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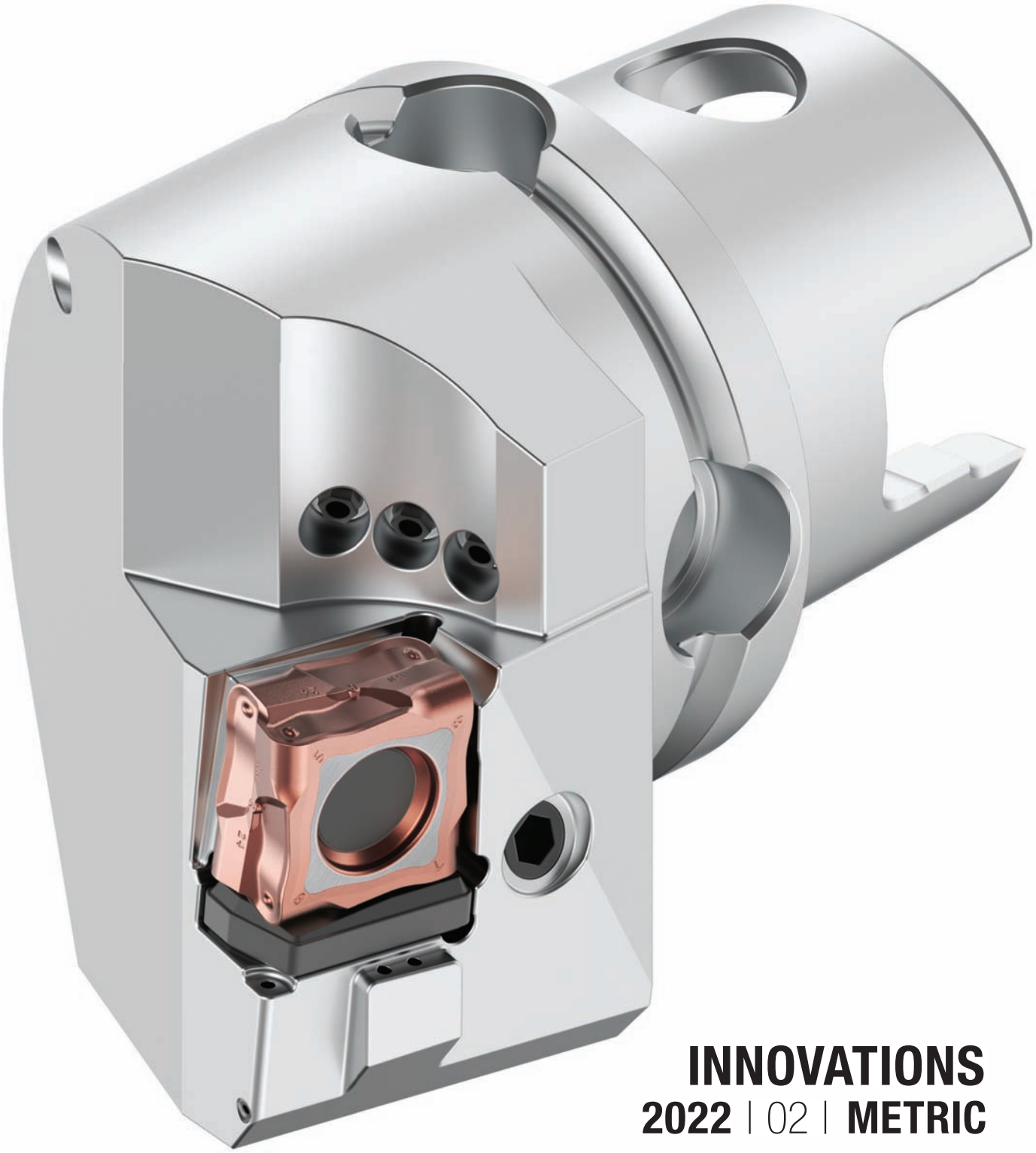
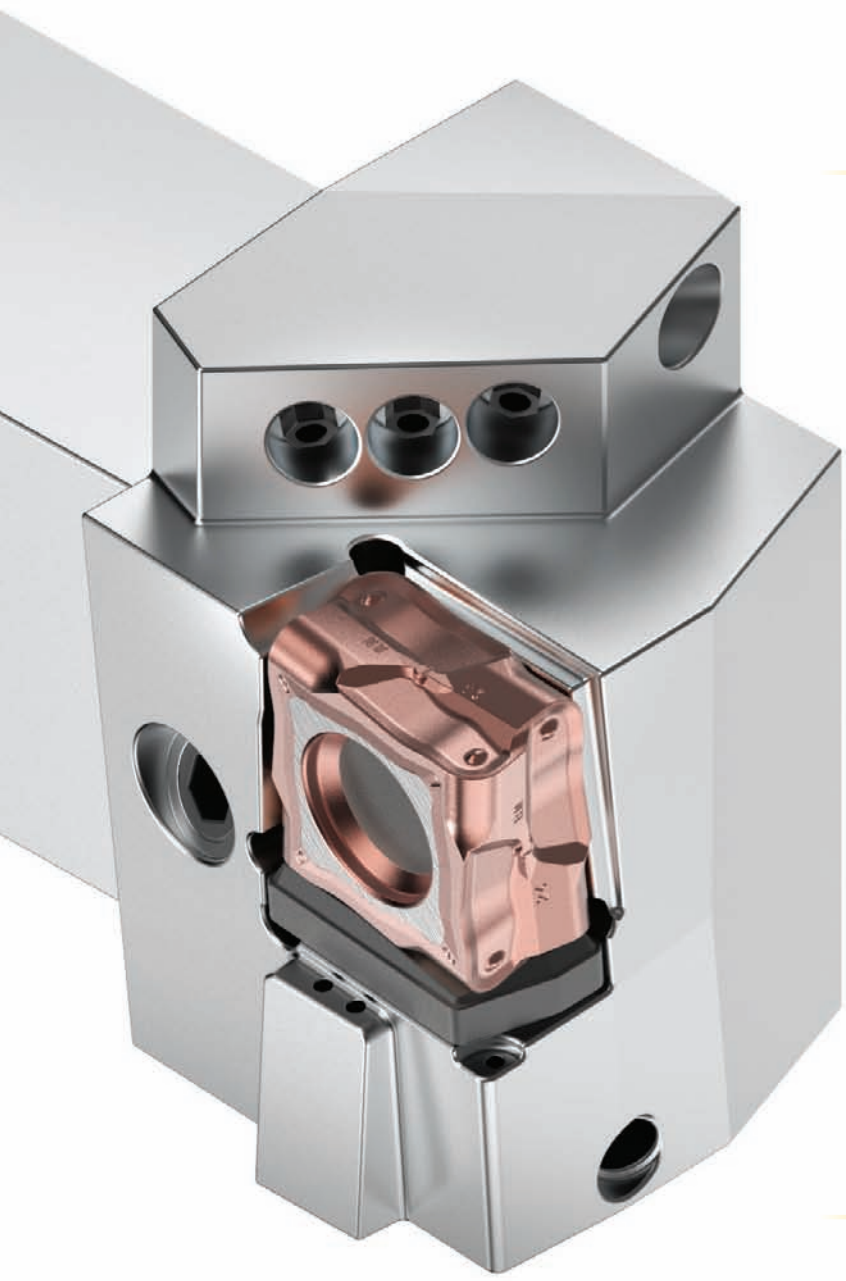


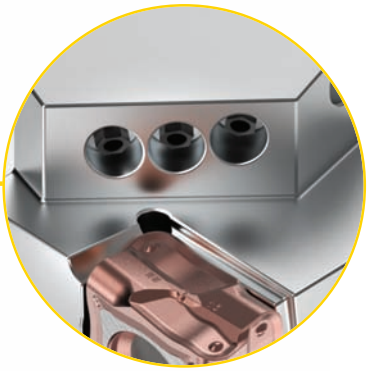
INNOVATIONS

2022 | 02 | **METRIC**

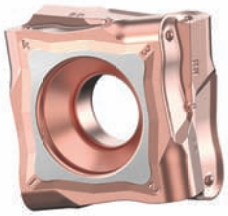
FIX8™

Heavy-Duty Turning

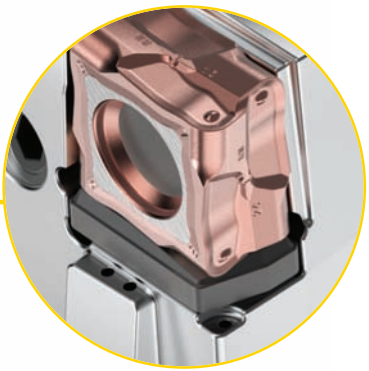




Three coolant nozzles directed to the rake face – controlling temperature, chip evacuation, and supporting chip formation.



Eight cutting edges per insert. Roughing with lowest cost per insert.



Coolant exit holes directed towards the flank of the insert – controlling the heat in the cutting zone and prolonging tool life.

INNOVATIONS

CAS — Customer Application Support

Get Fast and Reliable Answers to Your Toughest Problems

Our CAS Team is the metalworking industry's leading help desk resource for tooling application solutions and problem resolution.

Easy Access to Proven Metalworking Expertise!

Kennametal Application Engineers assist customers and engineering groups throughout the world with expert tool selection and application recommendations for the entire range of Kennametal tooling.

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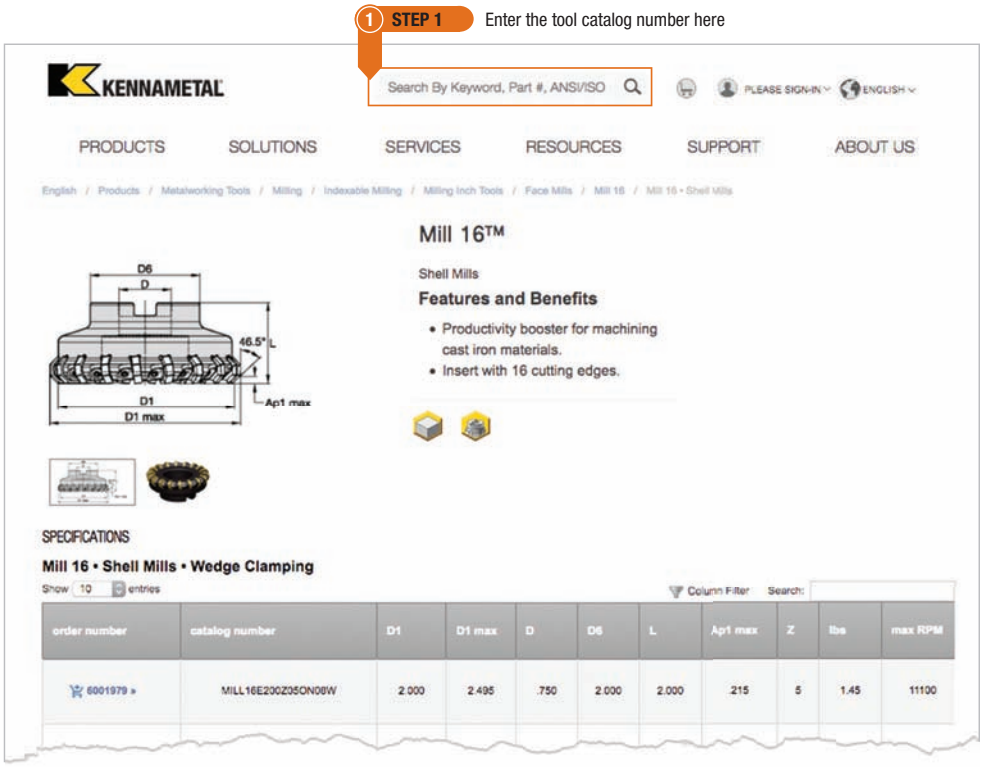
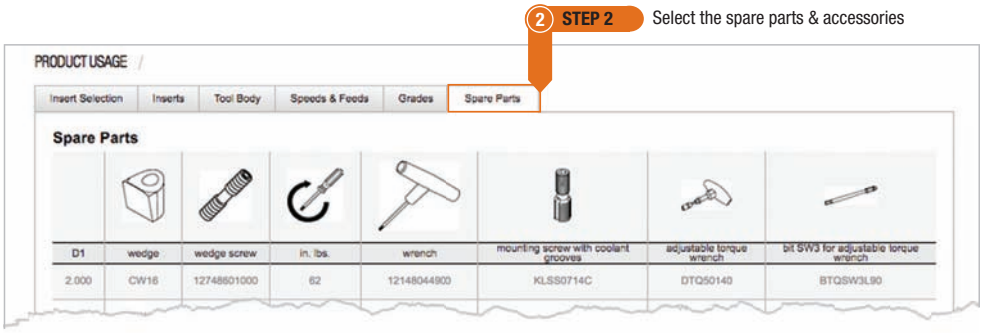
Spare Parts & Accessories Information

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.





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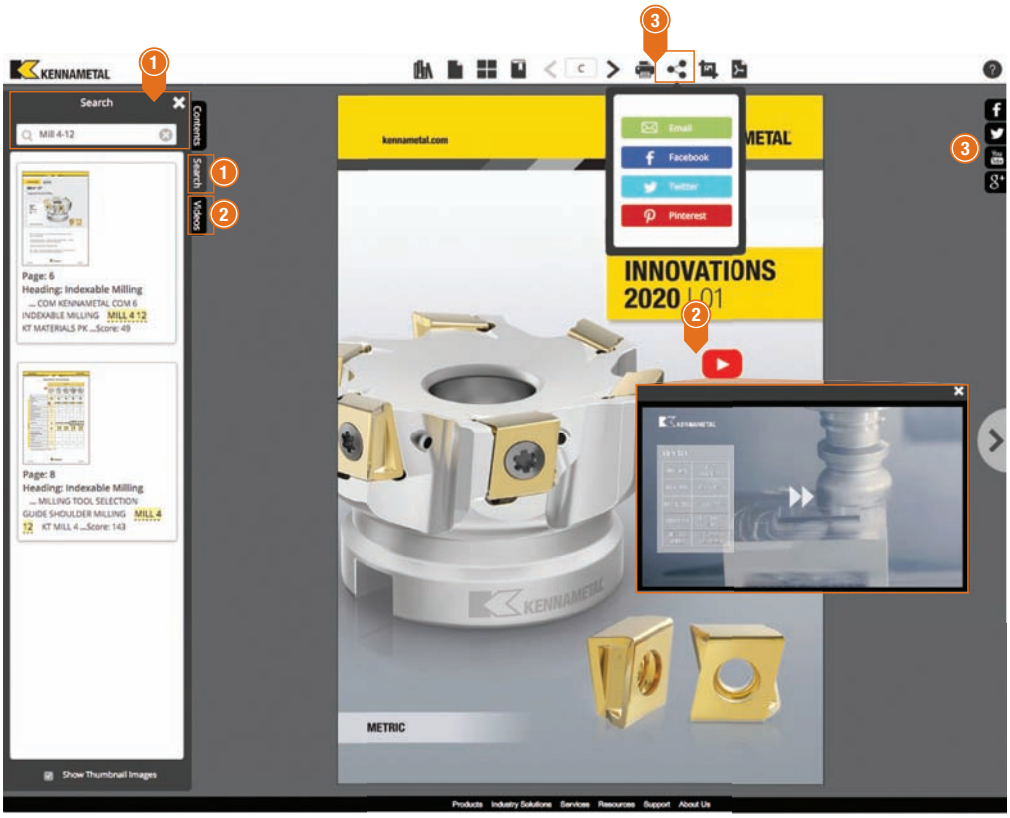

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Available in the Google Play™ Store or the App Store®

POWERED BY NOVO

Hard Turning Grades

KYHK15B™ • KBH10B™ • KBH20B™

Materials

H M S

Applications

- Turning
- Boring
- Back Boring
- Profiling
- Facing
- ID Facing
- Chamfer Turning

KBH10B, KBH20B, and KYHK15B are PVD-coated hard turning grades, providing maximum wear resistance and maximum tool life.

The new coatings with their gold color enable easy wear-progression identification.

State-of-the-art insert and coating technology provide tighter honing tolerances, leading to higher cutting edge stability, better chipping resistance, and better surface quality.

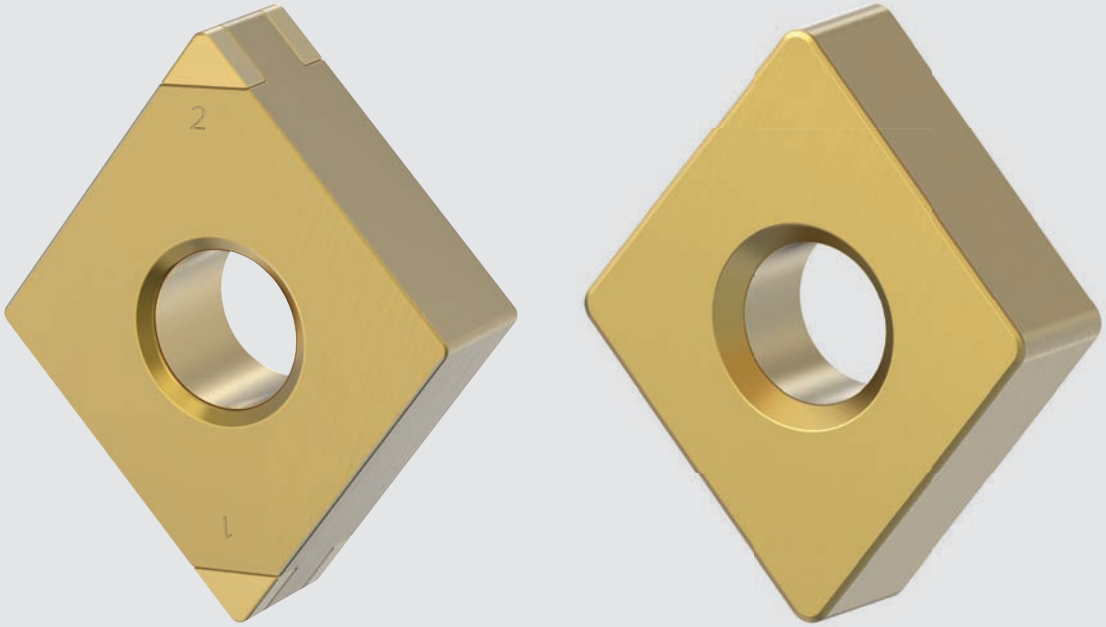
Continuous to lightly interrupted cuts can be performed very cost effectively through double-sided insert design.

PcBN grade, ideal
for hardened steels.

Cost-effective, double-sided design.

Ceramic grade, ideal for hardened steel,
cast iron, and high-temperature alloys.

Larger depth-of-cut capabilities.



NEW!

New coating enhances speed
capabilities and tool life.

Gold color ensures wear progression
is easy to identify.

NEW!

New wiper technology.

Ceramic grades KYHK15B™

The KYHK15B ceramic grade is designed for machining of hardened steel (>48 HRC), as well as finishing of cast iron and high-temperature alloys. KYHK15B is ideal for continuous and varying depth of cuts and provides greater depth of cut capabilities.

PcBN grades KBH10B™ and KBH20B™

KBH10B and KBH20B are low-content PcBN grades, designed for precision machining of hardened steel (>48 HRC), achieving best possible surface finishes even in lightly interrupted cuts. The multi-tip format inserts come with numbered cutting edges and reduce cost per cutting edge.

Hard Turning

TOOL SELECTION • CHOOSE EDGE PREPARATION

Finishing ← → Roughing

	Ceramic Inserts																	
	KYHK15B™																	
Type/Style	GA					GN						MN		GX				
Clamping Rigidity	■					■■						■■		■■■				
Edge Preparation	S01515GW	E	T01020	S02025	S02530	T01020	S02025	S02530	S15015	S20015	P20015	S15015	P20015	S02025	S02535	S15015	S20015	P20015
Application																		
Heavy Roughing									○	○	●	○	●			○	○	●
Roughing				●	●		●	●	●	●	●	●	●	●	●	●	●	●
Medium Machining	●		●	●	●	●	●	●	●	●	○	●	○	●	●	●	●	○
Finishing	●	●	●	○	○	●	○	○					○	○	○			
Fine Finishing	●																	
Cutting Condition																		
Heavily Interrupted Cut									●	●	●	●	●			●	●	●
Lightly Interrupted Cut	●		○	●	●	○	●	●	●	●	●	●	●	●	●	●	●	●
Varying Depth of Cut	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Smooth Cut	●	●	●	●	●	●	●	●	○	○	○	○	○	●	●	○	○	○
Page Reference																		
*Negative Inserts • KENLOC™ **	16–17	16–17	16–19	16–19	16–18													
*Negative Inserts, Double-Sided • KENLOC**																		
*Positive Inserts • Screw-On**						26	26							25			25	25
*Negative Inserts • KENDEX™ **							20–24	20–24	21–22	22	21–22							

** Refer to the Master Catalog 2018 Vol. 1 Turning Tools*

● Primary
○ Secondary

Hard Turning

TOOL SELECTION • CHOOSE EDGE PREPARATION

Finishing
Wear Resistance
Low PcBN Content

Roughing
Toughness
High PcBN Content

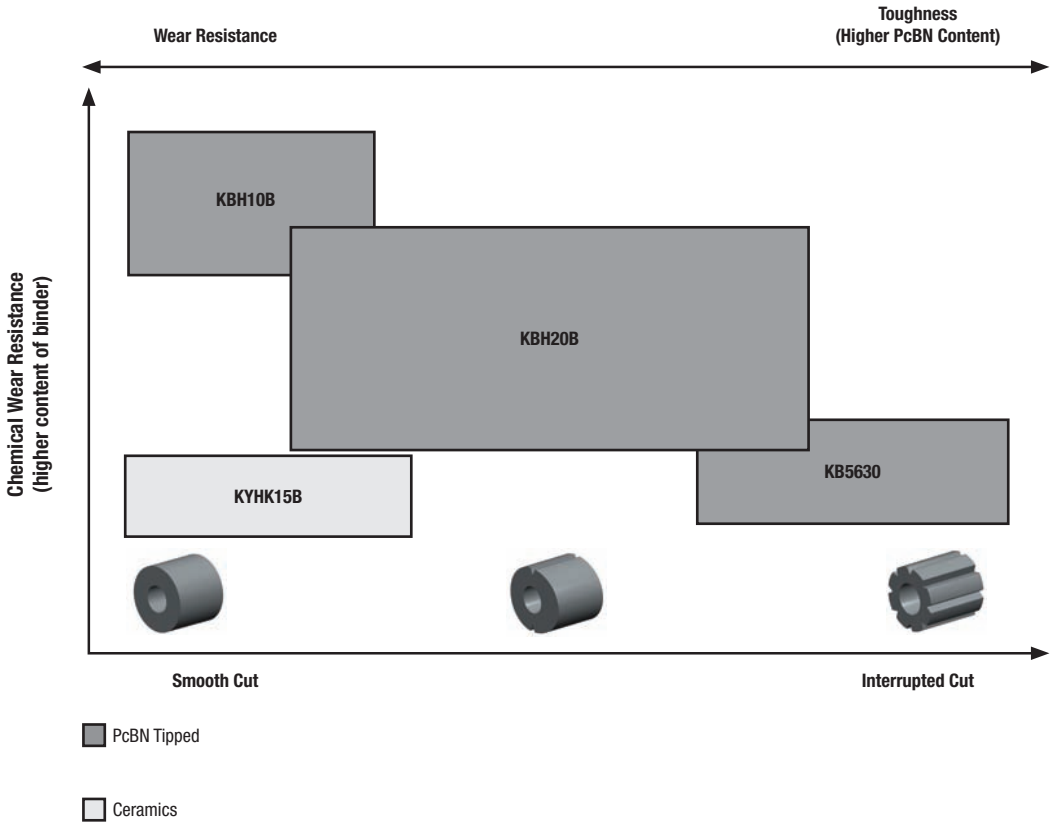
	Tipped PcBN Inserts															
	KBH10B™/KBH10™						KBH20B™/KBH20™							KB5630*		
Type/Style	GA & GW						GA & GW						GM	GA & GW		
Clamping Rigidity	■	■	■	■	■	■	■						■	■		
Edge Preparation	S01515GW_	S01015FW_	S01015_	S01225FW_	S01225_	S01735_	S01515GW_	S01015FW_	S01015_	S01225FW_	S01225_	S01735_	S01325MTCB1	S01015_	S01025FW_	S01025_
Application																
Heavy Roughing												○	●		○	●
Roughing						○				○	○	●	●	○	●	●
Medium Machining	●	○	●	●	●	●	●		●	●	●	●	●	●	●	●
Finishing	●	●	●	●	●		●	●	●	●	●			○	●	
Fine Finishing	●	●		●			●	●		●					○	
Cutting Condition																
Heavily Interrupted Cut												●	○	○	●	●
Lightly Interrupted Cut	○	○		○	●	●	●	○	○	●	●	●	●	●	●	●
Varying Depth of Cut	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Smooth Cut	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Page Reference																
*Negative Inserts • KENLOC™ **																
*Negative Inserts, Double-Sided • KENLOC**	32–33		32–34		32–34		32–33		32–34		32–34					
*Positive Inserts • Screw-On**																
*Negative Inserts • KENDEX™ **																

** Refer to the Master Catalog 2018 Vol. 1 Turning Tools*

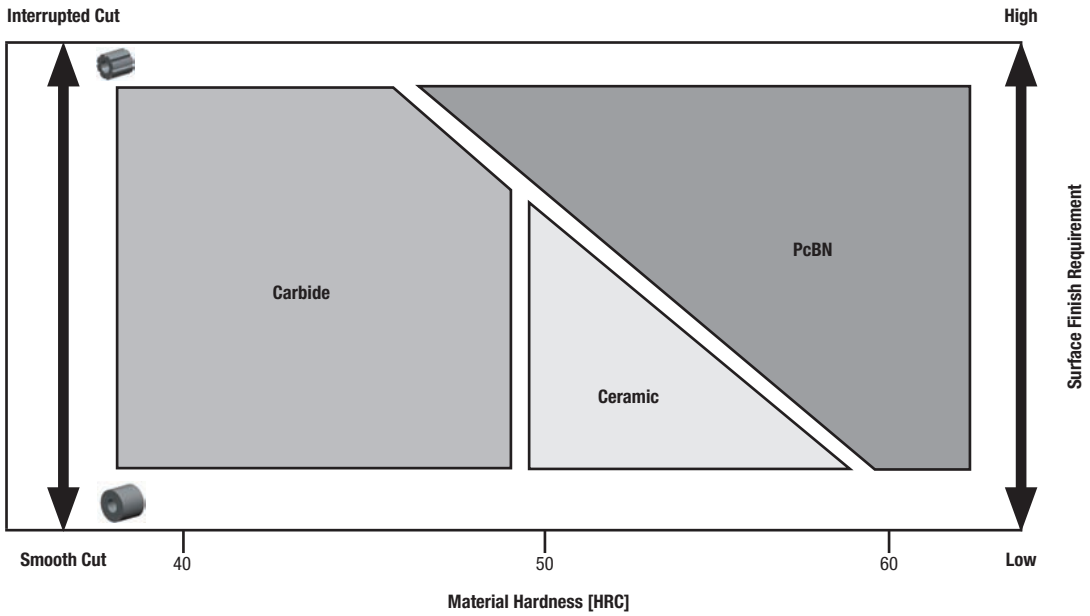
● Primary
○ Secondary

Hard Turning

TOOL SELECTION – CHOOSING THE RIGHT CUTTING MATERIAL



KYHK15B™ can be an excellent choice to reduce insert cost while almost obtaining the same performance of PcBN. Whenever it comes to smooth-cut applications and the need for high chemical wear resistance, KBH10B™ is the best choice.

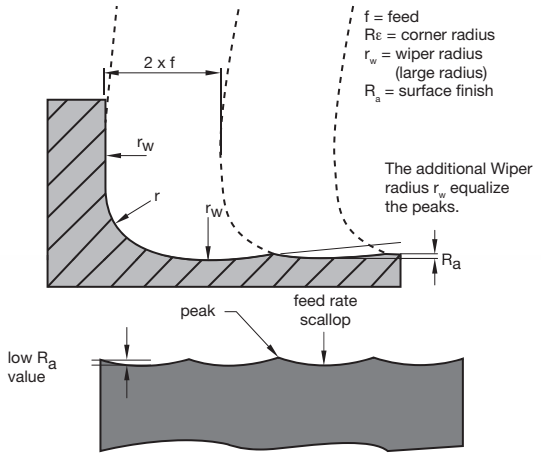


Depending on the surface requirement and the type of cut, the ceramic grade KYHK15B can be an economic alternative to PcBN inserts when machining hard materials >48 HRC.

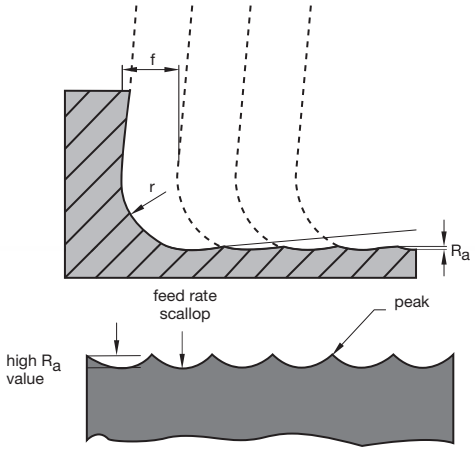
Hard Turning

PRINCIPLE OF A WIPER INSERT

Wiper insert

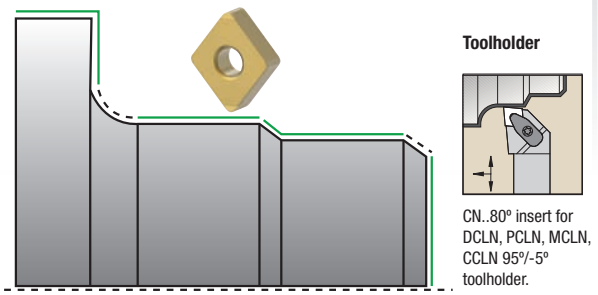


Regular insert



CHOOSING THE RIGHT INSERT STYLE

C-Style longitudinal turning and facing

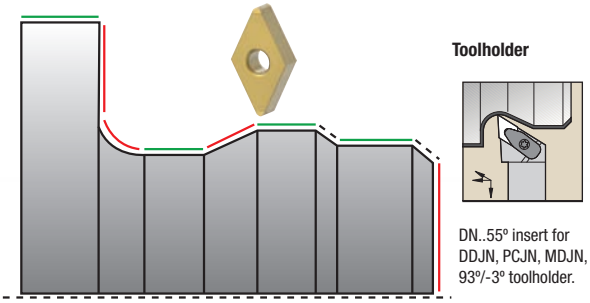


CN..80° insert for DCLN, PCLN, MCLN, CCLN 95°/-5° toolholder.

Surface finish with wiper effect.

Surface with effective corner radius.

D-Style longitudinal turning and facing



DN..55° insert for DDJN, PCJN, MDJN, 93°/-3° toolholder.

Surface finish with wiper effect.

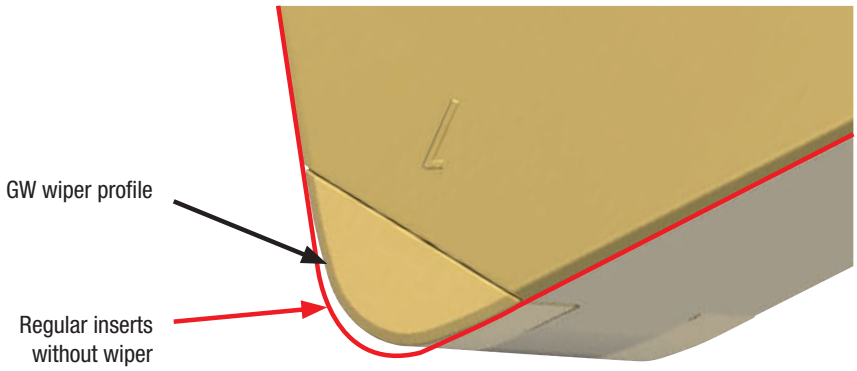
Surface finish with effective corner radius, no wiper effect.

No profiling and facing possible.

Hard Turning

WIPER INSERT • APPLICATION TECHNOLOGY

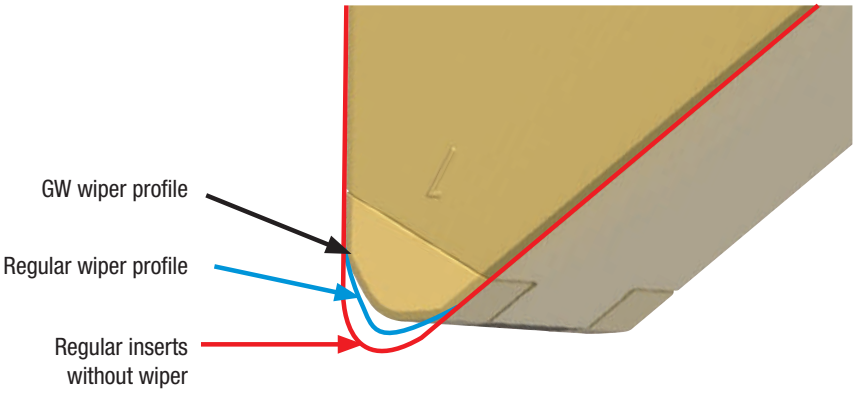
C-Style toolholder 95º



Tool Offset Chart

Corner radius mm	X-direction mm	Z-direction mm
0,4	-0,06	-0,06
0,8	-0,06	-0,06
1,2	-0,05	-0,05

D-Style toolholder 93º

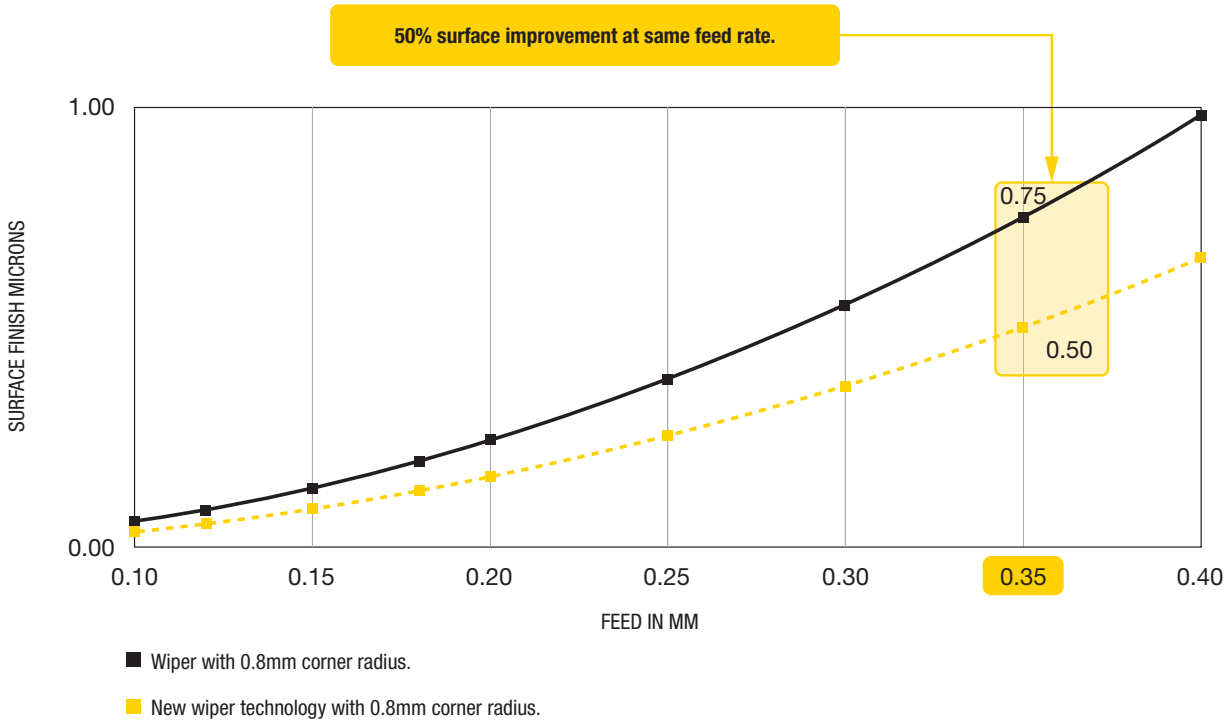


Tool Offset Chart

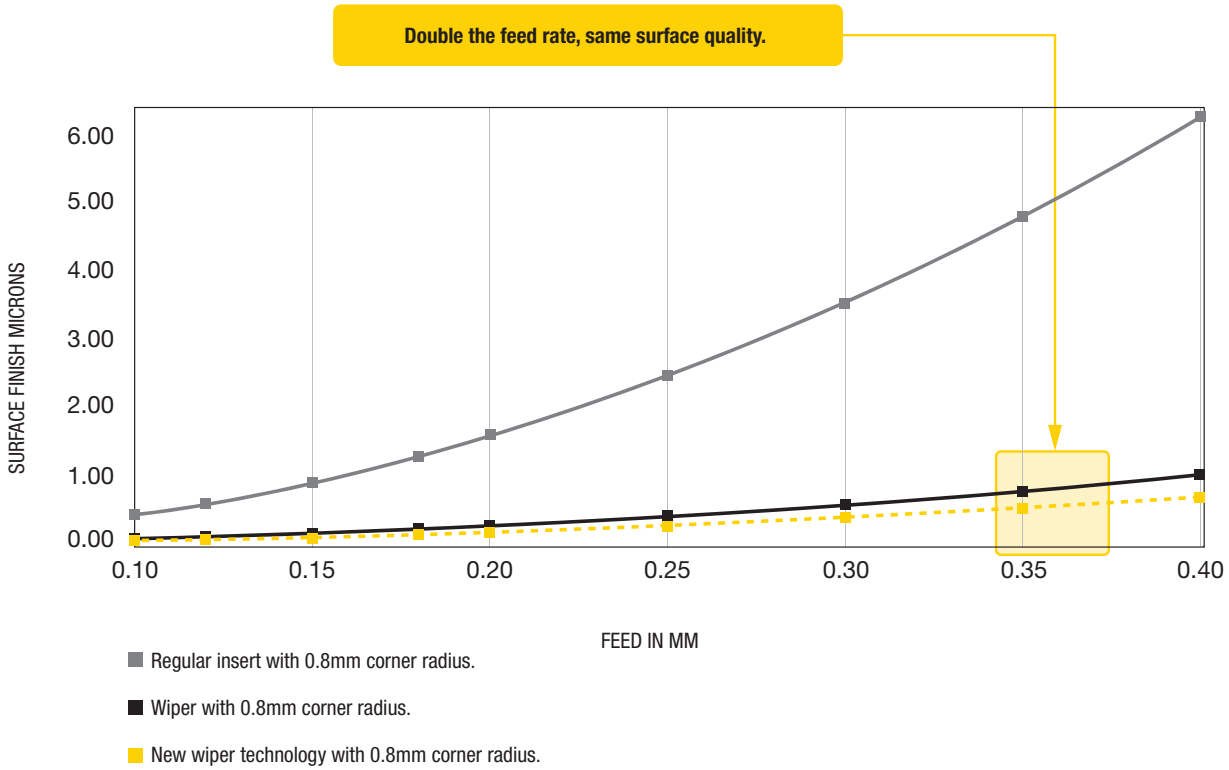
Corner radius mm	X-direction mm	Z-direction mm
0,4	-0,53	-0,05
0,8	-0,60	-0,18

Hard Turning

NEW WIPER TECHNOLOGY – BETTER SURFACE QUALITY



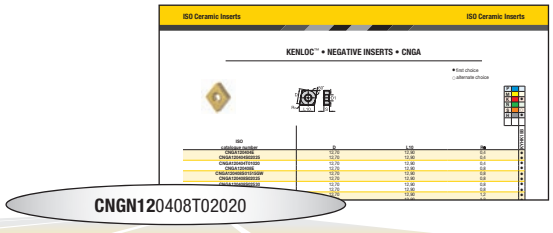
NEW WIPER TECHNOLOGY – HIGHER FEED RATES



Hard Turning

ISO INSERTS • CATALOG NUMBERING SYSTEM

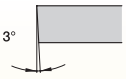
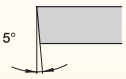
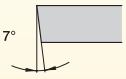
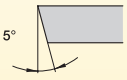
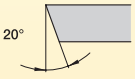
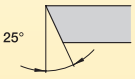
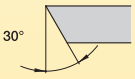
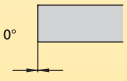
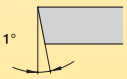
Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



C — Insert Shape

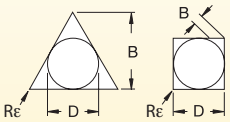
H	Hexagon 120°	
O	Octagon 135°	
P	Pentagon 108°	
R	Round —	
S	Square 90°	
T	Triangular 60°	
C D E M V	Rhomboid 80° 55° 75° 86° 35°	
W	Trigon 80° with enlarged corner angles	
L	Rectangular 90°	
A B N/K	Parallelogram 85° 82° 55°	

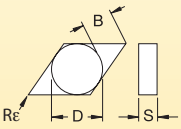
N — Insert Clearance Angle

A	3°	
B	5°	
C	7°	
D	15°	
E	20°	
F	25°	
G	30°	
N	0°	
P	11°	
O	For other clearance angles requiring descriptions.	

G — Tolerance Class

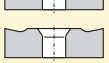
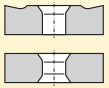
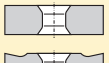
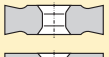
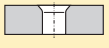
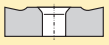
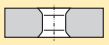
Tolerances apply prior to edge prep and coating





D = Theoretical diameter of the insert inscribed circle
S = Thickness
B = See figures below

N — Insert Features

N	
R	
F	
A	
M	
G	
W	
T	
Q	
U	
B	
H	
C	
J	
X V	Special Design

12 — Size

"D" mm	Code for metric cutting edge length "L10" C	D	R	S	T	V	W
3,97	S4	04	03	03	06	—	—
4,76	04	05	04	04	08	08	S3
5,56	05	06	05	05	09	09	03
6,00	—	—	06	—	—	—	—
6,35	06	07	06	06	11	11	04
7,94	08	09	07	07	13	13	05
8,00	—	—	08	—	—	—	—
9,52	09	11	09	09	16	16	06
10,00	—	—	10	—	—	—	—
11,11	11	13	11	11	19	19	07
12,00	—	—	12	—	—	—	—
12,70	12	15	12	12	22	22	08
14,29	14	17	14	14	24	24	09
15,88	16	19	15	15	27	27	10
16,00	—	—	16	—	—	—	—
17,46	17	21	17	17	30	30	11
19,05	19	23	19	19	33	33	13
20,00	—	—	20	—	—	—	—
22,22	22	27	22	22	38	38	15
25,00	—	—	25	—	—	—	—
25,40	25	31	25	25	44	44	17
31,75	32	38	31	31	54	54	21
32,00	—	—	32	—	—	—	—

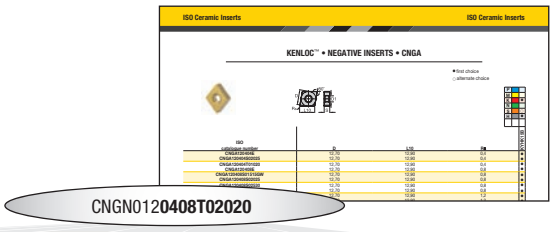
tolerance class*	tolerance on "D"	tolerance on "B"	tolerance on "S"
C	±0,025	±0,013	±0,025
H	±0,013	±0,013	±0,025
E	±0,025	±0,025	±0,025
G	±0,025	±0,025	±0,013
M	See tables on next page		±0,013
U	See tables on next page		±0,013

*Tolerances apply prior to edge prep and coating.

Hard Turning

ISO INSERTS • CATALOG NUMBERING SYSTEM

(continued)



04	08		T	020	20		
Thickness "S"	Corner Radius "Rε"	Hand of Insert *(optional)*	Cutting Edge *(optional)*	T-Land Width *(optional)*	T-Land Angle *(optional)*	Tip Style *(optional)*	Chipbreaker *(optional)*

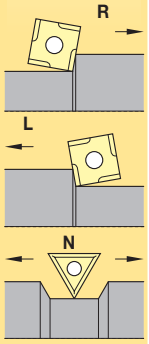
symbol mm	thickness mm
–	0,79
T0	1,00
01	11,59
T1	1,98
02	2,38
03	3,18
T3	3,97
04	4,76
05	5,56
06	6,35
07	7,94
09	9,52
11	11,11
12	12,70

symbol mm	corner radius mm
X0	0,4
01	0,1
02	0,2
04	0,4
08	0,8
12	1,2
16	1,6
20	2,0
24	2,4
28	2,8
32	3,2
00	round insert
M0	

R = Right hand

L = Left hand

N = Neutral



F* Sharp

E Rounded

T* Chamfered

S* Chamfered and Rounded

K Double-Chamfered

P Double-Chamfered and Rounded

*Also available in wiper style.

symbol ISO	size mm
010	0,01
020	0,02

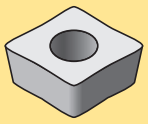
symbol	size
10	10°
15	15°
20	20°
25	25°
30	30°

FW = Finishing Wiper

MW = Medium Wiper

GW = General Wiper

symbol	usage
C	full tip
M	mini tip
MT	multi-tip
ST	single tip
DMT	double-sided mini-tip

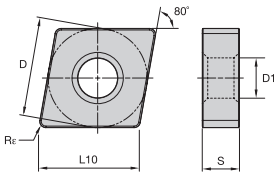


"D" mm	± Tolerance on "D" Class M Tolerance Shapes S, T, C, R, & W mm	Class M Tolerance Shape D mm	Class M Tolerance Shape V mm	Class U Tolerance Shapes S, T, & C mm
3,97	0,05	–	–	–
4,76	0,05	–	–	0,08
5,56	0,05	0,05	0,05	0,08
6,35	0,05	0,05	0,05	0,08
7,94	0,05	0,05	0,05	0,08
9,52	0,05	0,05	0,05	0,08
11,11	0,08	0,08	0,08	0,13
12,70	0,08	0,08	0,08	0,13
14,29	0,08	0,08	0,08	0,13
15,88	0,10	0,10	0,10	0,18
17,46	0,10	0,10	0,10	0,18
19,05	0,10	0,10	0,10	0,18
22,22	0,13	–	–	0,25
25,40	0,13	–	–	0,25
31,75	0,15	–	–	0,25

"D" mm	± Tolerance on "B" Class M Tolerance Shapes S, T, C, R, & W mm	Class M Tolerance Shape D mm	Class M Tolerance Shape V mm	Class U Tolerance Shapes S, T, & C mm
3,97	0,08	–	–	–
4,76	0,08	–	–	0,13
5,56	0,08	0,11	–	0,13
6,35	0,08	0,11	–	0,13
7,94	0,08	0,11	–	0,13
9,52	0,08	0,11	0,18	0,13
11,11	0,13	0,15	–	–
12,70	0,13	0,15	0,25	0,20
14,29	0,13	0,15	–	–
15,88	0,15	0,18	–	0,27
17,46	0,15	0,18	–	0,27
19,05	0,15	0,18	–	0,27
22,22	0,15	–	–	0,38
25,40	0,18	–	–	0,38
31,75	0,20	–	–	0,38

Hard Turning

KENLOC™ • NEGATIVE INSERTS • CNGA

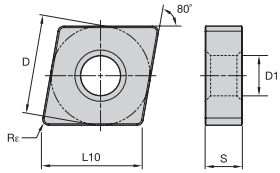


● first choice
○ alternate choice

P	M	K	N	S	H
		●		○	●

ISO catalogue number	D	L10	Rε	KYHK15B
CNGA120404E	12,70	12,90	0,4	●
CNGA120404S02025	12,70	12,90	0,4	●
CNGA120404T01020	12,70	12,90	0,4	●
CNGA120408E	12,70	12,90	0,8	●
CNGA120408S02025	12,70	12,90	0,8	●
CNGA120408S02530	12,70	12,90	0,8	●
CNGA120408T01020	12,70	12,90	0,8	●
CNGA120412S02025	12,70	12,90	1,2	●
CNGA120412S02530	12,70	12,90	1,2	●
CNGA120412T01020	12,70	12,90	1,2	●
CNGA120416S02025	12,70	12,90	1,6	●
CNGA160612S02530	15,88	16,12	1,2	●
CNGA190612S02025	19,05	19,34	1,2	●
CNGA190612S02530	19,05	19,34	1,2	●
CNGA190616S02025	19,05	19,34	1,6	●

KENLOC • NEGATIVE INSERTS • CNGA • WIPER



● first choice
○ alternate choice

P	M	K	N	S	H
		●		○	●

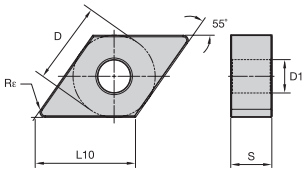
ISO catalogue number	D	L10	Rε	KYHK15B
CNGA120408S01515GW	12,70	12,90	0,8	●

182	186	14–15	4	192

Hard Turning

KENLOC™ • NEGATIVE INSERTS • DNGA

● first choice
○ alternate choice

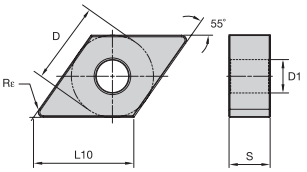


P	
M	
K	●
N	
S	○
H	●

ISO catalogue number	D	L10	Rε	KYHK15B
DNGA150404E	12,70	15,50	0,4	●
DNGA150404S02025	12,70	15,50	0,4	●
DNGA150404T01020	12,70	15,50	0,4	●
DNGA150408E	12,70	15,50	0,8	●
DNGA150408S02025	12,70	15,50	0,8	●
DNGA150408S02530	12,70	15,50	0,8	●
DNGA150408T01020	12,70	15,50	0,8	●
DNGA150412S02025	12,70	15,50	1,2	●
DNGA150412S02530	12,70	15,50	1,2	●
DNGA150412T01020	12,70	15,50	1,2	●
DNGA150416S02025	12,70	15,50	1,6	●
DNGA150604E	12,70	15,50	0,4	●
DNGA150604S02025	12,70	15,50	0,4	●
DNGA150604T01020	12,70	15,50	0,4	●
DNGA150608E	12,70	15,50	0,8	●
DNGA150608S02025	12,70	15,50	0,8	●
DNGA150608S02530	12,70	15,50	0,8	●
DNGA150608T01020	12,70	15,50	0,8	●
DNGA150612S02025	12,70	15,50	1,2	●
DNGA150612S02530	12,70	15,50	1,2	●
DNGA150612T01020	12,70	15,50	1,2	●
DNGA150616S02025	12,70	15,50	1,6	●

KENLOC • NEGATIVE INSERTS • DNGA • WIPER

● first choice
○ alternate choice



P	
M	
K	●
N	
S	○
H	●

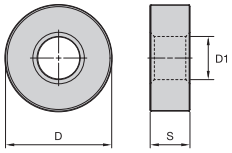
ISO catalogue number	D	L10	Rε	KYHK15B
DNGA150408S01515GW	12,70	15,50	0,8	●
DNGA150608S01515GW	12,70	15,50	0,8	●

				NOVO
182	186	14–15	4	192

Hard Turning

KENLOC™ • NEGATIVE INSERTS • RNGA

● first choice
○ alternate choice

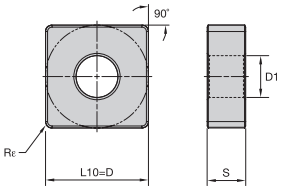


P	
M	
K	●
N	
S	○
H	●

ISO catalogue number	D	L10	Rε	KYHK15B
RNGA120400S02025	12,70	–	–	●

KENLOC • NEGATIVE INSERTS • SNGA

● first choice
○ alternate choice

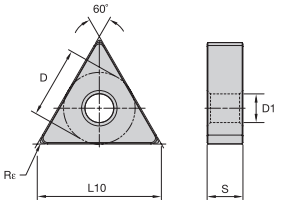


P	
M	
K	●
N	
S	○
H	●

ISO catalogue number	D	L10	Rε	KYHK15B
SNGA120404S02025	12,70	12,70	0,4	●
SNGA120408S02025	12,70	12,70	0,8	●
SNGA120408S02530	12,70	12,70	0,8	●
SNGA120412S02025	12,70	12,70	1,2	●
SNGA120412S02530	12,70	12,70	1,2	●
SNGA120416S02025	12,70	12,70	1,6	●

KENLOC • NEGATIVE INSERTS • TNGA

● first choice
○ alternate choice



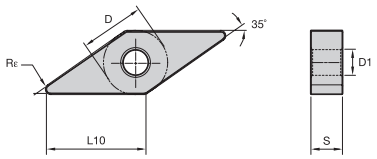
P	
M	
K	●
N	
S	○
H	●

ISO catalogue number	D	L10	Rε	KYHK15B
TNGA160404S02025	9,53	16,50	0,4	●
TNGA160408S02025	9,53	16,50	0,8	●
TNGA160408S02530	9,53	16,50	0,8	●
TNGA160412S02025	9,53	16,50	1,2	●
TNGA160412S02530	9,53	16,50	1,2	●
TNGA220408S02025	12,70	22,00	0,8	●
TNGA220408S02530	12,70	22,00	0,8	●
TNGA220412S02025	12,70	22,00	1,2	●
TNGA220412S02530	12,70	22,00	1,2	●

182	186	14–15	4	192

Hard Turning

KENLOC™ • NEGATIVE INSERTS • VNGA

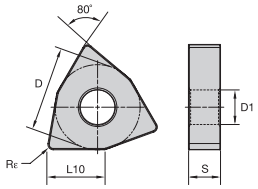


● first choice
○ alternate choice

P		
M		
K		●
N		
S		○
H		●

ISO catalogue number	D	L10	Rε	KYHK15B
VNGA160404S02025	9,53	16,61	0,4	●
VNGA160404T01020	9,53	16,61	0,4	●
VNGA160408S02025	9,53	16,60	0,8	●
VNGA160408T01020	9,53	16,61	0,8	●
VNGA160412S02025	9,53	16,61	1,2	●
VNGA220408S02025	12,70	22,14	0,8	●
VNGA220412S02025	12,70	22,14	1,2	●

KENLOC • NEGATIVE INSERTS • WNGA



● first choice
○ alternate choice

P		
M		
K		●
N		
S		○
H		●

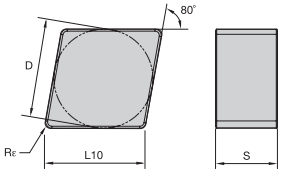
ISO catalogue number	D	L10	Rε	KYHK15B
WNGA080404S02025	12,70	8,69	0,4	●
WNGA080408S02025	12,70	8,69	0,8	●
WNGA080412S02025	12,70	8,69	1,2	●

				NOVO
182	186	14–15	4	192

Hard Turning

KENDEX™ • NEGATIVE INSERTS • CNGN

● first choice
○ alternate choice

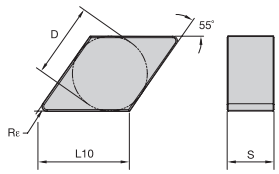


P	
M	
K	●
N	
S	○
H	●

ISO catalogue number	D	L10	Rε	KYHK15B
CNGN120404S02025	12,70	12,90	0,4	●
CNGN120408S02025	12,70	12,90	0,8	●
CNGN120408S02530	12,70	12,90	0,8	●
CNGN120412S02025	12,70	12,90	1,2	●
CNGN120412S02530	12,70	12,90	1,2	●
CNGN120416S02025	12,70	21,90	1,6	●
CNGN120708S02025	12,70	12,90	0,8	●
CNGN120708S02530	12,70	12,90	0,8	●
CNGN120712S02025	12,70	12,90	1,2	●
CNGN120712S02530	12,70	12,90	1,2	●
CNGN120716S02025	12,70	12,90	1,6	●

KENDEX • NEGATIVE INSERTS • DNGN

● first choice
○ alternate choice



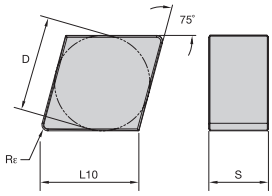
P	
M	
K	●
N	
S	○
H	●

ISO catalogue number	D	L10	Rε	KYHK15B
DNGN150704S02025	12,70	15,50	0,4	●
DNGN150708S02025	12,70	15,50	0,8	●
DNGN150708S02530	12,70	15,50	0,8	●
DNGN150712S02025	12,70	15,50	1,2	●
DNGN150712S02530	12,70	15,50	1,2	●
DNGN150716S02025	12,70	15,50	1,6	●

182	186	14–15	4	192

Hard Turning

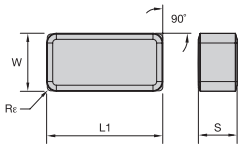
KENDEX™ • NEGATIVE INSERTS • ENGN



● first choice
○ alternate choice

ISO catalogue number	D	L10	Rε	KYHK15B
ENGN130704S02025	12,70	13,15	0,4	●
ENGN130708S02025	12,70	13,15	0,8	●
ENGN130708S02530	12,70	13,15	0,8	●
ENGN130712S02025	12,70	13,15	1,2	●
ENGN130712S02530	12,70	13,15	1,2	●
ENGN130716S02025	12,70	13,15	1,6	●

KENDEX • NEGATIVE INSERTS • LNMN



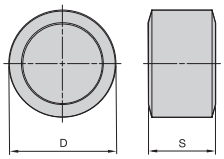
● first choice
○ alternate choice

ISO catalogue number	D	L10	Rε	KYHK15B
LNMN381232P20015	–	38,10	3,2	●
LNMN381232S15015	–	38,10	3,2	●

182	186	14–15	4	192

Hard Turning

KENDEX™ • NEGATIVE INSERTS • RNGN

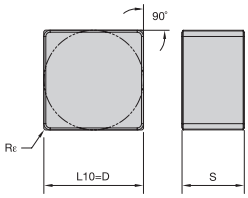


● first choice
○ alternate choice

P	
M	
K	●
N	
S	○
H	●

ISO catalogue number	D	L10	Rε	KYHK15B
RNGN090300S02025	9,53	–	–	●
RNGN090400S02025	9,53	–	–	●
RNGN120400S02025	12,70	–	–	●
RNGN120700P20015	12,70	–	–	●
RNGN120700S02025	12,70	–	–	●
RNGN120700S02530	12,70	–	–	●
RNGN120700S15015	12,70	–	–	●
RNGN190700P20015	19,05	–	–	●
RNGN190700S02530	19,05	–	–	●
RNGN190700S15015	19,05	–	–	●
RNGN250700P20015	25,40	–	–	●
RNGN250700S15015	25,40	–	–	●

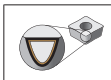
KENDEX • NEGATIVE INSERTS • SNGN



● first choice
○ alternate choice

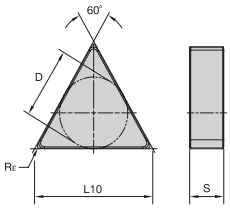
P	
M	
K	●
N	
S	○
H	●

ISO catalogue number	D	L10	Rε	KYHK15B
SNGN090408S02025	9,53	9,53	0,8	●
SNGN090408S02530	9,53	9,53	0,8	●
SNGN090412S02025	9,53	9,53	1,2	●
SNGN090412S02530	9,53	9,53	1,2	●
SNGN120408S02025	12,70	12,70	0,8	●
SNGN120408S02530	12,70	12,70	0,8	●
SNGN120412S02025	12,70	12,70	1,2	●
SNGN120412S02530	12,70	12,70	1,2	●
SNGN120416S02025	12,70	12,70	1,6	●
SNGN120708S02025	12,70	12,70	0,8	●
SNGN120708S02530	12,70	12,70	0,8	●
SNGN120712S02025	12,70	12,70	1,2	●
SNGN120712S02530	12,70	12,70	1,2	●
SNGN120716S02025	12,70	12,70	1,6	●
SNGN120716S20015	12,70	12,70	1,6	●
SNGN190724P20015	19,05	19,05	2,4	●
SNGN190724S15015	19,05	19,05	2,4	●
SNGN250724P20015	25,40	25,40	2,4	●
SNGN250724S15015	25,40	25,40	2,4	●

				NOVO
182	186	14–15	4	192

Hard Turning

KENDEX™ • NEGATIVE INSERTS • TNGN

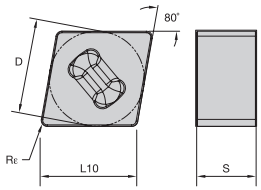


● first choice
○ alternate choice

P		
M		
K		●
N		
S		○
H		●

ISO catalogue number	D	L10	Rε	KYHK15B
TNGN110308S02025	6,35	11,00	0,8	●
TNGN110308S02530	6,35	11,00	0,8	●
TNGN110312S02025	6,35	11,00	1,2	●
TNGN110312S02530	6,35	11,00	1,2	●
TNGN160408S02025	9,53	16,50	0,8	●
TNGN160408S02530	9,53	16,50	0,8	●
TNGN160412S02025	9,53	16,50	1,2	●
TNGN160412S02530	9,53	16,50	1,2	●
TNGN160416S02025	9,53	16,50	1,6	●
TNGN160708S02025	9,53	16,50	0,8	●
TNGN160708S02530	9,53	16,50	0,8	●
TNGN160712S02025	9,53	16,50	1,2	●
TNGN160712S02530	9,53	16,50	1,2	●
TNGN160716S02025	9,53	16,50	1,6	●

KENDEX • NEGATIVE INSERTS • CNGX



● first choice
○ alternate choice

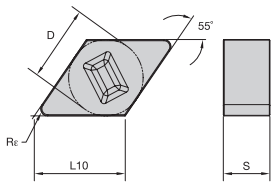
P		
M		
K		●
N		
S		○
H		●

ISO catalogue number	D	L10	Rε	KYHK15B
CNGX120708S02025	12,70	12,90	0,8	●
CNGX120708S02530	12,70	12,90	0,8	●
CNGX120712S02025	12,70	12,90	1,2	●
CNGX120712S02530	12,70	12,90	1,2	●
CNGX120716S02025	12,70	12,90	1,6	●

				NOVO
182	186	14–15	4	192

Hard Turning

KENDEX™ • NEGATIVE INSERTS • DNGX

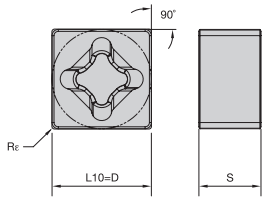


● first choice
○ alternate choice

P		
M		
K		●
N		
S		○
H		●

ISO catalogue number	D	L10	Rε	KYHK15B
DNGX120708S02025	10,00	12,21	0,8	●
DNGX120708S02530	10,00	12,21	0,8	●
DNGX120712S02025	10,00	12,21	1,2	●
DNGX120712S02530	10,00	12,21	1,2	●
DNGX120716S02025	10,00	12,21	1,6	●
DNGX150708S02025	12,70	15,50	0,8	●
DNGX150708S02530	12,70	15,50	0,8	●
DNGX150712S02025	12,70	15,50	0,8	●
DNGX150712S02530	12,70	15,50	0,8	●
DNGX150716S02025	12,70	15,50	1,6	●

KENDEX • NEGATIVE INSERTS • SNGX



● first choice
○ alternate choice

P		
M		
K		●
N		
S		○
H		●

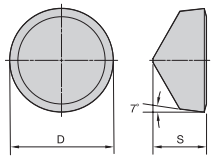
ISO catalogue number	D	L10	Rε	KYHK15B
SNGX120708S02025	12,70	12,70	0,8	●
SNGX120708S02530	12,70	12,70	0,8	●
SNGX120712S02025	12,70	12,70	1,2	●
SNGX120712S02530	12,70	12,70	1,2	●
SNGX120716S02025	12,70	12,70	1,6	●

182	186	14–15	4	192

Hard Turning

KENDEX™ • POSITIVE INSERTS • RCGX

● first choice
○ alternate choice

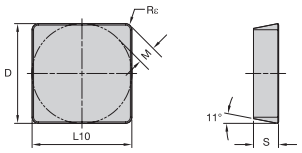


P		
M		
K		●
N		
S		○
H		●

ISO catalogue number	D	L10	Rε	KYHK15B
RCGX060400S02025	6,35	–	–	●
RCGX090700S02025	9,53	–	–	●
RCGX090700S20015	9,53	–	–	●
RCGX120700P20015	12,70	–	–	●
RCGX120700S02025	12,70	–	–	●
RCGX120700S15015	12,70	–	–	●
RCGX151000P20015	15,88	–	–	●
RCGX151000S02530	15,88	–	–	●
RCGX151000S15015	15,88	–	–	●
RCGX191000P20015	19,05	–	–	●
RCGX191000S15015	19,05	–	–	●
RCGX251200P20015	25,40	–	–	●
RCGX251200S15015	25,40	–	–	●

KENDEX • POSITIVE INSERTS • SPGN

● first choice
○ alternate choice



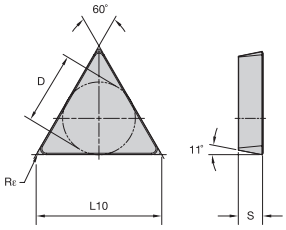
P		
M		
K		●
N		
S		○
H		●

ISO catalogue number	D	L10	Rε	KYHK15B
SPGN090308S02025	9,53	9,53	0,8	●
SPGN120308S02025	12,70	12,70	0,8	●

				NOVO
182	186	14–15	4	192

Hard Turning

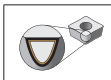
KENDEX™ • POSITIVE INSERTS • TPGN



● first choice
○ alternate choice

P		
M		
K		●
N		
S		○
H		●

ISO catalogue number	D	L10	Rε	KYHK15B
TPGN110304S02025	6,35	11,00	0,4	●
TPGN110304T01020	6,35	11,00	0,4	●
TPGN110308S02025	6,35	11,00	0,8	●
TPGN110308T01020	6,35	11,00	0,8	●
TPGN160304S02025	9,53	16,50	0,4	●
TPGN160304T01020	9,53	16,50	0,4	●
TPGN160308S02025	9,53	16,50	0,8	●
TPGN160308T01020	9,53	16,50	0,8	●

				NOVO
182	186	14–15	4	192

Hard Turning

KYHK15B™ • APPLICATION DATA

Insert Shape	Insert Size	Geometry	Corner Radius	Depth of Cut – ap (mm)			Feed – fn (mm/rev)		
				min	Starting Value	max	min	Starting Value	max
CNGA	12	E	04	0,05	0,10	0,30	0,05	0,10	0,15
		T01020	04	0,05	0,20	0,60	0,05	0,10	0,15
		S02025	04	0,08	0,35	0,70	0,08	0,15	0,20
		E	08	0,05	0,10	0,35	0,05	0,15	0,25
		S01515GW	08	0,10	0,15	0,40	0,10	0,20	0,35
		T01020	08	0,05	0,20	0,70	0,05	0,15	0,20
		S02025	08	0,08	0,50	1,00	0,08	0,15	0,25
		S02530	08	0,10	0,75	1,50	0,08	0,20	0,30
		T01020	12	0,05	0,25	0,80	0,05	0,15	0,22
		S02025	12	0,08	0,75	1,50	0,08	0,20	0,30
		S02530	12	0,10	1,00	2,00	0,08	0,20	0,33
		S02025	16	0,12	1,00	2,00	0,08	0,20	0,30
	16	S02530	12	0,10	1,25	2,50	0,08	0,20	0,33
	19	S02025	12	0,08	1,00	2,00	0,08	0,20	0,30
		S02530	12	0,12	1,25	2,50	0,08	0,20	0,33
		S02025	16	0,12	1,25	2,50	0,08	0,20	0,30
DNGA	15	E	04	0,05	0,10	0,30	0,05	0,10	0,15
		T01020	04	0,05	0,20	0,60	0,05	0,10	0,15
		S02025	04	0,08	0,35	0,70	0,08	0,15	0,20
		E	08	0,05	0,10	0,35	0,05	0,15	0,25
		S01515GW	08	0,10	0,15	0,40	0,10	0,20	0,35
		T01020	08	0,05	0,20	0,70	0,05	0,15	0,20
		S02025	08	0,08	0,50	1,00	0,08	0,15	0,25
		S02530	08	0,10	0,75	1,50	0,08	0,20	0,30
		T01020	12	0,05	0,25	0,80	0,05	0,15	0,22
		S02025	12	0,08	0,75	1,50	0,08	0,20	0,30
		S02530	12	0,10	1,00	2,00	0,08	0,20	0,33
		S02025	16	0,12	1,00	2,00	0,08	0,20	0,30
		E	04	0,05	0,10	0,30	0,05	0,10	0,15
		T01020	04	0,05	0,20	0,60	0,05	0,10	0,15
		S02025	04	0,08	0,35	0,70	0,08	0,15	0,20
		E	08	0,05	0,10	0,35	0,05	0,15	0,25
		S01515GW	08	0,10	0,15	0,40	0,10	0,20	0,35
		T01020	08	0,05	0,20	0,70	0,05	0,15	0,20
		S02025	08	0,08	0,50	1,00	0,08	0,15	0,25
		S02530	08	0,10	0,75	1,50	0,08	0,20	0,30
		T01020	12	0,05	0,25	0,80	0,05	0,15	0,22
		S02025	12	0,08	0,75	1,50	0,08	0,20	0,30
		S02530	12	0,10	1,00	2,00	0,08	0,20	0,33
		S02025	16	0,12	1,00	2,00	0,08	0,20	0,30

Hard Turning

KYHK15B™ • APPLICATION DATA

(continued)

Insert Shape	Insert Size	Geometry	Corner Radius	Depth of Cut – ap (mm)			Feed – fn (mm/rev)		
				min	Starting Value	max	min	Starting Value	max
SNGA	12	S02025	04	0,08	0,35	0,70	0,08	0,15	0,20
		S02025	08	0,08	0,60	1,20	0,08	0,15	0,25
		S02530	08	0,10	0,85	1,70	0,08	0,20	0,30
		S02025	12	0,08	0,75	1,50	0,08	0,20	0,30
		S02530	12	0,10	1,00	2,00	0,08	0,20	0,33
		S02025	16	0,12	1,00	2,00	0,08	0,20	0,30
TNGA	16	S02025	04	0,08	0,20	0,40	0,08	0,15	0,20
		S02025	08	0,08	0,50	1,00	0,08	0,15	0,25
		S02530	08	0,08	0,75	1,50	0,08	0,20	0,30
		S02025	12	0,08	0,75	1,50	0,08	0,20	0,30
		S02530	12	0,08	1,00	2,00	0,08	0,20	0,33
	22	S02025	08	0,08	0,50	1,00	0,08	0,15	0,25
		S02530	08	0,10	0,75	1,50	0,08	0,20	0,30
		S02025	12	0,08	0,75	1,50	0,08	0,20	0,30
		S02530	12	0,10	1,00	2,00	0,08	0,20	0,33
VNGA	16	T01020	04	0,05	0,15	0,50	0,05	0,10	0,15
		S02025	04	0,05	0,25	0,50	0,08	0,15	0,20
		T01020	08	0,05	0,20	0,60	0,05	0,15	0,20
		S02025	08	0,05	0,35	0,70	0,08	0,15	0,25
		S02025	12	0,05	0,50	1,00	0,08	0,20	0,30
	22	S02025	08	0,05	0,35	0,70	0,08	0,15	0,25
		S02025	12	0,05	0,50	1,00	0,08	0,20	0,30
WNGA	08	S02025	04	0,08	0,35	0,70	0,08	0,15	0,20
		S02025	08	0,08	0,50	1,00	0,08	0,15	0,25
		S02025	12	0,08	0,75	1,50	0,08	0,20	0,30
RNGA	12	S02025	-	0,12	1,00	2,00	0,08	0,25	0,35
CNGN	12	S02025	04	0,08	0,40	0,80	0,08	0,15	0,20
		S02025	08	0,08	0,60	1,20	0,08	0,15	0,25
		S02530	08	0,08	0,60	1,20	0,08	0,20	0,30
		S02025	12	0,08	0,80	1,60	0,08	0,20	0,30
		S02530	12	0,08	0,80	1,60	0,08	0,20	0,33
		S02025	16	0,12	0,90	1,80	0,08	0,20	0,30
		S02025	08	0,08	0,80	1,60	0,08	0,15	0,25
		S02530	08	0,08	0,80	1,60	0,08	0,20	0,30
		S02025	12	0,08	1,00	2,00	0,08	0,20	0,30
		S02530	12	0,08	1,00	2,00	0,08	0,20	0,33
		S02025	16	0,12	1,15	2,30	0,08	0,20	0,30
DNGN	15	S02025	04	0,08	0,45	0,85	0,08	0,15	0,20
		S02025	08	0,08	0,60	1,20	0,08	0,15	0,25
		S02530	08	0,10	0,90	1,80	0,08	0,20	0,30
		S02025	12	0,08	0,90	1,80	0,08	0,20	0,30
		S02530	12	0,10	1,15	2,30	0,08	0,20	0,33
		S02025	16	0,12	1,15	2,30	0,08	0,20	0,30

Hard Turning

KYHK15B™ • APPLICATION DATA

(continued)

Insert Shape	Insert Size	Geometry	Corner Radius	Depth of Cut – ap (mm)			Feed – fn (mm/rev)		
				min	Starting Value	max	min	Starting Value	max
LNMN	38	S15015	32	15,00	15,00	30,00	0,15	1,95	3,00
		P20015	32	15,00	15,00	30,00	0,30	1,95	3,00
SNGN	09	S02025	08	0,08	0,60	1,20	0,08	0,15	0,25
		S02530	08	0,10	0,75	1,50	0,08	0,20	0,30
		S02025	12	0,08	0,75	1,50	0,08	0,20	0,30
		S02530	12	0,10	0,90	1,80	0,08	0,20	0,33
	12	S02025	08	0,08	0,75	1,50	0,08	0,15	0,25
		S02530	08	0,10	0,90	1,80	0,08	0,20	0,30
		S02025	12	0,08	0,90	1,80	0,08	0,20	0,30
		S02530	12	0,10	1,10	2,20	0,08	0,20	0,33
		S02025	16	0,12	1,10	2,20	0,08	0,20	0,30
		S02025	08	0,08	1,00	2,00	0,08	0,15	0,25
		S02530	08	0,10	1,10	2,20	0,08	0,20	0,30
		S02025	12	0,08	1,00	2,00	0,08	0,20	0,30
		S02530	12	0,10	1,10	2,20	0,08	0,20	0,33
		S02025	16	0,12	1,25	2,50	0,08	0,20	0,30
		S20015	16	0,12	1,00	2,00	0,10	0,25	0,40
	19	S15015	24	0,15	1,50	3,00	0,10	0,25	0,40
		P20015	24	0,20	1,50	3,00	0,20	0,35	0,50
	25	S15015	24	0,15	2,50	5,00	0,10	0,25	0,40
		P20015	24	0,20	2,50	5,00	0,25	0,40	0,60
ENGN	13	S02025	04	0,08	0,45	0,85	0,08	0,15	0,20
		S02025	08	0,08	0,60	1,20	0,08	0,15	0,25
		S02530	08	0,10	0,90	1,80	0,08	0,20	0,30
		S02025	12	0,08	0,90	1,80	0,08	0,20	0,30
		S02530	12	0,10	1,15	2,30	0,08	0,20	0,33
		S02025	16	0,12	1,15	2,30	0,08	0,20	0,30
TNGN	11	S02025	08	0,08	0,25	0,50	0,08	0,15	0,25
		S02530	08	0,08	0,30	0,60	0,08	0,20	0,30
		S02025	12	0,08	0,40	0,80	0,08	0,20	0,30
		S02530	12	0,08	0,50	1,00	0,08	0,20	0,33
	16	S02025	08	0,08	0,60	1,20	0,08	0,15	0,25
		S02530	08	0,08	0,75	1,50	0,08	0,20	0,30
		S02025	12	0,08	0,85	1,70	0,08	0,20	0,30
		S02530	12	0,08	1,10	2,20	0,08	0,20	0,33
		S02025	16	0,08	1,00	2,00	0,08	0,20	0,30
		S02025	08	0,08	0,60	1,20	0,08	0,15	0,25
		S02530	08	0,08	0,75	1,50	0,08	0,20	0,30
		S02025	12	0,08	1,00	2,00	0,08	0,20	0,30
		S02530	12	0,08	1,25	2,50	0,08	0,20	0,33
		S02025	16	0,08	1,10	2,20	0,08	0,20	0,30

Hard Turning

KYHK15B™ • APPLICATION DATA

(continued)

Insert Shape	Insert Size	Geometry	Corner Radius	Depth of Cut – ap (mm)			Feed – fn (mm/rev)		
				min	Starting Value	max	min	Starting Value	max
RNGN	09	S02025	-	0,10	0,75	1,50	0,08	0,25	0,40
		S02025	-	0,10	0,75	1,50	0,08	0,25	0,40
	12	S02025	-	0,12	1,00	2,00	0,08	0,35	0,50
		S02025	-	0,12	1,25	2,50	0,08	0,35	0,50
		S02530	-	0,12	1,25	2,50	0,10	0,35	0,50
		S15015	-	0,12	1,25	2,50	0,10	0,35	0,50
		P20015	-	0,12	1,25	2,50	0,15	0,35	0,50
	19	S02530	-	0,12	1,50	3,00	0,10	0,40	0,60
		S15015	-	0,12	1,50	3,00	0,12	0,40	0,60
		P20015	-	0,12	1,50	3,00	0,15	0,40	0,60
	25	S15015	-	0,15	1,75	3,50	0,12	0,40	0,60
		P20015	-	0,15	1,75	3,50	0,20	0,40	0,60
CNGX	12	S02025	08	0,08	0,80	1,60	0,08	0,15	0,25
		S02530	08	0,08	0,80	1,60	0,08	0,20	0,30
		S02025	12	0,08	1,00	2,00	0,08	0,20	0,30
		S02530	12	0,08	1,00	2,00	0,08	0,20	0,33
		S02025	16	0,12	1,15	2,30	0,08	0,20	0,30
DNGX	15	S02025	08	0,08	0,60	1,20	0,08	0,15	0,25
		S02530	08	0,10	0,90	1,80	0,08	0,20	0,30
		S02025	12	0,08	0,90	1,80	0,08	0,20	0,30
		S02530	12	0,10	1,15	2,30	0,08	0,20	0,33
		S02025	16	0,12	1,15	2,30	0,08	0,20	0,30
	12	S02025	08	0,08	0,60	1,20	0,08	0,15	0,25
		S02530	08	0,10	0,90	1,80	0,08	0,20	0,30
		S02025	12	0,08	0,90	1,80	0,08	0,20	0,30
		S02530	12	0,10	1,15	2,30	0,08	0,20	0,33
		S02025	16	0,12	1,15	2,30	0,08	0,20	0,30
SNGX	12	S02025	08	0,08	1,00	2,00	0,08	0,15	0,25
		S02530	08	0,10	1,10	2,20	0,08	0,20	0,30
		S02025	12	0,08	1,00	2,00	0,08	0,20	0,30
		S02530	12	0,10	1,10	2,20	0,08	0,20	0,33
		S02025	16	0,12	1,25	2,50	0,08	0,20	0,30

Hard Turning

KYHK15B™ • APPLICATION DATA

(continued)

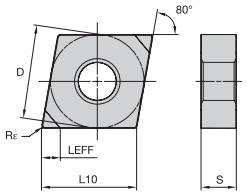
Insert Shape	Insert Size	Geometry	Corner Radius	Depth of Cut – ap (mm)			Feed – fn (mm/rev)		
				min	Starting Value	max	min	Starting Value	max
RCGX	06	S02025	-	0,10	0,50	1,00	0,08	0,25	0,35
	09	S02025	-	0,10	0,75	1,50	0,08	0,25	0,40
		S20015	-	0,10	0,75	1,50	0,10	0,25	0,40
	12	S02025	-	0,12	1,25	2,50	0,08	0,35	0,50
		S15015	-	0,12	1,25	2,50	0,10	0,35	0,50
		P20015	-	0,12	1,25	2,50	0,15	0,35	0,50
	15	S02530	-	0,12	1,35	2,70	0,10	0,35	0,50
		S15015	-	0,12	1,35	2,70	0,12	0,35	0,50
		P20015	-	0,12	1,35	2,70	0,15	0,35	0,50
	19	S15015	-	0,12	1,50	3,00	0,12	0,40	0,60
		P20015	-	0,12	1,50	3,00	0,15	0,40	0,60
	25	S15015	-	0,15	1,75	3,50	0,12	0,40	0,60
		P20015	-	0,15	1,75	3,50	0,20	0,40	0,60
TPGN	11	T01020	04	0,08	0,10	0,30	0,05	0,10	0,15
		S02025	04	0,08	0,20	0,40	0,08	0,15	0,20
		T01020	08	0,08	0,10	0,40	0,05	0,15	0,20
		S02025	08	0,08	0,25	0,50	0,08	0,15	0,25
	16	T01020	04	0,08	0,10	0,30	0,05	0,10	0,15
		S02025	04	0,08	0,20	0,40	0,08	0,15	0,20
		T01020	08	0,08	0,10	0,40	0,05	0,15	0,20
		S02025	08	0,08	0,50	1,00	0,08	0,15	0,25
SPGN	09	S02025	08	0,08	0,60	1,20	0,08	0,15	0,25
	12	S02025	08	0,08	0,75	1,50	0,08	0,15	0,25

RECOMMENDED STARTING SPEEDS

Material Group		KYHK15B			KBH10B			KBH20B		
		Speed – m/min								
		min	Starting Value	max	min	Starting Value	max	min	Starting Value	max
K	1	450	**700**	950	–	**–**	–	–	**–**	–
	2	360	**560**	760	–	**–**	–	–	**–**	–
S	2	70	**90**	120	–	**–**	–	–	**–**	–
H	1	85	**120**	205	175	**220**	320	125	**185**	275
	2	75	**110**	185	160	**200**	290	115	**170**	250
	3	70	**100**	170	140	**180**	260	100	**150**	220
	4	–	**–**	–	120	**150**	220	90	**130**	180

Hard Turning

KENLOC™ • NEGATIVE INSERTS • CNGA • DOUBLE-SIDED MINI TIP

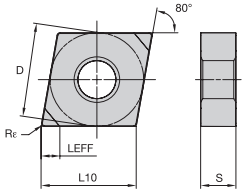


● first choice
○ alternate choice

P	
M	
K	
N	
S	
H	● ●

ISO catalogue number	D	L10	S	LEFF	Rε	KBH10B	KBH20B
CNGA120404S01015DMT	12,70	12,90	4,78	2,47	0,4	●	●
CNGA120404S01225DMT	12,70	12,90	4,78	2,47	0,4	●	●
CNGA120408S01015DMT	12,70	12,90	4,78	2,39	0,8	●	●
CNGA120408S01225DMT	12,70	12,90	4,78	2,39	0,8	●	●
CNGA120412S01015DMT	12,70	12,90	4,78	2,41	1,2	–	●
CNGA120412S01225DMT	12,70	12,90	4,78	2,41	1,2	–	●

KENLOC • NEGATIVE INSERTS • CNGA • WIPER • DOUBLE-SIDED MINI TIP



● first choice
○ alternate choice

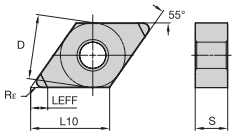
P	
M	
K	
N	
S	
H	● ●

ISO catalogue number	D	L10	S	LEFF	Rε	KBH10B	KBH20B
CNGA120404S01515GWDMT	12,70	12,90	4,78	2,41	0,4	●	●
CNGA120408S01515GWDMT	12,70	12,90	4,78	2,33	0,8	●	●
CNGA120412S01515GWDMT	12,70	12,90	4,78	2,41	1,2	●	●

				NOVO
182	186	14–15	4	192

Hard Turning

KENLOC™ • NEGATIVE INSERTS • DNGA • DOUBLE-SIDED MINI TIP

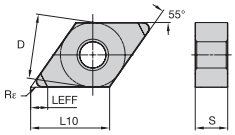


● first choice
○ alternate choice

	KBH10B	KBH20B
P		
M		
K		
N		
S		
H	●	●

ISO catalogue number	D	L10	S	LEFF	Rε	KBH10B	KBH20B
DNGA150404S01015DMT	12,70	15,50	4,78	2,64	0,4	●	●
DNGA150404S01225DMT	12,70	15,50	4,78	2,64	0,4	●	●
DNGA150604S01015DMT	12,70	15,50	6,37	2,64	0,4	●	●
DNGA150604S01225DMT	12,70	15,50	6,35	2,64	0,4	●	●
DNGA150408S01015DMT	12,70	15,50	4,78	2,28	0,8	●	●
DNGA150408S01225DMT	12,70	15,50	4,78	2,28	0,8	●	●
DNGA150608S01015DMT	12,70	15,50	6,37	2,28	0,8	●	●
DNGA150608S01225DMT	12,70	15,50	6,37	2,28	0,8	●	●
DNGA150412S01015DMT	12,70	15,50	4,78	2,25	1,2	●	–
DNGA150412S01225DMT	12,70	15,50	4,78	2,25	1,2	●	●
DNGA150612S01015DMT	12,70	15,50	6,37	2,25	1,2	●	●
DNGA150612S01225DMT	12,70	15,50	6,37	2,25	1,2	●	●

KENLOC • NEGATIVE INSERTS • DNGA • WIPER • DOUBLE-SIDED MINI TIP



● first choice
○ alternate choice

	KBH10B	KBH20B
P		
M		
K		
N		
S		
H	●	●

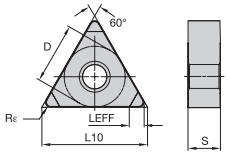
ISO catalogue number	D	L10	S	LEFF	Rε	KBH10B	KBH20B
DNGA150404S01515GWDMT	12,70	15,50	4,78	2,10	0,4	●	●
DNGA150604S01515GWDMT	12,70	15,50	6,35	2,10	0,4	●	●
DNGA150408S01515GWDMT	12,70	15,50	4,78	1,87	0,8	●	●
DNGA150608S01515GWDMT	12,70	15,50	6,35	1,87	0,8	●	●

182	186	14–15	4	192

Hard Turning

KENLOC™ • NEGATIVE INSERTS • TNGA • DOUBLE-SIDED MINI TIP

● first choice
○ alternate choice

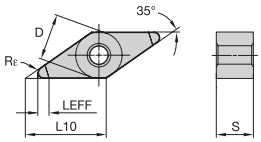


P	
M	
K	
N	
S	
H	●

ISO catalogue number	D	L10	S	LEFF	Rε	KBH10B	KBH20B
TNGA160404S01015DMT	9,53	16,50	4,78	2,56	0,4	●	●
TNGA160408S01015DMT	9,53	16,60	4,78	2,27	0,8	●	●
TNGA160408S01225DMT	9,53	16,50	4,78	2,27	0,8	●	●

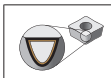
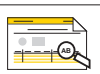
KENLOC • NEGATIVE INSERTS • VNGA • DOUBLE-SIDED MINI TIP

● first choice
○ alternate choice



P	
M	
K	
N	
S	
H	●

ISO catalogue number	D	L10	S	LEFF	Rε	KBH10B	KBH20B
VNGA160404S01015DMT	9,53	16,61	4,78	3,01	0,4	●	●
VNGA160404S01225DMT	9,53	16,61	4,78	3,02	0,4	●	●
VNGA160408S01015DMT	9,53	16,61	4,78	2,15	0,8	●	●
VNGA160408S01225DMT	9,53	16,61	4,78	2,15	0,8	●	●
VNGA160412S01225DMT	9,53	16,61	4,78	2,32	1,2	●	●

				
182	186	14–15	4	192

Hard Turning

KBH10B™ & KBH20B™ • APPLICATION DATA

Insert Shape	Insert Size	Geometry	Corner Radius	Depth of Cut – ap (mm)			Feed – fn (mm/rev)		
				min	Starting Value	max	min	Starting Value	max
CNGA	12	S01015DMT	0,4	0,03	**0,08**	0,12	0,05	**0,08**	0,12
			0,8	0,03	**0,11**	0,15	0,05	**0,11**	0,15
			1,2	0,03	**0,13**	0,18	0,05	**0,14**	0,2
		S01515GWDMT	0,4	0,05	**0,15**	0,25	0,08	**0,18**	0,3
			0,8	0,05	**0,18**	0,3	0,08	**0,24**	0,4
			1,2	0,05	**0,18**	0,3	0,08	**0,24**	0,4
		S01225DMT	0,4	0,03	**0,11**	0,15	0,05	**0,11**	0,16
			0,8	0,03	**0,15**	0,22	0,05	**0,15**	0,22
			1,2	0,03	**0,21**	0,3	0,05	**0,20**	0,28
DNGA	15	S01015DMT	0,4	0,03	**0,08**	0,12	0,05	**0,08**	0,12
			0,8	0,03	**0,11**	0,15	0,05	**0,11**	0,15
		S01515GWDMT	0,4	0,05	**0,15**	0,25	0,08	**0,18**	0,3
			0,8	0,05	**0,18**	0,3	0,08	**0,24**	0,4
		S01225DMT	0,4	0,03	**0,11**	0,15	0,05	**0,11**	0,15
			0,8	0,03	**0,15**	0,22	0,05	**0,14**	0,2
			1,2	0,03	**0,21**	0,3	0,05	**0,18**	0,26
TNGA	16	S01015DMT	0,4	0,03	**0,08**	0,12	0,05	**0,08**	0,12
			0,8	0,03	**0,11**	0,15	0,05	**0,11**	0,15
		S01225DMT	0,8	0,03	**0,15**	0,22	0,05	**0,15**	0,22
VNGA	16	S01015DMT	0,4	0,03	**0,07**	0,1	0,05	**0,07**	0,1
			0,8	0,03	**0,08**	0,12	0,05	**0,08**	0,12
		S01225DMT	0,4	0,03	**0,08**	0,12	0,05	**0,08**	0,12
			0,8	0,03	**0,11**	0,15	0,05	**0,11**	0,15
			1,2	0,03	**0,14**	0,2	0,05	**0,13**	0,18

Hard Turning

RECOMMENDED STARTING SPEEDS

Material Group		KYHK15B			KBH10B			KBH20B		
		Speed – m/min								
		min	Starting Value	max	min	Starting Value	max	min	Starting Value	max
K	1	450	**700**	950	–	**–**	–	–	**–**	–
	2	360	**560**	760	–	**–**	–	–	**–**	–
S	2	70	**90**	120	–	**–**	–	–	**–**	–
H	1	85	**120**	205	175	**220**	320	125	**185**	275
	2	75	**110**	185	160	**200**	290	115	**170**	250
	3	70	**100**	170	140	**180**	260	100	**150**	220
	4	–	**–**	–	120	**150**	220	90	**130**	180

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FIX8™

Heavy-Duty Turning

Materials

P M K

Applications

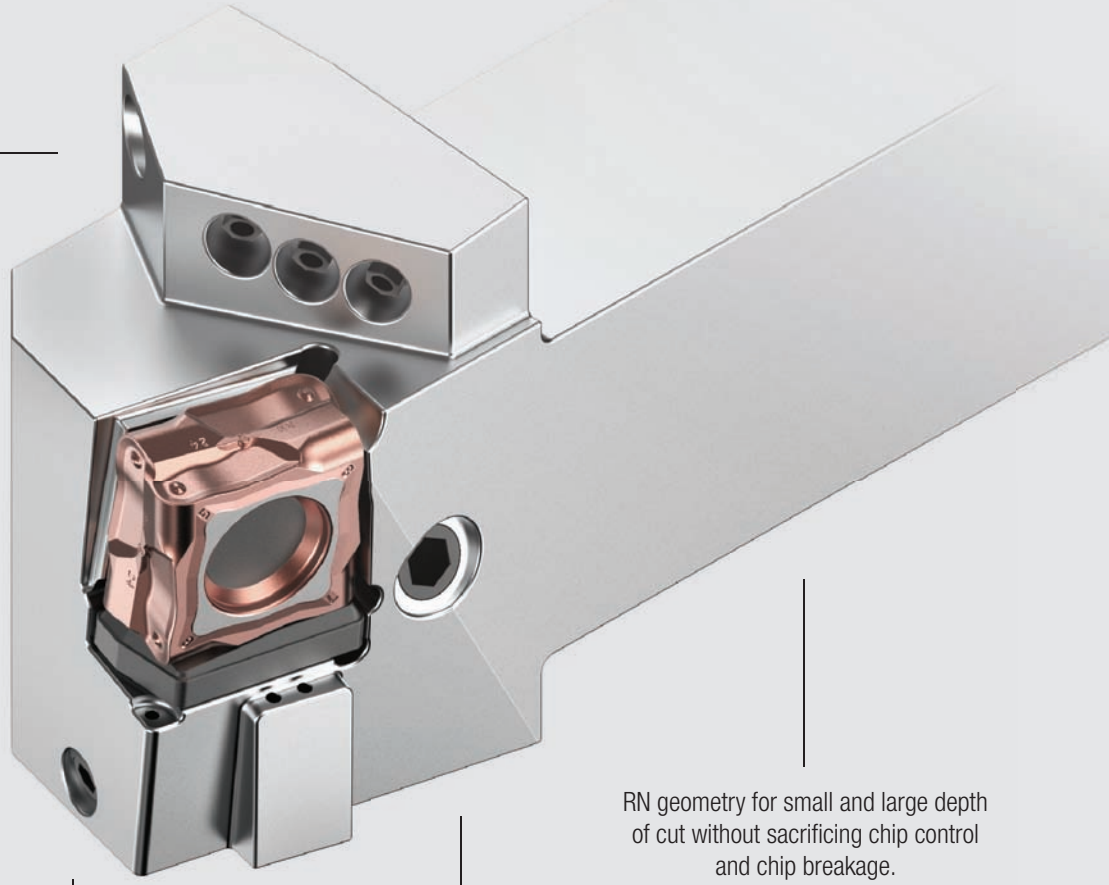
- Turning
- Facing
- Chamfer Turning

FIX8 is the heavy-duty turning solution with eight cutting edges per insert. It's ideal for medium machining and roughing with lowest cost per edge.

A unique clamping system pulls the insert into the pocket seat, enabling the insert to withstand large cutting forces and vibrations.

Large depth of cut (up to 12mm) and feed rate (up to 1.4mm) capabilities ensure highest possible metal removal rates in steel, cast iron, and stainless steels.

With 15% less cutting forces, FIX8 is also well suited for low-horsepower lathes.



The tangential design increases the amount of carbide between the workpiece and the tool holder, allowing the system to take higher loads. A carbide shim protects the pocket against deformation and ensures process safety.

Precision Coolant Technology:

Coolant exit holes directed towards the flank of the insert – controlling the heat in the cutting zone and prolonging tool life.

Three coolant nozzles directed to the rake face – controlling temperature, chip evacuation, and supporting chip formation.

Heavy-Duty Turning

FIX8™ • TOOL SELECTION GUIDE

	Tool Selection Guide - FIX8			
				
Internal Coolant		✔		✔
Page	**47**	**46**	**47**	**46**
Main Operation				
Clamping	Kenlever™ P-Clamping		Kenlever P-Clamping	
Style	FIX8PCJN…		FIX8PCBN…	
Approach Angle [KRI]	93°		75°	
Shank Height [H]	25-40mm		32-40mm	

Heavy-Duty Turning

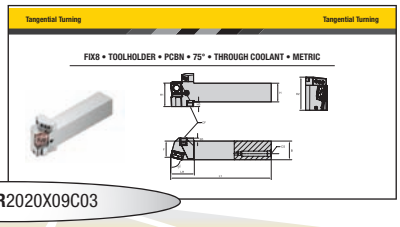
FIX8™ • TOOL SELECTION GUIDE

	Tool Selection Guide - FIX8			
	KM™	KM	PSC	PSC
				
Internal Coolant	✔	✔	✔	✔
Page	48	48	49	49
Main Operation				
Clamping	Kenlever™ P-Clamping	Kenlever P-Clamping	Kenlever P-Clamping	Kenlever P-Clamping
Style	KM...PCJN...FIX8HPC	KM...PCBN...FIX8HPC	PSC...PCJN...FIX8HPC	PSC...PCBN...FIX8HPC
Approach Angle [KRI]	93°	75°	93°	75°
System Size [CSMS]	KM50, KM63 & KM80	KM50, KM63 & KM80	PSC50, PSC63	PSC50, PSC63

Heavy-Duty Turning

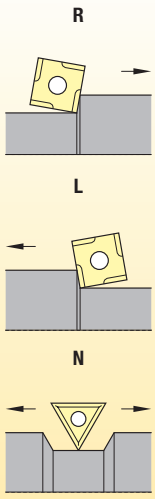
ISO TOOLHOLDERS • CATALOG NUMBERING SYSTEM

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



FIX8SCLCR2020X09C03

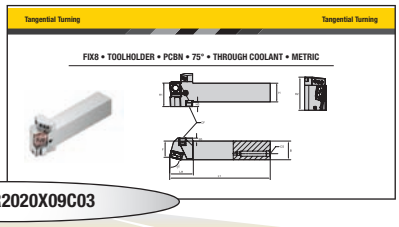
FIX8	S	C	L	C	R	
Family Name	Insert Holding Method	Insert Shape	Tool Style or Lead Angle	Insert Clearance Angle	Hand of Tool	Additional Information
	Kenclamp™ KENLOC™ KENDEX™ TOP NOTCH™ Profiling Screw-On Kenlever™	A 85° B 82° C 80° D 55° E 75° H 120° K 55° L 90° M 86° O 135° P 108° R S 90° T 60° V 35° W 80°	A 90° B 15° C 90° D 45° E 60° F 90° G 90° H 107,5° J 93° K 75° L 95° M 50° P 107,5° Q 107,5° R 75° S 45° U 93° V 72,5° Y 85°	N 0° B 5° C 7° P 11° D 15° E 20° F 25°	R = Right hand L = Left hand N = Neutral	C = Deep pocket for ceramic insert S = Single pocket locating wall F = Straight shank, no offset



Heavy-Duty Turning

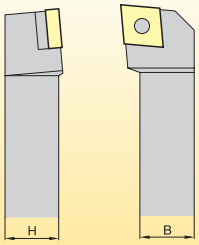
ISO TOOLHOLDERS • CATALOG NUMBERING SYSTEM

(continued)



FIX8SCLCR**2020X09C03**

20	20	X	09	C	03
Shank Dimensions		Tool Length	Insert Size	Additional Information	Insert Thickness *(optional)*



The seventh and eighth position shall be a significant two-digit number that indicates the holder cross section.

- If the dimension for the width "B" or the height "H" is represented by a one-digit number, a 0 (zero) will be used in front of it.

Example: 8,0mm = 08

L1	ISO
32	A
40	B
50	C
60	D
70	E
80	F
90	G
100	H
110	J
125	K
140	L
150	M
160	N
170	P
180	Q
200	R
250	S
300	T
350	U
400	V
450	W
500	Y
Special Design	X

KC = Kenclamp™

H4 = Wedgelock™ clamping system

M = MTS clamping system for ceramic and PcBN inserts

C = Through coolant

04 = 4,76mm
06 = 6,35mm

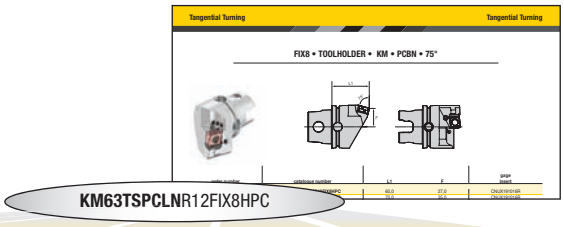
Cutting Edge Length L10

H	Hexagon 120°	**C**	Rhomboid 80°
		D	55°
O	Octagon 135°	**E**	75°
		M	86°
		V	35°
P	Pentagon 108°	**W**	Trigon 80° with enlarged corner angles
S	Square 90°	**L**	Rectangular 90°
T	Triangular 60°	**A**	Parallelogram 85°
R	Round —	**B**	82°
		K	55°

Heavy-Duty Turning

KM™ QUICK CHANGE • CATALOG NUMBERING SYSTEM

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



KM — Connection Style Machine Side (CSMS)

KM™
KM4X™
PSC

63 — System Size

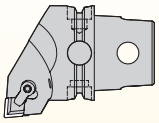
30
32
40
50
63
80
100
125

TS — Feature

TS
XMZ
ATC
4X

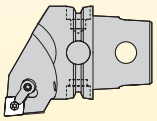
P — Insert Holding Method

C



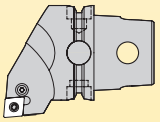
C-Clamping
Top clamping by clamping finger for inserts without hole

M



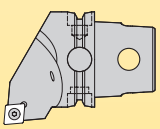
M-Clamping
Top and hole clamping for inserts with hole

P



P-Clamping
Insert clamping by toggle lever for insert with hole

S



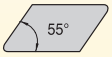
S-Clamping
Center clamping by screw for inserts with hole

C — Insert Shape

C

D

K

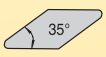


R

S

T

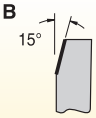
V



W

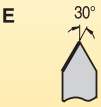
L — Toolholder Style

B

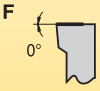


D

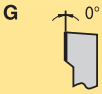
E



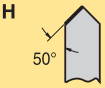
F



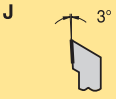
G



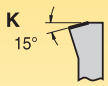
H



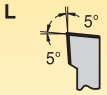
J



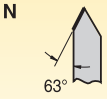
K



L



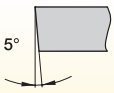
N



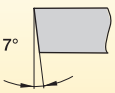
P

N — Insert Clearance Angle

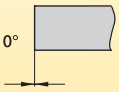
B



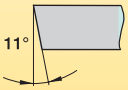
C



N



P



Q

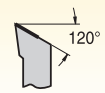
R

S

U

V

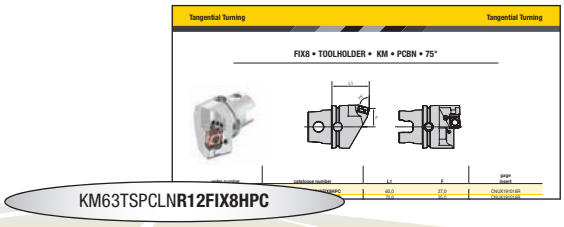
X



Heavy-Duty Turning

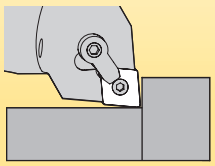
KM™ QUICK CHANGE • CATALOG NUMBERING SYSTEM

(continued)

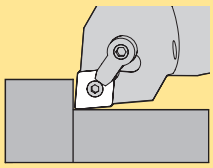


R	12	FIX8	HPC
Hand of Tool	Insert Size Cutting Edge Length L10	Family Name	Additional Information
R = Right hand L = Left hand N = Neutral		MX = Ceramic inserts	HPC = High Pressure Coolant

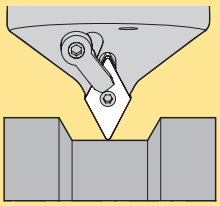
R



L



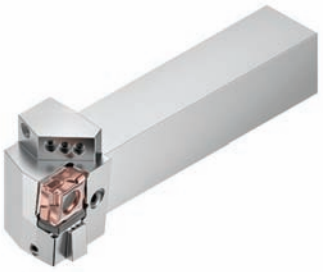
N

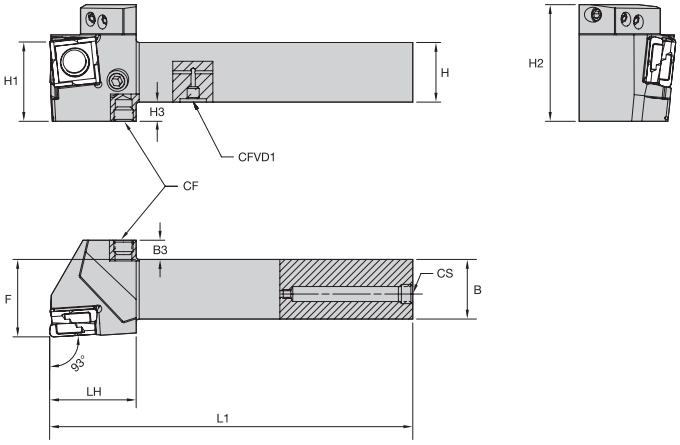


IC	C	D	K	R	S	T	V	W
3,97		04		03	03	06		
4,76	04	05		04	04	08	08	S3
5,56	05	06	03	05	05	09	09	03
6,00				06				
6,35	06	07	04	06	06	11	11	04
7,94	08	09	05	07	07	13	13	05
8,00				08			11	
9,52	09	11	06	09	09	16	16	06
9,52								
10,00				10				
11,11	11	13	07	11	11	19	19	07
12,00				12				
12,70	12	15	08	12	12	22	22	08
14,29	14	17	09	14	14	24	24	09
15,88	16	19	10	15	15	27	27	10
16,00				16				
17,46	17	21	11	17	17	30	30	11
19,05	19	23	13	19	19	33	33	13
20,00				20				
22,22	22	27	15	22	22	38	38	15
25,00				25				
25,40	25	31	17	25	25	44	44	17
31,75	32	38	21	31	31	54	54	21
32,00				32				

Heavy-Duty Turning

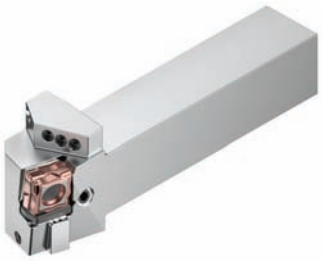
FIX8™ • TOOLHOLDER • PCJN • 93° • THROUGH COOLANT

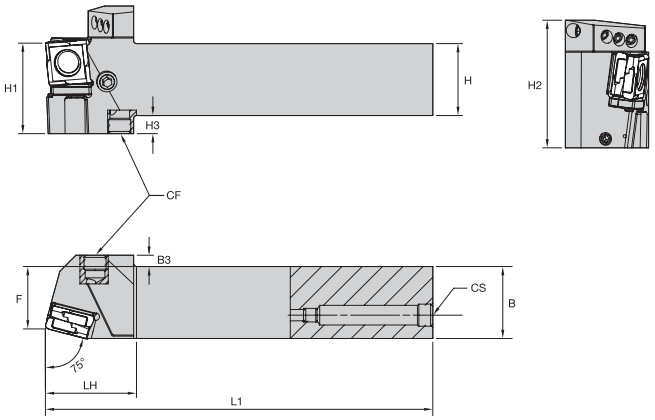




order number	catalogue number	H	B	F	L1	LH	B3	H1	H3	CS	CF	CFVDI	GI
right hand													
6913114	FIX8PCJNR2525M19C	25	25	32,3	150,0	36	8	25	8	M8 X 1	M8 X 1	M5 X 0.8	CNUX191016R
6913091	FIX8PCJNR3232P19C	32	32	40,3	170,0	36	–	32	8	G1/8 - 28	G1/8 - 28	–	CNUX191016R
left hand													
6913115	FIX8PCJNL2525M19C	25	25	32,3	150,0	36	8	25	8	M8 X 1	M8 X 1	M5 X 0.8	CNUX191016L
6913092	FIX8PCJNL3232P19C	32	32	40,3	170,0	36	–	32	8	G1/8 - 28	G1/8 - 28	–	CNUX191016L

FIX8 • TOOLHOLDER • PCBN • 75° • THROUGH COOLANT



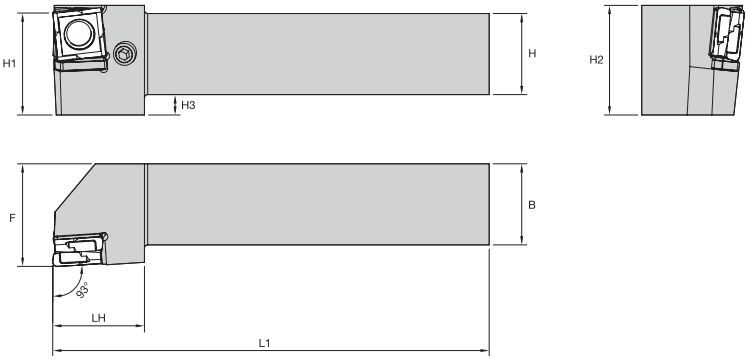


order number	catalogue number	H	B	F	L1	LH	B3	H1	H3	CS	CF	GI
right hand												
6913106	FIX8PCBNR3232P19C	32	32	27,3	172,5	39	5	32	8	G1/8 - 28	G1/8 - 28	CNUX191016R
left hand												
6913107	FIX8PCBNL3232P19C	32	32	27,3	172,5	39	5	32	8	G1/8 - 28	G1/8 - 28	CNUX191016L

182	186	42	4	192

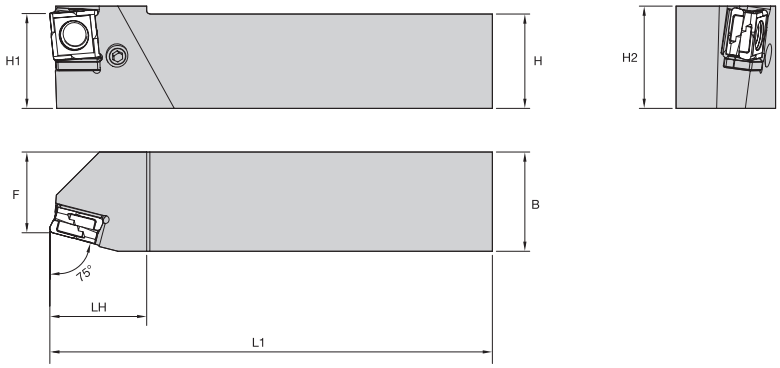
Heavy-Duty Turning

FIX8™ • TOOLHOLDER • PCJN • 93°



order number	catalogue number	H	B	F	L1	LH	H1	H2	H3	GI
right hand										
6913093	FIX8PCJNR3232P19	32	32	40,3	170,0	36	32	40	8	CNUX191016R
6913095	FIX8PCJNR4040R19	40	40	50,3	200,0	36	40	43	–	CNUX191016R
left hand										
6913094	FIX8PCJNL3232P19	32	32	40,3	170,0	36	32	40	8	CNUX191016L
6913096	FIX8PCJNL4040R19	40	40	50,3	200,0	36	40	43	–	CNUX191016L

FIX8 • TOOLHOLDER • PCBN • 75°

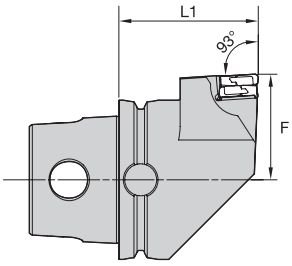


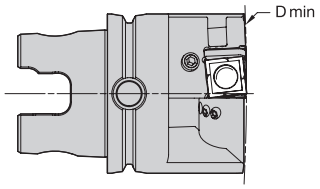
order number	catalogue number	H	B	F	L1	LH	H1	H2	GI
right hand									
6913108	FIX8PCBNR4040R19	40	40	35,3	202,5	39	40	43	CNUX191016R
left hand									
6913109	FIX8PCBNL4040R19	40	40	35,3	202,5	39	40	43	CNUX191016L

182	186	42	4	192

Heavy-Duty Turning

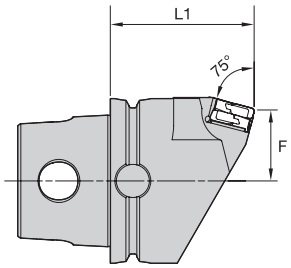
FIX8™ • TOOLHOLDER • KM™ • PCJN • THROUGH COOLANT 93°

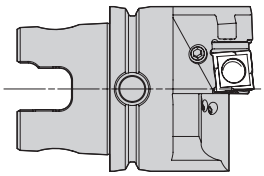




order number	catalogue number	CSMS system size	D min	F	L1	GI
right hand						
6939711	**KM50TSPCJNR19FIX8HPC**	KM50TS	850	35,0	60,0	CNUX191016R
6741041	**KM63TSPCJNR19FIX8HPC**	KM63TS	2000	43,0	60,0	CNUX191016R
6741045	**KM80TSPCJNR19FIX8HPC**	KM80TS	2000	53,0	70,0	CNUX191016R
left hand						
6939712	**KM50TSPCJNL19FIX8HPC**	KM50TS	850	35,0	60,0	CNUX191016L
6741042	**KM63TSPCJNL19FIX8HPC**	KM63TS	2000	43,0	60,0	CNUX191016L
6741046	**KM80TSPCJNL19FIX8HPC**	KM80TS	2000	53,0	70,0	CNUX191016L

FIX8 • TOOLHOLDER • KM • PCBN • THROUGH COOLANT 75°



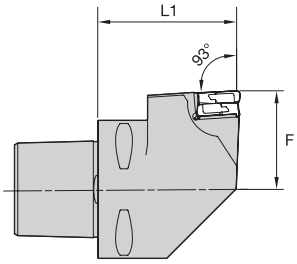


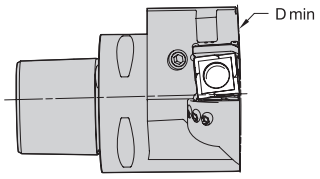
order number	catalogue number	CSMS system size	F	L1	GI
right hand					
6939713	**KM50TSPCBNR19FIX8HPC**	KM50TS	20,5	60,0	CNUX191016R
6741043	**KM63TSPCBNR19FIX8HPC**	KM63TS	27,0	60,0	CNUX191016R
6741047	**KM80TSPCBNR19FIX8HPC**	KM80TS	35,0	70,0	CNUX191016R
left hand					
6939719	**KM50TSPCBNL19FIX8HPC**	KM50TS	20,5	60,0	CNUX191016L
6741044	**KM63TSPCBNL19FIX8HPC**	KM63TS	27,0	60,0	CNUX191016L
6741048	**KM80TSPCBNL19FIX8HPC**	KM80TS	35,0	70,0	CNUX191016L

182	186	44	4	192

Heavy-Duty Turning

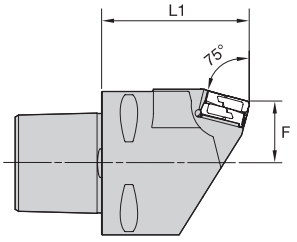
FIX8™ • TOOLHOLDER • PSC • PCJN • THROUGH COOLANT 93°

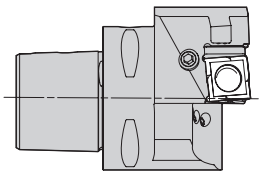




order number	catalogue number	CSMS system size	D min	F	L1	GI
right hand						
6939657	**PSC50PCJNR19FIX8HPC**	KM50TS	850	35,0	60,0	CNUX191016R
6921218	**PSC63PCJNR19FIX8HPC**	PSC63	2000	45,0	65,0	CNUX191016R
left hand						
6939658	**PSC50PCJNL19FIX8HPC**	KM50TS	850	35,0	60,0	CNUX191016L
6921219	**PSC63PCJNL19FIX8HPC**	PSC63	2000	45,0	65,0	CNUX191016L

FIX8 • TOOLHOLDER • PSC • PCBN • THROUGH COOLANT 75°





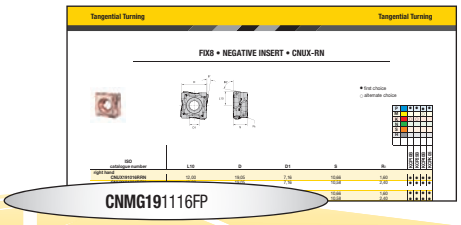
order number	catalogue number	CSMS system size	F	L1	GI
right hand					
6939659	**PSC50PCBNR19FIX8HPC**	KM50TS	22,0	60,0	CNUX191016R
6921220	**PSC63PCBNR19FIX8HPC**	PSC63	27,0	65,0	CNUX191016R
left hand					
6939660	**PSC50PCBNL19FIX8HPC**	KM50TS	22,0	60,0	CNUX191016L
6921351	**PSC63PCBNL19FIX8HPC**	PSC63	27,0	65,0	CNUX191016L

182	186	44	4	192

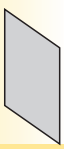
Heavy-Duty Turning

CATALOG NUMBERING SYSTEM

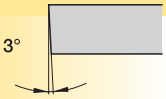
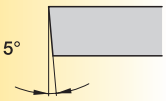
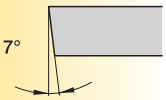
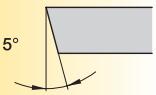
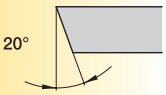
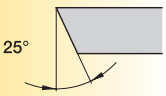
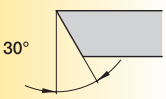
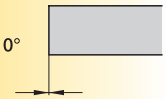
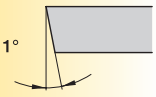
Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



C — Insert Shape

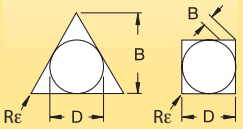
H	Hexagon 120°	
O	Octagon 135°	
P	Pentagon 108°	
R	Round—	
S	Square 90°	
T	Triangular 60°	
C D E M V	Rhomboid 80° 55° 75° 86° 35°	
W	Trigon 80° with enlarged corner angles	
L	Rectangular 90°	
A B N/K	Parallelogram 85° 82° 55°	

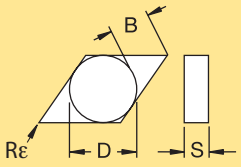
N — Insert Clearance Angle

A	3°	
B	5°	
C	7°	
D	15°	
E	20°	
F	25°	
G	30°	
N	0°	
P	11°	
O	Indicated for other clearance angles requiring descriptions.	

M — Tolerance Class

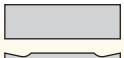
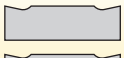
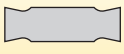
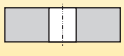
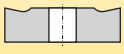
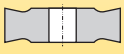
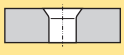
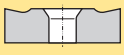
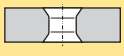
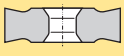
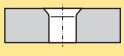
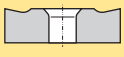
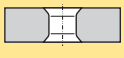
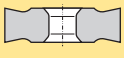
Tolerances apply prior to edge prep and coating





D = Theoretical diameter of the insert inscribed circle
S = Thickness
B = See figures below

G — Insert Features

N	
R	
F	
A	
M	
G	
W	
T	
Q	
U	
B	
H	
C	
J	
X	Special Design

19 — Size

Code for inch cutting edge length "L10"

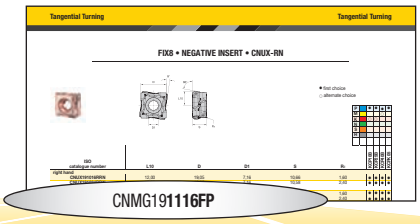
"D" mm	C	D	R	S	T	V	W
3,97	S4	04	03	03	06	–	–
4,76	04	05	04	04	08	08	S3
5,56	05	06	05	05	09	09	03
6,00	–	–	06	–	–	–	–
6,35	06	07	06	06	11	11	04
7,94	08	09	07	07	13	13	05
8,00	–	–	08	–	–	–	–
9,52	09	11	09	09	16	16	06
10,00	–	–	10	–	–	–	–
11,11	11	13	11	11	19	19	07
12,00	–	–	12	–	–	–	–
12,70	12	15	12	12	22	22	08
14,29	14	17	14	14	24	24	09
15,88	16	19	15	15	27	27	10
16,00	–	–	16	–	–	–	–
17,46	17	21	17	17	30	30	11
19,05	19	23	19	19	33	33	13
20,00	–	–	20	–	–	–	–
22,22	22	27	22	22	38	38	15
25,00	–	–	25	–	–	–	–
25,40	25	31	25	25	44	44	17
31,75	32	38	31	31	54	54	21
32,00	–	–	32	–	–	–	–

tolerance class	tolerance on "D"	tolerance on "B"	tolerance on "S"
C	±0,025	±0,013	±0,025
H	±0,013	±0,013	±0,025
E	±0,025	±0,025	±0,025
G	±0,025	±0,025	±0,013
M	See tables on next page		±0,013
U	See tables on next page		±0,013

Heavy-Duty Turning

CATALOG NUMBERING SYSTEM

(continued)



11

Thickness
S

symbol	thickness
mm	mm
–	0,79
T0	1,00
01	1,59
T1	1,98
02	2,38
03	3,18
T3	3,97
04	4,76
05	5,56
06	6,35
07	7,94
9	9,52
11	11,11
12	12,70

16

Corner
Radius "Rε"

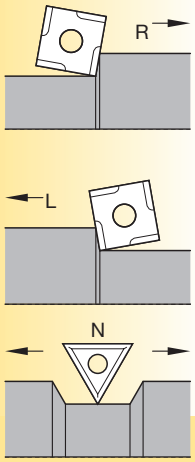
symbol	corner radius	
mm	mm	
X0	0,04	
01	0,1	
02	0,2	
04	0,4	
08	0,8	
12	1,2	
16	1,6	
20	2,0	
24	2,4	
28	2,8	
32	3,2	
00		round insert
M0		
–		

Hand of Insert
(optional)

R = Right hand

L = Left hand

N = Neutral



Cutting Edge
(optional)

F Sharp

E Rounded

T Chamfered

S Chamfered and Rounded

K Double-Chamfered

P Double-Chamfered and Rounded

FP

Chipbreaker
(optional)

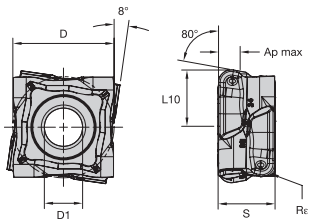
F = Sharp
FF = Fine Finishing
FN = Finishing Negative
MN = Medium Negative
MR = Medium Roughing
RN = Roughing Negative
UN = Universal Medium
FP = Finishing Positive
MP = Medium Positive
RP = Roughing Positive
RM = Roughing Medium
RH = Roughing Heavy
FW = Finishing Wiper
MW = Medium Wiper
FS = Finishing Sharp
MS = Medium Sharp
RW = Roughing Wiper
HP = High Positive
UP = Universal Positive
K = Light-Feed Chip Control
UF = Ultra-Fine Finishing
LF = Light Finishing
MF = Medium Finishing
E = Hone Only
T = Negative Land
S = Negative Land Plus Hone
MP-K = Medium Positive
MG-P = Medium Positive

	± Tolerance on "D"			
	Class M Tolerance			Class U Tolerance
"D"	Shapes S, T, C, R, & W	Shape D	Shape V	Shapes S, T, & C
mm	mm	mm	mm	mm
3,97	0,05	–	–	–
4,76	0,05	–	–	0,08
5,56	0,05	0,05	0,05	0,08
6,35	0,05	0,05	0,05	0,08
7,94	0,05	0,05	0,05	0,08
9,52	0,05	0,05	0,05	0,08
11,11	0,08	0,08	0,08	0,13
12,70	0,08	0,08	0,08	0,13
14,29	0,08	0,08	0,08	0,13
15,88	0,10	0,10	0,10	0,18
17,46	0,10	0,10	0,10	0,18
19,05	0,10	0,10	0,10	0,18
22,22	0,13	–	–	0,25
25,40	0,13	–	–	0,25
31,75	0,15	–	–	0,25

	± Tolerance on "B"			
	Class M Tolerance			Class U Tolerance
"D"	Shapes S, T, C, R, & W	Shape D	Shape V	Shapes S, T, & C
mm	mm	mm	mm	mm
3,97	0,08	–	–	–
4,76	0,08	–	–	0,13
5,56	0,08	0,11	–	0,13
6,35	0,08	0,11	–	0,13
7,94	0,08	0,11	–	0,13
9,52	0,08	0,11	0,18	0,13
11,11	0,13	0,15	–	–
12,70	0,13	0,15	0,25	0,20
14,29	0,13	0,15	–	–
15,88	0,15	0,18	–	0,27
17,46	0,15	0,18	–	0,27
19,05	0,15	0,18	–	0,27
22,22	0,15	–	–	0,38
25,40	0,18	–	–	0,38
31,75	0,20	–	–	0,38

Heavy-Duty Turning

FIX8™ • NEGATIVE INSERT • CNUX-RN



● first choice
○ alternate choice

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

ISO catalogue number	D	L10	Rε	D1	S	Ap max	KCP10B	KCP25B	KCP40B	KCPK05
right hand										
CNUX191016RRN	19,05	12,00	1,60	7,16	10,58	4,00	●	●	●	●
CNUX191024RRN	19,05	12,00	2,40	7,16	10,58	4,00	●	●	●	●
left hand										
CNUX191016LRN	19,05	12,00	1,60	7,16	10,58	4,00	●	●	●	●
CNUX191024LRN	19,05	12,00	2,40	7,16	10,58	4,00	●	●	●	●

FIX8 • APPLICATION DATA • GRADE RECOMMENDATIONS

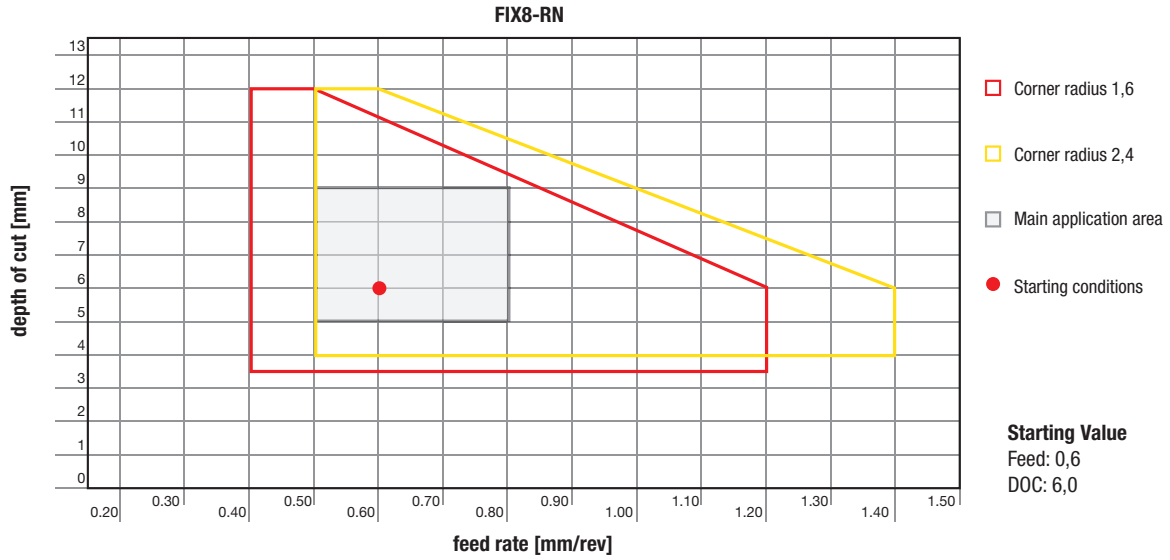
● Primary
○ Secondary

	Conditions	Negative Geometry -RN KCP10B	KCP25B	KCP40B	KCPK05
P	Heavily Interrupted Cut		○	●	
	Lightly Interrupted Cut	●	●	●	
	Varying Depth of Cut	●	●		●
	Smooth Cut	●			●
M	Heavily Interrupted Cut			○	
	Lightly Interrupted Cut			○	
K	Heavily Interrupted Cut	○	○		
	Lightly Interrupted Cut	○	○		●
	Varying Depth of Cut	○	○		●
	Smooth Cut	○			●

182	186	50	4	192

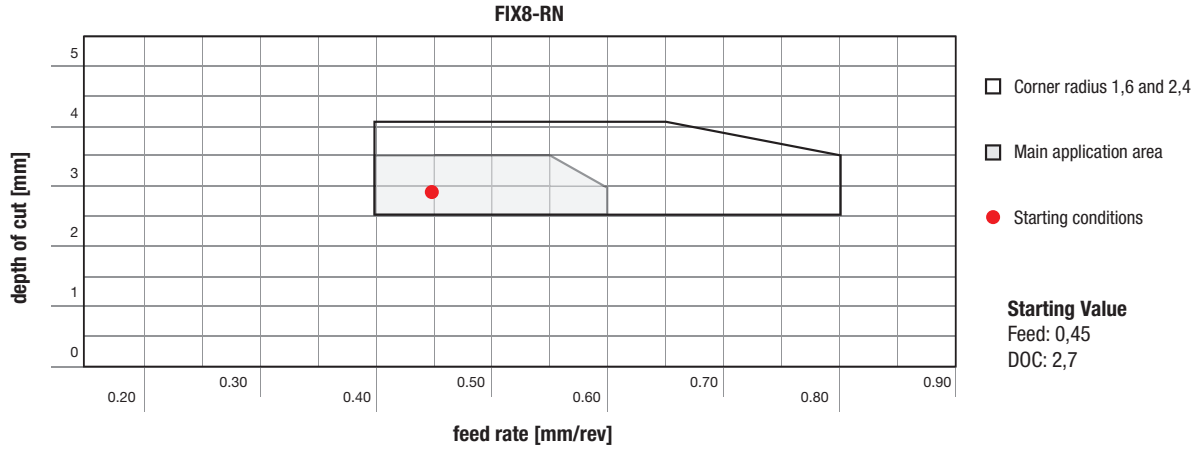
Heavy-Duty Turning

FIX8™ • APPLICATION DATA • FEED & DEPTH OF CUT • LONGITUDINAL TURNING



NOTE: For the 25mm toolholders, KM50 and PSC50, it is recommended to not surpass 80% of the maximum depth of cut or the maximum feed rate due to toolholder stability.

FIX8 • APPLICATION DATA • FEED & DEPTH OF CUT • FACE TURNING



NOTE: For the 25mm toolholders, KM50 and PSC50, it is recommended to not surpass 80% of the maximum depth of cut or the maximum feed rate due to toolholder stability.

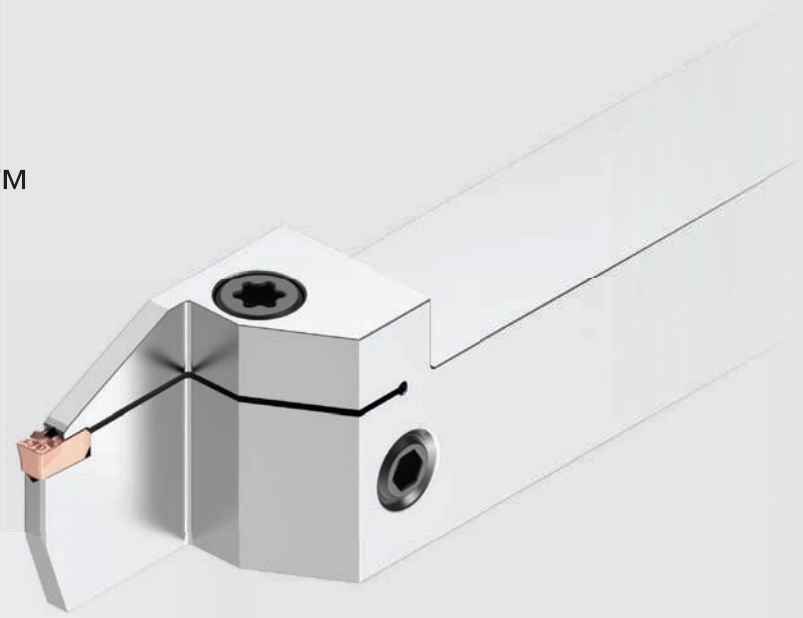
FIX8 • APPLICATION DATA • SPEED

Material Group		KCPK05			KCP10B			KCP25B			KCP40B		
		Speed – m/min											
		min	Starting Value	max	min	Starting Value	max	min	Starting Value	max	min	Starting Value	max
P	0-1	125	**285**	320	100	**275**	315	95	**195**	250	90	**145**	170
	2	125	**170**	280	125	**185**	245	95	**135**	225	90	**105**	160
	3	125	**135**	195	120	**135**	175	95	**110**	160	70	**85**	120
	4	65	**110**	145	65	**100**	140	50	**75**	125	35	**65**	100
	5	105	**160**	190	105	**150**	210	85	**135**	190	75	**95**	105
	6	105	**135**	190	75	**125**	190	75	**105**	155	55	**75**	100
M	1	–	**–**	–	–	**–**	–	–	**–**	–	55	**85**	95
	2	–	**–**	–	–	**–**	–	–	**–**	–	55	**75**	90
	3	–	**–**	–	–	**–**	–	–	**–**	–	55	**65**	95
K	1	215	**270**	460	180	**235**	460	180	**215**	430	–	**–**	–
	2	110	**235**	290	110	**215**	270	110	**200**	250	–	**–**	–
	3	120	**195**	270	125	**195**	270	125	**190**	250	–	**–**	–

POWERED BY NOVO

Beyond™ Evolution™

Grooving and Cut-Off



Materials

P M K N S H

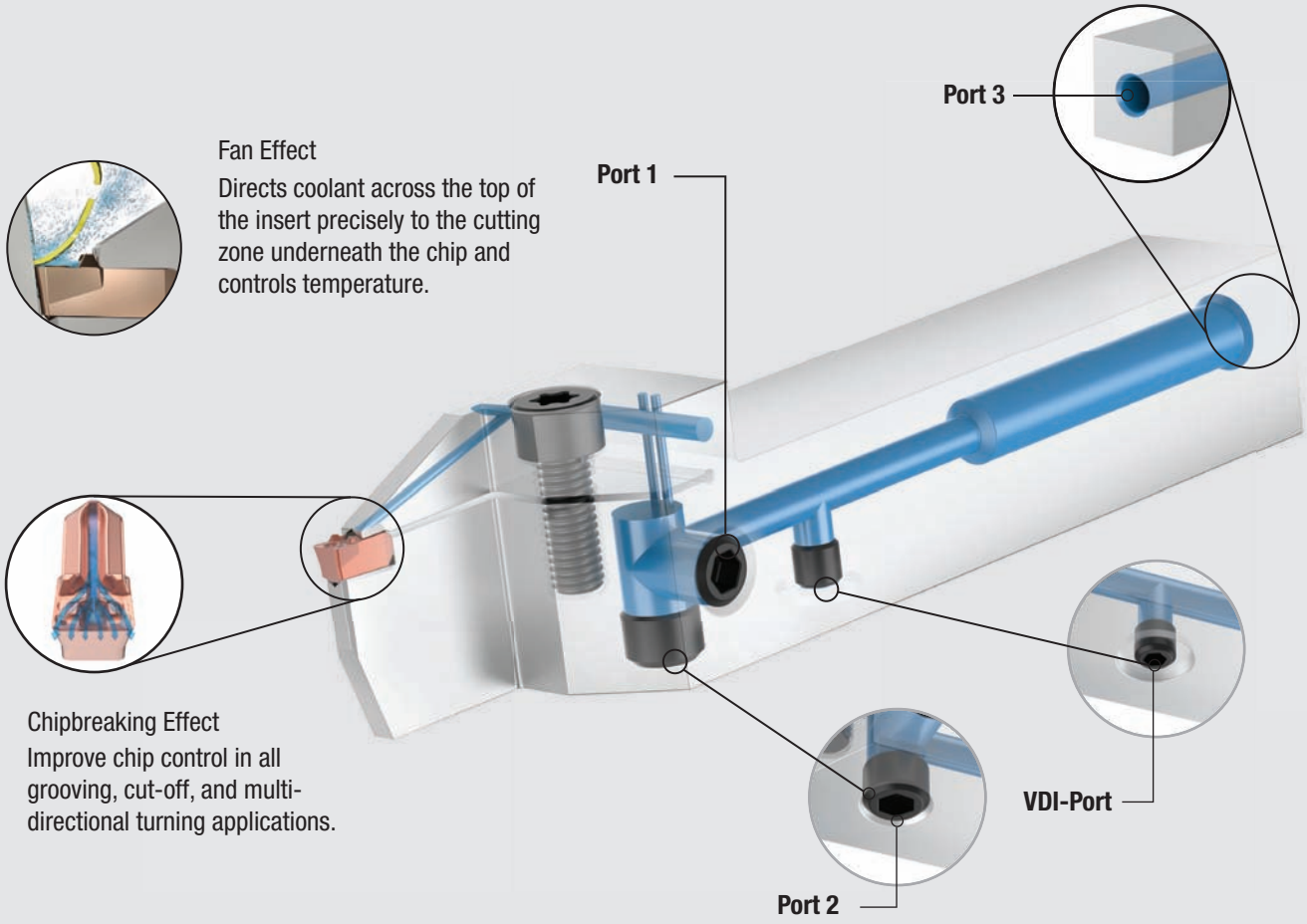
Applications

- Turning
- Profiling
- Facing
- Face Grooving
- Chamfering
- Grooving
- Cut-Off
- I.D. Turning
- I.D. Chamfering & Profiling
- I.D. Facing
- I.D. Grooving
- I.D. Face Grooving
- O.D. Deep Grooving

Beyond Evolution is a single-sided grooving and cut-off system that also performs multi-directional turning.

Applicable with high- or a low-pressure coolant supply, the active coolant control feature delivers longer tool life and higher metal removal rates (MRR).

The proprietary Triple-V seating feature with three contact surfaces provides functional stability and minimizes vibration, resulting in excellent surface finishes.



Fan Effect

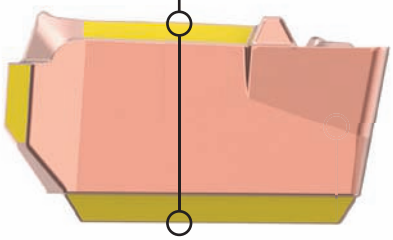
Directs coolant across the top of the insert precisely to the cutting zone underneath the chip and controls temperature.

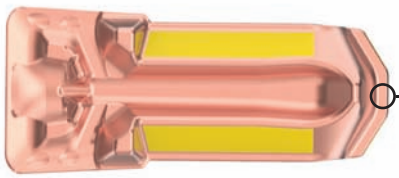
Chipbreaking Effect

Improve chip control in all grooving, cut-off, and multi-directional turning applications.

Top and Bottom-V

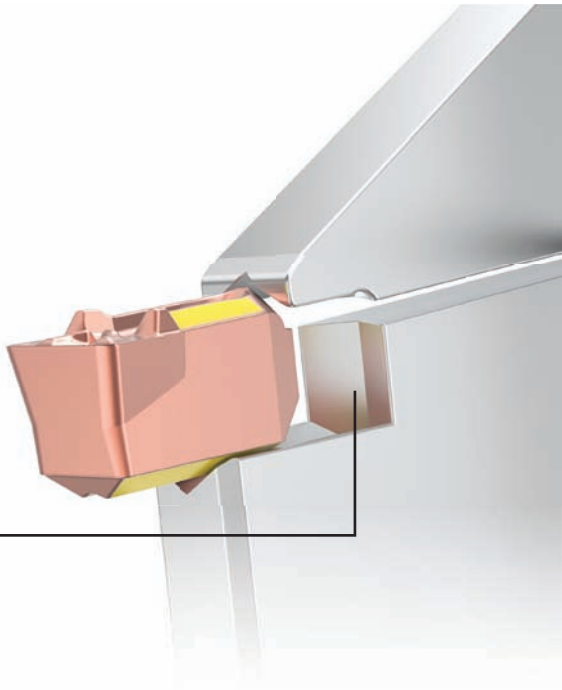
Precise and secure insert positioning for increased rigidity and dimensional accuracy.





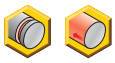
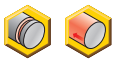
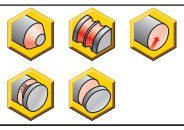
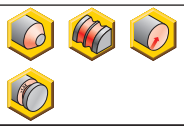
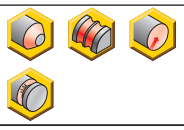
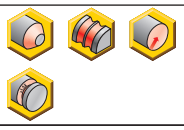
V-Back Design

Unsurpassed grooving, cut-off, and multi-directional turning load stability.



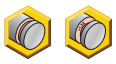
Grooving and Cut-Off

BEYOND™ EVOLUTION™ • TOOL SELECTION GUIDE • INSERTS

	Inserts				
					
Series	**GUP**	**GUP Full Radius**	**GUP "V" style**	**GUN**	**GUN Full Radius**
Page	**68–69**	**70–71**	**71**	**72**	**73**
Primary Operation					
Additional Operations					
Workpiece Material					
Primary	P M N S	P M N S	P M N S	P K	P K
Secondary	H	H	H	M H	M H
Stability	■■	■■	■	■■■	■■■
Versatility	■■■	■■■	■■	■■■	■■■
Geometry	Positive	Positive	Positive	Negative	Negative
Lead Angle	0°	Radius	–	0°	Radius
Cutting Width	1,6–10,125mm	2–8,125mm	N/A	1,6–10,125mm	2,125–8,125mm
Through Coolant Capable	✔	✔	✔	✔	✔
Seat	1F–10	2–8	3, 6	1F–10	2–8

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • TOOL SELECTION GUIDE • INSERTS

	Inserts			
				
Series	**CF**	**CL**	**CM**	**CR**
Page	**75–76**	**76**	**77**	**77**
Primary Operation				
Additional Operations				
Workpiece Material				
Primary	P M N S	P	K	P
Secondary		M N S	P	M S
Stability	■■	■■	■■■	■■
Versatility	■■	■■	■■	■■
Geometry	Positive	Positive	Negative	Positive
Lead Angle	0°, 6°, 12°	0°, 6°	0°, 6°	0°, 6°
Cutting Width	1,4–5mm	1,4–4mm	1,4–8mm	2–8mm
Through Coolant Capable	✔	✔	✔	✔
Seat	1B–5	1B–4	1B–8	2–8

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • TOOL SELECTION GUIDE • HOLDERS

	Integral Toolholder				
					
Series	Straight	45°	Reinforced	Reinforced Front Clamp	Face Grooving (Out-B)
Page	79–80	81	82	83	84–85
Primary Operation					
Additional Operations					
Workpiece Material	P M K N S H	P M K N S H	P M K N S H	P M K N S H	P M K N S H
Stability	■■■	■■■	■■■	■■■	■■■
Versatility	■■	■	■■	■■	■
Cutting Width	2–10mm	3–6mm	1,4–5mm	1,4–3mm	3–6mm
Cutting Depth	16–40mm	6,615–6,54mm	16–40mm	10–16mm	12–32mm
Through Coolant Capable	✔	✔	✔*	✔*	✔
Shank Size	20–40mm	20–25mm	12–32mm	10–20mm	20–32mm
Machine Connection	–	–	–	–	–
Blade Height	–	–	–	–	–
Min Face Grooving Diameter	–	–	–	–	35mm
Max Face Grooving Diameter	–	–	–	–	999mm
Min Bore Diameter	–	–	–	–	–
Seat	2–10	3, 6	1B–5	1B–3	3–6

*Pocket size 3 and higher.

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • TOOL SELECTION GUIDE • HOLDERS

	Modular			
				
Series	Straight	90°	45°	Face Grooving (In-A, Out-B)
Page	91, 97	92–93, 98	92–93, 99	94–95, 97
Primary Operation				
Additional Operations				
Workpiece Material	P M K N S H	P M K N S H	P M K N S H	P M K N S H
Stability	■■	■■	■■	■■
Versatility	■■■	■■■	■■	■■
Cutting Width	1,6–8mm	1,6–8mm	1,6–8mm	3–8mm
Cutting Depth	12–32mm	12–32mm	5,831–13,591mm	12–32mm
Through Coolant Capable	✔*	✔*	✔*	✔
Shank Size	25–32mm	25–32mm	25–32mm	25–32mm
Machine Connection	–	–	–	–
Blade Height	–	–	–	–
Min Face Grooving Diameter	–	–	–	35–350mm
Max Face Grooving Diameter	–	–	–	40–999mm
Min Bore Diameter	–	–	–	–
Seat	1F–8	1F–8	1F–8	3–8

*Pocket size 3 and higher.

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • TOOL SELECTION GUIDE • HOLDERS

	Quick Change		
			
Series	KM™/KM4X Modular Straight	KM/KM4X Modular 90°	KM/KM4X Modular Face Grooving
Page	107	107	108
Primary Operation			
Additional Operations			
Workpiece Material	P M K N S H	P M K N S H	P M K N S H
Stability	■■■	■■■	■■■
Versatility	■■■	■■■	■■
Cutting Width	1,6–8mm	1,6–8mm	3–8mm
Cutting Depth	12–32mm	12–32mm	12–32mm
Through Coolant Capable	✔*	✔*	✔
Shank Size	25–32mm*	25–32mm	25–32mm
Machine Connection	KM40–80, KM4X	KM40–80, KM4X	KM40–80, KM4X
Blade Height	–	–	–
Min Face Grooving Diameter	–	–	35–350mm
Max Face Grooving Diameter	–	–	40–999mm
Min Bore Diameter	–	–	–
Seat	1F–8	1F–8	3–8

*Pocket size 3 and higher.

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • TOOL SELECTION GUIDE • HOLDERS

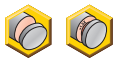
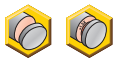
(continued)

	Quick Change		
			
Series	**PSC Modular Straight**	**PSC Modular 90°**	**PSC Modular Face Grooving**
Page	109	109	109
Primary Operation			
Additional Operations			
Workpiece Material	P M K N S H	P M K N S H	P M K N S H
Stability	■■	■■	■■
Versatility	■■■	■■■	■■
Cutting Width	1,6–8mm	1,6–8mm	3–8mm
Cutting Depth	12–32mm	12–32mm	12–32mm
Through Coolant Capable	✔*	✔*	✔*
Shank Size	25–32mm	25–32mm	25–32mm
Machine Connection	PSC40–80	PSC40–80	PSC40–80
Blade Height	–	–	–
Min Face Grooving Diameter	–	–	35–350mm
Max Face Grooving Diameter	–	–	40–999mm
Min Bore Diameter	–	–	–
Seat	1F–8	1F–8	3–8

*Pocket size 3 and higher.

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • TOOL SELECTION GUIDE • HOLDERS

	Blades			
				
Series	Cut-off Reinforced Coolant Through	Cut-off Coolant Through	Cut-off	KM Micro / Mini
Page	111–112	111	113	114
Primary Operation				
Additional Operations				
Workpiece Material	P M K N S H	P M K N S H	P M K N S H	P M K N S H
Stability	■■■	■■	■■	■■
Versatility	■	■	■	■
Cutting Width	2–4mm	2–6mm	1,4–8mm	1,4–2mm
Cutting Depth	26–40mm	33–60mm	14–120mm	11–16mm
Through Coolant Capable	✔	✔		
Shank Size	–	–	–	–
Machine Connection	–	–	–	–
Blade Height	26, 32	26, 32	19–53	19
Min Face Grooving Diameter	–	–	–	–
Max Face Grooving Diameter	–	–	–	–
Min Bore Diameter	–	–	–	–
Seat	2–4	2–6	1B–8	1B–2

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • TOOL SELECTION GUIDE • HOLDERS

	Boring Bar		Tool Block	
				
Series	90°	Face Grooving	Integral	Removable Top Rail
Page	87	88	116	116
Primary Operation				
Additional Operations				
Workpiece Material	P M K N S H	P M K N S H	P M K N S H	P M K N S H
Stability	■■■	■■■	–	–
Versatility	■■	■	–	–
Cutting Width	1,6–4mm	2–3mm	2–6mm	2–6mm
Cutting Depth	5–12mm	12mm	26–60mm	26–60mm
Through Coolant Capable	✔	✔	✔	✔
Shank Size	12–32mm	25–40mm	20–25mm	20–25mm
Machine Connection	–	–	–	–
Blade Height	–	–	26, 32	26, 32
Min Face Grooving Diameter	–	25–40mm	–	–
Max Face Grooving Diameter	–	26–41mm	–	–
Min Bore Diameter	16–40mm	26–41mm	–	–
Seat	1F–4	2–3	2–6	2–6

Grooving and Cut-Off

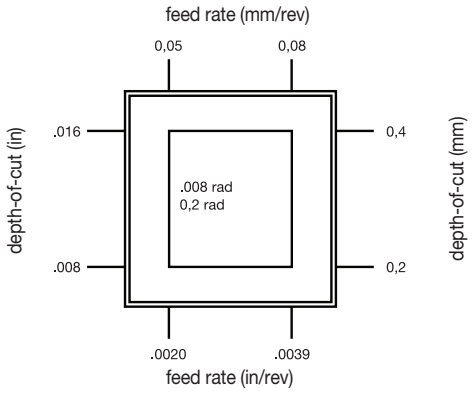
BEYOND™ EVOLUTION™ • APPLICATION DATA • PLUNGE FEED RATES

Geometry	Seat Size (SSC)	Corner Radius	fn (mm/rev)		
		mm	Low	High	Starting
GUN / GUP	1F	0,2	0.05	0.08	0.06
	02	0,2	0.05	0.14	0.08
	03	0,2	0.05	0.16	0.09
		0,4	0.08	0.18	0.11
	04	0,4	0.08	0.22	0.12
		0,8	0.10	0.24	0.15
	05	0,4	0.10	0.23	0.15
		0,8	0.10	0.25	0.16
	06	0,4	0.10	0.22	0.16
		0,8	0.12	0.26	0.18
		1,2	0.14	0.30	0.20
	08	0,8	0.12	0.30	0.20
		1,2	0.14	0.32	0.22
	10	1,2	0.15	0.35	0.24
CL	1B	0,15	0.05	0.09	0.06
	02	0,2	0.05	0.11	0.07
	03	0,2	0.05	0.14	0.085
	04	0,2	0.05	0.18	0.09
CF	1B	0	0.04	0.08	0.05
		0,1	0.05	0.10	0.06
	02	0	0.04	0.08	0.06
		0,2	0.05	0.13	0.07
	03	0	0.04	0.12	0.08
		0,2	0.05	0.18	0.09
	04	0	0.04	0.12	0.08
		0,2	0.05	0.20	0.11
	05	0	0.04	0.14	0.09
		0.3	0.05	0.23	0.13
CM	1B	0.15	0.05	0.09	0.06
	02	0.2	0.05	0.13	0.07
	03	0.2	0.05	0.18	0.09
	04	0.2	0.05	0.2	0.11
	05	0.3	0.05	0.2	0.14
	06	0.3	0.05	0.2	0.16
		0.4	0.05	0.25	0.16
	08	0.4	0.05	0.3	0.14
CR	02	0.2	0.08	0.13	0.1
	03	0.2	0.08	0.23	0.14
	04	0.2	0.08	0.3	0.16
	05	0.3	0.1	0.35	0.19
	06	0.3	0.1	0.4	0.21
		0.4	0.1	0.4	0.21
	08	0.4	0.1	0.43	0.23

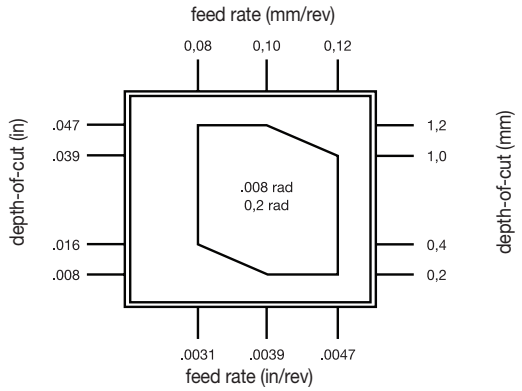
Grooving and Cut-Off

BEYOND™ EVOLUTION™ • APPLICATION DATA • TURN AND PROFILE FEED RATES

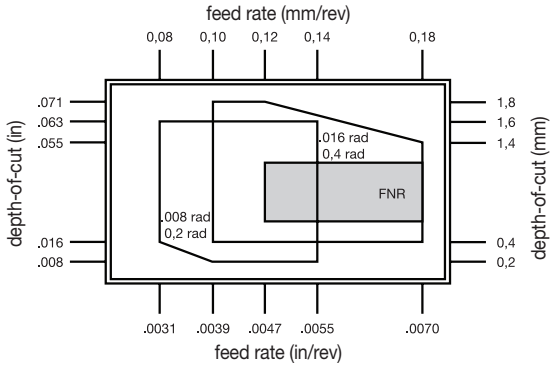
Seat Size 1F



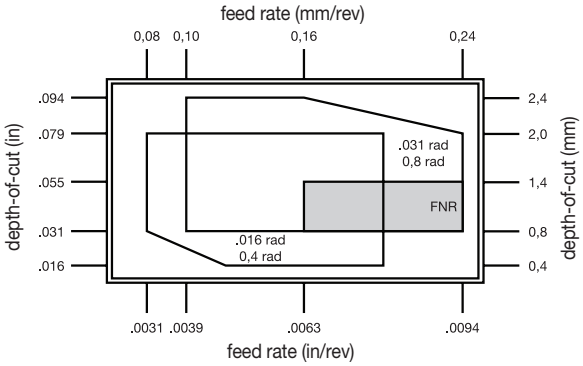
Seat Size 2



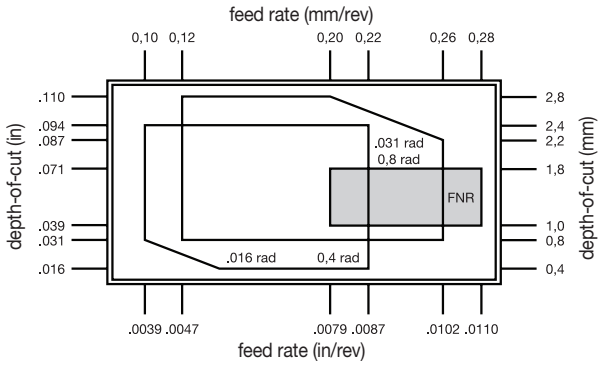
Seat Size 3



Seat Size 4

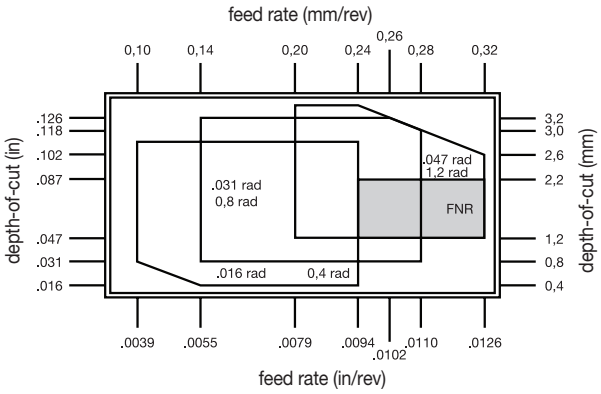


Seat Size 5

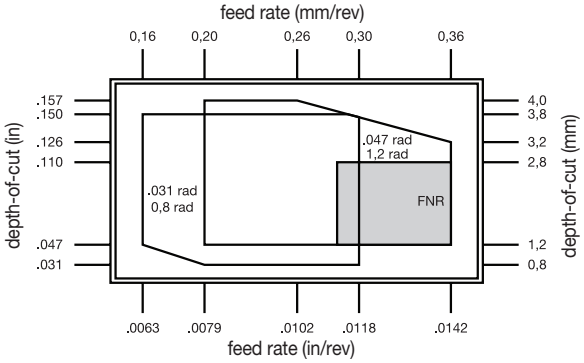


* FNR = Full Nose Radius

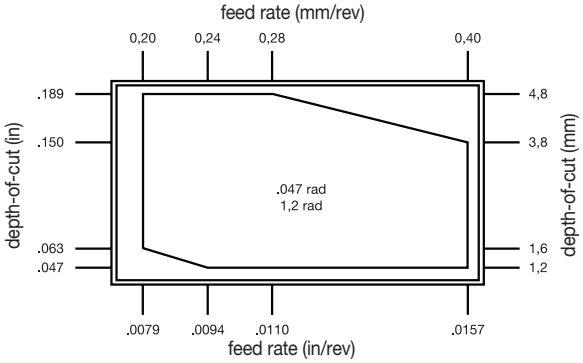
Seat Size 6



Seat Size 8



Seat Size 10



Grooving and Cut-Off

BEYOND™ EVOLUTION™ • APPLICATION DATA • RECOMMENDED STARTING SPEEDS (M/MIN)

Material Group		K313			KCU10			KCU25			KCM35B			KCP10B			KCP25B			KCK20B		
P	0–1	–	–	–	140	**280**	350	110	**225**	270	90	**180**	213	185	**400**	450	145	**290**	365	200	**440**	490
	2	–	–	–	140	**200**	300	110	**160**	260	90	**130**	155	185	**270**	350	145	**200**	305	200	**300**	380
	3	–	–	–	140	**155**	245	110	**125**	235	90	**100**	155	170	**190**	260	140	**155**	245	600	**200**	280
	4	–	–	–	75	**110**	170	60	**90**	160	50	**70**	110	90	**145**	200	75	**110**	180	100	**160**	220
	5	–	–	–	120	**200**	260	100	**160**	210	80	**130**	165	150	**220**	305	120	**200**	270	165	**240**	330
	6	–	–	–	110	**150**	230	85	**120**	185	70	**100**	145	120	**180**	275	110	**150**	230	130	**190**	300
M	1	60	**90**	120	140	**210**	280	90	**170**	245	75	**120**	135	–	–	–	–	–	–	–	–	–
	2	45	**75**	110	120	**200**	245	90	**150**	245	75	**110**	135	–	–	–	–	–	–	–	–	–
	3	35	**65**	100	120	**180**	245	90	**140**	210	75	**90**	135	–	–	–	–	–	–	–	–	–
K	1	30	**75**	120	120	**180**	245	100	**145**	225	–	–	–	170	**245**	440	140	**200**	360	210	**305**	550
	2	25	**70**	110	90	**150**	240	70	**120**	170	–	–	–	120	**195**	340	100	**160**	280	150	**245**	430
	3	20	**60**	90	60	**110**	150	50	**85**	120	–	–	–	120	**170**	270	100	**140**	220	150	**210**	335
N	1–2	150	**370**	610	150	**550**	975	120	**440**	780	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	4	120	**275**	430	120	**365**	700	100	**290**	490	–	–	–	–	–	–	–	–	–	–	–	–
	5	45	**90**	150	90	**170**	245	70	**135**	195	–	–	–	–	–	–	–	–	–	–	–	–
	6	40	**75**	150	120	**210**	305	100	**170**	245	–	–	–	–	–	–	–	–	–	–	–	–
S	1	8	**30**	75	15	**55**	135	8	**40**	60	8	**35**	60	–	–	–	–	–	–	–	–	–
	2	8	**35**	75	15	**60**	135	8	**30**	75	8	**30**	60	–	–	–	–	–	–	–	–	–
	3	8	**40**	75	15	**70**	150	15	**40**	75	15	**35**	60	–	–	–	–	–	–	–	–	–
	4	8	**45**	75	15	**70**	170	8	**50**	110	15	**45**	90	–	–	–	–	–	–	–	–	–
H	1	–	–	–	30	**45**	60	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	15	**30**	45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

NOTE: FIRST choice starting speeds are in **bold** type.
As the average chip thickness increases, the speed should be decreased.

Mobile Apps

The Kennametal mobile app provides easy access to product information and calculators on both iPhone® and Android™ devices. We've highlighted a few of the key features...

There's an app for that.

SPEEDS & FEEDS

View speeds and feeds information for metalworking products.

PRODUCT AVAILABILITY

Check global availability of products. View available quantities by providing your Konnect login credentials.

CALCULATORS

Utilise our machining calculators for milling and drilling applications.

By just scanning the bar code on the insert packet, you can find the most productive cutting conditions for tool life, process time, and chip control.

NOTE: The app is currently only available in the English-language version. We have plans to translate the app in different languages with future releases.

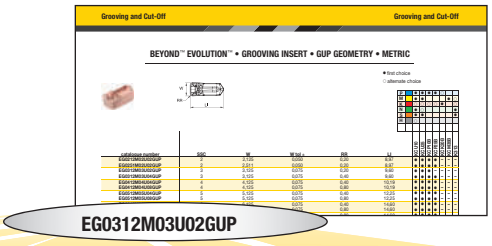
Google play

Available on the App Store

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • CATALOG NUMBERING SYSTEM • GROOVING INSERTS

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.



EG0312M03U02GUP

E	G	0312	M	03	U	02	GUP
Family Name	Insert Type	Groove Width	Unit	Seat Size	Tolerance	Corner Radius	Chipbreaker/ Edge Condition
Beyond™ Evolution™	**G** = Square **R** = Full Radius **V** = Profiling	**Metric** = 1/100 mm **Inch** = 1/1000"	**M** = Metric **I** = Inch		**U** = Precision Moulded **P** = Precision Ground		**GUP** = Groove-Turn Universal Positive **GUN** = Groove-Turn Universal Negative **FB** = Flat Top Blank **PB** = Positive Chip Control Blank

seat size (SSC)	groove width mm	groove width inch
1B	1,40	.055
1F	1,60–1,99	.063–.078
02	2,00–2,99	.079–.117
03	3,00–3,99	.118–.156
04	4,00–4,99	.157–.196
05	5,00–5,99	.197–.235
06	6,00–7,99	.236–.314
08	8,00–8,99	.315–.353
10	9,00–10,12	.354–.398

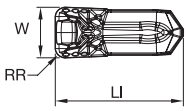
*.312" = seat size 08

mm	
00	full radius
01	0,1
02	0,2
04	0,4
08	0,8
12	1,2

inch	
00	full radius
05	.008
1	.016
2	.032
3	.047

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • GROOVING INSERT • GUP GEOMETRY • METRIC

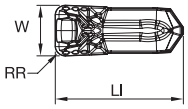


● first choice
○ alternate choice

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

catalogue number	SSC	W	W tol ±	RR	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
EG0212M02U02GUP	2	2,125	0,050	0,20	8,97	●	●	●	●	–	–	–
EG0251M02U02GUP	2	2,511	0,050	0,20	8,97	●	●	●	●	–	–	–
EG0312M03U02GUP	3	3,125	0,075	0,20	9,60	●	●	●	–	–	–	–
EG0312M03U04GUP	3	3,125	0,075	0,40	9,60	●	●	●	●	–	–	–
EG0412M04U04GUP	4	4,125	0,075	0,40	10,19	●	●	●	●	–	–	–
EG0412M04U08GUP	4	4,125	0,075	0,80	10,19	●	●	●	●	–	–	–
EG0512M05U04GUP	5	5,125	0,075	0,40	12,25	●	●	●	●	–	–	–
EG0512M05U08GUP	5	5,125	0,075	0,80	12,25	●	●	●	●	–	–	–
EG0612M06U04GUP	6	6,125	0,075	0,40	14,60	●	●	●	●	–	–	–
EG0612M06U08GUP	6	6,125	0,075	0,80	14,60	●	●	●	●	–	–	–
EG0712M06U08GUP	6	7,125	0,075	0,80	14,60	●	●	●	●	–	–	–
EG0812M08U08GUP	8	8,125	0,075	0,80	17,47	●	●	●	●	–	–	–
EG0812M08U12GUP	8	8,125	0,075	1,18	17,45	●	●	–	–	–	–	–
EG1012M10U12GUP	10	10,125	0,075	1,20	20,80	●	●	–	●	–	–	–

BEYOND EVOLUTION • GROOVING INSERT • GUP GEOMETRY • PRECISION GROUND • METRIC



● first choice
○ alternate choice

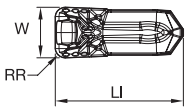
P		●	●	●	●	○							
M		●	●				●	○					
K		○	○	○	○	●		○					
N		●	○					●					
S		●	●					●					
H		○											

catalogue number	SSC	W	W tol ±	RR	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
EG0200M02P02GUP	2	2,000	0,025	0,20	8,92	●	●	–	–	–	–	●
EG0300M03P02GUP	3	3,000	0,025	0,20	9,55	●	●	–	–	–	–	●
EG0300M03P04GUP	3	3,000	0,025	0,40	9,55	●	●	–	–	–	–	●
EG0400M04P04GUP	4	4,000	0,025	0,40	10,15	●	●	–	–	–	–	●
EG0400M04P08GUP	4	4,000	0,025	0,80	10,15	●	●	–	–	–	–	●
EG0500M05P04GUP	5	5,000	0,025	0,40	12,18	●	●	–	–	–	–	●
EG0500M05P08GUP	5	5,000	0,025	0,80	12,20	●	●	–	–	–	–	●
EG0600M06P04GUP	6	6,000	0,025	0,40	14,53	●	●	–	–	–	–	●
EG0600M06P08GUP	6	6,000	0,025	0,80	14,54	●	●	–	–	–	–	●
EG0700M06P08GUP	6	7,000	0,025	0,80	14,50	●	●	–	–	–	–	●
EG0800M08P08GUP	8	8,000	0,025	0,80	17,40	●	●	–	–	–	–	●
EG0800M08P12GUP	8	8,000	0,025	1,20	17,40	●	●	–	–	–	–	●
EG1000M10P12GUP	10	10,000	0,025	1,20	20,70	●	●	–	–	–	–	●

182	186	67	4	192

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • GROOVING INSERT • GUP GEOMETRY • INCH

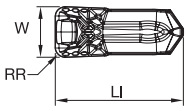


● first choice
○ alternate choice

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

catalogue number	SSC	W	W tol ±	RR	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
EG130I03U05GUP	3	3,301	0,075	0,20	9,60	●	●	●	●	–	–	–
EG130I03U1GUP	3	3,301	0,075	0,40	9,60	●	●	●	●	–	–	–
EG192I04U1GUP	4	4,877	0,075	0,40	10,19	●	●	●	●	–	–	–
EG192I04U2GUP	4	4,877	0,075	0,79	10,19	●	●	●	●	–	–	–
EG255I06U1GUP	6	6,478	0,075	0,40	14,58	●	●	●	●	–	–	–
EG255I06U2GUP	6	6,478	0,075	0,80	14,58	●	●	●	–	–	–	–
EG317I08U3GUP	8	8,051	0,075	1,19	17,46	●	●	–	●	–	–	–

BEYOND EVOLUTION • GROOVING INSERT • GUP GEOMETRY • PRECISION GROUND • INCH



● first choice
○ alternate choice

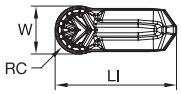
P		●	●	●	●	○							
M		●	●				●	○					
K		○	○	○	○	●		○					
N		●	○					●					
S		●	●					●					
H		○											

catalogue number	SSC	W	W tol ±	RR	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
EG063I1FP05GUP	1F	1,600	0,025	0,20	9,00	●	●	–	–	–	–	●
EG094I02P05GUP	2	2,388	0,025	0,20	8,88	●	●	–	–	–	–	●
EG125I03P05GUP	3	3,175	0,025	0,20	9,55	●	●	–	–	–	–	●
EG125I03P1GUP	3	3,175	0,025	0,40	9,40	●	●	–	–	–	–	●
EG187I04P1GUP	4	4,760	0,025	0,40	10,10	●	●	–	–	–	–	●
EG187I04P2GUP	4	4,762	0,025	0,79	10,10	●	●	–	–	–	–	–
EG250I06P1GUP	6	6,350	0,025	0,40	14,50	●	●	–	–	–	–	●
EG250I06P2GUP	6	6,350	0,025	0,80	14,50	●	●	–	–	–	–	●
EG312I08P3GUP	8	7,920	0,025	1,20	17,40	–	●	–	–	–	–	–
EG375I10P3GUP	10	9,525	0,025	1,20	20,70	●	●	–	–	–	–	–

182	186	67	4	192

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • GROOVING INSERT • GUP GEOMETRY • FULL RADIUS • METRIC

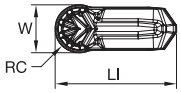


● first choice
○ alternate choice

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

catalogue number	SSC	W	W tol ±	RC	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
ER0212M02U00GUP	2	2,120	0,050	1,060	8,97	●	●	–	●	–	–	–
ER0312M03U00GUP	3	3,125	0,075	1,560	9,60	●	●	●	●	–	–	–
ER0412M04U00GUP	4	4,125	0,075	2,060	10,20	●	●	●	●	–	–	–
ER0512M05U00GUP	5	5,125	0,075	2,560	12,20	●	●	●	●	–	–	–
ER0612M06U00GUP	6	6,125	0,075	3,060	14,60	●	●	●	●	–	–	–
ER0812M08U00GUP	8	8,125	0,075	4,060	17,50	●	●	●	●	–	–	–

BEYOND EVOLUTION • GROOVING INSERT • GUP GEOMETRY • FULL RADIUS • PRECISION GROUND • METRIC



● first choice
○ alternate choice

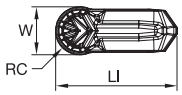
P		●	●	●	●	○							
M		●	●				●	○					
K		○	○	○	○	●		○					
N		●	○					●					
S		●	●					●					
H		○											

catalogue number	SSC	W	W tol ±	RC	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
ER0200M02P00GUP	2	2,000	0,025	1,000	8,91	●	●	–	–	–	–	–
ER0300M03P00GUP	3	3,000	0,025	1,500	9,50	●	●	–	–	–	–	●
ER0400M04P00GUP	4	4,000	0,025	2,000	10,10	●	●	–	–	–	–	●
ER0500M05P00GUP	5	5,000	0,025	2,500	12,20	●	●	–	–	–	–	●
ER0600M06P00GUP	6	6,000	0,025	3,000	14,50	●	●	–	–	–	–	●
ER0800M08P00GUP	8	8,000	0,025	4,000	17,40	●	●	–	–	–	–	●

182	186	67	4	192

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • GROOVING INSERT • GUP GEOMETRY • FULL RADIUS • INCH

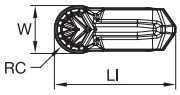


● first choice
○ alternate choice

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

catalogue number	SSC	W	W tol ±	RC	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
ER130I03U00GUP	3	3,302	0,075	1,650	9,60	●	●	●	●	–	–	–
ER192I04U00GUP	4	4,878	0,075	2,440	10,20	●	●	●	●	–	–	–
ER255I06U00GUP	6	6,478	0,075	3,240	14,60	●	●	–	●	–	–	–
ER317I08U00GUP	8	8,052	0,075	4,030	17,50	●	●	–	–	–	–	–

BEYOND EVOLUTION • GROOVING INSERT • GUP GEOMETRY • FULL RADIUS • PRECISION GROUND • INCH

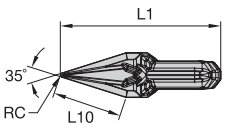


● first choice
○ alternate choice

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

catalogue number	SSC	W	W tol ±	RC	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
ER125I03P00GUP	3	3,175	0,025	1,590	9,50	●	●	–	–	–	–	●
ER187I04P00GUP	4	4,762	0,025	2,380	10,10	●	●	–	–	–	–	●
ER250I06P00GUP	6	6,350	0,025	3,170	14,50	●	●	–	–	–	–	●
ER312I08P00GUP	8	7,920	0,025	3,960	17,40	●	●	–	–	–	–	●

BEYOND EVOLUTION • PROFILING INSERT • GUP GEOMETRY



● first choice
○ alternate choice

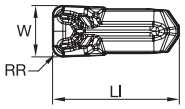
P	M	K	N	S	H
●	●	○	●	●	○
●	●	○	○	●	○
○	○	○	○	●	○
●	○				●
●	●				●
○					

catalogue number	SSC	RC	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
EV0000M03U02GUP	3	0,200	14,74	–	●	–	–	–	–	–
EV0000M06U08GUP	6	0,800	24,02	–	●	–	–	–	–	–

182	186	67	4	192

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • GROOVING INSERT • GUN GEOMETRY • METRIC

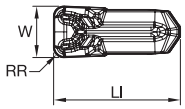


● first choice
○ alternate choice

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

catalogue number	SSC	W	W tol ±	RR	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
EG0212M02U02GUN	2	2,125	0,050	0,20	8,97	●	●	●	●	●	–	–
EG0251M02U02GUN	2	2,510	0,050	0,20	8,97	●	●	–	●	●	–	–
EG0312M03U02GUN	3	3,125	0,075	0,20	9,60	●	●	●	●	●	–	–
EG0312M03U04GUN	3	3,125	0,075	0,40	9,60	●	●	●	●	●	–	–
EG0412M04U04GUN	4	4,125	0,075	0,40	10,19	●	●	●	●	●	–	–
EG0412M04U08GUN	4	4,125	0,075	0,80	10,19	●	●	●	●	●	–	–
EG0512M05U04GUN	5	5,125	0,075	0,40	12,20	●	●	●	●	●	–	–
EG0512M05U08GUN	5	5,125	0,075	0,80	12,20	●	●	●	●	●	–	–
EG0612M06U04GUN	6	6,125	0,075	0,40	14,60	●	●	●	–	●	–	–
EG0612M06U08GUN	6	6,125	0,075	0,80	14,60	●	●	–	●	●	–	–
EG0812M08U08GUN	8	8,125	0,075	0,80	17,50	●	●	●	●	●	–	–
EG0812M08U12GUN	8	8,125	0,075	1,20	17,50	●	●	●	●	●	–	–
EG1012M10U12GUN	10	10,125	0,075	1,20	20,80	●	●	●	●	●	–	–

BEYOND EVOLUTION • GROOVING INSERT • GUN GEOMETRY • INCH



● first choice
○ alternate choice

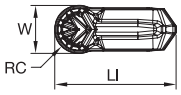
P		●	●	●	●	○							
M		●	●				●	○					
K		○	○	○	○	●		○					
N		●	○					●					
S		●	●					●					
H		○											

catalogue number	SSC	W	W tol ±	RR	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
EG063I1FU05GUN	1F	1,600	0,050	0,20	9,00	●	●	●	●	●	–	–
EG094I02U05GUN	2	2,388	0,050	0,20	8,97	●	●	●	●	●	–	–
EG125I03U05GUN	3	3,175	0,075	0,20	9,60	●	●	●	●	●	–	–
EG125I03U1GUN	3	3,175	0,075	0,40	9,60	●	●	●	●	●	–	–
EG130I03U05GUN	3	3,302	0,075	0,20	9,60	●	●	●	●	●	–	–
EG130I03U1GUN	3	3,302	0,075	0,40	9,60	●	●	●	●	●	–	–
EG187I04U1GUN	4	4,750	0,075	0,40	10,20	●	●	●	●	●	–	–
EG187I04U2GUN	4	4,750	0,075	0,80	10,19	●	●	–	●	●	–	–
EG192I04U1GUN	4	4,877	0,075	0,40	10,19	●	●	●	●	–	–	–
EG192I04U2GUN	4	4,878	0,075	0,79	10,19	●	●	●	●	●	–	–
EG250I06U1GUN	6	6,350	0,075	0,40	14,58	●	●	●	●	●	–	–
EG250I06U2GUN	6	6,350	0,075	0,80	14,58	●	●	●	●	–	–	–
EG255I06U1GUN	6	6,477	0,075	0,40	14,58	–	–	–	●	–	–	–
EG255I06U2GUN	6	6,477	0,075	0,80	14,58	●	●	–	●	●	–	–
EG312I08U3GUN	8	7,925	0,075	1,20	17,46	●	●	●	●	●	–	–
EG317I08U3GUN	8	8,052	0,075	1,19	17,46	●	●	–	●	●	–	–
EG375I10U3GUN	10	9,525	0,075	1,20	20,80	●	●	–	–	–	–	–

182	186	67	4	192

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • GROOVING INSERT • GUN GEOMETRY • FULL RADIUS • METRIC

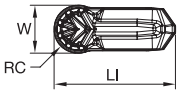


● first choice
○ alternate choice

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

catalogue number	SSC	W	W tol ±	RC	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
ER0212M02U00GUN	2	2,120	0,050	1,060	8,97	●	●	–	●	●	–	–
ER0312M03U00GUN	3	3,125	0,075	1,560	9,60	●	●	●	●	●	–	–
ER0412M04U00GUN	4	4,125	0,075	2,060	10,20	●	●	●	●	●	–	–
ER0512M05U00GUN	5	5,125	0,075	2,560	12,20	●	●	●	●	●	–	–
ER0612M06U00GUN	6	6,125	0,075	3,060	14,60	●	●	●	●	●	–	–
ER0812M08U00GUN	8	8,125	0,075	4,060	17,47	●	●	●	●	●	–	–

BEYOND EVOLUTION • GROOVING INSERT • GUN GEOMETRY • FULL RADIUS • INCH



● first choice
○ alternate choice

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

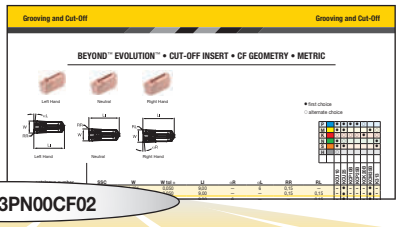
catalogue number	SSC	W	W tol ±	RC	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
ER094I02U00GUN	2	2,387	0,050	1,190	8,97	●	●	●	●	●	–	–
ER125I03U00GUN	3	3,177	0,075	1,590	9,60	●	●	●	–	–	–	–
ER130I03U00GUN	3	3,300	0,075	1,650	9,60	●	●	●	–	–	–	–
ER187I04U00GUN	4	4,750	0,075	2,370	10,20	●	●	–	●	–	–	–
ER192I04U00GUN	4	4,873	0,075	2,440	10,20	●	●	–	●	●	–	–
ER250I06U00GUN	6	6,346	0,075	3,170	14,60	●	●	●	●	●	–	–
ER255I06U00GUN	6	6,473	0,075	3,240	14,60	–	●	–	●	–	–	–
ER312I08U00GUN	8	7,925	0,075	3,960	17,50	●	●	●	●	–	–	–
ER317I08U00GUN	8	8,052	0,075	4,030	17,50	●	●	–	●	–	–	–

				NOVO
182	186	67	4	192

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • CATALOG NUMBERING SYSTEM • CUT-OFF INSERTS

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.



EC030M03PN00CF02

E	C	030	M	03	P	N	00	CF	02
Family Name	Insert Type	Cutting Edge Width	Unit	Seat Size (SSC)	Tolerance	Hand of Insert	Approach Angle	Chip-breaker	Corner Radius
Beyond Evolution	**C** = Cut-Off		**M** = Metric		**P** = Periphery Ground	**N** = Neutral **L** = Left Hand **R** = Right Hand	**00** = Neutral **06** = 6° **12** = 12°	**CL** = Cut-Off Low Feed **CF** = Cut-Off Fine **CM** = Cut-Off Medium **CR** = Cut-Off Rough	

Cutting Edge Width	mm
014	1,4
020	2,0
030	3,0
040	4,0
050	5,0
060	6,0
070	7,0
080	8,0

Seat Size (SSC)	mm
1B	1,4
02	2,0
03	3,0
04	4,0
05	5,0
06	6,0
08	8,0

Corner Radius	mm
00	0,0
01	0,1
02	0,2
04	0,4

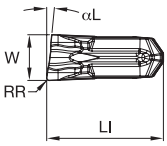
Grooving and Cut-Off

BEYOND™ EVOLUTION™ • CUT-OFF INSERT • CF GEOMETRY • METRIC

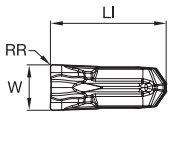

Left Hand


Neutral

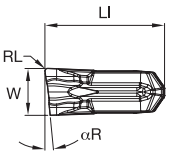

Right Hand



Left Hand



Neutral



Right Hand

● first choice
○ alternate choice

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

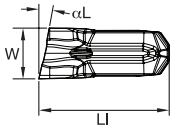
catalogue number	SSC	W	W tol ±	LI	αR	αL	RR	RL	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
EC014M1BL06CF01	1B	1,404	0,050	9,00	–	6	0,15	–	–	●	–	–	–	●	–
EC014M1BN00CF01	1B	1,400	0,050	9,00	–	–	0,15	0,15	–	●	–	–	–	●	–
EC014M1BR06CF01	1B	1,404	0,050	9,00	6	–	–	0,15	–	●	–	–	–	●	–
EC020M02L06CF02	2	2,000	0,050	8,97	–	6	0,20	–	–	●	–	–	–	●	–
EC020M02N00CF02	2	2,000	0,050	8,97	–	–	0,20	0,20	–	●	–	–	–	●	–
EC020M02R06CF02	2	2,000	0,050	8,97	6	–	–	0,20	–	●	–	–	–	●	–
EC030M03L06CF02	3	3,000	0,075	9,60	–	6	0,20	–	–	●	–	–	–	●	–
EC030M03N00CF02	3	3,000	0,075	9,60	–	–	0,20	0,20	–	●	–	–	–	●	–
EC030M03R06CF02	3	3,000	0,075	9,60	6	–	–	0,20	–	●	–	–	–	●	–
EC040M04L06CF02	4	4,000	0,075	10,19	–	6	0,20	–	–	●	–	–	–	●	–
EC040M04N00CF02	4	4,000	0,075	10,19	–	–	0,20	0,20	–	●	–	–	–	●	–
EC040M04R06CF02	4	4,000	0,075	10,19	6	–	–	0,20	–	●	–	–	–	●	–
EC050M05N00CF03	5	5,000	0,075	12,20	–	–	0,30	0,30	–	●	–	–	–	●	–

BEYOND EVOLUTION • CUT-OFF INSERT • CF GEOMETRY • PRECISION GROUND • METRIC

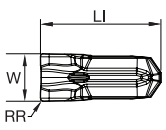

Left Hand


Neutral

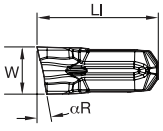

Right Hand



Left Hand



Neutral



Right Hand

● first choice
○ alternate choice

P		●
M		●
K		○
N		○
S		●
H		

catalogue number	SSC	W	W tol ±	LI	αR	αL	RR	KCU25
EC014M1BPL06CF00	1B	1,400	0,025	9,00	–	6	–	●
EC014M1BPL12CF00	1B	1,400	0,025	9,00	–	12	–	●
EC014M1BPN00CF00	1B	1,400	0,025	9,00	–	–	–	●
EC014M1BPN00CF01	1B	1,400	0,025	9,11	–	–	0,15	●
EC014M1BPR06CF00	1B	1,400	0,025	9,00	6	–	–	●
EC014M1BPR12CF00	1B	1,400	0,025	9,00	12	–	–	●
EC020M02PL06CF00	2	2,000	0,025	8,95	–	6	–	●
EC020M02PL12CF00	2	2,000	0,025	8,95	–	12	–	●
EC020M02PN00CF00	2	2,000	0,025	8,94	–	–	–	●
EC020M02PN00CF02	2	2,000	0,025	9,04	–	–	0,20	●
EC020M02PR06CF00	2	2,000	0,025	8,94	6	–	–	●
EC020M02PR12CF00	2	2,000	0,025	8,95	12	–	–	●
EC030M03PL06CF00	3	3,000	0,025	9,48	–	6	–	●
EC030M03PL12CF00	3	3,000	0,025	9,48	–	12	–	●
EC030M03PN00CF00	3	3,000	0,025	9,48	–	–	–	●
EC030M03PN00CF02	3	3,000	0,025	9,63	–	–	0,20	●
EC030M03PR06CF00	3	3,000	0,025	9,48	6	–	–	●
EC030M03PR12CF00	3	3,000	0,025	9,48	12	–	–	●
EC040M04PL06CF00	4	4,000	0,025	10,01	–	6	–	●
EC040M04PL12CF00	4	4,000	0,025	10,28	–	12	–	●
EC040M04PN00CF00	4	4,000	0,025	10,01	–	–	–	●
EC040M04PN00CF02	4	4,000	0,025	10,16	–	–	0,20	●
EC040M04PR06CF00	4	4,000	0,025	10,01	6	–	–	●
EC040M04PR12CF00	4	4,000	0,025	10,25	12	–	–	●
EC050M05PN00CF00	5	5,000	0,025	12,07	–	–	–	●
EC050M05PN00CF03	5	5,000	0,020	12,22	–	–	0,30	●

Grooving and Cut-Off

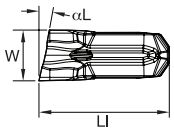
BEYOND™ EVOLUTION™ • CUT-OFF INSERT • CF GEOMETRY • PRECISION GROUND • INCH


Left Hand

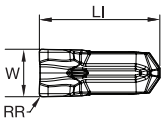

Neutral


Right Hand

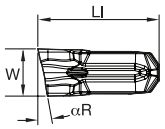
● first choice
○ alternate choice



Left Hand



Neutral



Right Hand

P	●
M	●
K	○
N	○
S	●
H	

catalogue number	SSC	W	W tol ±	LI	αR	αL	RR	KCU25
EC094I02PL06CF00	2	2,387	0,025	8,95	–	6	–	●
EC094I02PN00CF00	2	2,387	0,025	8,95	–	–	–	●
EC094I02PR06CF00	2	2,387	0,025	8,95	6	–	–	●
EC125I03PL06CF00	3	3,175	0,025	9,48	–	6	–	●
EC125I03PL12CF00	3	3,175	0,025	9,75	–	12	–	●
EC125I03PN00CF00	3	3,175	0,025	9,48	–	–	–	●
EC125I03PR06CF00	3	3,175	0,025	9,48	6	–	–	●
EC125I03PR12CF00	3	3,175	0,025	9,48	12	–	–	●
EC188I04PL06CF00	4	4,762	0,025	10,01	–	6	–	●
EC188I04PN00CF00	4	4,763	0,025	10,01	–	–	–	●
EC188I04PR06CF00	4	4,762	0,025	10,02	6	–	–	●

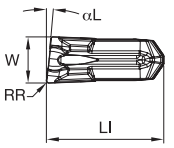
BEYOND EVOLUTION • CUT-OFF INSERT • CL GEOMETRY • METRIC


Left Hand

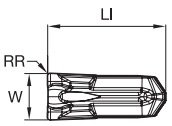

Neutral


Right Hand

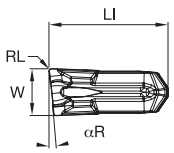
● first choice
○ alternate choice



Left Hand



Neutral



Right Hand

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

catalogue number	SSC	W	W tol ±	LI	αR	αL	RR	RL	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
EC014M1BL06CL01	1B	1,400	0,050	9,00	–	6	0,15	–	–	●	–	–	–	–	–
EC014M1BN00CL01	1B	1,400	0,050	9,00	–	–	0,15	0,15	–	●	–	–	–	●	–
EC014M1BR06CL01	1B	1,400	0,050	9,00	6	–	–	0,15	–	●	–	–	–	●	–
EC020M02L06CL02	2	2,000	0,050	8,96	–	6	0,20	–	–	●	–	–	–	●	–
EC020M02N00CL02	2	2,000	0,050	8,97	–	–	0,20	0,20	–	●	–	–	–	●	–
EC020M02R06CL02	2	2,000	0,050	8,96	6	–	–	0,20	–	●	–	–	–	●	–
EC030M03L06CL02	3	3,000	0,075	9,59	–	6	0,20	–	–	●	–	–	–	●	–
EC030M03N00CL02	3	3,000	0,075	9,60	–	–	0,20	0,20	–	●	–	–	–	●	–
EC030M03R06CL02	3	3,000	0,075	9,59	6	–	–	0,20	–	●	–	–	–	●	–
EC040M04L06CL02	4	4,000	0,075	10,19	–	6	0,20	–	–	●	–	–	–	–	–
EC040M04N00CL02	4	4,000	0,075	10,20	–	–	0,20	0,20	–	●	–	–	–	●	–
EC040M04R06CL02	4	4,000	0,075	10,19	6	–	–	0,20	–	●	–	–	–	–	–

182	186	74	4	192

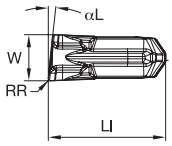
Grooving and Cut-Off

BEYOND™ EVOLUTION™ • CUT-OFF INSERT • CM GEOMETRY • METRIC

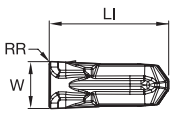

Left Hand


Neutral

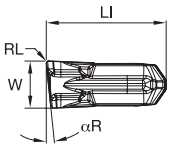

Right Hand



Left Hand



Neutral



Right Hand

● first choice
○ alternate choice

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

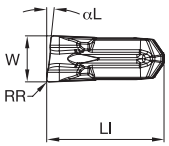
catalogue number	SSC	W	W tol ±	LI	αR	αL	RR	RL	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
EC014M1BL06CM02	1B	1,400	0,050	9,00	–	6	–	0,20	–	●	–	–	–	–	–
EC014M1BN00CM01	1B	1,400	0,050	9,00	–	–	0,15	0,15	–	●	–	–	–	–	–
EC014M1BR06CM02	1B	1,400	0,050	9,02	6	–	–	0,20	–	●	–	–	–	–	–
EC020M02L06CM02	2	2,000	0,050	9,00	–	6	0,20	–	–	●	–	–	–	–	–
EC020M02N00CM02	2	2,000	0,050	8,98	–	–	0,20	0,20	–	●	–	–	–	–	–
EC020M02R06CM02	2	2,000	0,050	9,00	6	–	–	0,20	–	●	–	–	–	–	–
EC030M03L06CM02	3	3,000	0,075	9,60	–	6	0,20	–	–	●	–	–	–	–	–
EC030M03N00CM02	3	3,000	0,075	9,60	–	–	0,20	0,20	–	●	–	–	–	–	–
EC030M03R06CM02	3	3,000	0,075	9,60	6	–	–	0,20	–	●	–	–	–	–	–
EC040M04L06CM02	4	4,000	0,075	10,20	–	6	0,20	–	–	●	–	–	–	–	–
EC040M04N00CM02	4	4,000	0,075	10,20	–	–	0,20	0,20	–	●	–	–	–	–	–
EC040M04R06CM02	4	4,000	0,075	10,20	6	–	–	0,20	–	●	–	–	–	–	–
EC050M05N00CM03	5	5,000	0,075	12,20	–	–	0,30	0,30	–	●	–	–	–	–	–
EC060M06N00CM03	6	6,000	0,075	14,59	–	–	0,30	0,30	–	●	–	–	–	–	–
EC070M06N00CM04	6	7,000	0,075	14,60	–	–	0,40	0,40	–	●	–	–	–	–	–
EC080M08N00CM04	8	8,000	0,075	17,50	–	–	0,40	0,40	–	●	–	–	–	–	–

BEYOND EVOLUTION • CUT-OFF INSERT • CR GEOMETRY • METRIC

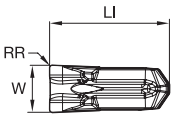

Left Hand


Neutral

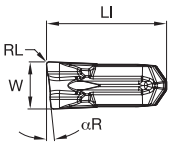

Right Hand



Left Hand



Neutral



Right Hand

● first choice
○ alternate choice

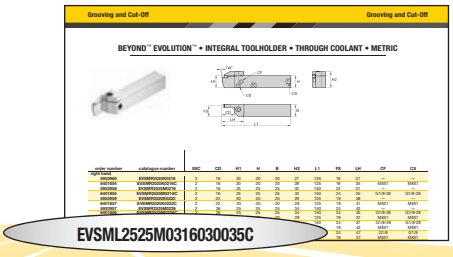
P		●	●	●	●	○		
M		●	●				●	○
K		○	○	○	○	●		○
N		●	○					●
S		●	●					●
H		○						

catalogue number	SSC	W	W tol ±	LI	αR	αL	RR	RL	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
EC020M02L06CR02	2	2,000	0,050	9,00	–	6	0,20	–	–	●	–	–	–	–	–
EC020M02N00CR02	2	2,000	0,050	8,98	–	–	0,20	0,20	–	●	–	–	–	–	–
EC020M02R06CR02	2	2,000	0,050	9,00	6	–	–	0,20	–	●	–	–	–	–	–
EC030M03L06CR02	3	3,000	0,075	9,60	–	6	0,20	–	–	●	–	–	–	–	–
EC030M03N00CR02	3	3,000	0,075	9,60	–	–	0,20	0,20	–	●	–	–	–	–	–
EC030M03R06CR02	3	3,000	0,075	9,60	6	–	–	0,20	–	●	–	–	–	–	–
EC040M04L06CR02	4	4,000	0,075	10,20	–	6	0,20	–	–	●	–	–	–	–	–
EC040M04N00CR02	4	4,000	0,075	10,20	–	–	0,20	0,20	–	●	–	–	–	–	–
EC040M04R06CR02	4	4,000	0,075	10,20	6	–	–	0,20	–	●	–	–	–	–	–
EC050M05N00CR03	5	5,000	0,075	12,25	–	–	0,30	0,30	–	●	–	–	–	–	–
EC060M06L06CR04	6	6,000	0,075	14,59	–	6	0,40	–	–	●	–	–	–	–	–
EC060M06N00CR03	6	6,000	0,075	14,59	–	–	0,30	0,30	–	●	–	–	–	–	–
EC060M06R06CR04	6	6,000	0,075	14,59	6	–	–	0,40	–	●	–	–	–	–	–
EC070M06N00CR04	6	7,000	0,075	14,60	–	–	0,40	0,40	–	●	–	–	–	–	–
EC080M08L06CR04	8	8,000	0,075	17,50	–	6	0,40	–	–	●	–	–	–	–	–
EC080M08N00CR04	8	8,000	0,075	17,50	–	–	0,40	0,40	–	●	–	–	–	–	–
EC080M08R06CR04	8	8,000	0,075	17,50	6	–	–	0,40	–	●	–	–	–	–	–

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • CATALOG NUMBERING SYSTEM • INTEGRAL HOLDERS

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



EV	S	M	L	2525M	03	16	030035	C
Family Name	Tool Style	Support Type	Hand	Shank Size	Seat Size	Max Groove Depth	Face Grooving Diameters	Coolant
Beyond™ Evolution™	**S** = Straight mount **45°** = Approach Angle		**L** = Left hand **R** = Right hand		**1B** **1F** **02** **03** **04** **05** **06** **08** **10**	in millimetres	**030** = Minimum diameter in mm **035** = Maximum diameter in mm	**C** = Through the pocket coolant capable

M = Maximum support for specific groove width and straight clearance for unlimited workpiece diameter

A = Face grooving — inboard sweep

B = Face grooving — outboard sweep

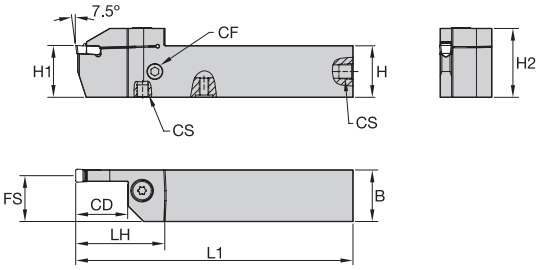
CT = Reinforced Top Clamp

CF = Reinforced Front Clamp

Metric = Height x Width in mm letter indicates tool length according to ISO

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • INTEGRAL TOOLHOLDER • THROUGH COOLANT



order number	catalogue number	SSC	CD	H1	H	B	H2	L1	FS	LH	CF	CS
right hand												
5953960	**EVSMR2020K0216**	2	16	20	20	20	27	125	19	31	–	–
6401854	**EVSMR2020K0216C**	2	16	20	20	20	28	125	19	35	M8X1	M8X1
5953958	**EVSMR2525M0216**	2	16	25	25	25	32	150	24	31	–	–
6401855	**EVSMR2525M0216C**	2	16	25	25	25	33	150	24	35	G1/8-28	G1/8-28
5953959	**EVSMR2020K0222**	2	22	20	20	20	29	125	19	38	–	–
6401857	**EVSMR2020K0222C**	2	22	20	20	20	29	125	19	41	M8X1	M8X1
5953957	**EVSMR2525M0226**	2	26	25	25	25	34	150	24	42	–	–
6401856	**EVSMR2525M0226C**	2	26	25	25	25	34	150	24	45	G1/8-28	G1/8-28
5939452	**EVSMR2020K0316C**	3	16	20	20	20	29	125	19	37	M8X1	M8X1
5939448	**EVSMR2525M0316C**	3	16	25	25	25	34	150	24	37	G1/8-28	G1/8-28
5939451	**EVSMR2020K0322C**	3	22	20	20	20	30	125	19	43	M8X1	M8X1
5939447	**EVSMR2525M0326C**	3	26	25	25	25	35	150	24	47	G1/8	G1/8
5939450	**EVSMR2020K0416C**	4	16	20	20	20	29	125	18	37	M8X1	M8X1
5939446	**EVSMR2525M0416C**	4	16	25	25	25	34	150	23	37	G1/8	G1/8
5939449	**EVSMR2020K0422C**	4	22	20	20	20	30	125	18	43	M8X1	M8X1
5939445	**EVSMR2525M0426C**	4	26	25	25	25	35	150	23	47	G1/8	G1/8
5939444	**EVSMR3232P0426C**	4	26	32	32	32	42	170	30	47	G1/8	G1/8
5939443	**EVSMR3232P0432C**	4	32	32	32	32	42	170	30	53	G1/8	G1/8
5954258	**EVSMR2020K0516C**	5	16	20	20	20	29	125	18	37	M8X1	M8X1
5954254	**EVSMR2525M0516C**	5	16	25	25	25	34	150	23	37	G1/8-28	G1/8-28
5954257	**EVSMR2020K0522C**	5	22	20	20	20	30	125	18	43	M8X1	M8X1
5954253	**EVSMR2525M0526C**	5	26	25	25	25	35	150	23	47	G1/8-28	G1/8-28
5954249	**EVSMR3232P0526C**	5	26	32	32	32	42	170	30	47	G1/8-28	G1/8-28
5954248	**EVSMR3232P0532C**	5	32	32	32	32	42	170	30	53	G1/8-28	G1/8-28
5954256	**EVSMR2020K0616C**	6	16	20	20	20	29	125	17	37	M8X1	M8X1
5954252	**EVSMR2525M0616C**	6	16	25	25	25	34	150	25	37	G1/8-28	G1/8-28
5954255	**EVSMR2020K0622C**	6	22	20	20	20	30	125	17	43	M8X1	M8X1
5954251	**EVSMR2525M0626C**	6	26	25	25	25	34	150	25	47	G1/8-28	G1/8-28
5954247	**EVSMR3232P0626C**	6	26	32	32	32	42	170	32	47	G1/8-28	G1/8-28
5954246	**EVSMR3232P0632C**	6	32	32	32	32	43	170	29	55	G1/8-28	G1/8-28
5954242	**EVSMR4040R0640C**	6	40	40	40	40	51	200	37	63	G1/8-28	G1/8-28
5954250	**EVSMR2525M0826C**	8	26	25	25	25	35	150	21	49	G1/8-28	G1/8-28
5954245	**EVSMR3232P0826C**	8	26	32	32	32	43	170	28	49	G1/8-28	G1/8-28
5954244	**EVSMR3232P0832C**	8	32	32	32	32	43	170	28	55	G1/8-28	G1/8-28
5954241	**EVSMR4040R0840C**	8	40	40	40	40	51	200	36	63	G1/8-28	G1/8-28
5954243	**EVSMR3232P1032C**	10	32	32	32	32	43	170	28	55	G1/8-28	G1/8-28
5954240	**EVSMR4040R1040C**	10	40	40	40	40	51	200	36	63	G1/8-28	G1/8-28
left hand												
5953956	**EVSML2020K0216**	2	16	20	20	20	27	125	19	31	–	–
6401882	**EVSML2020K0216C**	2	16	20	20	20	28	125	19	35	M8X1	M8X1
5953954	**EVSML2525M0216**	2	16	25	25	25	32	150	24	31	–	–
6401881	**EVSML2525M0216C**	2	16	25	25	25	33	150	24	35	G1/8-28	G1/8-28
5953955	**EVSML2020K0222**	2	22	20	20	20	29	125	19	38	–	–
6401883	**EVSML2020K0222C**	2	22	20	20	20	29	125	19	41	M8X1	M8X1
5953953	**EVSML2525M0226**	2	26	25	25	25	34	150	24	42	–	–
6401884	**EVSML2525M0226C**	2	26	25	25	25	34	150	24	45	G1/8-28	G1/8-28
5939442	**EVSML2020K0316C**	3	16	20	20	20	29	125	19	37	M8X1	M8X1
5939438	**EVSML2525M0316C**	3	16	25	25	25	34	150	24	37	G1/8-28	G1/8-28
5939441	**EVSML2020K0322C**	3	22	20	20	20	30	125	19	43	M8X1	M8X1
5939437	**EVSML2525M0326C**	3	26	25	25	25	35	150	24	47	G1/8-28	G1/8-28
5939440	**EVSML2020K0416C**	4	16	20	20	20	29	125	18	37	M8X1	M8X1

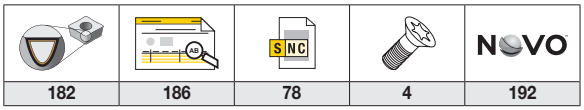
182	186	78	4	192

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • INTEGRAL TOOLHOLDER • THROUGH COOLANT

(continued)

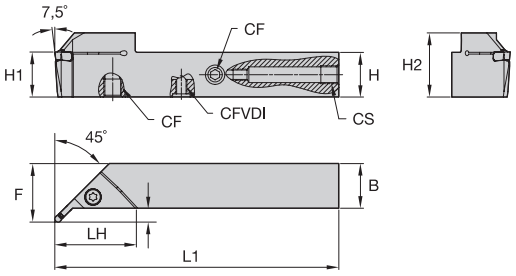
order number	catalogue number	SSC	CD	H1	H	B	H2	L1	FS	LH	CF	CS
5939436	EVSML2525M0416C	4	16	25	25	25	34	150	23	37	G1/8	G1/8
5939439	EVSML2020K0422C	4	22	20	20	20	30	125	18	43	M8X1	M8X1
5939435	EVSML2525M0426C	4	26	25	25	25	35	150	23	47	G1/8	G1/8
5939433	EVSML3232P0426C	4	26	32	32	32	42	170	30	47	G1/8	G1/8
5939432	EVSML3232P0432C	4	32	32	32	32	42	170	30	53	G1/8	G1/8
5954239	EVSML2020K0516C	5	16	20	20	20	29	125	18	37	M8X1	M8X1
5954235	EVSML2525M0516C	5	16	25	25	25	34	150	23	37	G1/8-28	G1/8-28
5954238	EVSML2020K0522C	5	22	20	20	20	30	125	18	43	M8X1	M8X1
5954234	EVSML2525M0526C	5	26	25	25	25	35	150	23	47	G1/8-28	G1/8-28
5954220	EVSML3232P0526C	5	26	32	32	32	42	170	30	47	G1/8-28	G1/8-28
5954219	EVSML3232P0532C	5	32	32	32	32	42	170	30	53	G1/8-28	G1/8-28
5954237	EVSML2020K0616C	6	16	20	20	20	29	125	17	37	M8X1	M8X1
5954233	EVSML2525M0616C	6	16	25	25	25	34	150	22	37	G1/8-28	G1/8-28
5954236	EVSML2020K0622C	6	22	20	20	20	30	125	17	43	M8X1	M8X1
5954232	EVSML2525M0626C	6	26	25	25	25	34	150	22	47	G1/8-28	G1/8-28
5954218	EVSML3232P0626C	6	26	32	32	32	42	170	29	47	G1/8-28	G1/8-28
5954217	EVSML3232P0632C	6	32	32	32	32	43	170	29	55	G1/8-28	G1/8-28
5954213	EVSML4040R0640C	6	40	40	40	40	51	200	37	63	G1/8-28	G1/8-28
5954231	EVSML2525M0826C	8	26	25	25	25	35	150	21	49	G1/8-28	G1/8-28
5954216	EVSML3232P0826C	8	26	32	32	32	43	170	28	49	G1/8-28	G1/8-28
5954215	EVSML3232P0832C	8	32	32	32	32	43	170	28	55	G1/8-28	G1/8-28
5954212	EVSML4040R0840C	8	40	40	40	40	51	200	36	63	G1/8-28	G1/8-28
5954214	EVSML3232P1032C	10	32	32	32	32	43	170	28	55	G1/8-28	G1/8-28
5954211	EVSML4040R1040C	10	40	40	40	40	51	200	36	63	G1/8-28	G1/8-28



182 | 186 | 78 | 4 | 192

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • INTEGRAL TOOLHOLDER • 45° • PROFILING • THROUGH COOLANT

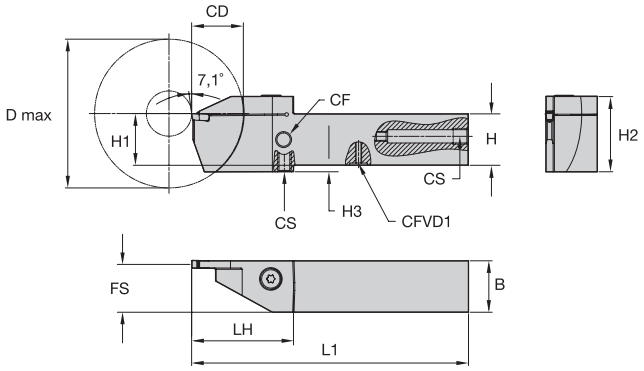


order number	catalogue number	SSC	H1	H	B	H2	L1	LH	CF	CS
right hand										
6811566	**EV45MR2020K03C**	3	20	20	20	29	125	37	M8X1	M8X1
6811570	**EV45MR2525M06C**	6	25	25	25	34	150	48	G1/8-28	G1/8-28
left hand										
6811565	**EV45ML2020K03C**	3	20	20	20	29	125	37	M8X1	M8X1
6811569	**EV45ML2525M06C**	6	25	25	25	34	150	48	G1/8-28	G1/8-28

182	186	78	4	192

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • INTEGRAL TOOLHOLDER • REINFORCED • THROUGH COOLANT



CD = Maximum cut-off depth for solid bars.
D max = Maximum bar diameter for deep grooving or cut-off of tubes.

order number	catalogue number	SSC	CD	D max	H1	H	B	H2	H3	L1	FS	LH	CF	CS
right hand														
6179757	**EVSCTR1212K1B16**	1B	16	42	12	12	12	23	4	125	11	31	–	–
6179758	**EVSCTR1212K1F16**	1F	16	42	12	12	12	23	4	125	11	31	–	–
6179759	**EVSCTR1212K0216**	2	16	42	12	12	12	23	4	125	11	31	–	–
5980139	**EVSCTR1616K0216**	2	16	42	16	16	16	23	–	125	15	31	–	–
5980762	**EVSCTR2020K0216**	2	16	42	20	20	20	27	–	125	19	31	–	–
5980767	**EVSCTR2525M0216**	2	16	42	25	25	25	32	–	150	24	31	–	–
5980768	**EVSCTR2525M0226**	2	26	62	25	25	25	34	–	150	24	42	–	–
6179755	**EVSCTR1212K0316C**	3	16	52	12	12	12	23	4	125	11	33	M8X1	M8X1
5980140	**EVSCTR1616K0316C**	3	16	52	16	16	16	24	–	125	15	35	M8X1	M8X1
5980763	**EVSCTR2020K0316C**	3	16	52	20	20	20	29	–	125	19	37	M8X1	M8X1
5980138	**EVSCTR2525M0316C**	3	16	62	25	25	25	34	–	150	24	37	G1/8-28	G1/8-28
5980764	**EVSCTR2020K0326C**	3	26	62	20	20	20	34	4	125	19	47	M8X1	M8X1
5980769	**EVSCTR2525M0326C**	3	26	62	25	25	25	35	–	150	24	47	G1/8-28	G1/8-28
5980761	**EVSCTR1616K0416C**	4	16	52	16	16	16	24	–	125	14	35	M8X1	M8X1
5980765	**EVSCTR2020K0416C**	4	16	52	20	20	20	29	–	125	18	37	M8X1	M8X1
5980766	**EVSCTR2020K0426C**	4	26	62	20	20	20	34	4	125	18	47	M8X1	M8X1
5980770	**EVSCTR2525M0426C**	4	26	62	25	25	25	35	–	150	23	47	G1/8-28	G1/8-28
5980771	**EVSCTR2525M0432C**	4	32	64	25	25	25	39	4	150	23	53	G1/8-28	G1/8-28
5980774	**EVSCTR3232P0432C**	4	32	64	32	32	32	42	–	170	30	53	G1/8-28	G1/8-28
5980772	**EVSCTR2525M0526C**	5	26	62	25	25	25	35	–	150	23	47	G1/8-28	G1/8-28
5980773	**EVSCTR2525M0532C**	5	32	64	25	25	25	36	4	150	23	53	G1/8-28	G1/8-28
5980775	**EVSCTR3232P0540C**	5	40	82	32	32	32	47	4	170	30	63	G1/8-28	G1/8-28
left hand														
6179760	**EVSCTL1212K1B16**	1B	16	42	12	12	12	23	4	125	11	31	–	–
6179761	**EVSCTL1212K1F16**	1F	16	42	12	12	12	23	4	125	11	31	–	–
6179762	**EVSCTL1212K0216**	2	16	42	12	12	12	23	4	125	11	31	–	–
5980777	**EVSCTL1616K0216**	2	16	42	16	16	16	23	–	125	15	31	–	–
5980780	**EVSCTL2020K0216**	2	16	42	20	20	20	27	–	125	19	31	–	–
5980805	**EVSCTL2525M0216**	2	16	42	25	25	25	32	–	150	24	31	–	–
5980806	**EVSCTL2525M0226**	2	26	62	25	25	25	34	–	150	24	42	–	–
6179756	**EVSCTL1212K0316C**	3	16	52	12	12	12	23	4	125	11	33	M8X1	M8X1
5980778	**EVSCTL1616K0316C**	3	16	52	16	16	16	24	–	125	15	35	M8X1	M8X1
5980801	**EVSCTL2020K0316C**	3	16	52	20	20	20	29	–	125	19	37	M8X1	M8X1
5980776	**EVSCTL2525M0316C**	3	16	62	25	25	25	34	–	150	24	37	G1/8-28	G1/8-28
5980802	**EVSCTL2020K0326C**	3	26	62	20	20	20	34	4	125	19	47	M8X1	M8X1
5980807	**EVSCTL2525M0326C**	3	26	62	25	25	25	35	–	150	24	47	G1/8-28	G1/8-28
5980779	**EVSCTL1616K0416C**	4	16	52	16	16	16	24	–	125	14	35	M8X1	M8X1
5980803	**EVSCTL2020K0416C**	4	16	52	20	20	20	29	–	125	18	37	M8X1	M8X1
5980804	**EVSCTL2020K0426C**	4	26	62	20	20	20	34	4	125	18	47	M8X1	M8X1
5980808	**EVSCTL2525M0426C**	4	26	62	25	25	25	35	–	150	23	47	G1/8-28	G1/8-28
5980809	**EVSCTL2525M0432C**	4	32	64	25	25	25	39	4	150	23	53	G1/8-28	G1/8-28
5980812	**EVSCTL3232P0432C**	4	32	64	32	32	32	42	–	170	30	53	G1/8-28	G1/8-28
5980810	**EVSCTL2525M0526C**	5	26	62	25	25	25	35	–	150	23	47	G1/8-28	G1/8-28
5980811	**EVSCTL2525M0532C**	5	32	64	25	25	25	39	4	150	23	53	G1/8-28	G1/8-28
5980813	**EVSCTL3232P0540C**	5	40	82	32	32	32	47	4	170	30	63	G1/8-28	G1/8-28

182	186	78	4	192

Grooving and Cut-Off

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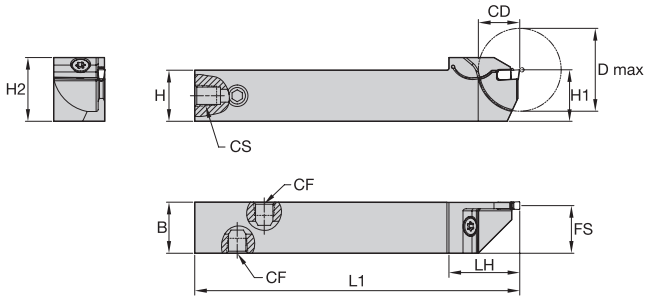
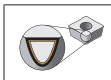


CD = Maximum cut-off depth for solid bars.
D max = Maximum bar diameter for deep grooving or cut-off of tubes.

order number	catalogue number	SSC	CD	D max	H1	H	B	H2	L1	FS	LH	CF	CS
right hand													
6179763	**EVSCFR1010K1B10**	1B	10	20	10	10	10	14	125	9	21	–	–
6179766	**EVSCFR1212K1B10**	1B	10	20	12	12	12	16	125	11	21	–	–
6179767	**EVSCFR1212K1B13**	1B	13	26	12	12	12	16	125	11	24	–	–
6179774	**EVSCFR1616K1B16**	1B	16	32	16	16	16	21	125	15	27	–	–
6179778	**EVSCFR2020K1B16**	1B	16	32	20	20	20	25	125	19	27	–	–
6179764	**EVSCFR1010K1F10**	1F	10	20	10	10	10	14	125	9	21	–	–
6179768	**EVSCFR1212K1F10**	1F	10	20	12	12	12	16	125	11	21	–	–
6179769	**EVSCFR1212K1F13**	1F	13	26	12	12	12	16	125	11	24	–	–
6179775	**EVSCFR1616K1F16**	1F	16	32	16	16	16	21	125	15	27	–	–
6179779	**EVSCFR2020K1F16**	1F	16	32	20	20	20	25	125	19	27	–	–
6179765	**EVSCFR1010K0210**	2	10	20	10	10	10	14	125	9	21	–	–
6179770	**EVSCFR1212K0210**	2	10	20	12	12	12	16	125	11	21	–	–
6179771	**EVSCFR1212K0216**	2	16	32	12	12	12	16	125	11	27	–	–
6179776	**EVSCFR1616K0216**	2	16	32	16	16	16	21	125	15	27	–	–
6179780	**EVSCFR2020K0216**	2	16	32	20	20	20	25	125	19	27	–	–
6179772	**EVSCFR1212K0310C**	3	10	20	12	12	12	17	125	11	22	M8X1	M8X1
6179773	**EVSCFR1212K0316C**	3	16	32	12	12	12	17	125	11	28	M8X1	M8X1
6179777	**EVSCFR1616K0316C**	3	16	32	16	16	16	21	125	15	28	M8X1	M8X1
6179781	**EVSCFR2020K0316C**	3	16	32	20	20	20	25	125	19	28	M8X1	M8X1
left hand													
6179709	**EVSCFL1010K1B10**	1B	10	20	10	10	10	14	125	9	21	–	–
6179922	**EVSCFL1212K1B10**	1B	10	20	12	12	12	16	125	11	21	–	–
6179923	**EVSCFL1212K1B13**	1B	13	26	12	12	12	16	125	11	24	–	–
6179930	**EVSCFL1616K1B16**	1B	16	32	16	16	16	21	125	15	27	–	–
6179934	**EVSCFL2020K1B16**	1B	16	32	20	20	20	25	125	19	27	–	–
6179710	**EVSCFL1010K1F10**	1F	10	20	10	10	10	14	125	9	21	–	–
6179924	**EVSCFL1212K1F10**	1F	10	20	12	12	12	16	125	11	21	–	–
6179925	**EVSCFL1212K1F13**	1F	13	26	12	12	12	16	125	11	24	–	–
6179931	**EVSCFL1616K1F16**	1F	16	32	16	16	16	21	125	15	27	–	–
6179935	**EVSCFL2020K1F16**	1F	16	32	20	20	20	25	125	19	27	–	–
6179921	**EVSCFL1010K0210**	2	10	20	10	10	10	14	125	9	21	–	–
6179926	**EVSCFL1212K0210**	2	10	20	12	12	12	16	125	11	21	–	–
6179927	**EVSCFL1212K0216**	2	16	32	12	12	12	16	125	11	27	–	–
6179932	**EVSCFL1616K0216**	2	16	32	16	16	16	21	125	15	27	–	–
6179936	**EVSCFL2020K0216**	2	16	32	20	20	20	25	125	19	27	–	–
6179928	**EVSCFL1212K0310C**	3	10	20	12	12	12	17	125	11	22	M8X1	M8X1
6179929	**EVSCFL1212K0316C**	3	16	32	12	12	12	17	125	11	28	M8X1	M8X1
6179933	**EVSCFL1616K0316C**	3	16	32	16	16	16	21	125	15	28	M8X1	M8X1
6179937	**EVSCFL2020K0316C**	3	16	32	20	20	20	25	125	19	28	M8X1	M8X1

				NOVO
182	186	78	4	192

Grooving and Cut-Off

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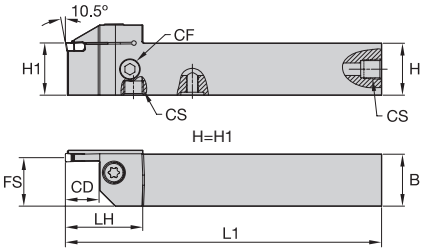

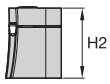

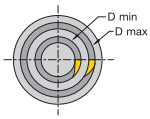

order number	catalogue number	SSC	CD	D min	D max	H1	H	B	H2	L1	FS	LH	CF	CS
right hand														
6080010	EVSBR2020K0312030035C	3	12	30	35	20	20	20	29	125	19	33	1/16-27 NPTF	1/16-27 NPTF
6080031	EVSBR2020K0312035040C	3	12	35	40	20	20	20	29	125	19	33	1/16-27 NPTF	1/16-27 NPTF
6116561	EVSBR2020K0312040050C	3	12	40	50	20	20	20	29	125	19	33	1/16-27 NPTF	1/16-27 NPTF
6116563	EVSBR2020K0312050060C	3	12	50	60	20	20	20	29	125	19	33	1/16-27 NPTF	1/16-27 NPTF
6116567	EVSBR2020K0312060075C	3	12	60	75	20	20	20	29	125	19	33	1/16-27 NPTF	1/16-27 NPTF
6116569	EVSBR2020K0312075100C	3	12	75	100	20	20	20	29	125	19	33	1/16-27 NPTF	1/16-27 NPTF
6080067	EVSBR2525M0312100180C	3	12	100	180	25	25	25	34	150	24	33	G 1/8	G 1/8
6080069	EVSBR2525M0312180250C	3	12	180	250	25	25	25	34	150	24	33	1/8-27 NPTF	1/8-27 NPTF
6080071	EVSBR2525M0312250350C	3	12	250	350	25	25	25	34	150	24	33	1/8-27 NPTF	1/8-27 NPTF
6080073	EVSBR2525M0312350999C	3	12	350	999	25	25	25	34	150	24	33	1/8-27 NPTF	1/8-27 NPTF
6080053	EVSBR2525M0320060075C	3	20	60	75	25	25	25	34	150	24	41	1/8-27 NPTF	1/8-27 NPTF
6080055	EVSBR2525M0320075100C	3	20	75	100	25	25	25	34	150	24	41	1/8-27 NPTF	1/8-27 NPTF
6080057	EVSBR2525M0320100180C	3	20	100	180	25	25	25	34	150	24	41	1/8-27 NPTF	1/8-27 NPTF
6080060	EVSBR2525M0320180250C	3	20	180	250	25	25	25	35	150	24	41	1/8-27 NPTF	1/8-27 NPTF
6080062	EVSBR2525M0320250350C	3	20	250	350	25	25	25	34	150	24	41	1/8-27 NPTF	1/8-27 NPTF
6080065	EVSBR2525M0320350999C	3	20	350	999	25	25	25	34	150	24	41	1/8-27 NPTF	1/8-27 NPTF
6080033	EVSBR2020K0416040050C	4	16	40	50	20	20	20	29	125	18	37	1/16-27 NPTF	1/16-27 NPTF
6080040	EVSBR2020K0416050060C	4	16	50	60	20	20	20	29	125	18	37	1/16-27 NPTF	1/16-27 NPTF
6116571	EVSBR2020K0416060075C	4	16	60	75	20	20	20	29	125	18	37	1/16-27 NPTF	1/16-27 NPTF
6116573	EVSBR2020K0416075100C	4	16	75	100	20	20	20	29	125	18	37	1/16-27 NPTF	1/16-27 NPTF
6116587	EVSBR2525M0416100180C	4	16	100	180	25	25	25	34	150	23	37	1/8-27 NPTF	1/8-27 NPTF
6116589	EVSBR2525M0416180250C	4	16	180	250	25	25	25	34	150	23	37	1/8-27 NPTF	1/8-27 NPTF
6116575	EVSBR2525M0426060075C	4	26	60	75	25	25	25	34	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6116577	EVSBR2525M0426075100C	4	26	75	100	25	25	25	34	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6116579	EVSBR2525M0426100180C	4	26	100	180	25	25	25	34	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6116581	EVSBR2525M0426180250C	4	26	180	250	25	25	25	35	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6116583	EVSBR2525M0426250350C	4	26	250	350	25	25	25	34	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6116585	EVSBR2525M0426350999C	4	26	350	999	25	25	25	34	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6080035	EVSBR2525M0516050060C	5	16	50	60	25	25	25	34	150	23	37	1/8-27 NPTF	1/8-27 NPTF
6124200	EVSBR2525M0516060075C	5	16	60	60	25	25	25	34	150	23	37	1/8-27 NPTF	1/8-27 NPTF
6124214	EVSBR2525M0516075100C	5	16	75	100	25	25	25	34	150	23	37	1/8-27 NPTF	1/8-27 NPTF
6124218	EVSBR2525M0516100180C	5	16	100	180	25	25	25	34	150	23	37	1/8-27 NPTF	1/8-27 NPTF
6124222	EVSBR2525M0516180250C	5	16	180	250	25	25	25	34	150	23	37	1/8-27 NPTF	1/8-27 NPTF
6124226	EVSBR2525M0516250350C	5	16	250	350	25	25	25	34	150	23	37	1/8-27 NPTF	1/8-27 NPTF
6124230	EVSBR2525M0516350999C	5	16	350	999	25	25	25	34	150	23	37	1/8-27 NPTF	1/8-27 NPTF
6124198	EVSBR2525M0526050060C	5	26	50	60	25	25	25	35	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6124212	EVSBR2525M0526060075C	5	26	60	60	25	25	25	35	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6124216	EVSBR2525M0526075100C	5	26	75	100	25	25	25	35	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6124224	EVSBR2525M0526180250C	5	26	180	250	25	25	25	35	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6124228	EVSBR2525M0526250350C	5	26	250	350	25	25	25	35	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6124235	EVSBR3232P0532100180C	5	32	100	180	32	32	32	42	170	30	53	1/8-27 NPTF	1/8-27 NPTF
6124237	EVSBR3232P0532180250C	5	32	180	250	32	32	32	42	170	30	53	1/8-27 NPTF	1/8-27 NPTF
6124239	EVSBR3232P0532250350C	5	32	250	350	32	32	32	42	170	30	53	1/8-27 NPTF	1/8-27 NPTF
6124241	EVSBR3232P0532350999C	5	32	350	999	32	32	32	42	170	30	53	1/8-27 NPTF	1/8-27 NPTF
6124605	EVSBR2525M0616060075C	6	16	60	75	25	25	25	35	150	22	37	1/8-27 NPTF	1/8-27 NPTF
6124609	EVSBR2525M0616075100C	6	16	75	100	25	25	25	35	150	22	37	1/8-27 NPTF	1/8-27 NPTF
6124673	EVSBR2525M0616100180C	6	16	100	180	25	25	25	31	150	22	37	1/8-27 NPTF	1/8-27 NPTF
6124677	EVSBR2525M0616180250C	6	16	180	250	25	25	25	34	150	22	37	1/8-28 NPTF	1/8-28 NPTF
6124681	EVSBR2525M0616250350C	6	16	250	350	25	25	25	35	150	22	37	1/8-27 NPTF	1/8-27 NPTF
6124685	EVSBR2525M0616350999C	6	16	350	999	25	25	25	34	150	22	37	1/8-27 NPTF	1/8-27 NPTF
6124607	EVSBR2525M0626060075C	6	26	60	75	25	25	25	35	150	22	47	1/8-27 NPTF	1/8-27 NPTF
6124671	EVSBR2525M0626075100C	6	26	75	100	25	25	25	35	150	22	47	1/8-27 NPTF	1/8-27 NPTF
6124675	EVSBR2525M0626100180C	6	26	100	180	25	25	25	34	150	22	47	1/8-27 NPTF	1/8-27 NPTF
6124679	EVSBR2525M0626180250C	6	26	180	250	25	25	25	34	150	22	47	1/8-27 NPTF	1/8-27 NPTF
6124683	EVSBR2525M0626250350C	6	26	250	350	25	25	25	34	150	22	47	1/8-27 NPTF	1/8-27 NPTF

182	186	78	4	192

Grooving and Cut-Off

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(continued)

order number	catalogue number	SSC	CD	D min	D max	H1	H	B	H2	L1	FS	LH	CF	CS
6124687	EVSBR2525M0626350999C	6	26	350	999	25	25	25	34	150	22	47	1/8-27 NPTF	1/8-27 NPTF
6124689	EVSBR3232P0632100180C	6	32	100	180	32	32	32	43	170	29	55	1/8-27 NPTF	1/8-27 NPTF
6124691	EVSBR3232P0632180250C	6	32	180	250	32	32	32	43	170	29	55	1/8-27 NPTF	1/8-27 NPTF
6124693	EVSBR3232P0632250350C	6	32	250	350	32	32	32	43	170	29	55	1/8-27 NPTF	1/8-27 NPTF
6124695	EVSBR3232P0632350999C	6	32	350	999	32	32	32	43	170	29	55	1/8-27 NPTF	1/8-27 NPTF
left hand														
6080036	EVSBL2020K0312030035C	3	12	30	35	20	20	20	29	125	19	33	1/16-27 NPTF	1/16-27 NPTF
6080037	EVSBL2020K0312035040C	3	12	35	40	20	20	20	29	125	19	33	1/16-27 NPTF	1/16-27 NPTF
6116562	EVSBL2020K0312040050C	3	12	40	50	20	20	20	29	125	19	33	1/16-27 NPTF	1/16-27 NPTF
6116564	EVSBL2020K0312050060C	3	12	50	60	20	20	20	29	125	19	33	1/16-27 NPTF	1/16-27 NPTF
6116568	EVSBL2020K0312060075C	3	12	60	75	20	20	20	29	125	19	33	1/16-27 NPTF	1/16-27 NPTF
6116570	EVSBL2020K0312075100C	3	12	75	100	20	20	20	29	125	19	33	1/16-27 NPTF	1/16-27 NPTF
6080068	EVSBL2525M0312100180C	3	12	100	180	25	25	25	34	150	24	33	G 1/8	G 1/8
6080070	EVSBL2525M0312180250C	3	12	180	250	25	25	25	34	150	24	33	G 1/8	G 1/8
6080072	EVSBL2525M0312250350C	3	12	250	350	25	25	25	34	150	24	33	1/8-27 NPTF	1/8-27 NPTF
6080074	EVSBL2525M0312350999C	3	12	350	999	25	25	25	34	150	24	33	1/8-27 NPTF	1/8-27 NPTF
6080054	EVSBL2525M0320060075C	3	20	60	75	25	25	25	35	150	24	41	1/8-27 NPTF	1/8-27 NPTF
6080056	EVSBL2525M0320075100C	3	20	75	100	25	25	25	35	150	24	41	1/8-27 NPTF	1/8-27 NPTF
6080059	EVSBL2525M0320100180C	3	20	100	180	25	25	25	35	150	24	41	1/8-27 NPTF	1/8-27 NPTF
6080061	EVSBL2525M0320180250C	3	20	180	250	25	25	25	35	150	24	41	1/8-27 NPTF	1/8-27 NPTF
6080064	EVSBL2525M0320250350C	3	20	250	350	25	25	25	34	150	24	41	1/8-27 NPTF	1/8-27 NPTF
6080066	EVSBL2525M0320350999C	3	20	350	999	25	25	25	34	150	24	41	1/8-27 NPTF	1/8-27 NPTF
6080038	EVSBL2020K0416040050C	4	16	40	50	20	20	20	29	125	18	37	1/16-27 NPTF	1/16-27 NPTF
6080051	EVSBL2020K0416050060C	4	16	50	60	20	20	20	29	125	18	37	1/16-27 NPTF	1/16-27 NPTF
6116572	EVSBL2020K0416060075C	4	16	60	75	20	20	20	29	125	18	37	1/16-27 NPTF	1/16-27 NPTF
6116574	EVSBL2020K0416075100C	4	16	75	100	20	20	20	29	125	18	37	1/16-27 NPTF	1/16-27 NPTF
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6116576	EVSBL2525M0426060075C	4	26	60	75	25	25	25	35	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6116578	EVSBL2525M0426075100C	4	26	75	100	25	25	25	35	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6116580	EVSBL2525M0426100180C	4	26	100	180	25	25	25	35	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6116582	EVSBL2525M0426180250C	4	26	180	250	25	25	25	35	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6116586	EVSBL2525M0426350999C	4	26	350	999	25	25	25	34	150	23	47	1/8-27 NPTF	1/8-27 NPTF
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6124232	EVSBL2525M0516350999C	5	16	350	999	25	25	25	34	150	23	37	1/8-27 NPTF	1/8-27 NPTF
6124199	EVSBL2525M0526050060C	5	26	50	60	25	25	25	35	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6124213	EVSBL2525M0526060075C	5	26	60	75	25	25	25	35	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6124217	EVSBL2525M0526075100C	5	26	75	100	25	25	25	35	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6124221	EVSBL2525M0526100180C	5	26	100	180	25	25	25	34	150	23	47	1/8-27 NPTF	1/8-27 NPTF
6124236	EVSBL3232P0532100180C	5	32	100	180	32	32	32	42	170	30	53	1/8-27 NPTF	1/8-27 NPTF
6124238	EVSBL3232P0532180250C	5	32	180	250	32	32	32	42	170	30	53	1/8-27 NPTF	1/8-27 NPTF
6124240	EVSBL3232P0532250350C	5	32	250	350	32	32	32	42	170	30	53	1/8-27 NPTF	1/8-27 NPTF
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6124678	EVSBL2525M0616180250C	6	16	180	250	25	25	25	34	150	22	37	1/8-28 NPTF	1/8-28 NPTF
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6124686	EVSBL2525M0616350999C	6	16	350	999	25	25	25	35	150	22	37	1/8-27 NPTF	1/8-27 NPTF
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6124672	EVSBL2525M0626075100C	6	26	75	100	25	25	25	35	150	22	47	1/8-27 NPTF	1/8-27 NPTF
6124676	EVSBL2525M0626100180C	6	26	100	180	25	25	25	34	150	22	47	1/8-27 NPTF	1/8-27 NPTF
6124680	EVSBL2525M0626180250C	6	26	180	250	25	25	25	34	150	22	47	1/8-27 NPTF	1/8-27 NPTF
6124684	EVSBL2525M0626250350C	6	26	250	350	25	25	25	34	150	22	47	1/8-27 NPTF	1/8-27 NPTF
6124688	EVSBL2525M0626350999C	6	26	350	999	25	25	25	34	150	22	47	1/8-27 NPTF	1/8-27 NPTF
6124690	EVSBL3232P0632100180C	6	32	100	180	32	32	32	43	170	29	55	1/8-27 NPTF	1/8-27 NPTF
6124692	EVSBL3232P0632180250C	6	32	180	250	32	32	32	43	170	29	55	1/8-27 NPTF	1/8-27 NPTF
6124694	EVSBL3232P0632250350C	6	32	250	350	32	32	32	43	170	29	55	1/8-27 NPTF	1/8-27 NPTF
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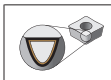
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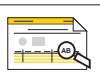
186

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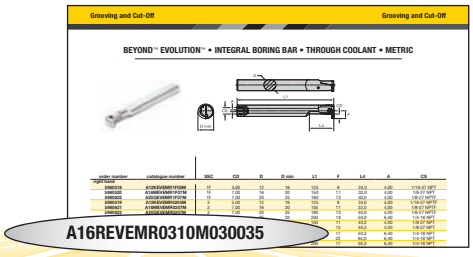
192

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • CATALOG NUMBERING SYSTEM • BORING BARS

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

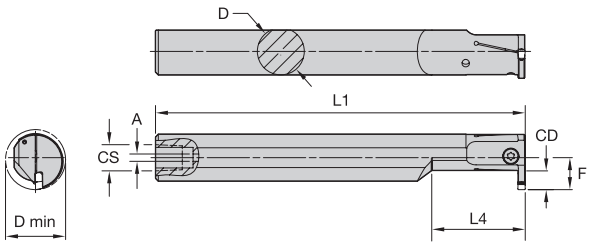


A	16	R	EV	E	M	R	03	10	M	030035
Steel Bar with Coolant	Bar Diameter	Bar Length	Platform	Tool Type	Support Type	Hand of Tool	Insert Seat Size	Max Cutting Depth	Tool Units	Face Grooving Diameters
Steel boring bar with through coolant capability.	**Metric** = Diameter in mm **Inch** = Diameter in 1/16" increments		Beyond™ Evolution™	**E** = End mount (90°) **S** = Straight mount	**M** = Maximum support **A** = Face grooving-inboard sweep	**R** = Right hand **L** = Left hand	**1F** **02** **03** **04** **05** **06** **08** **10**	in millimetres	**M** = Metric **I** = Inch	**030** = Minimum diameter in mm **035** = Maximum diameter in mm

symbol	mm	inch
K	125	5
M	150	6
Q	180	7
R	200	8
S	250	10
T	300	12

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • INTEGRAL BORING BAR • THROUGH COOLANT

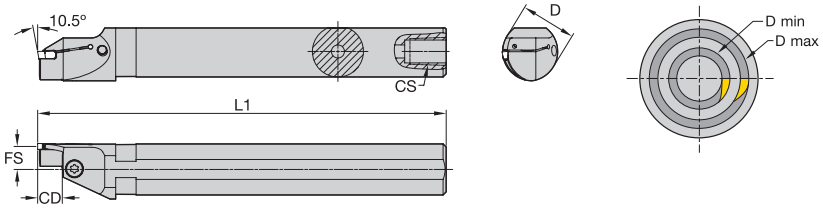


order number	catalogue number	SSC	CD	D	D min	L1	F	L4	A	CS
right hand										
5980518	**A12KEVEMR1F05M**	1F	5,00	12	16	125	9	24,0	4,00	1/16-27 NPT
5980520	**A16MEVEMR1F07M**	1F	7,00	16	20	150	11	32,0	4,00	1/8-27 NPT
5980622	**A20QEVEMR1F07M**	1F	7,00	20	25	180	13	40,0	4,00	1/8-27 NPTF
5980519	**A12KEVEMR0205M**	2	5,00	12	16	125	9	24,0	4,00	1/16-27 NPTF
5980621	**A16MEVEMR0207M**	2	7,00	16	20	150	11	32,0	4,00	1/8-27 NPTF
5980623	**A20QEVEMR0207M**	2	7,00	20	25	180	13	40,0	4,00	1/8-27 NPTF
5980624	**A25REVEMR0210M**	2	10,00	25	32	200	18	50,0	6,40	1/4-18 NPT
5954259	**A16MEVEMR0307M**	3	7,00	16	20	150	11	40,3	4,00	1/8-27 NPT
5954260	**A20QEVEMR0307M**	3	7,00	20	25	180	13	40,3	4,00	1/8-27 NPT
5954281	**A25REVEMR0310M**	3	10,00	25	32	200	17	50,3	6,40	1/4-18 NPT
5954283	**A32SEVEMR0312M**	3	12,00	32	40	250	22	64,0	6,40	1/4-18 NPT
5954282	**A25REVEMR0410M**	4	10,00	25	32	200	17	50,3	6,40	1/4-18 NPT
5954284	**A32SEVEMR0412M**	4	12,00	32	40	250	22	64,0	6,40	1/4-18 NPT
left hand										
5980625	**A12KEVEML1F05M**	1F	5,00	12	16	125	9	24,0	4,00	1/16-27 NPTF
5980627	**A16MEVEML1F07M**	1F	7,00	16	20	150	11	32,0	4,00	1/8-27 NPTF
5980629	**A20QEVEML1F07M**	1F	7,00	20	25	180	13	40,0	4,00	1/8-27 NPTF
5980626	**A12KEVEML0205M**	2	5,00	12	16	125	9	24,0	4,00	1/16-27 NPTF
5980628	**A16MEVEML0207M**	2	7,00	16	20	150	11	32,0	4,00	1/8-27 NPTF
5980630	**A20QEVEML0207M**	2	7,00	20	25	180	13	40,0	4,00	1/8-27 NPTF
5980631	**A25REVEML0210M**	2	10,00	25	32	200	18	50,0	6,40	1/4-18 NPT
5954285	**A16MEVEML0307M**	3	7,00	16	20	150	11	40,3	4,00	1/8-27 NPT
5954286	**A20QEVEML0307M**	3	7,00	20	25	180	13	40,3	4,00	1/8-27 NPT
5954287	**A25REVEML0310M**	3	10,00	25	32	200	17	50,3	6,40	1/4-27 NPT
5954289	**A32SEVEML0312M**	3	12,00	32	40	250	22	64,0	6,40	1/4-27 NPT
5954288	**A25REVEML0410M**	4	10,00	25	32	200	17	50,3	6,40	1/4-18 NPT
5954290	**A32SEVEML0412M**	4	12,00	32	40	250	22	64,0	6,40	1/4-18 NPT

182	186	86	4	192

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • INTEGRAL BORING BAR • FACE GROOVING • THROUGH COOLANT



order number	catalogue number	SSC	CD	D	D min	D max	L1	FS	CS
right hand									
6116521	**A25REVSAR0212M026030**	2	12,00	25	26	30	200	12	1/4-18 NPT
6116522	**A25REVSAR0312M030035**	3	12,00	25	30	35	200	11	1/4-18 NPT
6116297	**A32SEVSAR0312M033042**	3	12,00	32	33	42	250	15	1/4-18 NPT
6116299	**A40TEVSAR0312M041050**	3	12,00	40	41	50	300	19	1/4-18 NPT
left hand									
6116527	**A25REVSAL0212M026030**	2	12,00	25	26	30	200	12	1/4-18 NPT
6116528	**A25REVSAL0312M030035**	3	12,00	25	30	35	200	11	1/4-18 NPT
6116298	**A32SEVSAL0312M033042**	3	12,00	32	33	42	250	15	1/4-18 NPT
6116300	**A40TEVSAL0312M041050**	3	12,00	40	41	50	300	19	1/4-18 NPT

182 | 186 | 86 | 4 | 192

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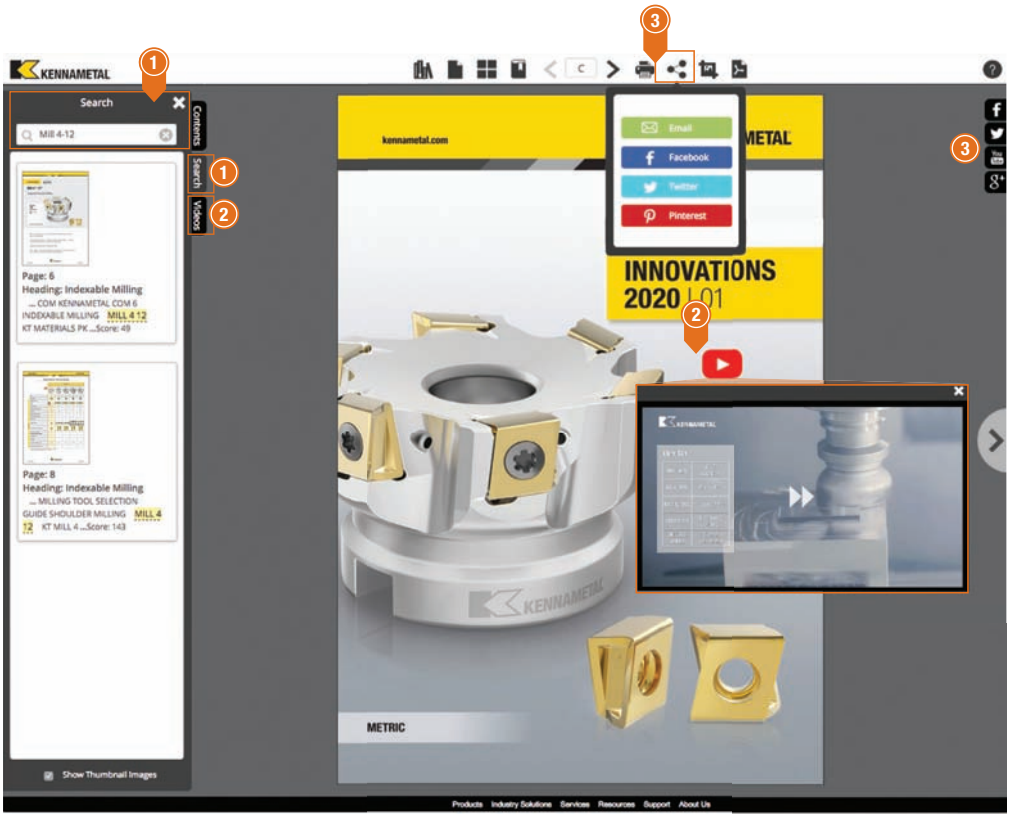

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Grooving and Cut-Off

BEYOND™ EVOLUTION™ • CATALOG NUMBERING SYSTEM • MODULAR BLADES

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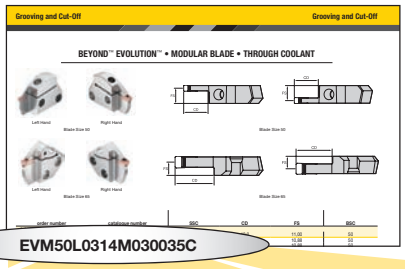


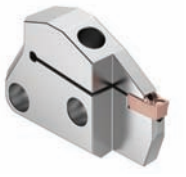
EVM50L0314M030035C

EVM	50	L	03	14	M	030035	C
Family Name	Blade Size	Hand	Seat Size	Max Groove Depth	Support Type	Face Grooving Diameters	Coolant
Beyond™ Evolution™ Modular Blade	**50** **65**	**L** = Left hand **R** = Right hand	**1B** **1F** **02** **03** **04** **05** **06** **08** **10**	in millimetres	**M** = Maximum support for specific groove width and straight clearance for unlimited diameter **A** = Face grooving-inboard sweep **B** = Face grooving-outboard sweep	**030** = Minimum diameter in mm **035** = Maximum diameter in mm	**C** = Through the pocket coolant capable

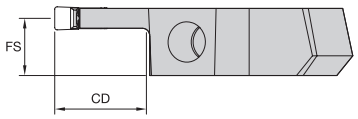
Grooving and Cut-Off

BEYOND™ EVOLUTION™ • MODULAR BLADE • THROUGH COOLANT

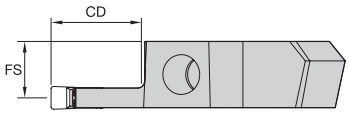
Left Hand



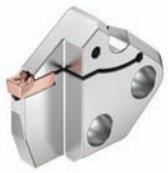
Right Hand



Blade Size 50

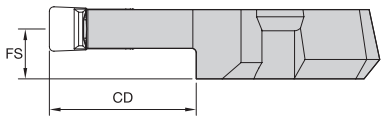


Blade Size 50

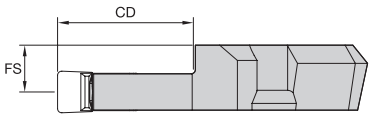


Left Hand

Right Hand



Blade Size 65



Blade Size 65

order number	catalogue number	SSC	CD	FS	BSC
right hand					
6031041	**EVM50R1F12M**	1F	12,0	11,00	50
6030969	**EVM50R0212M**	2	12,0	10,88	50
5955423	**EVM50R0216M**	2	16,0	10,88	50
5979200	**EVM50R0312MC**	3	12,0	10,43	50
5979010	**EVM50R0316MC**	3	16,0	10,43	50
5979181	**EVM50R0322MC**	3	22,0	10,43	50
6865884	**EVM50R0326MC**	3	26,0	10,43	50
5979201	**EVM50R0412MC**	4	12,0	9,93	50
5979182	**EVM50R0416MC**	4	16,0	9,93	50
5979183	**EVM50R0422MC**	4	22,0	9,93	50
5979198	**EVM50R0426MC**	4	26,0	9,93	50
5979184	**EVM50R0432MC**	4	32,0	9,93	50
6031031	**EVM50R0512MC**	5	12,0	9,43	50
6031033	**EVM50R0516MC**	5	16,0	9,43	50
5955415	**EVM50R0526MC**	5	26,0	9,43	50
5955416	**EVM50R0532MC**	5	32,0	9,43	50
6031035	**EVM65R0616MC**	6	16,0	9,88	65
5955417	**EVM65R0626MC**	6	26,0	9,88	65
6031037	**EVM65R0632MC**	6	32,0	9,88	65
6031039	**EVM65R0816MC**	8	16,0	9,00	65
5955418	**EVM65R0826MC**	8	26,0	9,00	65
left hand					
6031042	**EVM50L1F12M**	1F	12,0	11,00	50
6030970	**EVM50L0212M**	2	12,0	10,88	50
5955424	**EVM50L0216M**	2	16,0	10,88	50
5979202	**EVM50L0312MC**	3	12,0	10,43	50
5979185	**EVM50L0316MC**	3	16,0	10,43	50
5979186	**EVM50L0322MC**	3	22,0	10,43	50
5979203	**EVM50L0412MC**	4	12,0	9,93	50
5979187	**EVM50L0416MC**	4	16,0	9,93	50
5979188	**EVM50L0422MC**	4	22,0	9,93	50
5979199	**EVM50L0426MC**	4	26,0	9,93	50
5979189	**EVM50L0432MC**	4	32,0	9,93	50
6031032	**EVM50L0512MC**	5	12,0	9,93	50
6031034	**EVM50L0516MC**	5	16,0	9,43	50
5955419	**EVM50L0526MC**	5	26,0	9,43	50
5955420	**EVM50L0532MC**	5	32,0	9,43	50
6031036	**EVM65L0616MC**	6	16,0	9,88	65
5955421	**EVM65L0626MC**	6	26,0	9,88	65
6031038	**EVM65L0632MC**	6	32,0	9,88	65
6031040	**EVM65L0816MC**	8	16,0	9,00	65
5955422	**EVM65L0826MC**	8	26,0	9,00	65

				NOVO
182	186	90	4	192

Grooving and Cut-Off

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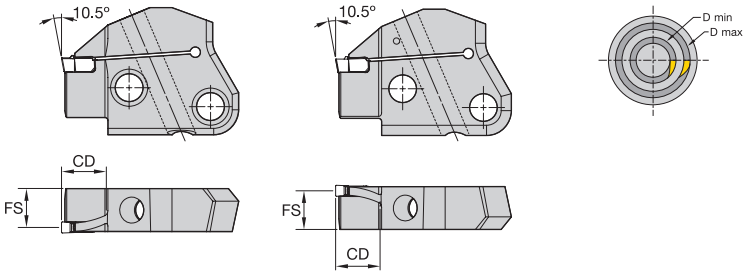
Left Hand

Right Hand

Blade Size 50

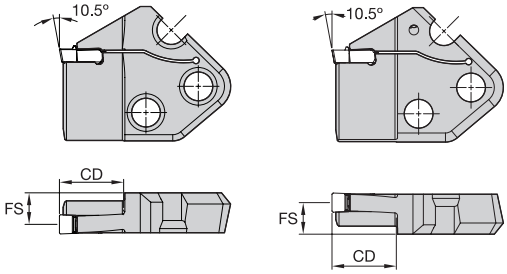


Blade Size 50

Left Hand

Right Hand

Blade Size 65



Blade Size 65

order number	catalogue number	SSC	D min	D max	CD	FS	BSC
right hand							
6097181	EVM50R0312A035040C	3	35	40	12,0	10,50	50
6097182	EVM50R0312A040050C	3	40	50	12,0	10,50	50
6097183	EVM50R0312A050060C	3	50	60	12,0	10,50	50
6097184	EVM50R0312A060075C	3	60	75	12,0	10,50	50
6116789	EVM50R0312A075100C	3	75	100	12,0	10,50	50
6117063	EVM50R0312A100180C	3	100	180	12,0	10,50	50
6117067	EVM50R0312A180250C	3	180	250	12,0	10,50	50
6117071	EVM50R0312A250350C	3	250	350	12,0	10,50	50
6117075	EVM50R0312A350999C	3	350	999	12,0	10,50	50
6097185	EVM50R0320A075100C	3	75	100	20,0	10,50	50
6097186	EVM50R0320A100180C	3	100	180	20,0	10,50	50
6097187	EVM50R0320A180250C	3	180	250	20,0	10,50	50
6097188	EVM50R0320A250350C	3	250	350	20,0	10,50	50
6097189	EVM50R0320A350999C	3	350	999	20,0	10,50	50
6079480	EVM50R0416A040050C	4	40	50	16,0	10,00	50
6079481	EVM50R0416A050060C	4	50	60	16,0	10,00	50
6079482	EVM50R0416A060075C	4	60	75	16,0	10,00	50
6079483	EVM50R0416A075100C	4	75	100	16,0	10,00	50
6117079	EVM50R0416A100180C	4	100	180	16,0	10,00	50
6117093	EVM50R0416A180250C	4	180	250	16,0	10,00	50
6117097	EVM50R0416A250350C	4	250	350	16,0	10,00	50
6117101	EVM50R0416A350999C	4	350	999	16,0	10,00	50
6810697	EVM50R0426A075100C	4	75	100	26,0	10,00	50
6079484	EVM50R0426A100180C	4	100	180	26,0	10,00	50
6079485	EVM50R0426A180250C	4	180	250	26,0	10,00	50
6079486	EVM50R0426A250350C	4	250	350	26,0	10,00	50
6079487	EVM50R0426A350999C	4	350	999	26,0	10,00	50
6079488	EVM50R0520A050060C	5	50	60	20,0	9,50	50
6079489	EVM50R0520A060075C	5	60	75	20,0	9,50	50
6079490	EVM50R0520A075100C	5	75	100	20,0	9,50	50
6079491	EVM50R0520A100180C	5	100	180	20,0	9,50	50
6079492	EVM50R0520A180250C	5	180	250	20,0	9,50	50
6079493	EVM50R0520A250350C	5	250	350	20,0	9,50	50
6079494	EVM50R0520A350999C	5	350	999	20,0	9,50	50
6911192	EVM50R0526A060075C	5	60	75	26,0	9,50	50
6911193	EVM50R0532A100180C	5	100	180	32,0	9,50	50
6810801	EVM50R0532A250350C	5	250	350	32,0	9,50	50
6890011	EVM50R0532A350999C	5	350	999	32,0	9,50	50
6079223	EVM65R0620A060075C	6	60	75	20,0	9,88	65
6079224	EVM65R0620A075100C	6	75	100	20,0	9,88	65
6079225	EVM65R0620A100180C	6	100	180	20,0	9,88	65
6079226	EVM65R0620A180250C	6	180	250	20,0	9,88	65
6079227	EVM65R0620A250350C	6	250	350	20,0	9,88	65

182	186	90	4	192

Grooving and Cut-Off

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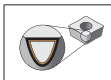
(continued)

order number	catalogue number	SSC	D min	D max	CD	FS	BSC
6079228	EVM65R0620A350999C	6	350	999	20,0	9,88	65
6079229	EVM65R0820A080180C	8	80	180	20,0	9,00	65
6079230	EVM65R0820A180999C	8	180	999	20,0	9,00	65
left hand							
6097190	EVM50L0312A035040C	3	35	40	12,0	10,50	50
6097191	EVM50L0312A040050C	3	40	50	12,0	10,50	50
6097192	EVM50L0312A050060C	3	50	60	12,0	10,50	50
6097193	EVM50L0312A060075C	3	60	75	12,0	10,50	50
6116790	EVM50L0312A075100C	3	75	100	12,0	10,50	50
6117064	EVM50L0312A100180C	3	100	180	12,0	10,50	50
6117068	EVM50L0312A180250C	3	180	250	12,0	10,50	50
6117072	EVM50L0312A250350C	3	250	350	12,0	10,50	50
6117076	EVM50L0312A350999C	3	350	999	12,0	10,50	50
6097194	EVM50L0320A075100C	3	75	100	20,0	10,50	50
6097195	EVM50L0320A100180C	3	100	180	20,0	10,50	50
6097196	EVM50L0320A180250C	3	180	250	20,0	10,50	50
6097197	EVM50L0320A250350C	3	250	350	20,0	10,50	50
6097198	EVM50L0320A350999C	3	350	999	20,0	10,50	50
6079495	EVM50L0416A040050C	4	40	50	16,0	10,00	50
6079496	EVM50L0416A050060C	4	50	60	16,0	10,00	50
6079497	EVM50L0416A060075C	4	60	75	16,0	10,00	50
6079498	EVM50L0416A075100C	4	75	100	16,0	10,00	50
6117080	EVM50L0416A100180C	4	100	180	16,0	10,00	50
6117094	EVM50L0416A180250C	4	180	250	16,0	10,00	50
6117098	EVM50L0416A250350C	4	250	350	16,0	10,00	50
6117102	EVM50L0416A350999C	4	350	999	16,0	10,00	50
6079499	EVM50L0426A100180C	4	100	180	26,0	10,00	50
6079500	EVM50L0426A180250C	4	180	250	26,0	10,00	50
6079501	EVM50L0426A250350C	4	250	350	26,0	10,00	50
6079502	EVM50L0426A350999C	4	350	999	26,0	10,00	50
6079503	EVM50L0520A050060C	5	50	60	20,0	9,50	50
6079504	EVM50L0520A060075C	5	60	75	20,0	9,50	50
6079505	EVM50L0520A075100C	5	75	100	20,0	9,50	50
6079506	EVM50L0520A100180C	5	100	180	20,0	9,50	50
6079507	EVM50L0520A180250C	5	180	250	20,0	9,50	50
6079508	EVM50L0520A250350C	5	250	350	20,0	9,50	50
6079509	EVM50L0520A350999C	5	350	999	20,0	9,50	50
6809712	EVM50L0532A075100C	5	75	100	32,0	9,50	50
6079234	EVM65L0620A060075C	6	60	75	20,0	9,88	65
6079235	EVM65L0620A075100C	6	75	100	20,0	9,88	65
6079236	EVM65L0620A100180C	6	100	180	20,0	9,88	65
6079237	EVM65L0620A180250C	6	180	250	20,0	9,88	65
6079238	EVM65L0620A250350C	6	250	350	20,0	9,88	65
6079239	EVM65L0620A350999C	6	350	999	20,0	9,88	65
6079240	EVM65L0820A080180C	8	80	180	20,0	9,00	65
6079241	EVM65L0820A180999C	8	180	999	20,0	9,00	65


182


186

90


4

192

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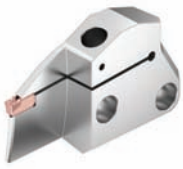
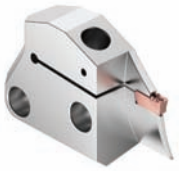
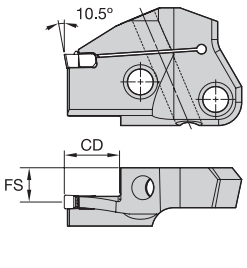


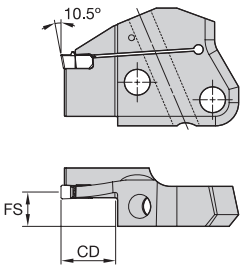
Left Hand

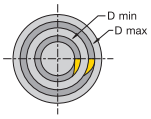


Right Hand

Blade Size 50





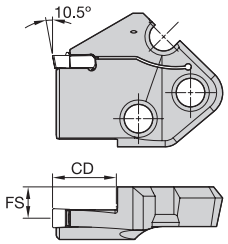


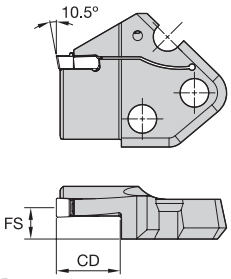
Blade Size 50

Left Hand

Right Hand

Blade Size 65





Blade Size 65

order number	catalogue number	SSC	D min	D max	CD	FS	BSC
right hand							
6079340	EVM50R0312B035040C	3	35	40	12,0	10,50	50
6079411	EVM50R0312B040050C	3	40	50	12,0	10,50	50
6079412	EVM50R0312B050060C	3	50	60	12,0	10,50	50
6079413	EVM50R0312B060075C	3	60	75	12,0	10,50	50
6117061	EVM50R0312B075100C	3	75	100	12,0	10,50	50
6117065	EVM50R0312B100180C	3	100	180	12,0	10,50	50
6117069	EVM50R0312B180250C	3	180	250	12,0	10,50	50
6117073	EVM50R0312B250350C	3	250	350	12,0	10,50	50
6117077	EVM50R0312B350999C	3	350	999	12,0	10,50	50
6079414	EVM50R0320B075100C	3	75	100	20,0	10,50	50
6079415	EVM50R0320B100180C	3	100	180	20,0	10,50	50
6079416	EVM50R0320B180250C	3	180	250	20,0	10,50	50
6079417	EVM50R0320B250350C	3	250	350	20,0	10,50	50
6079418	EVM50R0320B350999C	3	350	999	20,0	10,50	50
6079429	EVM50R0416B040050C	4	40	50	16,0	10,00	50
6079430	EVM50R0416B050060C	4	50	60	16,0	10,00	50
6079451	EVM50R0416B060075C	4	60	75	16,0	10,00	50
6079452	EVM50R0416B075100C	4	75	100	16,0	10,00	50
6117091	EVM50R0416B100180C	4	100	180	16,0	10,00	50
6117095	EVM50R0416B180250C	4	180	250	16,0	10,00	50
6117099	EVM50R0416B250350C	4	250	350	16,0	10,00	50
6117103	EVM50R0416B350999C	4	350	999	16,0	10,00	50
6809758	EVM50R0420B040050C	4	40	50	20,0	10,00	50
6809759	EVM50R0420B050060C	4	50	60	20,0	10,00	50
6809711	EVM50R0426B075100C	4	75	100	26,0	10,00	50
6079453	EVM50R0426B100180C	4	100	180	26,0	10,00	50
6079454	EVM50R0426B180250C	4	180	250	26,0	10,00	50
6079455	EVM50R0426B250350C	4	250	350	26,0	10,00	50
6079456	EVM50R0426B350999C	4	350	999	26,0	10,00	50
6079457	EVM50R0520B050060C	5	50	60	20,0	9,50	50
6079458	EVM50R0520B060075C	5	60	75	20,0	9,50	50
6079459	EVM50R0520B075100C	5	75	100	20,0	9,50	50
6079460	EVM50R0520B100180C	5	100	180	20,0	9,50	50
6079461	EVM50R0520B180250C	5	180	250	20,0	9,50	50
6079462	EVM50R0520B250350C	5	250	350	20,0	9,50	50
6079463	EVM50R0520B350999C	5	350	999	20,0	9,50	50
6809740	EVM50R0532B075100C	5	75	100	32,0	9,50	50
6809751	EVM50R0532B100180C	5	100	180	32,0	9,50	50
6809752	EVM50R0532B180250C	5	180	250	32,0	9,50	50
6809754	EVM50R0532B350999C	5	350	999	32,0	9,50	50
6079246	EVM65R0620B060075C	6	60	75	20,0	9,88	65
6079247	EVM65R0620B075100C	6	75	100	20,0	9,88	65
6079248	EVM65R0620B100180C	6	100	180	20,0	9,88	65

				NOVO
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Grooving and Cut-Off

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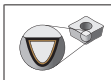
(continued)

order number	catalogue number	SSC	D min	D max	CD	FS	BSC
6079249	EVM65R0620B180250C	6	180	250	20,0	9,88	65
6079250	EVM65R0620B250350C	6	250	350	20,0	9,88	65
6079261	EVM65R0620B350999C	6	350	999	20,0	9,88	65
6079262	EVM65R0820B080180C	8	80	180	20,0	9,00	65
6079263	EVM65R0820B180999C	8	180	999	20,0	9,00	65
left hand							
6079420	EVM50L0312B035040C	3	35	40	12,0	10,50	50
6079421	EVM50L0312B040050C	3	40	50	12,0	10,50	50
6079422	EVM50L0312B050060C	3	50	60	12,0	10,50	50
6079423	EVM50L0312B060075C	3	60	75	12,0	10,50	50
6117062	EVM50L0312B075100C	3	75	100	12,0	10,50	50
6117066	EVM50L0312B100180C	3	100	180	12,0	10,50	50
6117070	EVM50L0312B180250C	3	180	250	12,0	10,50	50
6117074	EVM50L0312B250350C	3	250	350	12,0	10,50	50
6117078	EVM50L0312B350999C	3	350	999	12,0	10,50	50
6079424	EVM50L0320B075100C	3	75	100	20,0	10,50	50
6079425	EVM50L0320B100180C	3	100	180	20,0	10,50	50
6079426	EVM50L0320B180250C	3	180	250	20,0	10,50	50
6079427	EVM50L0320B250350C	3	250	350	20,0	10,50	50
6079428	EVM50L0320B350999C	3	350	999	20,0	10,50	50
6906767	EVM50L0326MC	3	–	–	26,0	10,43	50
6079464	EVM50L0416B040050C	4	40	50	16,0	10,00	50
6079465	EVM50L0416B050060C	4	50	60	16,0	10,00	50
6079466	EVM50L0416B060075C	4	60	75	16,0	10,00	50
6079467	EVM50L0416B075100C	4	75	100	16,0	10,00	50
6117092	EVM50L0416B100180C	4	100	180	16,0	10,00	50
6117096	EVM50L0416B180250C	4	180	250	16,0	10,00	50
6117100	EVM50L0416B250350C	4	250	350	16,0	10,00	50
6117104	EVM50L0416B350999C	4	350	999	16,0	10,00	50
6809757	EVM50L0426B060075C	4	60	75	26,0	10,00	50
6694203	EVM50L0426B075100C	4	75	100	26,0	10,00	50
6079468	EVM50L0426B100180C	4	100	180	26,0	10,00	50
6079469	EVM50L0426B180250C	4	180	250	26,0	10,00	50
6079470	EVM50L0426B250350C	4	250	350	26,0	10,00	50
6079471	EVM50L0426B350999C	4	350	999	26,0	10,00	50
6079472	EVM50L0520B050060C	5	50	60	20,0	9,50	50
6079473	EVM50L0520B060075C	5	60	75	20,0	9,50	50
6079474	EVM50L0520B075100C	5	75	100	20,0	9,50	50
6079475	EVM50L0520B100180C	5	100	180	20,0	9,50	50
6079476	EVM50L0520B180250C	5	180	250	20,0	9,50	50
6079477	EVM50L0520B250350C	5	250	350	20,0	9,50	50
6079478	EVM50L0520B350999C	5	350	999	20,0	9,50	50
6911130	EVM50L0532B075100C	5	75	100	32,0	9,50	50
6911191	EVM50L0532B250350C	5	250	350	32,0	9,50	50
6774878	EVM50L0532B100180C	5	100	180	32,0	9,50	50
6774911	EVM50L0532B350999C	5	350	999	32,0	9,50	50
6079266	EVM65L0620B060075C	6	60	75	20,0	9,88	65
6079267	EVM65L0620B075100C	6	75	100	20,0	9,88	65
6079268	EVM65L0620B100180C	6	100	180	20,0	9,88	65
6079269	EVM65L0620B180250C	6	180	250	20,0	9,88	65
6079270	EVM65L0620B250350C	6	250	350	20,0	9,87	65
6079271	EVM65L0620B350999C	6	350	999	20,0	9,88	65
6079272	EVM65L0820B080180C	8	80	180	20,0	9,00	65
6079273	EVM65L0820B180999C	8	180	999	20,0	9,00	65


182


186

90

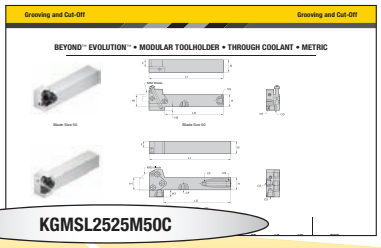

4

192

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • CATALOG NUMBERING SYSTEM • MODULAR HOLDERS

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



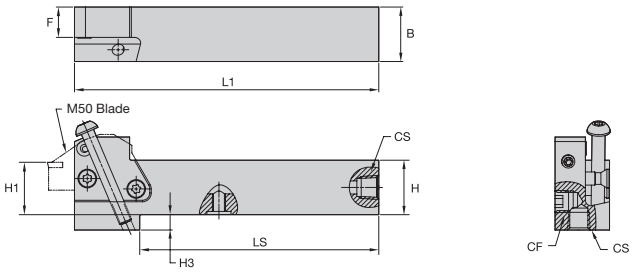
KGMSL2525M50C

KGM	S	L	2525M	50	C
Family Name	Tool Style	Hand	Shank Size	Blade Size	Coolant
Grooving Modular System	**S** = Straight mount **E** = End mount (90°) **45** = 45° approach angle	**L** = Left hand **R** = Right hand	**Metric** = Height x Width in mm letter indicates tool length according to ISO	**50** **65**	**C** = Through coolant capable

Grooving and Cut-Off

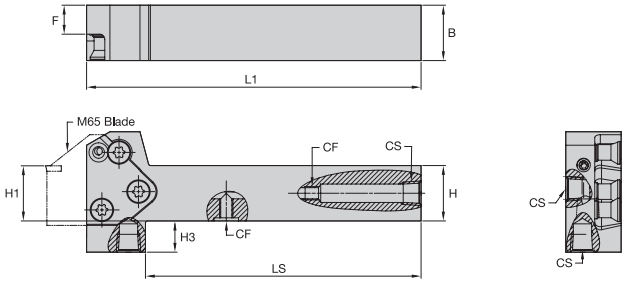
BEYOND™ EVOLUTION™ • MODULAR TOOLHOLDER • THROUGH COOLANT

Blade Size 50



Blade Size 50

Blade Size 65



Blade Size 65

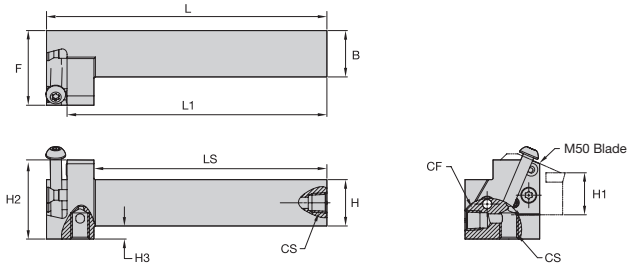
order number	catalogue number	B	H	H1	L1	F	CS	CF	LS	H3	BSC
right hand											
5979190	**KGMSR2525M50C**	25	25	25	138,75	13,84	G 1/8-28	G 1/8-28	109,00	7,00	50
5979745	**KGMSR2525M65C**	25	25	25	150,00	13,00	G 1/8-28	G 1/8-28	122,00	14,00	65
5979746	**KGMSR3232P50C**	32	32	32	158,75	20,81	G 1/8-28	G 1/8-28	133,62	–	50
5979747	**KGMSR3232P65C**	32	32	32	170,00	20,00	G 1/8-28	G 1/8-28	138,50	7,00	65
left hand											
5979191	**KGMSL2525M50C**	25	25	25	138,75	13,84	G 1/8-28	G 1/8-28	109,00	7,00	50
5979748	**KGMSL2525M65C**	25	25	25	150,00	13,00	G 1/8-28	G 1/8-28	122,00	14,00	65
5979749	**KGMSL3232P50C**	32	32	32	158,75	20,80	G 1/8-28	G 1/8-28	133,62	–	50
5979750	**KGMSL3232P65C**	32	32	32	170,00	20,00	G 1/8-28	G 1/8-28	142,00	7,00	65

182	186	96	4	192

Grooving and Cut-Off

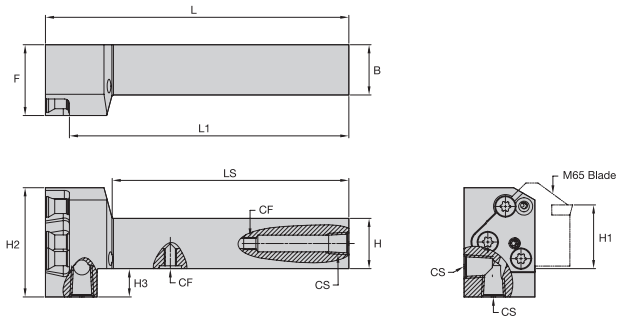
BEYOND™ EVOLUTION™ • MODULAR TOOLHOLDER • 90° • THROUGH COOLANT

Blade Size 50



Blade Size 50

Blade Size 65



Blade Size 65

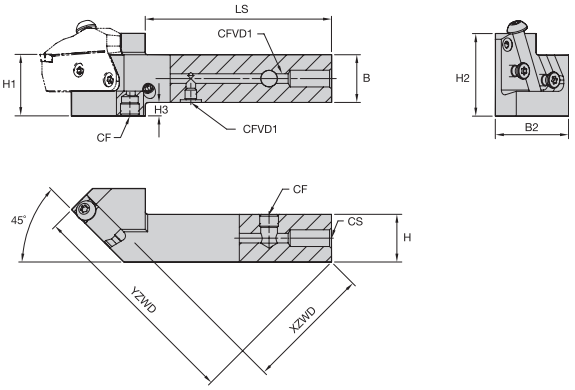
order number	catalogue number	B	H	H1	L1	F	CS	CF	LS	H3	BSC
right hand											
5979765	**KGMER2525M65C**	25	25	25	138,15	35,00	G 1/8	G 1/8	117,00	14,00	65
5979192	**KGMER2525M50C**	25	25	25	139,25	11,86	G 1/8	G 1/8	124,85	7,00	50
5979767	**KGMER3232P65C**	32	32	32	158,15	35,00	G 1/8	G 1/8	137,00	7,00	65
5979766	**KGMER3232P50C**	32	32	32	159,25	11,86	G 1/8	G 1/8	145,25	–	50
left hand											
5979768	**KGMEL2525M65C**	25	25	25	138,15	35,00	G 1/8	G 1/8	117,00	14,00	65
5979193	**KGMEL2525M50C**	25	25	25	139,25	11,86	G 1/8	G 1/8	124,85	7,00	50
5979770	**KGMEL3232P65C**	32	32	32	158,15	35,00	G 1/8	G 1/8	137,00	7,00	65
5979769	**KGMEL3232P50C**	32	32	32	159,25	11,86	G 1/8	G 1/8	145,25	–	50

182	186	96	4	192

Grooving and Cut-Off

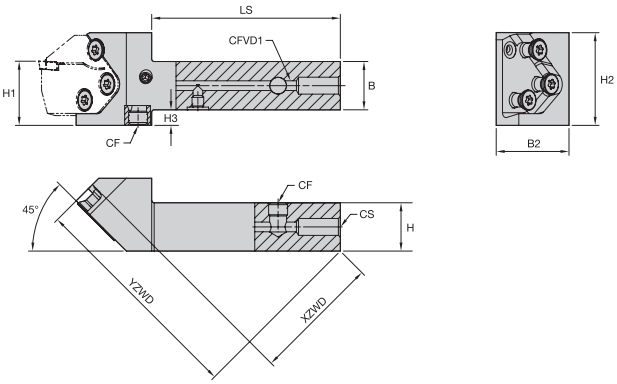
BEYOND™ EVOLUTION™ • MODULAR TOOLHOLDER • 45° • THROUGH COOLANT

Blade Size 50



Blade Size 50

Blade Size 65



Blade Size 65

order number	catalogue number	B	H	H1	F	CS	CF	LS	H3	BSC
right hand										
6811678	**KGM45R2525M50C**	25	25	25	15,13	G 1/8	G 1/8	97,00	7,00	50
6811680	**KGM45R2525M65C**	25	25	25	17,75	G 1/8	G 1/8	97,00	8,00	65
6654507	**KGM45R3232P50C**	32	32	32	15,13	G 1/8	G 1/8	117,00	0,00	50
6656731	**KGM45R3232P65C**	32	32	32	17,75	G 1/8	G 1/8	117,00	8,00	65
left hand										
6811677	**KGM45L2525M50C**	25	25	25	15,13	G 1/8	G 1/8	97,00	7,00	50
6811679	**KGM45L2525M65C**	25	25	25	17,75	G 1/8	G 1/8	97,00	8,00	65
6654508	**KGM45L3232P50C**	32	32	32	17,75	G 1/8	G 1/8	117,00	0,00	50
6656732	**KGM45L3232P65C**	32	32	32	17,74	G 1/8	G 1/8	117,00	8,00	65

182	186	96	4	192

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • CATALOG NUMBERING SYSTEM • VDI TOOLHOLDERS

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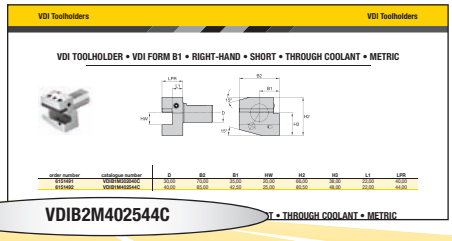
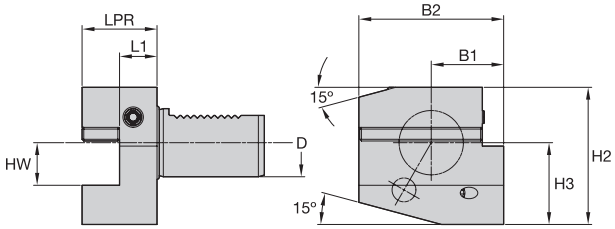


VDI	B2	M	40	25	44	C
Connection	Style	Metric	VDI Shank Diameter	Toolholder Shank Size	Projection Length	Internal Coolant

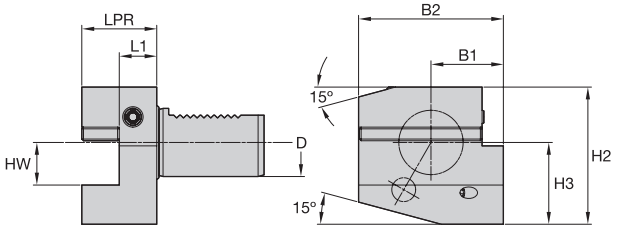
Grooving and Cut-Off

VDI TOOLHOLDER • VDI FORM B1 • RIGHT-HAND • SHORT • THROUGH COOLANT



order number	catalogue number	D	B2	B1	HW	H2	H3	L1	LPR
6151491	VDIB1M302040C	30,00	70,00	35,00	20,00	66,00	38,00	22,00	40,00
6151492	VDIB1M402544C	40,00	85,00	42,50	25,00	80,50	48,00	22,00	44,00

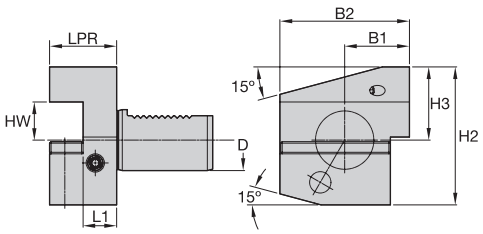
VDI TOOLHOLDER • VDI FORM B2 • LEFT-HAND • SHORT • THROUGH COOLANT



Artwork shows right hand tool. Left hand tool mirror inverted.

order number	catalogue number	D	B2	B1	HW	H2	H3	L1	LPR
6151493	VDIB2M302040C	30,00	70,00	35,00	20,00	66,00	38,00	22,00	40,00
6151494	VDIB2M402544C	40,00	85,00	42,50	25,00	80,50	48,00	22,00	44,00

VDI TOOLHOLDER • VDI FORM B3 • RIGHT-HAND • INVERTED • SHORT • THROUGH COOLANT

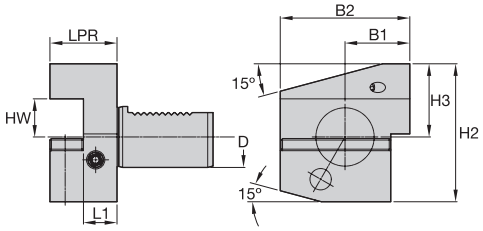


order number	catalogue number	D	B2	B1	HW	H2	H3	L1	LPR
6151495	VDIB3M302040C	30,00	70,00	35,00	20,00	73,00	38,00	22,00	40,00
6151497	VDIB3M402544C	40,00	85,00	42,50	25,00	90,50	48,00	22,00	44,00

182	186	100	4	192

Grooving and Cut-Off

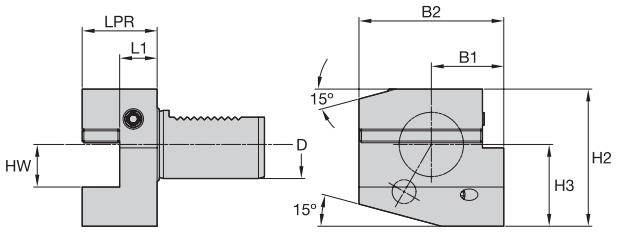
VDI TOOLHOLDER • VDI FORM B4 • LEFT-HAND • INVERTED • SHORT • THROUGH COOLANT



Artwork shows right hand tool. Left hand tool mirror inverted.

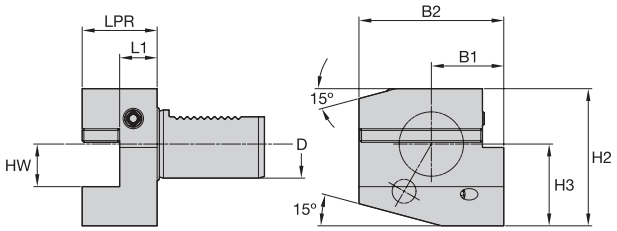
order number	catalogue number	D	B2	B1	HW	H2	H3	L1	LPR
6151498	VDIB4M302040C	30,00	70,00	35,00	20,00	73,00	38,00	22,00	40,00
6151499	VDIB4M402544C	40,00	85,00	42,50	25,00	90,50	48,00	22,00	44,00

VDI TOOLHOLDER • VDI FORM B5 • RIGHT-HAND • LONG • THROUGH COOLANT



order number	catalogue number	D	B2	B1	HW	H2	H3	L1	LPR
6151500	VDIB5M302040C	30,00	100,00	65,00	20,00	66,00	38,00	22,00	40,00
6151511	VDIB5M402544C	40,00	118,00	75,50	25,00	80,50	48,00	22,00	44,00

VDI TOOLHOLDER • VDI FORM B6 • LEFT-HAND • LONG • THROUGH COOLANT



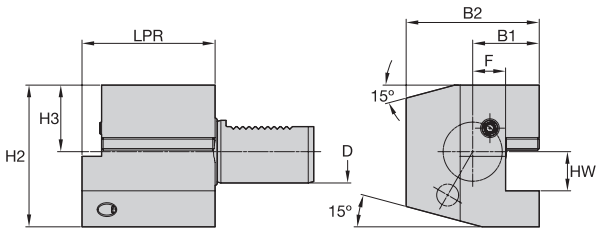
Artwork shows right hand tool. Left hand tool mirror inverted.

order number	catalogue number	D	B2	B1	HW	H2	H3	L1	LPR
6151513	VDIB6M402544C	40,00	118,00	75,50	25,00	80,50	48,00	22,00	44,00

182	186	100	4	192

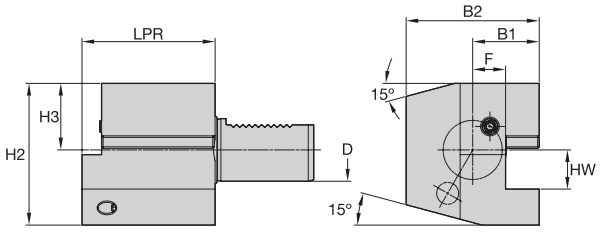
Grooving and Cut-Off

VDI TOOLHOLDER • VDI FORM C1 • RIGHT-HAND • SHORT • THROUGH COOLANT



order number	catalogue number	D	B2	B1	F	HW	H2	H3	LPR
6151514	VDIC1M302070C	30,00	70,00	35,00	17,00	20,00	66,00	38,00	70,00
6151515	VDIC1M402585C	40,00	85,00	42,50	21,00	25,00	80,50	48,00	85,00

VDI TOOLHOLDER • VDI FORM C2 • LEFT-HAND • SHORT • THROUGH COOLANT



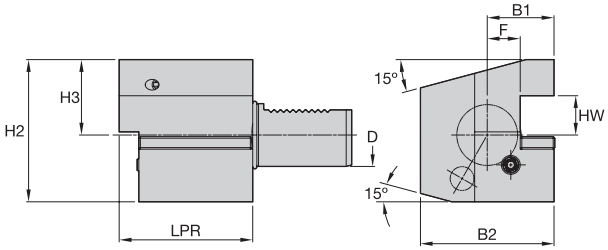
Artwork shows right hand tool. Left hand tool mirror inverted.

order number	catalogue number	D	B2	B1	F	HW	H2	H3	LPR
6151516	VDIC2M302070C	30,00	76,00	41,00	23,00	20,00	66,00	38,00	70,00
6151517	VDIC2M402585C	40,00	90,00	47,50	25,50	25,00	80,50	48,00	85,00

182	186	100	4	192

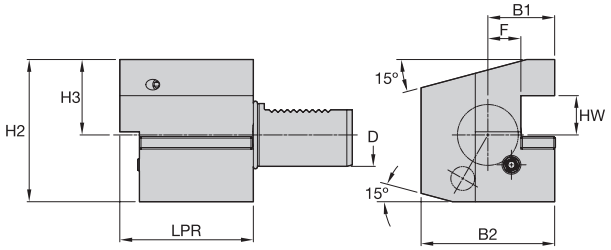
Grooving and Cut-Off

VDI TOOLHOLDER • VDI FORM C3 • RIGHT-HAND • INVERTED • SHORT • THROUGH COOLANT



order number	catalogue number	D	B2	B1	F	HW	H2	H3	LPR
6151518	VDIC3M302070C	30,00	70,00	35,00	17,00	20,00	73,00	38,00	70,00
6151519	VDIC3M402585C	40,00	85,00	42,50	21,00	25,00	90,50	48,00	85,00

VDI TOOLHOLDER • VDI FORM C4 • LEFT-HAND • INVERTED • SHORT • THROUGH COOLANT



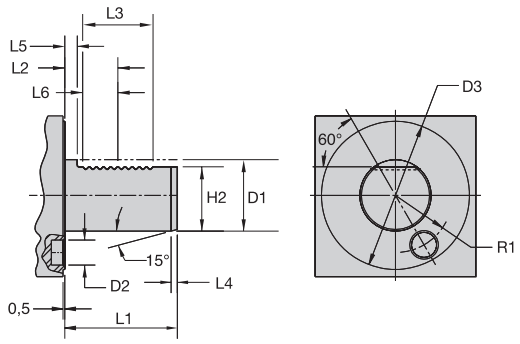
Artwork shows right hand tool. Left hand tool mirror inverted.

order number	catalogue number	D	B2	B1	F	HW	H2	H3	LPR
6151520	VDIC4M302070C	30,00	70,00	35,00	17,00	20,00	73,00	38,00	70,00
6151521	VDIC4M402585C	40,00	85,00	42,50	21,00	25,00	90,50	48,00	85,00

182	186	100	4	192

Grooving and Cut-Off

SHANK SPECIFICATIONS



	D1	D2	D3	L1	L2	L3	L4	L5	L6	H2	R1
30	30,00	14,00	68,00	55,00	29,70	40,00	2,00	7,00	20,00	27,00	25,00
	1.181	0.551	2.677	2.165	1.169	1.575	0.079	0.276	0.787	1.063	0.984
40	40,00	14,00	83,00	63,00	29,70	40,00	3,00	7,00	20,00	36,00	32,00
	1.575	0.551	3.268	2.480	1.169	1.575	0.118	0.276	0.787	1.417	1.260
50	50,00	16,00	98,00	78,00	35,70	48,00	3,00	8,00	24,00	45,00	37,00
	1.969	0.630	3.858	3.071	1.406	1.890	0.118	0.315	0.945	1.772	1.457
60	60,00	16,00	123,00	94,00	43,70	56,00	4,00	10,00	28,00	55,00	48,00
	2.362	0.630	4.843	3.701	1.720	2.205	0.157	0.394	1.102	2.165	1.890

182	186	100	4	192

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • CATALOG NUMBERING SYSTEM • QUICK CHANGE SYSTEMS

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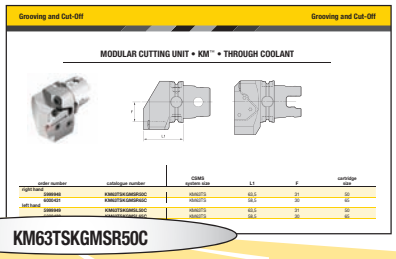
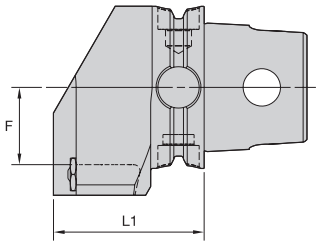


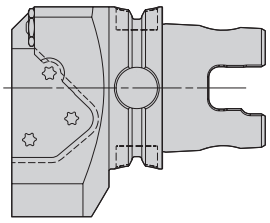
KM63TSKGMSR50C

KM	63	TS	KGM	S	R	50	C	
KM Quick-Change	System Size	Feature	Insert Holding Method	Insert Location	Hand of Tool	Blade Size	Coolant	Special Features
KM **KM4X**™ **PSC**	**40** = 40mm **50** = 50mm **63** = 63mm **80** = 80mm **100** = 100mm	**TS** **XMZ**	**KGM**	**E** = End mount **S** = Side mount	**R** = Right hand **L** = Left hand	**50** **60**	**C** = Through the pocket coolant capable	**Y** = MAZAK® INTEGREX®

Grooving and Cut-Off

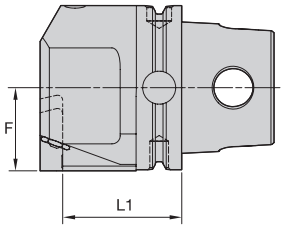
BEYOND™ EVOLUTION™ • MODULAR CUTTING UNIT • KM™ • THROUGH COOLANT





order number	catalogue number	CSMS system size	L1	F	BSC
right hand					
5999948	KM63TSKGMSR50C	KM63TS	63,5	31	50
6000431	KM63TSKGMSR65C	KM63TS	58,5	30	65
left hand					
5999949	KM63TSKGMSL50C	KM63TS	63,5	31	50
6000433	KM63TSKGMSL65C	KM63TS	58,5	30	65

BEYOND EVOLUTION • MODULAR CUTTING UNIT • KM • 90° • THROUGH COOLANT

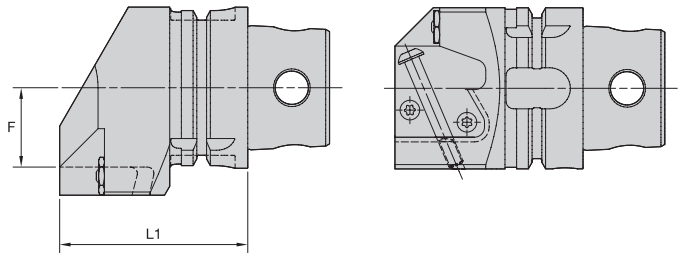


order number	catalogue number	CSMS system size	L1	F	BSC
right hand					
5999788	KM40TSKGMER50C	KM40TS	28,0	-7,6	50
5999862	KM50TSKGMER50C	KM50TS	38,0	-67,2	50
6000410	KM50TSKGMER65C	KM50TS	47,0	25,5	65
6000425	KM63TSKGMER65C	KM63TS	47,0	32,5	65
5999946	KM63TSKGMER50C	KM63TS	48,0	4,4	50
6000434	KM63XMZKGMER65CY	KM63XMZ	47,0	32,5	65
5999950	KM63XMZKGMER50CY	KM63XMZ	48,0	4,4	50
6000016	KM80ATCKGMER50C	KM80ATC	58,0	12,4	50
left hand					
5999789	KM40TSKGMEL50C	KM40TS	28,0	-7,6	50
5999863	KM50TSKGMEL50C	KM50TS	38,0	-2,6	50
6000421	KM50TSKGMEL65C	KM50TS	47,0	25,5	65
6000430	KM63TSKGMEL65C	KM63TS	47,0	32,5	65
5999947	KM63TSKGMEL50C	KM63TS	48,0	4,4	50
6000436	KM63XMZKGMELF65CY	KM63XMZ	47,0	32,5	65
6017698	KM80ATCKGMEL65C	KM80ATC	57,0	40,5	65
6000017	KM80ATCKGMEL50C	KM80ATC	58,0	12,4	50
6000013	KM80TSKGMEL50C	KM80TS	58,0	12,4	50

				NOVO
182	186	106	4	192

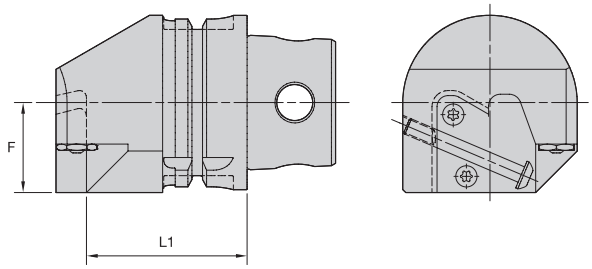
Grooving and Cut-Off

BEYOND™ EVOLUTION™ • MODULAR CUTTING UNIT • KM4X™ • THROUGH COOLANT



order number	catalogue number	CSMS system size	L1	F	BSC
right hand					
5543560	KM4X63KGMSR65C	KM4X63	68,5	30,0	65
6000407	KM4X63KGMSR50C	KM4X63	73,5	31,0	50
left hand					
5543558	KM4X63KGMSL65C	KM4X63	68,5	30,0	65
6000408	KM4X63KGMSL50C	KM4X63	73,5	31,0	50

BEYOND EVOLUTION • MODULAR CUTTING UNIT • KM4X • 90° • THROUGH COOLANT

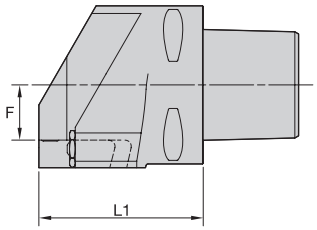


order number	catalogue number	CSMS system size	L1	F	BSC
right hand					
5543555	KM4X63KGMER65C	KM4X63	57,0	32,5	65
6000404	KM4X63KGMER50C	KM4X63	58,0	4,4	50
5337800	KM4X100KGMER65C	KM4X100	87,0	50,5	65
5337804	KM4X100KGMSR65C	KM4X100	88,5	44,0	65
left hand					
5543553	KM4X63KGMEL65C	KM4X63	57,0	32,5	65
6000405	KM4X63KGMEL50C	KM4X63	58,0	4,4	50
5337788	KM4X100KGMEL65C	KM4X100	87,0	50,5	65
5337802	KM4X100KGMSL65C	KM4X100	88,5	44,0	65

182	186	106	4	192

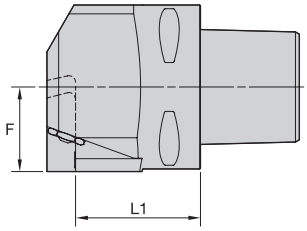
Grooving and Cut-Off

BEYOND™ EVOLUTION™ • MODULAR CUTTING UNIT • PSC • THROUGH COOLANT



order number	catalogue number	CSMS system size	L1	F	BSC
right hand					
6000028	**PSC40KGMSR50C**	PSC40	63,5	10,0	50
5405654	**PSC50KGMSR65C**	PSC50	55,5	22,0	65
6000152	**PSC50KGMSR50C**	PSC50	63,5	15,0	50
6000464	**PSC63KGMSR65C**	PSC63	60,5	21,0	65
6000211	**PSC63KGMSR50C**	PSC63	65,5	22,0	50
6000468	**PSC80KGMSR65C**	PSC80	68,5	29,0	65
6000216	**PSC80KGMSR50C**	PSC80	73,5	30,0	50
left hand					
6000029	**PSC40KGMSL50C**	PSC40	63,5	10,0	50
5405655	**PSC50KGMSL65C**	PSC50	55,5	22,0	65
6000153	**PSC50KGMSL50C**	PSC50	63,5	15,0	50
6000465	**PSC63KGMSL65C**	PSC63	60,5	21,0	65
6000213	**PSC63KGMSL50C**	PSC63	65,5	22,0	50
6000469	**PSC80KGMSL65C**	PSC80	68,5	29,0	65

BEYOND EVOLUTION • MODULAR CUTTING UNIT • PSC • 90° • THROUGH COOLANT



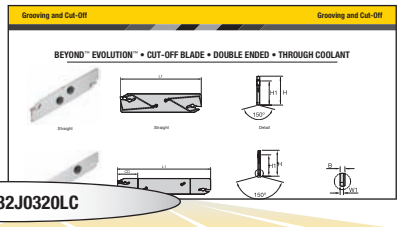
order number	catalogue number	CSMS system size	L1	F	BSC
right hand					
6000026	**PSC40KGMER50C**	PSC40	33,0	-194,2	50
6000030	**PSC50KGMER50C**	PSC50	43,0	-2,6	50
5405652	**PSC50KGMER65C**	PSC50	49,0	22,0	65
6000159	**PSC63KGMER50C**	PSC63	48,0	4,4	50
6000462	**PSC63KGMER65C**	PSC63	49,0	32,5	65
6000466	**PSC80KGMER65C**	PSC80	57,0	40,5	65
left hand					
6000027	**PSC40KGMEL50C**	PSC40	33,0	-7,6	50
6000151	**PSC50KGMEL50C**	PSC50	43,0	-2,6	50
5405653	**PSC50KGMEL65C**	PSC50	49,0	22,0	65
6000160	**PSC63KGMEL50C**	PSC63	48,0	4,4	50
6000463	**PSC63KGMEL65C**	PSC63	49,0	32,5	65
6000467	**PSC80KGMEL65C**	PSC80	57,0	40,5	65
6000215	**PSC80KGMEL50C**	PSC80	58,0	12,4	50

				
182	**186**	**106**	**4**	**192**

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • CATALOG NUMBERING SYSTEM • CUT-OFF BLADES

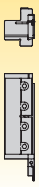
Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



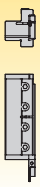
EVBSCL32J0320LC

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 **BM** = Blade KM™ Micro/ Mini	**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

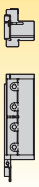
RH Blade RH Pocket



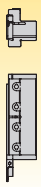
RH Blade LH Pocket



LH Blade RH Pocket



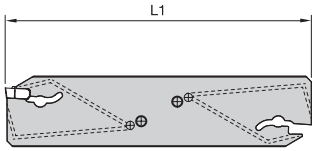
LH Blade LH Pocket



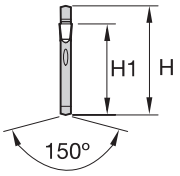
Grooving and Cut-Off

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

Straight

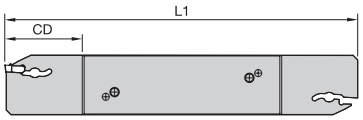


Straight

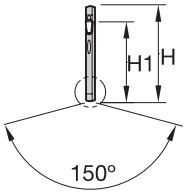


Detail

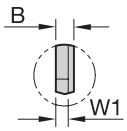
Reinforced



Reinforced



Detail



Detail

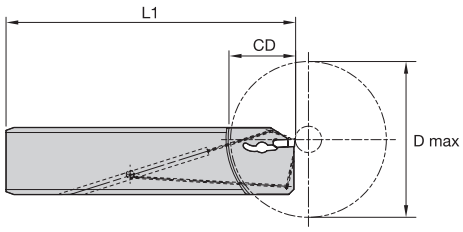
order number	catalogue number	SSC	H	W1	H1	L1	B	CD
neutral hand								
6513449	EVBSN26M0233C	2	26	1,7	21,5	150	2,40	33
6513450	EVBSN32M0233C	2	32	1,7	25,1	150	2,40	33
6513521	EVBSN26J0340C	3	26	–	21,5	110	2,40	40
6513522	EVBSN26M0340C	3	26	–	21,5	150	2,40	40
6513523	EVBSN32M0350C	3	32	–	25,1	150	2,40	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

182	186	110	4	192

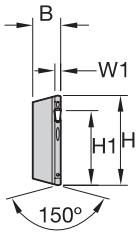
Grooving and Cut-Off

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

Reinforced

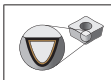


Reinforced



Detail

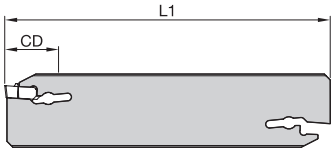
order number	catalogue number	SSC	H	W1	H1	L1	B	D max	CD
right hand									
6513530	**EVBHCR26J0226LC**	2	26	1,7	21,5	110	7,95	52,00	26
6513552	**EVBHCR32J0226LC**	2	32	1,7	25,1	110	7,95	52,00	26
6513554	**EVBHCR26J0333LC**	3	26	2,4	21,5	110	7,95	66,00	33
6513558	**EVBHCR32J0333LC**	3	32	2,4	25,1	110	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

				NOVO
182	186	110	4	192

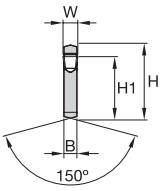
Grooving and Cut-Off

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

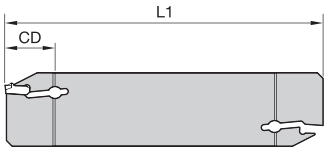
Straight



Straight



Reinforced



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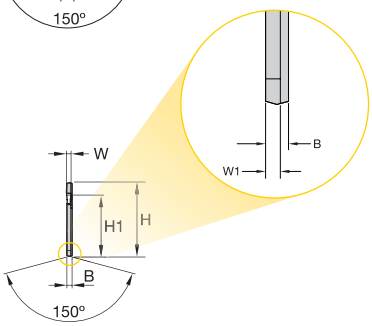
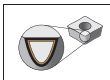


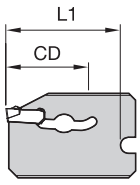
order number	catalogue number	SSC	H	W	W1	H1	L1	B	CD
neutral hand									
5941706	**EVBSN19G1B14**	1B	19	1,4	1,15	15,5	90	2	14
5941708	**EVBSN26J1B15**	1B	26	1,4	1,15	21,5	110	2	15
5955391	**EVBSN19G1F16**	1F	19	1,6	1,30	15,5	90	2	16
5955392	**EVBSN26J1F17**	1F	26	1,6	1,30	21,5	110	2	17
5941707	**EVBSN19G0220**	2	19	2,0	–	15,5	90	2	20
5941709	**EVBSN26J0230**	2	26	2,0	–	21,5	110	2	30
5941710	**EVBSN26M0230**	2	26	2,0	–	21,5	150	2	–
5941724	**EVBSN32M0250**	2	32	2,0	–	25,1	150	2	50
5941721	**EVBSN26J0340**	3	26	3,0	–	21,5	110	2	40
5941722	**EVBSN26M0340**	3	26	3,0	–	21,5	150	2	–
5941725	**EVBSN32M0350**	3	32	3,0	–	25,1	150	2	50
5941723	**EVBSN26J0440**	4	26	4,0	–	21,5	110	3	40
5941726	**EVBSN32M0450**	4	32	4,0	–	25,1	150	3	50
5977635	**EVBSN26J0540**	5	26	5,0	–	21,5	110	4	–
5977637	**EVBSN32M0560**	5	32	5,0	–	25,1	150	4	60
5977636	**EVBSN26J0640**	6	26	6,0	–	21,5	110	5	–
5977638	**EVBSN32M0660**	6	32	6,0	–	25,1	150	5	60
5977640	**EVBSN52X06120**	6	53	6,0	–	45,3	260	5	–
5977639	**EVBSN32M0860**	8	32	8,0	–	25,1	150	7	60
5977721	**EVBSN52X08120**	8	53	8,0	–	45,3	260	7	120

				NOVO
182	186	110	4	192

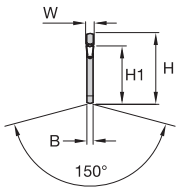
Grooving and Cut-Off

BEYOND™ EVOLUTION™ • CUT-OFF BLADE • KM MICRO™/MINI™

Straight

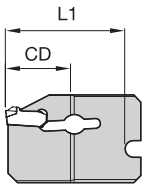


Straight

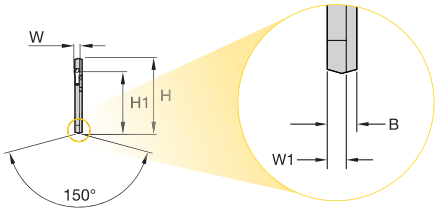


Detail

Reinforced



Reinforced



Detail

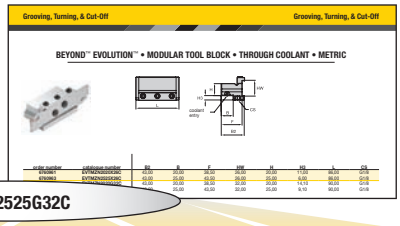
order number	catalogue number	SSC	H	W	W1	H1	L1	B	CD
neutral hand									
6678460	**EVBMN19X1B14**	1B	19	1,4	1,2	15,5	25,2	1,80	14
6678591	**EVBMN19X0211**	2	19	2,0	–	15,5	20,2	1,65	11
6678592	**EVBMN19X0216**	2	19	2,0	–	15,5	25,2	1,65	16

				NOVO
182	186	110	4	192

Grooving and Cut-Off

BEYOND™ EVOLUTION™ • CATALOG NUMBERING SYSTEM • BLOCKS

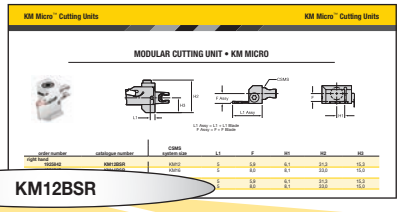
Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



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 millimeters	**C** = Through Coolant Capable

BEYOND EVOLUTION • CATALOG NUMBERING SYSTEM • KM MICRO™/MINI™

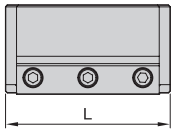


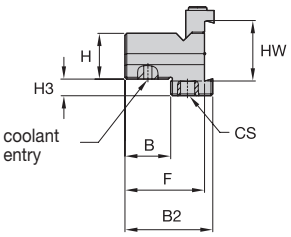
KM12BSR

KM	12	B	S	R
KM Quick-Change	System Size	Feature	Insert Location	Hand of Tool
	12 = 12mm **16** = 16mm **20** = 20mm **25** = 25mm	**B** = Cut-Off Blade	**E** = End Mount **S** = Side Mount	**L** = Left-Hand Cutting Unit **R** = Right-Hand Cutting Unit

Grooving and Cut-Off

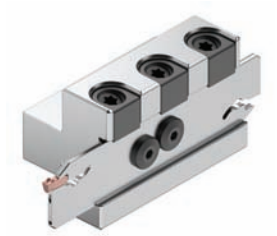
BEYOND™ EVOLUTION™ • MODULAR TOOL BLOCK • THROUGH COOLANT

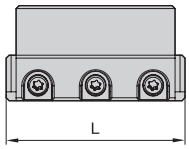


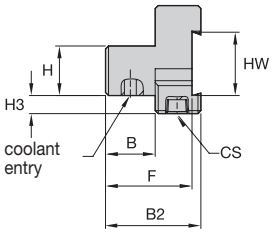


order number	catalogue number	B2	B	F	HW	H	H3	L	CS
6760961	EVTMZN2020X26C	43,00	20,00	38,50	26,00	20,00	11,00	86,00	G1/8
6760963	EVTMZN2525X26C	43,00	25,00	43,50	26,00	25,00	6,00	86,00	G1/8
6760962	EVTMZN2020G32C	43,00	20,00	38,50	32,00	20,00	14,10	90,00	G1/8
6760964	EVTMZN2525G32C	48,00	25,00	43,50	32,00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

BEYOND EVOLUTION • TOOL BLOCK • INTEGRAL • THROUGH COOLANT





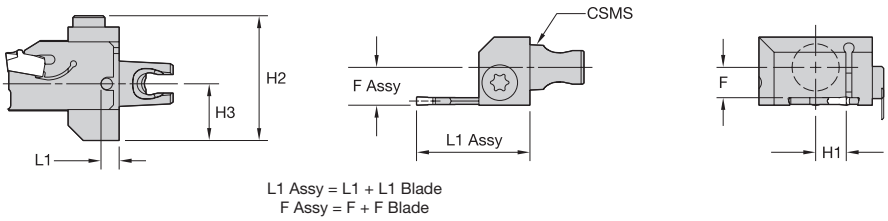


order number	catalogue number	B2	B	F	HW	H	H3	L	CS
6543722	EVTZN2020X26C	43,00	20,00	38,50	26,00	20,00	11,00	78,00	G1/8
6543723	EVTZN2020X32C	43,00	20,00	38,50	32,00	20,00	14,10	78,00	G1/8
6543724	EVTZN2525G26C	48,00	25,00	43,50	26,00	25,00	6,00	90,00	G1/8
6543725	EVTZN2525G32C	48,00	25,00	43,50	32,00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

182	186	115	4	192

Grooving and Cut-Off

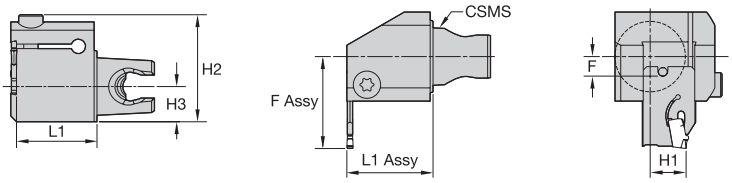
MODULAR CUTTING UNIT • KM MICRO



L1 Assy = L1 + L1 Blade
F Assy = F + F Blade

order number	catalogue number	CSMS system size	L1	F	H1	H2	H3
right hand							
1925842	**KM12BSR**	KM12	5	5,9	6,1	31,3	15,3
1831217	**KM16BSR**	KM16	5	8,0	8,1	33,0	15,0
left hand							
1925843	**KM12BSL**	KM12	5	5,9	6,1	31,3	15,3
1851793	**KM16BSL**	KM16	5	8,0	8,1	33,0	15,0

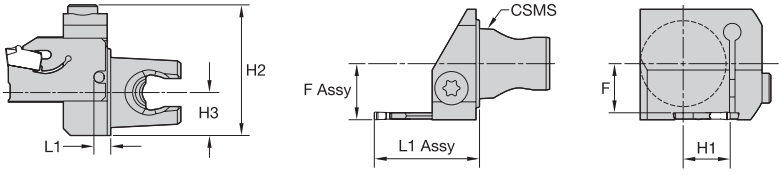
MODULAR CUTTING UNIT • KM MINI™ • 90°



L1 Assy = L1 + F Blade
F Assy = F + L1 Blade

order number	catalogue number	CSMS system size	L1	F	H1	H2	H3
right hand							
2426882	**KM25BER**	KM25	28	6,8	12,5	37,3	12,3
left hand							
2427293	**KM25BEL**	KM25	28	6,8	12,5	37,3	12,3

MODULAR CUTTING UNIT • KM MINI



L1 Assy = L1 + L1 Blade
F Assy = F + F Blade

order number	catalogue number	CSMS system size	L1	F	H1	H2	H3
right hand							
2426880	**KM25BSR**	KM25	5	14,0	12,5	37,3	12,3
left hand							
2426881	**KM25BSL**	KM25	5	14,0	12,5	37,3	12,3

182	186	115	4	192

POWERED BY NOVO

Coolant Accessories

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.

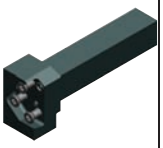
Pre-assembled coolant kits
These kits connect Kennametal turning tooling to the industry's most common machines. The Kennametal universal coolant kits are ideal! Each kit contains the most common thread sizes with a variety of fitting styles for maximum flexibility.

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.

Coolant Accessories

KITS • SELECTION GUIDE

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

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

* Max pressure for seat size (SSC) 02 holders is 200 bar/2901 psi.

Coolant Accessories

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**	●	●			●	●	●		●						

Coolant Accessories

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

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

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HARVI™ I TE

High-Performance Solid End Milling

Materials

P M K S H

Applications

- Slotting
- 3D Profiing
- Side Milling/ Shoulder Milling
- Ramping
- Slotting: Ball Nose
- Helical Interpolation
- Plunge Milling
- Trochoidal Milling

Proprietary end face design — Twisted cutting edge increases corner stability, enabling soft cutting action even at highest ramping angles.

Proprietary core design — Increases tool stability.

Innovative end face design — Asymmetrical divided flutes and variable helix, enabling vibration dampening and unmatched feed rates.

Proprietary relief — A precision-faceted eccentric relief reduces vibrations and friction. For excellent cutting conditions in multiple materials.

Proprietary flute design — Innovative chip gashes within the flutes reduce cutting forces and supports efficient chip evacuation.

HARVI™ I TE — Maximum metal removal. Maximum productivity. Maximum benefit.

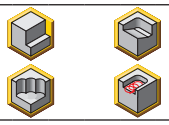
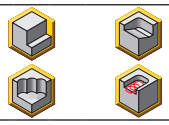
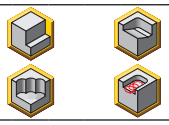
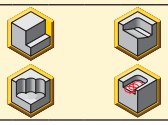
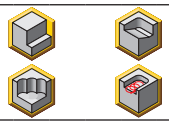
4-fluted end mill for high-performance roughing and finishing with only one tool.

Universal character. Machines steel, stainless steel, cast iron, and high-temperature alloys with exceptional feed rates, reaching unmatched metal removal rates.

Applicable for a variety of operations, including dynamic milling and extreme ramping operations.

Solid Carbide End Milling

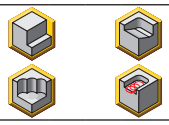
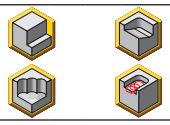
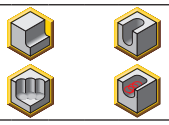
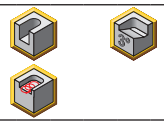
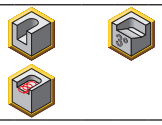
HARVI™ • TOOL SELECTION GUIDE

	HARVI I TE	HARVI I TE	HARVI I TE	HARVI I TE	HARVI I TE
				NEW! 	
Series	**H1TE4CH..R..**	**H1TE4CH..N..**	**H1TE4RA..N..**	**H1TE4RA..E..**	**H1TE4SE..N..**
Page	130	131	132–133	134–136	137
Tool type					
Rougher	●	●	●	●	●
Finisher	○	○	○	○	○
Chamfering					
Main operation					
Workpiece material					
Primary	P M K	P M K	P M K S	P M K S	P M K
Secondary	S H	S H	H	H	S H
Corner style					
Corner radius [Rε]	—	—	0,25–6,0mm	0,25-6,0mm	—
Corner chamfer width [BCH]	0,40–0,50mm	0,15–0,35mm	—	—	—
Cutter diameter [D1]	2–25mm	2–25mm	4–25mm	4–25mm	2–25mm
Length of cut	1,8–3 x D1	1,8–3 x D1	1,5–2 x D1	1,8–2,75 x D1	1,8–3 x D1
Maximum cutting depth [Ap1 max]	5–45mm	6–45mm	6–37,5mm	11–45mm	6–45mm
Flute helix angle	36°/39°	36°/39°	36°/39°	36/39	36°/39°
Number of flutes [ZU]	4	4	4	4	4
Centre cutting	✔	✔	✔	✔	✔
Additional operations					

● Primary
○ Secondary

Solid Carbide End Milling

HARVI™ • TOOL SELECTION GUIDE

	HARVI I TE	HARVI I TE	HARVI I TE Ball Nose	HARVI II	HARVI II
					
Series	**H1TE4CH..S..**	**H1TE4SE..S..**	**H1TEBN..N-L**	**UCDE**	**UDDE**
Page	138	139	140	P30*	P31–P32*
Tool type					
Rougher	●	●	●	●	●
Finisher	○	○	○	○	○
Chamfering					
Main operation					
Workpiece material					
Primary	P M K	P M K	P M K	P M K S	P K S
Secondary	S H	S H	S H	H	H
Corner style					
Corner radius [Rε]	—	—	—	0,25–0,75mm	0,20–6mm
Corner chamfer width [BCH]	0,1–0,35mm	—	—	—	—
Cutter diameter [D1]	2–25mm	2–25mm	2–20mm	4–25mm	6–25mm
Length of cut	1,2–2 x D1	1,2–2 x D1	1–2,5 x D1	1,8–2,7 x D1	1,8–2,2 x D1
Maximum cutting depth [Ap1 max]	4–30mm	4–30mm	2–50mm	11–45mm	13–45mm
Flute helix angle	36°/39°	36°/39°	36°/39°	38°	38°
Number of flutes [ZU]	4	4	4	5	5
Centre cutting	✔	✔	✔		
Additional operations					

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

● Primary
○ Secondary

Solid Carbide End Milling

HARVI™ • TOOL SELECTION GUIDE

	HARVI III	HARVI III	HARVI III Ball Nose	HARVI III Taper Ball Nose	HARVI II Long	HARVI II Long
						
Series	UJDE	UJDE with neck	UJBE	UJBE	UGDE 3 x D	UGDE 5 x D
Page	P48*	P49*	P54*	P62*	P36*	P37*
Tool type						
Rougher	○	○	○	○		
Finisher	●	●	●	●	●	●
Chamfering						
Main operation						
Workpiece material						
Primary	M S	M S	M S	M S	P M S	P M S
Secondary	P H	P H	P H	P H	K H	K H
Corner style						
Corner radius [Rε]	0,50–0,75mm	0,50–6mm	—	—	0,20–6mm	0,20–6mm
Corner chamfer width [BCH]	—	—	—	—	—	—
Cutter diameter [D1]	10–25mm	10–25mm	10–20mm	4–10mm	6–25mm	6–25mm
Length of cut	2 x D	3 x D	1 x D1	5–7 x D	3 x D	5 x D
Maximum cutting depth [Ap1 max]	22–45mm	22–45mm	10–20mm	26–39mm	18–75mm	30–125mm
Flute helix angle	38°	38°	38°	38°	43°	43°
Number of flutes [ZU]	6	6	6	6	5	5
Centre cutting	✔	✔	✔	✔		
Additional operations						

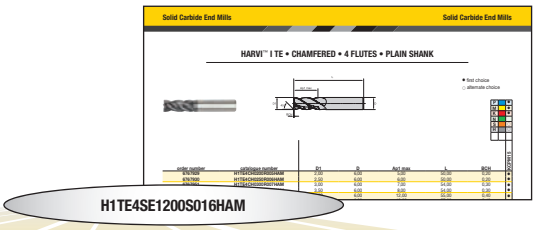
* See page in the Kennametal Master Catalogue 2018 • Volume Two • Rotating Tools, A-16-05217.

● Primary
○ Secondary

Solid Carbide End Milling

HARVI™ I TE • CATALOG NUMBERING SYSTEM

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



H1TE	4	SE	1200	S	016	HA			M
Series	Number of Flutes	Front End Style	Cutting Diameter D1	Flute Section Style	Length of Cut Ap1 max	Shank Style	Radius	Specific Features	Standard
H1TE = HARVI I TE	**1** = 1-Flute **2** = 2-Flute **3** = 3-Flute **4** = 4-Flute **5** = 5-Flute **6** = 6-Flute **7** = 7-Flute **8** = 8-Flute **9** = 9-Flute **M** = Multi-flute	**SE** = Sharp Edge **CH** = Chamfer **RA** = Radius **BN** = Ball Nose **TB** = Taper Ball Nose **TO** = Toroidal	**Metric** = D1 in mm **Inch** = D1 in decimal inch	**N** = Neck **E** = Extended Neck **S** = Short Without Neck **R** = Regular without Neck **L** = Long Without Neck **X** = Extra Long Without Neck	**Metric** = Ap1 Max in mm **Inch** = Ap1 Max in decimal inch	**HA** =Plain **HB** = Weldon® **SL** = Safe-Lock™ **DL** = Duo-Lock™		**C** = Chip Splitter **I** = Internal Coolant **O** = Coolant Grooves in Shank **P** = Polished Flutes	**M** = Metric **Blank** = Inch

Radius Metric
R020 = 0,2mm
R025 = 0,25mm
R030 = 0,3mm
R040 = 0,4mm
R050 = 0,5mm
R075 = 0,75mm
R100 = 1,0mm
R125 = 1,25mm
R150 = 1,5mm
R200 = 2,0mm
R250 = 2,5mm
R300 = 3,0mm
R400 = 4,0mm
R500 = 5,0mm
R600 = 6,0mm

Solid Carbide End Milling

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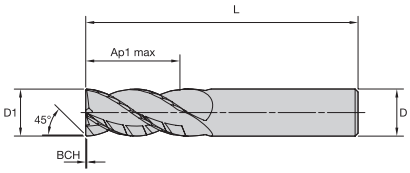

● first choice
○ alternate choice

P	●	
M	●	
K	●	
N		
S	○	
H	○	

order number	catalogue number	D1	D	Ap1 max	L	BCH	KCPM15
6767929	H1TE4CH0200R005HAM	2,00	6,00	5,00	50,00	0,20	●
6767930	H1TE4CH0250R006HAM	2,50	6,00	6,00	50,00	0,20	●
6767951	H1TE4CH0300R007HAM	3,00	6,00	7,00	54,00	0,30	●
6767952	H1TE4CH0350R008HAM	3,50	6,00	8,00	54,00	0,30	●
6675697	H1TE4CH0400R012HAM	4,00	6,00	12,00	55,00	0,40	●
6675698	H1TE4CH0500R013HAM	5,00	6,00	13,00	57,00	0,40	●
6675699	H1TE4CH0600R013HAM	6,00	6,00	13,00	57,00	0,40	●
6675700	H1TE4CH0800R016HAM	8,00	8,00	16,00	63,00	0,40	●
6675742	H1TE4CH1000R022HAM	10,00	10,00	22,00	72,00	0,50	●
6675743	H1TE4CH1200R026HAM	12,00	12,00	26,00	83,00	0,50	●
6675744	H1TE4CH1400R026HAM	14,00	14,00	26,00	83,00	0,50	●
6675745	H1TE4CH1600R032HAM	16,00	16,00	32,00	92,00	0,50	●
6675746	H1TE4CH1800R032HAM	18,00	18,00	32,00	92,00	0,50	●
6675747	H1TE4CH2000R038HAM	20,00	20,00	38,00	104,00	0,50	●
6675748	H1TE4CH2500R045HAM	25,00	25,00	45,00	121,00	0,50	●

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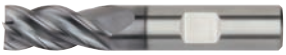

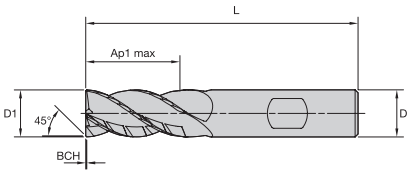

● first choice
○ alternate choice

P	●	
M	●	
K	●	
N		
S	○	
H	○	

order number	catalogue number	D1	D	Ap1 max	L	BCH	KCPM15
6767953	H1TE4CH0200R005HBM	2,00	6,00	5,00	50,00	0,20	●
6767954	H1TE4CH0250R006HBM	2,50	6,00	6,00	50,00	0,20	●
6767955	H1TE4CH0300R007HBM	3,00	6,00	7,00	54,00	0,30	●
6767956	H1TE4CH0350R008HBM	3,50	6,00	8,00	54,00	0,30	●
6675749	H1TE4CH0400R012HBM	4,00	6,00	12,00	55,00	0,40	●
6675750	H1TE4CH0500R013HBM	5,00	6,00	13,00	57,00	0,40	●
6675751	H1TE4CH0600R013HBM	6,00	6,00	13,00	57,00	0,40	●
6675752	H1TE4CH0800R016HBM	8,00	8,00	16,00	63,00	0,40	●
6675753	H1TE4CH1000R022HBM	10,00	10,00	22,00	72,00	0,50	●
6675754	H1TE4CH1200R026HBM	12,00	12,00	26,00	83,00	0,50	●
6675755	H1TE4CH1400R026HBM	14,00	14,00	26,00	83,00	0,50	●
6675756	H1TE4CH1600R032HBM	16,00	16,00	32,00	92,00	0,50	●
6675757	H1TE4CH1800R032HBM	18,00	18,00	32,00	92,00	0,50	●
6675758	H1TE4CH2000R038HBM	20,00	20,00	38,00	104,00	0,50	●
6687137	H1TE4CH2500R045HBM	25,00	25,00	45,00	121,00	0,50	●

182	186	129	4	192

Solid Carbide End Milling

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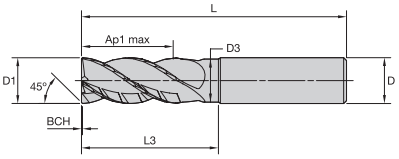
● first choice
○ alternate choice



P	●
M	●
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order number	catalogue number	D1	D	D3	Ap1 max	L3	L	BCH	KCPM15
6767959	H1TE4CH0200N006HAM	2,00	6,00	–	6,00	–	57,00	0,10	●
6767960	H1TE4CH0250N006HAM	2,50	6,00	–	6,00	–	57,00	0,10	●
6767961	H1TE4CH0300N008HAM	3,00	6,00	2,82	8,00	16,50	57,00	0,10	●
6767962	H1TE4CH0350N010HAM	3,50	6,00	3,29	10,00	16,50	57,00	0,10	●
6676308	H1TE4CH0400N011HAM	4,00	6,00	3,76	11,00	16,00	57,00	0,15	●
6676310	H1TE4CH0500N013HAM	5,00	6,00	4,70	13,00	18,00	57,00	0,15	●
6676332	H1TE4CH0600N013HAM	6,00	6,00	5,64	13,00	18,00	57,00	0,15	●
6676334	H1TE4CH0800N016HAM	8,00	8,00	7,52	16,00	24,00	63,00	0,20	●
6676336	H1TE4CH1000N022HAM	10,00	10,00	9,40	22,00	30,00	72,00	0,20	●
6676338	H1TE4CH1200N026HAM	12,00	12,00	11,28	26,00	36,00	83,00	0,20	●
6676340	H1TE4CH1400N026HAM	14,00	14,00	13,16	26,00	42,00	83,00	0,25	●
6676342	H1TE4CH1600N032HAM	16,00	16,00	15,04	32,00	48,00	92,00	0,35	●
6676344	H1TE4CH2000N038HAM	20,00	20,00	18,80	38,00	60,00	104,00	0,35	●
6676346	H1TE4CH2500N045HAM	25,00	25,00	24,00	45,00	75,00	121,00	0,35	●

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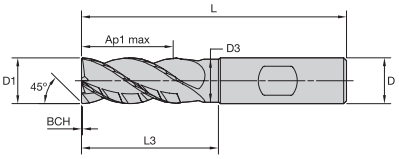
● first choice
○ alternate choice



P	●
M	●
K	●
N	
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H	○

order number	catalogue number	D1	D	D3	Ap1 max	L3	L	BCH	KCPM15
6767963	H1TE4CH0200N006HBM	2,00	6,00	–	6,00	–	57,00	0,10	●
6767964	H1TE4CH0250N006HBM	2,50	6,00	–	6,00	–	57,00	0,10	●
6767965	H1TE4CH0300N008HBM	3,00	6,00	2,82	8,00	16,50	57,00	0,10	●
6767966	H1TE4CH0350N010HBM	3,50	6,00	3,29	10,00	16,50	57,00	0,10	●
6676309	H1TE4CH0400N011HBM	4,00	6,00	3,76	11,00	16,00	57,00	0,15	●
6676331	H1TE4CH0500N013HBM	5,00	6,00	4,70	13,00	18,00	57,00	0,15	●
6676333	H1TE4CH0600N013HBM	6,00	6,00	5,64	13,00	18,00	57,00	0,15	●
6676335	H1TE4CH0800N016HBM	8,00	8,00	7,52	16,00	24,00	63,00	0,20	●
6676337	H1TE4CH1000N022HBM	10,00	10,00	9,40	22,00	30,00	72,00	0,20	●
6676339	H1TE4CH1200N026HBM	12,00	12,00	11,28	26,00	36,00	83,00	0,20	●
6676341	H1TE4CH1400N026HBM	14,00	14,00	13,16	26,00	42,00	83,00	0,25	●
6676343	H1TE4CH1600N032HBM	16,00	16,00	15,04	32,00	48,00	92,00	0,35	●
6676345	H1TE4CH2000N038HBM	20,00	20,00	18,80	38,00	60,00	104,00	0,35	●
6676347	H1TE4CH2500N045HBM	25,00	25,00	24,00	45,00	75,00	121,00	0,35	●

182	186	129	4	192

Solid Carbide End Milling

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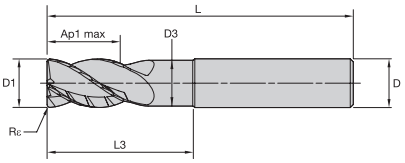


● first choice
○ alternate choice

P	blue	○
M	yellow	●
K	red	○
N	green	
S	orange	●
H	grey	○

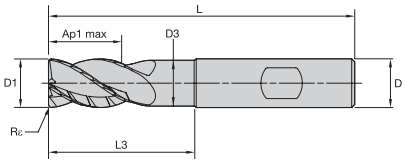
order number	catalogue number	D1	D	D3	Ap1 max	L3	L	Rε	KCSM15
6767968	H1TE4RA0400N006HAR025M	4,00	6,00	3,76	6,00	12,00	57,00	0,25	●
6767969	H1TE4RA0400N006HAR050M	4,00	6,00	3,76	6,00	12,00	57,00	0,50	●
6676190	H1TE4RA0600N009HAR050M	6,00	6,00	5,64	9,00	18,00	63,00	0,50	●
6676231	H1TE4RA0600N009HAR100M	6,00	6,00	5,64	9,00	18,00	63,00	1,00	●
6676234	H1TE4RA0800N012HAR050M	8,00	8,00	7,52	12,00	24,00	68,00	0,50	●
6676235	H1TE4RA0800N012HAR100M	8,00	8,00	7,52	12,00	24,00	68,00	1,00	●
6676238	H1TE4RA1000N015HAR050M	10,00	10,00	9,40	15,00	30,00	76,00	0,50	●
6676239	H1TE4RA1000N015HAR100M	10,00	10,00	9,40	15,00	30,00	76,00	1,00	●
6676240	H1TE4RA1000N015HAR200M	10,00	10,00	9,40	15,00	30,00	76,00	2,00	●
6676251	H1TE4RA1000N015HAR300M	10,00	10,00	9,40	15,00	30,00	76,00	3,00	●
6676252	H1TE4RA1000N015HAR400M	10,00	10,00	9,40	15,00	30,00	76,00	4,00	●
6676257	H1TE4RA1200N018HAR050M	12,00	12,00	11,28	18,00	36,00	83,00	0,50	●
6676258	H1TE4RA1200N018HAR100M	12,00	12,00	11,28	18,00	36,00	83,00	1,00	●
6676259	H1TE4RA1200N018HAR200M	12,00	12,00	11,28	18,00	36,00	83,00	2,00	●
6676260	H1TE4RA1200N018HAR300M	12,00	12,00	11,28	18,00	36,00	83,00	3,00	●
6676271	H1TE4RA1200N018HAR400M	12,00	12,00	11,28	18,00	36,00	83,00	4,00	●
6676277	H1TE4RA1600N024HAR050M	16,00	16,00	15,04	24,00	48,00	100,00	0,50	●
6676278	H1TE4RA1600N024HAR100M	16,00	16,00	15,04	24,00	48,00	100,00	1,00	●
6676279	H1TE4RA1600N024HAR200M	16,00	16,00	15,04	24,00	48,00	100,00	2,00	●
6676280	H1TE4RA1600N024HAR300M	16,00	16,00	15,04	24,00	48,00	100,00	3,00	●
6676281	H1TE4RA1600N024HAR400M	16,00	16,00	15,04	24,00	48,00	100,00	4,00	●
6676282	H1TE4RA1600N024HAR600M	16,00	16,00	15,04	24,00	48,00	100,00	6,00	●
6676289	H1TE4RA2000N030HAR050M	20,00	20,00	18,80	30,00	60,00	115,00	0,50	●
6676290	H1TE4RA2000N030HAR100M	20,00	20,00	18,80	30,00	60,00	115,00	1,00	●
6676291	H1TE4RA2000N030HAR200M	20,00	20,00	18,80	30,00	60,00	115,00	2,00	●
6676292	H1TE4RA2000N030HAR300M	20,00	20,00	18,80	30,00	60,00	115,00	3,00	●
6676293	H1TE4RA2000N030HAR400M	20,00	20,00	18,80	30,00	60,00	115,00	4,00	●
6676294	H1TE4RA2000N030HAR600M	20,00	20,00	18,80	30,00	60,00	115,00	6,00	●
6676299	H1TE4RA2500N038HAR050M	25,00	25,00	24,00	37,50	75,00	135,00	0,50	●
6676300	H1TE4RA2500N038HAR100M	25,00	25,00	24,00	37,50	75,00	135,00	1,00	●
6676301	H1TE4RA2500N038HAR200M	25,00	25,00	24,00	37,50	75,00	135,00	2,00	●
6676302	H1TE4RA2500N038HAR300M	25,00	25,00	24,00	37,50	75,00	135,00	3,00	●
6676303	H1TE4RA2500N038HAR400M	25,00	25,00	24,00	37,50	75,00	135,00	4,00	●
6676304	H1TE4RA2500N038HAR600M	25,00	25,00	24,00	37,50	75,00	135,00	6,00	●

182	186	129	4	192

Solid Carbide End Milling

HARVI™ I TE • RADIUSED • 4 FLUTES • NECKED • WELDON® SHANK

● first choice
○ alternate choice



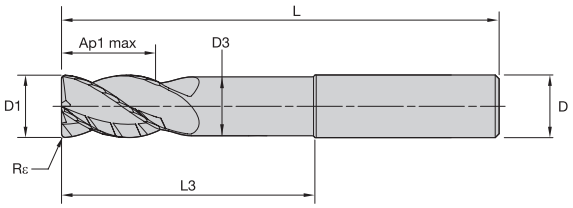
P	○
M	●
K	○
N	
S	●
H	○

order number	catalogue number	D1	D	D3	Ap1 max	L3	L	Rε	KCSM15
6767970	H1TE4RA0400N006HBR025M	4,00	6,00	3,76	6,00	12,00	57,00	0,25	●
6767981	H1TE4RA0400N006HBR050M	4,00	6,00	3,76	6,00	–	57,00	0,50	●
6676232	H1TE4RA0600N009HBR050M	6,00	6,00	5,64	9,00	18,00	63,00	0,50	●
6676233	H1TE4RA0600N009HBR100M	6,00	6,00	5,64	9,00	18,00	63,00	1,00	●
6676236	H1TE4RA0800N012HBR050M	8,00	8,00	7,52	12,00	24,00	68,00	0,50	●
6676237	H1TE4RA0800N012HBR100M	8,00	8,00	7,52	12,00	24,00	68,00	1,00	●
6676253	H1TE4RA1000N015HBR050M	10,00	10,00	9,40	15,00	30,00	76,00	0,50	●
6676254	H1TE4RA1000N015HBR100M	10,00	10,00	9,40	15,00	30,00	76,00	1,00	●
6676255	H1TE4RA1000N015HBR200M	10,00	10,00	9,40	15,00	30,00	76,00	2,00	●
6676256	H1TE4RA1000N015HBR300M	10,00	10,00	9,40	15,00	30,00	76,00	3,00	●
6687139	H1TE4RA1000N015HBR400M	10,00	10,00	9,40	15,00	30,00	76,00	4,00	●
6676272	H1TE4RA1200N018HBR050M	12,00	12,00	11,28	18,00	36,00	83,00	0,50	●
6676273	H1TE4RA1200N018HBR100M	12,00	12,00	11,28	18,00	36,00	83,00	1,00	●
6676274	H1TE4RA1200N018HBR200M	12,00	12,00	11,28	18,00	36,00	83,00	2,00	●
6676275	H1TE4RA1200N018HBR300M	12,00	12,00	11,28	18,00	36,00	83,00	3,00	●
6676276	H1TE4RA1200N018HBR400M	12,00	12,00	11,28	18,00	36,00	83,00	4,00	●
6676283	H1TE4RA1600N024HBR050M	16,00	16,00	15,04	24,00	48,00	100,00	0,50	●
6676284	H1TE4RA1600N024HBR100M	16,00	16,00	15,04	24,00	48,00	100,00	1,00	●
6676285	H1TE4RA1600N024HBR200M	16,00	16,00	15,04	24,00	48,00	100,00	2,00	●
6676286	H1TE4RA1600N024HBR300M	16,00	16,00	15,04	24,00	48,00	100,00	3,00	●
6676287	H1TE4RA1600N024HBR400M	16,00	16,00	15,04	24,00	48,00	100,00	4,00	●
6676288	H1TE4RA1600N024HBR600M	16,00	16,00	15,04	24,00	48,00	100,00	6,00	●
6676295	H1TE4RA2000N030HBR050M	20,00	20,00	18,80	30,00	60,00	115,00	0,50	●
6676296	H1TE4RA2000N030HBR100M	20,00	20,00	18,80	30,00	60,00	115,00	1,00	●
6676297	H1TE4RA2000N030HBR200M	20,00	20,00	18,80	30,00	60,00	115,00	2,00	●
6676298	H1TE4RA2000N030HBR300M	20,00	20,00	18,80	30,00	60,00	115,00	3,00	●
6687140	H1TE4RA2000N030HBR400M	20,00	20,00	18,80	30,00	60,00	115,00	4,00	●
6687151	H1TE4RA2000N030HBR600M	20,00	20,00	18,80	30,00	60,00	115,00	6,00	●
6676305	H1TE4RA2500N038HBR050M	25,00	25,00	24,00	37,50	75,00	135,00	0,50	●
6687152	H1TE4RA2500N038HBR100M	25,00	25,00	24,00	37,50	75,00	135,00	1,00	●
6687153	H1TE4RA2500N038HBR200M	25,00	25,00	24,00	37,50	75,00	135,00	2,00	●
6687154	H1TE4RA2500N038HBR300M	25,00	25,00	24,00	37,50	75,00	135,00	3,00	●
6676306	H1TE4RA2500N038HBR400M	25,00	25,00	24,00	37,50	75,00	135,00	4,00	●
6676307	H1TE4RA2500N038HBR600M	25,00	25,00	24,00	37,50	75,00	135,00	6,00	●

182 | 186 | 129 | 4 | 192

Solid Carbide End Milling

HARVI™ I TE • RADIUSED • 4 FLUTES • EXTENDED NECK • PLAIN SHANK



● first choice
○ alternate choice

P		○
M		●
K		○
N		
S		●
H		○

order number	catalogue number	D1	D	D3	Ap1 max	L3	L	Rε	KCSM15
6929435	H1TE4RA0400E011HAR025M	4,00	6,00	3,76	11,00	15,00	57,00	0,25	●
6929436	H1TE4RA0400E011HAR050M	4,00	6,00	3,76	11,00	15,00	57,00	0,50	●
6929439	H1TE4RA0600E013HAR050M	6,00	6,00	5,64	13,00	32,00	70,00	0,50	●
6929440	H1TE4RA0600E013HAR100M	6,00	6,00	5,64	13,00	32,00	70,00	1,00	●
6929443	H1TE4RA0800E019HAR050M	8,00	8,00	7,52	19,00	40,00	76,00	0,50	●
6929444	H1TE4RA0800E019HAR100M	8,00	8,00	7,52	19,00	40,00	76,00	1,00	●
6929447	H1TE4RA1000E022HAR050M	10,00	10,00	9,40	22,00	58,00	100,00	0,50	●
6929448	H1TE4RA1000E022HAR100M	10,00	10,00	9,40	22,00	58,00	100,00	1,00	●
6929449	H1TE4RA1000E022HAR200M	10,00	10,00	9,40	22,00	58,00	100,00	2,00	●
6929450	H1TE4RA1000E022HAR250M	10,00	10,00	9,40	22,00	58,00	100,00	2,50	●
6929451	H1TE4RA1000E022HAR300M	10,00	10,00	9,40	22,00	58,00	100,00	3,00	●
6929452	H1TE4RA1000E022HAR400M	10,00	10,00	9,40	22,00	58,00	100,00	4,00	●
6929459	H1TE4RA1200E026HAR050M	12,00	12,00	11,28	26,00	53,00	100,00	0,50	●
6929460	H1TE4RA1200E026HAR100M	12,00	12,00	11,28	26,00	53,00	100,00	1,00	●
6929461	H1TE4RA1200E026HAR200M	12,00	12,00	11,28	26,00	53,00	100,00	2,00	●
6929462	H1TE4RA1200E026HAR250M	12,00	12,00	11,28	26,00	53,00	100,00	2,50	●
6929463	H1TE4RA1200E026HAR300M	12,00	12,00	11,28	26,00	53,00	100,00	3,00	●
6929464	H1TE4RA1200E026HAR400M	12,00	12,00	11,28	26,00	53,00	100,00	4,00	●
6929471	H1TE4RA1600E032HAR050M	16,00	16,00	15,04	32,00	73,00	125,00	0,50	●
6929472	H1TE4RA1600E032HAR100M	16,00	16,00	15,04	32,00	73,00	125,00	1,00	●
6929473	H1TE4RA1600E032HAR200M	16,00	16,00	15,04	32,00	73,00	125,00	2,00	●
6929474	H1TE4RA1600E032HAR250M	16,00	16,00	15,04	32,00	73,00	125,00	2,50	●
6929475	H1TE4RA1600E032HAR300M	16,00	16,00	15,04	32,00	73,00	125,00	3,00	●
6929476	H1TE4RA1600E032HAR400M	16,00	16,00	15,04	32,00	73,00	125,00	4,00	●
6929477	H1TE4RA1600E032HAR600M	16,00	16,00	15,04	32,00	73,00	125,00	6,00	●
6929485	H1TE4RA2000E038HAR050M	20,00	20,00	18,80	38,00	73,00	125,00	0,50	●
6929486	H1TE4RA2000E038HAR100M	20,00	20,00	18,80	38,00	73,00	125,00	1,00	●
6929487	H1TE4RA2000E038HAR200M	20,00	20,00	18,80	38,00	73,00	125,00	2,00	●
6929488	H1TE4RA2000E038HAR250M	20,00	20,00	18,80	38,00	73,00	125,00	2,50	●
6929489	H1TE4RA2000E038HAR300M	20,00	20,00	18,80	38,00	73,00	125,00	3,00	●
6929490	H1TE4RA2000E038HAR400M	20,00	20,00	18,80	38,00	73,00	125,00	4,00	●
6929491	H1TE4RA2000E038HAR600M	20,00	20,00	18,80	38,00	73,00	125,00	6,00	●
6929499	H1TE4RA2500E045HAR050M	25,00	25,00	24,00	45,00	75,00	135,00	0,50	●
6929500	H1TE4RA2500E045HAR100M	25,00	25,00	24,00	45,00	75,00	135,00	1,00	●
6929501	H1TE4RA2500E045HAR200M	25,00	25,00	24,00	45,00	75,00	135,00	2,00	●
6929502	H1TE4RA2500E045HAR250M	25,00	25,00	24,00	45,00	75,00	135,00	2,50	●
6929503	H1TE4RA2500E045HAR300M	25,00	25,00	24,00	45,00	75,00	135,00	3,00	●
6929504	H1TE4RA2500E045HAR400M	25,00	25,00	24,00	45,00	75,00	135,00	4,00	●
6929505	H1TE4RA2500E045HAR600M	25,00	25,00	24,00	45,00	75,00	135,00	6,00	●

182	186	129	4	192

Solid Carbide End Milling

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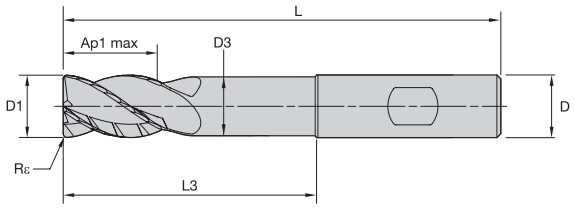

● first choice
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order number	catalogue number	D1	D	D3	Ap1 max	L3	L	Rε	KCSM15
6929437	H1TE4RA0400E011HBR025M	4,00	6,00	3,76	11,00	15,00	57,00	0,25	●
6929438	H1TE4RA0400E011HBR050M	4,00	6,00	3,76	11,00	15,00	57,00	0,50	●
6929441	H1TE4RA0600E013HBR050M	6,00	6,00	5,64	13,00	32,00	70,00	0,50	●
6929442	H1TE4RA0600E013HBR100M	6,00	6,00	5,64	13,00	32,00	70,00	1,00	●
6929445	H1TE4RA0800E019HBR050M	8,00	8,00	7,52	19,00	40,00	76,00	0,50	●
6929446	H1TE4RA0800E019HBR100M	8,00	8,00	7,52	19,00	40,00	76,00	1,00	●
6929453	H1TE4RA1000E022HBR050M	10,00	10,00	9,40	22,00	58,00	100,00	0,50	●
6929454	H1TE4RA1000E022HBR100M	10,00	10,00	9,40	22,00	58,00	100,00	1,00	●
6929455	H1TE4RA1000E022HBR200M	10,00	10,00	9,40	22,00	58,00	100,00	2,00	●
6929456	H1TE4RA1000E022HBR250M	10,00	10,00	9,40	22,00	58,00	100,00	2,50	●
6929457	H1TE4RA1000E022HBR300M	10,00	10,00	9,40	22,00	58,00	100,00	3,00	●
6929458	H1TE4RA1000E022HBR400M	10,00	10,00	9,40	22,00	58,00	100,00	4,00	●
6929465	H1TE4RA1200E026HBR050M	12,00	12,00	11,28	26,00	53,00	100,00	0,50	●
6929466	H1TE4RA1200E026HBR100M	12,00	12,00	11,28	26,00	53,00	100,00	1,00	●
6929467	H1TE4RA1200E026HBR200M	12,00	12,00	11,28	26,00	53,00	100,00	2,00	●
6929468	H1TE4RA1200E026HBR250M	12,00	12,00	11,28	26,00	53,00	100,00	2,50	●
6929469	H1TE4RA1200E026HBR300M	12,00	12,00	11,28	26,00	53,00	100,00	3,00	●
6929470	H1TE4RA1200E026HBR400M	12,00	12,00	11,28	26,00	53,00	100,00	4,00	●
6929478	H1TE4RA1600E032HBR050M	16,00	16,00	15,04	32,00	73,00	125,00	0,50	●
6929479	H1TE4RA1600E032HBR100M	16,00	16,00	15,04	32,00	73,00	125,00	1,00	●
6929480	H1TE4RA1600E032HBR200M	16,00	16,00	15,04	32,00	73,00	125,00	2,00	●
6929481	H1TE4RA1600E032HBR250M	16,00	16,00	15,04	32,00	73,00	125,00	2,50	●
6929482	H1TE4RA1600E032HBR300M	16,00	16,00	15,04	32,00	73,00	125,00	3,00	●
6929483	H1TE4RA1600E032HBR400M	16,00	16,00	15,04	32,00	73,00	125,00	4,00	●
6929484	H1TE4RA1600E032HBR600M	16,00	16,00	15,04	32,00	73,00	125,00	6,00	●
6929492	H1TE4RA2000E038HBR050M	20,00	20,00	18,80	38,00	73,00	125,00	0,50	●
6929493	H1TE4RA2000E038HBR100M	20,00	20,00	18,80	38,00	73,00	125,00	1,00	●
6929494	H1TE4RA2000E038HBR200M	20,00	20,00	18,80	38,00	73,00	125,00	2,00	●
6929495	H1TE4RA2000E038HBR250M	20,00	20,00	18,80	38,00	73,00	125,00	2,50	●
6929496	H1TE4RA2000E038HBR300M	20,00	20,00	18,80	38,00	73,00	125,00	3,00	●
6929497	H1TE4RA2000E038HBR400M	20,00	20,00	18,80	38,00	73,00	125,00	4,00	●
6929498	H1TE4RA2000E038HBR600M	20,00	20,00	18,80	38,00	73,00	125,00	6,00	●
6929506	H1TE4RA2500E045HBR050M	25,00	25,00	24,00	45,00	75,00	135,00	0,50	●
6929507	H1TE4RA2500E045HBR100M	25,00	25,00	24,00	45,00	75,00	135,00	1,00	●
6929508	H1TE4RA2500E045HBR200M	25,00	25,00	24,00	45,00	75,00	135,00	2,00	●
6929509	H1TE4RA2500E045HBR250M	25,00	25,00	24,00	45,00	75,00	135,00	2,50	●
6929510	H1TE4RA2500E045HBR300M	25,00	25,00	24,00	45,00	75,00	135,00	3,00	●
6929511	H1TE4RA2500E045HBR400M	25,00	25,00	24,00	45,00	75,00	135,00	4,00	●
6929512	H1TE4RA2500E045HBR600M	25,00	25,00	24,00	45,00	75,00	135,00	6,00	●

182	186	129	4	192

Solid Carbide End Milling

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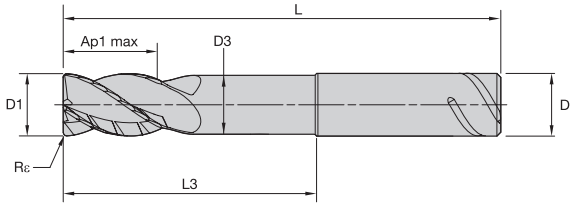

● first choice
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order number	catalogue number	D1	D	D3	Ap1 max	L3	L	Rε	KCSM15
6929513	H1TE4RA1200E026SLR050M	12,00	12,00	11,28	26,00	53,00	100,00	0,50	●
6929514	H1TE4RA1200E026SLR100M	12,00	12,00	11,28	26,00	53,00	100,00	1,00	●
6929515	H1TE4RA1200E026SLR200M	12,00	12,00	11,28	26,00	53,00	100,00	2,00	●
6929516	H1TE4RA1200E026SLR250M	12,00	12,00	11,28	26,00	53,00	100,00	2,50	●
6929517	H1TE4RA1200E026SLR300M	12,00	12,00	11,28	26,00	53,00	100,00	3,00	●
6929518	H1TE4RA1200E026SLR400M	12,00	12,00	11,28	26,00	53,00	100,00	4,00	●
6929519	H1TE4RA1600E032SLR050M	16,00	16,00	15,04	32,00	73,00	125,00	0,50	●
6929520	H1TE4RA1600E032SLR100M	16,00	16,00	15,04	32,00	73,00	125,00	1,00	●
6929531	H1TE4RA1600E032SLR200M	16,00	16,00	15,04	32,00	73,00	125,00	2,00	●
6929532	H1TE4RA1600E032SLR250M	16,00	16,00	15,04	32,00	73,00	125,00	2,50	●
6929533	H1TE4RA1600E032SLR300M	16,00	16,00	15,04	32,00	73,00	125,00	3,00	●
6929534	H1TE4RA1600E032SLR400M	16,00	16,00	15,04	32,00	73,00	125,00	4,00	●
6929535	H1TE4RA1600E032SLR600M	16,00	16,00	15,04	32,00	73,00	125,00	6,00	●
6929536	H1TE4RA2000E038SLR050M	20,00	20,00	18,80	38,00	73,00	125,00	0,50	●
6929538	H1TE4RA2000E038SLR100M	20,00	20,00	18,80	38,00	73,00	125,00	1,00	●
6929539	H1TE4RA2000E038SLR200M	20,00	20,00	18,80	38,00	73,00	125,00	2,00	●
6929540	H1TE4RA2000E038SLR250M	20,00	20,00	18,80	38,00	73,00	125,00	2,50	●
6929541	H1TE4RA2000E038SLR300M	20,00	20,00	18,80	38,00	73,00	125,00	3,00	●
6929542	H1TE4RA2000E038SLR400M	20,00	20,00	18,80	38,00	73,00	125,00	4,00	●
6929543	H1TE4RA2000E038SLR600M	20,00	20,00	18,80	38,00	73,00	125,00	6,00	●
6929545	H1TE4RA2500E045SLR050M	25,00	25,00	24,00	45,00	75,00	135,00	0,50	●
6929546	H1TE4RA2500E045SLR100M	25,00	25,00	24,00	45,00	75,00	135,00	1,00	●
6929547	H1TE4RA2500E045SLR200M	25,00	25,00	24,00	45,00	75,00	135,00	2,00	●
6929548	H1TE4RA2500E045SLR250M	25,00	25,00	24,00	45,00	75,00	135,00	2,50	●
6929549	H1TE4RA2500E045SLR300M	25,00	25,00	24,00	45,00	75,00	135,00	3,00	●
6929550	H1TE4RA2500E045SLR400M	25,00	25,00	24,00	45,00	75,00	135,00	4,00	●
6929551	H1TE4RA2500E045SLR600M	25,00	25,00	24,00	45,00	75,00	135,00	6,00	●

182	186	129	4	192

Solid Carbide End Milling

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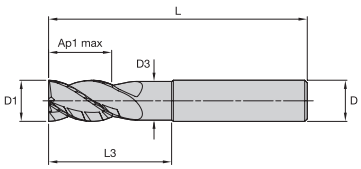

● first choice
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order number	catalogue number	D1	D	D3	Ap1 max	L3	L	KCPM15
6769543	H1TE4SE0200N006HAM	2,00	6,00	–	6,00	–	57,00	●
6769544	H1TE4SE0250N006HAM	2,50	6,00	–	6,00	–	57,00	●
6769545	H1TE4SE0300N008HAM	3,00	6,00	2,82	8,00	16,00	57,00	●
6769546	H1TE4SE0350N010HAM	3,50	6,00	3,29	10,00	16,00	57,00	●
6769547	H1TE4SE0400N011HAM	4,00	6,00	3,76	11,00	16,00	57,00	●
6769548	H1TE4SE0500N013HAM	5,00	6,00	4,70	13,00	18,00	57,00	●
6769549	H1TE4SE0600N013HAM	6,00	6,00	5,64	13,00	18,00	57,00	●
6769563	H1TE4SE0800N016HAM	8,00	8,00	7,52	16,00	24,00	63,00	●
6769564	H1TE4SE1000N022HAM	10,00	10,00	9,40	22,00	30,00	72,00	●
6769565	H1TE4SE1200N026HAM	12,00	12,00	11,28	26,00	36,00	83,00	●
6769566	H1TE4SE1400N026HAM	14,00	14,00	13,16	26,00	42,00	83,00	●
6769567	H1TE4SE1600N032HAM	16,00	16,00	15,04	32,00	48,00	92,00	●
6769568	H1TE4SE1800N035HAM	18,00	18,00	16,92	35,00	54,00	92,00	●
6769569	H1TE4SE2000N038HAM	20,00	20,00	18,80	38,00	60,00	104,00	●
6769581	H1TE4SE2500N045HAM	25,00	25,00	24,00	45,00	75,00	121,00	●

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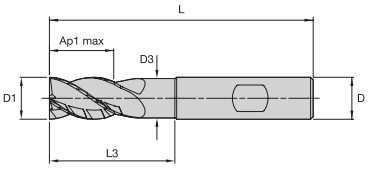

● first choice
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order number	catalogue number	D1	D	D3	Ap1 max	L3	L	KCPM15
6769582	H1TE4SE0200N006HBM	2,00	6,00	–	6,00	–	57,00	●
6769583	H1TE4SE0250N006HBM	2,50	6,00	–	6,00	–	57,00	●
6769584	H1TE4SE0300N008HBM	3,00	6,00	2,82	8,00	16,00	57,00	●
6769585	H1TE4SE0350N010HBM	3,50	6,00	3,29	10,00	16,00	57,00	●
6769586	H1TE4SE0400N011HBM	4,00	6,00	3,76	11,00	16,00	57,00	●
6769587	H1TE4SE0500N013HBM	5,00	6,00	4,70	13,00	18,00	57,00	●
6769588	H1TE4SE0600N013HBM	6,00	6,00	5,64	13,00	18,00	57,00	●
6769589	H1TE4SE0800N016HBM	8,00	8,00	7,52	16,00	24,00	63,00	●
6769590	H1TE4SE1000N022HBM	10,00	10,00	9,40	22,00	30,00	72,00	●
6769591	H1TE4SE1200N026HBM	12,00	12,00	11,28	26,00	36,00	83,00	●
6769592	H1TE4SE1400N026HBM	14,00	14,00	13,16	26,00	42,00	83,00	●
6769593	H1TE4SE1600N032HBM	16,00	16,00	15,04	32,00	48,00	92,00	●
6769594	H1TE4SE1800N035HBM	18,00	18,00	16,92	35,00	54,00	92,00	●
6769595	H1TE4SE2000N038HBM	20,00	20,00	18,80	38,00	60,00	104,00	●
6769596	H1TE4SE2500N045HBM	25,00	25,00	24,00	45,00	75,00	121,00	●

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Solid Carbide End Milling

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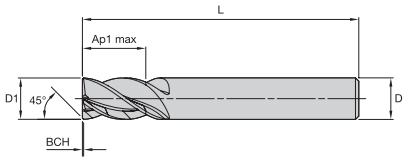

● first choice
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order number	catalogue number	D1	D	Ap1 max	L	BCH	KCPM15
6769607	H1TE4CH0200S004HAM	2,00	6,00	4,00	54,00	0,10	●
6769608	H1TE4CH0250S005HAM	2,50	6,00	5,00	54,00	0,10	●
6769609	H1TE4CH0300S006HAM	3,00	6,00	6,00	54,00	0,10	●
6769610	H1TE4CH0350S007HAM	3,50	6,00	7,00	54,00	0,10	●
6769611	H1TE4CH0400S008HAM	4,00	6,00	8,00	54,00	0,15	●
6769613	H1TE4CH0500S009HAM	5,00	6,00	9,00	54,00	0,15	●
6769614	H1TE4CH0600S010HAM	6,00	6,00	10,00	54,00	0,15	●
6769615	H1TE4CH0800S012HAM	8,00	8,00	12,00	58,00	0,20	●
6769616	H1TE4CH1000S014HAM	10,00	10,00	14,00	66,00	0,25	●
6769617	H1TE4CH1200S016HAM	12,00	12,00	16,00	73,00	0,25	●
6769619	H1TE4CH1400S018HAM	14,00	14,00	18,00	75,00	0,25	●
6769620	H1TE4CH1600S022HAM	16,00	16,00	22,00	82,00	0,35	●
6769621	H1TE4CH1800S024HAM	18,00	18,00	24,00	92,00	0,35	●
6769622	H1TE4CH2000S026HAM	20,00	20,00	26,00	92,00	0,35	●
6769623	H1TE4CH2500S030HAM	25,00	25,00	30,00	121,00	0,35	●

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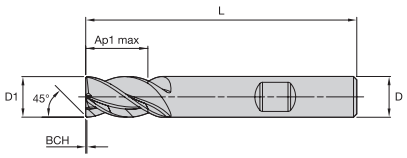


● first choice
○ alternate choice

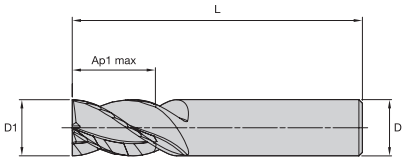
P		●
M		●
K		●
N		
S		○
H		○

order number	catalogue number	D1	D	Ap1 max	L	BCH	KCPM15
6769625	H1TE4CH0200S004HBM	2,00	6,00	4,00	54,00	0,10	●
6769626	H1TE4CH0250S005HBM	2,50	6,00	5,00	54,00	0,10	●
6769627	H1TE4CH0300S006HBM	3,00	6,00	6,00	54,00	0,10	●
6769628	H1TE4CH0350S007HBM	3,50	6,00	7,00	54,00	0,10	●
6769629	H1TE4CH0400S008HBM	4,00	6,00	8,00	54,00	0,15	●
6769630	H1TE4CH0500S009HBM	5,00	6,00	9,00	54,00	0,15	●
6769631	H1TE4CH0600S010HBM	6,00	6,00	10,00	54,00	0,15	●
6769632	H1TE4CH0800S012HBM	8,00	8,00	12,00	58,00	0,20	●
6769633	H1TE4CH1000S014HBM	10,00	10,00	14,00	66,00	0,25	●
6769634	H1TE4CH1200S016HBM	12,00	12,00	16,00	73,00	0,25	●
6769635	H1TE4CH1400S018HBM	14,00	14,00	18,00	75,00	0,25	●
6769636	H1TE4CH1600S022HBM	16,00	16,00	22,00	82,00	0,35	●
6769637	H1TE4CH1800S024HBM	18,00	18,00	24,00	92,00	0,35	●
6769638	H1TE4CH2000S026HBM	20,00	20,00	26,00	92,00	0,35	●
6769639	H1TE4CH2500S030HBM	25,00	25,00	30,00	121,00	0,35	●

182	186	129	4	192

Solid Carbide End Milling

HARVI™ I TE • SQUARE END • 4 FLUTES • SHORT • PLAIN SHANK

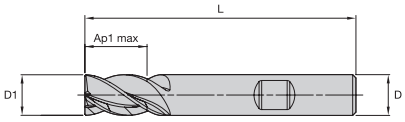


● first choice
○ alternate choice

P		●
M		●
K		●
N		
S		○
H		○

order number	catalogue number	D1	D	Ap1 max	L	KCPM15
6769558	H1TE4SE0200S004HAM	2,00	6,00	4,00	54,00	●
6769559	H1TE4SE0250S005HAM	2,50	6,00	5,00	54,00	●
6769560	H1TE4SE0300S006HAM	3,00	6,00	6,00	54,00	●
6769681	H1TE4SE0350S007HAM	3,50	6,00	7,00	54,00	●
6769682	H1TE4SE0400S008HAM	4,00	6,00	8,00	54,00	●
6769683	H1TE4SE0500S009HAM	5,00	6,00	9,00	54,00	●
6769684	H1TE4SE0600S010HAM	6,00	6,00	10,00	54,00	●
6769685	H1TE4SE0800S012HAM	8,00	8,00	12,00	58,00	●
6769686	H1TE4SE1000S014HAM	10,00	10,00	14,00	66,00	●
6769687	H1TE4SE1200S016HAM	12,00	12,00	16,00	73,00	●
6769688	H1TE4SE1400S018HAM	14,00	14,00	18,00	75,00	●
6769689	H1TE4SE1600S022HAM	16,00	16,00	22,00	82,00	●
6769690	H1TE4SE1800S024HAM	18,00	18,00	24,00	92,00	●
6769701	H1TE4SE2000S026HAM	20,00	20,00	26,00	92,00	●
6769702	H1TE4SE2500S030HAM	25,00	25,00	30,00	121,00	●

HARVI I TE • SQUARE END • 4 FLUTES • SHORT • WELDON® SHANK



● first choice
○ alternate choice

P		●
M		●
K		●
N		
S		○
H		○

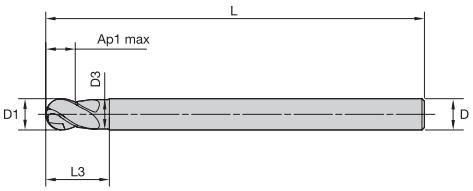
order number	catalogue number	D1	D	Ap1 max	L	KCPM15
6769705	H1TE4SE0200S004HBM	2,00	6,00	4,00	54,00	●
6769706	H1TE4SE0250S005HBM	2,50	6,00	5,00	54,00	●
6769707	H1TE4SE0300S006HBM	3,00	6,00	6,00	54,00	●
6769708	H1TE4SE0350S007HBM	3,50	6,00	7,00	54,00	●
6769709	H1TE4SE0400S008HBM	4,00	6,00	8,00	54,00	●
6769710	H1TE4SE0500S009HBM	5,00	6,00	9,00	54,00	●
6769711	H1TE4SE0600S010HBM	6,00	6,00	10,00	54,00	●
6769712	H1TE4SE0800S012HBM	8,00	8,00	12,00	58,00	●
6769713	H1TE4SE1000S014HBM	10,00	10,00	14,00	66,00	●
6769714	H1TE4SE1200S016HBM	12,00	12,00	16,00	73,00	●
6769715	H1TE4SE1400S018HBM	14,00	14,00	18,00	75,00	●
6769716	H1TE4SE1600S022HBM	16,00	16,00	22,00	82,00	●
6769717	H1TE4SE1800S024HBM	18,00	18,00	24,00	92,00	●
6769718	H1TE4SE2000S026HBM	20,00	20,00	26,00	92,00	●
6769719	H1TE4SE2500S030HBM	25,00	25,00	30,00	121,00	●

				NOVO
182	186	129	4	192

Solid Carbide End Milling

HARVI™ I TE • BALL NOSE • 4 FLUTES • NECKED • PLAIN SHANK

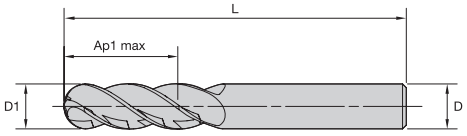
● first choice
○ alternate choice



								KCPM15
order number	catalogue number	D1	D	D3	Ap1 max	L3	L	
6768005	H1TE4BN0200N002HAM	2,00	4,00	–	2,00	–	50,00	●
6768007	H1TE4BN0300N003HAM	3,00	4,00	2,82	3,00	6,00	50,00	●
6768008	H1TE4BN0400N004HAM	4,00	4,00	3,76	4,00	8,00	50,00	●
6768009	H1TE4BN0500N005HAM	5,00	6,00	4,70	5,00	10,00	63,00	●
6768010	H1TE4BN0600N006HAM	6,00	6,00	5,64	6,00	12,00	76,00	●
6768031	H1TE4BN0800N008HAM	8,00	8,00	7,52	8,00	16,00	100,00	●
6768032	H1TE4BN1000N010HAM	10,00	10,00	9,40	10,00	20,00	121,00	●
6768033	H1TE4BN1200N012HAM	12,00	12,00	11,28	12,00	24,00	125,00	●
6768034	H1TE4BN1600N016HAM	16,00	16,00	15,04	16,00	32,00	150,00	●
6768035	H1TE4BN2000N020HAM	20,00	20,00	18,80	20,00	40,00	166,00	●

HARVI I TE • BALL NOSE • 4 FLUTES • LONG • PLAIN SHANK

● first choice
○ alternate choice



						KCPM15
order number	catalogue number	D1	D	Ap1 max	L	
6767984	H1TE4BN0200L005HAM	2,00	4,00	5,00	50,00	●
6767985	H1TE4BN0300L008HAM	3,00	4,00	8,00	50,00	●
6767986	H1TE4BN0400L010HAM	4,00	4,00	10,00	50,00	●
6767987	H1TE4BN0500L013HAM	5,00	6,00	13,00	55,00	●
6767988	H1TE4BN0600L015HAM	6,00	6,00	15,00	55,00	●
6767989	H1TE4BN0800L020HAM	8,00	8,00	20,00	63,00	●
6767990	H1TE4BN1000L025HAM	10,00	10,00	25,00	76,00	●
6768001	H1TE4BN1200L030HAM	12,00	12,00	30,00	83,00	●
6768003	H1TE4BN1600L040HAM	16,00	16,00	40,00	110,00	●
6768004	H1TE4BN2000L050HAM	20,00	20,00	50,00	150,00	●

				NOVO
182	186	129	4	192

Solid Carbide End Milling

HARVI™ I TE • APPLICATION DATA • SIDE MILLING/SLOTTING

Material Group		ap	ae	ap	KCPM15–KCSM15 Cutting Speed — vc m/min			Recommended feed per tooth (fz = mm/th) for side milling (A). For slotting (B), reduce fz by 20%.											
								D1 — Diameter											
		ap	ae	ap	min		max	mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	16,0	20,0	25,0
P	0	1,5 x D1	0,5 x D1	1,25 x D1	150	–	200	fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,111	0,125	0,136
	1	1,5 x D1	0,5 x D1	1,25 x D1	150	–	200	fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,111	0,125	0,136
	2	1,5 x D1	0,5 x D1	1,25 x D1	140	–	190	fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,111	0,125	0,136
	3	1,5 x D1	0,5 x D1	1,25 x D1	120	–	160	fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,096	0,111	0,125
	4	1,5 x D1	0,5 x D1	1,25 x D1	90	–	150	fz	0,012	0,018	0,024	0,030	0,036	0,049	0,059	0,069	0,084	0,097	0,107
	5	1,5 x D1	0,5 x D1	1,25 x D1	60	–	100	fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,077	0,089	0,100
	6	1,5 x D1	0,5 x D1	1,25 x D1	50	–	75	fz	0,009	0,013	0,018	0,022	0,027	0,037	0,044	0,051	0,063	0,071	0,078
M	1	1,5 x D1	0,5 x D1	1,25 x D1	90	–	115	fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,096	0,111	0,125
	2	1,5 x D1	0,5 x D1	1,25 x D1	60	–	80	fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,077	0,089	0,100
	3	1,5 x D1	0,5 x D1	1,0 x D1	60	–	70	fz	0,009	0,013	0,018	0,022	0,027	0,037	0,044	0,051	0,063	0,071	0,078
K	1	1,5 x D1	0,5 x D1	1,0 x D1	120	–	150	fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,111	0,125	0,136
	2	1,5 x D1	0,5 x D1	1,0 x D1	110	–	140	fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,096	0,111	0,125
	3	1,5 x D1	0,5 x D1	1,0 x D1	110	–	130	fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,077	0,089	0,100
S	1	1,5 x D1	0,5 x D1	0,75 x D1	50	–	90	fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,096	0,111	0,125
	2	1,5 x D1	0,5 x D1	0,75 x D1	50	–	80	fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,077	0,089	0,100
	3	1,5 x D1	0,5 x D1	0,50 x D1	25	–	40	fz	0,007	0,010	0,014	0,018	0,021	0,029	0,035	0,041	0,051	0,059	0,067
	4	1,5 x D1	0,5 x D1	1,25 x D1	50	–	60	fz	0,008	0,013	0,017	0,023	0,028	0,040	0,049	0,057	0,071	0,082	0,092
H	1	1,5 x D1	0,5 x D1	1,0 x D1	80	–	140	fz	0,012	0,018	0,024	0,030	0,036	0,049	0,059	0,069	0,084	0,097	0,107
	2	1,5 x D1	0,5 x D1	1,0 x D1	70	–	120	fz	0,009	0,013	0,018	0,022	0,027	0,037	0,044	0,051	0,063	0,071	0,078

NOTE: Lower value of cutting speed is used for high stock removal applications or for higher hardness (machinability) within group.
Higher value of cutting speed is used for finishing applications or for lower hardness (machinability) within group.
Above parameters are based on ideal conditions.
For smaller taper machining centers, please adjust parameters accordingly on diameters greater than 12mm.
For tools with reach >4,5 x D, reduce fz up to 30% and use lower range of cutting speed as starting condition.

HARVI I TE • 4 FLUTES • ADJUSTMENT FACTOR FOR FEED AND SPEED CALCULATION

To calculate application specific cutting data, please use Kv coefficient table to the right for adaptation of cutting speed and KFz for feed respectively.

Vc new = Vc * Kv
Fz new = Fz * KFz

Calculation example:
Application: D = 20mm; M2 material group; Ae = 2mm
Cutting data recommendation: Vc = 80 m/min;
Fz = 0,089 mm/th
Adjustment coefficients: Ae = 2mm equals 10,0%;
Kv = 1,35; KFz = 1,7

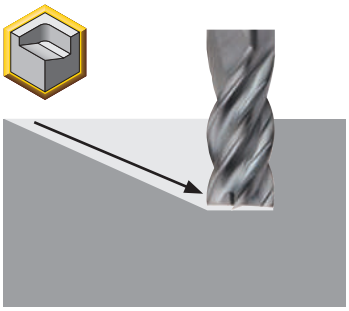
Final cutting data recommendation:
Vc new = 80 * 1,35 = 108 m/min
Fz new = 0,089 * 1,7 = 0,15 mm/min

	Ae/D	0,50%	1,00%	1,60%	2,00%	4,00%	5,00%	8,00%	10,00%	20,00%	30,00%	40,00%	50,00%
Speed factor	Kv	2,9	2,85	2,8	2	1,5	1,45	1,4	1,35	1,25	1,2	1	1
Feed factor	KFz	2,8	2,6	2,5	2,4	2,3	2,2	2	1,7	1,25	1,02	1	1

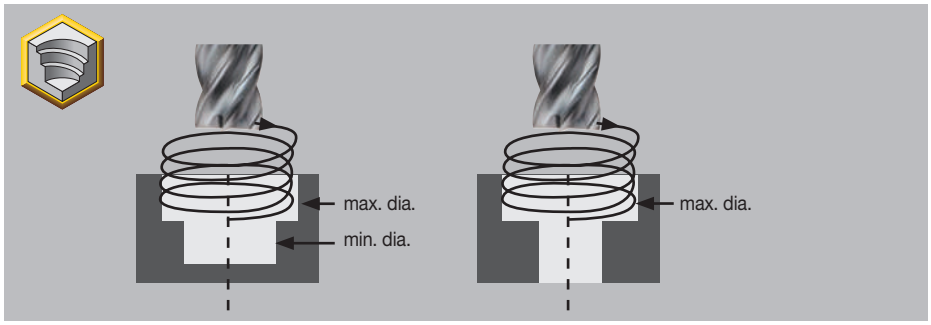
Solid Carbide End Milling

HARVI™ I TE • APPLICATION INFORMATION • RAMPING

Linear Ramping



Helical Ramping



ATTENTION!
For helical ramping operations, the min. and max. hole diameter can be calculated with the following formula:

Min. hole Ø = End mill -Ø x 1.1 + 2x corner configuration (Re/CHF) size. Hole -Ø/End mill -Ø min 1:1.15
Max. hole Ø = 2x End mill -Ø 2x corner configuration (Re/CHF) size. Hole -Ø/End mill -Ø max 1:1.9

HARVI I TE • APPLICATION DATA • RAMPING 0°–15°

Material Group		Max Depth	KCPM15–KCSM15 Cutting Speed — vc m/min			Recommended feed per tooth (fz = mm/z) for Helical Interpolation and Ramping — fz x 2 Diameter — D1 [Ømin—Ømax] for helical interpolation													
			min	Start	max	mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0
P	0	1,25 x D1	150	175	200	fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,102	0,111	0,119	0,125	0,136
	1	1,25 x D1	150	175	200	fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,102	0,111	0,119	0,125	0,136
	2	1,25 x D1	140	165	190	fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,102	0,111	0,119	0,125	0,136
	3	1,25 x D1	120	140	160	fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,087	0,096	0,104	0,111	0,125
	4	1,25 x D1	90	120	150	fz	0,012	0,018	0,024	0,030	0,036	0,049	0,059	0,069	0,077	0,084	0,091	0,097	0,107
	5	1,25 x D1	60	80	100	fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,070	0,077	0,083	0,089	0,100
	6	1,25 x D1	50	65	75	fz	0,009	0,013	0,018	0,022	0,027	0,037	0,044	0,051	0,057	0,063	0,067	0,071	0,078
M	1	1,25 x D1	90	100	115	fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,087	0,096	0,104	0,111	0,125
	2	1,25 x D1	60	70	80	fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,070	0,077	0,083	0,089	0,100
	3	1,0 x D1	60	65	70	fz	0,009	0,013	0,018	0,022	0,027	0,037	0,044	0,051	0,057	0,063	0,067	0,071	0,078
K	1	1,0 x D1	120	135	150	fz	0,015	0,023	0,031	0,040	0,048	0,066	0,079	0,091	0,102	0,111	0,119	0,125	0,136
	2	1,0 x D1	110	125	140	fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,087	0,096	0,104	0,111	0,125
	3	1,0 x D1	110	120	130	fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,070	0,077	0,083	0,089	0,100
S	1	0,75 x D1	50	70	90	fz	0,012	0,019	0,026	0,033	0,040	0,055	0,067	0,077	0,087	0,096	0,104	0,111	0,125
	2	0,75 x D1	50	65	80	fz	0,010	0,016	0,021	0,027	0,032	0,044	0,053	0,062	0,070	0,077	0,083	0,089	0,100
	3	0,5 x D1	25	30	40	fz	0,007	0,010	0,014	0,018	0,021	0,029	0,035	0,041	0,046	0,051	0,055	0,059	0,067
	4	1,25 x D1	50	55	60	fz	0,008	0,013	0,017	0,023	0,028	0,040	0,049	0,057	0,064	0,071	0,076	0,082	0,092
H	1	1,0 x D1	80	110	140	fz	0,012	0,018	0,024	0,030	0,036	0,049	0,059	0,069	0,077	0,084	0,091	0,097	0,107
	2	1,0 x D1	70	90	120	fz	0,009	0,013	0,018	0,022	0,027	0,037	0,044	0,051	0,057	0,063	0,067	0,071	0,078

NOTE: Ø min and Ø max to be calculated with formula for helical ramping above.

Solid Carbide End Milling

HARVI™ I TE • APPLICATION DATA • RAMPING 15°–30°

Material Group		Max Depth																	
			KCPM15–KCSM15			Recommended feed per tooth (fz = mm/z) for Helical Interpolation and Ramping — fz x 2													
			Cutting Speed — vc m/min			Diameter — D1 [Ømin—Ømax] for helical interpolation													
			min	Start	max	mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0
P	0	1,25 x D1	150	165	175	fz	0,011	0,017	0,023	0,030	0,036	0,050	0,059	0,068	0,076	0,083	0,089	0,094	0,102
	1	1,25 x D1	150	165	175	fz	0,011	0,017	0,023	0,030	0,036	0,050	0,059	0,068	0,076	0,083	0,089	0,094	0,102
	2	1,25 x D1	140	155	165	fz	0,011	0,017	0,023	0,030	0,036	0,050	0,059	0,068	0,076	0,083	0,089	0,094	0,102
	3	1,25 x D1	120	130	140	fz	0,009	0,014	0,019	0,025	0,030	0,041	0,050	0,058	0,065	0,072	0,078	0,083	0,094
	4	1,25 x D1	90	105	120	fz	0,009	0,013	0,018	0,022	0,027	0,037	0,045	0,051	0,058	0,063	0,068	0,073	0,080
	5	1,25 x D1	60	70	80	fz	0,008	0,012	0,016	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075
	6	1,25 x D1	50	55	65	fz	0,007	0,010	0,013	0,017	0,020	0,028	0,033	0,038	0,043	0,047	0,050	0,053	0,059
M	1	1,25 x D1	90	95	100	fz	0,009	0,014	0,019	0,025	0,030	0,041	0,050	0,058	0,065	0,072	0,078	0,083	0,094
	2	1,25 x D1	60	65	70	fz	0,008	0,012	0,016	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075
	3	1,0 x D1	60	62	65	fz	0,007	0,010	0,013	0,017	0,020	0,028	0,033	0,038	0,043	0,047	0,050	0,053	0,059
K	1	1,0 x D1	120	130	135	fz	0,011	0,017	0,023	0,030	0,036	0,050	0,059	0,068	0,076	0,083	0,089	0,094	0,102
	2	1,0 x D1	110	120	125	fz	0,009	0,014	0,019	0,025	0,030	0,041	0,050	0,058	0,065	0,072	0,078	0,083	0,094
	3	1,0 x D1	110	115	120	fz	0,008	0,012	0,016	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075
S	1	0,75 x D1	50	60	70	fz	0,009	0,014	0,019	0,025	0,030	0,041	0,050	0,058	0,065	0,072	0,078	0,083	0,094
	2	0,75 x D1	50	55	65	fz	0,008	0,012	0,016	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075
	3	0,5 x D1	25	27	30	fz	0,005	0,008	0,010	0,013	0,016	0,022	0,026	0,031	0,035	0,038	0,042	0,045	0,051
	4	1,25 x D1	50	52	55	fz	0,006	0,009	0,013	0,017	0,021	0,030	0,037	0,043	0,048	0,053	0,057	0,061	0,069
H	1	1,0 x D1	80	95	110	fz	0,009	0,013	0,018	0,022	0,027	0,037	0,045	0,051	0,058	0,063	0,068	0,073	0,080
	2	1,0 x D1	70	80	90	fz	0,007	0,010	0,013	0,017	0,020	0,028	0,033	0,038	0,043	0,047	0,050	0,053	0,059

NOTE: Ø min and Ø max to be calculated with formula for helical ramping on page XX.

Solid Carbide End Milling

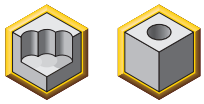
HARVI™ I TE • APPLICATION DATA • RAMPING 30°–45°

Material Group		Max Depth	KCPM15–KCSM15 Cutting Speed — vc m/min			Recommended feed per tooth (fz = mm/z) for Helical Interpolation and Ramping — fz x 2 Diameter — D1 [Ømin—Ømax] for helical interpolation													
			min	Start	max	mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0
P	0	1,25 x D1	140	**150**	165	fz	0,009	0,014	0,019	0,024	0,029	0,040	0,048	0,055	0,061	0,067	0,071	0,075	0,082
	1	1,25 x D1	140	**150**	165	fz	0,009	0,014	0,019	0,024	0,029	0,040	0,048	0,055	0,061	0,067	0,071	0,075	0,082
	2	1,25 x D1	140	**150**	165	fz	0,009	0,014	0,019	0,024	0,029	0,040	0,048	0,055	0,061	0,067	0,071	0,075	0,082
	3	1,25 x D1	105	**115**	120	fz	0,007	0,011	0,015	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075
	4	1,25 x D1	90	**100**	110	fz	0,007	0,011	0,014	0,018	0,022	0,030	0,036	0,041	0,046	0,051	0,055	0,058	0,064
	5	1,25 x D1	70	**75**	80	fz	0,006	0,009	0,013	0,016	0,019	0,026	0,032	0,037	0,042	0,046	0,050	0,053	0,060
	6	1,25 x D1	55	**60**	65	fz	0,005	0,008	0,011	0,013	0,016	0,022	0,027	0,031	0,034	0,038	0,040	0,043	0,047
M	1	1,25 x D1	75	**85**	90	fz	0,007	0,011	0,015	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075
	2	1,25 x D1	50	**55**	60	fz	0,006	0,009	0,013	0,016	0,019	0,026	0,032	0,037	0,042	0,046	0,050	0,053	0,060
	3	1,0 x D1	45	**50**	55	fz	0,005	0,008	0,011	0,013	0,016	0,022	0,027	0,031	0,034	0,038	0,040	0,043	0,047
K	1	1,0 x D1	110	**120**	130	fz	0,009	0,014	0,019	0,024	0,029	0,040	0,048	0,055	0,061	0,067	0,071	0,075	0,082
	2	1,0 x D1	100	**110**	120	fz	0,007	0,011	0,015	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075
	3	1,0 x D1	90	**100**	110	fz	0,006	0,009	0,013	0,016	0,019	0,026	0,032	0,037	0,042	0,046	0,050	0,053	0,060
S	1	0,75 x D1	80	**85**	90	fz	0,007	0,011	0,015	0,020	0,024	0,033	0,040	0,046	0,052	0,058	0,062	0,067	0,075
	2	0,75 x D1	55	**60**	65	fz	0,006	0,009	0,013	0,016	0,019	0,026	0,032	0,037	0,042	0,046	0,050	0,053	0,060
	3	0,5 x D1	20	**25**	28	fz	0,004	0,006	0,008	0,011	0,013	0,017	0,021	0,025	0,028	0,031	0,033	0,036	0,040
	4	1,25 x D1	35	**40**	45	fz	0,005	0,008	0,010	0,014	0,017	0,024	0,029	0,034	0,038	0,042	0,046	0,049	0,055
H	1	1,0 x D1	75	**80**	85	fz	0,007	0,011	0,014	0,018	0,022	0,030	0,036	0,041	0,046	0,051	0,055	0,058	0,064
	2	1,0 x D1	65	**70**	75	fz	0,005	0,008	0,011	0,013	0,016	0,022	0,027	0,031	0,034	0,038	0,040	0,043	0,047

NOTE: Ø min and Ø max to be calculated with formula for helical ramping on page 142.

Solid Carbide End Milling

HARVI™ I TE • APPLICATION DATA • PLUNGING/DRILLING



Material Group		Max Depth	Applicable	Coolant	KCPM15–KCSM15 Cutting Speed — vc m/min			Recommended feed per revolution (fn =mm/rev) for Plunging and Drilling D1 — Diameter												
					min	Start	max	mm	2,0	3,0	4,0	5,0	6,0	8,0	10,0	12,0	14,0	16,0	18,0	20,0	25,0
P	0	1,5 x D	●	Preferred	140	**150**	165	fn	0,028	0,033	0,040	0,045	0,055	0,065	0,080	0,095	0,110	0,120	0,140	0,160	0,180
	1	1,5 x D	●	Required	140	**150**	165	fn	0,028	0,033	0,040	0,045	0,055	0,065	0,080	0,095	0,110	0,120	0,140	0,160	0,180
	2	1,5 x D	●	Required	140	**150**	165	fn	0,028	0,033	0,040	0,045	0,055	0,065	0,080	0,095	0,110	0,120	0,140	0,160	0,180
	3	1 x D	●	Required	105	**115**	120	fn	0,015	0,020	0,028	0,033	0,040	0,050	0,060	0,070	0,085	0,100	0,110	0,125	0,150
	4	1 x D	●	Required	90	**100**	110	fn	0,015	0,020	0,028	0,033	0,040	0,050	0,060	0,070	0,085	0,100	0,110	0,125	0,150
	5	0,5 x D	●	Required	70	**75**	80	fn	0,010	0,014	0,018	0,020	0,025	0,035	0,040	0,050	0,055	0,065	0,075	0,085	0,100
	6	0,5 x D	●	Required	55	**60**	65	fn	0,010	0,014	0,018	0,020	0,025	0,035	0,040	0,050	0,055	0,065	0,075	0,085	0,100
M	1	0,75 x D	●	Required	75	**85**	90	fn	0,015	0,020	0,028	0,033	0,040	0,050	0,060	0,070	0,085	0,100	0,110	0,125	0,150
	2	0,5 x D	●	Required	50	**55**	60	fn	0,010	0,014	0,018	0,020	0,025	0,035	0,040	0,050	0,055	0,065	0,075	0,085	0,100
	3	0,5 x D	●	Required	45	**50**	55	fn	0,010	0,014	0,018	0,020	0,025	0,035	0,040	0,050	0,055	0,065	0,075	0,085	0,100
K	1	1,5 x D	●	Preferred	110	**120**	130	fn	0,028	0,033	0,040	0,045	0,055	0,065	0,080	0,095	0,110	0,120	0,140	0,160	0,180
	2	1 x D	●	Required	100	**110**	120	fn	0,015	0,020	0,028	0,033	0,040	0,050	0,060	0,070	0,085	0,100	0,110	0,125	0,150
	3	1 x D	●	Required	90	**100**	110	fn	0,015	0,020	0,028	0,033	0,040	0,050	0,060	0,070	0,085	0,100	0,110	0,125	0,150
S	1	0,3 x D	○	Required	80	**85**	90	fn	0,015	0,020	0,028	0,033	0,040	0,050	0,060	0,070	0,085	0,100	0,110	0,125	0,150
	2	0,1 x D	○	Required	55	**60**	65	fn	0,010	0,014	0,018	0,020	0,025	0,035	0,040	0,050	0,055	0,065	0,075	0,085	0,100
	3	0,1 x D	○	Required	20	**25**	28	fn	0,008	0,010	0,012	0,015	0,018	0,022	0,028	0,033	0,040	0,045	0,050	0,060	0,070
	4	0,2 x D	○	Required	35	**40**	45	fn	0,010	0,014	0,018	0,020	0,025	0,035	0,040	0,050	0,055	0,065	0,075	0,085	0,100
H	1	0,3 x D	○	Required	75	**80**	85	fn	0,015	0,020	0,028	0,033	0,040	0,050	0,060	0,070	0,085	0,100	0,110	0,125	0,150
	2	0,2 x D	○	Required	65	**70**	75	fn	0,010	0,014	0,018	0,020	0,025	0,035	0,040	0,050	0,055	0,065	0,075	0,085	0,100

Mill 4-15™

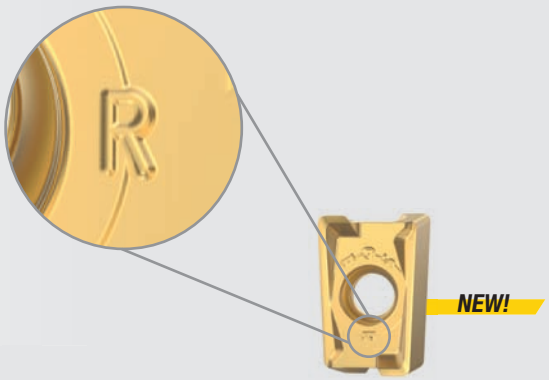
Shoulder Milling

Materials

P M K N S

Applications

- Face Milling
- Slotting
- Slotting
- Helical Interpolation
- Ramping
- Pocketing



The Mill 4-15 series is specially engineered to achieve excellent surface quality and higher metal removal rates in shoulder milling applications.

The unique design allows to apply the tool in multiple passes, called “step down”. Most tools leave tool marks with every pass they take, resulting in unsatisfactory or low-quality wall finishes. This usually requires another finishing pass at the very end of the process.

Mill 4-15 eliminates that finishing pass with an additional tool, saving time and money.

The SGE-R geometry adds to the capabilities of the Mill 4-15 series, enabling ramping operations and helical interpolation.

Double-sided insert with 4 strong cutting edges per insert.

90° shoulder milling with excellent wall and surface finish capabilities.

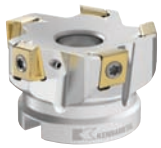
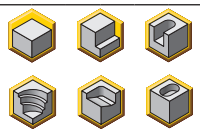
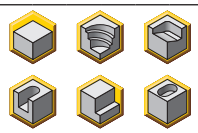
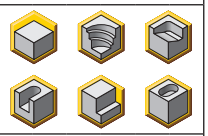
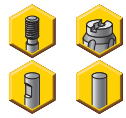
Low cutting forces due to highly positive geometry.

SGE-R geometry with larger clearance angle for helical interpolation and ramping.

Shoulder Milling

SHOULDER MILLING • TOOL SELECTION GUIDE

SELECTION STEPS

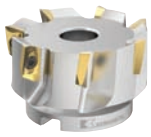
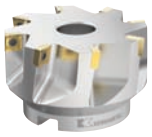
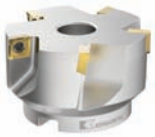
	Shoulder Milling				
	Mill 4™-12KT	Mill 4-11™	Mill 4-15™	Mill 1-10™	Mill 1-14™
					
Page	6***	T2*	151–160	T28*	T46*
Main operation					
Workpiece materials					
Primary	P K	P M K N S	P M K N S	P M K N S	P M K N S
Secondary	M S				
Cutter diameter [D1]	50–200mm	16–80mm	25–160mm	16–100mm	20–160mm
Maximum cutting depth [Ap1 max]	12mm	11mm	15,5mm	9,9mm	14,3mm
Insert size IC	13mm	12,16mm	17mm	12mm	17,5mm
Number of inserts per cutter [Z]	4–22	2–10	2–18	2–12	2–12
Number of flutes per cutter [ZU]	4–22	2–10	2–18	2–12	2–12
Internal coolant	✔	✔	✔	✔	✔
Additional operations					
Connection Style Machine Side (CSMS)					
Fits regular shell mill adaptors	✔	✔	✔	✔	✔
Pilot diameter flange mount extension	–	–	–	–	–
Flange mount size	–	–	–	–	–
Cutting edges	4	4	4	2	2
Corner radius for inserts on 1st row	0,4–3,1mm	0,4–1,6mm	0,4–2,0mm	0,2–3,1mm	0,2–4,0mm
Corner radius for inserts after 1st row	–	–	–	–	–

* See page in the Kennametal Master Catalogue 2018 • Volume Two • Rotating Tools • A-16-05217.
** See page in the Kennametal Innovations Catalogue 2019 | 02 • A-18-05789.
*** See page in the Kennametal Innovations Catalogue 2020 | 01 • A-19-05951.

Shoulder Milling

SHOULDER MILLING • TOOL SELECTION GUIDE

SELECTION STEPS

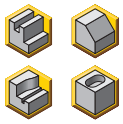
	Shoulder Milling				
	Mill 1-18™	KSSM™ 90° • 10mm	KSSM 90° • 12mm	5720VZ16	5230VS09
					
Page	T68*	T96*	T102*	T84*	T114*
Main operation					
Workpiece materials					
Primary	P M K N S	P M K N S	P M K N S	N	P M S
Secondary					
Cutter diameter [D1]	25–160mm	25–100mm	50–200mm	25–80mm	50mm
Maximum cutting depth [Ap1 max]	18mm	6,6mm	9,2mm	16mm	51–80mm
Insert size IC	21,75mm	10mm	12mm	23mm	9mm
Number of inserts per cutter [Z]	2–12	2–10	3–14	2–5	51–80
Number of flutes per cutter [ZU]	2–12	2–10	3–14	2–5	4
Internal coolant	✔				
Additional operations					
Connection Style Machine Side (CSMS)					
Fits regular shell mill adaptors	✔	✔	✔	✔	✔
Pilot diameter flange mount extension	–	–	–	–	–
Flange mount size	–	–	–	–	–
Cutting edges	2	4	4	2	4
Corner radius for inserts on 1st row	0,4–6,4mm	0,4–2,0mm	0,4–6,4mm	0,3–6,0mm	0,8mm
Corner radius for inserts after 1st row	–	–	–	–	–

* See page in the Kennametal Master Catalogue 2018 • Volume Two • Rotating Tools • A-16-05217.
** See page in the Kennametal Innovations Catalogue 2019 | 02 • A-18-05789.

Shoulder Milling

SHOULDER MILLING • TOOL SELECTION GUIDE

SELECTION STEPS

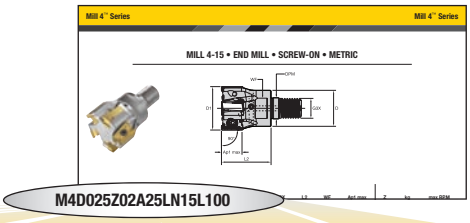
	Shoulder Milling		
	5230VS12	HARVI™ Ultra 8X	
			
Page	T118*	T80**	T80**
Main operation			
Workpiece materials			
Primary	P M S	S	S
Secondary			
Cutter diameter [D1]	63–100mm	50–80mm	50–80mm
Maximum cutting depth [Ap1 max]	57–133mm	50–102mm	100–133mm
Insert size IC	12mm	10 & 12mm	10 & 12mm
Number of inserts per cutter [Z]	24–84	15–50	40–55
Number of flutes per cutter [ZU]	4–6	3–5	4–5
Internal coolant		✔	✔
Additional operations			
Connection Style Machine Side (CSMS)			
Fits regular shell mill adaptors	✔	✔	✔
Pilot diameter flange mount extension	–	22–32mm	–
Flange mount size	–	BTF46	BTF46
Cutting edges	4	8 / 4	8 / 4
Corner radius for inserts on 1st row	1,2mm	0,8mm / 1,6–6,4mm	0,8mm / 1,6–6,4mm
Corner radius for inserts after 1st row	–	0,8mm	0,8mm

* See page in the Kennametal Master Catalogue 2018 • Volume Two • Rotating Tools • A-16-05217.
** See page in the Kennametal Innovations Catalogue 2019 | 02 • A-18-05789.

Shoulder Milling

MILL 4-15™ • CATALOG NUMBERING SYSTEM • CUTTER BODIES

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

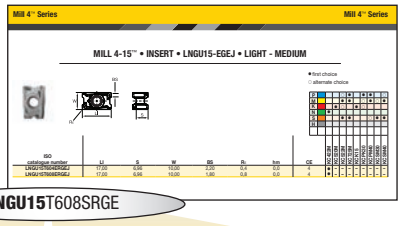


M4	D025	Z02	A	25	LN15	L100
Mill 4™	Cutter Dia.	Number of Inserts	Connection Style Machine Side (CSMS) M = Screw-On A= Cylindrical Shank B = Weldon® Shank S = Shell Mill	Shank/Pilot Bore Diameter	Insert Size	Tool Length

Shoulder Milling

MILL 4-15™ • CATALOG NUMBERING SYSTEM • INSERTS

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



LNGU15T608SRGE

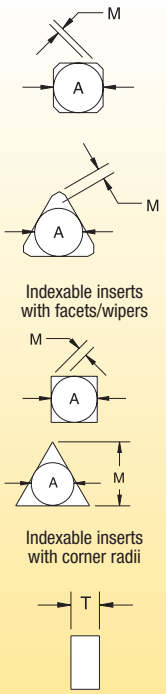
L — Insert Shape

A	Parallelogram 85°	
C	Rhomboid 80°	
E	75°	
H	Hexagon 120°	
L	Rectangular 90°	
O	Octagon 135°	
R	Round —	
S	Square 90°	
T	Triangular 60°	
X	Kennametal Standard Form	

N — Insert Clearance Angle

A	3°
B	5°
C	7°
D	15°
E	20°
F	25°
G	30°
N	0°
P	11°

G — Tolerance Class



U — Geometry and Clamping Type

15 — Size

A	"L" for shapes						
	C	T	R	O	C	H	E
6,00	–	–	06	–	–	–	–
6,35	06	11	06	02	06	03	06
8,00	–	–	08	–	–	–	–
9,52	09	16	09	04	09	05	09
10,00	–	–	10	–	–	–	–
12,00	–	–	12	–	–	–	–
12,70	12	22	12	05	12	07	13
15,88	15	27	15	06	16	09	16
16,00	–	–	16	–	–	–	–
19,05	19	33	19	07	19	11	19
20,00	–	–	20	–	–	–	–
25,00	–	–	25	–	–	–	–
25,40	25	44	25	10	25	14	26

For shapes A, L, and X, see position #1; use length of leading cutting edge.

tolerance class	tolerance on "A"	tolerance on "M"	tolerance on "T"	tolerance class	tolerance on "A"	tolerance on "M"	tolerance on "T"
A	0,025	0,005	0,025	J	0,05–0,13*	0,005	0,025
B	0,025	0,005	0,13	K	0,05–0,13*	0,013	0,025
C	0,025	0,013	0,025	L	0,05–0,13*	0,025	0,025
D	0,025	0,013	0,13	M	0,05–0,10*	0,05–0,25*	0,13
E	0,025	0,025	0,025	N	0,05–0,10*	0,05–0,25*	0,025
F	0,013	0,005	0,025	P**	0,038	0,038	0,038
G	0,025	0,025	0,13	U	0,08–0,25*	0,13–0,30*	0,13
H	0,013	0,013	0,025	—	—	—	—

*See table below for tolerances according to insert size and class.
**Kennametal standard only.

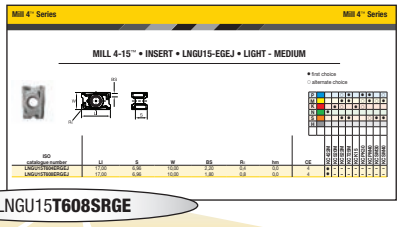
A	tolerances on "A"		tolerances on "M"	
	classes J, K, L, M, N	class U	classes M & N	class U
4,76–10,00	0,051	0,076	0,076	0,127
11,11–14,29	0,076	0,127	0,127	0,203
15,00–20,64	0,102	0,178	0,152	0,279
22,00–31,16	0,127	0,254	0,178	0,381
31,75–35,00	0,152	0,254	0,203	0,381

symbol	hole	shape of hole	chipbreaker	shape of insert's section
N	without		without	
R			single sided	
F			double sided	
A	with	cylindrical hole	without	
M			single sided	
G			double sided	
W		partly cylindrical hole, 40–60° countersink	without	
T			single sided	
Q		partly cylindrical hole, 40–60° double countersink	without	
U			double sided	
B		partly cylindrical hole, 70–90° countersink	without	
H			single sided	
C		partly cylindrical hole, 70–90° double countersink	without	
J			double sided	
X	special design			

Shoulder Milling

MILL 4-15™ • CATALOG NUMBERING SYSTEM • INSERTS

(continued)



LNGU15**T608SRGE**

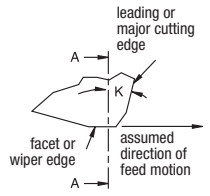
T6 — Thickness

insert thickness

T	
2,38	02
3,18	03
3,97	T3
4,76	04
5,56	05
6,35	06
7,94	07

08 — Corner Configuration

radius				wiper edge clearance P	
M0	round insert	If letter is replaced by number(s), refer to table for radius "r".		A	3°
01	0,1mm			B	5°
02	0,2mm			C	7°
04	0,4mm			D	15°
05	0,5mm			E	20°
08	0,8mm			F	25°
10	1,0mm			G	30°
12	1,2mm	lead angle K		N	0°
15	1,5mm	A	45°	P	11°
16	1,6mm	D	60°		
24	2,4mm	E	75°		
32	3,2mm	P	90°		



S — Cutting Edge Form

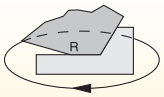
F Sharp

E Honed

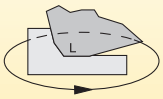
T T-land

S Honed T-land

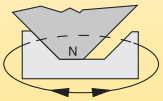
R — Insert Hand



direction of cutter rotation



direction of cutter rotation



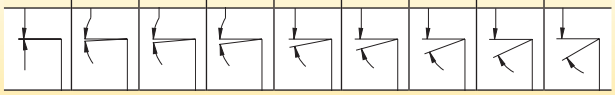
direction of cutter rotation

G — Edge Prep Size

L = Light — sharp or lightly honed and/or T-land
G = General — medium hone and/or T-land
H = Heavy — large hone and/or T-land

E — Rake Face Angle

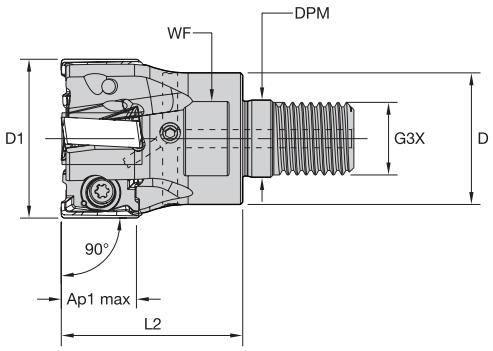
N	A	B	C	P	D	E	F	G
0° or less	3°	5°	7°	11°	15°	20°	25°	30°



Nominal or average angle of rake on insert face at leading cutting edge before edge prep and before installation.

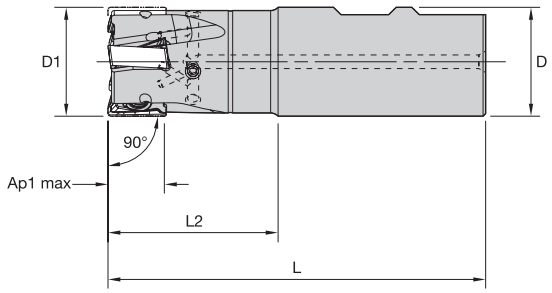
Shoulder Milling

MILL 4-15™ • END MILL • SCREW-ON



order number	catalogue number	D1	D	DPM	G3X	L2	WF	Ap1 max	Z	kg	max RPM
5531911	M4D025Z02M12LN15	25	21	12,5	M12	32	17	15,5	2	0,08	26700
5531912	M4D032Z03M16LN15	32	29	17,0	M16	40	24	15,5	3	0,18	22000
5555606	M4D032Z04M16LN15	32	29	17,0	M16	40	24	15,5	4	0,18	22000
5528599	M4D035Z04M16LN15	35	29	17,0	M16	40	24	15,5	4	0,19	20600
5531913	M4D040Z05M16LN15	40	29	17,0	M16	40	24	15,5	5	0,23	18800

MILL 4-15 • END MILL • WELDON® SHANK

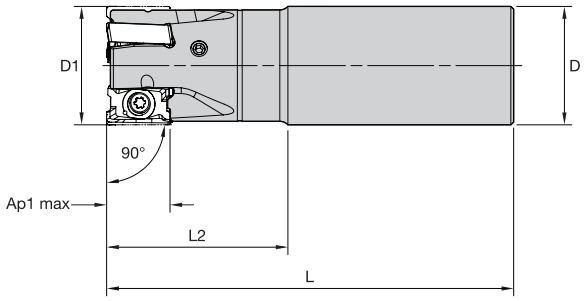


order number	catalogue number	D1	D	L	L2	Ap1 max	Z	kg	max RPM
5528630	M4D025Z02B25LN15	25	25	89	32	15,5	2	0,27	26700
5528631	M4D032Z03B32LN15	32	32	111	50	15,5	3	0,58	22000
5531914	M4D040Z03B32LN15	40	32	111	50	15,5	3	0,65	18800
5555607	M4D040Z04B32LN15	40	32	111	50	15,5	4	0,65	18800

182	186	151	4	192

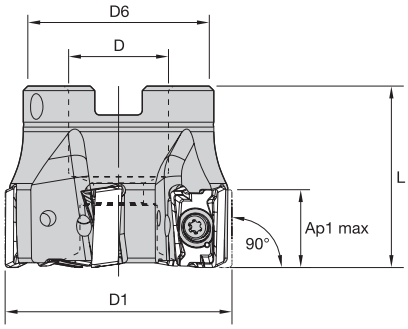
Shoulder Milling

MILL 4-15™ • END MILL • CYLINDRICAL SHANK

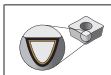


order number	catalogue number	D1	D	L	L2	Ap1 max	Z	kg	max RPM
5531915	M4D025Z02A25LN15L100	25	25	100	43	15,5	2	0,28	26700
5531916	M4D025Z02A25LN15L170	25	25	170	43	15,5	2	0,58	26700
5531917	M4D032Z03A32LN15L110	32	32	110	49	15,5	3	0,58	22000
5531918	M4D032Z03A32LN15L200	32	32	200	50	15,5	3	1,14	22000
5555608	M4D032Z04A32LN15L110	32	32	110	49	15,5	4	0,58	22000
5555609	M4D032Z04A32LN15L200	32	32	200	50	15,5	4	1,14	22000
5531919	M4D040Z03A32LN15L200	40	32	200	50	15,5	3	1,21	18800
5555800	M4D040Z04A32LN15L200	40	32	200	50	15,5	4	1,20	18800

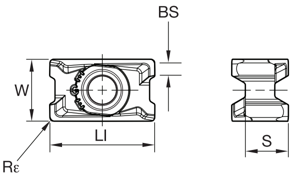
MILL 4-15 • SHELL MILL



order number	catalogue number	D1	D	D6	L	Ap1 max	Z	kg	max RPM
5528632	M4D040Z04S16LN15	40	16	37	40	15,5	4	0,21	18800
5555801	M4D040Z05S16LN15	40	16	37	40	15,5	5	0,19	18800
5698436	M4D050Z04S22LN15	50	22	42	40	15,5	4	0,28	16300
5528633	M4D050Z05S22LN15	50	22	42	40	15,5	5	0,30	16300
5528634	M4D050Z06S22LN15	50	22	42	40	15,5	6	0,27	16300
5698437	M4D063Z05S22LN15	63	22	50	40	15,5	5	0,50	14200
5528635	M4D063Z06S22LN15	63	22	50	40	15,5	6	0,50	14200
5528636	M4D063Z07S22LN15	63	22	50	40	15,5	7	0,50	14200
5698438	M4D080Z05S27LN15	80	27	60	50	15,5	5	1,03	12300
5528637	M4D080Z07S27LN15	80	27	60	50	15,5	7	1,06	12300
5555802	M4D080Z09S27LN15	80	27	60	50	15,5	9	1,04	12300
5698439	M4D100Z06S32LN15	100	32	80	50	15,5	6	1,58	10900
5528638	M4D100Z08S32LN15	100	32	80	50	15,5	8	1,78	10900
5555803	M4D100Z11S32LN15	100	32	80	50	15,5	11	1,60	10900
5698490	M4D125Z07S40LN15	125	40	90	63	15,5	7	2,96	9600
5555804	M4D125Z09S40LN15	125	40	90	63	15,5	9	3,34	9600
5532000	M4D125Z12S40LN15	125	40	90	63	15,5	12	3,00	9600
5698491	M4D160Z08S40LN15	160	40	110	63	15,5	8	4,87	8400
5555805	M4D160Z12S40LN15	160	40	110	63	15,5	12	4,90	8400
5555806	M4D160Z16S40LN15	160	40	110	63	15,5	16	4,89	8400

				NOVO
182	186	151	4	192

MILL 4-15™ • INSERT • LNGU15-EGEJ • LIGHT - MEDIUM

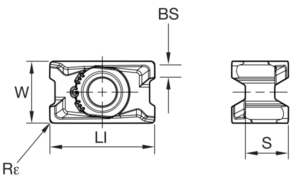


● first choice
○ alternate choice

		KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
P				○	●		●	●		○
M				●	●		○	●	○	●
K			●	○		●	○			
N		●								
S				●	●			○	●	●
H										

ISO catalogue number	LI	S	W	BS	Rε	hm	CE	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
LNGU15T604ERGEJ	17,00	6,96	10,00	2,20	0,4	0,0	4	●	–	–	–	–	–	–	–	–
LNGU15T608ERGEJ	17,00	6,96	10,00	1,80	0,8	0,0	4	●	–	–	–	–	–	–	–	–

MILL 4-15 • INSERT • LNGU15-EGE • LIGHT

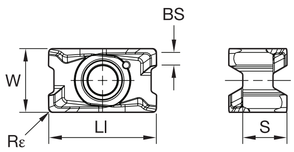


● first choice
○ alternate choice

		KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
P				○	●		●	●		○
M				●	●		○	●	○	●
K			●	○		●	○			
N		●								
S				●	●			○	●	●
H										

ISO catalogue number	LI	S	W	BS	Rε	hm	CE	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
LNGU15T604ERGE	17,01	6,96	10,00	2,20	0,4	0,1	4	–	–	●	●	–	–	●	●	–
LNGU15T608ERGE	17,01	6,96	10,00	1,80	0,8	0,1	4	–	–	●	●	–	–	●	●	●
LNGU15T612ERGE	17,01	6,96	10,00	1,40	1,2	0,1	4	–	–	–	●	–	–	●	●	●
LNGU15T616ERGE	17,01	6,96	10,00	1,07	1,6	0,1	4	–	–	–	●	–	–	●	●	–

MILL 4-15 • INSERT • LNGU15-SGE • MEDIUM



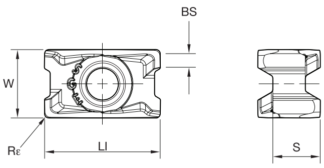
● first choice
○ alternate choice

		KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
P				○	●		●	●		○
M				●	●		○	●	○	●
K			●	○		●	○			
N		●								
S				●	●			○	●	●
H										

ISO catalogue number	LI	S	W	BS	Rε	hm	CE	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
LNGU15T604SRGE	17,00	6,96	10,00	2,20	0,4	0,1	4	–	●	●	●	●	●	–	–	–
LNGU15T608SRGE	17,01	6,96	10,00	1,80	0,8	0,1	4	–	●	●	●	●	●	–	–	●
LNGU15T612SRGE	17,01	6,96	10,00	1,40	1,2	0,1	4	–	●	●	●	●	●	–	–	●
LNGU15T616SRGE	17,01	6,96	10,00	1,07	1,6	0,1	4	–	●	●	●	●	●	–	–	–

		SNC		NOVO
182	186	152-153	4	192

MILL 4-15™ • INSERT • LNPU15-SGE • MEDIUM

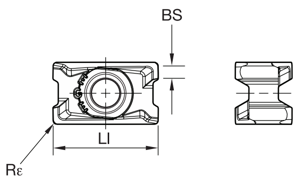


● first choice
○ alternate choice

		KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
P				○	●		●	●		○
M				●	●		○	●	○	●
K			●	○		●	○			
N		●								
S				●	●			○	●	●
H										

ISO catalogue number	LI	S	W	BS	Rε	hm	CE	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
LNPU15T604SRGE	16,90	6,96	10,00	2,20	0,4	0,1	4	–	●	●	●	●	●	–	–	–
LNPU15T608SRGE	16,90	6,96	10,00	1,80	0,8	0,1	4	–	●	●	●	●	●	●	–	–
LNPU15T612SRGE	16,90	6,96	10,00	1,50	1,2	0,1	4	–	●	●	●	–	●	●	–	–
LNPU15T616SRGE	16,90	6,96	10,00	1,10	1,6	0,1	4	–	●	●	●	–	●	●	–	–
LNPU15T620SRGE	16,92	6,96	10,00	0,70	2,0	0,1	4	–	–	●	●	●	●	●	–	–

MILL 4-15 • INSERT • LNGU15-SGEM • HEAVY

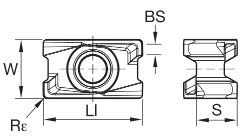


● first choice
○ alternate choice

		KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
P				○	●		●	●		○
M				●	●		○	●	○	●
K			●	○		●	○			
N		●								
S				●	●			○	●	●
H										

ISO catalogue number	LI	S	W	BS	Rε	hm	CE	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
LNGU15T608SRGEM	17,01	6,96	10,00	1,70	0,8	0,1	4	–	●	–	–	●	●	●	–	–
LNGU15T612SRGEM	17,01	6,96	10,00	1,30	1,2	0,1	4	–	●	–	–	●	–	●	–	–
LNGU15T616SRGEM	17,01	6,96	10,00	0,95	1,6	0,1	4	–	●	–	–	●	●	●	–	–
LNGU15T620SRGEM	17,01	6,96	10,00	0,34	2,0	0,1	4	–	–	–	–	●	●	●	–	–

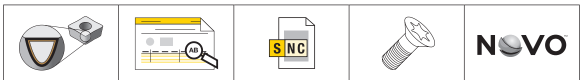
MILL 4-15 • INSERT • LNGU15-SGEH • HELICAL MILLING



● first choice
○ alternate choice

		KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
P				○	●		●	●		○
M				●	●		○	●	○	●
K			●	○		●	○			
N		●								
S				●	●			○	●	●
H										

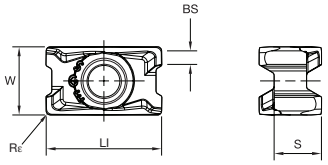
ISO catalogue number	LI	S	W	BS	Rε	hm	CE	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
LNGU15T608SRGEH	17,01	6,96	10,00	1,80	0,8	0,1	4	–	–	–	–	–	–	–	–	●



182	186	152-153	4	192

Shoulder Milling

MILL 4-15™ • INSERT • LNPU15-SGER • RAMPING



● first choice
○ alternate choice

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

ISO catalogue number	LI	S	W	BS	Rε	CE	KC422M	KC520M	KC522M	KC725M	KCK15	KCPK30	KCPM40	KCSM30	KCSM40
LNPU15T608SRGER	16,90	6,96	10,00	2,06	0,8	4	–	–	–	●	●	●	●	–	●

MILL 4-15 • INSERT SELECTION GUIDE

Material Group	Light Machining (Light geometry) wear resistance		General Purpose →		Heavy Machining (Strong geometry) toughness	
	Geometry	Grade	Geometry	Grade	Geometry	Grade
P1–P2	.E..GE	KCPM40	**.S..GE**	**KCPM40**	.S..GEM	KCPM40
P3–P4	.E..GE	KCPM40	**.S..GE**	**KCPK30**	.S..GEM	KCPK30
P5–P6	.E..GE	KC725M	**.S..GE**	**KC725M**	.S..GEM	KCPK30
M1–M2	.E..GE	KCSM40	**.S..GE**	**KCSM40**	.S..GEM	KCPM40
M3	.E..GE	KCPM40	**.S..GE**	**KCPM40**	.S..GEM	KCPM40
K1–K2	.S..GE	KC520M	**.S..GE**	**KCK15**	.S..GEM	KC520M
K3	.S..GE	KC520M	**.S..GE**	**KCK15**	.S..GEM	KC520M
N1–N2	.E..GEJ	KC422M	**.E..GEJ**	**KC422M**	.E..GEJ	KC422M
N3	.E..GEJ	KC422M	**.E..GEJ**	**KC422M**	.E..GEJ	KC422M
S1–S2	.E..GE	KC725M	**.S..GE**	**KC725M**	.S..GE	KC725M
S3	.E..GE	KCSM40	**.S..GE**	**KCSM40**	.S..GE	KCSM40
S4	.E..GE	KCSM40	**.S..GE**	**KCSM40**	.S..GE	KCSM40
H1	–	–	–	–	–	–

				NOVO
182	186	152–153	4	192

Shoulder Milling

MILL 4-15™ • RECOMMENDED STARTING FEEDS

Light Machining	General Purpose	Heavy Machining

Insert Geometry	Recommended Starting Feed per Tooth (Fz) in Relation to % of Radial Engagement (ae)															Insert Geometry
	5%			10%			20%			30%			40–100%			
.E..GEJ	0,12	**0,47**	0,84	0,08	**0,34**	0,60	0,06	**0,26**	0,45	0,06	**0,22**	0,39	0,05	**0,20**	0,36	.E..GEJ
.E..GE	0,23	**0,54**	0,93	0,17	**0,39**	0,67	0,13	**0,29**	0,50	0,11	**0,25**	0,44	0,10	**0,23**	0,40	.E..GE
.S..GE	0,23	**0,59**	0,95	0,17	**0,43**	0,68	0,13	**0,32**	0,51	0,11	**0,28**	0,44	0,10	**0,25**	0,41	.S..GE
.S..GEM	0,23	**0,59**	0,95	0,17	**0,43**	0,68	0,13	**0,32**	0,51	0,11	**0,28**	0,44	0,10	**0,25**	0,41	.S..GEM

NOTE: Use “Light Machining” values as starting feed rate.

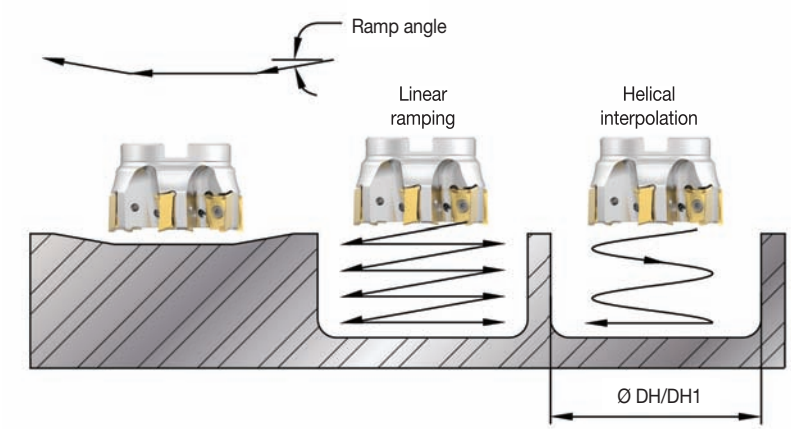
MILL 4-15 • RECOMMENDED STARTING SPEEDS

Material Group		KC422M			KC520M			KC522M			KCSM30			KC725M		
P	1	–	**–**	–	–	**–**	–	330	**285**	270	370	**320**	300	260	**230**	215
	2	–	**–**	–	–	**–**	–	275	**240**	200	310	**270**	220	220	**190**	160
	3	–	**–**	–	–	**–**	–	255	**215**	175	290	**240**	200	200	**170**	140
	4	–	**–**	–	–	**–**	–	225	**185**	150	250	**210**	170	180	**150**	120
	5	–	**–**	–	–	**–**	–	185	**170**	150	210	**190**	170	150	**135**	120
	6	–	**–**	–	–	**–**	–	165	**125**	100	190	**140**	110	130	**100**	80
M	1	–	**–**	–	–	**–**	–	205	**180**	165	230	**200**	190	170	**150**	135
	2	–	**–**	–	–	**–**	–	185	**160**	130	210	**180**	150	155	**130**	110
	3	–	**–**	–	–	**–**	–	140	**120**	95	160	**140**	110	115	**100**	80
K	1	–	**–**	–	270	**245**	215	230	**205**	185	–	**–**	–	–	**–**	–
	2	–	**–**	–	210	**190**	175	180	**160**	150	–	**–**	–	–	**–**	–
	3	–	**–**	–	175	**160**	145	150	**135**	120	–	**–**	–	–	**–**	–
N	1	1075	**945**	875	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
	2	945	**875**	760	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
	3	945	**875**	760	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
S	1	–	**–**	–	–	**–**	–	40	**35**	25	50	**40**	30	35	**30**	25
	2	–	**–**	–	–	**–**	–	40	**35**	25	50	**40**	30	35	**30**	25
	3	–	**–**	–	–	**–**	–	50	**40**	25	60	**50**	30	45	**35**	25
	4	–	**–**	–	–	**–**	–	70	**50**	35	90	**60**	40	60	**45**	30
H	1	–	**–**	–	–	**–**	–	120	**90**	70				–	**–**	–

Material Group		KCPM40			KCK15			KCPM20			KCPK30		
P	1	300	**260**	250	–	**–**	–	550	**485**	450	455	**395**	370
	2	250	**220**	180	–	**–**	–	340	**310**	275	280	**255**	230
	3	230	**200**	160	–	**–**	–	310	**275**	255	255	**230**	205
	4	210	**170**	140	–	**–**	–	230	**215**	190	190	**175**	160
	5	170	**160**	140	–	**–**	–	275	**250**	230	260	**230**	210
	6	150	**120**	90	–	**–**	–	190	**170**	145	160	**135**	–
M	1	200	**170**	160	–	**–**	–	225	**200**	175	205	**185**	155
	2	180	**150**	130	–	**–**	–	205	**175**	160	185	**160**	140
	3	130	**120**	90	–	**–**	–	160	**145**	125	145	**130**	115
K	1	–	**–**	–	420	**385**	340	360	**325**	295	295	**265**	240
	2	–	**–**	–	335	**295**	275	285	**255**	235	235	**210**	190
	3	–	**–**	–	280	**250**	230	240	**215**	200	195	**175**	160
N	1	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
	2	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
	3	–	**–**	–	–	**–**	–	–	**–**	–	–	**–**	–
S	1	40	**40**	30	–	**–**	–	–	**–**	–	–	**–**	–
	2	40	**40**	30	–	**–**	–	–	**–**	–	–	**–**	–
	3	50	**40**	30	–	**–**	–	–	**–**	–	–	**–**	–
	4	70	**50**	40	–	**–**	–	–	**–**	–	–	**–**	–
H	1	–	**–**	–	–	**–**	–	140	**115**	95	–	**–**	–

Shoulder Milling

MILL 4-15™ • SGE-R • RAMPING APPLICATION DATA



cutter diameter	max ramp angle [R]	DH min	DH1 max	max diameter
25	2,63°	44,77	47,16	50
32	2,38°	58,64	60,81	64
35	2,12°	64,61	66,75	70
40	1,80°	74,57	76,82	80
50	1,38°	94,53	96,72	100
63	1,06°	120,52	122,72	126
80	0,82°	154,52	156,73	160
100	0,64°	194,52	196,73	200
125	0,51°	244,51	246,73	250
160	0,39°	314,51	316,74	320

DH min = Minimum hole diameter with helical interpolation

DH1 max = Maximum flat bottomed hole diameter with helical interpolation

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eBore™

Digital Fine Boring System

One digital display for all fine boring tools.

Materials

P M K N S H

Applications

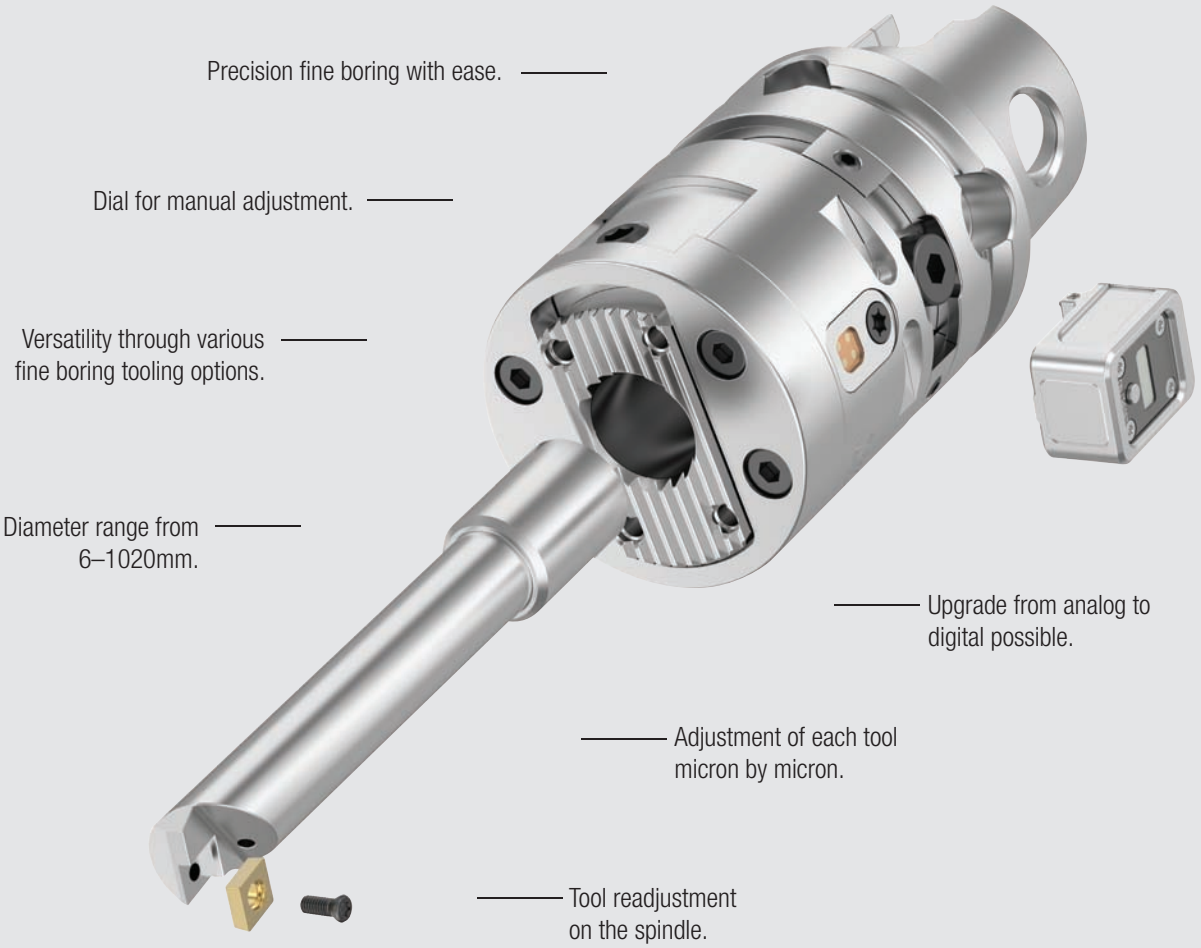
- Reaming: Through Hole
- Reaming: Through & Cross Holes
- Reaming: Blind Hole
- Reaming: Blind & Cross Holes

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.

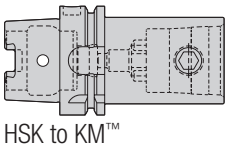
The digital eBore display provides the option to readjust the tool on the spindle, reducing setup time and idle time.

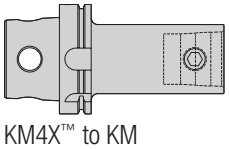
One for all — One eBore digital display serving all eBore fine boring tools.

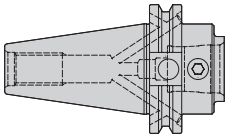
Micron by micron, the precision adjustment of each tool is just as easy as 1, 2, 3.

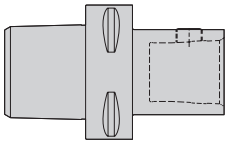


Adaptors

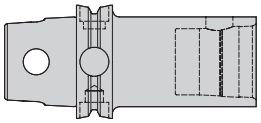

HSK to KM™


KM4X™ to KM

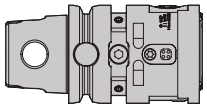

BT, CV, DV to KM

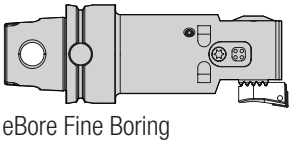

PSC to KM

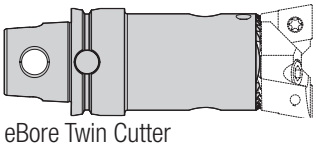
Extension



eBore™

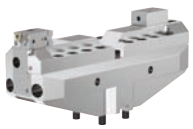

eBore Universal


eBore Fine Boring

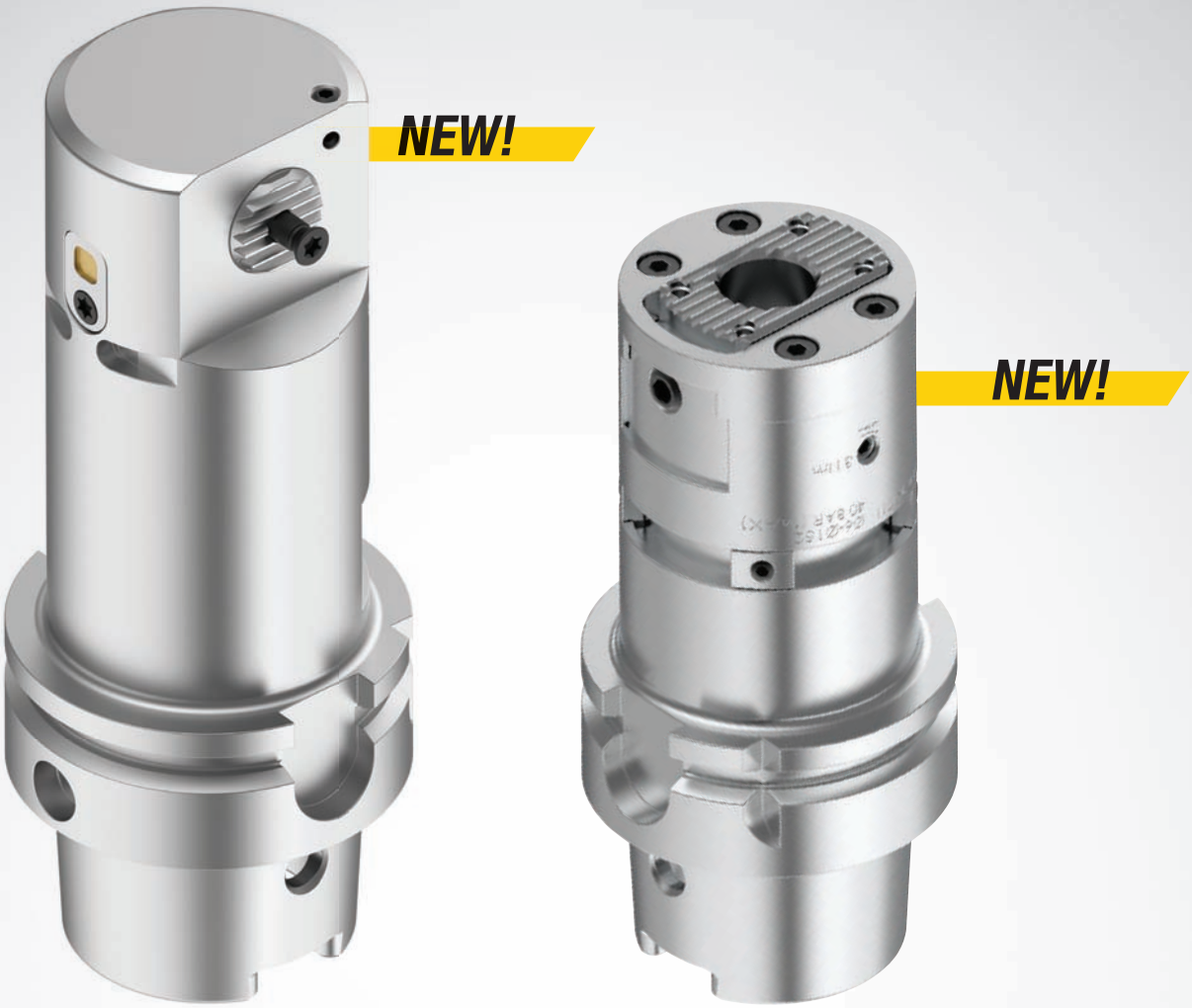

eBore Twin Cutter

Modular Boring

TOOL SELECTION GUIDE • FINE BORING

				
Series	**eBore™ Universal**	**eBore Fine Boring Tool**	**eBore Bridge Finishing Tools**	**eBore Twin Cutters**
Page	168–173	174-175	176-178	179-180
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			10 µm
Position	5–10 µm			>20 µm
Surface roughness (Ra) P	0,8–2,0 µm			1,0–5,0 µm
Surface roughness (Ra) M	0,8–2,0 µm			1,0–5,0 µm
Surface roughness (Ra) K	0,8–2,0 µm			1,0–5,0 µm
Surface roughness (Ra) N	0,8–2,0 µm			1,0–2,0 µm
Surface roughness (Ra) S	0,8–2,0 µm			1,0–5,0 µm
Surface roughness (Ra) H	< 1,2 µm			
Coolant				
Main Operations				

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

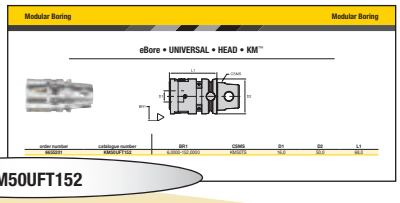


eBore™ Universal Fine Boring and eBore Fine Boring heads with HSK63A connection.

eBore™ • CATALOG NUMBERING SYSTEM

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

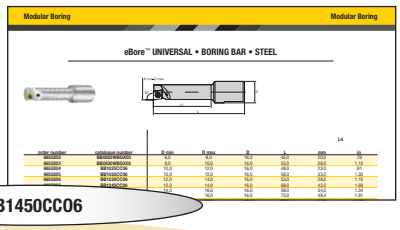
Head



KM50UFT152

KM50	UFT	152
Back End	Boring System	Boring Range
KM™ HSK63A	**UTF** = Universal Fine Boring Tool **BT** = Fine Boring Tool **BDG** = Bridge Tool **TC** = Twin Cutter	Diameter (min. or max.)

Boring Bar and Insert Holder

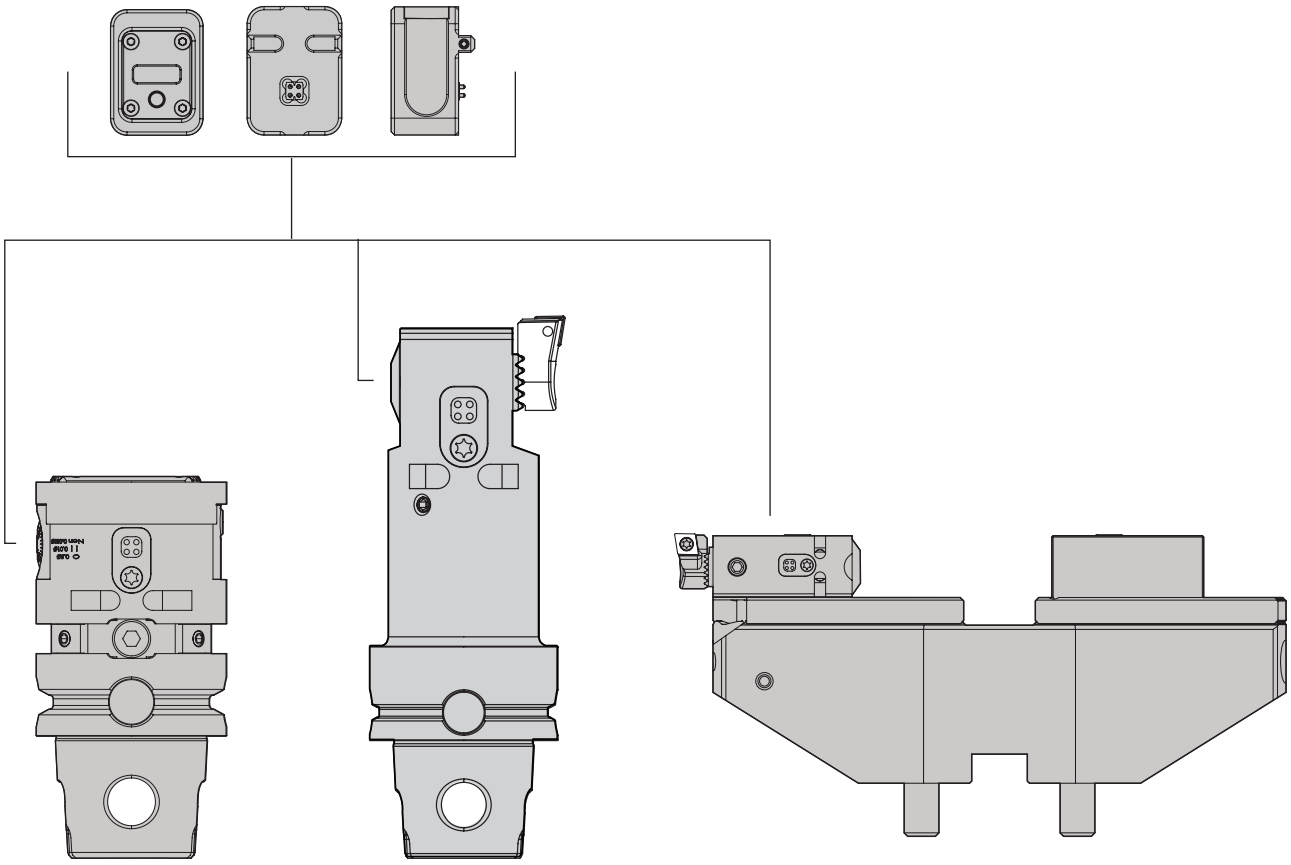


BB1450CC06

BB	14	50	CC06
Tool Type	Diameter	Length	Insert Style and Size
BB = Boring bar **IH** = Insert holder	Ø14mm	50mm	**CC** = Rhomboid 60°, 7° clearance angle **06** = IC 6mm **09** = IC 9mm **12** = IC 12mm

Modular Boring

eBore™ DIGITAL DISPLAY OVERVIEW



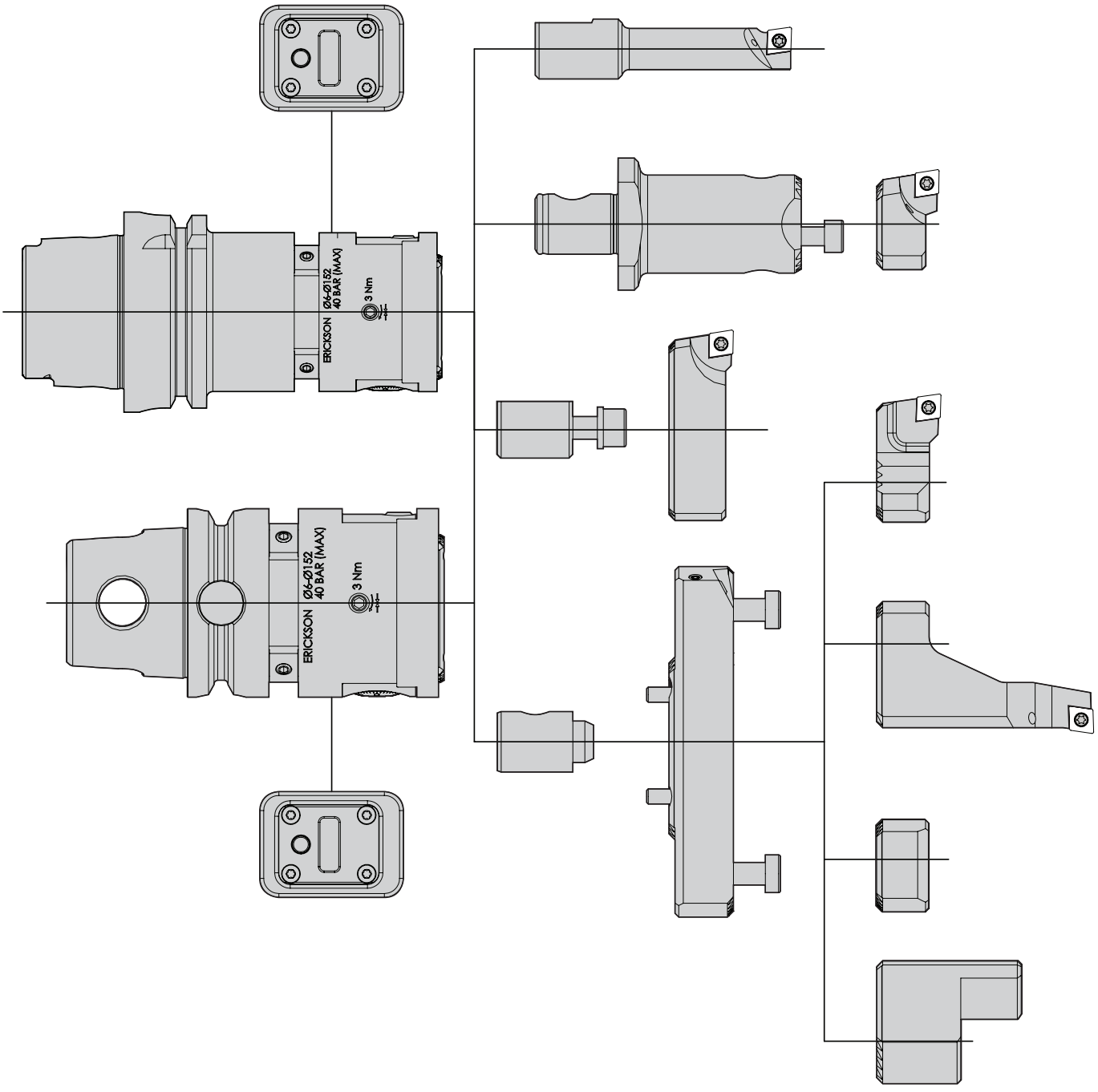
eBore DIGITAL DISPLAY

order number	catalogue number
6655307	FBDD0001IN
6655306	FBDD0001M

182	186	166	4	192

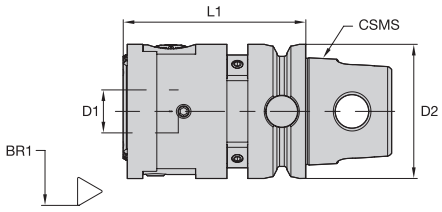
Modular Boring

eBore™ UNIVERSAL OVERVIEW



Modular Boring

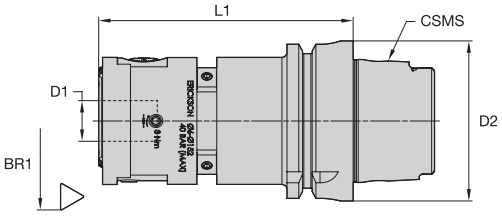
eBore™ • UNIVERSAL • HEAD • KM™



order number	catalogue number	BR1	CSMS	D1	D2	L1
6655201	KM50UFT152	6,0000-152,0000	KM50TS	16,0	50,0	68,0

eBore • UNIVERSAL • HEAD • HSK63A

NEW!

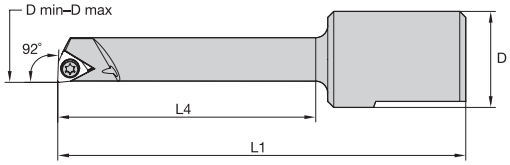


order number	catalogue number	BR1	CSMS	D1	D2	L1
6922550	HSK63AUFT152	6,0000-152,0000	HSK63A	16,0	50,0	100,0

182	186	166	4	192

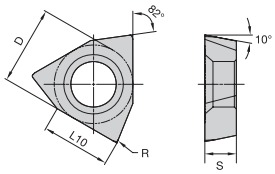
Modular Boring

eBore™ UNIVERSAL • BORING BAR • HEAVY METAL



order number	catalogue number	D min	D max	D	L1	L4
6655221	BB0632WBGX02	6,0	8,0	16,0	55,0	30,0
6655222	BB0845WBGX02	8,0	10,0	16,0	68,0	43,0

eBore UNIVERSAL • BORING BAR • HEAVY METAL • INSERT

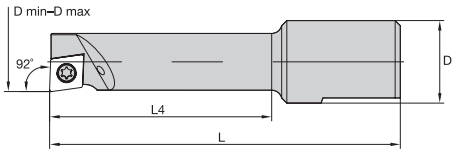


● first choice
○ alternate choice

P	●
M	●
K	●
N	●
S	●
H	

ISO catalogue number	D	L10	Rε	KCU10
WBGX020101	3,97	3,45	0,1	●

eBore UNIVERSAL • BORING BAR • STEEL

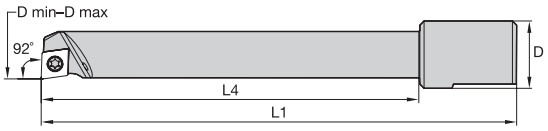


order number	catalogue number	D min	D max	D	L	L4
6655202	BB0622WBGX02	6,0	8,0	16,0	45,0	20,0
6655203	BB0830WBGX02	8,0	10,0	16,0	53,0	28,0
6655204	BB1025CC06	10,0	12,0	16,0	48,0	23,0
6655205	BB1035CC06	10,0	12,0	16,0	58,0	33,0
6655206	BB1230CC06	12,0	14,0	16,0	53,0	28,0
6655207	BB1245CC06	12,0	14,0	16,0	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

				NOVO
182	186	166	4	192

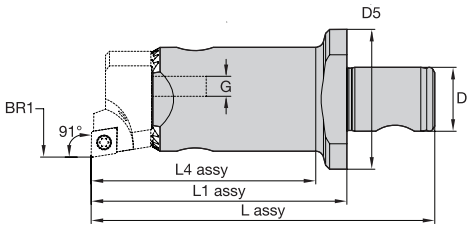
Modular Boring

eBore™ UNIVERSAL • BORING BAR • CARBIDE



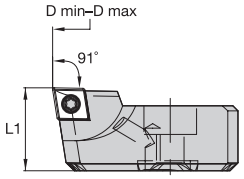
order number	catalogue number	D min	D max	D	L1	L4
6655214	BB1055CC06	10,0	12,0	16,0	78,0	55,0
6655215	BB1075CC06	10,0	12,0	16,0	98,0	75,0
6655216	BB1290CC06	12,0	14,0	16,0	113,0	90,0
6655217	BB1475CC06	14,0	16,0	16,0	98,0	75,0
6655218	BB14100CC06	14,0	16,0	16,0	123,0	100,0
6655219	BB1690CC06	16,0	20,0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

eBore UNIVERSAL • EXTENSION



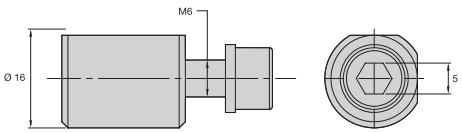
order number	catalogue number	BR1	D	D5	L1 assy	L2 assy	G
6655223	UFTE64	29,0000-53,0000	16,0	35,0	64,0	56,2	M5X20
6655224	UFTE100	29,0000-53,0000	16,0	35,0	100,0	92,2	M5X20

eBore UNIVERSAL • INSERT HOLDER FOR EXTENSION • 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

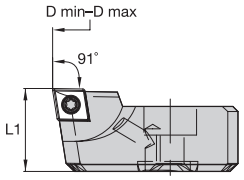
eBore UNIVERSAL • MOUNTING BOLT FOR INSERT HOLDER STRAIGHT MOUNT



order number	catalogue number	D	D2	L
6655231	WIH052076	16,0	11,00	34,10

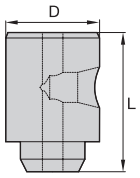
Modular Boring

eBore™ UNIVERSAL • INSERT HOLDER FOR STRAIGHT MOUNT • CC06



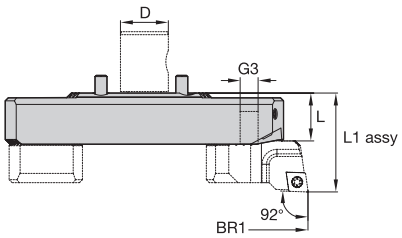
order number	catalogue number	D min	D max	L1
6655228	**IH05216CC06**	52,0	77,0	16,5
6655229	**IH07616CC06**	76,0	102,0	16,5

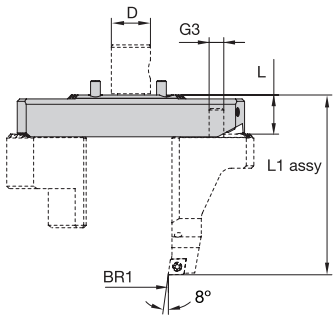
eBore UNIVERSAL • COOLANT CONNECTOR



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

eBore UNIVERSAL • BRIDGE FOR INSERT HOLDER I.D./O.D.



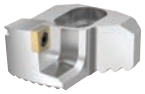


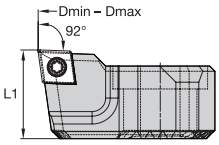
order number	catalogue number	BR1 - I.D.	BR1 - O.D.	D	L	L1 assy - I.D.	L1 assy - O.D.	G3
6655233	**UFTB06816**	68,0000-96,0000	–	16,0	17,1	32,5	–	M4X0.7
6655234	**UFTB09616**	96,0000-124,0000	2,0000 - 30,0000	16,0	17,1	32,5	75,1	M4X0.7
6655235	**UFTB12416**	124,0000-152,0000	29,0000 - 58,0000	16,0	17,1	32,5	75,1	M4X0.7

182	186	166	4	192

Modular Boring

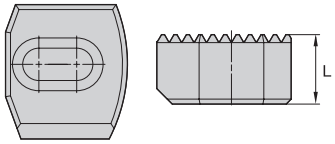
eBore™ UNIVERSAL • INSERT HOLDER I.D. • CC06





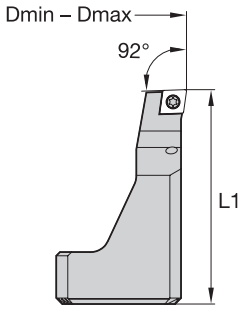
order number	catalogue number	D min	D max	L1
6655236	IHUFTBCC06	68,0	152,0	16,5

eBore UNIVERSAL • COUNTERWEIGHT I.D.



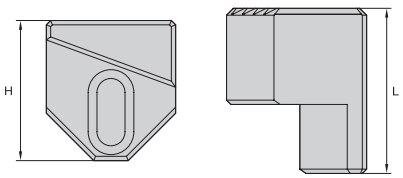
order number	catalogue number	L
6655237	CWUFTB	14,0

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.

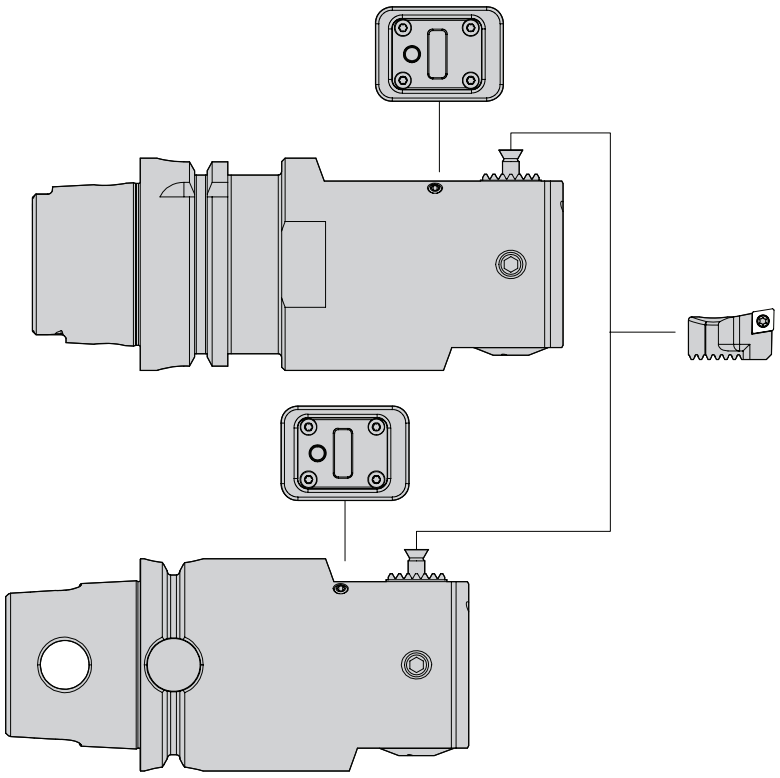


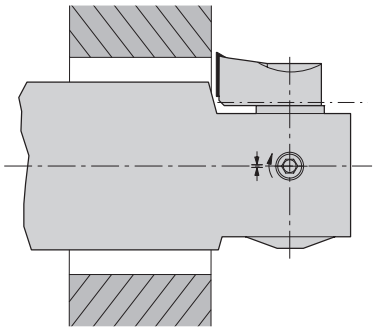
order number	catalogue number	L	H
6655309	CWUFTBOD	38,3	32,5

182 | 186 | 166 | 4 | 192

Modular Boring

eBore™ FINE BORING OVERVIEW



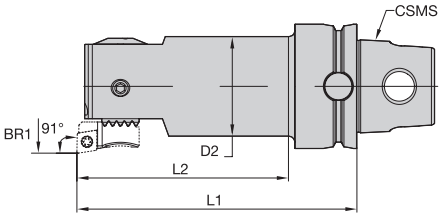


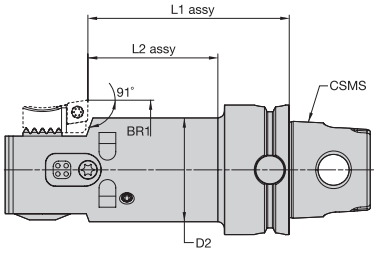
Back boring feasible with identical cartridge

For back boring, the insert holder is turned through 180° and mounted on the slider.

Attention: Back boring then takes place with the machine spindle rotating anti-clockwise.

eBore FINE BORING • CUTTING UNIT • KM™





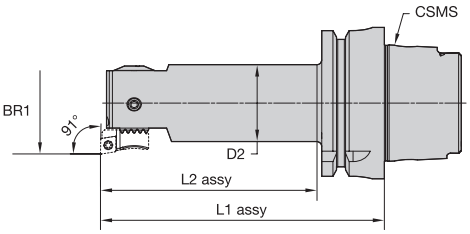
Back boring (BB)

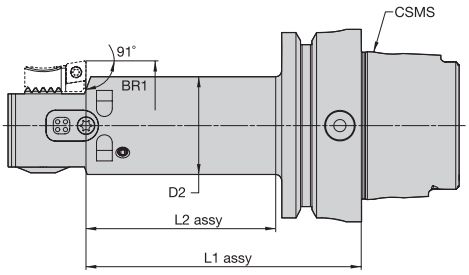
order number	catalogue number	BR1	CSMS	D2	L1 assy	L2 assy	L1 assy BB	L2 assy BB	IHS
6655290	KM32BT024532	24,5000-29,0000	KM32TS	23,0	90,0	78,0	–	–	A
6655292	KM32BT02942	29,0000-44,0000	KM32TS	27,0	100,0	88,0	72,0	60,0	A / B
6655294	KM40BT04352	43,0000-54,0000	KM40TS	32,0	90,0	68,0	62,0	40,0	B
6655295	KM50BT05357	53,0000-66,0000	KM50TS	42,0	86,0	68,0	58,0	36,0	B
6655297	KM50BT06557	65,0000-83,0000	KM50TS	50,0	90,0	90,0	54,0	32,0	C
6655298	KM63BT08272	82,0000-103,0000	KM63TS	63,0	100,0	100,0	64,0	42,0	C
6655299	KM80BT10072	100,0000-130,0000	KM80TS	80,0	120,0	120,0	84,0	62,0	C
6655300	KM80BT12572	125,0000-167,5000	KM80TS	–	120,0	120,0	84,0	62,0	C
6655301	KM80BT162572	162,5000-205,0000	KM80TS	–	150,0	150,0	114,0	92,0	C

182	186	166	4	192

eBore™ FINE BORING • CUTTING UNIT • HSK63A

NEW!

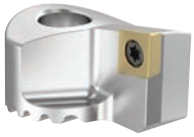


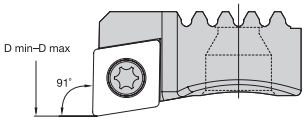


Back boring (BB)

order number	catalogue number	BR1	CSMS	D2	L1 assy	L2 assy	L1 assy BB	L2 assy BB	IHS
6922551	HSK63ABT024580	24,5000-29,0000	HSK63A	23,0	108,0	82,0	–	–	A
6922552	HSK63ABT02990	29,0000-44,0000	HSK63A	27,0	118,0	92,0	90,0	62,0	A / B
6922553	HSK63ABT04390	43,0000-54,0000	HSK63A	32,0	118,0	92,0	90,0	62,0	B
6922554	HSK63ABT053100	53,0000-66,0000	HSK63A	42,0	128,0	102,0	100,0	72,0	B
6922555	HSK63ABT065100	65,0000-83,0000	HSK63A	50,0	128,0	102,0	92,0	64,0	C
6922556	HSK63ABT082100	82,0000-103,0000	HSK63A	63,0	128,0	102,0	92,0	64,0	C
6922557	HSK63ABT100120	100,0000-130,0000	HSK63A	80,0	148,0	122,0	112,0	84,0	C
6922558	HSK63ABT125120	125,0000-167,5000	HSK63A	100,0	148,0	122,0	112,0	84,0	C
6922559	HSK63ABT1625150	162,5000-205,0000	HSK63A	135,0	178,0	152,0	142,0	114,0	C

eBore FINE FINISHING • INSERT HOLDER





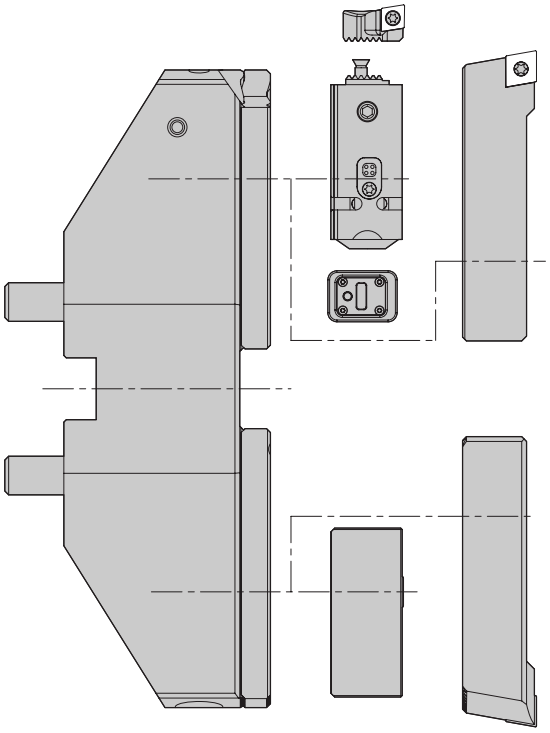
order number	catalogue number	D min	D max	IHS
6655291	IHBT024CC06	24,5	37,0	A
6655293	IHBT036CC06	36,0	66,0	B
6655296	IHBT065CC06	65,0	205,0	C

				
182	186	166	4	192

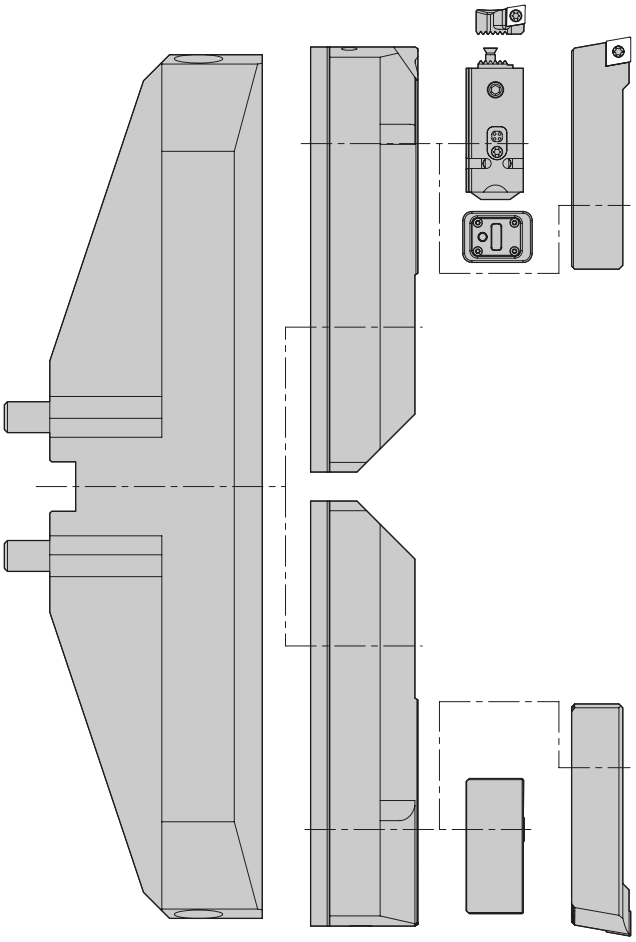
Modular Boring

eBore™ BRIDGE TOOLS OVERVIEW

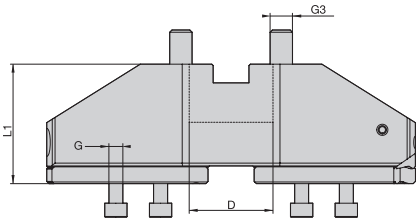
eBore — Bridge S (Small)



eBore — Bridge L (Large)



eBore • BRIDGE S

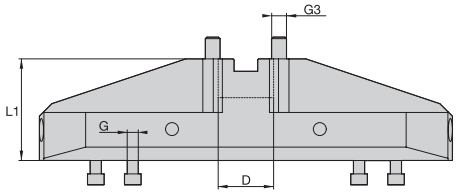


order number	catalogue number	BR1	D	L1	L1 assy	G	G3
6655282	BDG20060	200,0000-280,0000	60,0	85,0	115,1	M10X50	M16X2
6655284	BDG27560	275,0000-355,0000	60,0	85,0	115,1	M10X50	M16X2
6655285	BDG35060	350,0000-430,0000	60,0	85,0	115,1	M10X50	M16X2
6655286	BDG42560	425,0000-505,0000	60,0	85,0	115,1	M10X50	M16X2

182	186	166	4	192

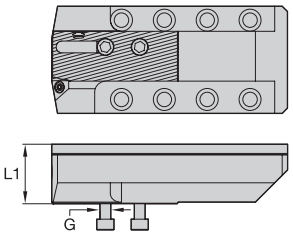
Modular Boring

eBore™ • BRIDGE L



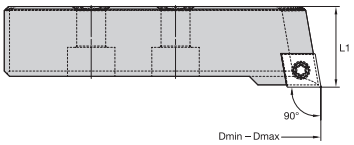
order number	catalogue number	BR1	D	L1	L1 assy	G	G3
6655287	BDG46560	465,0000-745,0000	60,0	110,0	185,1	M12X55	M16X2
6655289	BDG74060	740,0000-1020,0000	60,0	110,0	185,1	M12X55	M16X2

eBore • BRIDGE L • EXTENDER



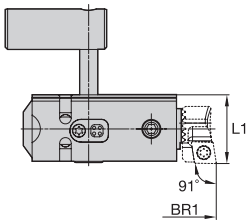
order number	catalogue number	L1	G
6655288	SBDG46545	45,0	M10X1,5

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

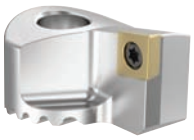


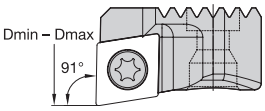
order number	catalogue number	BR1	L1 assy
6655302	BFBS10012	100,0000-1020,0000	30,0

182	186	166	4	192

Modular Boring

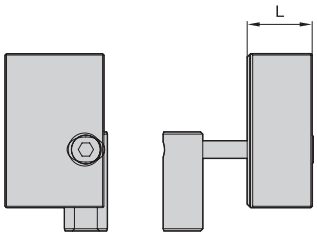
eBore™ • BRIDGE S/L • INSERT HOLDER • CC09





order number	catalogue number	D min	D max
6655303	IHBFBSCC09	200,0	1020,0

eBore • BRIDGE S/L • SLIDE • COUNTERWEIGHT

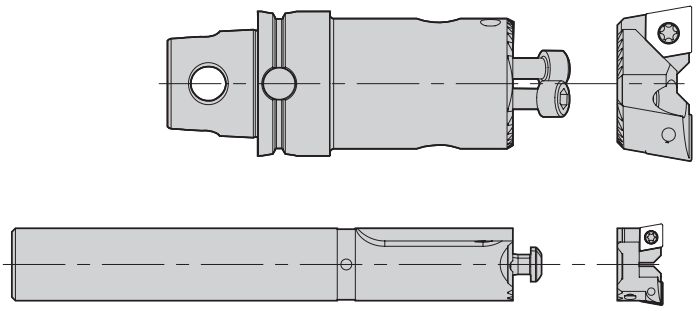


order number	catalogue number	L
6655305	CWBFBS	68,2

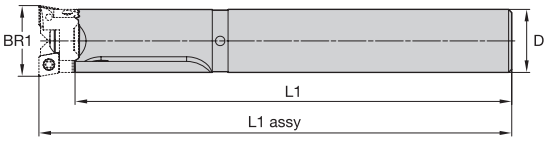
182 | 186 | 166 | 4 | 192

Modular Boring

eBore™ TWIN CUTTER OVERVIEW

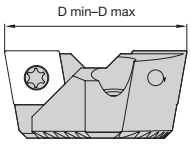


eBore • TWIN CUTTER • STRAIGHT SHANK



order number	catalogue number	BR1	D	L1	L1 assy
6655239	SS18TC0195	19,5000-23,0000	18,0	138,0	150,0
6655241	SS20TC0225	22,2000-26,0000	20,0	138,0	150,0
6922560	SS25TC0255	25,5000-30,0000	25,0	148,0	160,0

eBore • TWIN CUTTER • STRAIGHT SHANK • INSERT HOLDER



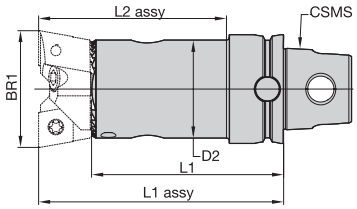
order number	catalogue number	D min	D max
6655240	IHTC0195CC06	19,5	23,0
6655242	IHTC0225CC06	22,5	26,0
6655244	IHTC0255CC06	25,5	30,0

NOTE: Order two insert holders for complete assembly as shown on the image.

182	186	166	4	192

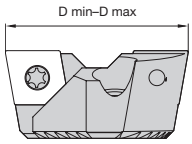
Modular Boring

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	**KM50TC053**	53,0000-66,0000	KM50TS	40,0	70,0	90,1	70,1
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	205,0

182	186	166	4	192

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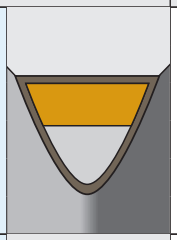
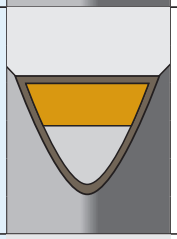
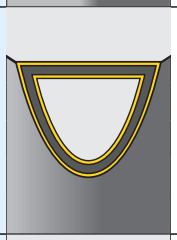
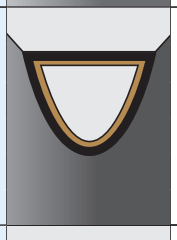
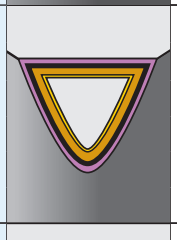
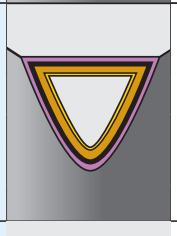
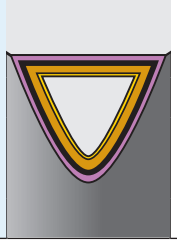
KENNAMETAL

Grade Descriptions

TURNING

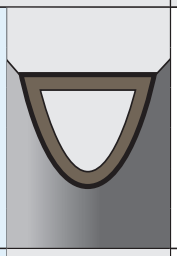
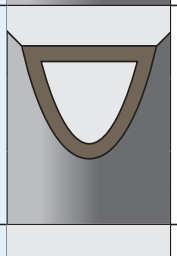
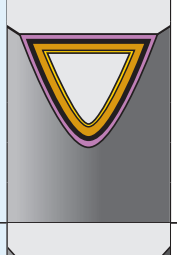
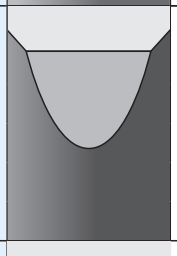
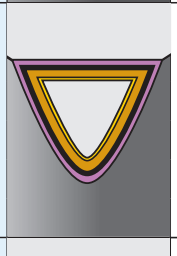
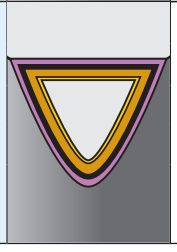
wear resistance ⟷ toughness

Coating		Grade Description		05	10	15	20	25	30	35	40	45
KBH10B		A low content PcBN grade with a patented binder structure and a PVD TiN/TiAlN/TiN coating for added wear resistance and enhanced wear identification. Designed for the precision machining of hardened steels (>45 HRC). It can be effectively applied on bearing steels, hot and cold work tool steels, high speed steels, die steels, case hardened steels, carburised and nitrided irons, and some hard coatings. Available in a multi-tip format with a wide range of edge preps, insert styles, and wiper geometries.	H									
KBH20B		A low content PcBN grade with a PVD TiN/TiAlN/TiN coating for added wear resistance and enhanced wear identification. KBH20B™ is the ideal PcBN hard turning grade for continuous to lightly interrupted cutting applications. The structure, as well as the different edge preparations, enable repeatable workpiece tolerances, excellent surface finishes, and surface integrity. Typical applications are case-hardened steel components such as gears, shafts, and other drive-train components.	H									
KYHK15B		Composition: A PVD coated mixed aluminum oxide composite ceramic (Al_2O_3) with embedded fine-grained titanium carbonitride (TiCN). Application: KYHK15B is suitable for turning hardened steels (45 HRC–60 HRC), finishing of cast irons and high temperature alloys. This advanced ceramic offers maximum edge strength and excellent wear resistance by achieving performance to compete with CBN.	K S H									
KCPK05		Composition: A deformation-resistant, cobalt-enriched substrate combined with thick MTCVD TiCN-Al_2O_3 coating. Application: For high productivity turning of steels and PH stainless steels in continuous to lightly interrupted cuts. This grade provides excellent combination of toughness and high speed wear resistance allowing the fastest steel part production. Its unique combination of substrate and coating also make it an ideal roughing grade for cast iron where chipping resistance is required.	P K									
KCP10B		Composition: A specially engineered wear-resistant carbide grade with a newly designed multilayer MTCVD-TiCN-Al_2O_3-TiOCN coating with superior interlayer adhesion. Application: An excellent finishing to medium machining grade for a variety of workpiece materials, including most steels, ferritic, martensitic, and PH stainless steels, and cast irons. The cobalt-enriched substrate offers a balanced combination of deformation resistance and edge toughness, while the thick coating layers offer outstanding abrasion resistance and crater wear resistance for high-speed machining. Smooth coating provides resistance to edge build-up and microchipping and produces excellent surface finishes.	P K									
KCP25B		Composition: A tough cobalt-enriched carbide grade with a newly designed multilayer MTCVD-TiCN-Al_2O_3-TiOCN coating with superior interlayer adhesion. Application: Best general-purpose turning grade for most steels and ferritic and martensitic stainless steels. The substrate design ensures adequate deformation resistance with excellent insert edge strength. Coating layers offer good wear resistance over a wide range of machining conditions and the post-coat treatment minimises microchipping and improves coating adhesion to substrate leading to long tool life and improved workpiece finishes.	P K									
KCP40B		Composition: A tough carbide grade with a thin MTCVD TiCN-Al_2O_3-TiOCN coating. Application: For heavy roughing of carbon, alloy, and stainless steels. The substrate-coating combination provides unbelievable toughness and operational security allowing high metal removal rates even in most demanding interrupted cuts.	P M									

Grade Descriptions

TURNING

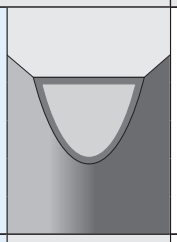
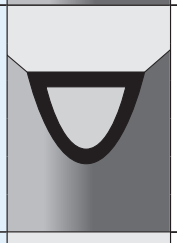
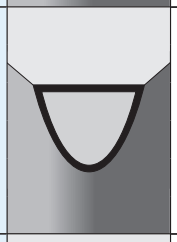
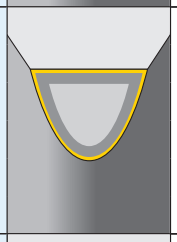
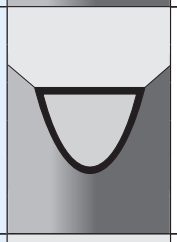
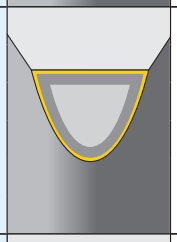
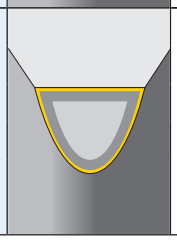
wear resistance ⟷ toughness

Coating		Grade Description		05	10	15	20	25	30	35	40	45
KCU10		Composition: An advanced multilayer PVD coating over a very deformation-resistant unalloyed carbide substrate. The new and improved coating improves edge stability with wide range speed and feed capabilities. Application: The KCU10™ grade is ideal for finishing to general machining of most workpiece materials at a wide range of speed and feed capabilities. Excellent for machining most steels, stainless steels, cast irons, non-ferrous materials, and high-temp alloys with improved edge toughness, notch resistance, and higher cutting speed/feed capability.	P									
			M									
			K									
			N									
			S									
			H									
KCU25		Composition: An advanced PVD grade with hard AlTiN coating and fine-grain unalloyed substrate. The new and improved coating improves edge stability with wide range speed and feed capabilities. Application: The KCU25™ grade is ideal for general machining of most steels, stainless steels, high-temp alloys, titanium, irons, and non-ferrous materials in a wide range of speeds and feeds with improved edge toughness for interrupted cut and high feed rates.	P									
			M									
			K									
			N									
			S									
KCP25B		Composition: A tough cobalt-enriched carbide grade with a multilayer MTCVD TiCN-Al_2O_3-TiOCN coating with superior interlayer adhesion. Application: Best general-purpose turning grade for most steels and ferritic and martensitic stainless steels. The substrate design ensures adequate deformation resistance with excellent insert edge strength. Coating layers offer good wear resistance over a wide range of machining conditions and the post-coat treatment minimises microchipping and improves coating adhesion to substrate leading to long tool life and improved workpiece finishes.	P									
			K									
K313		Composition: A hard, low binder content, unalloyed WC/Co fine-grain grade. Application: Exceptional edge wear resistance combined with very high strength for machining titanium, cast irons, austenitic stainless steels, non-ferrous metals, non-metals, and most high-temp alloys. Superior thermal deformation and depth-of-cut notch resistance. The grain structure is well controlled for minimal pits and flaws, which contributes to long, reliable service.										
			M									
			K									
			N									
			S									
KCK20B		Composition: A specially toughened MTCVD TICN-Al_2O_3-TiOCN coating over a wear-resistant substrate. Application: Specifically engineered to maximise coating adhesion and edge strength making this grade ideal in wet interrupted cutting of grey and ductile irons. It can be used in a wide range of applications from finishing to roughing to maximise productivity wherever strength and reliability are needed.	P									
			K									
KCM35B		Composition: A multilayer MTCVD TiCN-Al_2O_3-TiOCN coating over a super-tough substrate. Application: Engineered to take on the most brutal cast stainless steel machining applications. The substrate withstands heavy interruptions, while the coating provides the wear resistance needed for long tool life. The polished surface resists edge build-up, even at slow cutting speeds. Available in insert sizes and geometries appropriate for heavy feeds and large depths of cut.	P									
			M									

Grade Descriptions

INDEXABLE MILLING

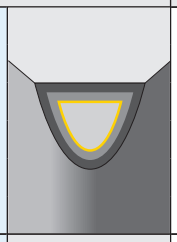
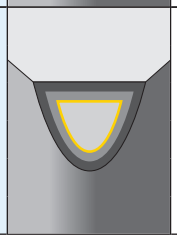
wear resistance ⟷ toughness

Coating		Grade Description		05	10	15	20	25	30	35	40	45
KC422M		The PVD TiB_2 coating is very wear resistant. Together with hard coating and a tough substrate, this is an excellent combination for medium to roughing applications in aluminium <10% silicon and other non-ferrous materials.	N									
KC520M		Coated carbide grade with TiAlN coating (PVD). KC520M is a carbide grade developed specifically for general machining of ductile cast iron. This grade can be used with or without coolant.	K									
KC522M		Coated carbide grade with a AlTiN (PVD) coating. KC522M is engineered to provide better performance in general machining of high-temperature alloys and stainless steel. KC522M resists breakage and offers improved wear resistance and increased strength.	P M K S									
KC725M		Coated carbide grade with an advanced PVD TiAlN coating. KC725M is a high-performance grade for milling steel, stainless steel, and ductile cast iron. The good thermal shock resistance of the substrate makes this grade ideal for both wet and dry machining. Primarily for use in general and heavy machining.	P M S									
KCPM40		Coated carbide grade with an advanced PVD TiAlN/AlCrN coating. Tough substrate with excellent capability at higher temperatures. KCPM40™ is the first choice for milling steel and stainless steel. Good thermal shock resistance makes this grade ideal for both wet and dry machining. Primarily for use in general and heavy machining.	P M									
KCSM30		Submicron substrate coated with high-performance TiAlN-PVD coating is an excellent choice for titanium, but also high-temperature alloys and stainless with higher speeds for light to medium cuts. First choice for application with thin to medium chip thickness, dry and wet.	P M S									
KCSM40		Coated carbide grade with an advanced PVD TiAlN/TiN coating. Premium substrate with newly developed binder composition. KCSM40 is a high-performance grade for titanium, super alloys, and stainless steel. High thermal shock resistance of the substrate makes this grade ideal for wet machining. First choice for roughing and unsuitable cutting conditions.	M S									

Grade Descriptions

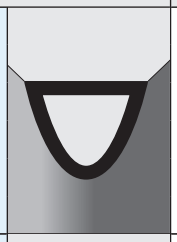
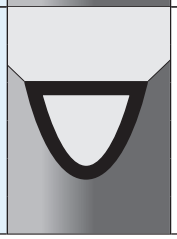
INDEXABLE MILLING

wear resistance ⟷ toughness

Coating		Grade Description		05	10	15	20	25	30	35	40	45
KCK15		Coated carbide grade with CVD multilayer coating (TiN/MT TiCN/Al_2O_3) and advanced Beyond™ post-coat treatment. KCK15 is a wear-resistant grade with balanced toughness for general milling of cast irons at higher speeds. Best results in dry, but can also be used wet.	K									
KCPK30		Coated carbide grade with CVD multilayer (TiN/TiCN/Al_2O_3) and advanced Beyond™ post-coat treatment. Substrate is very tough. KCPK30 has a wide application area in general and roughing milling of steels and cast irons. Performs best dry, but can also be used wet.	P K									

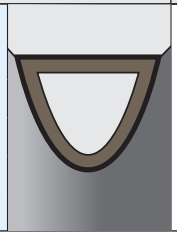
SOLID CARBIDE END MILLS

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									

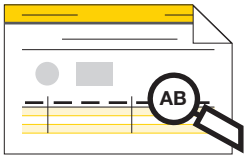
HOLEMAKING

wear resistance ⟷ toughness

Coating		Grade Description		05	10	15	20	25	30	35	40	45
KCU10		Composition: An advanced multilayer PVD coating over a very deformation-resistant unalloyed carbide substrate. The new and improved coating improves edge stability with wide range speed and feed capabilities. Application: The KCU10™ grade is ideal for finishing to general machining of most workpiece materials at a wide range of speed and feed capabilities. Excellent for machining most steels, stainless steels, cast irons, non-ferrous materials, and super alloys with improved edge toughness and higher cutting speed/feed capability.	P M K N S H									

General Information

KEY TO PRODUCT TABLE COLUMN HEADINGS



You may notice a slight change in the appearance of our product tables and specification charts. In this catalog, 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
A	Coolant Hole Diameter
Ap max	Maximum Cutting Depth
Ap1 max	Maximum Cutting Depth
B	Shank Width
B1	Front Clearance
B2	Overall Width
B3	Head Back Offset
BCH	Corner Chamfer Width
BR1 - O.D.	Bore Range O.D.
BR1 bore range	Bore Range
BS	Corner Facet Length
BSC	Blade Size Code
CD	Cutting Depth
CE	Cutting Edges
CF	Coolant Supply Size Radial
CFVDI	Coolant Supply Size - VDI
CS	Coolant Supply Size
CSMS	Connection System Size Machine Side
D	Insert: Insert IC Size
D	Adaptor/Shank Diameter
D max	Maximum Bore Diameter
D min	Minimum Bore Diameter
D1	Insert: Insert Hole Size
D1	Milling: Cutter Diameter
D1	Toolholder: Clamping Diameter
D2	Body Diameter 1 Workpiece Side
D3	Neck Diameter
D5	Body Diameter Machine Side
D6	Hub Diameter
DPM	Pilot Diameter Machine Side
F	F Dimension
FS	Secondary F dimension
G	Connector Thread Size Machine Side
G3	Connection Thread Size Workpiece Side
G3X	Connection Thread Size External
GI	Gage Insert
H	Shank Height
H1	Cutting Height
H1	Centreline Height
H2	Toolholder: Head Height
H2	Overall Height
H3	Head Bottom Offset
hm	Average Chip Thickness
HW	Shank Height
IHS	Insert Holder Size
L	Overall Length
L1	Tool Length
L1	Toolholder: Gage Length
L1 assy	L1 Assembly Length
L1 assy - O.D.	L1 Assembly Length O.D.
L1 assy BB	L1 Assembly Length for back boring
L10	Insert Cutting Edge Length
L2	Milling: Head Length
L2 assy	L2 Assembly Length
L2 assy BB	L2 Assembly Length for back boring
L3	Milling: Maximum Depth
L4	Maximum Boring Depth
lbs	Weight Pounds
LEFF	Tip Length Tangent
LH	Head Length
LI	Insert Length
LPR	Protruding Length
LS	Shank Length
max RPM	Maximum Revolutions Per Minute
RC	Full Radius
Rε	Corner Radius
RL	Corner Radius Left Hand
RR	Corner Radius Right Hand
Rε	Corner Radius
S	Insert Thickness
SSC	Seat Size Code
W	Cutting Edge Width or Slot Width
W	Turning: Groove Width
W	Insert Width
W tol ±	Cutting Width (+/-) Tolerance
W1	Blade Width
WF	Milling: Width of Flat
Z	Number of Inserts
αL	Cutting Edge Angle Left Hand
αR	Cutting Edge Angle Right Hand

Material Cross Reference • DIN

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%	–	–	–	GAlSiCu4, GDAlSi10Mg
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 catalogue 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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INNOVATIONS

WORLD HEADQUARTERS
Kennametal Inc.
525 William Penn Place I Suite 3300
Pittsburgh, PA 15219 USA
Tel: 1 800 446 7738
ftmill.service@kennametal.com

EUROPEAN HEADQUARTERS
Kennametal Europe GmbH
Rheingoldstrasse 50
CH 8212 Neuhausen am Rheinfall
Switzerland
Tel: +41 52 6750 100
neuhausen.info@kennametal.com

ASIA-PACIFIC HEADQUARTERS
Kennametal Singapore Pte. Ltd.
3A International Business Park
Unit #01-02/03/05, ICON@IBP
Singapore 609935
Tel: +65 6265 9222
k-sg.sales@kennametal.com

INDIA HEADQUARTERS
Kennametal India Limited
CIN: L27109KA1964PLC001546
8/9th Mile, Tumkur Road
Bangalore - 560 073
Tel: +91 080 22198444 or +91 080 43281444
bangalore.information@kennametal.com

KENNAMETAL®

kennametal.com