79	55	3,9	50	20	●
B224A20000HPX	20,00	131	79	55	4,1	50	20	●

154	156	10	4	160

HPX • B225 • 5 X D • THROUGH COOLANT



● first choice

○ alternate choice

P	●
M	●
K	●
N	●
S	●
H	●

catalogue number	D1	L	L3	L4 max	L5	LS	D	KCP15B
B225A03000HPX	3,00	66	28	23	0,7	36	6	●
B225A03048HPX	3,05	66	28	23	0,7	36	6	●
B225A03100HPX	3,10	66	28	23	0,7	36	6	●
B225A03175HPX	3,18	66	28	23	0,7	36	6	●
B225A03200HPX	3,20	66	28	23	0,7	36	6	●
B225A03264HPX	3,26	66	28	23	0,8	36	6	●
B225A03300HPX	3,30	66	28	23	0,8	36	6	●
B225A03400HPX	3,40	66	28	23	0,8	36	6	●
B225A03455HPX	3,46	66	28	23	0,8	36	6	●
B225A03500HPX	3,50	66	28	23	0,8	36	6	●
B225A03571HPX	3,57	66	28	23	0,8	36	6	●
B225A03600HPX	3,60	66	28	23	0,8	36	6	●
B225A03700HPX	3,70	66	28	23	0,8	36	6	●
B225A03800HPX	3,80	74	36	29	0,9	36	6	●
B225A03900HPX	3,90	74	36	29	0,9	36	6	●
B225A03970HPX	3,97	74	36	29	0,9	36	6	●
B225A04000HPX	4,00	74	36	29	0,9	36	6	●
B225A04039HPX	4,04	74	36	29	0,9	36	6	●
B225A04100HPX	4,10	74	36	29	0,9	36	6	●
B225A04200HPX	4,20	74	36	29	0,9	36	6	●
B225A04300HPX	4,30	74	36	29	1,0	36	6	●
B225A04366HPX	4,37	74	36	29	1,0	36	6	●
B225A04400HPX	4,40	74	36	29	1,0	36	6	●
B225A04500HPX	4,50	74	36	29	1,0	36	6	●
B225A04600HPX	4,60	74	36	29	1,0	36	6	●
B225A04700HPX	4,70	74	36	29	1,1	36	6	●
B225A04763HPX	4,76	82	44	35	1,1	36	6	●
B225A04800HPX	4,80	82	44	35	1,1	36	6	●
B225A04900HPX	4,90	82	44	35	1,1	36	6	●
B225A05000HPX	5,00	82	44	35	1,1	36	6	●
B225A05100HPX	5,10	82	44	35	1,1	36	6	●
B225A05106HPX	5,11	82	44	35	1,1	36	6	●
B225A05159HPX	5,16	82	44	35	1,1	36	6	●
B225A05200HPX	5,20	82	44	35	1,2	36	6	●
B225A05300HPX	5,30	82	44	35	1,2	36	6	●
B225A05400HPX	5,40	82	44	35	1,2	36	6	●
B225A05410HPX	5,41	82	44	35	1,2	36	6	●
B225A05500HPX	5,50	82	44	35	1,2	36	6	●
B225A05558HPX	5,56	82	44	35	1,2	36	6	●
B225A05600HPX	5,60	82	44	35	1,2	36	6	●
B225A05700HPX	5,70	82	44	35	1,3	36	6	●
B225A05791HPX	5,79	82	44	35	1,3	36	6	●
B225A05800HPX	5,80	82	44	35	1,3	36	6	●
B225A05900HPX	5,90	82	44	35	1,3	36	6	●
B225A05954HPX	5,95	82	44	35	1,3	36	6	●
B225A06000HPX	6,00	82	44	35	1,3	36	6	●
B225A06100HPX	6,10	91	53	43	1,3	36	8	●
B225A06200HPX	6,20	91	53	43	1,4	36	8	●
B225A06300HPX	6,30	91	53	43	1,4	36	8	●
B225A06350HPX	6,35	91	53	43	1,4	36	8	●
B225A06400HPX	6,40	91	53	43	1,4	36	8	●
B225A06500HPX	6,50	91	53	43	1,4	36	8	●
B225A06528HPX	6,53	91	53	43	1,4	36	8	●
B225A06600HPX	6,60	91	53	43	1,4	36	8	●
B225A06700HPX	6,70	91	53	43	1,5	36	8	●
B225A06746HPX	6,75	91	53	43	1,5	36	8	●
B225A06800HPX	6,80	91	53	43	1,5	36	8	●
B225A06900HPX	6,90	91	53	43	1,5	36	8	●
B225A07000HPX	7,00	91	53	43	1,5	36	8	●
B225A07100HPX	7,10	91	53	43	1,5	36	8	●

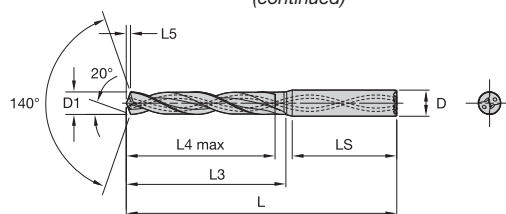
154	156	10	4	160

HPX • B225 • 5 X D • THROUGH COOLANT

(continued)

● first choice

○ alternate choice



P	●
M	●
K	●
N	●
S	●
H	●

catalogue number	D1	L	L3	L4 max	L5	LS	D	KCP15B
B225A07145HPX	7,15	91	53	43	1,6	36	8	●
B225A07200HPX	7,20	91	53	43	1,6	36	8	●
B225A07300HPX	7,30	91	53	43	1,6	36	8	●
B225A07400HPX	7,40	91	53	43	1,6	36	8	●
B225A07500HPX	7,50	91	53	43	1,6	36	8	●
B225A07541HPX	7,54	91	53	43	1,6	36	8	●
B225A07600HPX	7,60	91	53	43	1,6	36	8	●
B225A07700HPX	7,70	91	53	43	1,7	36	8	●
B225A07800HPX	7,80	91	53	43	1,7	36	8	●
B225A07900HPX	7,90	91	53	43	1,7	36	8	●
B225A07938HPX	7,94	91	53	43	1,7	36	8	●
B225A08000HPX	8,00	91	53	43	1,7	36	8	●
B225A08100HPX	8,10	103	61	49	1,7	40	10	●
B225A08200HPX	8,20	103	61	49	1,8	40	10	●
B225A08300HPX	8,30	103	61	49	1,8	40	10	●
B225A08334HPX	8,33	103	61	49	1,8	40	10	●
B225A08400HPX	8,40	103	61	49	1,8	40	10	●
B225A08500HPX	8,50	103	61	49	1,8	40	10	●
B225A08600HPX	8,60	103	61	49	1,8	40	10	●
B225A08700HPX	8,70	103	61	49	1,9	40	10	●
B225A08733HPX	8,73	103	61	49	1,9	40	10	●
B225A08800HPX	8,80	103	61	49	1,9	40	10	●
B225A08900HPX	8,90	103	61	49	1,9	40	10	●
B225A09000HPX	9,00	103	61	49	1,9	40	10	●
B225A09100HPX	9,10	103	61	49	1,9	40	10	●
B225A09129HPX	9,13	103	61	49	2,0	40	10	●
B225A09200HPX	9,20	103	61	49	2,0	40	10	●
B225A09300HPX	9,30	103	61	49	2,0	40	10	●
B225A09347HPX	9,35	103	61	49	2,0	40	10	●
B225A09400HPX	9,40	103	61	49	2,0	40	10	●
B225A09500HPX	9,50	103	61	49	2,0	40	10	●
B225A09525HPX	9,53	103	61	49	2,0	40	10	●
B225A09600HPX	9,60	103	61	49	2,0	40	10	●
B225A09700HPX	9,70	103	61	49	2,1	40	10	●
B225A09800HPX	9,80	103	61	49	2,1	40	10	●
B225A09900HPX	9,90	103	61	49	2,1	40	10	●
B225A09921HPX	9,92	103	61	49	2,1	40	10	●
B225A10000HPX	10,00	103	61	49	2,1	40	10	●
B225A10100HPX	10,10	118	71	56	2,1	45	12	●
B225A10200HPX	10,20	118	71	56	2,2	45	12	●
B225A10300HPX	10,30	118	71	56	2,2	45	12	●
B225A10320HPX	10,32	118	71	56	2,2	45	12	●
B225A10400HPX	10,40	118	71	56	2,2	45	12	●
B225A10500HPX	10,50	118	71	56	2,2	45	12	●
B225A10600HPX	10,60	118	71	56	2,2	45	12	●
B225A10700HPX	10,70	118	71	56	2,3	45	12	●
B225A10716HPX	10,72	118	71	56	2,3	45	12	●
B225A10800HPX	10,80	118	71	56	2,3	45	12	●
B225A11000HPX	11,00	118	71	56	2,3	45	12	●
B225A11100HPX	11,10	118	71	56	2,3	45	12	●
B225A11113HPX	11,11	118	71	56	2,3	45	12	●
B225A11200HPX	11,20	118	71	56	2,4	45	12	●
B225A11300HPX	11,30	118	71	56	2,4	45	12	●
B225A11400HPX	11,40	118	71	56	2,4	45	12	●
B225A11500HPX	11,50	118	71	56	2,4	45	12	●
B225A11509HPX	11,51	118	71	56	2,4	45	12	●
B225A11600HPX	11,60	118	71	56	2,4	45	12	●
B225A11700HPX	11,70	118	71	56	2,5	45	12	●
B225A11800HPX	11,80	118	71	56	2,5	45	12	●
B225A11900HPX	11,90	118	71	56	2,5	45	12	●

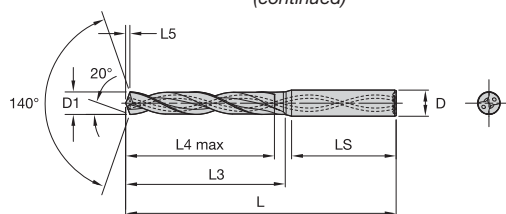
154	156	10	4	160

HPX • B225 • 5 X D • THROUGH COOLANT

(continued)

● first choice

○ alternate choice

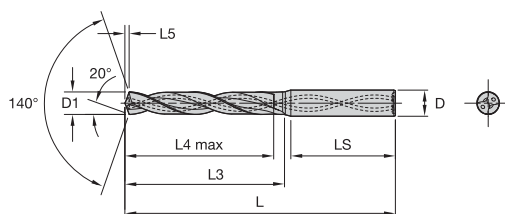


P	●
M	●
K	●
N	●
S	●
H	●

catalogue number	D1	L	L3	L4 max	L5	LS	D	KCP15B
B225A11908HPX	11,91	118	71	56	2,5	45	12	●
B225A12000HPX	12,00	118	71	56	2,5	45	12	●
B225A12100HPX	12,10	124	77	60	2,5	45	14	●
B225A12200HPX	12,20	124	77	60	2,6	45	14	●
B225A12300HPX	12,30	124	77	60	2,6	45	14	●
B225A12304HPX	12,30	124	77	60	2,6	45	14	●
B225A12400HPX	12,40	124	77	60	2,6	45	14	●
B225A12500HPX	12,50	124	77	60	2,6	45	14	●
B225A12600HPX	12,60	124	77	60	2,6	45	14	●
B225A12700HPX	12,70	124	77	60	2,7	45	14	●
B225A12800HPX	12,80	124	77	60	2,7	45	14	●
B225A12900HPX	12,90	124	77	60	2,7	45	14	●
B225A13000HPX	13,00	124	77	60	2,7	45	14	●
B225A13100HPX	13,10	124	77	60	2,7	45	14	●
B225A13300HPX	13,30	124	77	60	2,8	45	14	●
B225A13500HPX	13,50	124	77	60	2,8	45	14	●
B225A13700HPX	13,70	124	77	60	2,9	45	14	●
B225A13800HPX	13,80	124	77	60	2,9	45	14	●
B225A14000HPX	14,00	124	77	60	2,9	45	14	●
B225A14100HPX	14,10	133	83	63	2,9	48	16	●
B225A14200HPX	14,20	133	83	63	3,0	48	16	●
B225A14288HPX	14,29	133	83	63	3,0	48	16	●
B225A14300HPX	14,30	133	83	63	3,0	48	16	●
B225A14500HPX	14,50	133	83	63	3,0	48	16	●
B225A14600HPX	14,60	133	83	63	3,0	48	16	●
B225A14700HPX	14,70	133	83	63	3,1	48	16	●
B225A15000HPX	15,00	133	83	63	3,1	48	16	●
B225A15100HPX	15,10	133	83	63	3,1	48	16	●
B225A15300HPX	15,30	133	83	63	3,2	48	16	●
B225A15500HPX	15,50	133	83	63	3,2	48	16	●
B225A15600HPX	15,60	133	83	63	3,2	48	16	●
B225A15700HPX	15,70	133	83	63	3,3	48	16	●
B225A15800HPX	15,80	133	83	63	3,3	48	16	●
B225A15875HPX	15,88	133	83	63	3,3	48	16	●
B225A16000HPX	16,00	133	83	63	3,3	48	16	●
B225A16100HPX	16,10	143	93	71	3,3	48	18	●
B225A16500HPX	16,50	143	93	71	3,4	48	18	●
B225A16670HPX	16,67	143	93	71	3,5	48	18	●
B225A17000HPX	17,00	143	93	71	3,5	48	18	●
B225A17463HPX	17,46	143	93	71	3,6	48	18	●
B225A17500HPX	17,50	143	93	71	3,6	48	18	●
B225A17700HPX	17,70	143	93	71	3,7	48	18	●
B225A18000HPX	18,00	143	93	71	3,7	48	18	●
B225A18500HPX	18,50	153	101	77	3,8	50	20	●
B225A19000HPX	19,00	153	101	77	3,9	50	20	●
B225A19050HPX	19,05	153	101	77	3,9	50	20	●
B225A19500HPX	19,50	153	101	77	4,0	50	20	●
B225A20000HPX	20,00	153	101	77	4,1	50	20	●

154	156	10	4	160

HPX • B226 • 8 X D • THROUGH COOLANT



● first choice

○ alternate choice

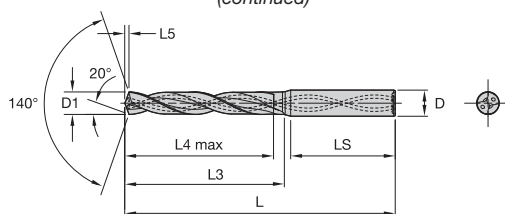
P	●
M	●
K	●
N	●
S	●
H	●

catalogue number	D1	L	L3	L4 max	L5	LS	D	KCP15B
B226A03000HPX	3,00	78	40	33	0,7	36	6	●
B226A03048HPX	3,05	78	40	33	0,7	36	6	●
B226A03100HPX	3,10	78	40	33	0,7	36	6	●
B226A03175HPX	3,18	78	40	33	0,7	36	6	●
B226A03200HPX	3,20	78	40	33	0,7	36	6	●
B226A03264HPX	3,26	78	40	33	0,8	36	6	●
B226A03300HPX	3,30	78	40	33	0,8	36	6	●
B226A03400HPX	3,40	78	40	33	0,8	36	6	●
B226A03455HPX	3,46	78	40	33	0,8	36	6	●
B226A03500HPX	3,50	78	40	33	0,8	36	6	●
B226A03571HPX	3,57	78	40	33	0,8	36	6	●
B226A03600HPX	3,60	78	40	33	0,8	36	6	●
B226A03700HPX	3,70	78	40	33	0,8	36	6	●
B226A03800HPX	3,80	87	49	41	0,9	36	6	●
B226A03900HPX	3,90	87	49	41	0,9	36	6	●
B226A03970HPX	3,97	87	49	41	0,9	36	6	●
B226A04000HPX	4,00	87	49	41	0,9	36	6	●
B226A04100HPX	4,10	87	49	41	0,9	36	6	●
B226A04200HPX	4,20	87	49	41	0,9	36	6	●
B226A04300HPX	4,30	87	49	41	1,0	36	6	●
B226A04500HPX	4,50	87	49	41	1,0	36	6	●
B226A04600HPX	4,60	87	49	41	1,0	36	6	●
B226A04700HPX	4,70	87	49	41	1,1	36	6	●
B226A04763HPX	4,76	94	56	48	1,1	36	6	●
B226A04800HPX	4,80	94	56	48	1,1	36	6	●
B226A04900HPX	4,90	94	56	48	1,1	36	6	●
B226A05000HPX	5,00	94	56	48	1,1	36	6	●
B226A05100HPX	5,10	94	56	48	1,1	36	6	●
B226A05106HPX	5,11	94	56	48	1,1	36	6	●
B226A05159HPX	5,16	94	56	48	1,1	36	6	●
B226A05200HPX	5,20	94	56	48	1,2	36	6	●
B226A05300HPX	5,30	94	56	48	1,2	36	6	●
B226A05400HPX	5,40	94	56	48	1,2	36	6	●
B226A05410HPX	5,41	94	56	48	1,2	36	6	●
B226A05500HPX	5,50	94	56	48	1,2	36	6	●
B226A05558HPX	5,56	94	56	48	1,2	36	6	●
B226A05600HPX	5,60	94	56	48	1,2	36	6	●
B226A05700HPX	5,70	94	56	48	1,3	36	6	●
B226A05800HPX	5,80	94	56	48	1,3	36	6	●
B226A05900HPX	5,90	94	56	48	1,3	36	6	●
B226A06000HPX	6,00	94	56	48	1,3	36	6	●
B226A06100HPX	6,10	105	67	57	1,3	36	8	●
B226A06200HPX	6,20	105	67	57	1,4	36	8	●
B226A06300HPX	6,30	105	67	57	1,4	36	8	●
B226A06350HPX	6,35	105	67	57	1,4	36	8	●
B226A06400HPX	6,40	105	67	57	1,4	36	8	●
B226A06500HPX	6,50	105	67	57	1,4	36	8	●
B226A06600HPX	6,60	105	67	57	1,4	36	8	●
B226A06700HPX	6,70	105	67	57	1,5	36	8	●
B226A06746HPX	6,75	105	67	57	1,5	36	8	●
B226A06800HPX	6,80	105	67	57	1,5	36	8	●
B226A06900HPX	6,90	105	67	57	1,5	36	8	●
B226A07000HPX	7,00	105	67	57	1,5	36	8	●
B226A07100HPX	7,10	113	74	64	1,5	36	8	●
B226A07145HPX	7,15	113	74	64	1,6	36	8	●
B226A07200HPX	7,20	113	74	64	1,6	36	8	●
B226A07300HPX	7,30	113	74	64	1,6	36	8	●
B226A07400HPX	7,40	113	74	64	1,6	36	8	●
B226A07500HPX	7,50	113	74	64	1,6	36	8	●
B226A07541HPX	7,54	113	74	64	1,6	36	8	●

154	156	10	4	160

HPX • B226 • 8 X D • THROUGH COOLANT

(continued)



● first choice

○ alternate choice

P	●
M	●
K	●
N	●
S	●
H	●

catalogue number	D1	L	L3	L4 max	L5	LS	D	KCP15B
B226A07800HPX	7,80	113	74	64	1,7	36	8	●
B226A07938HPX	7,94	113	74	64	1,7	36	8	●
B226A08000HPX	8,00	113	74	64	1,7	36	8	●
B226A08100HPX	8,10	135	92	80	1,7	40	10	●
B226A08200HPX	8,20	135	92	80	1,8	40	10	●
B226A08334HPX	8,33	135	92	80	1,8	40	10	●
B226A08500HPX	8,50	135	92	80	1,8	40	10	●
B226A08700HPX	8,70	135	92	80	1,9	40	10	●
B226A08733HPX	8,73	135	92	80	1,9	40	10	●
B226A08800HPX	8,80	135	92	80	1,9	40	10	●
B226A09000HPX	9,00	135	92	80	1,9	40	10	●
B226A09129HPX	9,13	135	92	80	2,0	40	10	●
B226A09400HPX	9,40	135	92	80	2,0	40	10	●
B226A09500HPX	9,50	135	92	80	2,0	40	10	●
B226A09525HPX	9,53	135	92	80	2,0	40	10	●
B226A09800HPX	9,80	135	92	80	2,1	40	10	●
B226A10000HPX	10,00	135	92	80	2,1	40	10	●
B226A10200HPX	10,20	158	110	96	2,2	45	12	●
B226A10300HPX	10,30	158	110	96	2,2	45	12	●
B226A10320HPX	10,32	158	110	96	2,2	45	12	●
B226A10500HPX	10,50	158	110	96	2,2	45	12	●
B226A10716HPX	10,72	158	110	96	2,3	45	12	●
B226A10800HPX	10,80	158	110	96	2,3	45	12	●
B226A11000HPX	11,00	158	110	96	2,3	45	12	●
B226A11113HPX	11,11	158	110	96	2,3	45	12	●
B226A11500HPX	11,50	158	110	96	2,4	45	12	●
B226A11509HPX	11,51	158	110	96	2,4	45	12	●
B226A12000HPX	12,00	158	110	96	2,5	45	12	●
B226A12500HPX	12,50	176	128	112	2,6	45	14	●
B226A12700HPX	12,70	176	128	112	2,7	45	14	●
B226A13000HPX	13,00	176	128	112	2,7	45	14	●
B226A13500HPX	13,50	176	128	112	2,8	45	14	●
B226A14000HPX	14,00	176	128	112	2,9	45	14	●
B226A14288HPX	14,29	197	146	128	3,0	48	16	●
B226A14500HPX	14,50	197	146	128	3,0	48	16	●
B226A15000HPX	15,00	197	146	128	3,1	48	16	●
B226A15500HPX	15,50	197	146	128	3,2	48	16	●
B226A15875HPX	15,88	197	146	128	3,3	48	16	●
B226A16000HPX	16,00	197	146	128	3,3	48	16	●
B226A16500HPX	16,50	214	163	144	3,4	48	18	●
B226A17000HPX	17,00	214	163	144	3,5	48	18	●
B226A17500HPX	17,50	214	163	144	3,6	48	18	●
B226A18000HPX	18,00	214	163	144	3,7	48	18	●

TOLERANCE

nominal size range	D1 tolerance m7	D tolerance h6
1-3	0,002/0,012	0,000/-0,006
>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

154	156	10	4	160

HPX • FLOOD COOLANT • APPLICATION DATA

Material Group													
		Cutting Speed — vc			Metric								
		Range — m/min			Recommended Feed Rate per Rev								
		min	Starting Value	max		3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	0	80	110	170	mm/r	0,06–0,19	0,07–0,21	0,09–0,25	0,11–0,30	0,13–0,34	0,15–0,38	0,19–0,47	0,23–0,56
	1	70	110	150	mm/r	0,05–0,22	0,07–0,24	0,11–0,30	0,14–0,35	0,17–0,40	0,21–0,45	0,28–0,56	0,34–0,66
	2	90	120	160	mm/r	0,09–0,21	0,11–0,23	0,13–0,29	0,16–0,34	0,19–0,39	0,22–0,44	0,27–0,55	0,33–0,65
	3	60	90	120	mm/r	0,12–0,22	0,13–0,24	0,16–0,30	0,19–0,35	0,22–0,40	0,25–0,45	0,31–0,56	0,37–0,66
	4	50	80	120	mm/r	0,23–0,11	0,25–0,12	0,31–0,15	0,36–0,17	0,41–0,20	0,46–0,23	0,57–0,28	0,67–0,33
	5	50	60	70	mm/r	0,08–0,15	0,09–0,17	0,12–0,21	0,14–0,26	0,17–0,30	0,20–0,34	0,25–0,43	0,30–0,52
	6	50	60	70	mm/r	0,08–0,15	0,09–0,17	0,12–0,21	0,14–0,26	0,17–0,30	0,20–0,34	0,25–0,43	0,30–0,52

HPX • THROUGH COOLANT • APPLICATION DATA

Material Group													
		Cutting Speed — vc			Metric								
		Range — m/min			Recommended Feed Rate per Rev								
	min	Starting Value	max		3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0	
P	0	140	240	290	mm/r	0,13–0,24	0,14–0,26	0,15–0,30	0,17–0,34	0,19–0,38	0,21–0,42	0,24–0,50	0,28–0,58
	1	130	240	290	mm/r	0,15–0,30	0,16–0,33	0,18–0,39	0,20–0,45	0,22–0,51	0,24–0,57	0,28–0,69	0,32–0,81
	2	190	230	270	mm/r	0,14–0,29	0,15–0,32	0,18–0,38	0,21–0,43	0,24–0,49	0,27–0,55	0,33–0,66	0,39–0,77
	3	130	160	190	mm/r	0,15–0,30	0,17–0,33	0,20–0,38	0,23–0,44	0,26–0,50	0,29–0,56	0,36–0,67	0,42–0,79
	4	110	150	170	mm/r	0,13–0,25	0,15–0,27	0,19–0,33	0,22–0,38	0,26–0,43	0,30–0,48	0,37–0,59	0,44–0,69
	5	70	90	110	mm/r	0,11–0,21	0,13–0,24	0,15–0,28	0,18–0,33	0,21–0,38	0,24–0,42	0,29–0,51	0,35–0,61
	6	60	80	100	mm/r	0,11–0,21	0,13–0,24	0,15–0,28	0,18–0,33	0,21–0,38	0,24–0,42	0,29–0,51	0,35–0,61

HPX • MQL • APPLICATION DATA

Material Group													
		Cutting Speed — vc			Metric								
		Range — m/min			Recommended Feed Rate per Rev								
		min	Starting Value	max		3,0	4,0	6,0	8,0	10,0	12,0	16,0	20,0
P	0	70	130	150	mm/r	0,15–0,28	0,16–0,31	0,18–0,35	0,20–0,40	0,22–0,45	0,25–0,50	0,29–0,59	0,33–0,68
	1	70	130	150	mm/r	0,18–0,35	0,19–0,39	0,21–0,46	0,24–0,53	0,26–0,60	0,28–0,67	0,33–0,81	0,38–0,96
	2	100	120	140	mm/r	0,16–0,35	0,18–0,38	0,21–0,45	0,25–0,51	0,28–0,58	0,32–0,64	0,39–0,78	0,46–0,91
	3	70	90	100	mm/r	0,18–0,35	0,19–0,38	0,23–0,45	0,27–0,52	0,31–0,59	0,35–0,66	0,42–0,80	0,50–0,93
	4	60	80	90	mm/r	0,16–0,29	0,18–0,32	0,22–0,38	0,26–0,45	0,31–0,51	0,35–0,57	0,43–0,69	0,52–0,81
	5	40	50	60	mm/r	0,13–0,25	0,15–0,28	0,18–0,33	0,21–0,39	0,25–0,44	0,28–0,50	0,35–0,61	0,41–0,71
	6	30	40	50	mm/r	0,13–0,25	0,15–0,28	0,18–0,33	0,21–0,39	0,25–0,44	0,28–0,50	0,35–0,61	0,41–0,71

KenTIP™ FS

Modular Drilling

Materials



Applications



Counterboring



Drilling



Drilling:
Inclined Entry



Drilling:
Flat Bottom



Drilling:
Inclined Exit



Drilling: Cross Hole

kennametal.com/KenTIPFS

Multi-Coolant

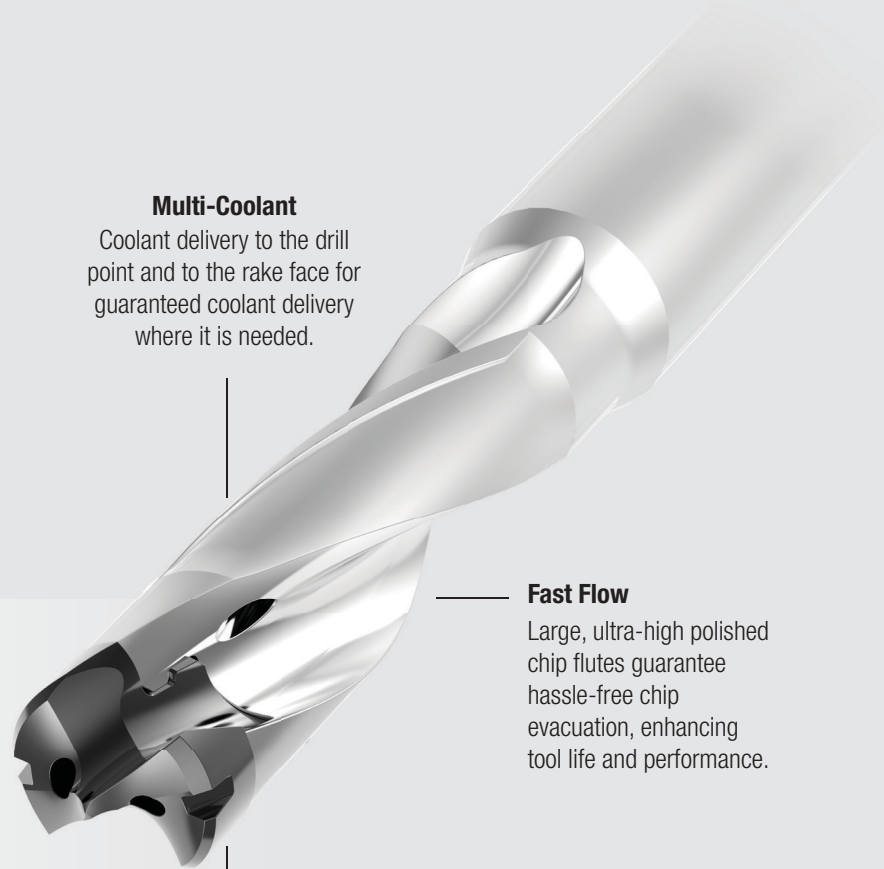
Coolant delivery to the drill point and to the rake face for guaranteed coolant delivery where it is needed.

Fast Flow

Large, ultra-high polished chip flutes guarantee hassle-free chip evacuation, enhancing tool life and performance.

Quick Release

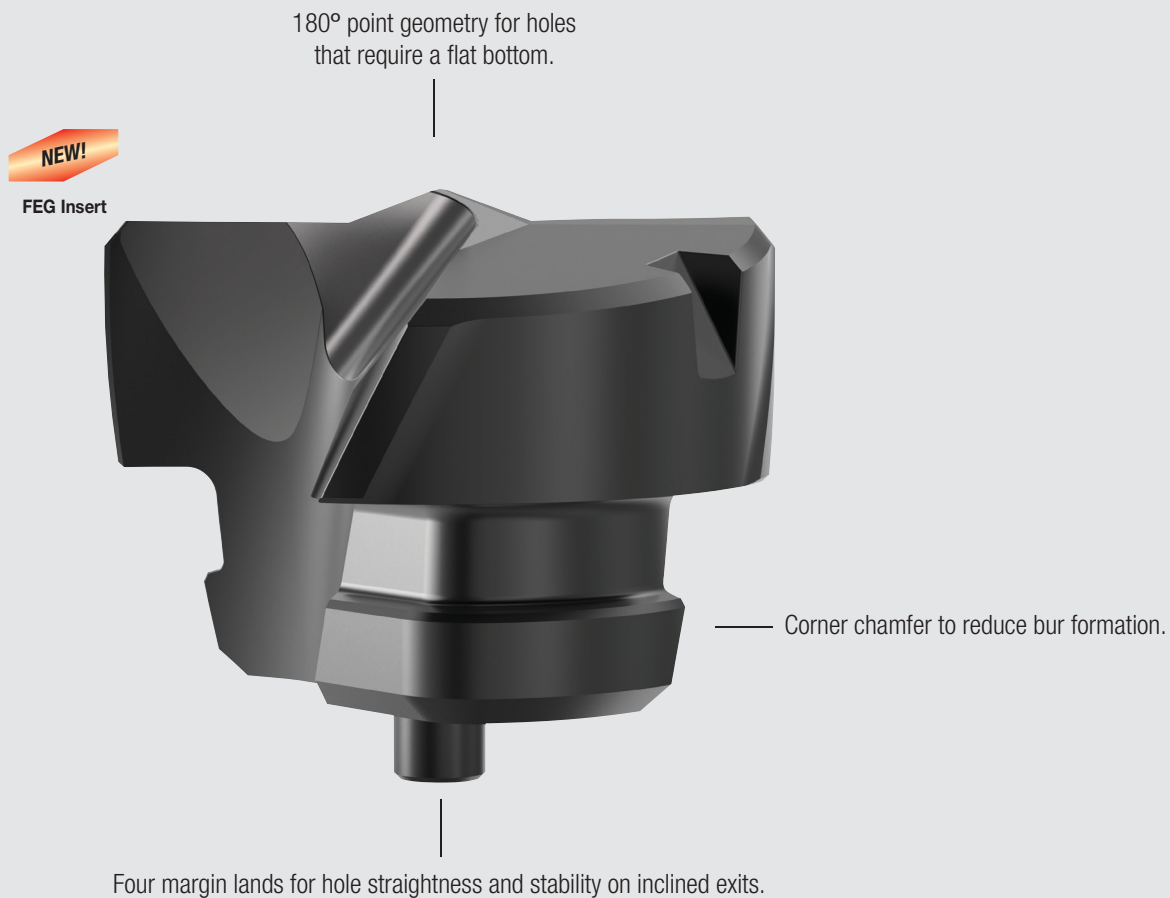
Every drill body comes with a KenTIP smart wrench. Insert exchange in the machine becomes easy and saves idle time. And that saves money.



KenTIP™ FS covers more applications and provides better performance than any other modular system, delivering substantial cost savings and process simplifications on your shop floor.

KenTIP FS inserts cover the entire front part of the drill.

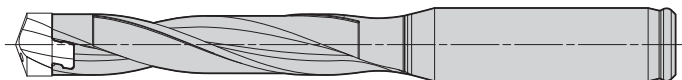
The coupling is completely protected from chip flow and contact with workpiece.



NEW! FEG inserts with 180° point geometry for holes that require a flat bottom, performing two operations in one.

In conjunction with the other KenTIP FS inserts (HPG, HPC, HPL geometries), the new FEG insert can be utilised as pilot drill point for deep-hole applications.

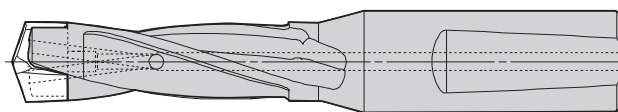
MODULAR DRILLS • TOOL SELECTION GUIDE

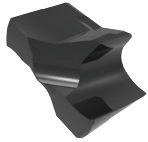
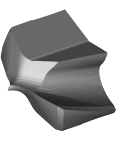
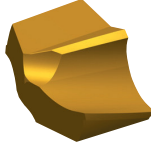
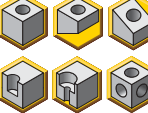


KenTIP™ FS				
	FEG	HPG	HPC	HPL
Page	31	H8*	H12*	H14*
Workpiece material				
Primary	P K	P	K	M
Secondary	M	K	P	S
Main operation				
Point angle	Inside 140° – Outside 180°	143°	143°	140°
Cutting diameter [D1]	6,0–26,0mm	6,0–26,0mm	6,0–26,0mm	6,0–26,0mm
Flutes and margin				
Corner chamfer				

*See page in the Kennametal Master Catalogue 2018 • Volume Two • Rotating Tools, A-16-05217.

MODULAR DRILLS • TOOL SELECTION GUIDE



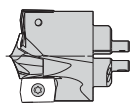
	KSEM™						
	FEG	HP	HPG	HPCCL	HPL	SPL	PC
							
Page	H29*	H26*	H8*	H48*	H14*	H52*	H56*
Workpiece material							
Primary	P K	P	P	K	M	M S	P K
Secondary	M S	K	M K			P N	M
Main operation							
Point angle	150°/180°	140°	140°	140°	140°	140°	150°
Cutting diameter [D1]	12,5–40,0mm	12,5–40,0mm	12,5–40,0mm	12,5–40,0mm	12,5–40,0mm	12,5–40,0mm	12,5–40,0mm
Flutes and margin							
Corner chamfer							

*See page in the Kennametal Master Catalogue 2018 • Volume Two • Rotating Tools, A-16-05217.

MODULAR DRILLS • TOOL SELECTION GUIDE

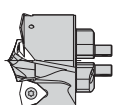
KSEM PLUS—A1 Heads

dia.: 28–31,75mm



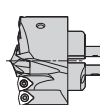
2 x DFR

dia.: 31,76–70,34mm



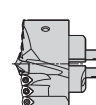
2 x DFT

dia.: 70,35–93,34mm



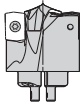
4 x DFT

dia.: 93,35–101mm



6 x DFT



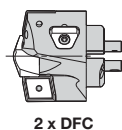
KSEM PLUS™ A1 Heads						
Drill head style						
Centre insert	HPG			FEG		
						
Outboard insert	DFR-GD	DFR-MD	DFR-LD	DFT-HP	DFT-MD	DFT-DS
						
Page	H89–J84*			H90–J87*		
Workpiece material						
Primary	P K S	P M	K N	P K S	P M	P M
Secondary	M N	K N S	P M S	M N	K N S	N S
Main operation						
Cutting diameter [D1]	28,0–31,75mm			31,75–101,40mm		
Flutes and margin						

*See page in the Kennametal Master Catalogue 2018 • Volume Two • Rotating Tools, A-16-05217.

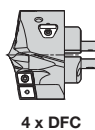
MODULAR DRILLS • TOOL SELECTION GUIDE

KSEM PLUS—B1 Heads

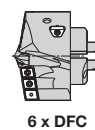
dia.: 28–70,34mm



dia.: 70,34–93,34mm



dia.: 93,35–101mm



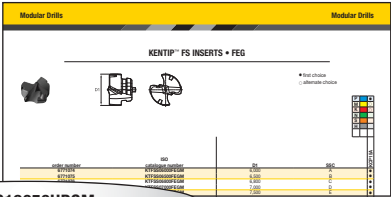
KSEM PLUS™ B1 Heads				
Drill head style				
Centre insert	HPG		FEG	
Outboard insert	DFC-HP	DFC-MD	DFC-DS	DFC-HPF
Page	H90*			40**
Workpiece material				
Primary	P K S	P M	P M	P S
Secondary	M N	K N S	N S	M K N
Main operation				
Cutting diameter [D1]	28,0–101mm			
Flutes and margin				

*See page in the Kennametal Master Catalogue 2018 • Volume Two • Rotating Tools, A-16-05217.

** See page in the Kennametal Innovations 2020 • 02, A-19-06096.

KTFS • FEG • CATALOGUE NUMBERING SYSTEM

Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KTFSS19050HPGM

KTFS

Drill
Series

KTFS = KenTIP™ FS

S

Coolant
Type

T = Through-the-insert coolant
S = Solid insert without coolant
channels

19050

Diameter

Metric or Inch, depends
on suffix

HPG

Point
Geometry

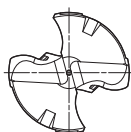
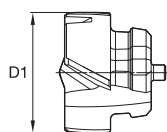
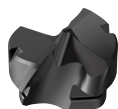
HPG = Steel
HPL = Stainless Steel
HPC = Cast Iron
FEG = Flat Bottom

M

Suffix

M = Metric diameter
Blank = Inch diameter

KENTIP™ FS INSERTS • FEG



● first choice

○ alternate choice

P	●
M	○
K	○
N	○
S	○
H	○

order number	ISO catalogue number	D1	SSC	KCP15A
6771074	KTFSS06000FEGM	6,000	A	●
6771075	KTFSS06500FEGM	6,500	B	●
6771076	KTFSS06800FEGM	6,800	C	●
6771077	KTFSS07000FEGM	7,000	D	●
6771078	KTFSS07500FEGM	7,500	E	●
6771079	KTFSS07938FEGM	7,938	E	●
6771080	KTFSS08000FEGM	8,000	F	●
6771111	KTFSS08500FEGM	8,500	G	●
6771112	KTFSS08520FEGM	8,520	G	●
6771113	KTFSS09000FEGM	9,000	H	●
6771114	KTFSS09500FEGM	9,500	I	●
6771115	KTFSS09525FEGM	9,525	I	●
6771116	KTFSS10000FEGM	10,000	J	●
6771117	KTFSS10200FEGM	10,200	J	●
6771118	KTFSS10500FEGM	10,500	K	●
6771119	KTFSS10800FEGM	10,800	K	●
6771120	KTFSS11000FEGM	11,000	L	●
6771121	KTFSS11113FEGM	11,112	L	●
6771122	KTFSS11500FEGM	11,500	M	●
6771123	KTFSS11800FEGM	11,800	M	●
6771124	KTFSS12000FEGM	12,000	N	●
6771125	KTFSS12304FEGM	12,304	N	●
6771127	KTFSS12500FEGM	12,500	O	●
6771128	KTFSS12700FEGM	12,700	O	●
6771129	KTFSS13000FEGM	13,000	P	●
6771130	KTFSS13500FEGM	13,500	Q	●
6771131	KTFSS14000FEGM	14,000	R	●
6771132	KTFSS14288FEGM	14,288	R	●
6771133	KTFSS14500FEGM	14,500	S	●
6771134	KTFSS15000FEGM	15,000	T	●
6771135	KTFSS15300FEGM	15,300	T	●
6771136	KTFSS15500FEGM	15,500	T	●
6771137	KTFSS15875FEGM	15,875	T	●
6771138	KTFSS16000FEGM	16,000	U	●
6771139	KTFSS16500FEGM	16,500	U	●
6771140	KTFSS16670FEGM	16,670	U	●
6771151	KTFSS17000FEGM	17,000	V	●
6771152	KTFSS17463FEGM	17,462	V	●
6771153	KTFSS17500FEGM	17,500	V	●
6771154	KTFSS17700FEGM	17,700	V	●
6771155	KTFSS18000FEGM	18,000	W	●
6771156	KTFSS18500FEGM	18,500	W	●
6771157	KTFSS19000FEGM	19,000	X	●
6771158	KTFSS19050FEGM	19,050	X	●
6771159	KTFSS19200FEGM	19,200	X	●
6771160	KTFSS19500FEGM	19,500	X	●
6771161	KTFSS20000FEGM	20,000	Y	●
6771162	KTFSS20500FEGM	20,500	Y	●
6771163	KTFSS20638FEGM	20,638	Y	●
6771164	KTFSS21000FEGM	21,000	Z	●
6771165	KTFSS21500FEGM	21,500	Z	●
6771166	KTFSS22000FEGM	22,000	ZA	●
6771167	KTFSS22225FEGM	22,225	ZA	●
6771168	KTFSS22500FEGM	22,500	ZA	●
6771169	KTFSS23000FEGM	23,000	ZB	●
6771170	KTFSS23500FEGM	23,500	ZB	●
6771171	KTFSS24000FEGM	24,000	ZC	●
6771172	KTFSS24500FEGM	24,500	ZC	●
6771173	KTFSS25000FEGM	25,000	ZD	●
6771174	KTFSS25400FEGM	25,400	ZD	●
6771175	KTFSS26000FEGM	26,000	ZD	●

154	156	30	4	160
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APPLICATION DATA • KENTIP™ FS • FEG INSERT

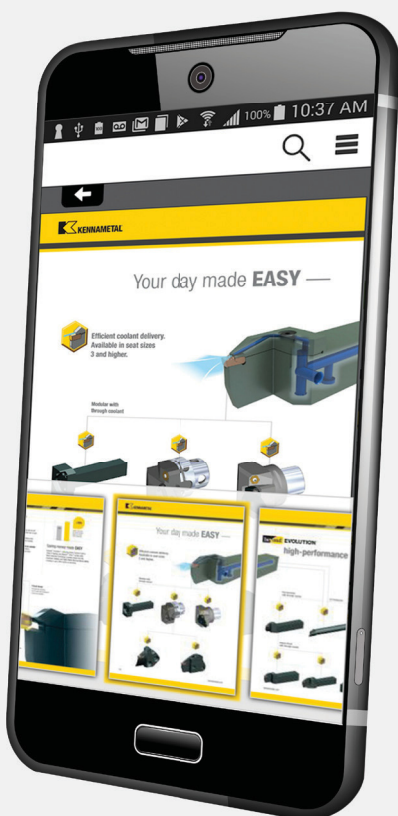
Material Group		Cutting Speed — vc			Metric									
		Range — m/min			Recommended Feed Rate per Rev									
		min	Starting Value	max		6,0	8,0	10,0	12,0	14,0	16,0	20,0	24,0	26,0
P	0	110	140	170	mm/r	0,10–0,19	0,11–0,22	0,13–0,24	0,15–0,26	0,17–0,29	0,19–0,31	0,21–0,34	0,23–0,38	0,24–0,40
	1	110	140	170	mm/r	0,10–0,19	0,11–0,22	0,13–0,24	0,15–0,26	0,17–0,29	0,19–0,31	0,21–0,34	0,23–0,38	0,24–0,40
	2	100	120	140	mm/r	0,10–0,19	0,11–0,22	0,13–0,24	0,15–0,26	0,17–0,29	0,19–0,31	0,21–0,34	0,23–0,38	0,24–0,40
	3	80	100	120	mm/r	0,10–0,17	0,11–0,20	0,12–0,22	0,14–0,24	0,16–0,26	0,18–0,28	0,20–0,31	0,21–0,35	0,22–0,36
	4	70	90	110	mm/r	0,10–0,17	0,11–0,20	0,12–0,22	0,14–0,24	0,16–0,26	0,18–0,28	0,20–0,31	0,21–0,35	0,22–0,36
	5	60	80	100	mm/r	0,09–0,16	0,10–0,18	0,11–0,20	0,13–0,22	0,15–0,24	0,16–0,26	0,18–0,29	0,19–0,33	0,20–0,34
M	6	60	80	100	mm/r	0,09–0,16	0,10–0,18	0,11–0,20	0,13–0,22	0,15–0,24	0,16–0,26	0,18–0,29	0,19–0,33	0,20–0,34
	1	40	60	80	mm/r	0,07–0,12	0,08–0,14	0,09–0,16	0,11–0,18	0,12–0,20	0,13–0,22	0,14–0,24	0,15–0,26	0,16–0,27
K	2	35	55	70	mm/r	0,07–0,12	0,08–0,14	0,09–0,16	0,11–0,18	0,12–0,20	0,13–0,22	0,14–0,24	0,15–0,26	0,16–0,27
	1	90	120	175	mm/r	0,12–0,21	0,14–0,24	0,16–0,28	0,18–0,32	0,20–0,36	0,22–0,40	0,25–0,44	0,28–0,48	0,29–0,50
	2	80	110	140	mm/r	0,12–0,21	0,14–0,24	0,16–0,28	0,18–0,32	0,20–0,36	0,22–0,40	0,25–0,44	0,28–0,48	0,29–0,50
	3	70	80	100	mm/r	0,11–0,19	0,13–0,22	0,14–0,25	0,16–0,28	0,18–0,32	0,21–0,36	0,23–0,40	0,26–0,44	0,27–0,46

For complete portfolio, see Kennametal Master Catalogue 2018 | A-16-05217, or visit kennametal.com.

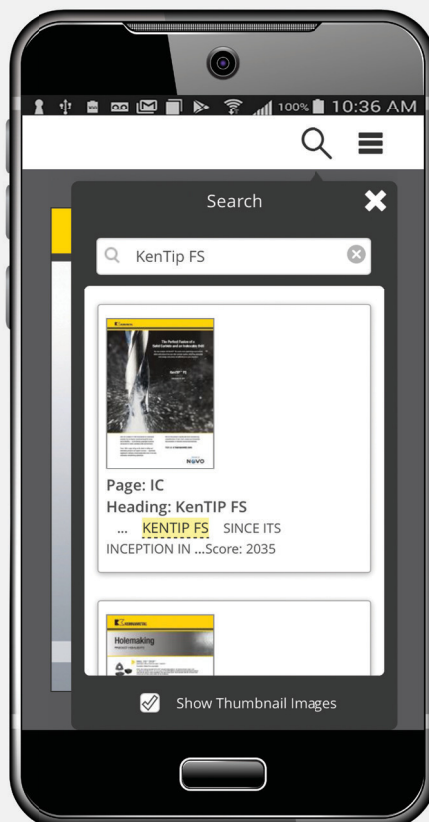


Catalogue App

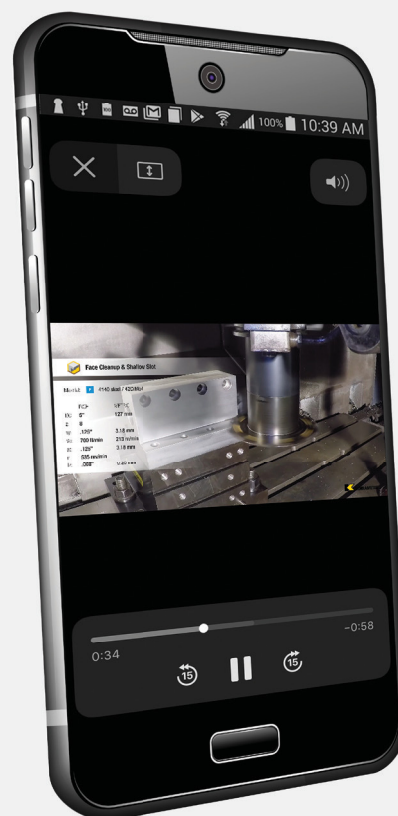
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eBore™

Digital Fine Boring System

Materials



Applications



Reaming:
Through Hole



Reaming:
Blind Hole



Reaming:
Through & Cross Holes



Reaming:
Blind & Cross Holes



One digital display for
all fine boring tools.

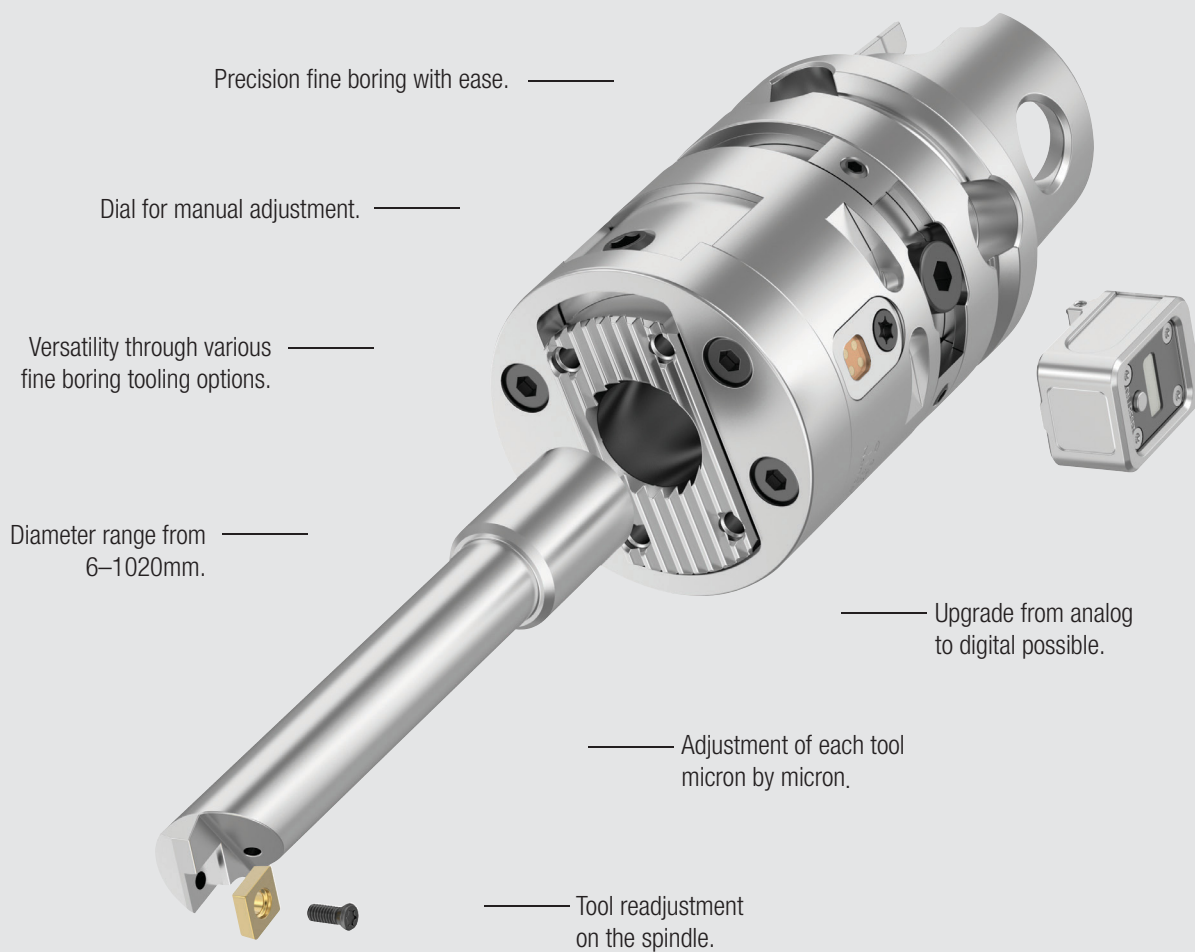
kennametal.com/eBore

The eBore boring system covers a diameter range from 6–1020mm by providing state-of-the-art fine boring tooling solutions that have one thing in common: all of them are digital ready.

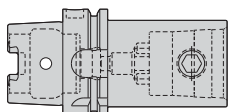
The digital eBore display provides the option to readjust the tool on the spindle, reducing setup time and idle time.

One for all — One eBore digital display serving all eBore fine boring tools.

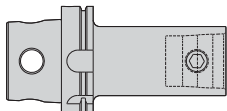
Micron by micron, the precision adjustment of each tool is just as easy as 1, 2, 3.



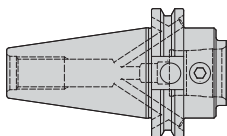
Adaptors



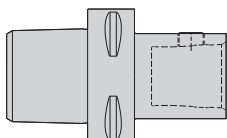
HSK to KM™



KM4X™ to KM

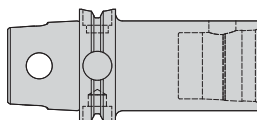


BT, CV, DV to KM

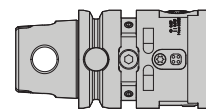


PSC to KM

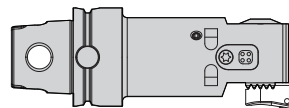
Extensions



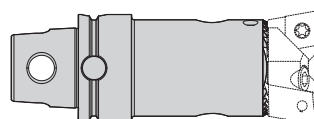
eBore™



eBore Universal

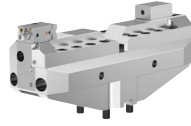


eBore Fine Boring



eBore Twin Cutter

Tool Selection Guide • Fine Boring

				
Series	eBore™ Universal	eBore Fine Boring Tool	eBore Bridge Finishing Tools	eBore Twin Cutters
Page	40	45	46	49
Workpiece material				
Primary	P M K N S	P M K N S	P M K N S	P M K N S
Secondary	H	H	H	
Boring range [BR1]	6–152mm	20–205mm	200–1020mm	19,5–1020mm
Accuracy	IT6			IT9
Cylindricity		5 µm		
Position		5–10 µm		
Surface roughness (Ra)	P	0,8–2,0 µm		
Surface roughness (Ra)	M	0,8–2,0 µm		
Surface roughness (Ra)	K	0,8–2,0 µm		
Surface roughness (Ra)	N	0,8–2,0 µm		
Surface roughness (Ra)	S	0,8–2,0 µm		
Surface roughness (Ra)	H	< 1,2 µm		
Coolant				
Main Operations				

For insert selection, see Kennametal Master Catalogue 2018 I A-16-05217, or visit kennametal.com.





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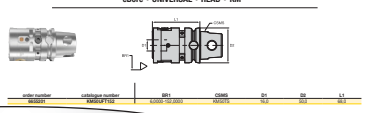
Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.

■ Head

Modular Boring

Modular Boring

eBore™ UNIVERSAL • HEAD • KM™



ITEM NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
1	HEAD	1	EA	100.00	100.00
2	SHANK	1	EA	50.00	50.00
3	INSERT	1	EA	20.00	20.00
4	WHEEL	1	EA	10.00	10.00
5	GRINDING WHEEL	1	EA	5.00	5.00
6	GRINDING WHEEL	1	EA	5.00	5.00
7	GRINDING WHEEL	1	EA	5.00	5.00
8	GRINDING WHEEL	1	EA	5.00	5.00
9	GRINDING WHEEL	1	EA	5.00	5.00
10	GRINDING WHEEL	1	EA	5.00	5.00

KM50UFT152

KM50

Back End

KM™

UFT

Boring System

UTF = UNIVERSAL Fine Boring Tool
BT = Fine Boring Tool
BDG = Bridge Tool
TC = Twin Cutter

152

Boring Range

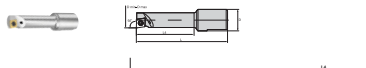
Diameter (min. or max.)

■ Boring Bar and Insert Holder

Modular Boring

Modular Boring

eBore™ UNIVERSAL • BORING BAR • STEEL



ITEM NO.	DESCRIPTION	QTY	UNIT	PRICE	TOTAL
1	BORING BAR	1	EA	100.00	100.00
2	SHANK	1	EA	50.00	50.00
3	INSERT	1	EA	20.00	20.00
4	WHEEL	1	EA	10.00	10.00
5	GRINDING WHEEL	1	EA	5.00	5.00
6	GRINDING WHEEL	1	EA	5.00	5.00
7	GRINDING WHEEL	1	EA	5.00	5.00
8	GRINDING WHEEL	1	EA	5.00	5.00
9	GRINDING WHEEL	1	EA	5.00	5.00
10	GRINDING WHEEL	1	EA	5.00	5.00

BB1450CC06

BB

Tool Type

BB = Boring bar
IH = Insert holder

14

Diameter

Ø14mm

50

Length

50mm

CC06

Insert Style and Size

CC = Rhomboid 60°, 7° clearance angle
06 = IC 6mm
09 = IC 9mm
12 = IC 12mm

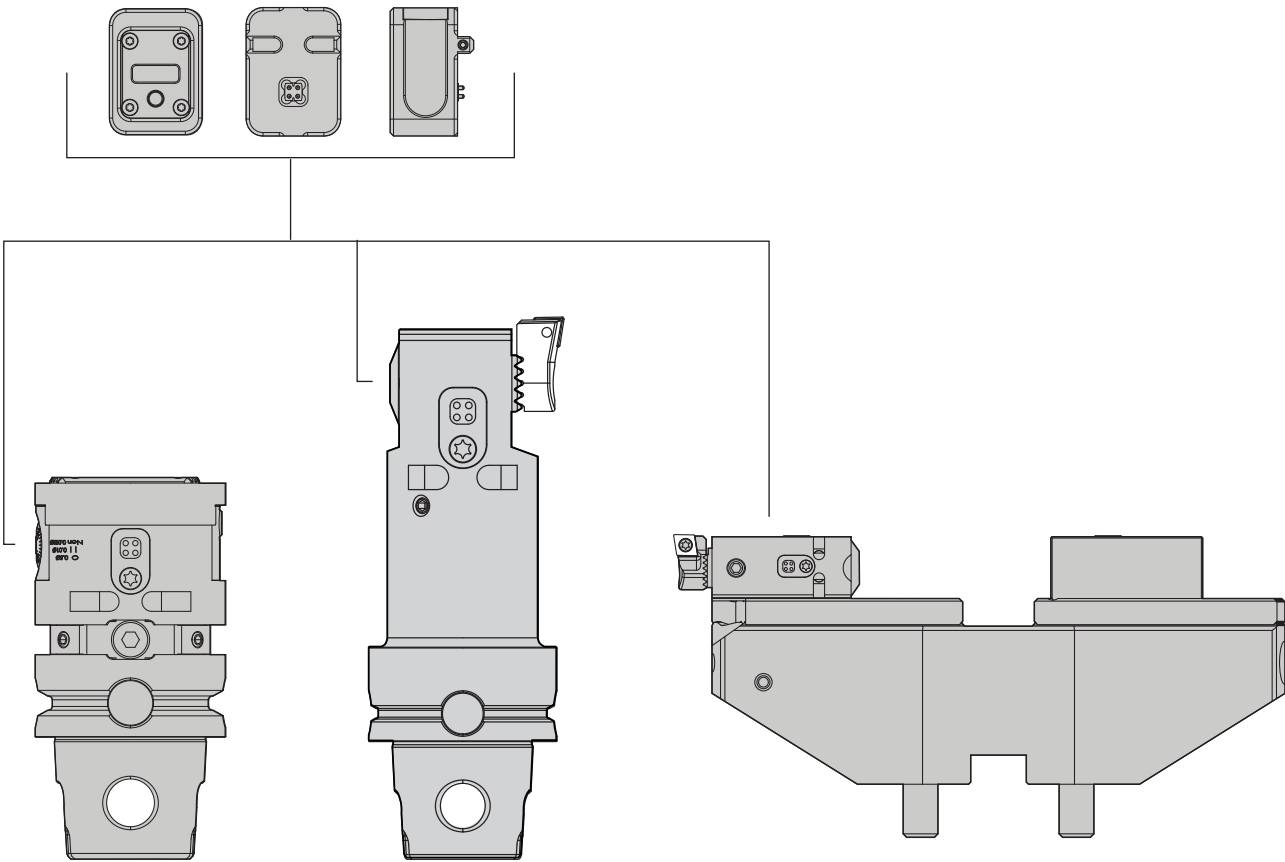
 KENNAMETAL

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eBore™ DIGITAL DISPLAY OVERVIEW



eBore DIGITAL DISPLAY

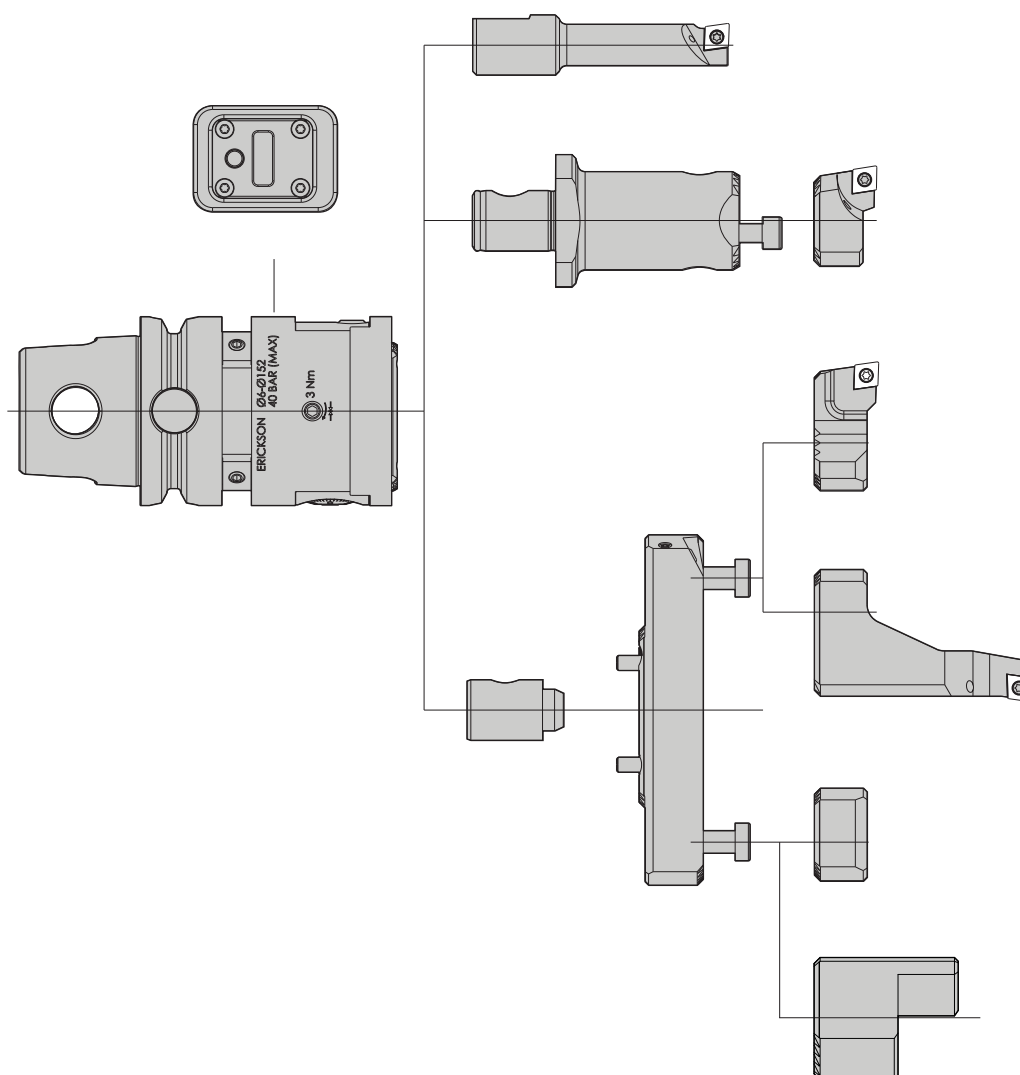


order number
6655307
6655306

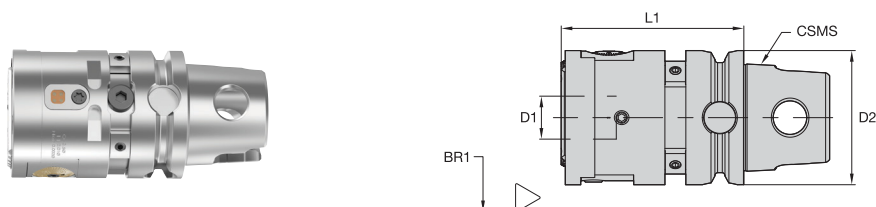
catalogue number
FBDD0001IN
FBDD0001M

				
154	156	38	4	160

eBore™ UNIVERSAL OVERVIEW



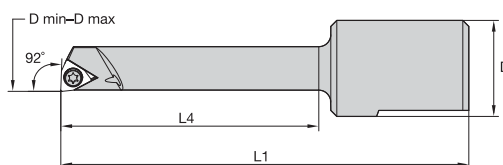
eBore • UNIVERSAL • HEAD • KM™



order number	catalogue number	BR1	CSMS	D1	D2	L1
6655201	KM50UFT152	6.0000-152.0000	KM50TS	16.0	50.0	68.0

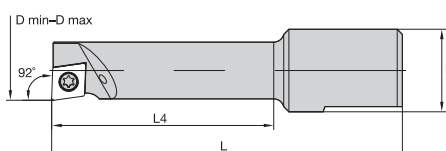
				
154	156	38	4	160

eBore™ UNIVERSAL • BORING BAR • HEAVY METAL



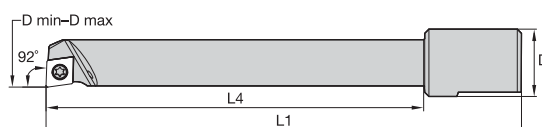
order number	catalogue number	D min	D max	D	L1	L4
6655221	BB0632WBGX03	6,0	8,0	16,0	55,0	30,0
6655222	BB0845WBGX03	8,0	10,0	16,0	68,0	43,0

eBore UNIVERSAL • BORING BAR • STEEL



order number	catalogue number	D min	D max	D	L	L4
6655202	BB0622WBGX03	6,0	8,0	16,0	45,0	20,0
6655203	BB0830WBGX03	8,0	10,0	16,0	53,0	28,0
6655204	BB1025CC06	10,0	12,0	16,0	48,0	23,0
6655205	BB1035CC06	10,0	12,0	16,0	58,0	33,0
6655206	BB1230CC06	12,0	14,0	16,0	53,0	28,0
6655207	BB1245CC06	12,0	14,0	16,0	68,0	43,0
6655208	BB1435CC06	14,0	16,0	16,0	58,0	34,0
6655209	BB1450CC06	14,0	16,0	16,0	73,0	48,4
6655210	BB1560CC06	15,0	20,0	16,0	83,0	57,8
6655211	BB1640CC06	16,0	20,0	16,0	63,0	40,0
6655212	BB2070CC06	20,0	25,0	16,0	93,0	70,0
6655213	BB2570CC06	25,0	30,0	16,0	93,0	70,0

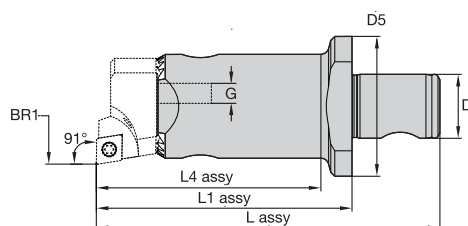
eBore UNIVERSAL • BORING BAR • CARBIDE



order number	catalogue number	D min	D max	D	L1	L4
6655214	BB1055CC06	10,0	12,0	16,0	78,0	55,0
6655215	BB1075CC06	10,0	12,0	16,0	98,0	75,0
6655216	BB1290CC06	12,0	14,0	16,0	113,0	90,0
6655217	BB1475CC06	14,0	16,0	16,0	98,0	75,0
6655218	BB14100CC06	14,0	16,0	16,0	123,0	100,0
6655219	BB1690CC06	16,0	20,0	16,0	113,0	90,0
6655220	BB16120CC06	16,0	20,0	16,0	143,0	120,0

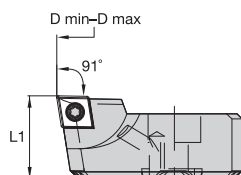
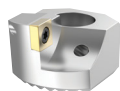
154	156	38	4	160

eBore™ UNIVERSAL • EXTENSION



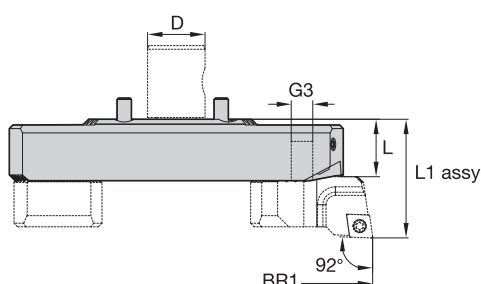
order number	catalogue number	BR1	D	D5	L1 assy	L2 assy	G
6655223	UFTE64	29,0000	16,0	35,0	64,0	56,2	M5X20
6655224	UFTE100	29,0000-53,0000	16,0	35,0	100,0	92,2	M5X20

eBore UNIVERSAL • INSERT HOLDER • CC06



order number	catalogue number	D min	D max	L1
6655226	IH02916CC06	29,0	41,0	16,0
6655227	IH04016CC06	40,0	53,0	16,0
6655228	IH05216CC06	52,0	77,0	16,5
6655229	IH07616CC06	76,0	102,0	16,5

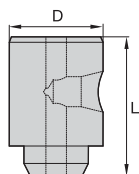
eBore UNIVERSAL • BRIDGE



order number	catalogue number	BR1	D	L	L1 assy	G3
6655233	UFTB06816	68,0000-96,0000	16,0	17,1	32,5	M4X0.7
6655234	UFTB09616	96,0000-124,0000	16,0	17,1	32,5	M4X0.7
6655235	UFTB12416	124,0000-152,0000	16,0	17,1	32,5	M4X0.7

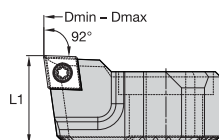
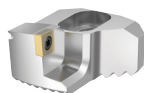
				
154	156	38	4	160

eBore™ UNIVERSAL • COOLANT CONNECTOR



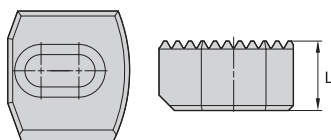
order number	catalogue number	D	L
6655238	CBUFTB	16,0	25,5

eBore UNIVERSAL • INSERT HOLDER I.D. • CC06



order number	catalogue number	D min	D max	L1
6655236	IHUFTBCC06	68,0	152,0	16,5

eBore UNIVERSAL • COUNTERWEIGHT I.D.



order number	catalogue number	L
6655237	CWUFTB	14,0

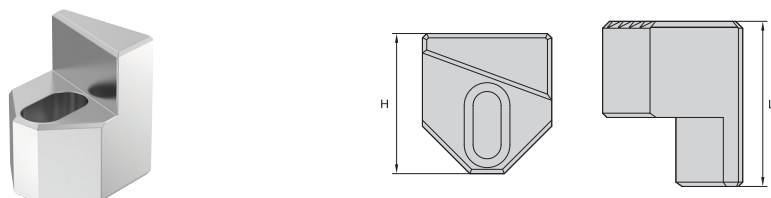
154	156	38	4	160

eBore™ UNIVERSAL • INSERT HOLDER O.D. • CC06



order number	catalogue number	D min	D max	L1
6655308	IHUFTODCC06	2,0	58,0	57,0

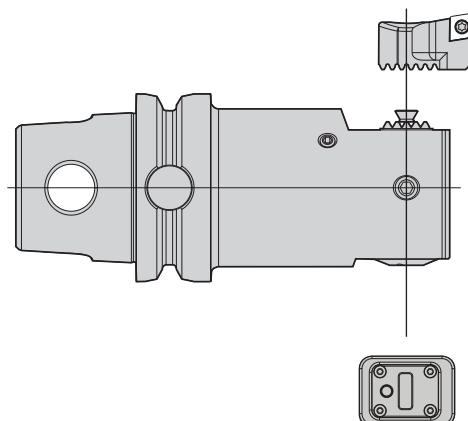
eBore UNIVERSAL • COUNTERWEIGHT O.D.



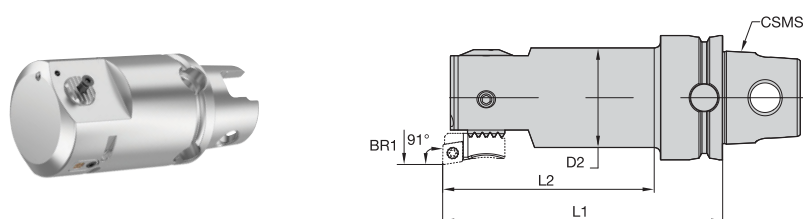
order number	catalogue number	L	H
6655309	CWUFTBOD	38,3	32,5

				
154	156	38	4	160

eBore™ FINE BORING OVERVIEW



eBore FINE BORING • CUTTING UNIT • KM™



order number	catalogue number	BR1	CSMS	D2	L1 assy	L2 assy
6655290	KM32BT024532	24,5000-29,5000	KM32TS	23,0	90,0	78,0
6655292	KM32BT02942	29,0000-44,0000	KM32TS	27,0	100,0	88,0
6655294	KM40BT04352	43,0000-54,0000	KM40TS	32,0	90,0	68,0
6655295	KM50BT05357	53,0000-66,0000	KM50TS	42,0	90,0	68,0
6655297	KM50BT06557	65,0000-83,0000	KM50TS	50,0	90,0	90,0
6655298	KM63BT08272	82,0000-103,0000	KM63TS	63,0	100,0	100,0
6655299	KM80BT10072	100,0000-130,0000	KM80TS	80,0	120,0	120,0
6655300	KM80BT12572	125,0000-167,5000	KM80TS	—	120,0	120,0
6655301	KM80BT162572	162,5000-205,0000	KM80TS	—	150,0	150,0

eBore FINE FINISHING • INSERT HOLDER

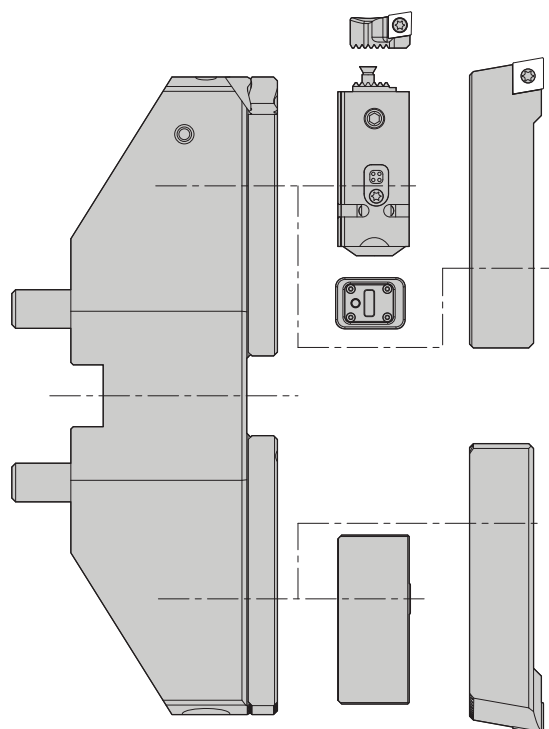


order number	catalogue number	D min	D max
6655291	IHBT024CC06	24,5	29,5
6655293	IHBT036CC06	29,0	42,0
6655296	IHBT053CC06	53,0	205,0

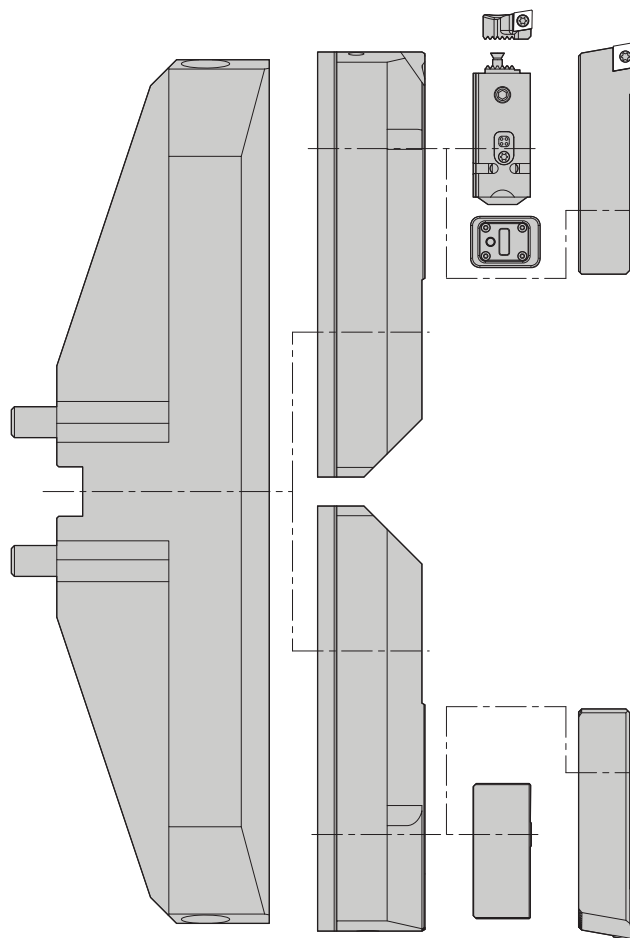
154	156	38	4	160

eBore™ BRIDGE TOOLS OVERVIEW

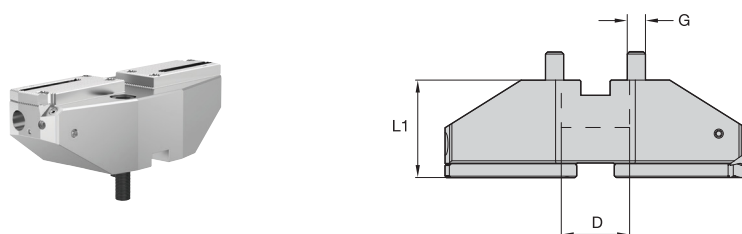
eBore — Bridge S (Small)



eBore — Bridge L (Large)



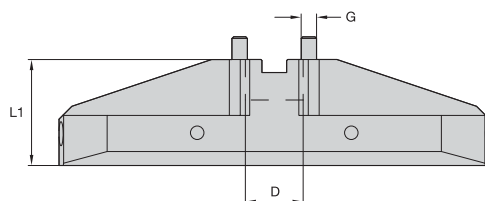
eBore • BRIDGE S



order number	catalogue number	BR1	D	L1	L1 assy	G
6655282	BDG20060	200,000-280,000	60,0	85,0	115,1	M10X50
6655284	BDG27560	275,000-355,000	60,0	85,0	115,1	M10X50
6655285	BDG35060	350,000-430,000	60,0	85,0	115,1	M10X50
6655286	BDG42560	425,000-505,000	60,0	85,0	115,1	M10X50

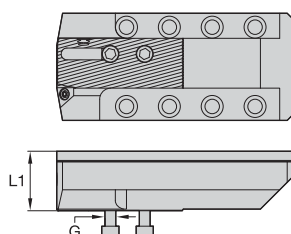
154	156	38	4	160

eBore™ • BRIDGE L



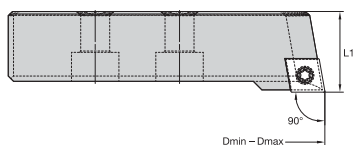
order number	catalogue number	BR1	D	L1	L1 assy	G
6655287	BDG46560	465,0000-745,0000	60,0	110,0	185,1	M12X55
6655289	BDG74060	740,0000-1020,0000	60,0	110,0	185,1	M12X55

eBore • BRIDGE L • EXTENDER



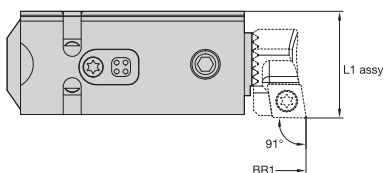
order number	catalogue number	L1	G
6655288	SBDG46545	45,0	M10X1.5

eBore • BRIDGE S/L • INSERT HOLDER • CC12



order number	catalogue number	D min	D max	L1
6655283	IHBDGCC12	200,0	1020,0	30,1

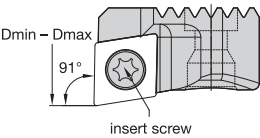
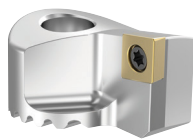
eBore • BRIDGE S/L • SLIDE



order number	catalogue number	BR1	L1 assy
6655302	BFBS10012	100,0000-1020,0000	30,0

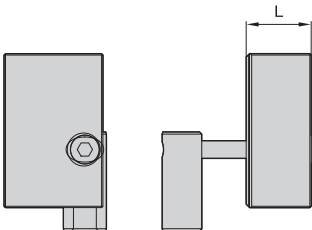
				
154	156	38	4	160

eBore™ • BRIDGE S/L • INSERT HOLDER • CC09



order number	catalogue number	D min	D max
6655303	IHFBSCC09	200,0	1020,0

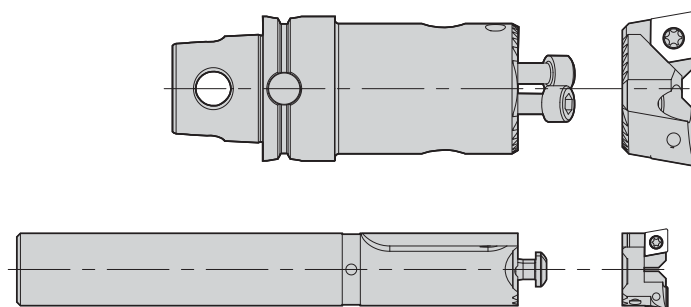
eBore • BRIDGE S/L • SLIDE • COUNTERWEIGHT



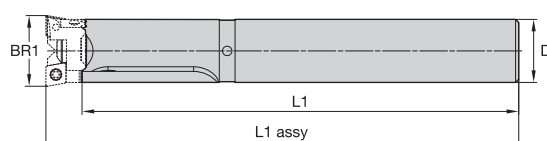
order number	catalogue number	L
6655305	CWBFBS	68,2

154	156	38	4	160

eBore™ TWIN CUTTER OVERVIEW

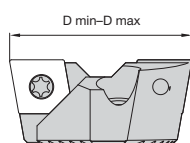


eBore • TWIN CUTTER • STRAIGHT SHANK



order number	catalogue number	BR1	D	L1	L1 assy
6655239	SS18TC0195	19,5000-23,0000	18,0	138,0	150,0
6655241	SS20TC0225	22,2000	20,0	138,0	150,0
6655243	SS23TC0255	25,5000-30,0000	23,0	148,2	160,0

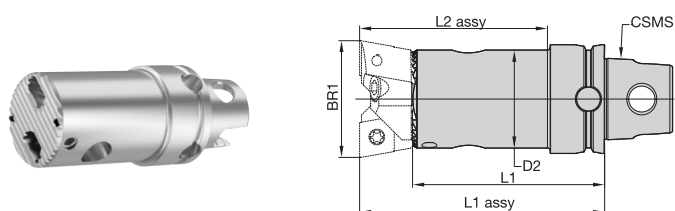
eBore • TWIN CUTTER • STRAIGHT SHANK • INSERT HOLDER



order number	catalogue number	D min	D max
6655240	IHTC0195CC06	19,5	23,0
6655242	IHTC0225CC06	22,5	26,0
6655244	IHTC0255CC06	25,5	30,0

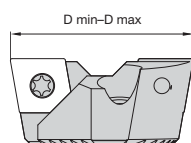
154	156	38	4	160

eBore™ • TWIN CUTTER • KM™



order number	catalogue number	BR1	CSMS	D2	L1	L1 assy	L2 assy
6655245	KM32TC029	29,0000-37,0000	KM32TS	25,0	86,0	100,0	88,0
6655247	KM32TC036	36,0000-44,0000	KM32TS	30,0	86,0	100,0	79,5
6655249	KM40TC043	43,0000-54,0000	KM40TS	36,0	70,0	90,0	69,0
6655271	KM40TC053	53,0000-66,0000	KM40TS	40,0	70,0	90,1	90,1
6655273	KM50TC065	65,0000-83,0000	KM50TS	50,0	70,0	90,1	90,1
6655275	KM63TC082	82,0000-103,0000	KM63TS	63,0	70,0	100,1	100,1
6655277	KM80TC100	100,0000-155,0000	KM80TS	80,0	90,0	120,1	120,1
6655280	KM80TC150	150,0000-205,0000	KM80TS	125,0	120,0	150,1	150,1

eBore • TWIN CUTTER • KM • INSERT HOLDER

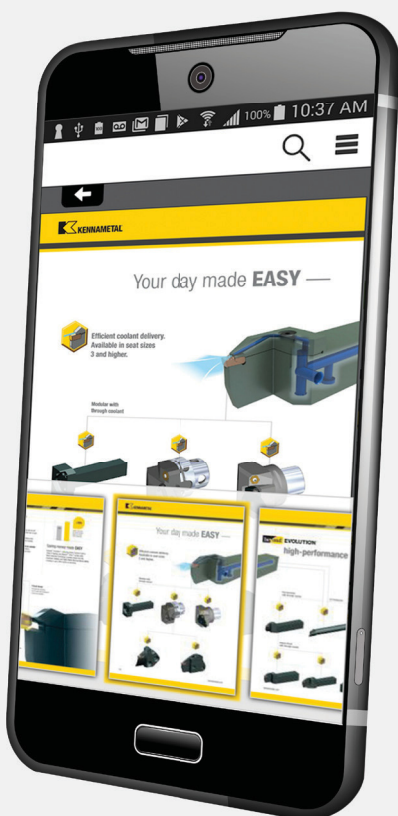


order number	catalogue number	D min	D max
6655246	IHTC029CC09	29,0	37,0
6655248	IHTC036CC09	36,0	44,0
6655250	IHTC043CC12	43,0	54,0
6655272	IHTC053CC12	53,0	66,0
6655274	IHTC065CC12	65,0	83,0
6655276	IHTC082CC12	82,0	103,0
6655278	IHTC100CC12	100,0	130,0
6655279	IHTC125CC12	125,0	155,0
6655281	IHTC150CC12	150,0	205,0

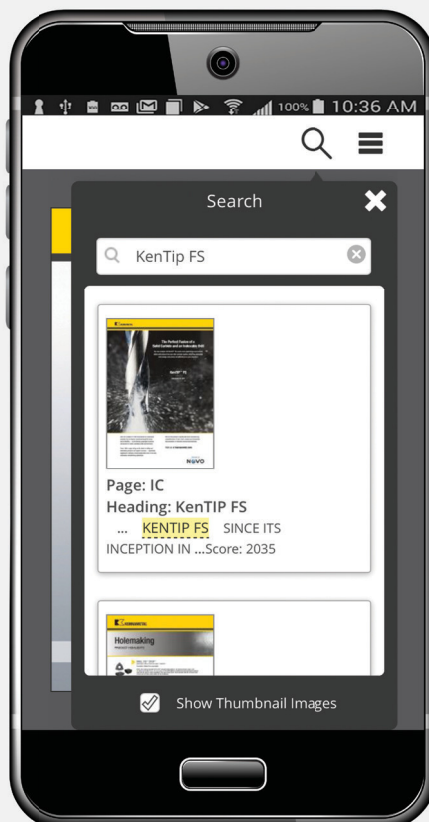
				
154	156	38	4	160

Catalogue App

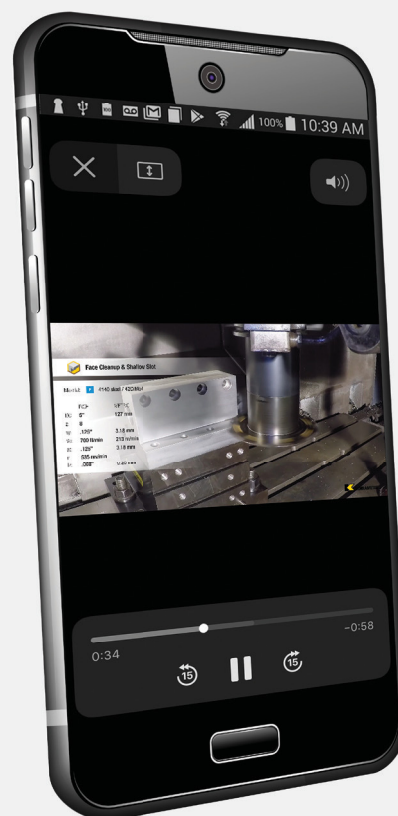
Browse Pages



Search Products



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Available in the Google Play™ Store
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OR VISIT CATALOGS.KENNAMETAL.COM TODAY.



Solid ER Collets for DUO-LOCK®

Adapting Duo-Lock Modular End Mills
to CNC Lathes



kennametal.com/ER-Solid-Collets

Duo-Lock solid ER collets turn CNC lathe machines into multitasking machines by providing access of any Duo-Lock modular end mills to ER driven units.

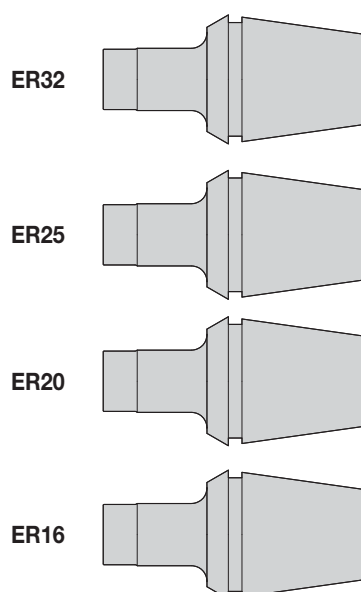
These new Duo-Lock solid ER collets maximise machine flexibility through a broad range of Duo-Lock modular end mills. From high-performance versatile tools, to roughers and finishers, as well as chamfering and corner rounding tools.

The short projection from the face of the collet nut provides rigid toolholding and requires a small machine envelope.

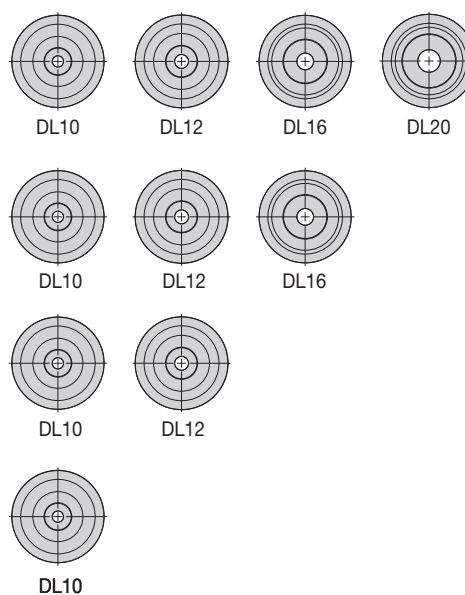
Compatible with all standard ER collet chucks and ER driven units.



Portfolio

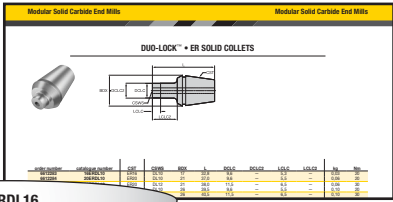


Thread Sizes



DUO-LOCK™ SOLID ER COLLET • CATALOGUE NUMBERING SYSTEM

Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



32ERDL16

32

Collet
Size

16 = ER16
20 = ER 20
25 = ER 25
32 = ER 32

ER

Collet
Type

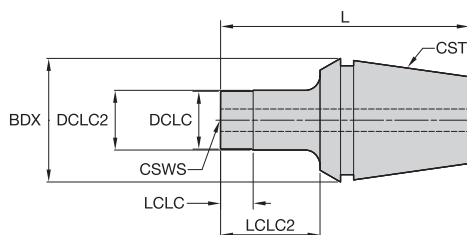
ER

DL16

Duo-Lock
Coupling size

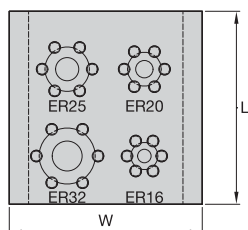
DL10
DL12
DL16
DL20

DUO-LOCK™ • ER SOLID COLLETS

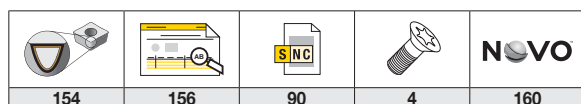


order number	catalogue number	CST	CSWS	BDX	L	DCLC	DCLC2	LCLC	LCLC2	kg	Nm
6612283	16ERDL10	ER16	DL10	17	32,8	9,6	—	5,3	—	0,03	20
6612284	20ERDL10	ER20	DL10	21	37,0	9,6	—	5,5	—	0,06	20
6612285	20ERDL12	ER20	DL12	21	38,0	11,5	—	6,5	—	0,06	30
6612286	25ERDL10	ER25	DL10	26	39,5	9,6	—	5,5	—	0,10	20
6612287	25ERDL12	ER25	DL12	26	40,5	11,5	—	6,5	—	0,10	30
6612288	25ERDL16	ER25	DL16	26	39,5	15,5	—	5,5	—	0,10	60
6612289	32ERDL10	ER32	DL10	33	66,5	9,6	10	5,0	26,5	0,21	20
6612290	32ERDL12	ER32	DL12	33	67,5	11,5	12	6,0	27,5	0,21	30
6612331	32ERDL16	ER32	DL16	33	66,5	15,5	16	8,0	26,5	0,22	60
6612332	32ERDL20	ER32	DL20	33	66,5	19,3	20	10,0	26,5	0,23	80

DUO-LOCK • ER SOLID COLLET MOUNTING PLATE



order number	catalogue number	L	W	kg
6612333	DLCCDER	100	100	0,57



Vibration-Free Boring Bars With Bolt-On Heads

Materials



Applications



Boring



Back Boring



Chamfering

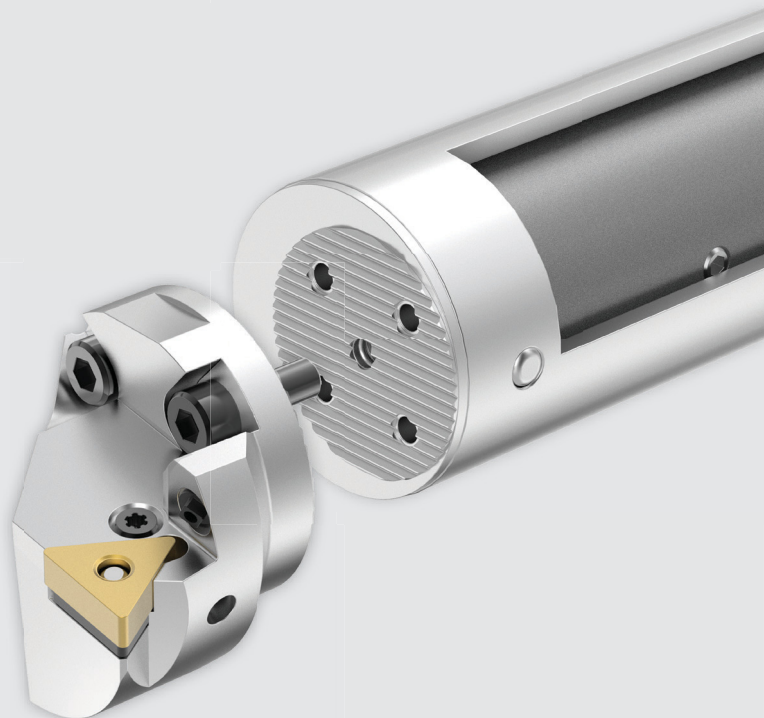


ID Grooving



ID Threading

kennametal.com/Vibration-FreeBoringBars



Coupled with our bolt-on heads, the vibration-free boring bars provide stability and rigidity when boring at extended overhangs up to 10 x D.

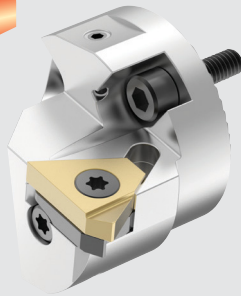
Vibration-free boring bars are a plug-and-play solution designed to work out of the box with no manual adjusting required or possible. The internal dampening package is designed to provide process stability by increasing the stiffness of the bar and dampening out chatter.



Serrated connection provides higher connection strengths, enabling an increased accuracy of insert positioning.

Short design bolt-on heads result in low weight, providing high stability and consistent repeatability.

NEW!



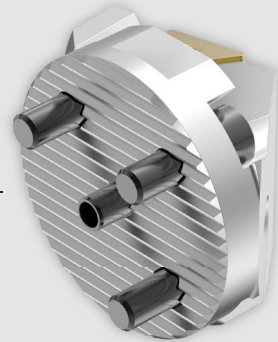
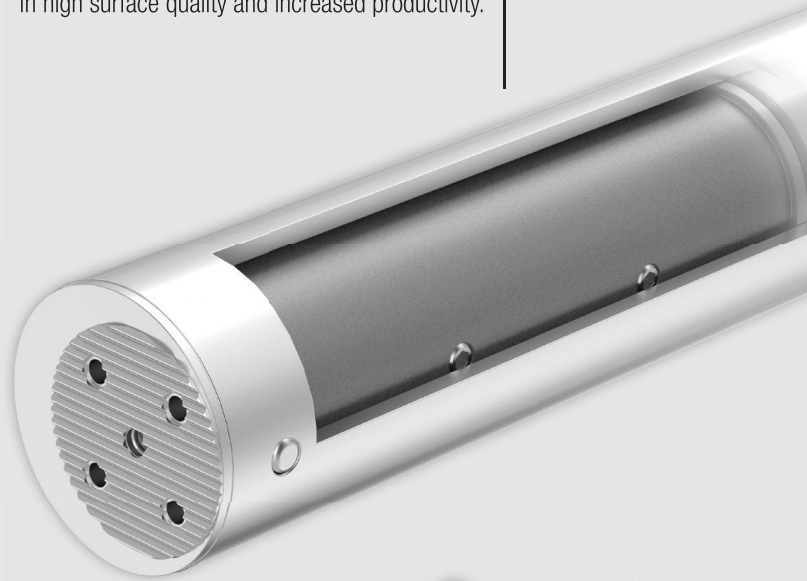
NEW!



Through coolant bolt-on heads to achieve optimum insert performance and tool life.

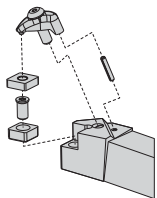
Serrated design interface creates a secure connection.

Internal dampening package ensures vibration- and chatter-free machining, allowing high metal removal rates and large depths-of-cut, resulting in high surface quality and increased productivity.



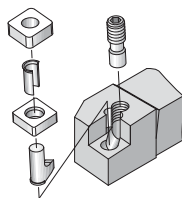
Lightweight Bolt-On Heads with Through Coolant

Kenclamp™



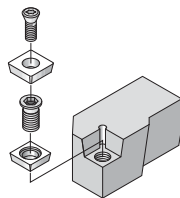
H-DCLN 95°
H-DDUN 93°
H-DTFN 90°
H-DVUN 93°
H-DWLN 95°

Kenlever™



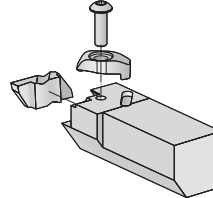
H-PCLN 95°
H-PDUN 93°
H-PTFN 90°

Screw-On



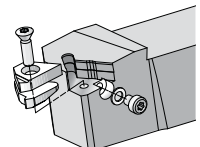
H-SCLC 95°
H-SDPC 62.5°
H-SDUC 93°
H-STFC 90°
H-SVUB 93°
H-SWLP 95°

Top Notch™ Grooving



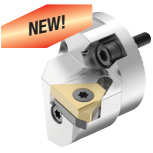
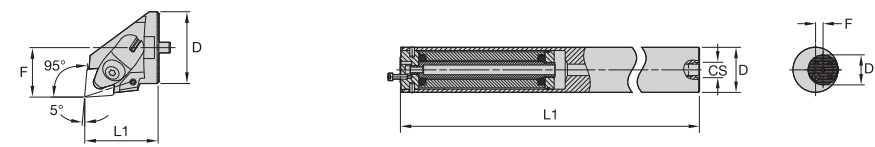
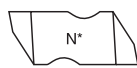
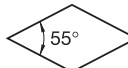
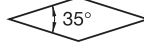
NG...
NF...
NR...
NT...
NA...
ND...
NJ...
NW...

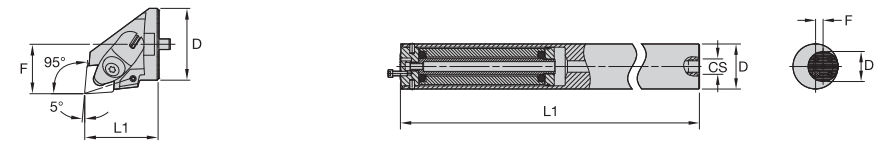
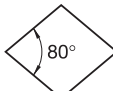
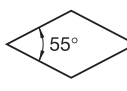
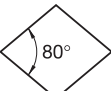
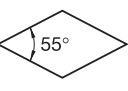
Laydown Threading



LT...

VIBRATION-FREE • BOLT-ON HEADS • SELECTION GUIDE

						
	H-N...	H-LS...	H-DCLN	H-DDUN	H-DTFN	H-DVUN
Page	124	125	125	126	127	128
Bolt-On "D" diameter = "D1" on the vibration-free boring bar						
Clamping Style	Top Notch™	Laydown Threading	D	D	D	D
Lead Angle	45–90°	90°	95°	93°	90°	93°
Bolt-On Head Diameter [D]	32–50mm	25–50mm	32–50mm	32–50mm	40–50mm	40–50mm
Minimum Boring Diameter [DMIN]	40–63mm	32–63mm	40–63mm	40–63mm	50–63mm	50–63mm
Centre of Boring Bar to Insert Tip [F]	22–35mm	18,3–37mm	22–35mm	22–35mm	27–35mm	27–35mm
Boring Head Length [L1]	32,2–39,6mm	25,2–35,2mm	33–36mm	33–39mm	35–36mm	35–36mm
Insert Shape						
Gage Inserts	NG_3L NG_4L NG_6L NG_3R NG_4R NU_3L	LT16NR LT22NR LT27NR	CN..120408 CN..160612 CN..190612	DN..110408 DN..150408 DN..150608	TN..160408 TN..220408	VN..160408

						
	H-DWLN	H-PCLN	H-PDUN	H-PTFN	H-SCLC	H-SDPC
Page	129	126	127	128	129	129
Bolt-On "D" diameter = "D1" on the vibration-free boring bar						
Clamping Style	D	P	P	P	Screw-On	Screw-On
Lead Angle	95°	95°	93°	90°	95°	62.5°
Bolt-On Head Diameter [D]	32mm	25–50mm	25–50mm	25–50mm	25–40mm	25mm
Minimum Boring Diameter [DMIN]	40mm	33–63mm	32–63mm	33–63mm	32–50mm	32mm
Centre of Boring Bar to Insert Tip [F]	22mm	17–35mm	17–35mm	17–35mm	17–27mm	17mm
Boring Head Length [L1]	33mm	26–36mm	27–36mm	25–36mm	19–32mm	18mm
Insert Shape						
Gage Inserts	WN..060408	CN..090308 CN..120408 CN..160612	DN..110408 DN..150608	TN..160408	CCMT09T308 CCMT120408	DCMT070204

H-SDUC	H-STFC	H-SVUB	H-SWLP

Bolt-On “D” diameter = “D1” on the vibration-free boring bar				
	Clamping Style	Screw-On	Screw-On	Screw-On
	Lead Angle	93°	90°	95°
	Bolt-On Head Diameter [D]	25–50mm	25–40mm	25–50mm
	Minimum Boring Diameter [DMIN]	32–63mm	32–50mm	32–63mm
Centre of Boring Bar to Insert Tip [F]	Centre of Boring Bar to Insert Tip [F]	17–35mm	17–27mm	17–35mm
	Boring Head Length [L1]	18–36mm	18–32mm	18–36mm
	Insert Shape	55°	60°	35°
	Gage Inserts	DCMT070204 DCMT11T308	TCMT16T308	VBMT110304 VBMT160408
				WPMT040204

Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.

[illegible]

D25HBB356

D

Dampened Bar with Coolant

25

Bar
Diameter

Metric: A two-digit number indicates the bar diameter in mm.

HBB

Vibration-Free Boring Bar

356

Total Assembled Length

Metric: Measured in mm when using a standard bolt-on head.
Round up or down to the nearest 0.5mm increment.

Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



Boring Bars

VIBRATION-FREE • BOLT-ON HEADS • TOP NOTCH® • 90°



Boring Bars



NEW!



Technical drawing showing the head profile and dimensions of the boring bar.



Technical drawing showing the head profile and dimensions of the boring bar.

Product description	D	D max.	F	L1	L2
Top Notch 90° Boring Bar	12	12	200	200	200
Top Notch 90° Boring Bar	16	16	250	250	250
Top Notch 90° Boring Bar	20	20	300	300	300
Top Notch 90° Boring Bar	25	25	350	350	350
Top Notch 90° Boring Bar	32	32	400	400	400
Top Notch 90° Boring Bar	40	40	450	450	450

H3240DCNLR12

C

Insert Shape

C Kendex™

N Top Notch™ Profiling

D Kenclamp™

M Kenloc™

S Screw-On

P Kenlever™

LS Laydown Threading



Diagram of a quadrilateral with an interior angle of 85° .



A square is shown with an interior angle of 82° marked at the bottom-left corner.



A regular hexagon is shown with one interior angle labeled 120° .



A square with a 90-degree angle indicated by an arc and the text 90° .

A diagram of an isosceles triangle with a base angle labeled 60° . A horizontal line segment is drawn above the triangle, parallel to its base.



VIBRATION-FREE • BOLT-ON HEADS • CATALOGUE NUMBERING SYSTEM

(continued)

Boring Bars

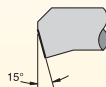
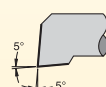
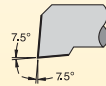
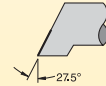
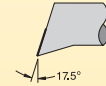
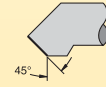
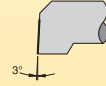
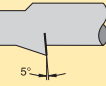
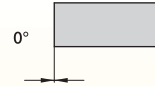
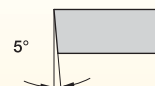
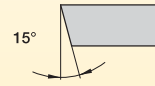
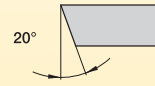
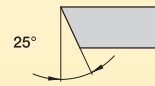
Boring Bars

VIBRATION-FREE • BOLT-ON HEADS • TOP NOTCH® • NE 90°

order number	catalogue number	D	L1	D min.	F	L2	W
Standard	H3240DCNLR12	10	100	10	100	100	100
Standard	H3240DCNLR12	15	150	15	150	150	150
Standard	H3240DCNLR12	20	200	20	200	200	200
Standard	H3240DCNLR12	25	250	25	250	250	250
Standard	H3240DCNLR12	30	300	30	300	300	300
Standard	H3240DCNLR12	35	350	35	350	350	350
Standard	H3240DCNLR12	40	400	40	400	400	400
Standard	H3240DCNLR12	45	450	45	450	450	450
Standard	H3240DCNLR12	50	500	50	500	500	500
Standard	H3240DCNLR12	55	550	55	550	550	550
Standard	H3240DCNLR12	60	600	60	600	600	600
Standard	H3240DCNLR12	65	650	65	650	650	650
Standard	H3240DCNLR12	70	700	70	700	700	700
Standard	H3240DCNLR12	75	750	75	750	750	750
Standard	H3240DCNLR12	80	800	80	800	800	800
Standard	H3240DCNLR12	85	850	85	850	850	850
Standard	H3240DCNLR12	90	900	90	900	900	900
Standard	H3240DCNLR12	95	950	95	950	950	950
Standard	H3240DCNLR12	100	1000	100	1000	1000	1000

DCM B32

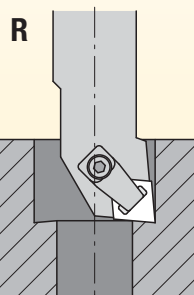
H3240DCNLR12

NBar Style or
Lead Angle**E****F****K****L**
(E-style
inserts)**L****P****Q****S****U****X****L**Insert Clearance
Angle**N****B****C****P****D****E****F****R**

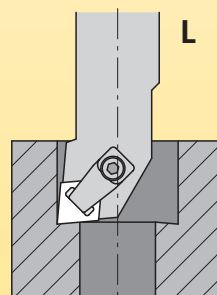
Hand of Tool

R =

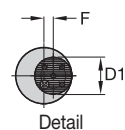
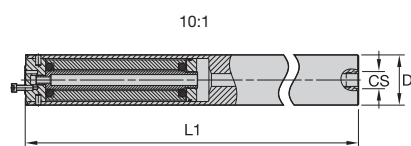
Right-hand boring bar

**L =**

Left-hand boring bar

**12**Insert Size
Cutting Edge
Length L10**H****O****P****S****T****CDE
M
V****W****L****A
B
K****R**

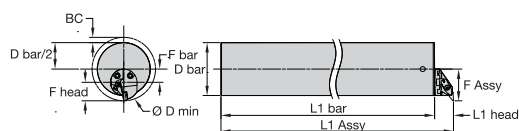
VIBRATION-FREE • STEEL BAR • THROUGH COOLANT



order number	catalogue number	D	D1	L1	F	CS	kg
6517231	D25MHBB356	25	25	329,30	0,00	RP 1/4-19	1,21
6517232	D32MHBB448	32	32	414,98	0,00	RP 1/4-19	2,55
6517233	D40MHBB563	40	40	524,26	0,00	RP 1/4-19	5,18
6517234	D50MHBB702	50	40	663,78	5,00	RP 3/8-19	10,14
6517235	D60MHBB860	60	40	821,29	10,00	RP 3/8-19	18,08
6549456	D80MHBB1125	80	50	1089,64	13,10	RP 3/8-19	39,94
6549457	D100MHBB1445	100	50	1409,29	25,00	RP 3/8-19	81,20

NOTE: When using smaller bolt-on heads on larger bars:

Minimum Bore = (F bar + F head) + (0.5 x D bar) + Bore Clearance

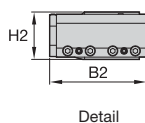
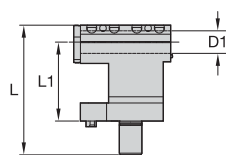


$$D \text{ min} = F \text{ head} + F \text{ bar} + D/2 + BC$$

Metric	
Bar Diameter	Bore Clearance
32-50mm	3mm
50-100mm	7mm

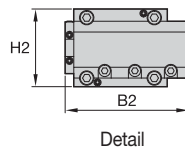
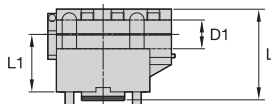
155	156	117	4	160

VIBRATION-FREE • SPLIT BLOCK • MAZAK™



order number	catalogue number	D1	L1	L	H2	B2	series
6423189	SB40QTN200M065	40	140	230,0	84,0	172,0	QTN200M
6423190	SB40QTN300M175	40	175	285,0	100,0	172,0	Nexus 300/350/400/450M
6423201	SB50QTN300M175	50	175	290,0	100,0	212,0	SQT28, 30, 300 - QT Nexus 300/350M, 400/450M

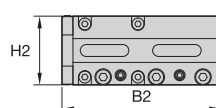
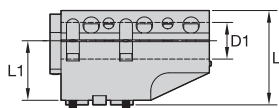
VIBRATION-FREE • SPLIT BLOCK • DMG MORI



order number	catalogue number	D1	L1	L	H2	B2	series
6423204	SB40NL2000080	40	80	127,0	108,0	172,0	DMG Mori NL1500, NL2000, NL2500, NL3000, NT5400DCG
6423205	SB60NZX4000080	60	80	144,0	135,0	252,0	DMG Mori NZX4000080

				
155	156	117	4	160

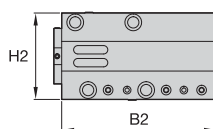
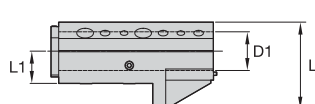
VIBRATION-FREE • SPLIT BLOCK • DOOSAN™



Detail

order number	catalogue number	D1	L1	L	H2	B2	series
6423207	SB40PU230M060	40	60	115,0	93,0	172,0	PUMA 230M, 240M, 280M, 1500, 2000, 2500SY&LSY, TT1500, 18 LYNX L220LM/M (BMT45 TURRET)
6423206	SB40L220M065	40	65	103,0	75,0	174,0	
6423208	SB40PU300M072	40	70	139,0	110,0	172,0	PUMA 300M, MA, LMA, LM, LMB, MB, MC, LMC, MS (BMT65 TURRET) PUMA 400MA, 400MB, 400LMA, 400LMB (BMT75 TURRET)
6423209	SB60PU400MB060	60	60	150,0	120,0	252,0	

VIBRATION-FREE • SPLIT BLOCK • OKUMA™

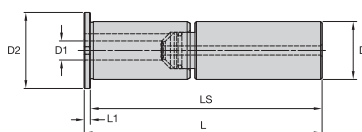


Detail

order number	catalogue number	D1	L1	L	H2	B2	series
6423221	SB40LB4000EX085	40	85	130,0	100,0	172,0	LB4000 EX (M,MY) LU35, LB35 (2 AXIS)
6423222	SB50LU35035	50	35	100,0	120,0	212,0	
6423223	SB60LU45050	60	50	120,0	134,0	252,0	LB45II & LU45 LB45II & LU45/M
6423210	SB60LU45M050	60	50	135,0	134,0	252,0	

				
155	156	117	4	160

VIBRATION-FREE • REDUCER SLEEVES

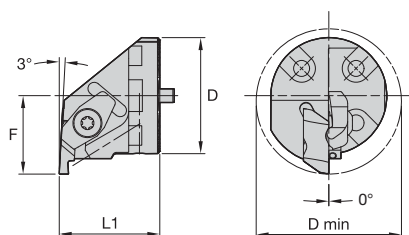


order number	catalogue number	D	D1	D2	L1	L	LS
6423264	SL040025	40	25	50	10	170	160
6423263	SL040032	40	32	50	4	164	160
6423262	SL050032	50	32	60	4	204	200
6423261	SL050040	50	40	60	4	204	200
6423260	SL060032	60	32	70	4	244	240
6423259	SL060040	60	40	70	4	244	240
6423258	SL080050	80	50	90	6	326	320
6423256	SL080060	80	60	90	4	324	320
6423255	SL100060	100	60	110	4	404	400
6423254	SL100080	100	80	110	4	404	400
6423253	SL120080	120	80	138	8	395	387
6423252	SL120100	120	100	138	8	488	480

155	156	117	4	160

VIBRATION-FREE • BOLT-ON HEADS • TOP NOTCH™ • NE 90°

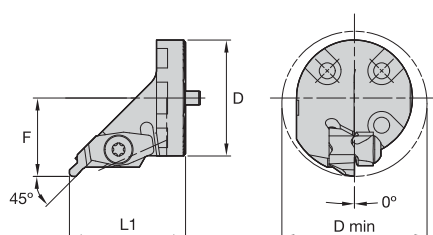
NEW!



order number	catalogue number	D	D min	F	L1	GI
right hand						
6754856	H3240NER3W	32	40	22,0	32,2	NG_3L
6754859	H4050NER3W	40	50	27,0	34,2	NG_3L
6754893	H5063NER3W	50	63	35,0	35,2	NG_3L
6754894	H5063NER4W	50	63	35,0	35,2	NG_4L
6754895	H5063NER6W	50	63	35,0	38,6	NG_6L
left hand						
6754855	H3240NEL3W	32	40	22,0	32,2	NG_3R
6754858	H4050NEL3W	40	50	27,0	34,2	NG_3R
6754891	H5063NEL3W	50	63	35,0	35,2	NG_3R
6754892	H5063NEL4W	50	63	35,0	35,2	NG_4R

VIBRATION-FREE • BOLT-ON HEADS • TOP NOTCH • NE 45°

NEW!

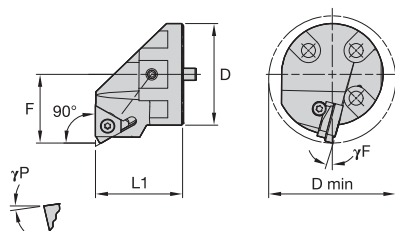


order number	catalogue number	D	D min	F	L1	GI
right hand						
6754857	H3240N45R3W	32	40	22,0	37,1	NU_3L
6754860	H4050N45R3W	40	50	27,0	39,6	NU_3L

155	156	118	4	160

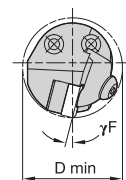
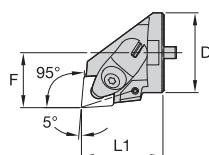
VIBRATION-FREE • BOLT-ON HEADS • SCREW-ON • LS 90°

NEW!



order number	catalogue number	D	D min	F	L1	γF°	γP°	GI
right hand								
6752815	H2532LSER16W	25	32	18,3	25,2	-15,0	-1,5	LT16NR
6752816	H3240LSER16W	32	40	23,3	32,2	-15,0	-1,5	LT16NR
6752817	H4050LSER16W	40	50	28,3	34,2	-15,0	-1,5	LT16NR
6752819	H4050LSER22W	40	50	28,7	34,2	-15,0	-1,5	LT22NR
6752818	H5063LSER16W	50	63	36,3	35,2	-15,0	-1,5	LT16NR
6752820	H5063LSER22W	50	63	36,7	35,2	-15,0	-1,5	LT22NR
6752841	H5063LSER27W	50	63	37,0	35,2	-15,0	-1,5	LT27NR

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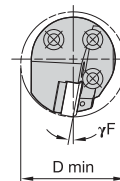
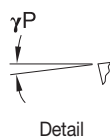
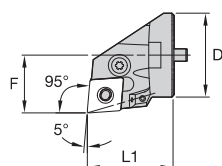


Detail

order number	catalogue number	D	D min	F	L1	γF°	γP°	GI
right hand								
6550556	H3240DCLNR12	32	40	22,0	32,6	-14,0	-5,0	CNMA120408
6550558	H4050DCLNR12	40	50	27,0	34,6	-12,0	-5,0	CNMA120408
6550560	H4050DCLNR16	40	50	27,0	35,6	-14,0	-5,0	CNMA160612
6550632	H5063DCLNR12	50	63	35,0	35,6	-12,0	-5,0	CNMA120408
6549432	H5063DCLNR16	50	63	35,0	35,6	-12,0	-5,0	CNMA160612
6549434	H5063DCLNR19	50	63	35,0	35,6	-12,0	-5,0	CNMA190612
left hand								
6550557	H3240DCLNL12	32	40	22,0	32,6	-14,0	-5,0	CNMA120408
6550559	H4050DCLNL12	40	50	27,0	34,6	-12,0	-5,0	CNMA120408
6550631	H4050DCLNL16	40	50	27,0	35,6	-14,0	-5,0	CNMA160612
6550633	H5063DCLNL12	50	63	35,0	35,6	-12,0	-5,0	CNMA120408
6549431	H5063DCLNL16	50	63	35,0	35,6	-12,0	-5,0	CNMA160612
6549433	H5063DCLNL19	50	63	35,0	35,6	-12,0	-5,0	CNMA190612

155	156	118	4	160

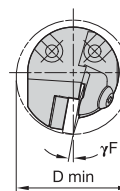
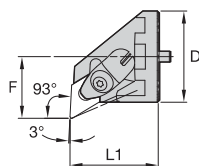
VIBRATION-FREE • BOLT-ON HEADS • KENLEVER™ • PCLN 95°



Detail

order number	catalogue number	D	D min	F	L1	γF°	γP°	GI
right hand								
6549409	H2532PCLNR09	25	33	17,0	25,6	-10.0	-5.0	CNMA090308
6550656	H3240PCLNR12	32	40	22,0	32,6	-10.0	-5.0	CNMA120408
6550658	H4050PCLNR12	40	50	27,0	34,6	-10.0	-5.0	CNMA120408
6550660	H4050PCLNR16	40	50	27,0	34,6	-11.0	-5.0	CNMA160612
6549442	H5063PCLNR12	50	63	35,0	35,6	-10.0	-5.0	CNMA120408
left hand								
6549408	H2532PCLNL09	25	33	17,0	25,6	-10.0	-5.0	CNMA090308
6550657	H3240PCLNL12	32	40	22,0	32,6	-10.0	-5.0	CNMA120408
6550659	H4050PCLNL12	40	50	27,0	34,6	-10.0	-5.0	CNMA120408
6550671	H4050PCLNL16	40	50	27,0	34,6	-11.0	-5.0	CNMA160612
6549441	H5063PCLNL12	50	63	35,0	35,6	-10.0	-5.0	CNMA120408

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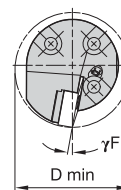
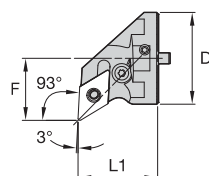


Detail

order number	catalogue number	D	D min	F	L1	γF°	γP°	GI
right hand								
6550634	H3240DDUNR11	32	40	22,0	32,6	-10.0	-5.0	DNMA110408
6550636	H4050DDUNR15	40	50	27,0	38,6	-10.0	-5.0	DNMA150408
6549436	H5063DDUNR15	50	63	35,0	35,6	-8.0	-5.0	DNMA150608
left hand								
6550635	H3240DDUNL11	32	40	22,0	32,6	-10.0	-5.0	DNMA110408
6550637	H4050DDUNL15	40	50	27,0	38,6	-10.0	-5.0	DNMA150408
6549435	H5063DDUNL15	50	63	35,0	35,6	-8.0	-5.0	DNMA150608

155	156	118	4	160

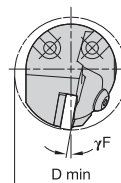
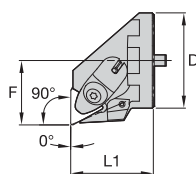
VIBRATION-FREE • BOLT-ON HEADS • KENLEVER™ • PDUN 93°



Detail

order number	catalogue number	D	D min	F	L1	γF°	γP°	GI
right hand								
6550672	H2532PDUNR11	25	32	17,0	26,6	-11.0	-5.0	DNMA110408
6550674	H3240PDUNR15	32	40	22,0	32,6	-12.0	-5.0	DNMA150608
6550676	H4050PDUNR15	40	50	27,0	34,6	-10.0	-5.0	DNMA150608
6549444	H5063PDUNR15	50	63	35,0	35,6	-10.0	-5.0	DNMA150608
left hand								
6550673	H2532PDUNL11	25	32	17,0	26,6	-11.0	-5.0	DNMA110408
6550675	H3240PDUNL15	32	40	22,0	32,6	-12.0	-5.0	DNMA150608
6550677	H4050PDUNL15	40	50	27,0	34,6	-10.0	-5.0	DNMA150608
6549443	H5063PDUNL15	50	63	35,0	35,6	-10.0	-5.0	DNMA150608

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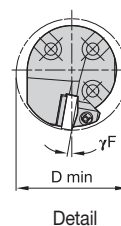
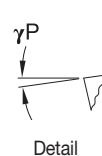
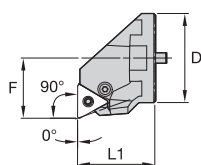
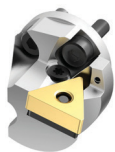


Detail

order number	catalogue number	D	D min	F	L1	γF°	γP°	GI
right hand								
6550638	H4050DTFNR16	40	50	27,0	34,6	-10.0	-5.0	TNMA160408
6549438	H5063DTFNR22	50	63	35,0	35,6	-8.0	-5.0	TNMA220408
left hand								
6550639	H4050DTFNL16	40	50	27,0	34,6	-10.0	-5.0	TNMA160408
6549437	H5063DTFNL22	50	63	35,0	35,6	-8.0	-5.0	TNMA220408

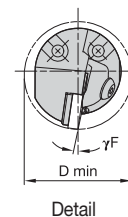
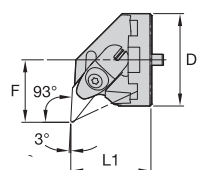
155	156	118	4	160

VIBRATION-FREE • BOLT-ON HEADS • KENLEVER™ • PTFN 90°



order number	catalogue number	D	D min	F	L1	γF°	γP°	GI
right hand								
6549411	H2532PTFNR16	25	32	17,0	24,6	-12.0	-15.0	TNMA160408
6550678	H3240PTFNR16	32	40	22,0	32,6	-12.0	-5.0	TNMA160408
6550680	H4050PTFNR16	40	50	27,0	34,6	-10.0	-5.0	TNMA160408
6549446	H5063PTFNR16	50	63	35,0	35,6	-8.0	-5.0	TNMA160408
left hand								
6549410	H2532PTFNL16	25	32	17,0	24,6	-12.0	-15.0	TNMA160408
6550679	H3240PTFNL16	32	40	22,0	32,6	-12.0	-5.0	TNMA160408
6550681	H4050PTFNL16	40	50	27,0	34,6	-10.0	-5.0	TNMA160408
6549445	H5063PTFNL16	50	63	35,0	35,6	-8.0	-5.0	TNMA160408

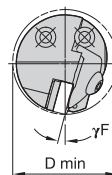
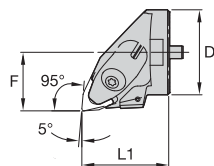
VIBRATION-FREE • BOLT-ON HEADS • KENCLAMP™ • DVUN 93°



order number	catalogue number	D	D min	F	L1	γF°	γP°	GI
right hand								
6550640	H4050DVUNR16	40	50	27,0	34,6	-9.0	-4.0	VNMA160408
6549440	H5063DVUNR16	50	63	35,0	35,6	-9.0	-5.0	VNMA160408
left hand								
6550651	H4050DVUNL16	40	50	27,0	34,6	-9.0	-4.0	VNMA160408
6549439	H5063DVUNL16	50	63	35,0	35,6	-9.0	-5.0	VNMA160408

155	156	118	4	160

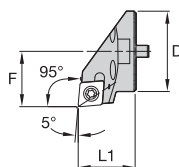
VIBRATION-FREE • BOLT-ON HEADS • KENCLAMP™ • DWLN 95°



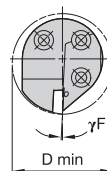
Detail

order number	catalogue number	D	D min	F	L1	γF°	γP°	GI
right hand 6550652	H3240DWLNR06	32	40	22,0	32,6	-14.0	-5.0	WNMA060408
left hand 6550653	H3240DWLNL06	32	40	22,0	32,6	-14.0	-5.0	WNMA060408

VIBRATION-FREE • BOLT-ON HEADS • SCREW-ON • SCLC 95°



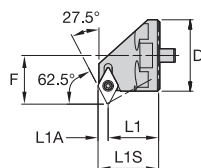
Detail



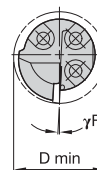
Detail

order number	catalogue number	D	D min	F	L1	γF°	γP°	GI
right hand 6549070	H2532SCLCR09	25	32	17,0	18,6	-3.0	0.0	CCMT09T308
6549392	H3240SCLCR09	32	40	22,0	22,6	-3.0	0.0	CCMT09T308
6549394	H4050SCLCR12	40	50	27,0	31,6	-3.0	0.0	CCMT120408
left hand 6549391	H2532SCLCL09	25	32	17,0	18,6	-3.0	0.0	CCMT09T308
6549393	H3240SCLCL09	32	40	22,0	22,6	-3.0	0.0	CCMT09T308
6549395	H4050SCLCL12	40	50	27,0	31,6	-3.0	0.0	CCMT120408

VIBRATION-FREE • BOLT-ON HEADS • SCREW-ON • SDPC 62.5°



Detail

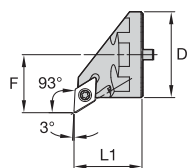


Detail

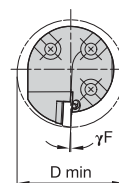
order number	catalogue number	D	D min	F	L1	L1A	L1S	γF°	γP°	GI
right hand 6549413	H2532SDPCR07	25	32	17,0	17,6	3,5	21,2	-3.0	0.0	DCMT070204
left hand 6549412	H2532SDPCL07	25	32	17,0	17,6	3,5	21,2	-3.0	0.0	DCMT070204

155	156	118	4	160

VIBRATION-FREE • BOLT-ON HEADS • SCREW-ON • SDUC 93°



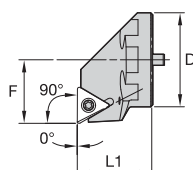
Detail



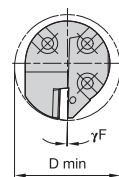
Detail

order number	catalogue number	D	D min	F	L1	γF°	γP°	GI
right hand								
6549415	H2532SDUCR07	25	32	17,0	17,6	-3.0	0.0	DCMT070204
6549396	H2532SDUCR11	25	32	17,0	17,6	-3.0	0.0	DCMT11T308
6549398	H3240SDUCR11	32	40	22,0	22,6	-3.0	0.0	DCMT11T308
6549400	H4050SDUCR11	40	50	27,0	31,6	-3.0	0.0	DCMT11T308
6549448	H5063SDUCR11	50	63	35,0	35,6	-3.0	0.0	DCMT11T308
left hand								
6549414	H2532SDUCL07	25	32	17,0	17,6	-3.0	0.0	DCMT070204
6549397	H2532SDUCL11	25	32	17,0	17,6	-3.0	0.0	DCMT11T308
6549399	H3240SDUCL11	32	40	22,0	22,6	-3.0	0.0	DCMT11T308
6549401	H4050SDUCL11	40	50	27,0	31,6	-3.0	0.0	DCMT11T308
6549447	H5063SDUCL11	50	63	35,0	35,6	-3.0	0.0	DCMT11T308

VIBRATION-FREE • BOLT-ON HEADS • SCREW-ON • STFC 90°



Detail

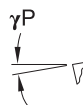
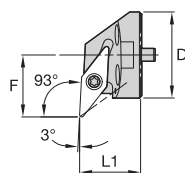


Detail

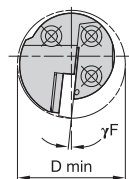
order number	catalogue number	D	D min	F	L1	γF°	γP°	GI
right hand								
6549417	H2532STFCR11	25	32	17,0	17,6	-2.0	0.0	TCMT110204
6549403	H3240STFCL16	32	40	22,0	24,6	-3.0	0.0	TCMT16T308
6549404	H4050STFCR16	40	50	27,0	31,6	-2.0	0.0	TCMT16T308
left hand								
6549416	H2532STFCL11	25	32	17,0	17,6	-2.0	0.0	TCMT110204
6549402	H3240STFCR16	32	40	22,0	24,6	-3.0	0.0	TCMT16T308
6549405	H4050STFCL16	40	50	27,0	31,6	-2.0	0.0	TCMT16T308

155	156	118	4	160

VIBRATION-FREE • BOLT-ON HEADS • SCREW-ON • SVUB 93°



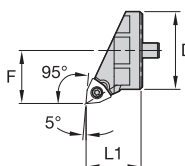
Detail



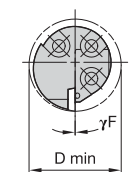
Detail

order number	catalogue number	D	D min	F	L1	γF°	γP°	GI
right hand								
6549406	H2532SVUBR11	25	32	17,0	17,6	-5.0	0.0	VBMT110304
6549452	H3240SVUBR16	32	40	23,0	22,6	-6.0	0.0	VBMT160408
6549450	H5063SVUBR16	50	63	35,0	35,6	-3.0	0.0	VBMT160408
left hand								
6549407	H2532SVUBL11	25	32	17,0	17,6	-5.0	0.0	VBMT110304
6549451	H3240SVUBL16	32	40	23,0	22,6	-6.0	0.0	VBMT160408
6549449	H5063SVUBL16	50	63	35,0	35,6	-3.0	0.0	VBMT160408

VIBRATION-FREE • BOLT-ON HEADS • SCREW-ON • SWLP 95°



Detail



Detail

order number	catalogue number	D	D min	F	L1	γF°	γP°	GI
right hand								
6549419	H2532SWLPR04	25	32	17,0	17,6	0.0	0.0	WPMT040204
left hand								
6549418	H2532SWLPL04	25	32	17,0	17,6	0.0	0.0	WPMT040204

				
155	156	118	4	160

Beyond™ Evolution™

Grooving and Cut-Off

Materials



Applications



Cut-Off

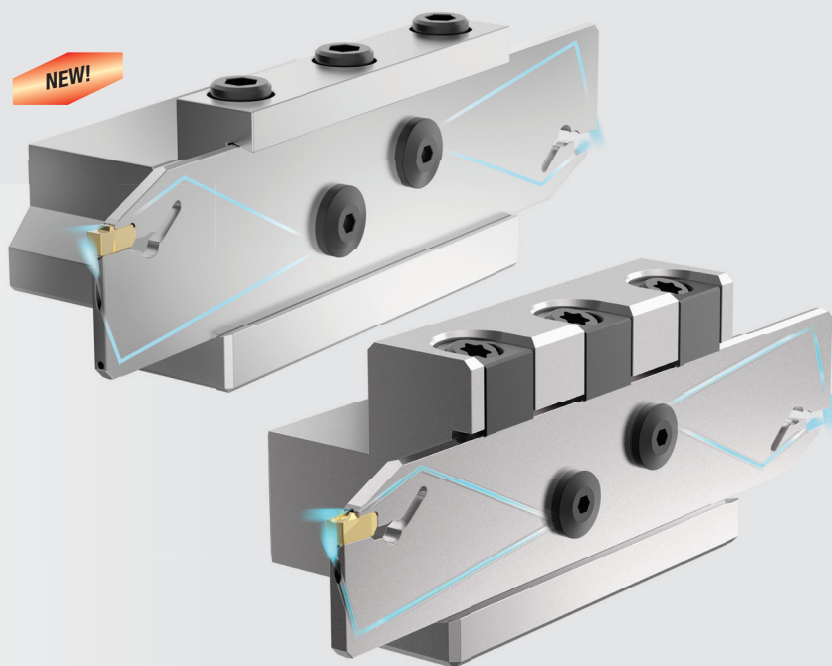


O.D. Deep Grooving



Grooving

kennametal.com/BeyondEvolution



Beyond Evolution is the new single-sided grooving and cut-off tool that also performs multi-directional turning.

Whether you are using a high- or low-pressure coolant supply, Beyond Evolution, featuring active coolant control, delivers longer tool life and higher Metal Removal Rates (MRR).

Available now:

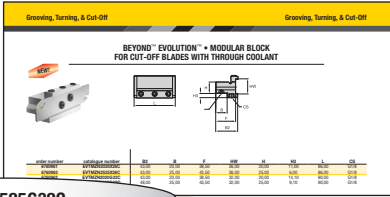
Cut-off blades and supporting blocks with active coolant control.
For even higher productivity in cut-off and deep-grooving applications.



Modular block with removable top rail, providing accessibility in turret-style machines.

BEYOND™ EVOLUTION™ • CATALOGUE NUMBERING SYSTEM • BLOCKS

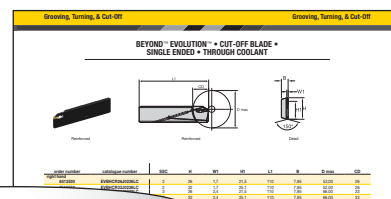
Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



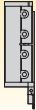
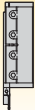
EVTZN2525G32C

EV	T	Z	N	2525	G	32	C
Family Name	Tool Block	Clamping Style	Hand of Tool	Shank Size	Tool Length in (mm)	Blade Size	Coolant
Beyond™ Evolution™		E = Integral Clamp M = Modular Z = Removable Clamp	R = Right L = Left N = Neutral	Metric = Height x width in mm letter indicates tool length according to ISO	G = 80 J = 110 X = Other Length	in millimetres	C = Through Coolant Capable

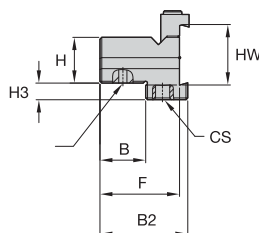
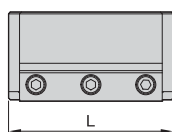
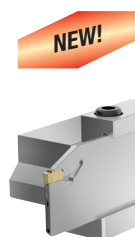
Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



EVBSCCL32J0320LC

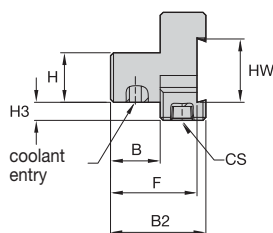
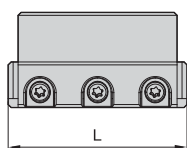
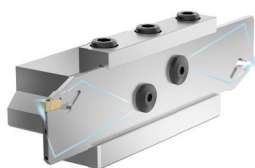
EV	BS	C	L	32	J	03	20	L	C
Family Name	Tool Style	Support Type	Hand of Pocket	Blade Height	Overall Length	Seat Size (SSC)	Max. Cutting Depth	Hand of Blade	Coolant
Beyond™ Evolution™	BS = Blade Standard 2 Pocket BH = Blade Heavy 1 Pocket	C = Reinforced	N = Neutral L = Left Hand R = Right Hand	in millimetres	According to ISO G = 90mm J = 110mm M = 150mm X = Special	1B 1F 02 03 04 05 06 08 10	in millimetres	L = Left Hand R = Right Hand	C = Through Coolant Capable
			RH Blade RH Pocket  	RH Blade LH Pocket  	LH Blade RH Pocket  	LH Blade LH Pocket  			

BEYOND™ EVOLUTION™ • MODULAR BLOCK FOR CUT-OFF BLADES WITH THROUGH COOLANT



order number	catalogue number	B2	B	F	HW	H	H3	L	CS
6760961	EVTMZN2020X26C	43,00	20,00	38,50	26,00	20,00	11,00	86,00	G1/8
6760963	EVTMZN2525X26C	43,00	25,00	43,50	26,00	25,00	6,00	86,00	G1/8
6760962	EVTMZN2020G32C	43,00	20,00	38,50	32,00	20,00	14,10	90,00	G1/8
6760964	EVTMZN2525G32C	48,00	25,00	43,50	32,00	25,00	9,10	90,00	G1/8

BEYOND EVOLUTION • BLOCK FOR CUT-OFF BLADES WITH THROUGH COOLANT



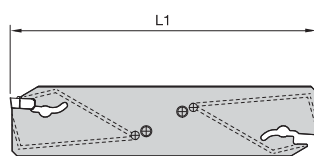
order number	catalogue number	B2	B	F	HW	H	H3	L	CS
6543722	EVTZN2020X26C	43,00	20,00	38,50	26,00	20,00	11,00	78,00	G1/8
6543723	EVTZN2020X32C	43,00	20,00	38,50	32,00	20,00	14,10	78,00	G1/8
6543724	EVTZN2525G26C	48,00	25,00	43,50	26,00	25,00	6,00	90,00	G1/8
6543725	EVTZN2525G32C	48,00	25,00	43,50	32,00	25,00	9,10	90,00	G1/8

155	156	133	4	160

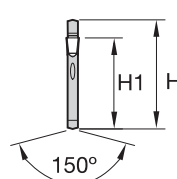
BEYOND™ EVOLUTION™ • CUT-OFF BLADE • DOUBLE ENDED • THROUGH COOLANT



Straight



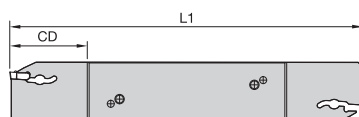
Straight



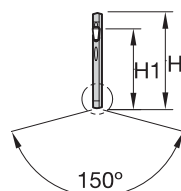
Detail



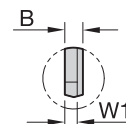
Reinforced



Reinforced



Detail



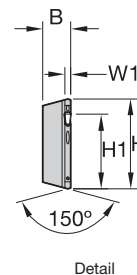
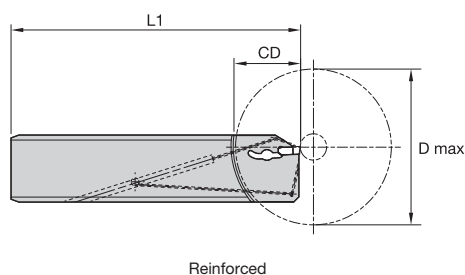
Detail

order number	catalogue number	SSC	H	W1	H1	L1	B	CD
neutral hand								
6513449	EVBSN26M0233C	2	26	1,7	21,5	150	2,40	33
6513450	EVBSN32M0233C	2	32	1,7	25,1	150	2,40	33
6513521	EVBSN26J0340C	3	26	—	21,5	110	2,40	40
6513522	EVBSN26M0340C	3	26	—	21,5	150	2,40	40
6513523	EVBSN32M0350C	3	32	—	25,1	150	2,40	50
6513524	EVBSN26J0440C	4	26	—	21,5	110	3,40	40
6513525	EVBSN26M0440C	4	26	—	21,5	150	3,40	40
6513526	EVBSN32M0450C	4	32	—	25,1	150	3,40	50
6513527	EVBSN32M0560C	5	32	—	25,1	150	4,40	60
6513529	EVBSN32M0660C	6	32	—	25,1	150	5,40	60

SSC = To correspond with the SSC on the insert.

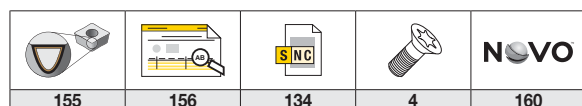
155	156	134	4	160

BEYOND™ EVOLUTION™ • CUT-OFF BLADE • SINGLE ENDED • THROUGH COOLANT

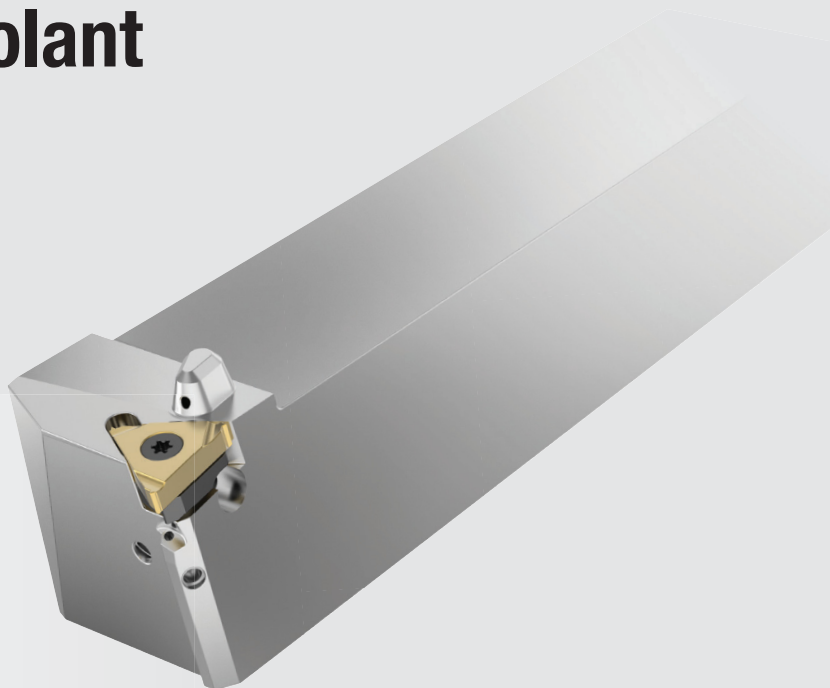


order number	catalogue number	SSC	H	W1	H1	L1	B	D max	CD
right hand									
6513530	EVBHCR26J0226LC	2	26	1,7	21,5	110	7,95	52,00	26
6513552	EVBHCR32J0226LC	2	32	1,7	25,1	110	7,95	52,00	26
6513554	EVBHCR26J0333LC	3	26	2,4	21,5	110	7,95	66,00	33
6513558	EVBHCR32J0333LC	3	32	2,4	25,1	110	7,95	66,00	33
6513556	EVBHCR32K0340LC	3	32	2,4	25,1	125	7,95	80,00	40
6513560	EVBHCR26J0433LC	4	26	3,4	21,5	110	7,95	66,00	33
6513574	EVBHCR32J0433LC	4	32	3,4	25,1	110	7,95	66,00	33
6513572	EVBHCR32K0440LC	4	32	3,4	25,1	125	7,95	80,00	40
left hand									
6513551	EVBHCL26J0226RC	2	26	1,7	21,5	110	7,95	52,00	26
6513553	EVBHCL32J0226RC	2	32	1,7	25,1	110	7,95	52,00	26
6513555	EVBHCL26J0333RC	3	26	2,4	21,5	110	7,95	66,00	33
6513559	EVBHCL32J0333RC	3	32	2,4	25,1	110	7,95	66,00	33
6513557	EVBHCL32K0340RC	3	32	2,4	25,1	125	7,95	80,00	40
6513571	EVBHCL26J0433RC	4	26	3,4	21,5	110	7,95	66,00	33
6513575	EVBHCL32J0433RC	4	32	3,4	25,1	110	7,95	66,00	33
6513573	EVBHCL32K0440RC	4	32	3,4	25,1	125	7,95	80,00	40

SSC = To correspond with the SSC on the insert.



Laydown Threading Toolholders with Through Coolant



Applications



Threading

kennametal.com/LT-Threading



With precise, through the tool coolant delivery.

Ultimate convenience as multiple coolant ports provide ease-of-connection.

Plug-and-Play through quick-change VDI coolant connection.

Maximum heat reduction, maximum tool life, and maximum performance through precision coolant delivery to both the flank and rake face of the insert.

Increased chip evacuation results in a better surface finish on the finished part.

LAYDOWN THREADING • CATALOGUE NUMBERING SYSTEM

Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.

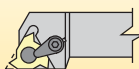
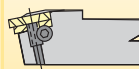
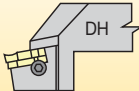
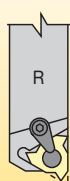
Threading

Threading

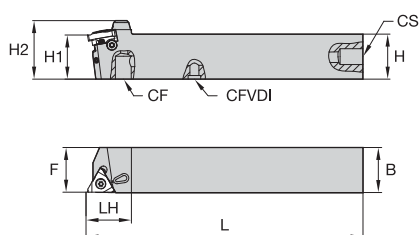
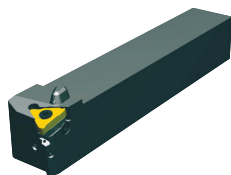
LAYDOWN THREADING • THROUGH COOLANT • LSA-C

LSASR252516C

LSASR163C

Metric								
L	S	AS	R		2525		16	C
Inch								
L	S	AS	R		16		3	C
Insert Style	Insert Holding Method	Tool Style	Hand of Tool	Drop Head	Shank Size	Length	Insert Size	Coolant
L – Laydown triangle 	S – Screw-on 	Straight shank  Offset shank 		Metric = Height x Width in mm Inch = Height x Width in 1/16 inch increments	G = 90mm J = 110mm M = 150mm X = Special		C = Through the pocket coolant capable	
		Left hand 	Right hand 					
ANSI insert size is equal to the iC in 1/8 increments. Ex.: For a 1/4" iC, the ANSI insert size = 2								
ISO Insert Size	iC		L1					
	Inch	Metric	Inch	Metric				
06	5/32	4,0	0.273	6,9				
08	3/16	5,0	0.341	8,7				
11	1/4	6,4	0.433	11,0				
16	3/8	9,5	0.650	16,5				
22	1/2	12,7	0.866	22,0				

LAYDOWN THREADING • THROUGH COOLANT • LSA-C



order number	catalogue number	H	H1	H2	B	F	L	LH	CS	CF	CFVDI	GI
right hand												
6770486	LSASR1616H16C	16	16	24	16	16	100	25	G1/8	G1/8	M6X1	LT16ER
6770487	LSASR2020X16C	20	20	28	20	20	127	25	G1/8	G1/8	M6X1	LT16ER
6770488	LSASR2525X16C	25	25	33	25	25	154	25	G1/8	G1/8	M6X1	LT16ER
6770510	LSASR2525X22C	25	25	33	25	25	155	30	G1/8	G1/8	M6X1	LT22ER
6770489	LSASR3232X16C	32	32	40	32	32	175	25	G1/8	G1/8	M6X1	LT16ER
6770511	LSASR3232X22C	32	32	40	32	32	175	30	G1/8	G1/8	M6X1	LT22ER
left hand												
6770490	LSASL1616H16C	16	16	24	16	16	100	25	G1/8	G1/8	M6X1	LT16EL
6770501	LSASL2020X16C	20	20	28	20	20	127	25	G1/8	G1/8	M6X1	LT16EL
6770502	LSASL2525X16C	25	25	33	25	25	155	25	G1/8	G1/8	M6X1	LT16EL
6770512	LSASL2525X22C	25	25	33	20	25	155	30	G1/8	G1/8	M6X1	LT22EL
6770503	LSASL3232X16C	32	32	40	32	32	175	25	G1/8	G1/8	M6X1	LT16ER
6770513	LSASL3232X22C	32	32	40	32	32	175	30	G1/8	G1/8	M6X1	LT22EL

155	156	139	4	160

Coolant Accessories



kennametal.com/CoolantAccessories

Connecting Kennametal tooling to your machine is easy. Whether requiring heavy duty hoses capable of 350 bar (5,000 psi) or more flexible braided hoses capable of 210 bar (3,000 psi), we have you covered.

Pre-assembled coolant kits

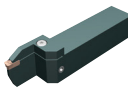
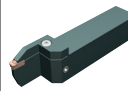
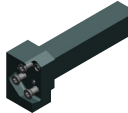
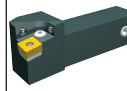
These kits connect Kennametal turning tooling to the industry's most common machines. The Kennametal universal coolant kits are ideal! Each kit contains the most common thread sizes with a variety of fitting styles for maximum flexibility.

Know exactly what you need?

Knowing the precise components required will allow you to choose only the fittings you need! Each component is individually available, including less common fittings for your convenience.

KITS • SELECTION GUIDE

1 STEP 1: Look for your application, holder style, and size.

Application	Cut-Off		Grooving			Threading	Turning
Holder Style	Front clamp	Top clamp	Top clamp	Top clamp	Modular holder	Screw down	ISO turning holder
Shank Size — mm	12–20	12–20	12–20	25–40	all	all	all
							

2 STEP 2: Find the matching coolant kits.

Kit Description	Hose Type: 						
Universal 200mm flex hose coolant kit	•	•	•	•	•	•	•
Universal 300mm flex hose coolant kit	•	•	•	•	•	•	•
Maximum Coolant Pressure Bar/psi	200 / 2901	200 / 2901	200 / 2901	200 / 2901	200 / 2901	200 / 2901	200 / 2901
Kit Description	Hose Type: 						
M8x1.0 banjo 200mm flex hose coolant kit	•	•	•				
M8x1.0 banjo 300mm flex hose coolant kit	•	•	•				
G 1/8 banjo 200mm flex hose coolant kit				•	•	•	•
G 1/8 banjo 300mm flex hose coolant kit				•	•	•	•
Maximum Coolant Pressure Bar/psi	200 / 2901	200 / 2901	200 / 2901	200 / 2901	200 / 2901	200 / 2901	200 / 2901
Kit Description	Hose Type: 						
Universal 200mm heavy-duty coolant kit				•	•	•	•
Universal 300mm heavy-duty coolant kit				•	•	•	•
Maximum Coolant Pressure Bar/psi	200 / 2901	* 350 / 5,076	* 350 / 5,076	* 350 / 5,076	* 350 / 5,076	* 350 / 5,076	* 350 / 5,076

* Max pressure for seat size (SSC) O2 holders is 200 bar/2901 psi.

KIT COMPONENTS

			COMPONENT DESCRIPTION														
			1/16 NPTF MALE TO JIC MALE	1/8 NPTF MALE TO JIC MALE	M8 X 1.25 MALE TO JIC MALE	M8 X 1.0 MALE TO JIC MALE	G1/8 MALE TO JIC MALE	M10 MALE TO JIC MALE	MALE JIC TO FEMALE JIC ELBOW	HEAVY DUTY 200MM COOLANT HOSE	HEAVY DUTY 300MM COOLANT HOSE	UNIV 200MM FLEX COOLANT HOSE	UNIV 300MM FLEX COOLANT HOSE	M8X1.0 BANJO 200MM FLEX HOSE	G1/8 BANJO 200MM FLEX HOSE	M8X1.0 BANJO 300MM FLEX HOSE	G1/8 BANJO 300MM FLEX HOSE
																	
Kit Description	Catalogue Number	Order Number															
Universal 200mm flex hose coolant kit	COOL-KIT-UNIVERSAL-FLEX-101	6475019	•	•	•	•	•	•			•						
Universal 300mm flex hose coolant kit	COOL-KIT-UNIVERSAL-FLEX-201	6475021	•	•	•	•	•	•				•					
M8x1.0 banjo 200mm flex hose coolant kit	COOL-KIT-FLEX-301B	6475023					•	•	•				•				
M8x1.0 banjo 300mm flex hose coolant kit	COOL-KIT-FLEX-401B	6475025					•	•	•						•		
G 1/8 banjo 200mm flex hose coolant kit	COOL-KIT-FLEX-501B	6475027					•	•	•					•			
G 1/8 banjo 300mm flex hose coolant kit	COOL-KIT-FLEX-601B	6475029					•	•	•							•	
Universal 200mm heavy-duty coolant kit	COOL-KIT-101-HD	6145372	•	•			•	•	•	•							
Universal 300mm heavy-duty coolant kit	COOL-KIT-201-HD	6145373	•	•			•	•	•		•						

INDIVIDUAL KIT COMPONENT LIST



order number	catalogue number	description
6145374	1-16NPTF-JIC	Straight fitting, 1/16 NPTF male thread to JIC male thread
6145375	1-8NPTF-JIC	Straight fitting, 1/8 NPTF male thread to JIC male thread
6145378	M8X1.25-JIC	Straight fitting, M8 x 1.25 male thread to JIC male thread
6475041	M8X1-JIC	Straight fitting, M8 x 1.0 male thread to JIC male thread
6145376	G18-JIC	Straight fitting, G 1/8 male thread to JIC male thread
6145377	M10X1.5-JIC	Straight fitting, M10 x 1.5 male thread to JIC male thread
6145379	JICM-JICF-ELB	Elbow fitting, male JIC thread to female JIC thread
6145380	COOL-HOSE-200-HD	Heavy Duty 200mm Coolant hose with JIC female fitting both ends
6145381	COOL-HOSE-300-HD	Heavy Duty 300mm Coolant hose with JIC female fitting both ends
6432549	COOL-HOSE-200-FLEX	Flexible braided 200mm Coolant hose with JIC female fitting both ends
6432550	COOL-HOSE-300-FLEX	Flexible braided 300mm Coolant hose with JIC female fitting both ends
6475043	M8X1-BAN-JIC-HOSE-200	Flexible braided 200mm Coolant hose, M8 x 1.0 male thread to JIC female thread. Contains (1) M8x1.0 banjo bolt and (2) M8 bonded washers
6475045	G18-BAN-JIC-HOSE-200	Flexible braided 200mm Coolant hose, G 1/8 male thread to JIC female thread. Contains (1) G 1/8 banjo bolt and (2) G 1/8 bonded washers
6475047	M8X1-BAN-JIC-HOSE-300	Flexible braided 300mm Coolant hose, M8 x 1.0 male thread to JIC female thread. Contains (1) M8x1.0 banjo bolt and (2) M8 bonded washers
6475049	G18-BAN-JIC-HOSE-300	Flexible braided 300mm Coolant hose, G 1/8 male thread to JIC female thread. Contains (1) G 1/8 banjo bolt and (2) G 1/8 bonded washers

COOLANT ACCESSORIES

The items shown below are not part of any coolant kits shown on previous pages.



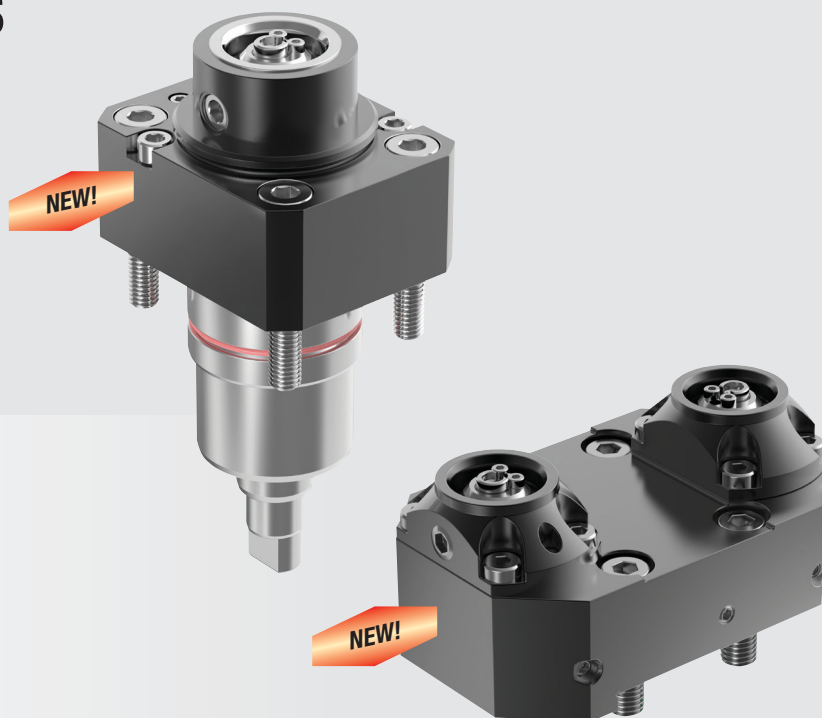
order number	catalogue number	description
6145382	M6X1-JIC	Straight fitting, M6 x 1.0 male thread to JIC male thread
6145383	JICM-JICM-STR	Straight fitting, JIC male thread to JIC male thread
6145386	G14-G18-RED	Straight fitting, G 1/4 male thread to G 1/8th male thread
6475058	R18-JIC	Straight fitting, 1/8 BSPT male thread to JIC male thread
6475059	R14-JIC	Straight fitting, 1/4 BSPT male thread to JIC male thread

COOLANT SPARE PARTS

Included in kits; part of components.

order number	catalogue number	description
6475051	M8X1-BAN-BOLT	Banjo bolt, M8 x 1.0 male thread
6475053	G18-BAN-BOLT	Banjo bolt, G1/8 male thread
6475060	M6-BON-WASHER	M6 bonded washer
6475055	M8-BON-WASHER	M8 bonded washer
6475061	M10-BON-WASHER	M10 bonded washer
6475056	G18-BON-WASHER	G 1/8 bonded washer

Turret Adapted Clamping Units



kennametal.com/TACU

Driven and Static • KM™ for
NAKAMURA™ Machines

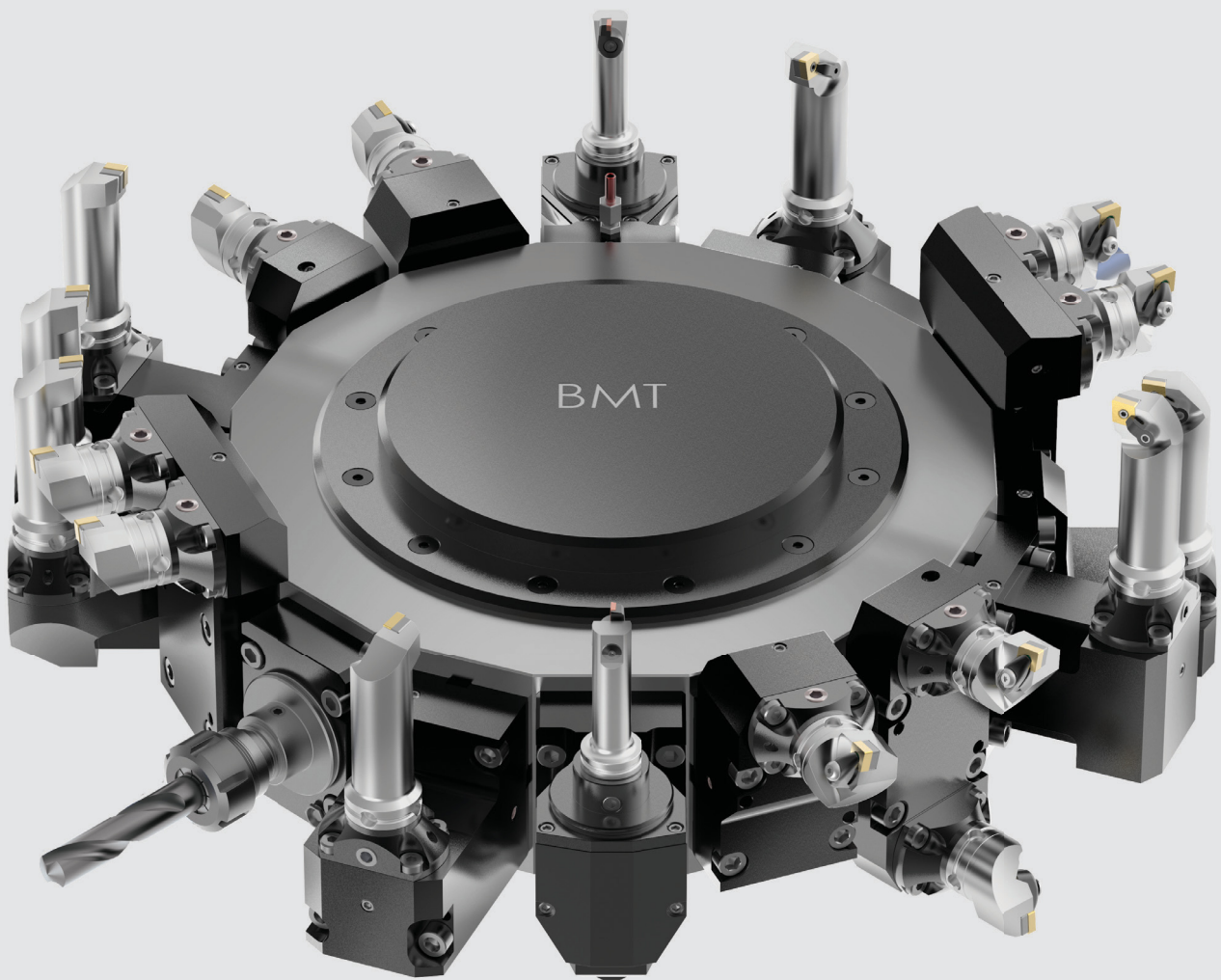
Turret adapted clamping units provide unmatched performance and guaranteed productivity improvement.

Ensure optimised machine utilisation by increasing repeatability and reducing setup times.

Turret adapted clamping units are designed to fit specific machine-tool turret interfaces.

The offering covers various machine models from leading machine-tool builders such as DOOSAN™, HAAS™, HWACHEON™, HYUNDIA WIA, Mazak™, DMG Mori, and OKUMA™.

NEW! Driven and static tools for NAKAMURA™ machines up to 6,000 RPM. Gear ratio 1:1.



- Standard portfolio features static blocks and driven tools for KM™ sizes 32, 40, 50, and 63.
- Driven tools for ER sizes 25, 32, and 40.
- Driven tools up to 12,000 RPM. Gear ratio 1:1.
- Designed to fit machine-tool specific turret interfaces.
- VDI mounted units for easy handling.
- Bolt mounted units (BMT) for high rigidity.
- Available with internal and external coolant supply.

TACU • TOOL SELECTION GUIDE

1 STEP 1: Find machine tool manufacturer.

2 STEP 2: Choose machine tool model.

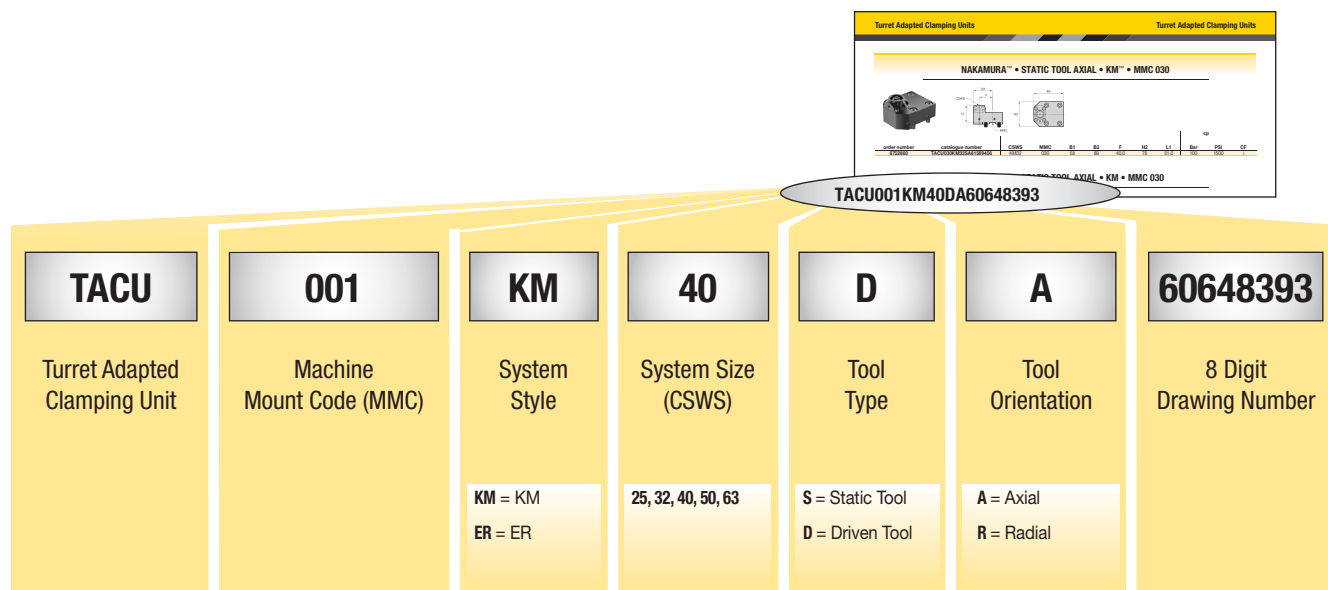
3 STEP 3: Find machine mount code (MMC).

MACHINE TOOL MANUFACTURER			
	NEW! NAKAMURA™		
Machine Tool Model	- WY-100 II - NTY3-100	- WY-150 - AS-200/200L (TW10)	
Machine Mount Code (MMC)	MMC 030 Pages: 150–151	MMC031 Pages: 152–153	
	DMG MORI	OKUMA™	HAAS™
Machine Tool Model	- DuraTurn 2050, 2550 MC - NL/NLX 1500–2500 (20 Station Turret) - NT 3100, 3150, 3200 - NT/NTX 1000, 2000 - NZ/NZX 1500–2000 (16 Station Turret) - DIM 1500	- Genos L300 MW/MYW - LB/LU 2000–3000 EX M/MY/MW/MYW - MULTUS U3000, 4000 2S	ST-20/30, SL-20/30 (BOT Turret)
Machine Mount Code (MMC)	MMC 001 Pages: 55–58*	MMC 009 Pages: 62–64*	MMC 013 Page: 34*
Machine Tool Model	- NL/NLX 1500–4000 MC/Y/SMC/SY - NLX 4000 (High Torque Milling) - NZX 2500 (12 Station Turret)	- ES L10 - Genos L400 - LB/LU 2500–3000 EX - LB300, LU300	- ST-20 (BMT65) - ST-20Y (BMT65) - ST-25 (BMT65) - ST-25Y (BMT65) - ST-30 (BMT65) - ST-30Y (BMT65) - ST-35 (BMT65) - ST-35Y (BMT65) - DS-30 (BMT65) - DS-30Y (BMT65)
Machine Mount Code (MMC)	MMC 002 Pages: 58–61*	MMC 013 Page: 64*	MMC 036 Pages: 34–36*
	MAZAK™		
Machine Tool Model	- Quick Turn Nexus 200, 250 M, MY (12 Station Turret) - Quick Turn Nexus 200, 250 MS, MSY (12 Station Turret) - Super Quadrex 200, 250 M (12 Station Turret) - Super Quick Turn 200, 250, M, MY (12 Station Turret) - Super Quick Turn 200, 250, MS, MSY (12 Station Turret)	- Hyper Quadrex 200, 250 MSY (12 Station Turret) - Multiplex 6200, 6200Y, 6250 (12 Station Turret)	- Hyper Quadrex 450 M - Megaturn Nexus 900 M - Quick Turn Nexus 300–450 M, MY - Slant Turn Nexus 500, 550 M
Machine Mount Code (MMC)	MMC 016 Pages: 45–47*	MMC 017 Pages: 47–49*	MMC 018 Pages: 50–51*
Machine Tool Model	- MP430, 630 (12 Station Turret) - MP6300, 6300 Y (12 Station Turret)	- Quick Turn Smart 100, 150 M S - Quick Turn Smart 200, 250 M	
Machine Mount Code (MMC)	MMC 019 Pages: 51–53*	MMC 020 Pages: 53–54*	
	DOOSAN™ (DAEWOO™)	HYUNDAI WIA	HWACHEON™
Machine Tool Model	- Lynx 300M - Puma 1500, 2000, 2500 M/Y (12 Station, BMT55) - Puma 1500-2500 MS/SY (12 Station, BMT55) - Puma 2100 M/MS/Y/SY (24 Station, BMT55) - Puma 2100 M/Y (12 Station, BMT55) - Puma 230, 240, 280 M/MS/LM - Puma MX1600, 2100 ST (BMT55) - Puma TL2000, 2500 M - Puma TT1500, 1800 MS/SY	- L230LMSA - LM1600, 1800TTSY - SKT160, 180TTMS/TTSY (BMT55)	Cutex 160 MC/SMC (BMT 55)
Machine Mount Code (MMC)	MMC 035 Pages: 30–31*	MMC 035 Pages: 41–42*	MMC 035 Pages: 37–38*
Machine Tool Model	- Puma 2100, 2600 M/MS/Y/SY (24 Station, BMT65) - Puma 2100, 2600 M/MS/Y/SY (12 Station, BMT65) - Puma 3100 M/Y/MY (12 Station, BMT65) - Puma MX2000, 2500, 2600 T/ST/SY - Puma VT450 M, VT450 M-2SP - Puma Invertum 3000 M - Puma 300 M/MS - Puma TT2000, 2500 MS/SY - Puma V400M	- SKT200, 250TTM/MS/SY - SKT250, 300M/MS - L2100SY - LM2000, 2500TTM/TTMS/TTSY - L300M/MS	- Cutex 240 MC/SMC - Hi-Tech 200–450 MC/SMC/YMC/YSMC (BMT 65) - T2 MC/SMC/YMC/YSMC - VT450 MC (BMT65)
Machine Mount Code (MMC)	MMC 036 Pages: 31–33*	MMC 036 Pages: 42–44*	MMC 036 Pages: 38–40*

* See page in the Kennametal Innovations Catalogue 2020 | 01 • A-19-05951.

TACU • CATALOGUE NUMBERING SYSTEM

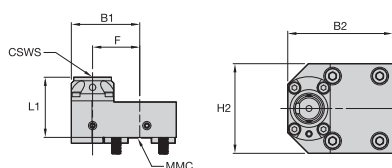
Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



For additional information, see Kennametal Innovations Catalogue 2020 | 01 • A-19-05951, or visit kennametal.com/TACU.

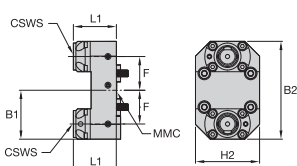


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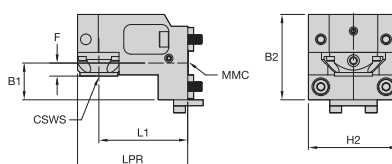
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6752660	TACU030KM32SA61569456	KM32	030	58	89	40,0	76	51,0	Bar	PSI	CF
									100	1500	i

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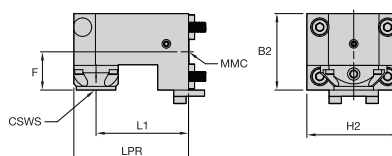
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6752722	TACU030KM32SA61569459 *	KM32	030	58	116	40,0	76	31,0	Bar	PSI	CF
									100	1500	i

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order number	catalogue number	CSWS	MMC	B1	B2	F	H2	L1	LPR	cp		
6752721	TACU030KM32SR61569457	KM32	030	31	72	11,0	76	75,0	93	Bar	PSI	CF
										100	1500	i

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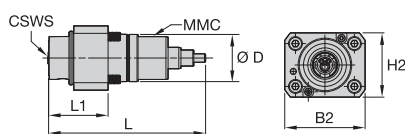


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6752723	TACU030KM32SR61569460	KM32	030	62	31,0	76	75,0	93	Bar	PSI	CF
									100	1500	i

156	149	4	160

NOTE: * = Only usable on machines equipped with sub-spindle.

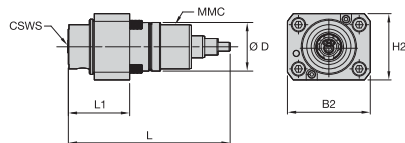
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cp

order number	catalogue number	CSWS	MMC	B2	D	H2	L	L1	mST (Nm)	Bar	PSI	CF	CS1	max RPM
6741420	TACU030KM32DA61569437	KM32	030	75	44	60	147	55,5	25	70	1000	e	M10X1	6000

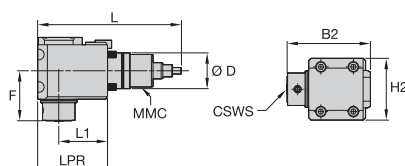
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order number	catalogue number	CSWS	MMC	B2	D	H2	L	L1	mST (Nm)	Bar	PSI	CF	CS1	max RPM
6741592	TACU030KM32DA61569454	KM32	030	75	44	60	147	55,5	25	70	1000	i/e	M10X1	6000

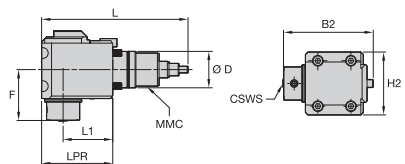
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order number	catalogue number	CSWS	MMC	B2	D	F	H2	L	L1	LPR	mST (Nm)	Bar	PSI	CF	CS1	max RPM
6741591	TACU030KM32DR61569438	KM32	030	103	44	61,5	76	177	60,0	86	25	70	1000	e	M10X1	6000

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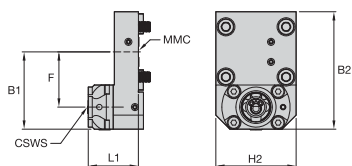


cp

order number	catalogue number	CSWS	MMC	B2	D	F	H2	L	L1	LPR	mST (Nm)	Bar	PSI	CF	CS1	max RPM
6741593	TACU030KM32DR61569455	KM32	030	109	44	61,5	76	177	60,0	86	25	70	1000	i/e	M10X1	6000

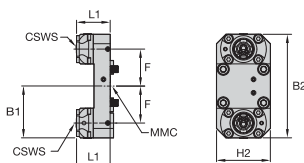
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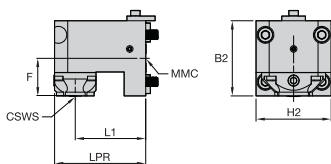
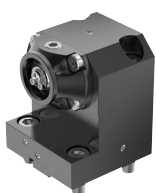
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6752724	TACU031KM40SA61569465	KM40	031	77	117	55,0	80	50,0	Bar	PSI	CF
									100	1500	i

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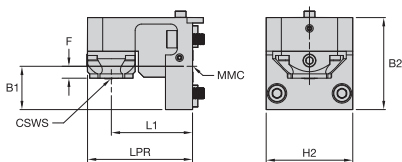
order number	catalogue number	CSWS	MMC	B1	B2	F	H2	L1	cp		
6752726	TACU031KM40SA61569467 *	KM40	031	77	154	55,0	80	50,0	Bar	PSI	CF
									100	1500	i

NAKAMURA • STATIC TOOL RADIAL • KM • MMC 031



order number	catalogue number	CSWS	MMC	B2	F	H2	L1	LPR	cp		
6752725	TACU031KM40SR61569466	KM40	031	80	40,0	80	75,0	97	Bar	PSI	CF
									100	1500	i

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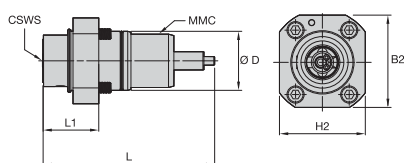


order number	catalogue number	CSWS	MMC	B1	B2	F	H2	L1	LPR	cp		
6752727	TACU031KM40SR61569468	KM40	031	40	85	11,0	80	75,0	97	Bar	PSI	CF
										100	1500	i

156	149	4	160

NOTE: * = Only usable on machines equipped with sub-spindle.

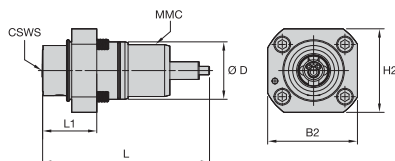
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cp

order number	catalogue number	CSWS	MMC	B2	D	H2	L	L1	mST (Nm)	Bar	PSI	CF	CS1	max RPM
6741594	TACU031KM40DA61569461	KM40	031	86	55	80	160	52,0	25	70	1000	e	M10X1	6000

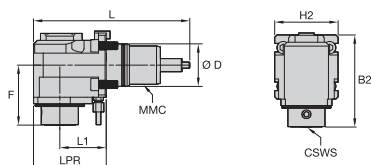
NAKAMURA • DRIVEN TOOL AXIAL • KM • MMC 031



cp

order number	catalogue number	CSWS	MMC	B2	D	H2	L	L1	mST (Nm)	Bar	PSI	CF	CS1	max RPM
6741596	TACU031KM40DA61569463	KM40	031	86	55	80	160	52,0	25	70	1000	i/e	M10X1	6000

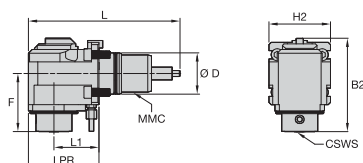
NAKAMURA • DRIVEN TOOL RADIAL • KM • MMC 031



cp

order number	catalogue number	CSWS	MMC	B2	D	F	H2	L	L1	LPR	mST (Nm)	Bar	PSI	CF	CS1	max RPM
6741595	TACU031KM40DR61569462	KM40	031	119	55	77,5	82	202	60,0	94	25	70	1000	e	G 1/8	6000

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cp

order number	catalogue number	CSWS	MMC	B2	D	F	H2	L	L1	LPR	mST (Nm)	Bar	PSI	CF	CS1	max RPM
6741597	TACU031KM40DR61569464	KM40	031	125	55	77,5	82	202	60,0	94	25	70	1000	i/e	G 1/8	6000

156	149	4	160

HOLEMAKING

		wear resistance ← → toughness									
Coating	Grade Description		05	10	15	20	25	30	35	40	45
KCP15A		Composition: Monolayer PVD AlTiN coated submicron grain carbide.	P								
		Application: First choice for steel and second choice for cast iron. This grade consists of an updated AlTiN coating, offering improved high temperature properties on top of the proven fine grain carbide substrate offering required toughness for modular drilling applications.	K								
KCP15B		Composition: Multilayered PVD AlTiN-based coated submicron grain carbide with superior surface finish.	P								
		Application: First choice for steel. A proprietary coating combined with a state-of-the-art surface condition results in best-in-class tool life, as well as performance consistency in all steel workpieces at elevated cutting conditions.	K								

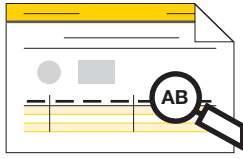
SOLID END MILLING

		wear resistance ← → toughness									
Coating	Grade Description		05	10	15	20	25	30	35	40	45
KCPM15		Coated carbide grade with thick PVD coating and optimised chemistry and process for increased wear resistance. Outstanding protection in milling stainless steel to mitigate crater, DOCN (depth-of-cut notching), and flank wear. Excellent performance up to 52 HRC.	P								
			M								
			K								
KCSM15		Coated carbide grade with thick PVD coating and optimised chemistry and process for increased wear resistance. Outstanding protection in milling stainless steel to mitigate crater, DOCN (depth-of-cut notching), and flank wear. Excellent performance up to 52 HRC.	M								
			S								
			H								
K600		Carbide grade made from high-quality, micrograin materials for cutting all types of workpiece materials. Very high toughness ensures a controlled wear rate. The micrograin structure enables extremely sharp cutting edges.	N								
KC643M		Coated fine-grain grade with PVD multilayer (AlTiN). KC643M™ is a very thin and hard PVD coating particularly suited for cutting steel, cast iron, stainless steel (wet), and titanium (wet). This grade can be used for materials with hardness up to 52 HRC.	P								
			M								
			K								
			S								

TURNING

Coating		Grade Description	wear resistance ← → toughness											
				05	10	15	20	25	30	35	40	45		
KCS10B		Composition: PVD-AlTiN coating with a very smooth coating surface and extremely hard, wear-resistant ultra fine-grain carbide substrate. Application: The KCS10B™ grade is ideal for medium machining and finishing operations of Nickel-Based, Cobalt-Based, and Iron-Based High-Temperature Alloys. The extremely hard, wear-resistant carbide substrate allows for longer tool life while the ultra fine-grain carbide substrate and smoother coating reduces friction.												
			S											

KEY TO PRODUCT TABLE COLUMN HEADINGS



You may notice a slight change in the appearance of our product tables and specification charts. In this catalogue, Kennametal introduces a set of short-name codes to improve the readability of tables and drawings. These codes replace full-text descriptions. The full list of codes and their definitions can be found below.

Short-Name Code	Full Text Description
Ap1 max	Maximum Cutting Depth
B	Shank Width
B1	Front Clearance
B2	Overall Width
Bar	Coolant Pressure Bar
BCH	Corner Chamfer Width
BDX	Maximum Body Diameter
BR1	Boring Range
CD	Cutting Depth
CE	Cutting Edges
CF	Coolant Feature: i = internal e = external i/e = internal and external
CF	Coolant Supply Size Radial
CFVDI	Coolant Supply Size - VDI
cp	Coolant Pressure
CS	Coolant Supply Size
CS1	External Coolant, Coolant Supply Exit Size
CSMS	Connection Style Machine Side
CST	Collet Series
CSWS	Connection Style Workpiece Side
D	Insert: Insert IC Size
D	Milling: Mounting Diameter
D	Toolholder: Shank/Bore Diameter
D max	Maximum Bore Diameter
D min	Minimum Bore Diameter
D1	Milling: Cutter Diameter
D1	Holemaking: Drill Diameter
D1	Toolholder: Clamping Diameter
D2	Body Diameter 1 Workpiece Side
D3	Neck Diameter
D5	Body Diameter Machine Side
DCLC	Boss Diameter
DCLC2	Boss Diameter 2
F	F Dimension
G	Connector Thread Size Machine Side
G3	Connection Thread Size Workpiece Side
GI	Gage Insert
H	Shank Height
H1	Cutting Height
H2	Overall Height
H2	Toolholder: Head Height
H3	Head Bottom Offset
HW	Shank Height
kg	Weight Kilograms
L	Overall Length
L1	Gage Length
L1	Toolholder: Tool Length
L1A	L1 A Dimension
L1 assy	L1 Assembly Length
L1S	Secondary Tool Length
L10	Insert Cutting Edge Length
L2	Usable Length
L2 assy	L2 Assembly Length
L3	Maximum Depth
L3	Drill Flute Length
L4	Maximum Boring Depth
L4 max	Maximum Drill Depth
L5	Drill Point Length
lbs	Weight Pounds
LCLC	Boss Length
LCLC2	Boss Length 2
LH	Head Length
LPR	Protruding Length
LS	Shank Length
M	Insert Gage Dimension
max RPM	Maximum Revolutions Per Minute
MMC	Machine Mount Code
mST (Nm)	Max Spindle Torque (Nm)
Nm	Torque Newton Meters
PSI	Coolant Pressure PSI
R _e	Corner Radius
S	Insert Thickness
SSC	Seat Size Code
W	Overall Width
W1	Blade Width
γF°	Radial Rake Angle
γP°	Axial Rake Angle

P	Steel
M	Stainless Steel
K	Cast Iron

N	Non-Ferrous
S	High-Temp Alloys

H	Hardened Materials
C	CFRP Materials

material group	description	content	tensile strength RM (MPa)*	hardness (HB)	hardness (HRC)	material number
P0	Low-Carbon Steels, Long Chipping	C <0,25%	<530	<125	–	–
P1	Low-Carbon Steels, Short Chipping, Free Machining	C <0,25%	<530	<125	–	C15, Ck22, ST37-2, S235JR, 9SMnPb28, GS38
P2	Medium- and High-Carbon Steels	C >0,25%	>530	<220	<25	ST52, S355JR, C35, GS60, Cf53
P3	Alloy Steels and Tool Steels	C >0,25%	600–850	<330	<35	16MnCr5, Ck45, 21CrMoV5-7, 38SMn28
P4	Alloy Steels and Tool Steels	C >0,25%	850–1400	340–450	35–48	100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12
P5	Ferritic, Martensitic, and PH Stainless Steels	–	600–900	<330	<35	100Cr6, 30CrNiMo8, 42CrMo4, C70W2, S6525, X120Mn12
P6	High-Strength Ferritic, Martensitic, and PH Stainless Steels	–	900–1350	350–450	35–48	X102CrMo17, G-X120Cr29
M1	Austenitic Stainless Steel	–	<600	130–200	–	X5CrNi 18 10, X2CrNiMo 17 13 2, G-X25CrNiSi18 9, X15CrNiSi 20 12
M2	High-Strength Austenitic Stainless and Cast Stainless Steels	–	600–800	150–230	<25	X2CrNiMo 13 4, X5NiCr 32 21, X5CrNiNb 18 10, G-X15CrNi 25-20
M3	Duplex Stainless Steel	–	<800	135–275	<30	X8CrNiMo27 5, X2CrNiMoN22 5 3, X20CrNiSi25 4, G-X40CrNiSi27 4
K1	Grey Cast Iron	–	125–500	120–290	<32	GG15, GG25, GG30, GG40, GTW40
K2	Low- and Medium-Strength Ductile Irons (Nodular Irons) and Compacted Graphite Irons (CGI)	–	<600	130–260	<28	GGG40, GTS35
K3	High-Strength Ductile Irons and Austempered Ductile Iron (ADI)	–	>600	180–350	<43	GGG60, GTW55, GTS65
N1	Wrought Aluminium	–	–	–	–	AlMg1, Al99.5, AlCuMg1, AlCuBiPb, AlMgSi1, AlMgSiPb
N2	Low-Silicon Aluminium Alloys and Magnesium Alloys	Si <12,2%	–	–	–	GAISiCu4, GDAISi10Mg
N3	High-Silicon Aluminium Alloys and Magnesium Alloys	Si >12,2%	–	–	–	G-ALSi12, G-ALSi17Cu4, G-ALSi21CuNiMg
N4	Copper-, Brass-, Zinc-Based on Machinability Index Range of 70–100	–	–	–	–	CuZn40, Ms60, G-CuSn5ZnPb, CuZn37, CuSi3Mn
N5	Nylon, Plastics, Rubbers, Phenolics, Resins, Fibreglass	–	–	–	–	Lexan®, Hostalen®, Polystyrol, Makrolon
N6	Carbon, Graphite Composites, CFRP	–	–	–	–	CFK, GFK
N7	Metal Matrix Composites (MMC)	–	–	–	–	–
S1	Iron-Based, Heat-Resistant Alloys	–	500–1200	160–260	25–48	X1NiCrMoCu32 28 7, X12NiCrSi36 16, X5NiCrAlTi31 20, X40CoCrNi20 20
S2	Cobalt-Based, Heat-Resistant Alloys	–	1000–1450	250–450	25–48	Haynes® 188, Stellite® 6,21,31
S3	Nickel-Based, Heat-Resistant Alloys	–	600–1700	160–450	<48	INCONEL® 690, INCONEL 625, Hastelloy®, NIMONIC® 75
S4	Titanium and Titanium Alloys	–	900–1600	300–400	33–48	Ti1, TiAl5Sn2, TiAl6V4, TiAl4Mo4Sn2
H1	Hardened Materials	–	–	–	44–48	GX260NiCr42, GX330NiCr42, GX300CrNiSi952, GX300CrMo153, Hardox® 400
H2	Hardened Materials	–	–	–	48–55	–
H3	Hardened Materials	–	–	–	56–60	–
H4	Hardened Materials	–	–	–	>60	–
C1	CFRP, CFRP/CFRP	–	–	–	–	–
C2	CFRP/Non-Ferrous	–	–	–	–	–
C3	CFRP/High Temp	–	–	–	–	–
C4	CFRP/Stainless Steel	–	–	–	–	–
C5	CFRP/Non-Ferrous/High-Temp	–	–	–	–	–

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METALCUTTING SAFETY

IMPORTANT SAFETY INSTRUCTIONS

Read before using the tools in this catalogue!

Projectile and Fragmentation Hazards:

Modern metalcutting operations involve high spindle and cutter speeds and high temperatures and cutting forces. Hot metal chips may fly off the workpiece during metalcutting. Although cutting tools are designed and manufactured to withstand high cutting forces and temperatures, they can sometimes fragment, particularly if they are subjected to over-stress, severe impact, or other abuse.

To avoid injury:

- Always wear appropriate personal protective equipment, including safety goggles, when operating metalcutting machines or working nearby.
- Always make sure all machine guards are in place.

Breathing and Skin Contact Hazards:

Grinding carbide or other advanced cutting tool materials produces dust or mist containing metallic particles. Breathing this dust or mist — especially over an extended period — can cause temporary or permanent lung disease or make existing medical conditions worse. Contact with this dust or mist can irritate eyes, skin, and mucous membranes and may make existing skin conditions worse.

To avoid injury:

- Always wear breathing protection and safety goggles when grinding.
- Provide ventilation control and collect and properly dispose of dust, mist, or sludge from grinding.
- Avoid skin contact with dust or mist.

For more information, read the applicable Material Safety Data Sheet provided by Kennametal and consult General Industry Safety and Health Regulations, Part 1910, Title 29 of the Code of Federal Regulations.

These safety instructions are general guidelines. Many variables affect machining operations. It is impossible to cover every specific situation. The technical information included in this catalog and recommendations on machining practices may not apply to your particular operation. For more information, consult the Kennametal Metalcutting Safety booklet, available free from Kennametal at 724 539 5747 or fax 724 539 5439. For specific product safety and environmental questions, contact our Corporate Environmental Health and Safety Office at 724 539 5066 or fax 724 539 5372.

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