
KENNAMETAL
F5BN
EVOLUTION
MADE IN INDIA

Grooving and Cut-Off

Getting started made **EASY**

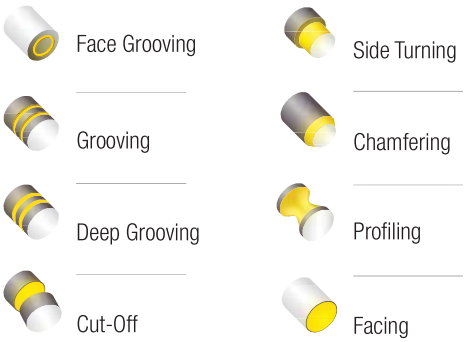
beyond™ EVOLUTION™

Your day made **EASY**

Choosing the right tooling can be complicated and time-consuming. Built on simplicity, we have engineered a new tool that makes every machine operator's life EASY.

Unwilling to sacrifice performance or applications, Kennametal introduces Beyond™ Evolution™.

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

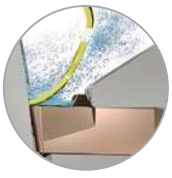


Productivity made **EASY**

Active Coolant Control

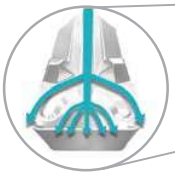
If your coolant delivery is typical to the market, you may be applying more heat to the cutting edge than you think. This reduces tool life and increases cycle time.

With Beyond™ Evolution™, you won't have to change your existing equipment. Whether you are using a high-pressure or low-pressure coolant supply, Beyond™ Evolution™, featuring Active Coolant Control, delivers more tool life and higher Metal Removal Rates (MRR).



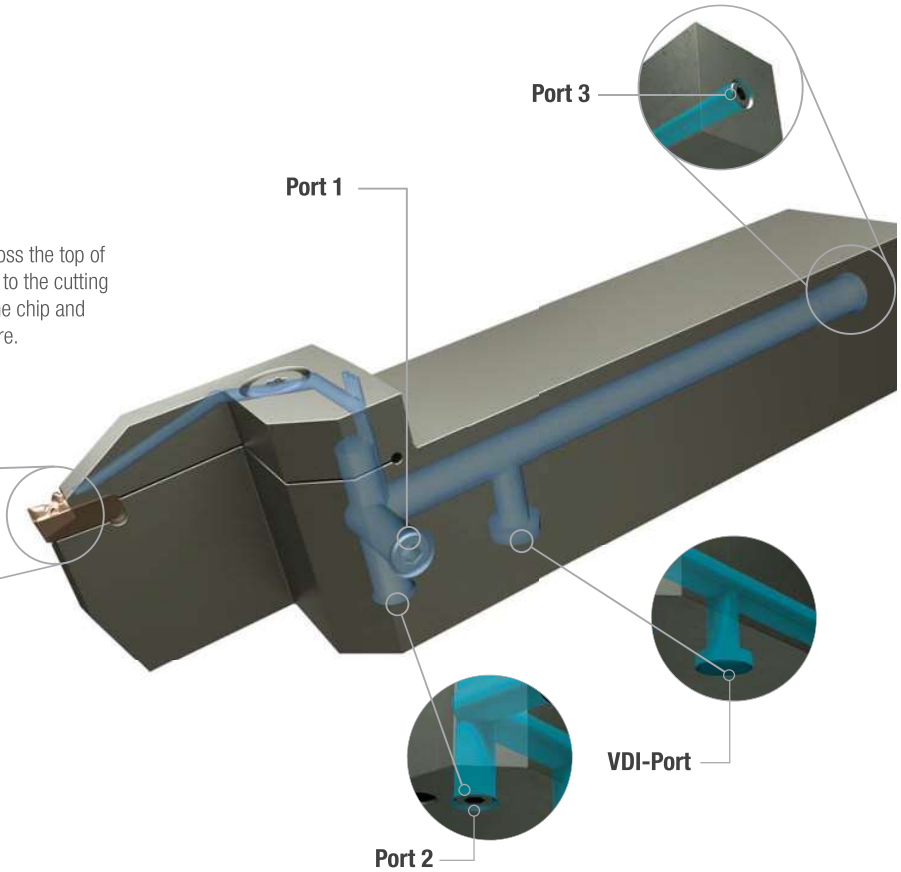
Fan Effect

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.



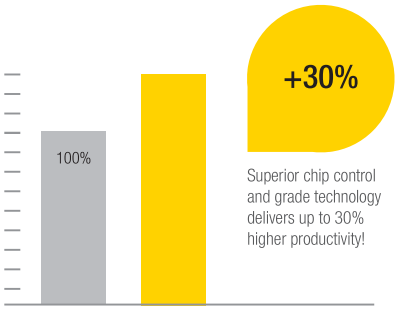
Smooth surface finish made **EASY**

Triple-V Seating

Problem: Traditional single-sided grooving and cut-off systems cannot deliver smooth surface finish due to lack of stability.

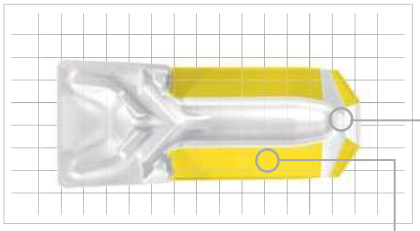
Solution: The Beyond™ Evolution™ proprietary new Triple-V Seating feature provides functional stability and minimises vibration.

Three contact surfaces provide unmatched stability: When combined with GUP and CF chipbreakers, Triple-V Seating provides excellent surface finish.



Saving money made **EASY**

Beyond™ Evolution™, featuring Active Coolant Control, Triple-V Seating, and Beyond™ Drive™ grades with Wear Detection Technology, provides longer tool life, maximum stability, and higher Metal Removal Rates (MRR), resulting in up to 30% higher productivity.



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

Top and Bottom-V
Precise and secure insert positioning for increased rigidity and dimensional accuracy

NOVO™

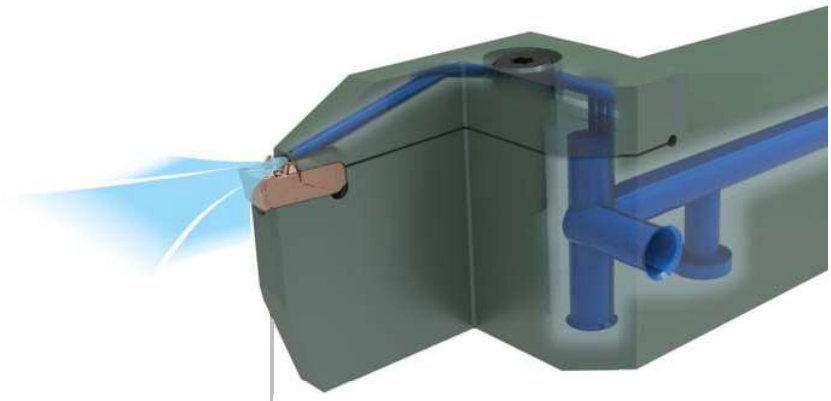
You can also use our NOVO app to guide you to the correct choice!

For more information, please visit kennametal.com/novo.

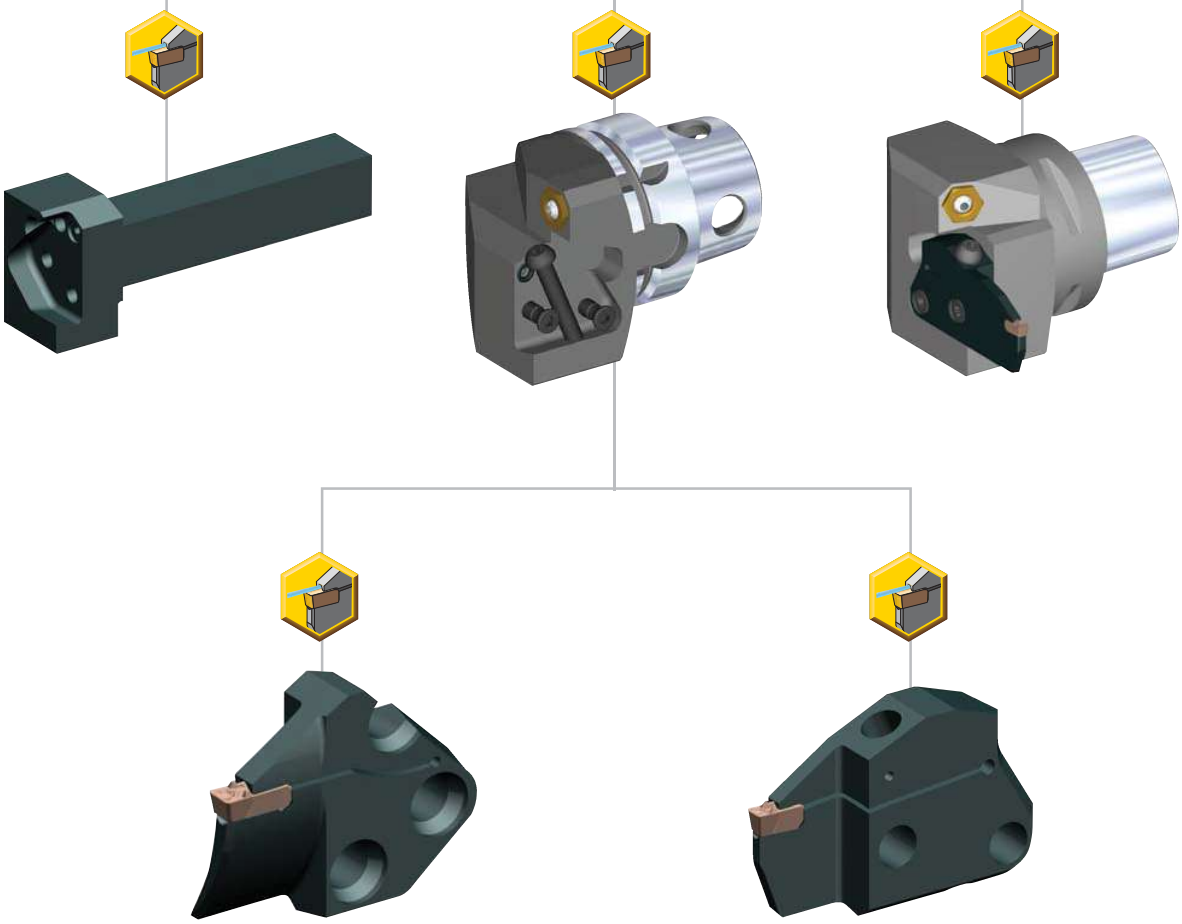
NOVO: The Digital Source for Delivering Smart Machining Solutions

Your day made **EASY** —

Efficient coolant delivery. Available in seat sizes 3 and higher.

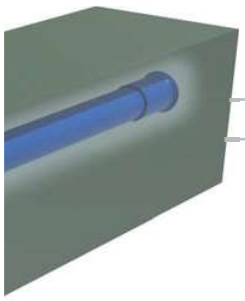


Modular with through coolant



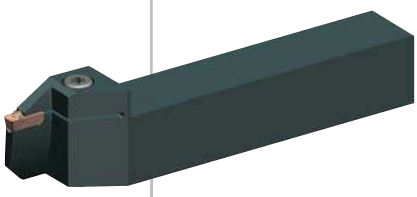
beyond™ EVOLUTION™

high-performance system.

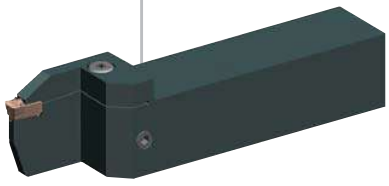


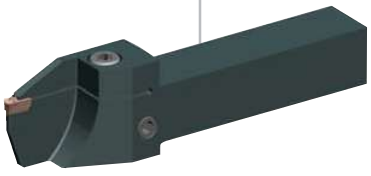
Face grooving
with through coolant

I.D. Boring Bar

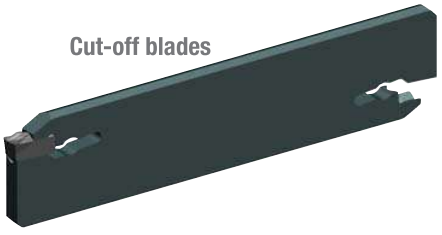


Square shank
with through coolant





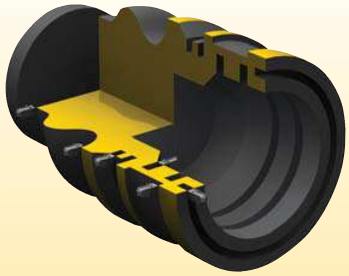
Cut-off blades



Step 1 • Identify your grooving or cut-off application

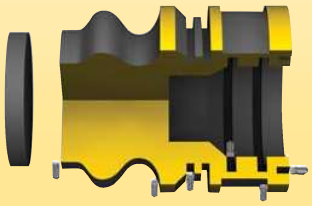
What you need to know:

- Groove depth, width, and profile.
- Material being machined.
- Application to be performed (O.D. and I.D. grooving, turning, face grooving, and cut-off).
- Shank size requirements of the machine.



General Recommendation to Select the Insert Size

for workpiece diameters	insert seat size
<25mm	3
25–50mm	4
>50mm	5–10



Step 2 • Select chipbreaker style and feed rate

Based on the application and seat size, determine the recommended geometry and starting feed rate.

Plunge feed rates

P Steel
M Stainless Steel
K Cast Iron
N Non-Ferrous
S High-Temp Alloys
H Hardened Materials

● first choice
○ alternate choice

Chip Control	Description	Insert Geometry	Seat Size	Corner Radius mm	Starting Conditions mm	Plunge Feed Rates mm/rev 0,05 0,10 0,15 0,20 0,25 0,30 0,35
-GUP	Positive rake angle for lower cutting forces.		1F	0,2	0,06	●
			2	0,2	0,08	●
			3	0,2	0,09	●
				0,4	0,11	○
			4	0,4	0,12	○
				0,8	0,15	●
			5	0,4	0,15	○
				0,8	0,16	●
			6	0,4	0,16	○
				0,8	0,18	●
				1,2	0,20	●
			8	0,8	0,20	○
				1,2	0,22	●
			10	1,2	0,24	●
-GUN	Stable negative cutting edge allowing for more aggressive applications.		1F	0,2	0,06	●
			2	0,2	0,08	●
			3	0,2	0,09	●
				0,4	0,11	○
			4	0,4	0,12	○
				0,8	0,15	●
			5	0,4	0,15	○
				0,8	0,16	●
			6	0,4	0,16	○
				0,8	0,18	●
				1,2	0,20	●
			8	0,8	0,20	○
				1,2	0,22	●
			10	1,2	0,24	●

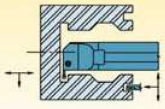
Maximum Feed Rate Values

Data above is for P and K material groups. **Maximum** feed rates should be adjusted by multiplying max feed rate values by following factors for shown material groups.

Material Group	Feed Factor
M	.8
N	1.2
S	.8
H	.5

I.D. and Face Grooving

For I.D. and face grooving applications, reduce feed rate by 20%.



Step 3 • Select the starting speed

Based on material and grade, identify starting speed (vc). First choice is in **bold** type.

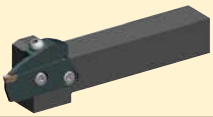
A Based on material group and grade, identify starting speed (vc).
B First choice starting speed is in **bold.**

Recommended Starting Speeds [m/min]

Material Group		K313			KCU10			KCU25			KCM35B			KCP10B			KCP25B			A
P	0–1	–	–	–	140	**280**	350	110	**225**	270	90	**180**	213	185	**400**	450	145	**290**	365	
	2	–	–	–	140	**200**	300	110	**160**	260	90	**130**	155	185	**270**	350	145	**200**	305	
	3	–	–	–	140	**155**	245	110	**125**	235	90	**100**	155	170	**190**	260	140	**155**	245	
	4	–	–	–	75	**110**	170	60	**90**	160	50	**70**	110	90	**145**	200	75	**110**	180	
	5	–	–	–	120	**200**	260	100	**160**	210	80	**130**	165	150	**220**	305	120	**200**	270	
	6	–	–	–	110	**150**	230	85	**120**	185	70	**100**	145	120	**180**	275	110	**150**	230	
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	–	–	–	–	–	–	B
	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	
	2	25	**70**	110	90	**150**	240	70	**120**	170	–	–	–	120	**195**	340	100	**160**	280	
	3	20	**60**	90	60	**110**	150	50	**85**	120	–	–	–	120	**170**	270	100	**140**	220	
	1–2	150	**370**	610	150	**550**	975	120	**440**	780	–	–	–	–	–	–	–	–	–	

Step 4 • Select toolholder based on application

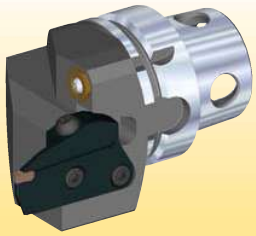
Choose the high-performance holder based on your specific grooving or cut-off application, with the corresponding seat size.

Style		Application
	**Boring Bar**	• For use in I.D. grooving applications.
	**Cut-Off Blade**	• Allows user to vary the depth of cut.
	**Toolholder — Integral**	• Offers the most stability over other styles.
	**Toolholder — Modular**	• Interchangeable blades for versatility.
	**KM™ — Modular** **KM4X™ — Modular**	• Best-in-class KM™ Quick-Change platform.
	**PSC — Modular**	• The modular system in the PSC Quick-Change platform.

Step 5 • Select the insert and holder from catalogue page

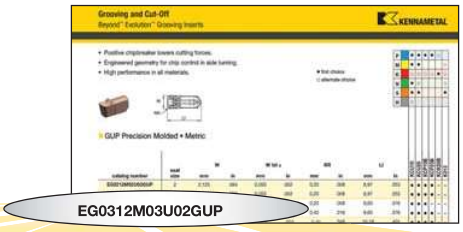
Congratulations!

You have successfully maximised your productivity by selecting the best insert geometry, grade, and cutting specifications for your application!



How Do Catalogue Numbers Work?

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.



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	**Metric** = 1/100mm **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

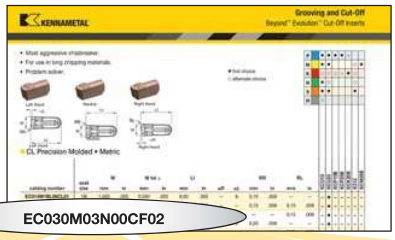
seat size	groove width	
	mm	inch
1B	1,40	.055
1F	1,60–1,99	.063–.078
02	2,00–2,99	.079–.117
03	3,00–3,99	.118–.156
04	4,00–4,99	.157–.196
05	5,00–5,99	.197–.235
06	6,00–7,99	.236–.314
08	8,00–8,99	.315–.353
10	9,00–10,12	.354–.398

*.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

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



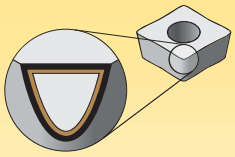
EC030M03N00CF02

E	C	030	M	03	N	00	CF	02
Family Name	Insert Type	Cutting Edge Width	Unit	Seat Size	Hand of Insert	Approach Angle	Chipbreaker	Corner Radius
Beyond™ Evolution™	**C** = Cut-Off		**M** = Metric **I** = Inch		**N** = Neutral **L** = Left hand **R** = Right hand	**00** = Neutral **06** = 6°	**CL** = Cut-Off Low Feed **CF** = Cut-Off Fine **CM** = Cut-Off Medium **CR** = Cut-Off Rough	

Cutting Edge Width	mm	inch
014	1,4	.055
020	2,0	.079
030	3,0	.118
040	4,0	.157
050	5,0	.197
060	6,0	.236
070	7,0	.279
080	8,0	.315

Seat Size	mm	inch
1B	1,4	.055
1F	2,0	.079
02	3,0	.118
03	4,0	.157
04	5,0	.197
05	6,0	.236
06	7,0	.279
08	8,0	.315

Corner Radius	mm	inch
01	0,1	.004
02	0,2	.008
04	0,4	.016

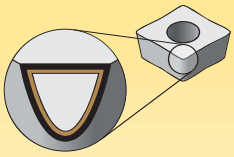


Coatings provide high-speed capability and are engineered for finishing to light roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

Grades

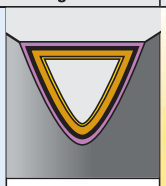
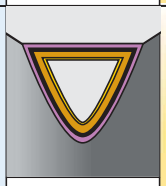
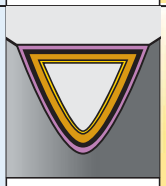
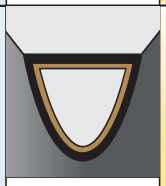
Coating	Grade Description	wear resistance ← → toughness
K313	**Composition:** A hard, low binder content, unalloyed WC/Co fine-grain grade. **Application:** Exceptional edge wear resistance combined with very high strength for machining titanium, cast irons, austenitic stainless steels, non-ferrous metals, 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.	beyond
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.	beyond
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 cuts and high feed rates.	beyond DRIVE



Coatings provide high-speed capability and are engineered for finishing to light roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

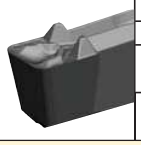
CVD-Coated Carbide Grades

Coating	Grade Description	wear resistance ← → toughness: 05 10 15 20 25 30 35 40 45
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 ■ ■ beyond DRIVE
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 ■ ■ ■ beyond DRIVE
KCK20B 	**Composition:** A multilayered coating with thick MTCVD TiCN-Al_2O_3-TiOCN layers applied over a carbide substrate specifically engineered for cast irons. **Application:** Delivers consistent performance in high-speed machining of grey and ductile irons. The substrate design permits the insert to stay in the cut for a long time at high speeds with minimum deformation. The thick CVD coating and post-coat treatment provide superior wear resistance ensuring long and consistent tool life. Can be applied both in straight and lightly interrupted cuts.	P ■ ■ K ■ ■ ■ ■ beyond DRIVE
KCM35B 	**Composition:** A multilayer TiN-MT-TiCN-Al_2O_3-TiOCN CVD coating over a super-tough substrate. **Application:** KCM35B is an excellent general purpose to roughing grade for machining stainless steels and roughing steels in turning and cut-off applications. The substrate provides improved toughness while the coating layers offer improved abrasion resistance and dependability at high cutting temperatures, along with wear identification. The polished surface improves edge toughness and provides a smooth outer surface to reduce forces and resist workpiece build-up on the cutting edge even at low cutting speeds. The grade is available in multiple sizes and geometries appropriate for increased feeds and large depths of cut.	P ■ ■ ■ M ■ ■ ■ S ■ ■ ■ beyond DRIVE

Select the geometry

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

● first choice
○ alternate choice

Chip Control	Description	Insert Geometry	Seat Size	Corner Radius in (mm)	Starting Conditions in (mm)	Plunge Feed Rates inch/rev (mm/rev) .0020 (0,05)	.0040 (0,10)	.0060 (0,15)	.0080 (0,20)	.0100 (0,25)	.0120 (0,30)
-GUP	Positive rake angle for lower cutting forces.		1F	.008 (0,2)	.0024 (0,06)						
			2	.008 (0,2)	.0031 (0,08)						
			3	.008 (0,2)	.0035 (0,09)						
				.016 (0,4)	.0043 (0,11)						
			4	.016 (0,4)	.0047 (0,12)						
				.031 (0,8)	.0059 (0,15)						

Pictorial View of Insert

Seat Size

Corner Radius

Recommended Starting Feed Rate

Plunge Feed Rates

Recommended Feed Rate Range

Primary Workpiece Material Group

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

● first choice
○ alternate choice

Chip Control Geometry Designation

Maximum Feed Rate Values

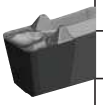
Data above is for P and K material groups. **Maximum** feed rates should be adjusted by multiplying max feed rate values by following factors for shown material groups.

Material Group	Feed Factor
M	.8
N	1.2
S	.8
H	.5

Plunge feed rates

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

● first choice
○ alternate choice

Chip Control	Description	Insert Geometry	Seat Size	Corner Radius mm	Starting Conditions mm	Plunge Feed Rates mm/rev 0,05 0,10 0,15 0,20 0,25 0,30 0,35
-GUP	Positive rake angle for lower cutting forces.		1F	0,2	0,06	
			2	0,2	0,08	
			3	0,2	0,09	
				0,4	0,11	
			4	0,4	0,12	
				0,8	0,15	
			5	0,4	0,15	
				0,8	0,16	
			6	0,4	0,16	
				0,8	0,18	
				1,2	0,20	
			8	0,8	0,20	
				1,2	0,22	
			10	1,2	0,24	
-GUN	Stable negative cutting edge allowing for more aggressive applications.		1F	0,2	0,06	
			2	0,2	0,08	
			3	0,2	0,09	
				0,4	0,11	
			4	0,4	0,12	
				0,8	0,15	
			5	0,4	0,15	
				0,8	0,16	
			6	0,4	0,16	
				0,8	0,18	
				1,2	0,20	
			8	0,8	0,20	
				1,2	0,22	
			10	1,2	0,24	

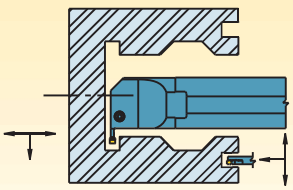
Maximum Feed Rate Values

Data above is for P and K material groups. **Maximum** feed rates should be adjusted by multiplying max feed rate values by following factors for shown material groups.

Material Group	Feed Factor
M	.8
N	1.2
S	.8
H	.5

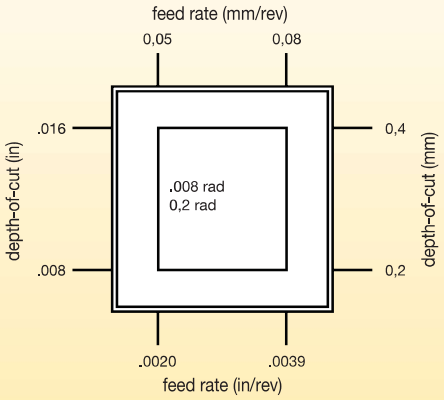
I.D. and Face Grooving

For I.D. and face grooving applications, reduce feed rate by 20%.

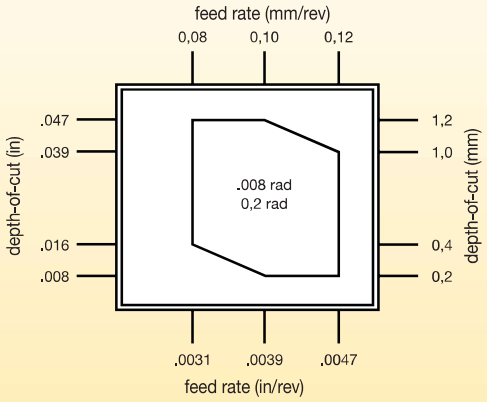


Turn and profile feed rates

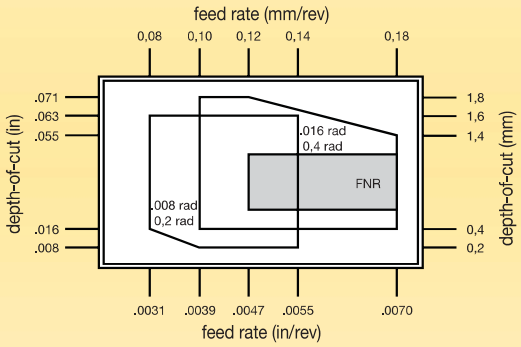
Seat Size 1F



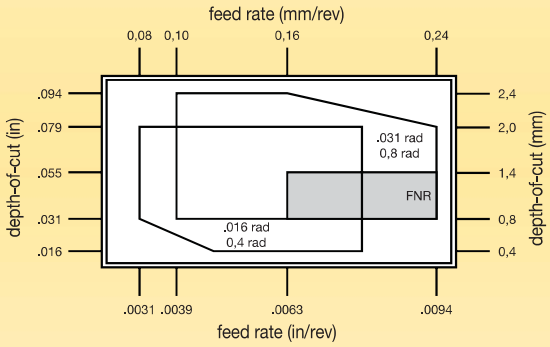
Seat Size 2



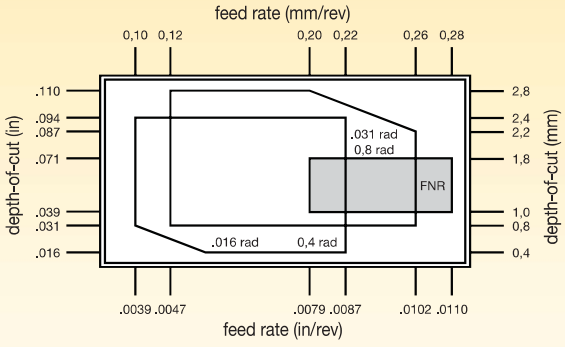
Seat Size 3



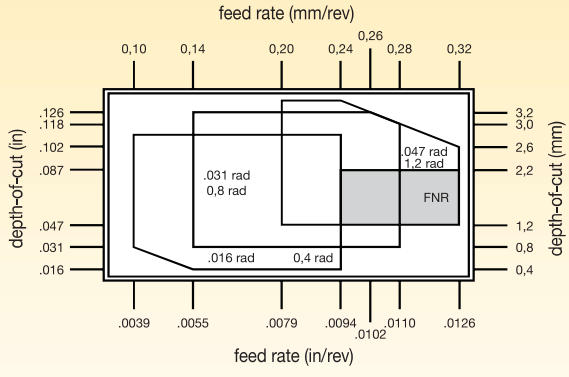
Seat Size 4



Seat Size 5



Seat Size 6

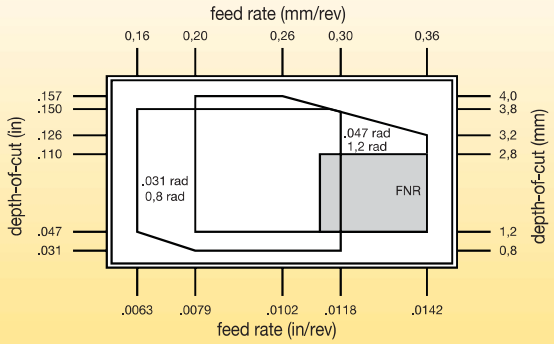


* **FNR** = Full Nose Radius

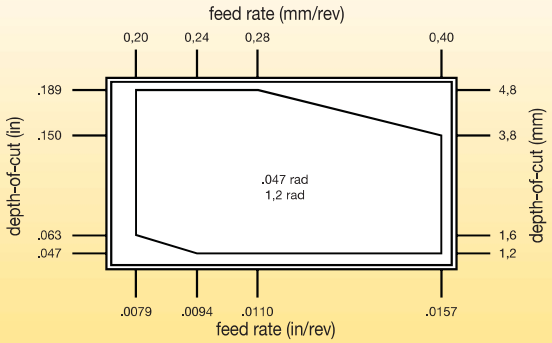
(continued)

(Turn and profile feed rates — continued)

Seat Size 8



Seat Size 10

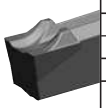
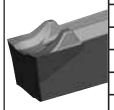
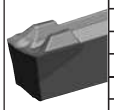
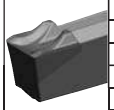


Cut-Off Feed Rates

Plunge feed rates

● first choice
○ alternate choice

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

Geometry	Description	Insert Geometry	Seat Size	Starting Conditions mm	Cut-Off Feed Rates mm/rev
-CL	Aggressive geometry for hard to break chips.		1B	0,06	
			2	0,07	
			3	0,08	
			4	0,09	
-CF	Positive geometry for reduced cutting forces.		1B	0,06	
			2	0,07	
			3	0,09	
			4	0,11	
			5	0,13	
-CM	Stable cutting edge for aggressive feed rates. Primarily in cast iron.		1B	0,06	
			2	0,07	
			3	0,09	
			4	0,11	
			5	0,14	
			6	0,16	
			8	0,14	
-CR	Most stable cutting edge for steel.		2	0,10	
			3	0,14	
			4	0,16	
			5	0,19	
			6	0,21	
			8	0,23	

NOTE: For cut-off inserts with a lead angle, maximum feed rate should be reduced by up to 40%.

Maximum Feed Rate Values

Data above is for P and K material groups. **Maximum** feed rates should be adjusted by multiplying max feed rate values by following factors for shown material groups.

Material Group	Feed Factor
M	.8
N	1.2
S	.8
H	.5

Grooving and Cut-Off

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.

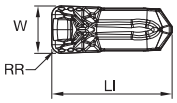
NOTE: The app is currently only available in the English-language version. We have plans to translate the app in different languages with future releases.

Google play | Available on the App Store

- Positive chipbreaker lowers cutting forces.
- Engineered geometry for chip control in side turning.
- High performance in all materials.

● first choice
○ alternate choice

		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
P		●	●	●	●	○		
M		●	●				●	○
K		○	○	○	○	●		○
N		●	○					●
S		●	●					●
H		○						



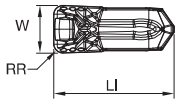
GUP Precision Moulded • Metric

catalogue number	seat size	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	●	●	●	●	–	–	–

- Positive chipbreaker lowers cutting forces.
- Engineered geometry for chip control in side turning.
- High performance in all materials.
- More precise widths and better repeatability.

● first choice
○ alternate choice

		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
P		●	●	●	●	○		
M		●	●				●	○
K		○	○	○	○	●		○
N		●	○					●
S		●	●					●
H		○						



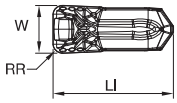
GUP Precision Ground • Metric

catalogue number	seat size	W	W tol ±	RR	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
EG0200M02P02GUP	2	2,000	0,025	0,20	8,80	●	●	–	–	–	–	●
EG0300M03P02GUP	3	3,000	0,025	0,20	9,40	●	●	–	–	–	–	●
EG0300M03P04GUP	3	3,000	0,025	0,40	9,60	●	●	–	–	–	–	●
EG0400M04P04GUP	4	4,000	0,025	0,40	10,10	●	●	–	–	–	–	●
EG0400M04P08GUP	4	4,000	0,025	0,80	10,10	●	●	–	–	–	–	●
EG0500M05P04GUP	5	5,000	0,025	0,40	12,20	●	●	–	–	–	–	●
EG0500M05P08GUP	5	5,000	0,025	0,80	12,20	●	●	–	–	–	–	●
EG0600M06P04GUP	6	6,000	0,025	0,40	14,50	●	●	–	–	–	–	●
EG0600M06P08GUP	6	6,000	0,025	0,80	14,50	●	●	–	–	–	–	●
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	●	●	–	–	–	–	●

- Positive chipbreaker lowers cutting forces.
- Engineered geometry for chip control in side turning.
- High performance in all materials.

● first choice
○ alternate choice

		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
P		●	●	●	●	○		
M		●	●				●	○
K		○	○	○	○	●		○
N		●	○					●
S		●	●					●
H		○						



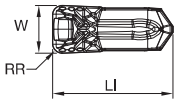
GUP Precision Moulded • Inch

catalogue number	seat size	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	●	●	●	●	–	–	–
EG380I10U3GUP	10	9,651	0,075	1,19	20,80	●	●	●	●	–	–	–

- Positive chipbreaker lowers cutting forces.
- Engineered geometry for chip control in side turning.
- High performance in all materials.
- More precise widths and better repeatability.

● first choice
○ alternate choice

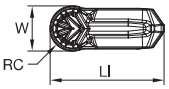
		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
P		●	●	●	●	○		
M		●	●				●	○
K		○	○	○	○	●		○
N		●	○					●
S		●	●					●
H		○						



GUP Precision Ground • Inch

catalogue number	seat size	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	9,40	●	●	–	–	–	–	●
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	●	●	–	–	–	–	●

- First choice in profiling.
- >180° cutting edge.
- High performance in all materials.



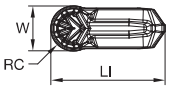
GUP Full Radius Precision Moulded • Metric

catalogue number	seat size	W	W tol ±	RC	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
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	●	●	●	●	–	–	–

- First choice in profiling.
- >180° cutting edge.
- High performance in all materials.
- More precise widths and better repeatability.

● first choice
○ alternate choice

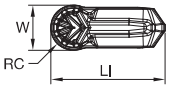
		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
P		●	●	●	●	○		
M		●	●				●	○
K		○	○	○	○	●		○
N		●	○					●
S		●	●					●
H		○						



GUP Full Radius Precision Ground • Metric

catalogue number	seat size	W	W tol ±	RC	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
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	●	●	–	–	–	–	●

- First choice in profiling.
- >180° cutting edge.
- High performance in all materials.



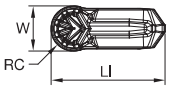
GUP Full Radius Precision Moulded • Inch

catalogue number	seat size	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	●	●	●	●	–	–	–

- First choice in profiling.
- >180° cutting edge.
- High performance in all materials.
- More precise widths and better repeatability.

● first choice
○ alternate choice

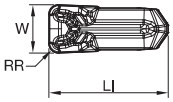
		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
P		●	●	●	●	○		
M		●	●				●	○
K		○	○	○	○	●		○
N		●	○					●
S		●	●					●
H		○						



GUP Full Radius Precision Ground • Inch

catalogue number	seat size	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	●	●	–	–	–	–	●

- Negative rake face for strongest cutting edge.
- More aggressive applications.
- Advantages in low-feed and depth-of-cut applications.



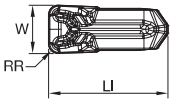
GUN Precision Moulded • Metric

catalogue number	seat size	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	●	●	●	●	●	–	–

- Negative rake face for strongest cutting edge.
- More aggressive applications.
- Advantages in low-feed and depth-of-cut applications.

● first choice
○ alternate choice

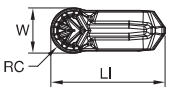
		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
P		●	●	●	●	○		
M		●	●				●	○
K		○	○	○	○	●		○
N		●	○					●
S		●	●					●
H		○						



GUN Precision Moulded • Inch

catalogue number	seat size	W	W tol ±	RR	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
EG063I1FU05GUN	1F	1,600	0,050	0,20	9,00	●	●	●	●	●	–	–
EG130I03U05GUN	3	3,302	0,075	0,20	9,60	●	●	●	●	●	–	–
EG130I03U1GUN	3	3,302	0,075	0,40	9,60	●	●	●	●	●	–	–
EG192I04U1GUN	4	4,877	0,075	0,40	10,19	●	●	●	●	●	–	–
EG192I04U2GUN	4	4,878	0,075	0,79	10,19	●	●	●	●	●	–	–
EG255I06U1GUN	6	6,477	0,075	0,40	14,58	●	●	●	●	●	–	–
EG255I06U2GUN	6	6,477	0,075	0,80	14,58	●	●	●	●	●	–	–
EG317I08U3GUN	8	8,052	0,075	1,19	17,46	●	●	●	●	●	–	–
EG380I10U3GUN	10	9,651	0,075	1,20	20,80	●	●	●	●	●	–	–

- Negative rake face for strongest cutting edge.
- First choice in profiling.
- >180° cutting edge.
- High performance in all materials.



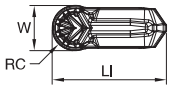
GUN Full Radius Precision Moulded • Metric

catalogue number	seat size	W	W tol ±	RC	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
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	●	●	●	●	●	–	–

- Negative rake face for strongest cutting edge.
- First choice in profiling.
- >180° cutting edge.
- High performance in all materials.

● first choice
○ alternate choice

		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
P		●	●	●	●	○		
M		●	●				●	○
K		○	○	○	○	●		○
N		●	○					●
S		●	●					●
H		○						



GUN Full Radius Precision Moulded • Inch

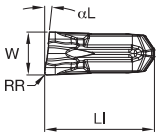
catalogue number	seat size	W	W tol ±	RC	LI	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
ER094I02U00GUN	2	2,387	0,050	1,190	8,97	●	●	●	●	●	–	–
ER125I03U00GUN	3	3,177	0,075	1,590	9,60	●	●	●	●	●	–	–
ER130I03U00GUN	3	3,300	0,075	1,650	9,60	●	●	●	●	●	–	–
ER187I04U00GUN	4	4,750	0,075	2,370	10,20	●	●	●	●	●	–	–
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	●	●	●	●	●	–	–

- Positive chipbreaker lowers cutting forces.
- First choice for steel and stainless steel.
- Excellent surface finish.

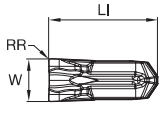

Left Hand


Neutral

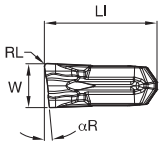

Right Hand



Left Hand



Neutral



Right Hand

CF Precision Moulded • Metric

catalogue number	seat size	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	–	●	–	–	–	●	–

- Most aggressive chipbreaker.
- For use in long chipping materials.
- Problem solver.

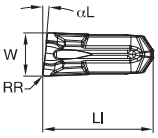
● first choice
○ alternate choice

		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
P		●	●	●	●	○		
M		●	●				●	○
K		○	○	○	○	●		○
N		●	○					●
S		●	●					●
H		○						

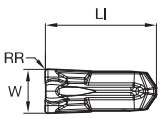

Left Hand


Neutral

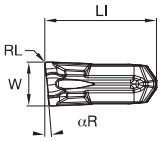

Right Hand



Left Hand



Neutral



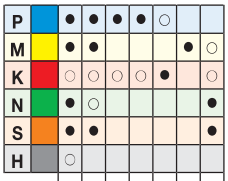
Right Hand

CL Precision Moulded • Metric

catalogue number	seat size	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	–	●	–	–	–	–	–

- Ultimate solution in edge stability.
- Leverage for interrupted cuts or hardened skin.
- First choice for cast iron.

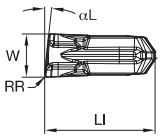
● first choice
○ alternate choice



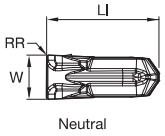

Left Hand


Neutral

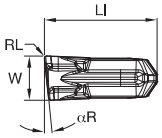

Right Hand



Left Hand



Neutral



Right Hand

CM Precision Moulded • Metric

catalogue number	seat size	W	W tol ±	LI	αR	αL	RR	RL	KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
EC014M1BL06CM01	1B	1,400	0,050	9,00	–	6	0,20	–	–	●	–	–	–	–	–
EC014M1BN00CM01	1B	1,400	0,050	9,00	–	–	0,15	0,15	–	●	–	–	–	–	–
EC014M1BR06CM01	1B	1,400	0,050	9,00	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	–	●	–	–	–	–	–

- Strong chip control due to concave edge.
- First choice in steel when additional stability is required.
- Can apply most aggressive speed rates.

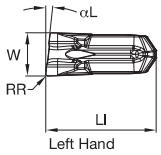
● first choice
○ alternate choice

		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
P		●	●	●	●	○		
M		●	●				●	○
K		○	○	○	○	●		○
N		●	○					●
S		●	●					●
H		○						

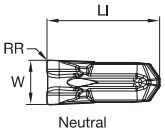

Left Hand


Neutral

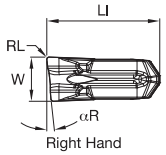

Right Hand



Left Hand



Neutral



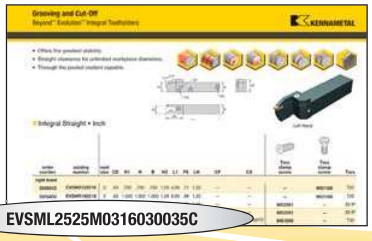
Right Hand

CR Precision Moulded • Metric

catalogue number	seat size	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	–	●	–	–	–	–	–

How Do Catalogue Numbers Work?

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.



EVSML2525M0316030035C

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	**M** = Maximum support for specific groove width and straight clearance for unlimited workpiece diameter **A** = Face grooving — inboard sweep **B** = Face grooving — outboard sweep	**L** = Left hand **R** = Right hand	**Metric** = Height x Width in mm letter indicates tool length according to ISO	**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

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.

EVSCTL2525M0316C

EV	S	C	T	L	2525M	03	16	C
Family Name	Tool Style	Support Type	Clamping Screw Position	Hand	Shank Size	Seat Size	Max Groove Depth	Coolant
Beyond™ Evolution™	**S** = Straight mount		**T** = Top **F** = Front	**L** = Left hand **R** = Right hand		**1B** **1F** **02** **03** **04** **05** **06** **08** **10**	in millimetres	**C** = Through the pocket coolant capable

C = Reinforced support

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

How Do Catalogue Numbers Work?

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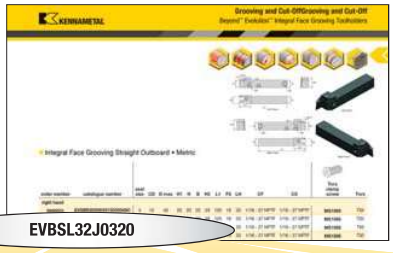
A16REVEMR0310M030035

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



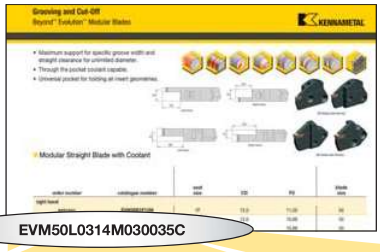
EVBSL32J0320

EV	B	S	L	32	J	03	20
Family Name	Tool Style	Support Type	Hand	Blade Height	Overall Length	Seat Size	Max Cutting Depth
Beyond™ Evolution™	**B** = 2 pocket blade	**S** = Standard **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

By referencing this easy-to-use guide, you can identify the correct product to meet your needs

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°)	**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



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

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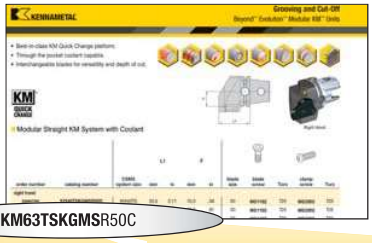
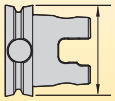
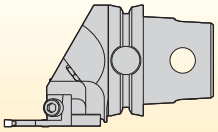


KM63TSKGMSR50C

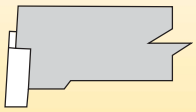
KM	63	TS	KGM	S
KM™ Quick-Change	System Size	Feature	Insert Holding Method	Insert Location
KM **KM4X™** **PSC**	40 = 40mm 50 = 50mm 63 = 63mm 80 = 80mm 100 = 100mm	**TS** **XMZ**	**KGM**	**E** = End mount **S** = Side mount



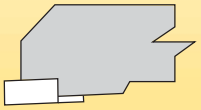


Modular Grooving

E



S



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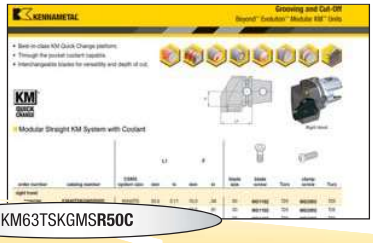
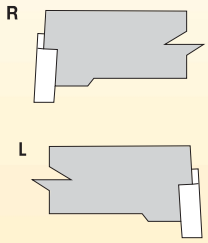


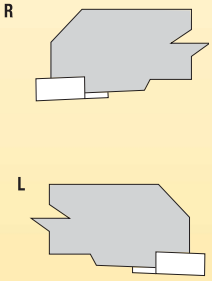
KM63TSKGMS**R50C**

R	50	C	
Hand of Tool	Blade Size	Coolant	Special Features
R = Right hand **L** = Left hand	**50** **60**	**C** = Through the pocket coolant capable	**Y** = Mazak® INTEGREX®

End Mount



Side Mount



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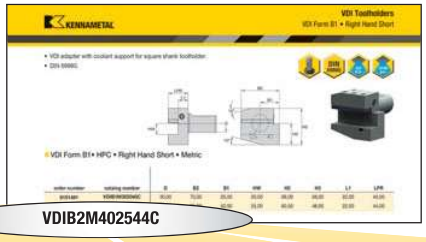


VDIB2M402544C

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

KENNAMETAL

NOVO KNOWS SEARCH

Searching for a tool has been enhanced by Advise and Select functions from NOVO™ applications — saving you time and money.

ADVISE

Uses a rules-based approach to provide cutting tool recommendations:

- Define Machining Feature (face milling, slotting, blind hole, etc.)
- Apply Constraint Requirements (geometric, material, tolerance, etc.)
- Set Machining Sequence (single or multi-step operations, rough then finish, etc.)
- Receive Ranked Results

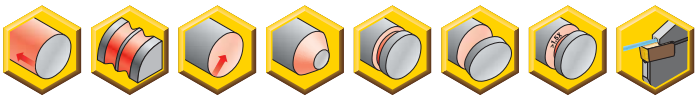
SELECT

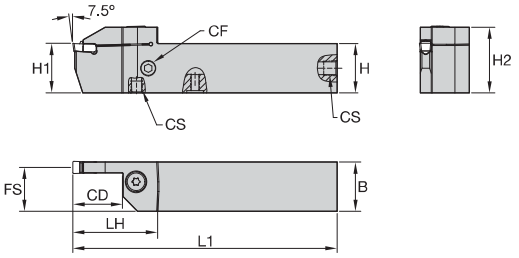
A method of selecting cutting tools from a tree structure via a hierarchy or parametric search:

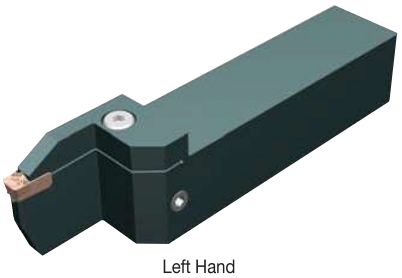
- If you know which product you are looking for, a quick search can be performed by just the catalogue number or product description.
- Smart filters significantly reduce the amount of potential tooling solutions.
- After the tool is selected, NOVO also provides cutting and adaptive item options that fit with your solution.

NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximises every shift. **kennametal.com/novo**

- Offers the greatest stability.
- Straight clearance for unlimited workpiece diameters.
- Through the pocket coolant capable.

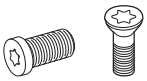






Left Hand

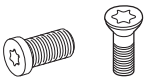
Integral Straight • Metric



order number	catalogue number	seat size	CD	H1	H	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx clamp screw	Torx
right hand															
5953960	EVSMR2020K0216	2	16	20	20	20	27	125	19	31	–	–	–	MS1160	T20
5953958	EVSMR2525M0216	2	16	25	25	25	32	150	24	31	–	–	–	MS1160	T20
6401854	EVSMR2020K0216C	2	16	20	20	20	28	125	19	35	M8X1	M8X1	MS2091	–	25 IP
6401855	EVSMR2525M0216C	2	16	25	25	25	33	150	24	35	G1/8 - 28	G1/8 - 28	MS2091	–	25 IP
5953959	EVSMR2020K0222	2	22	20	20	20	29	125	19	38	–	–	MS2091	–	25 IP
6401857	EVSMR2020K0222C	2	22	20	20	20	29	125	19	41	M8X1	M8X1	MS2091	–	25 IP
5953957	EVSMR2525M0226	2	26	25	25	25	34	150	24	42	–	–	MS2091	–	25 IP
6401856	EVSMR2525M0226C	2	26	25	25	25	34	150	24	45	G1/8 - 28	G1/8 - 28	MS2091	–	25 IP
5939452	EVSMR2020K0316C	3	16	20	20	20	29	125	19	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5939448	EVSMR2525M0316C	3	16	25	25	25	34	150	24	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5939451	EVSMR2020K0322C	3	22	20	20	20	29	125	19	43	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5939447	EVSMR2525M0326C	3	26	25	25	25	34	150	24	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5939450	EVSMR2020K0416C	4	16	20	20	20	29	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5939446	EVSMR2525M0416C	4	16	25	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5939449	EVSMR2020K0422C	4	22	20	20	20	29	125	18	43	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5939445	EVSMR2525M0426C	4	26	25	25	25	34	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5939444	EVSMR3232P0426C	4	26	32	32	32	42	170	30	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5939443	EVSMR3232P0432C	4	32	32	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5954258	EVSMR2020K0516C	5	16	20	20	20	29	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5954254	EVSMR2525M0516C	5	16	25	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5954257	EVSMR2020K0522C	5	22	20	20	20	29	125	18	43	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5954253	EVSMR2525M0526C	5	26	25	25	25	34	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5954249	EVSMR3232P0526C	5	26	32	32	32	42	170	30	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30

(continued)

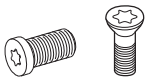
(Integral Straight • Metric — continued)



order number	catalogue number	seat size	CD	H1	H	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx clamp screw	Torx
5954248	EVSMR3232P0532C	5	32	32	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5954256	EVSMR2020K0616C	6	16	20	20	20	29	125	20	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5954252	EVSMR2525M0616C	6	16	25	25	25	34	150	25	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5954255	EVSMR2020K0622C	6	22	20	20	20	29	125	20	43	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5954251	EVSMR2525M0626C	6	26	25	25	25	34	150	25	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5954247	EVSMR3232P0626C	6	26	32	32	32	42	170	32	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5954246	EVSMR3232P0632C	6	32	32	32	32	43	170	29	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45
5954242	EVSMR4040R0640C	6	40	40	40	40	51	200	37	63	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45
5954250	EVSMR2525M0826C	8	26	25	25	25	35	150	21	49	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45
5954245	EVSMR3232P0826C	8	26	32	32	32	43	170	28	49	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45
5954244	EVSMR3232P0832C	8	32	32	32	32	43	170	28	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45
5954241	EVSMR4040R0840C	8	40	40	40	40	51	200	36	63	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45
5954243	EVSMR3232P1032C	10	32	32	32	32	43	170	28	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45
5954240	EVSMR4040R1040C	10	40	40	40	40	51	200	36	63	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45
left hand															
5953956	EVSML2020K0216	2	16	20	20	20	27	125	19	31	–	–	–	MS1160	T20
5953954	EVSML2525M0216	2	16	25	25	25	32	150	24	31	–	–	–	MS1160	T20
6401881	EVSML2525M0216C	2	16	25	25	25	33	150	24	35	G1/8 - 28	G1/8 - 28	MS2091	–	25 IP
5953955	EVSML2020K0222	2	22	20	20	20	29	125	19	38	–	–	MS2091	–	25 IP
5953953	EVSML2525M0226	2	26	25	25	25	34	150	24	42	–	–	MS2091	–	25 IP
5939442	EVSML2020K0316C	3	16	20	20	20	29	125	19	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5939438	EVSML2525M0316C	3	16	25	25	25	34	150	24	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5939441	EVSML2020K0322C	3	22	20	20	20	29	125	19	43	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5939437	EVSML2525M0326C	3	26	25	25	25	34	150	24	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5939440	EVSML2020K0416C	4	16	20	20	20	29	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5939436	EVSML2525M0416C	4	16	25	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5939439	EVSML2020K0422C	4	22	20	20	20	29	125	18	43	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5939435	EVSML2525M0426C	4	26	25	25	25	34	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5939433	EVSML3232P0426C	4	26	32	32	32	42	170	30	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5939432	EVSML3232P0432C	4	32	32	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5954239	EVSML2020K0516C	5	16	20	20	20	29	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5954235	EVSML2525M0516C	5	16	25	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5954238	EVSML2020K0522C	5	22	20	20	20	29	125	18	43	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5954234	EVSML2525M0526C	5	26	25	25	25	34	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5954220	EVSML3232P0526C	5	26	32	32	32	42	170	30	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5954219	EVSML3232P0532C	5	32	32	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5954237	EVSML2020K0616C	6	16	20	20	20	29	125	17	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5954233	EVSML2525M0616C	6	16	25	25	25	34	150	22	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5954236	EVSML2020K0622C	6	22	20	20	20	29	125	17	43	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5954232	EVSML2525M0626C	6	26	25	25	25	34	150	22	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30

(continued)

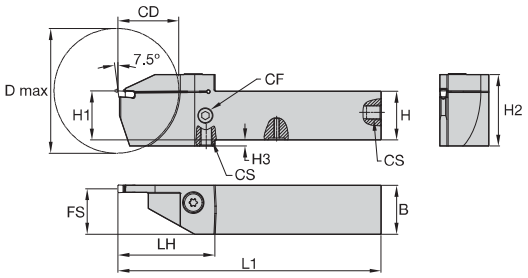
(Integral Straight • Metric — continued)



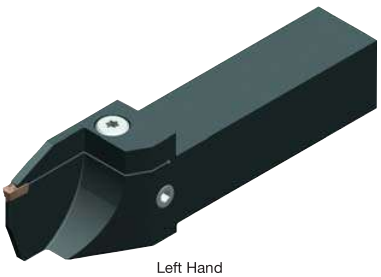
order number	catalogue number	seat size	CD	H1	H	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx clamp screw	Torx
5954218	EVSML3232P0626C	6	26	32	32	32	42	170	29	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5954217	EVSML3232P0632C	6	32	32	32	32	43	170	29	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45
5954213	EVSML4040R0640C	6	40	40	40	40	51	200	37	63	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45
5954231	EVSML2525M0826C	8	26	25	25	25	35	150	21	49	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45
5954216	EVSML3232P0826C	8	26	32	32	32	43	170	28	49	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45
5954215	EVSML3232P0832C	8	32	32	32	32	43	170	28	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45
5954212	EVSML4040R0840C	8	40	40	40	40	51	200	36	63	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45
5954214	EVSML3232P1032C	10	32	32	32	32	43	170	28	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45
5954211	EVSML4040R1040C	10	40	40	40	40	51	200	36	63	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45

screw	screw	torque				wrench	wrench
catalogue number	order number	Nm	in. lbs.	thread	socket	catalogue number	order number
MS1160	1099645	7	62	M5	T20	KT20	1022703
MS1162	1127019	9	80	M6	T25	KT25	1022725
MS1163	1124104	18	159	M8	T30	KT30L	1099676
MS1273	1020977	4	35.4	M4	T15	KT15	1022701
MS1490	2263299	17	151	M8	T45	KT45	1018227
MS1595	1094300	12	106	M6	T30	KT30	1099676
MS1970	1106668	12	106	M6	T30	KT30	1099676
MS2002	1621087	9	80	M6	T25	KT25	1022725
MS2091	1931147	9	80	M5	25IP	K25IP	2050113

- Through the pocket coolant capable.
- Reinforced for added support in specific workpiece diameters.

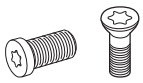


CD = Maximum cut-off depth for solid bars.
D max = Maximum bar diameter for deep grooving or cut-off of tubes.



Left Hand

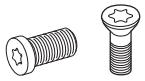
Integral Straight Top Clamp • Metric



order number	catalogue number	seat size	CD	D max	H1	H	B	H2	H3	L1	FS	LH	CF	CS	Torx clamp screw	Torx clamp screw	Torx
right hand																	
6179757	EVSCTR1212K1B16	1B	16	42	12	12	12	23	4	125	11	31	–	–	–	MS1160	T20
6179758	EVSCTR1212K1F16	1F	16	42	12	12	12	23	4	125	11	31	–	–	–	MS1160	T20
6179759	EVSCTR1212K0216	2	16	42	12	12	12	23	4	125	11	31	–	–	–	MS1160	T20
5980139	EVSCTR1616K0216	2	16	42	16	16	16	23	–	125	15	31	–	–	–	MS1160	T20
5980762	EVSCTR2020K0216	2	16	42	20	20	20	27	–	125	19	31	–	–	–	MS1160	T20
5980767	EVSCTR2525M0216	2	16	42	25	25	25	32	–	150	24	31	–	–	–	MS1160	T20
5980768	EVSCTR2525M0226	2	26	62	25	25	25	34	–	150	24	42	–	–	MS2091	–	25 IP
6179755	EVSCTR1212K0316C	3	16	52	12	12	12	23	4	125	11	34	M8X1.25	M8X1.25	MS1944	–	T25
5980140	EVSCTR1616K0316C	3	16	52	16	16	16	24	–	125	15	36	1/16 - 27 NPTF	1/16 - 27 NPTF	MS2091	–	25 IP
5980763	EVSCTR2020K0316C	3	16	52	20	20	20	29	–	125	19	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5980138	EVSCTR2525M0316C	3	16	62	25	25	25	34	–	150	24	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5980764	EVSCTR2020K0326C	3	26	62	20	20	20	33	4	125	19	47	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5980769	EVSCTR2525M0326C	3	26	62	25	25	25	34	–	150	24	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5980761	EVSCTR1616K0416C	4	16	52	16	16	16	24	–	125	14	36	1/16 - 27 NPTF	1/16 - 27 NPTF	MS2091	–	25 IP
5980765	EVSCTR2020K0416C	4	16	52	20	20	20	29	–	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5980766	EVSCTR2020K0426C	4	26	62	20	20	20	33	–	125	18	47	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5980770	EVSCTR2525M0426C	4	26	62	25	25	25	34	–	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5980771	EVSCTR2525M0432C	4	32	64	25	25	25	38	4	150	23	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5980774	EVSCTR3232P0432C	4	32	64	32	32	32	42	–	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5980772	EVSCTR2525M0526C	5	26	62	25	25	25	34	–	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5980773	EVSCTR2525M0532C	5	32	64	25	25	25	39	4	150	23	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5980775	EVSCTR3232P0540C	5	40	82	32	32	32	47	4	170	30	63	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45

(continued)

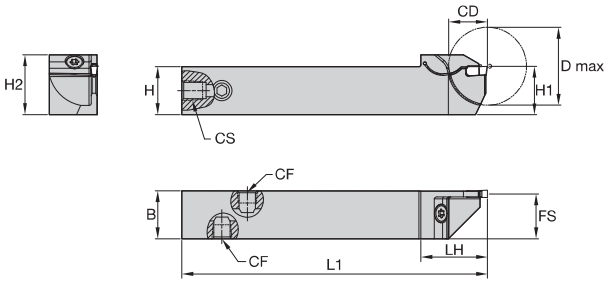
(Integral Straight Top Clamp • Metric — continued)

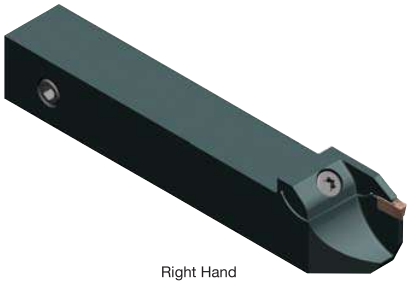


order number	catalogue number	seat size	CD	D max	H1	H	B	H2	H3	L1	FS	LH	CF	CS	Torx clamp screw	Torx clamp screw	Torx
left hand																	
6179760	EVSCTL1212K1B16	1B	16	42	12	12	12	23	4	125	11	31	–	–	–	MS1160	T20
6179761	EVSCTL1212K1F16	1F	16	42	12	12	12	23	4	125	11	31	–	–	–	MS1160	T20
6179762	EVSCTL1212K0216	2	16	42	12	12	12	23	4	125	11	31	–	–	–	MS1160	T20
5980777	EVSCTL1616K0216	2	16	42	16	16	16	23	–	125	15	31	–	–	–	MS1160	T20
5980780	EVSCTL2020K0216	2	16	42	20	20	20	27	–	125	19	31	–	–	–	MS1160	T20
5980805	EVSCTL2525M0216	2	16	42	25	25	25	32	–	150	24	31	–	–	–	MS1160	T20
5980806	EVSCTL2525M0226	2	26	62	25	25	25	34	–	150	24	42	–	–	MS2091	–	25 IP
6179756	EVSCTL1212K0316C	3	16	52	12	12	12	23	4	125	11	34	M8X1.25	M8X1.25	MS1944	–	T25
5980778	EVSCTL1616K0316C	3	16	52	16	16	16	24	–	125	15	36	1/16 - 27 NPTF	1/16 - 27 NPTF	MS2091	–	25 IP
5980801	EVSCTL2020K0316C	3	16	52	20	20	20	29	–	125	19	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5980776	EVSCTL2525M0316C	3	16	62	25	25	25	34	–	150	24	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5980802	EVSCTL2020K0326C	3	26	62	20	20	20	33	4	125	19	47	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5980807	EVSCTL2525M0326C	3	26	62	25	25	25	34	–	150	24	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5980779	EVSCTL1616K0416C	4	16	52	16	16	16	24	–	125	14	36	1/16 - 27 NPTF	1/16 - 27 NPTF	MS2091	–	25 IP
5980803	EVSCTL2020K0416C	4	16	52	20	20	20	29	–	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5980804	EVSCTL2020K0426C	4	26	62	20	20	20	33	–	125	18	47	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	–	T30
5980808	EVSCTL2525M0426C	4	26	62	25	25	25	34	–	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5980809	EVSCTL2525M0432C	4	32	64	25	25	25	38	4	150	23	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	–	T30
5980812	EVSCTL3232P0432C	4	32	64	32	32	32	42	–	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5980810	EVSCTL2525M0526C	5	26	62	25	25	25	34	–	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5980811	EVSCTL2525M0532C	5	32	64	25	25	25	39	4	150	23	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	–	T30
5980813	EVSCTL3232P0540C	5	40	82	32	32	32	47	4	170	30	63	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	–	T45

NOTE: Through the pocket coolant available in seat sizes 3 and higher.

screw	screw	torque				wrench	wrench
catalogue number	order number	Nm	in. lbs.	thread	socket	catalogue number	order number
MS1160	1099645	7	62	M5	T20	KT20	1022703
MS1162	1127019	9	80	M6	T25	KT25	1022725
MS1163	1124104	18	159	M8	T30	KT30L	1099676
MS1273	1020977	4	35.4	M4	T15	KT15	1022701
MS1490	2263299	17	151	M8	T45	KT45	1018227
MS1595	1094300	12	106	M6	T30	KT30	1099676
MS1970	1106668	12	106	M6	T30	KT30	1099676
MS2002	1621087	9	80	M6	T25	KT25	1022725
MS2091	1931147	9	80	M5	25IP	K25IP	2050113





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

Integral Reinforced Front Clamp • Metric

order number	catalogue number	seat size	CD	D max	H1	H	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx
right hand															
6179763	EVSCFR1010K1B10	1B	10	20	10	10	10	14	125	9	21	–	–	191.916	T15
6179766	EVSCFR1212K1B10	1B	10	20	12	12	12	16	125	11	21	–	–	191.916	T15
6179767	EVSCFR1212K1B13	1B	13	26	12	12	12	16	125	11	24	–	–	191.916	T15
6179774	EVSCFR1616K1B16	1B	16	32	16	16	16	21	125	15	27	–	–	MS1160	T20
6179778	EVSCFR2020K1B16	1B	16	32	20	20	20	25	125	19	27	–	–	MS1160	T20
6179764	EVSCFR1010K1F10	1F	10	20	10	10	10	14	125	9	21	–	–	191.916	T15
6179768	EVSCFR1212K1F10	1F	10	20	12	12	12	16	125	11	21	–	–	191.916	T15
6179769	EVSCFR1212K1F13	1F	13	26	12	12	12	16	125	11	24	–	–	191.916	T15
6179775	EVSCFR1616K1F16	1F	16	32	16	16	16	21	125	15	27	–	–	MS1160	T20
6179779	EVSCFR2020K1F16	1F	16	32	20	20	20	25	125	19	27	–	–	MS1160	T20
6179765	EVSCFR1010K0210	2	10	20	10	10	10	14	125	9	21	–	–	191.916	T15
6179770	EVSCFR1212K0210	2	10	20	12	12	12	16	125	11	21	–	–	191.916	T15
6179771	EVSCFR1212K0216	2	16	32	12	12	12	16	125	11	27	–	–	191.916	T15
6179776	EVSCFR1616K0216	2	16	32	16	16	16	21	125	15	27	–	–	MS1160	T20
6179780	EVSCFR2020K0216	2	16	32	20	20	20	25	125	19	27	–	–	MS1160	T20
6179772	EVSCFR1212K0310C	3	10	20	12	12	12	17	125	11	22	M8X1.25	M8X1.25	191.916	T15
6179773	EVSCFR1212K0316C	3	16	32	12	12	12	17	125	11	28	M8X1.25	M8X1.25	191.916	T15
6179777	EVSCFR1616K0316C	3	16	32	16	16	16	21	125	15	28	M8X1.25	M8X1.25	MS1160	T20
6179781	EVSCFR2020K0316C	3	16	32	20	20	20	25	125	19	28	M8X1.25	M8X1.25	MS1160	T20

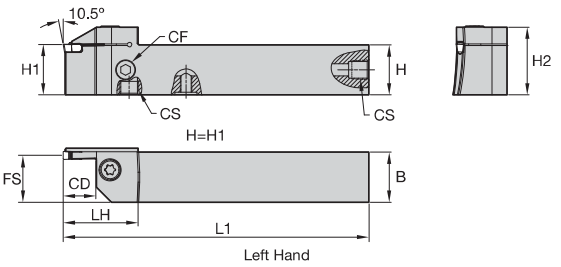
(continued)

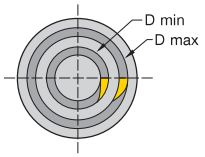
(Integral Reinforced Front Clamp • Metric — continued)

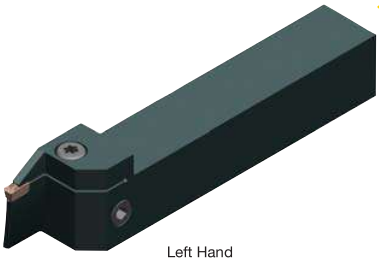
order number	catalogue number	seat size	CD	D max	H1	H	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx
left hand															
6179709	EVSCFL1010K1B10	1B	10	20	10	10	10	14	125	9	21	—	—	191.916	T15
6179922	EVSCFL1212K1B10	1B	10	20	12	12	12	16	125	11	21	—	—	191.916	T15
6179923	EVSCFL1212K1B13	1B	13	26	12	12	12	16	125	11	24	—	—	191.916	T15
6179930	EVSCFL1616K1B16	1B	16	32	16	16	16	21	125	15	27	—	—	MS1160	T20
6179934	EVSCFL2020K1B16	1B	16	32	20	20	20	25	125	19	27	—	—	MS1160	T20
6179710	EVSCFL1010K1F10	1F	10	20	10	10	10	14	125	9	21	—	—	191.916	T15
6179924	EVSCFL1212K1F10	1F	10	20	12	12	12	16	125	11	21	—	—	191.916	T15
6179925	EVSCFL1212K1F13	1F	13	26	12	12	12	16	125	11	24	—	—	191.916	T15
6179931	EVSCFL1616K1F16	1F	16	32	16	16	16	21	125	15	27	—	—	MS1160	T20
6179935	EVSCFL2020K1F16	1F	16	32	20	20	20	25	125	19	27	—	—	MS1160	T20
6179921	EVSCFL1010K0210	2	10	20	10	10	10	14	125	9	21	—	—	191.916	T15
6179926	EVSCFL1212K0210	2	10	20	12	12	12	16	125	11	21	—	—	191.916	T15
6179927	EVSCFL1212K0216	2	16	32	12	12	12	16	125	11	27	—	—	191.916	T15
6179932	EVSCFL1616K0216	2	16	32	16	16	16	21	125	15	27	—	—	MS1160	T20
6179936	EVSCFL2020K0216	2	16	32	20	20	20	25	125	19	27	—	—	MS1160	T20
6179928	EVSCFL1212K0310C	3	10	20	12	12	12	17	125	11	22	M8X1.25	M8X1.25	191.916	T15
6179929	EVSCFL1212K0316C	3	16	32	12	12	12	17	125	11	28	M8X1.25	M8X1.25	191.916	T15
6179933	EVSCFL1616K0316C	3	16	32	16	16	16	21	125	15	28	M8X1.25	M8X1.25	MS1160	T20
6179937	EVSCFL2020K0316C	3	16	32	20	20	20	25	125	19	28	M8X1.25	M8X1.25	MS1160	T20

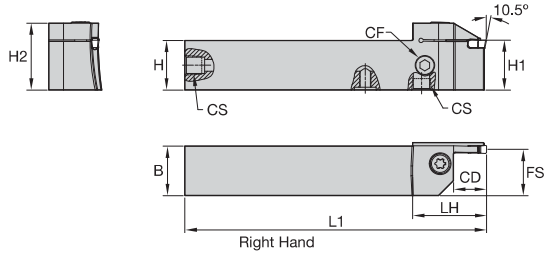
NOTE: Through the pocket coolant available in seat sizes 3 and higher.

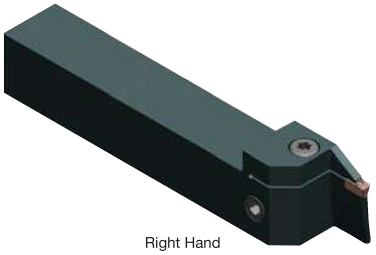
screw catalogue number	screw order number	torque Nm	torque in. lbs.	thread	socket	wrench catalogue number	wrench order number
MS1160	1099645	7	62	M5	T20	KT20	1022703
MS1162	1127019	9	80	M6	T25	KT25	1022725
MS1163	1124104	18	159	M8	T30	KT30L	1099676
MS1273	1020977	4	35.4	M4	T15	KT15	1022701
MS1490	2263299	17	151	M8	T45	KT45	1018227
MS1595	1094300	12	106	M6	T30	KT30	1099676
MS1970	1106668	12	106	M6	T30	KT30	1099676
MS2002	1621087	9	80	M6	T25	KT25	1022725
MS2091	1931147	9	80	M5	25IP	K25IP	2050113











Integral Face Grooving Straight Outboard • Metric

order number	catalogue number	seat size	CD	D max	D min	W min	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx
right hand															
6080031	EVSBR2020K0312035040C	3	12	40	35	20	20	29	125	19	33	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6116561	EVSBR2020K0312040050C	3	12	50	40	20	20	29	125	19	33	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T20
6116563	EVSBR2020K0312050060C	3	12	60	50	20	20	29	125	19	33	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6116567	EVSBR2020K0312060075C	3	12	75	60	20	20	29	125	19	33	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6116569	EVSBR2020K0312075100C	3	12	100	75	20	20	29	125	19	33	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6080067	EVSBR2525M0312100180C	3	12	180	100	25	25	34	150	24	33	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080069	EVSBR2525M0312180250C	3	12	250	180	25	25	34	150	24	33	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080053	EVSBR2525M0320060075C	3	20	75	60	25	25	34	150	24	41	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080055	EVSBR2525M0320075100C	3	20	100	75	25	25	34	150	24	41	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080057	EVSBR2525M0320100180C	3	20	180	100	25	25	34	150	24	41	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080060	EVSBR2525M0320180250C	3	20	250	180	25	25	35	150	24	41	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080033	EVSBR2020K0416040050C	4	16	50	40	20	20	29	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6080040	EVSBR2020K0416050060C	4	16	60	50	20	20	29	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6116571	EVSBR2020K0416060075C	4	16	75	60	20	20	29	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6116573	EVSBR2020K0416075100C	4	16	100	75	20	20	29	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6116587	EVSBR2525M0416100180C	4	16	180	100	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6116589	EVSBR2525M0416180250C	4	16	250	180	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6116575	EVSBR2525M0426060075C	4	26	75	60	25	25	34	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6116577	EVSBR2525M0426075100C	4	26	100	75	25	25	34	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6116579	EVSBR2525M0426100180C	4	26	180	100	25	25	34	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6116581	EVSBR2525M0426180250C	4	26	250	180	25	25	34	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080035	EVSBR2525M0516050060C	5	16	60	50	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124200	EVSBR2525M0516060075C	5	16	60	60	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30

(continued)

(Integral Face Grooving Straight Outboard • Metric — continued)

order number	catalogue number	seat size	CD	D max	D min	W min	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx
6124214	EVSBR2525M0516075100C	5	16	100	75	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124218	EVSBR2525M0516100180C	5	16	180	100	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124222	EVSBR2525M0516180250C	5	16	250	180	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124226	EVSBR2525M0516250350C	5	16	350	250	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124230	EVSBR2525M0516350999C	5	16	999	350	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124198	EVSBR2525M0526050060C	5	26	60	50	25	25	35	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124212	EVSBR2525M0526060075C	5	26	60	60	25	25	35	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124216	EVSBR2525M0526075100C	5	26	100	75	25	25	35	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124235	EVSBR3232P0532100180C	5	32	180	100	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124237	EVSBR3232P0532180250C	5	32	250	180	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124239	EVSBR3232P0532250350C	5	32	350	250	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124241	EVSBR3232P0532350999C	5	32	999	350	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124605	EVSBR2525M0616060075C	6	16	75	60	25	25	35	150	22	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124609	EVSBR2525M0616075100C	6	16	100	75	25	25	35	150	22	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124673	EVSBR2525M0616100180C	6	16	180	100	25	25	31	150	22	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124677	EVSBR2525M0616180250C	6	16	250	180	25	25	34	150	22	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124681	EVSBR2525M0616250350C	6	16	350	250	25	25	34	150	22	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124685	EVSBR2525M0616350999C	6	16	999	350	25	25	34	150	22	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124607	EVSBR2525M0626060075C	6	26	75	60	25	25	35	150	22	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124671	EVSBR2525M0626075100C	6	26	100	75	25	25	35	150	22	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124689	EVSBR3232P0632100180C	6	32	180	100	32	32	43	170	29	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45
6124691	EVSBR3232P0632180250C	6	32	250	180	32	32	43	170	29	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45
6124693	EVSBR3232P0632250350C	6	32	350	250	32	32	43	170	29	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45
6124695	EVSBR3232P0632350999C	6	32	999	350	32	32	43	170	29	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45
left hand															
6080037	EVSBL2020K0312035040C	3	12	40	35	20	20	29	125	19	33	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6116562	EVSBL2020K0312040050C	3	12	50	40	20	20	29	125	19	33	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6116564	EVSBL2020K0312050060C	3	12	60	50	20	20	29	125	19	33	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6116568	EVSBL2020K0312060075C	3	12	75	60	20	20	29	125	19	33	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6116570	EVSBL2020K0312075100C	3	12	100	75	20	20	29	125	19	33	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6080068	EVSBL2525M0312100180C	3	12	180	100	25	25	34	150	24	33	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080070	EVSBL2525M0312180250C	3	12	250	180	25	25	34	150	24	33	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080054	EVSBL2525M0320060075C	3	20	75	60	25	25	35	150	24	41	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080056	EVSBL2525M0320075100C	3	20	100	75	25	25	35	150	24	41	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080059	EVSBL2525M0320100180C	3	20	180	100	25	25	35	150	24	41	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080061	EVSBL2525M0320180250C	3	20	250	180	25	25	35	150	24	41	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080038	EVSBL2020K0416040050C	4	16	50	40	20	20	29	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6080051	EVSBL2020K0416050060C	4	16	60	50	20	20	29	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6116572	EVSBL2020K0416060075C	4	16	75	60	20	20	29	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6116574	EVSBL2020K0416075100C	4	16	100	75	20	20	29	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6116588	EVSBL2525M0416100180C	4	16	180	100	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6116590	EVSBL2525M0416180250C	4	16	250	180	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6116576	EVSBL2525M0426060075C	4	26	75	60	25	25	35	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6116578	EVSBL2525M0426075100C	4	26	100	75	25	25	35	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30

(continued)

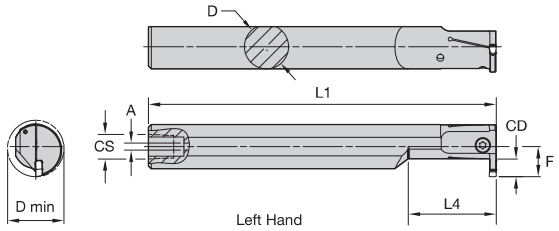
(Integral Face Grooving Straight Outboard • Metric — continued)

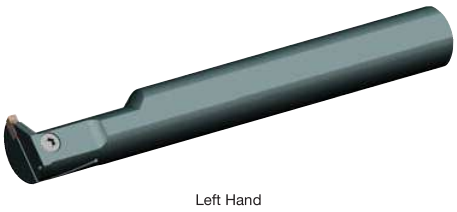
order number	catalogue number	seat size	CD	D max	D min	W min	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx
6116580	EVSBL2525M0426100180C	4	26	180	100	25	25	35	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6116582	EVSBL2525M0426180250C	4	26	250	180	25	25	35	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080039	EVSBL2525M0516050060C	5	16	60	50	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124211	EVSBL2525M0516060075C	5	16	60	60	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124215	EVSBL2525M0516075100C	5	16	100	75	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124219	EVSBL2525M0516100180C	5	16	180	100	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124223	EVSBL2525M0516180250C	5	16	250	180	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124227	EVSBL2525M0516250350C	5	16	350	250	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124232	EVSBL2525M0516350999C	5	16	999	350	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124199	EVSBL2525M0526050060C	5	26	60	50	25	25	35	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124213	EVSBL2525M0526060075C	5	26	60	60	25	25	35	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124217	EVSBL2525M0526075100C	5	26	100	75	25	25	35	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124236	EVSBL3232P0532100180C	5	32	180	100	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124238	EVSBL3232P0532180250C	5	32	250	180	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124240	EVSBL3232P0532250350C	5	32	350	250	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124242	EVSBL3232P0532350999C	5	32	999	350	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124606	EVSBL2525M0616060075C	6	16	75	60	25	25	35	150	22	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124610	EVSBL2525M0616075100C	6	16	100	75	25	25	35	150	22	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124674	EVSBL2525M0616100180C	6	16	180	100	25	25	35	150	22	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124678	EVSBL2525M0616180250C	6	16	250	180	25	25	35	150	22	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124682	EVSBL2525M0616250350C	6	16	350	250	25	25	35	150	22	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124686	EVSBL2525M0616350999C	6	16	999	350	25	25	35	150	22	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124608	EVSBL2525M0626060075C	6	26	75	60	25	25	35	150	22	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124672	EVSBL2525M0626075100C	6	26	100	75	25	25	35	150	22	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124690	EVSBL3232P0632100180C	6	32	180	100	32	32	43	170	29	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45
6124692	EVSBL3232P0632180250C	6	32	250	180	32	32	43	170	29	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45
6124694	EVSBL3232P0632250350C	6	32	350	250	32	32	43	170	29	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45
6124696	EVSBL3232P0632350999C	6	32	999	350	32	32	43	170	29	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45

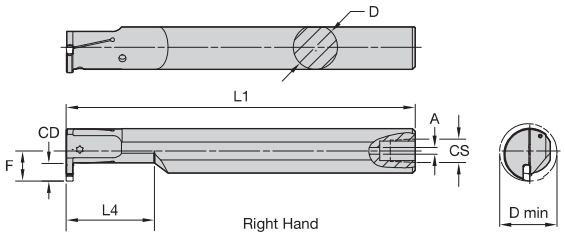
NOTE: Through the pocket coolant available in seat sizes 3 and higher.

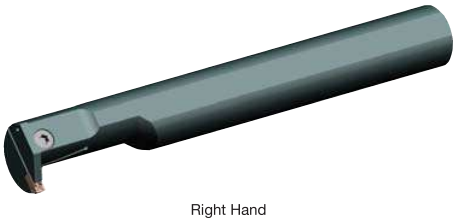
screw catalogue number	screw order number	torque Nm	torque in. lbs.	thread	socket	wrench catalogue number	wrench order number
MS1160	1099645	7	62	M5	T20	KT20	1022703
MS1162	1127019	9	80	M6	T25	KT25	1022725
MS1163	1124104	18	159	M8	T30	KT30L	1099676
MS1273	1020977	4	35.4	M4	T15	KT15	1022701
MS1490	2263299	17	151	M8	T45	KT45	1018227
MS1595	1094300	12	106	M6	T30	KT30	1099676
MS1970	1106668	12	106	M6	T30	KT30	1099676
MS2002	1621087	9	80	M6	T25	KT25	1022725
MS2091	1931147	9	80	M5	25IP	K25IP	2050113

- For use in I.D. grooving applications.
- Maximum support.
- Steel boring bar with through coolant capability.







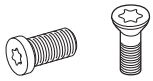


Steel Boring Bar • Metric

order number	catalogue number	seat size	CD	D	D min	L1	F	L4	A	CS	Torx clamp screw	Torx clamp screw	Torx
right hand													
5980518	**A12KEVEMR1F05M**	1F	5,00	12	16	125	9	24,0	4,00	1/16 - 27 NPT	–	**MS1285**	T15
5980520	**A16MEVEMR1F07M**	1F	7,00	16	20	150	11	32,0	4,00	1/8 - 27 NPT	–	**MS1273**	T15
5980622	**A20QEVEMR1F07M**	1F	7,00	20	25	180	13	40,0	4,00	1/8 - 27 NPTF	–	**MS1160**	T20
5980519	**A12KEVEMR0205M**	2	5,00	12	16	125	9	24,0	4,00	1/16 - 27 NPTF	–	**MS1285**	T15
5980621	**A16MEVEMR0207M**	2	7,00	16	20	150	11	32,0	4,00	1/8 - 27 NPTF	–	**MS1273**	T15
5980623	**A20QEVEMR0207M**	2	7,00	20	25	180	13	40,0	4,00	1/8 - 27 NPTF	–	**MS1160**	T20
5980624	**A25REVEMR0210M**	2	10,00	25	32	200	18	50,0	6,40	1/4 - 18 NPT	–	**MS1162**	T25
5954259	**A16MEVEMR0307M**	3	7,00	16	20	150	11	40,3	4,00	1/8 - 27 NPT	–	**MS1273**	T15
5954260	**A20QEVEMR0307M**	3	7,00	20	25	180	13	40,3	4,00	1/8 - 27 NPT	–	**MS1160**	T20
5954281	**A25REVEMR0310M**	3	10,00	25	32	200	17	50,3	6,40	1/4 - 18 NPT	–	**MS1162**	T25
5954283	**A32SEVEMR0312M**	3	12,00	32	40	250	22	64,0	6,40	1/4 - 18 NPT	**MS1595**	–	T30
5954282	**A25REVEMR0410M**	4	10,00	25	32	200	17	50,3	6,40	1/4 - 18 NPT	–	**MS1162**	T25
5954284	**A32SEVEMR0412M**	4	12,00	32	40	250	22	64,0	6,40	1/4 - 18 NPT	**MS1595**	–	T30

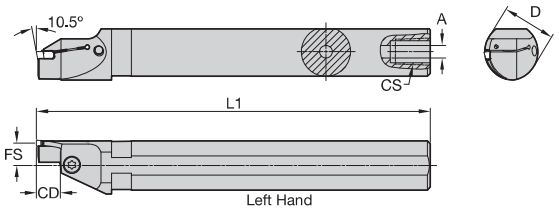
(continued)

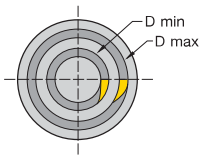
(Steel Boring Bar • Metric — continued)



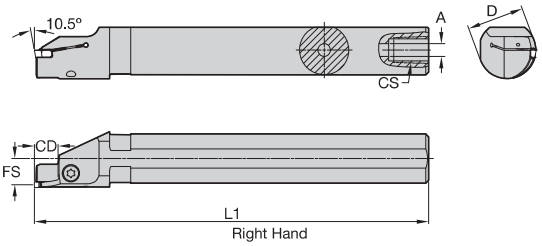
order number	catalogue number	seat size	CD	D	D min	L1	F	L4	A	CS	Torx clamp screw	Torx clamp screw	Torx
left hand													
5980625	A12KEVEML1F05M	1F	5,00	12	16	125	9	24,0	4,00	1/16 - 27 NPTF	–	MS1285	T15
5980627	A16MEVEML1F07M	1F	7,00	16	20	150	11	32,0	4,00	1/8 - 27 NPTF	–	MS1273	T15
5980629	A20QEVEML1F07M	1F	7,00	20	25	180	13	40,0	4,00	1/8 - 27 NPTF	–	MS1160	T20
5980626	A12KEVEML0205M	2	5,00	12	16	125	9	24,0	4,00	1/16 - 27 NPTF	–	MS1285	T15
5980628	A16MEVEML0207M	2	7,00	16	20	150	11	32,0	4,00	1/8 - 27 NPTF	–	MS1273	T15
5980630	A20QEVEML0207M	2	7,00	20	25	180	13	40,0	4,00	1/8 - 27 NPTF	–	MS1160	T20
5980631	A25REVEML0210M	2	10,00	25	32	200	18	50,0	6,40	1/4 - 18 NPT	–	MS1162	T25
5954285	A16MEVEML0307M	3	7,00	16	20	150	11	40,3	4,00	1/8 - 27 NPT	–	MS1273	T15
5954286	A20QEVEML0307M	3	7,00	20	25	180	13	40,3	4,00	1/8 - 27 NPT	–	MS1160	T20
5954287	A25REVEML0310M	3	10,00	25	32	200	17	50,3	6,40	1/4 - 27 NPT	–	MS1162	T25
5954289	A32SEVEML0312M	3	12,00	32	40	250	22	64,0	6,40	1/4 - 27 NPT	MS1595	–	T30
5954288	A25REVEML0410M	4	10,00	25	32	200	17	50,3	6,40	1/4 - 18 NPT	–	MS1162	T25
5954290	A32SEVEML0412M	4	12,00	32	40	250	22	64,0	6,40	1/4 - 18 NPT	MS1595	–	T30

screw catalogue number	screw order number	torque Nm	torque in. lbs.	thread	socket	wrench catalogue number	wrench order number
MS1160	1099645	7	62	M5	T20	KT20	1022703
MS1162	1127019	9	80	M6	T25	KT25	1022725
MS1163	1124104	18	159	M8	T30	KT30L	1099676
MS1273	1020977	4	35.4	M4	T15	KT15	1022701
MS1490	2263299	17	151	M8	T45	KT45	1018227
MS1595	1094300	12	106	M6	T30	KT30	1099676
MS1970	1106668	12	106	M6	T30	KT30	1099676
MS2002	1621087	9	80	M6	T25	KT25	1022725
MS2091	1931147	9	80	M5	25IP	K25IP	2050113






Left Hand



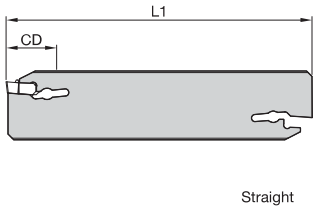

Right Hand

Steel Face Grooving Boring Bar • Metric

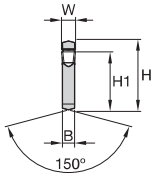
order number	catalogue number	seat size	CD	D	D min	D max	L1	F	CS	Torx clamp screw	Torx
right hand											
6116521	**A25REVSAR0212M026030**	2	12,00	25	26	30	200	13	1/4-18 NPT	**MS1160**	T20
6116522	**A25REVSAR0312M030035**	3	12,00	25	30	35	200	13	–	**MS1162**	T25
6116297	**A32SEVSAR0312M033042**	3	12,00	32	33	42	250	16	1/4-18 NPT	**MS1162**	T25
6116299	**A40TEVSAR0312M041050**	3	12,00	40	41	50	300	20	1/4-18 NPT	**MS1162**	T25
left hand											
6116527	**A25REVSAL0212M026030**	2	12,00	25	26	30	200	13	1/4-18 NPT	**MS1160**	T20
6116528	**A25REVSAL0312M030035**	3	12,00	25	30	35	200	13	1/4-18 NPT	**MS1162**	T25
6116298	**A32SEVSAL0312M033042**	3	12,00	32	33	42	250	16	1/4-18 NPT	–	T25
6116300	**A40TEVSAL0312M041050**	3	12,00	40	41	50	300	20	1/4-18 NPT	**MS1162**	T25

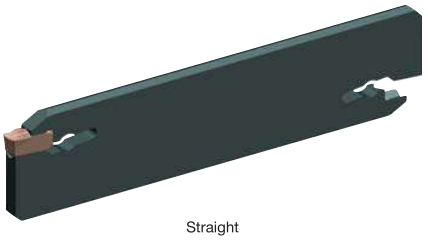
screw catalogue number	screw order number	torque Nm	torque in. lbs.	thread	socket	wrench catalogue number	wrench order number
MS1160	**1099645**	7	62	M5	T20	**KT20**	**1022703**
MS1162	**1127019**	9	80	M6	T25	**KT25**	**1022725**
MS1163	**1124104**	18	159	M8	T30	**KT30L**	**1099676**
MS1273	**1020977**	4	35.4	M4	T15	**KT15**	**1022701**
MS1490	**2263299**	17	151	M8	T45	**KT45**	**1018227**
MS1595	**1094300**	12	106	M6	T30	**KT30**	**1099676**
MS1970	**1106668**	12	106	M6	T30	**KT30**	**1099676**
MS2002	**1621087**	9	80	M6	T25	**KT25**	**1022725**
MS2091	**1931147**	9	80	M5	25IP	**K25IP**	**2050113**

- For deep groove and cut-off applications.
- Universal pocket for holding all insert geometries.

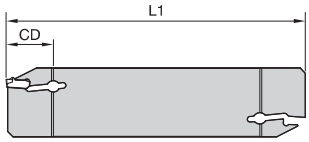


Straight

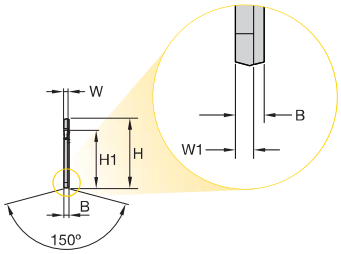


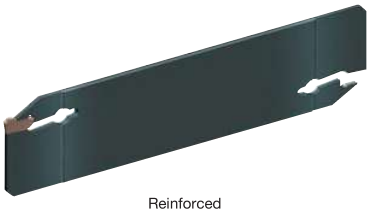


Straight



Reinforced





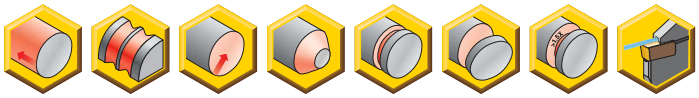
Reinforced

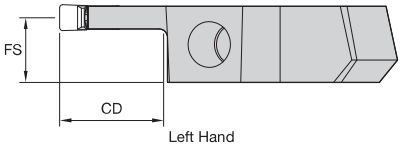
Double-Ended Cut-Off Blade

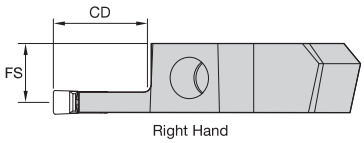
order number	catalogue number	seat size	H	W	W1	H1	L1	B	CD	assembly wrench
left hand										
5941706	**EVBSN19G1B14**	1B	19	1,4	1,15	15,5	90	1,80	14	**SCW5E**
5941708	**EVBSN26J1B15**	1B	26	1,4	1,15	21,5	110	1,80	15	**SCW5E**
5955391	**EVBSN19G1F16**	1F	19	1,6	1,30	15,5	90	1,80	16	**SCW5E**
5955392	**EVBSN26J1F17**	1F	26	1,6	1,30	21,5	110	1,80	17	**SCW5E**
5941707	**EVBSN19G0220**	2	19	2,0	–	15,5	90	1,65	–	**SCW5E**
5941709	**EVBSN26J0230**	2	26	2,0	–	21,5	110	1,65	–	**SCW5E**
5941710	**EVBSN26M0230**	2	26	2,0	–	21,5	150	1,65	–	**SCW5E**
5941724	**EVBSN32M0250**	2	32	2,0	–	25,1	150	1,65	–	**SCW5E**
5941721	**EVBSN26J0340**	3	26	3,0	–	21,5	110	2,40	–	**SCW5E**
5941722	**EVBSN26M0340**	3	26	3,0	–	21,5	150	2,40	–	**SCW5E**
5941725	**EVBSN32M0350**	3	32	3,0	–	25,1	150	2,40	–	**SCW5E**
5941723	**EVBSN26J0440**	4	26	4,0	–	21,5	110	3,40	–	**SCW5E**
5941726	**EVBSN32M0450**	4	32	4,0	–	25,1	150	3,40	–	**SCW5E**
5977635	**EVBSN26J0540**	5	26	5,0	–	21,5	110	4,40	–	**SCW5E**
5977637	**EVBSN32M0560**	5	32	5,0	–	25,1	150	4,40	–	**SCW5E**
5977636	**EVBSN26J0640**	6	26	6,0	–	21,5	110	5,40	–	**SCW8E**
5977638	**EVBSN32M0660**	6	32	6,0	–	25,1	150	5,40	–	**SCW8E**
5977640	**EVBSN52X06120**	6	53	6,0	–	45,3	260	5,40	–	**SCW8E**
5977639	**EVBSN32M0860**	8	32	8,0	–	25,1	150	7,00	–	**SCW8E**
5977721	**EVBSN52X08120**	8	53	8,0	–	45,3	260	7,00	–	**SCW8E**

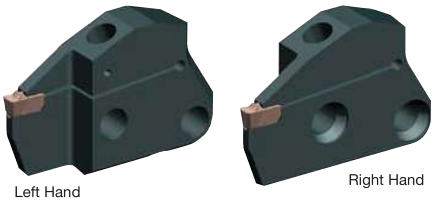
NOTE: Assembly wrench supplied with blade.

- Maximum support for specific groove width and straight clearance for unlimited diameter.
- Through the pocket coolant capable.
- Universal pocket for holding all insert geometries.

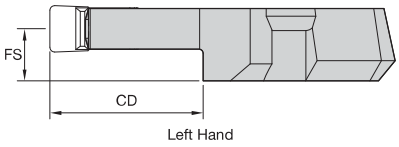


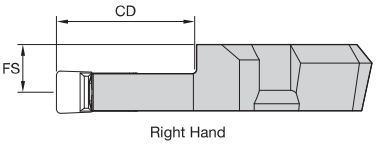


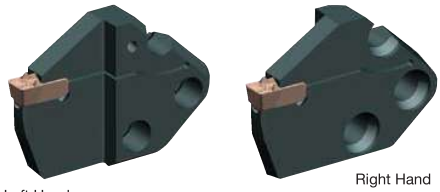




M50 blade size shown







M65 blade size shown

Modular Straight Blade with Coolant

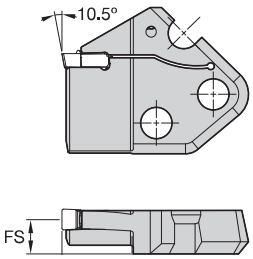
order number	catalogue number	seat size	CD	FS	blade size
right hand					
6031041	**EVM50R1F12M**	1F	12,0	11,00	50
6030969	**EVM50R0212M**	2	12,0	10,88	50
5955423	**EVM50R0216M**	2	16,0	10,88	50
5979200	**EVM50R0312MC**	3	12,0	10,43	50
5979010	**EVM50R0316MC**	3	16,0	10,43	50
5979181	**EVM50R0322MC**	3	22,0	10,43	50
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

(continued)

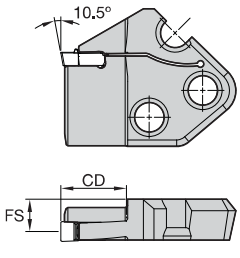
(Modular Straight Blade with Coolant — continued)

order number	catalogue number	seat size	CD	FS	blade size
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

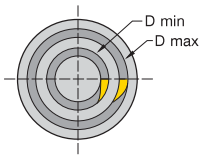
NOTE: Through the pocket coolant available in seat sizes 3 and higher.



Left Hand



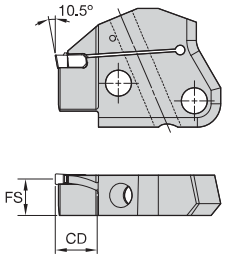
Right Hand



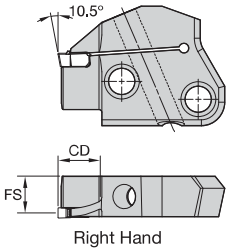

Left Hand


Right Hand

M65 blade size shown



Left Hand



Right Hand


Left Hand


Right Hand

M50 blade size shown

Modular Inboard Face Grooving Blade with Coolant

order number	catalogue number	seat size	D min	D max	CD	FS	blade size
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
6079484	**EVM50R0426A100180C**	4	100	180	26,0	10,00	50

(continued)

(Modular Inboard Face Grooving Blade with Coolant — continued)

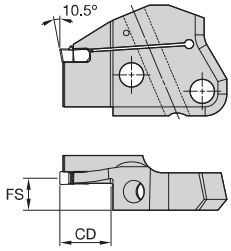
order number	catalogue number	seat size	D min	D max	CD	FS	blade size
6079485	EVM50R0426A180250C	4	180	250	26,0	10,00	50
6079486	EVM50R0426A250350C	4	250	350	26,0	10,00	50
6079487	EVM50R0426A350999C	4	350	999	26,0	10,00	50
6079488	EVM50R0520A050060C	5	50	60	20,0	9,50	50
6079489	EVM50R0520A060075C	5	60	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
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
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

(continued)

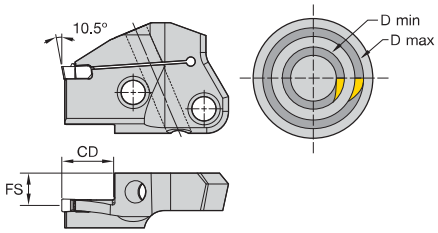
(Modular Inboard Face Grooving Blade with Coolant — continued)

order number	catalogue number	seat size	D min	D max	CD	FS	blade size
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
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

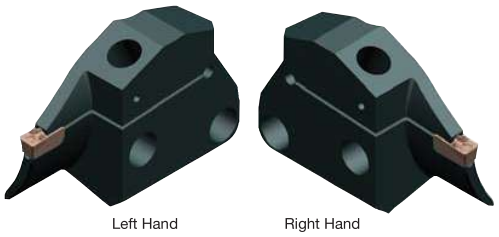
NOTE: Through the pocket coolant available in seat sizes 3 and higher.



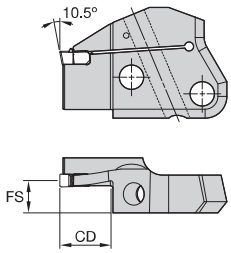
Left Hand



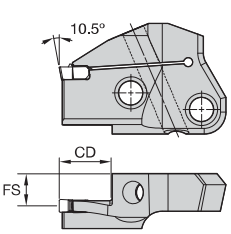
Right Hand


Left Hand Right Hand

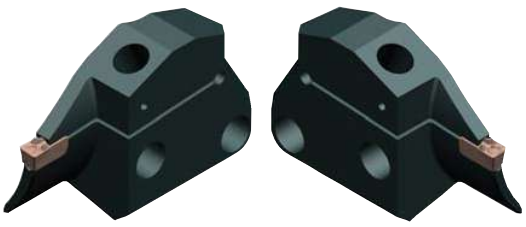
M65 blade size shown



Left Hand



Right Hand


Left Hand Right Hand

M50 blade size shown

Modular Outboard Face Grooving Blade with Coolant

order number	catalogue number	seat size	D min	D max	CD	FS	blade size
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
6079453	**EVM50R0426B100180C**	4	100	180	26,0	10,00	50

(continued)

(Modular Outboard Face Grooving Blade with Coolant — continued)

order number	catalogue number	seat size	D min	D max	CD	FS	blade size
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
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
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
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
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

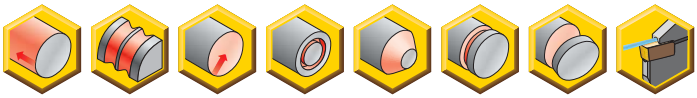
(continued)

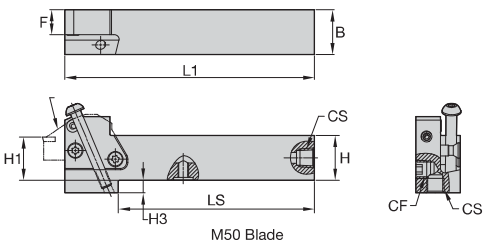
(Modular Outboard Face Grooving Blade with Coolant — continued)

order number	catalogue number	seat size	D min	D max	CD	FS	blade size
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
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

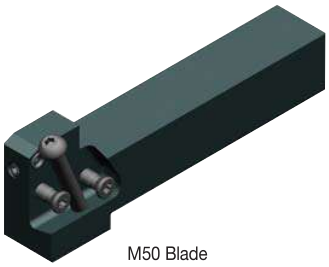
NOTE: Through the pocket coolant available in seat sizes 3 and higher.

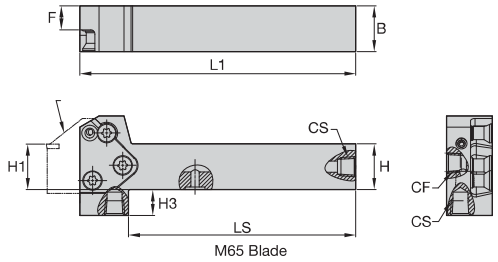
- Interchangeable blades for versatility and depth of cut.
- Through the pocket coolant capable.



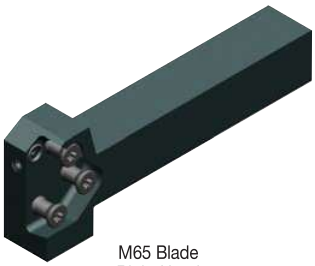


M50 Blade


M50 Blade
Right Hand



M65 Blade


M65 Blade
Right Hand

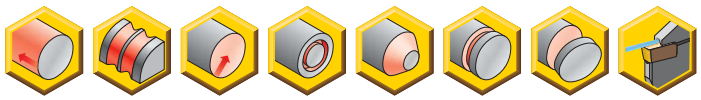
Modular Straight Toolholder with Coolant • Metric

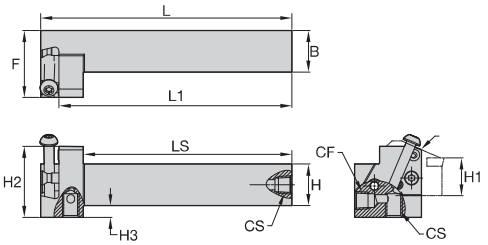

order number	catalogue number	B	H	H1	L1	F	CS	CF	LS	H3	blade size	blade screw	Torx	clamping screw	Torx
right hand															
5979190	**KGMSR2525M50C**	25	25	25	138,75	13,84	G 1/8	G 1/8	109,00	7,00	50	**MS1162**	T25	**MS2002**	T25
5979745	**KGMSR2525M65C**	25	25	25	150,00	13,00	G 1/8	G 1/8	122,00	14,00	65	**MS1163**	T30	**–**	–
5979746	**KGMSR3232P50C**	32	32	32	158,75	20,81	G 1/8	G 1/8	133,62	–	50	**MS1162**	T25	**MS2002**	T25
5979747	**KGMSR3232P65C**	32	32	32	170,00	20,00	G 1/8	G 1/8	138,50	7,00	65	**MS1163**	T30	**–**	–
left hand															
5979191	**KGMSL2525M50C**	25	25	25	138,75	13,84	G 1/8	G 1/8	109,00	7,00	50	**MS1162**	T25	**MS2002**	T25
5979748	**KGMSL2525M65C**	25	25	25	150,00	13,00	G 1/8	G 1/8	122,00	14,00	65	**MS1163**	T30	**–**	–
5979749	**KGMSL3232P50C**	32	32	32	158,75	20,80	G 1/8	G 1/8	133,62	–	50	**MS1162**	T25	**MS2002**	T25
5979750	**KGMSL3232P65C**	32	32	32	170,00	20,00	G 1/8	G 1/8	142,00	7,00	65	**MS1163**	T30	**–**	–

NOTE: KGMS..: Right-hand holder uses right-hand blades.
KGME..: Right-hand holder uses left-hand blades.
M50 blade and clamp screw torque equals 8–10 Nm (71–88 in. lbs.).
M65 blade and clamp screw torque equals 18–20 Nm (159–177 in. lbs.).

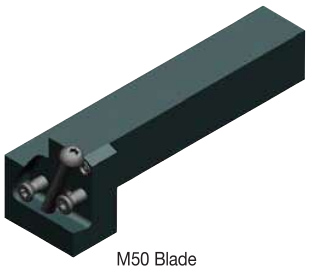
screw catalogue number	screw order number	torque Nm	torque in. lbs.	thread	socket	wrench catalogue number	wrench order number
MS1160	**1099645**	7	62	M5	T20	**KT20**	**1022703**
MS1162	**1127019**	9	80	M6	T25	**KT25**	**1022725**
MS1163	**1124104**	18	159	M8	T30	**KT30L**	**1099676**
MS1273	**1020977**	4	35.4	M4	T15	**KT15**	**1022701**
MS1490	**2263299**	17	151	M8	T45	**KT45**	**1018227**
MS1595	**1094300**	12	106	M6	T30	**KT30**	**1099676**
MS1970	**1106668**	12	106	M6	T30	**KT30**	**1099676**
MS2002	**1621087**	9	80	M6	T25	**KT25**	**1022725**
MS2091	**1931147**	9	80	M5	25IP	**K25IP**	**2050113**

- Interchangeable blades for versatility and depth of cut.
- Through the pocket coolant capable.

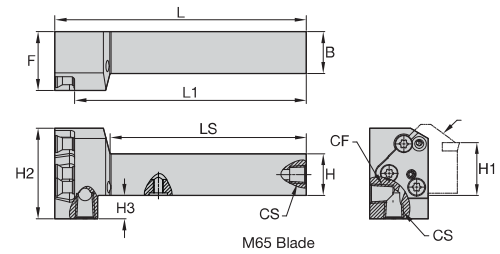




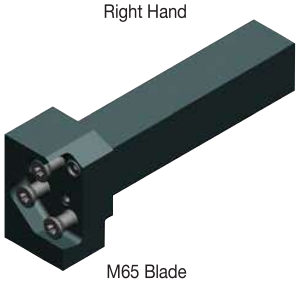
M50 Blade



M50 Blade
Right Hand



M65 Blade



M65 Blade
Right Hand

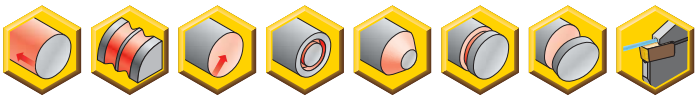
Modular End Mount Toolholder with Coolant • Metric

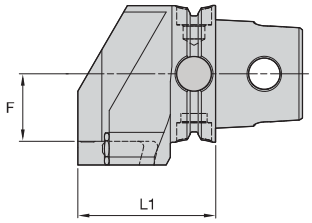
order number	catalogue number	B	H	H1	L1	F	CS	CF	LS	H3	blade size	blade screw	Torx	clamping screw	Torx
right hand															
5979765	**KGMER2525M65C**	25	25	25	138,15	35,00	G 1/8	G 1/8	117,00	14,00	65	**MS1163**	T30	**–**	–
5979192	**KGMER2525M50C**	25	25	25	139,25	40,00	G 1/8	G 1/8	124,85	7,00	50	**MS1162**	T25	**MS2002**	T25
5979767	**KGMER3232P65C**	32	32	32	158,15	35,00	G 1/8	G 1/8	137,00	7,00	65	**MS1163**	T30	**–**	–
5979766	**KGMER3232P50C**	32	32	32	159,25	40,00	G 1/8	G 1/8	145,25	–	50	**MS1162**	T25	**MS2002**	T25
left hand															
5979768	**KGMEL2525M65C**	25	25	25	138,15	35,00	G 1/8	G 1/8	117,00	14,00	65	**MS1163**	T30	**–**	–
5979193	**KGMEL2525M50C**	25	25	25	139,25	40,00	G 1/8	G 1/8	124,85	7,00	50	**MS1162**	T25	**MS2002**	T25
5979770	**KGMEL3232P65C**	32	32	32	158,15	35,00	G 1/8	G 1/8	137,00	7,00	65	**MS1163**	T30	**–**	–
5979769	**KGMEL3232P50C**	32	32	32	159,25	40,00	G 1/8	G 1/8	145,25	–	50	**MS1162**	T25	**MS2002**	T25

NOTE: KGMS..: Right-hand holder uses right-hand blades.
KGME..: Right-hand holder uses left-hand blades.
M50 blade and clamp screw torque equals 8–10 Nm (71–88 in. lbs.).
M65 blade and clamp screw torque equals 18–20 Nm (159–177 in. lbs.).

screw catalogue number	screw order number	torque Nm	torque in. lbs.	thread	socket	wrench catalogue number	wrench order number
MS1160	**1099645**	7	62	M5	T20	**KT20**	**1022703**
MS1162	**1127019**	9	80	M6	T25	**KT25**	**1022725**
MS1163	**1124104**	18	159	M8	T30	**KT30L**	**1099676**
MS1273	**1020977**	4	35.4	M4	T15	**KT15**	**1022701**
MS1490	**2263299**	17	151	M8	T45	**KT45**	**1018227**
MS1595	**1094300**	12	106	M6	T30	**KT30**	**1099676**
MS1970	**1106668**	12	106	M6	T30	**KT30**	**1099676**
MS2002	**1621087**	9	80	M6	T25	**KT25**	**1022725**
MS2091	**1931147**	9	80	M5	25IP	**K25IP**	**2050113**

- Best-in-class KM Quick-Change platform.
- Through the pocket coolant capable.
- Interchangeable blades for versatility and depth of cut.






Right Hand

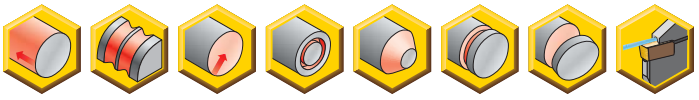
KM QUICK CHANGE

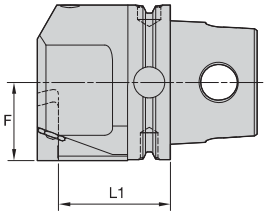
Modular Straight KM System with Coolant

order number	catalogue number	CSMS system size	L1	F	blade size	blade screw	Torx	clamp screw	Torx
right hand									
5999790	**KM40TSKGMSR50C**	KM40TS	53,5	15,0	50	**MS1162**	T25	**MS2002**	T25
6000422	**KM50TSKGMSR65C**	KM50TS	53,5	22,0	65	**MS1163**	T30	**–**	–
5999864	**KM50TSKGMSR50C**	KM50TS	58,5	23,0	50	**MS1162**	T25	**MS2002**	T25
6000431	**KM63TSKGMSR65C**	KM63TS	58,5	30,0	65	**MS1163**	T30	**–**	–
5999948	**KM63TSKGMSR50C**	KM63TS	63,5	31,0	50	**MS1162**	T25	**MS2002**	T25
5999972	**KM63XMZKGMSR50CY**	KM63XMZ	63,5	31,0	50	**MS1162**	T25	**MS2002**	T25
6017695	**KM80TSKGMSR65C**	KM80TS	63,5	40,0	65	**MS1163**	T30	**–**	–
6000018	**KM80ATCKGMSR50C**	KM80ATC	66,5	41,0	50	**MS1162**	T25	**MS2002**	T25
6000014	**KM80TSKGMSR50C**	KM80TS	66,5	41,0	50	**MS1162**	T25	**MS2002**	T25
left hand									
5999861	**KM40TSKGMSL50C**	KM40TS	53,5	15,0	50	**MS1162**	T25	**MS2002**	T25
6000424	**KM50TSKGMSL65C**	KM50TS	53,5	22,0	65	**MS1163**	T30	**–**	–
5999865	**KM50TSKGMSL50C**	KM50TS	58,5	23,0	50	**MS1162**	T25	**MS2002**	T25
6000433	**KM63TSKGMSL65C**	KM63TS	58,5	30,0	65	**MS1163**	T30	**–**	–
5999949	**KM63TSKGMSL50C**	KM63TS	63,5	31,0	50	**MS1162**	T25	**MS2002**	T25
5999973	**KM63XMZKGMSLF50CY**	KM63XMZ	63,5	31,0	50	**MS1162**	T25	**MS2002**	T25
6017696	**KM80TSKGMSL65C**	KM80TS	63,5	40,0	65	**MS1163**	T30	**–**	–
6000019	**KM80ATCKGMSL50C**	KM80ATC	66,5	41,0	50	**MS1162**	T25	**MS2002**	T25
6000015	**KM80TSKGMSL50C**	KM80TS	66,5	41,0	50	**MS1162**	T25	**MS2002**	T25

NOTE: KGMS..: Right-hand holder uses right-hand blades.
KGME..: Right-hand holder uses left-hand blades.
M50 blade and clamp screw torque equals 8–10 Nm (71–88 in. lbs.).
M65 blade and clamp screw torque equals 18–20 Nm (159–177 in. lbs.).

- Best-in-class KM Quick-Change platform.
- Through the pocket coolant capable.
- Interchangeable blades for versatility and depth of cut.






Right Hand

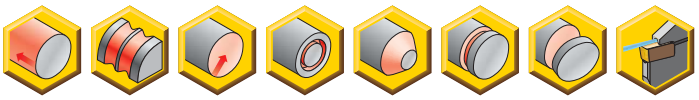
KM QUICK CHANGE

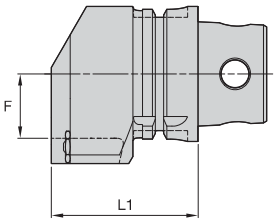
Modular End Mount KM System with Coolant • Metric

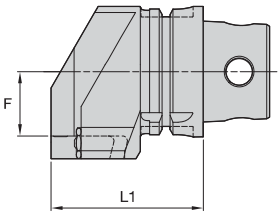
order number	catalogue number	CSMS system size	L1	F	blade size	blade screw	Torx	clamp screw	Torx
right hand									
5999788	**KM40TSKGMER50C**	KM40TS	28,0	20,50	50	**MS1162**	T25	**MS2002**	T25
5999862	**KM50TSKGMER50C**	KM50TS	38,0	25,50	50	**MS1162**	T25	**MS2002**	T25
6000410	**KM50TSKGMER65C**	KM50TS	47,0	25,50	65	**MS1163**	T30	–	–
6000425	**KM63TSKGMER65C**	KM63TS	47,0	32,52	65	**MS1163**	T30	–	–
5999946	**KM63TSKGMER50C**	KM63TS	48,0	32,50	50	**MS1162**	T25	**MS2002**	T25
6000434	**KM63XMZKGMER65CY**	KM63XMZ	47,0	32,50	65	**MS1163**	T30	–	–
5999950	**KM63XMZKGMER50CY**	KM63XMZ	48,0	32,50	50	**MS1162**	T25	**MS2002**	T25
6017697	**KM80ATCKGMER65C**	KM80ATC	57,0	40,50	65	**MS1163**	T30	–	–
6000016	**KM80ATCKGMER50C**	KM80ATC	58,0	40,50	50	**MS1162**	T25	**MS2002**	T25
6017693	**KM80TSKGMER65C**	KM80TS	57,0	40,50	65	**MS1163**	T30	–	–
6000012	**KM80TSKGMER50C**	KM80TS	58,0	40,50	50	**MS1162**	T25	**MS2002**	T25
left hand									
5999789	**KM40TSKGMEL50C**	KM40TS	28,0	20,50	50	**MS1162**	T25	**MS2002**	T25
5999863	**KM50TSKGMEL50C**	KM50TS	38,0	25,50	50	**MS1162**	T25	**MS2002**	T25
6000421	**KM50TSKGMEL65C**	KM50TS	47,0	25,50	65	**MS1163**	T30	–	–
6000430	**KM63TSKGMEL65C**	KM63TS	47,0	32,52	65	**MS1163**	T30	–	–
5999947	**KM63TSKGMEL50C**	KM63TS	48,0	32,50	50	**MS1162**	T25	**MS2002**	T25
6000436	**KM63XMZKGMELF65CY**	KM63XMZ	47,0	32,50	65	**MS1163**	T30	–	–
5999971	**KM63XMZKGMELF50CY**	KM63XMZ	48,0	32,50	50	**MS1162**	T25	**MS2002**	T25
6017698	**KM80ATCKGMEL65C**	KM80ATC	57,0	40,50	65	**MS1163**	T30	–	–
6000017	**KM80ATCKGMEL50C**	KM80ATC	58,0	40,50	50	**MS1162**	T25	**MS2002**	T25
6017694	**KM80TSKGMEL65C**	KM80TS	57,0	40,50	65	**MS1163**	T30	–	–
6000013	**KM80TSKGMEL50C**	KM80TS	58,0	40,50	50	**MS1162**	T25	**MS2002**	T25

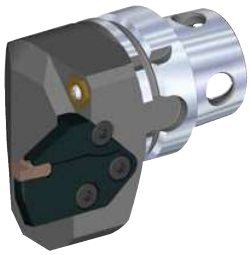
NOTE: KGMS..: Right-hand holder uses right-hand blades.
KGME..: Right-hand holder uses left-hand blades.
M50 blade and clamp screw torque equals 8–10 Nm (71–88 in. lbs.).
M65 blade and clamp screw torque equals 18–20 Nm (159–177 in. lbs.).

- Through the pocket coolant capable.
- Interchangeable blades for versatility and depth of cut.







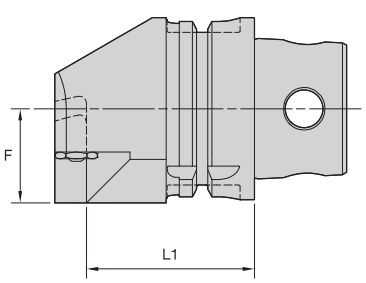


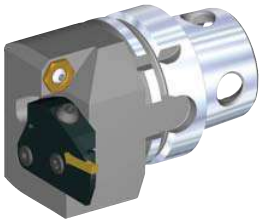
Right Hand

Modular Straight KM4X™ System with Coolant

order number	catalogue number	CSMS system size	L1	F	blade size	blade screw	Torx	clamp screw	Torx
right hand									
5543560	**KM4X63KGMSR65C**	KM4X63	68,5	30,0	65	**MS1163**	T30	–	–
6000407	**KM4X63KGMSR50C**	KM4X63	73,5	31,0	50	**MS1162**	T25	**MS2002**	T25
left hand									
5543558	**KM4X63KGMSL65C**	KM4X63	68,5	30,0	65	**MS1163**	T30	–	–
6000408	**KM4X63KGMSL50C**	KM4X63	73,5	31,0	50	**MS1162**	T25	**MS2002**	T25

NOTE: KGMS..: Right-hand holder uses right-hand blades.
KGME..: Right-hand holder uses left-hand blades.
M50 blade and clamp screw torque equals 8–10 Nm (71–88 in. lbs.).
M65 blade and clamp screw torque equals 18–20 Nm (159–177 in. lbs.).



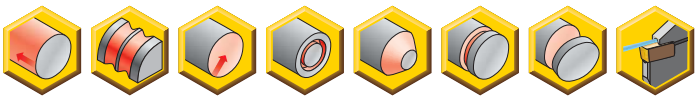


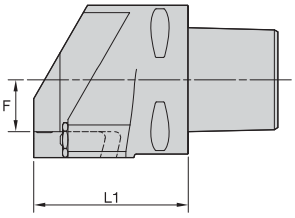
Right Hand

Modular End Mount KM4X™ System with Coolant

order number	catalogue number	CSMS system size	L1	F	cartridge size	blade screw	nozzle	clamp screw	kg	lbs
right hand										
5543555	**KM4X63KGMER65C**	KM4X63	57,0	32,5	65	**MS1163**	**PMT04525**	**–**	1,87	4.13
6000404	**KM4X63KGMER50C**	KM4X63	58,0	32,5	50	**MS1162**	**PMT04525**	**MS2002**	1,85	4.08
6000407	**KM4X63KGMSR50C**	KM4X63	73,5	31,0	50	**MS1162**	**PMT04525**	**MS2002**	1,86	4.11
left hand										
5543553	**KM4X63KGMEL65C**	KM4X63	57,0	32,5	65	**MS1163**	**PMT04525**	**–**	1,87	4.13
6000405	**KM4X63KGMEL50C**	KM4X63	58,0	32,5	50	**MS1162**	**PMT04525**	**MS2002**	1,85	4.08
6000408	**KM4X63KGMSL50C**	KM4X63	73,5	31,0	50	**MS1162**	**PMT04525**	**MS2002**	1,86	4.11

- Standard PSC Quick-Change platform.
- Through the pocket coolant capable.
- Interchangeable blades for versatility and depth of cut.



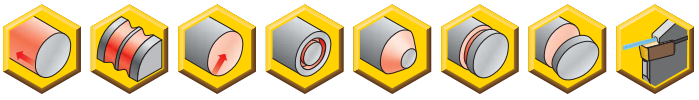


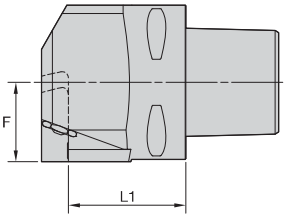
Right Hand

Modular Straight PSC System with Coolant

order number	catalogue number	CSMS system size	L1	F	blade size	blade screw	Torx	clamp screw	Torx
right hand									
6000028	**PSC40KGMSR50C**	PSC40	63,5	10,0	50	**MS1162**	T25	**MS2002**	T25
5405654	**PSC50KGMSR65C**	PSC50	49,0	25,5	65	**MS1163**	T30	–	–
6000152	**PSC50KGMSR50C**	PSC50	63,5	15,0	50	**MS1162**	T25	**MS2002**	T25
6000464	**PSC63KGMSR65C**	PSC63	60,5	21,0	65	**MS1163**	T30	–	–
6000211	**PSC63KGMSR50C**	PSC63	65,5	22,0	50	**MS1162**	T25	**MS2002**	T25
6000468	**PSC80KGMSR65C**	PSC80	68,5	29,0	65	**MS1163**	T30	–	–
6000216	**PSC80KGMSR50C**	PSC80	73,5	30,0	50	**MS1162**	T25	**MS2002**	T25
left hand									
6000029	**PSC40KGMSL50C**	PSC40	63,5	10,0	50	**MS1162**	T25	**MS2002**	T25
5405655	**PSC50KGMSL65C**	PSC50	49,0	25,5	65	**MS1163**	T30	–	–
6000153	**PSC50KGMSL50C**	PSC50	63,5	15,0	50	**MS1162**	T25	**MS2002**	T25
6000465	**PSC63KGMSL65C**	PSC63	60,5	21,0	65	**MS1163**	T30	–	–
6000213	**PSC63KGMSL50C**	PSC63	65,5	22,0	50	**MS1162**	T25	**MS2002**	T25
6000469	**PSC80KGMSL65C**	PSC80	68,5	29,0	65	**MS1163**	T30	–	–
6000217	**PSC80KGMSL50C**	PSC80	73,5	30,0	50	**MS1162**	T25	**MS2002**	T25

- Standard PSC Quick-Change platform.
- Through the pocket coolant capable.
- Interchangeable blades for versatility and depth of cut.



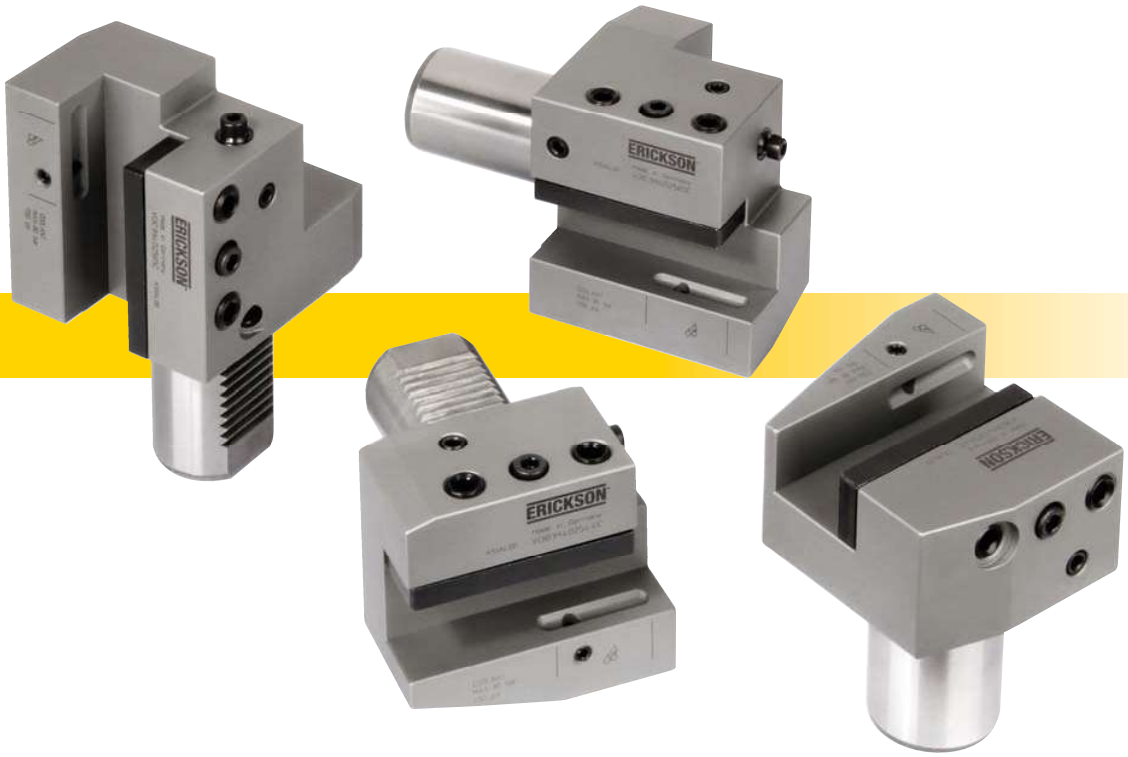


Right Hand

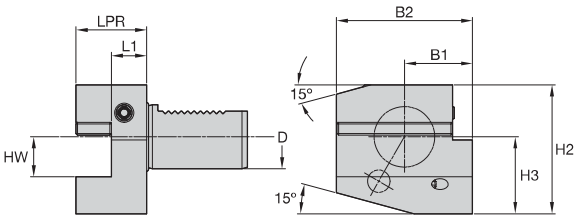
Modular End Mount PSC System with Coolant

order number	catalogue number	CSMS system size	L1	F	blade size	blade screw	Torx	clamp screw	Torx
right hand									
6000026	**PSC40KGMER50C**	PSC40	33,0	20,5	50	**MS1162**	T25	**MS2002**	T25
6000030	**PSC50KGMER50C**	PSC50	43,0	25,5	50	**MS1162**	T25	**MS2002**	T25
5405652	**PSC50KGMER65C**	PSC50	55,5	22,0	65	**MS1163**	T30	**–**	–
6000159	**PSC63KGMER50C**	PSC63	48,0	32,5	50	**MS1162**	T25	**MS2002**	T25
6000462	**PSC63KGMER65C**	PSC63	49,0	32,5	65	**MS1163**	T30	**–**	–
6000466	**PSC80KGMER65C**	PSC80	57,0	40,5	65	**MS1163**	T30	**–**	–
6000214	**PSC80KGMER50C**	PSC80	58,0	40,5	50	**MS1162**	T25	**MS2002**	T25
left hand									
6000027	**PSC40KGMEL50C**	PSC40	33,0	20,5	50	**MS1162**	T25	**MS2002**	T25
6000151	**PSC50KGMEL50C**	PSC50	43,0	25,5	50	**MS1162**	T25	**MS2002**	T25
5405653	**PSC50KGMEL65C**	PSC50	55,5	22,0	65	**MS1163**	T30	**–**	–
6000160	**PSC63KGMEL50C**	PSC63	48,0	32,5	50	**MS1162**	T25	**MS2002**	T25
6000463	**PSC63KGMEL65C**	PSC63	49,0	32,5	65	**MS1163**	T30	**–**	–
6000467	**PSC80KGMEL65C**	PSC80	57,0	40,5	65	**MS1163**	T30	**–**	–
6000215	**PSC80KGMEL50C**	PSC80	58,0	40,5	50	**MS1162**	T25	**MS2002**	T25

VDI Toolholders



- VDI adaptor with coolant support for square shank toolholder.
- ISO 10889.

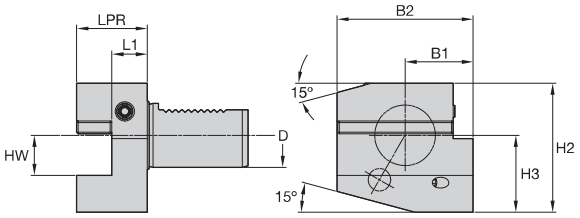


VDI Form B1 • HPC • Right Hand Short • Metric

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 Form B2 • Left Hand Short

- VDI adaptor with coolant support for square shank toolholder.
- ISO 10889.

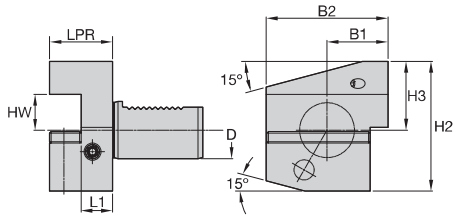


Artwork shows right hand tool.
Left hand tool mirror inverted.

VDI Form B2 • HPC • Left Hand Short • Metric

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 adaptor with coolant support for square shank toolholder.
- ISO 10889.

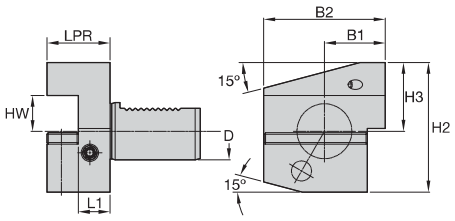


VDI Form B3 • HPC • Right Hand Short Inverted • Metric

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

VDI Form B4 • Left Hand Short Inverted

- VDI adaptor with coolant support for square shank toolholder.
- ISO 10889.

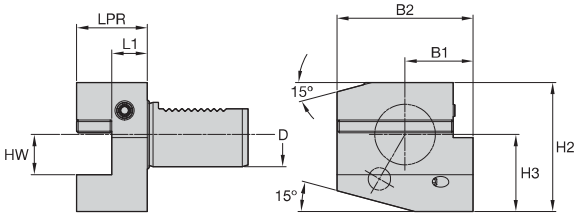


Artwork shows right hand tool.
Left hand tool mirror inverted.

VDI Form B4 • HPC • Left Hand Short Inverted • Metric

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 adaptor with coolant support for square shank toolholder.
- ISO 10889.

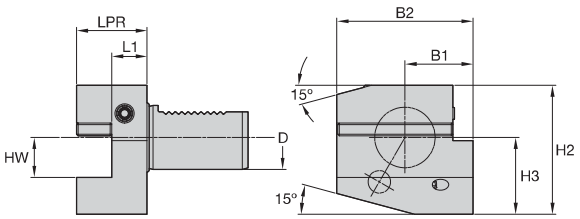


VDI Form B5 • HPC • Right Hand Long • Metric

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 Form B6 • Left Hand Long

- VDI adaptor with coolant support for square shank toolholder.
- ISO 10889.

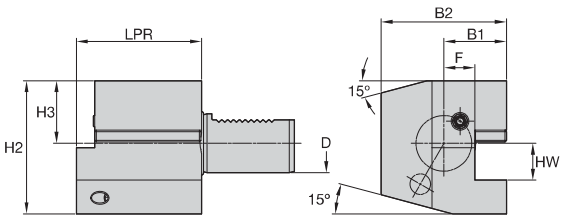


Artwork shows right hand tool.
Left hand tool mirror inverted.

VDI Form B6 • HPC • Left Hand Long • Metric

order number	catalogue number	D	B2	B1	HW	H2	H3	L1	LPR
6151512	VDIB6M302040C	30,00	100,00	65,00	20,00	66,00	38,00	22,00	40,00
6151513	VDIB6M402544C	40,00	118,00	75,50	25,00	80,50	48,00	22,00	44,00

- VDI adaptor with coolant support for square shank toolholder.
- ISO 10889.

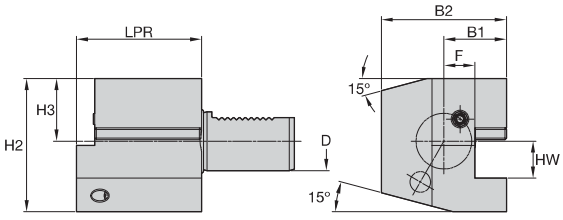


VDI Form C1 • HPC • Right Hand • Metric

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 Form C2 • Left Hand

- VDI adaptor with coolant support for square shank toolholder.
- ISO 10889.

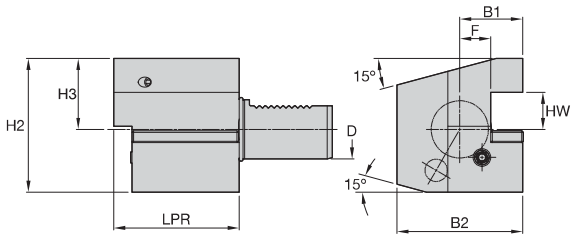


Artwork shows right hand tool.
Left hand tool mirror inverted.

VDI Form C2 • HPC • Left Hand • Metric

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

- VDI adaptor with coolant support for square shank toolholder.
- ISO 10889.

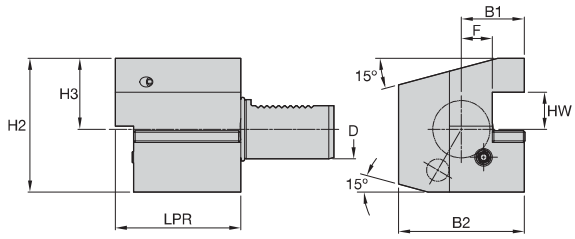


VDI Form C3 • HPC • Right Hand Inverted • Metric

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 Form C4 • Left Hand Inverted

- VDI adaptor with coolant support for square shank toolholder.
- ISO 10889.

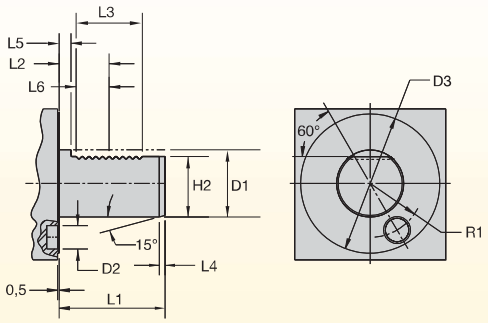


Artwork shows right hand tool.
Left hand tool mirror inverted.

VDI Form C4 • HPC • Left Hand Inverted • Metric

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

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

A4™ Tooling and Beyond™ Inserts

Choose A4 tooling for turning, facing, grooving, face grooving, and cut-off applications across a broad range of workpiece materials. The unique clamping system and versatile insert geometry delivers a very high metal removal rate.

FEATURES AND BENEFITS

A4 Grooving and Turning System

- One tool for turning, facing, grooving, face-grooving, and cut-off in O.D. and I.D. applications means exceptionally fast cycle times, no turret indexes!
- Extra-long clamping area, ground 120° bottom prism seating surface, and an exclusive top guide rail combine to deliver unsurpassed grooving and side-turning stability!
- Precise insert positioning is ensured for accurate cuts!
- Rigid clamping securely locks insert in place through the toughest cuts.
- Versatile design enables one system to handle O.D. and I.D. grooving, face grooving, back turning, undercutting, and even threading operations.
- Chip control inserts provide excellent chip evacuation in grooving, and offer better chip control in multidirectional turning.

Experience the advantages at your Authorised Kennametal Distributor or at **kennametal.com.**

KENNAMETAL®

kennametal.com

beyond™ EVOLUTION™

Connecting the tool to your machine is easy. Just select one of the two available hose packages, and Active Coolant Control will be keeping you cool in no time!

Don't know exactly what you need?

To connect Beyond™ Evolution™ tooling to the industry's most common machines. The Kennametal universal coolant packs are ideal! Each pack contains the most common thread sizes with a variety of fitting styles for maximum flexibility.

Universal 200mm Coolant Pack

order number	catalogue number	quantity	description
6145372	COOL-KIT-101	1	1/16 NPTF male to 7/16 JIC male fitting
		1	1/8 NPTF male to 7/16 JIC male fitting
		1	G1/8 male to 7/16 JIC male fitting
		1	M10 x 1,5 male to 7/16 JIC male fitting
		2	Male JIC to Swivel Female JIC Elbow
		1	200mm Hose Female JIC to Female JIC

Universal 300mm Coolant Pack

order number	catalogue number	quantity	description
6145373	COOL-KIT-201	1	1/16 NPTF male to 7/16 JIC male fitting
		1	1/8 NPTF male to 7/16 JIC male fitting
		1	G1/8 male to 7/16 JIC male fitting
		1	M10 x 1,5 male to 7/16 JIC male fitting
		2	Male JIC to Swivel Female JIC Elbow
		1	300mm Hose Female JIC to Female JIC

Know what you need?

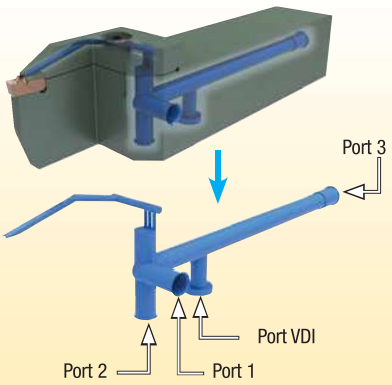
Every component is individually available, including less common fittings.
Knowing the precise components required will allow you to choose only the fittings you need!

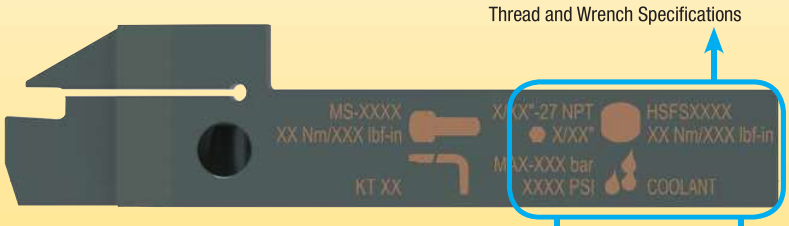
Coolant Hose Accessories

order number	catalogue number	description
6145374	1-16NPTF-JIC	1/16 NPTF male to 7/16 JIC male fitting
6145375	1-8NPTF-JIC	1/8 NPTF male to 7/16 JIC male fitting
6145376	G18-JIC	G1/8 male to 7/16 JIC male fitting
6145377	M10-JIC	M10 x 1,5 male to 7/16 JIC male fitting
6145379	JICM-JICF-ELB	Male JIC to Swivel Female JIC Elbow
6145380	COOL-HOSE-200	200mm Female JIC to Female JIC
6145381	COOL-HOSE-300	300mm Female JIC to Female JIC
6145382	M6-JIC	M6 x 1,0 male to 7/16 JIC male fitting
6145378	M8-JIC	M8 x 1,25 male to 7/16 JIC male fitting
6145383	JICM-JICM-STR	7/16 JIC male to 7/16 JIC male adaptor
6145386	G14-G18-RED	Male G1/4 to Female G1/8 reducer
6432549	COOL-HOSE-200-FLEX	Universal 200mm Flex Coolant Hose
6432550	COOL-HOSE-300-FLEX	Universal 300mm Flex Coolant Hose

Active Coolant Control Guidelines

1. Beyond™ Evolution™ system capable of 350 bar (5076 psi).
2. Toolholder delivered with four entry holes.
3. A quality filtration system is necessary to prevent blockages in the toolholder that will effect coolant flow and performance.
4. Machines without a proper filtering system may require modification or an inline filter.
   - For pressure >70 bar [1015 psi], use 10–20 µm filter.
   - For pressure <70 bar [1015 psi], 50–100 µm.
   - Using fine filters in low-pressure applications may affect flow rate.





General Safety Guidelines

1. All safety doors and mechanisms must be in place before trying out the internal coolant to avoid any danger to the operator in the event of a failure.
2. Use the correct pipe fittings to connect the holders to the system. Ensure the maximum pressure recommended for the fittings are not exceeded.
3. While implementing pressure >80 bar [1160 psi], increase the pressure in steps to ensure proper functioning of insert clamping and leak-free joints.
4. While indexing inserts, ensure the pocket is free from chips and/or dirt. Also, inspect the insert and make sure there are no blockages in the coolant canal.
5. Periodically check all hoses and fittings for damage and wear for proper functioning of the system. This check should also include filters.

Active Coolant Control Performance

Internal coolant offers a clear advantage in tool life and chip forming/evacuation vs. external coolant in difficult conditions and in high-pressure coolant.
Example: Chipbreaking in plunging of steel.

Flood Coolant | Internal Coolant

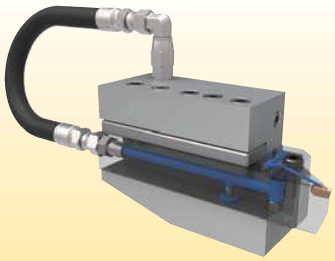
75 bar (1,087 psi) | 200 bar (2,900 psi)

Material steel ST52;
Insert size 6mm; f = 0,25 mm/U

Low Pressure — If performance is at risk due to low coolant pressure, apply internal coolant in combination with external coolant to increase volume.

Recommendation to improve tool life and/or productivity: Apply high pressure coolant: 80–350 bar recommended.

VDI Assemblies
The Beyond™ Evolution™ Active Coolant Control can be leveraged with VDI holding systems with both traditional or Quick-Change coolant connections.

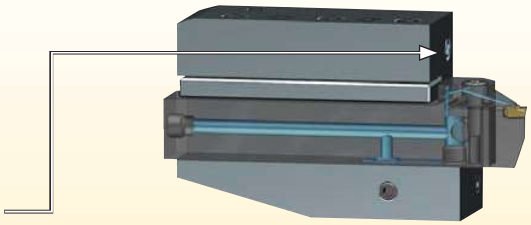


Coolant flow transfer from VDI adaptor to toolholder

A marker on the toolholder must remain within the coolant range indicated on the VDI system for uninterrupted coolant transfer.

Technical Details

Pressure limit 80 bar.



Nozzle set comes pre-assembled.
For the holder application with internal coolant only nozzle can be plugged by M5 screw (delivered). Use Loc Tite light, medium strength, or thread sealant.

Holder	Slide Area	Max. Pressure	Torque (Pressure Screws)
VDI 30	22mm	80 bar	20 Nm
VDI 40	30mm	80 bar	35 Nm

Spare sets	
Nozzle	**PKGNLAL 1205M**
Set Pressure Screw, Pressure Plate, Spring	See separately for each type in BOM

A4™ Tooling and Beyond™ Inserts

For All Your O.D. and I.D. Applications

Primary Application

Choose A4 tooling for turning, facing, grooving, face grooving, and cut-off applications across a broad range of workpiece materials. The unique clamping system and versatile insert geometry delivers a very high metal removal rate.

Features and Benefits

A4 Grooving and Turning System

- One tool for turning, facing, grooving, face-grooving, and cut-off in O.D. and I.D. applications means exceptionally fast cycle times, no turret indexes!
- Extra-long clamping area, ground 120° bottom prism seating surface, and an exclusive top guide rail combine to deliver unsurpassed grooving and side-turning stability!
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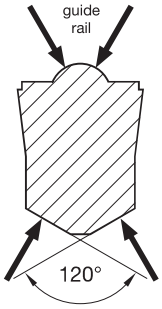
- Chip control inserts provide excellent chip evacuation in grooving, and offer better chip control in multidirectional turning.



A4 Chipbreakers


GMN Chipbreaker


GMP Chipbreaker


GMN Chipbreaker

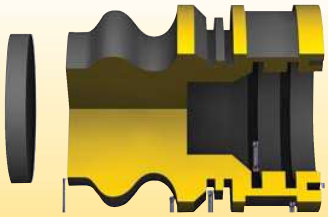

GMP Chipbreaker


GUP Chipbreaker

The A4™ System Increases Productivity

- Covers multiple applications.
- Reduces tool cost.
- Minimises machining time.

Step 1 • Select A4 size for grooving and turning application



What you need to know:

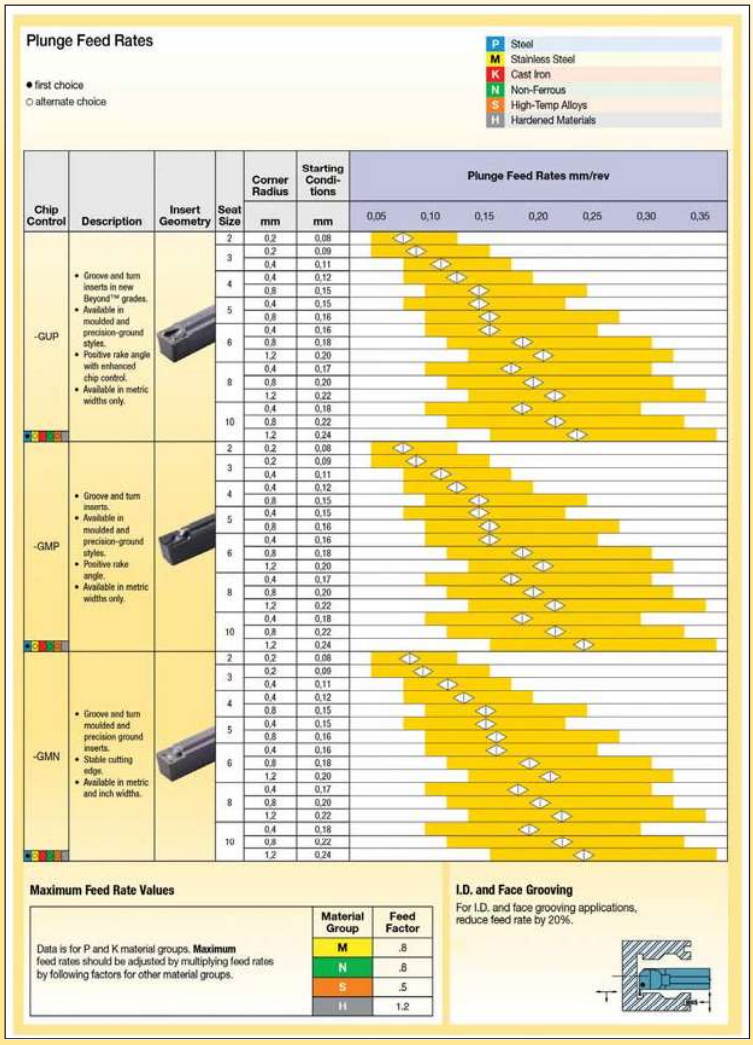
- Groove depth, width, and profile.
- Material being machined.
- Application to be performed (O.D. and I.D. grooving, turning, face grooving, and cut-off).

General Recommendation to Select the Insert Size

for workpiece diameters	insert seat size
<25mm	3
25–50mm	4
>50mm	5–10

Step 2 • Select chipbreaker style and feed rate

Based on the application and seat size, determine the recommended geometry and starting feed rate.



Step 3 • Select the starting speed

Based on material and grade,
identify starting speed (vc).
First choice is in **bold** type.

A Based on material group and grade, identify starting speed (vc).
B First choice starting speed is in **bold**.

Recommended Starting Speeds [m/min]

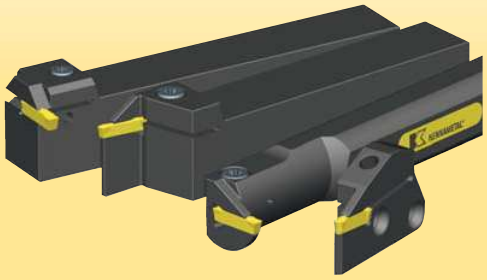
Material Group		K313			KCU10/KC5010			KCU25/KC5025			KCP10			KCP25			KCK20B			KY3500		
P	0-1	–	–	–	140	**280**	335	110	**225**	270	185	**400**	450	145	**290**	365	200	**440**	490	–	–	–
	2	–	–	–	140	**200**	245	110	**160**	195	185	**270**	350	145	**200**	305	200	**300**	380	–	–	–
	3	–	–	–	140	**155**	245	110	**125**	195	170	**190**	260	140	**155**	245	600	**200**	280	–	–	–
	4	–	–	–	75	**110**	170	60	**90**	135	90	**145**	200	75	**110**	180	100	**160**	220	–	–	–
	5	–	–	–	120	**200**	260	100	**160**	210	150	**220**	305	120	**200**	270	165	**240**	330	–	–	–
	6	–	–	–	110	**150**	230	85	**120**	185	120	**180**	275	110	**150**	230	130	**190**	300	–	–	–
M	1	60	**90**	120	140	**210**	260	90	**170**	245	–	–	–	–	–	–	–	–	–	–	–	–
	2	45	**75**	110	120	**200**	245	90	**150**	245	–	–	–	–	–	–	–	–	–	–	–	–
	3	35	**65**	100	120	**180**	245	90	**140**	210	–	–	–	–	–	–	–	–	–	–	A –	–
K	1	30	**75**	120	120	**180**	245	100	**145**	195	170	**245**	440	140	**200**	360	210	**305**	550	180	**760**	1040
	2	25	**70**	110	90	**150**	210	70	**120**	170	120	**195**	340	100	**160**	280	150	**245**	430	275	**365**	500
	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	–	–	–	– B	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	4	120	**275**	430	120	**365**	610	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	–	–	–	–	–	–	–	–	–	–	–	–
	2	8	**35**	75	15	**60**	135	8	**30**	75	–	–	–	–	–	–	–	–	–	–	–	–
	3	8	**40**	75	15	**70**	135	15	**40**	75	–	–	–	–	–	–	–	–	–	–	–	–
	4	8	**45**	75	15	**70**	170	8	**50**	110	–	–	–	–	–	–	–	–	–	–	–	–
H	1	–	–	–	30	**45**	60	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	15	**30**	45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Step 4 • Select toolholder based on application

Choose the high-performance holder based on your specific grooving or cut-off application, with the corresponding seat size.

	conventional toolholders	modular blades
O.D. Grooving, Cut-Off, and Turning	1st Choice	2nd Choice
Face Grooving	1st Choice	2nd Choice
I.D. Grooving, Cut-Off, and Turning	1st Choice	—

NOTE: Insert seat size must match the seat size of the toolholder.



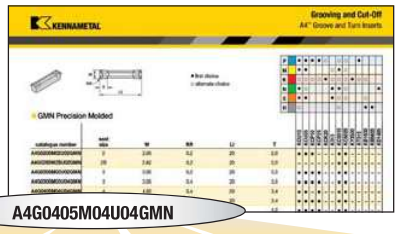
Step 5 • Select the insert and holder from catalogue page

Congratulations!

You have successfully maximised your productivity by selecting the best insert geometry, grade, and cutting specifications for your application!

How Do Catalogue Numbers Work?

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.



Grooving and Turning Inserts

A4	G	0405	M	04	U	04	GMN
Tooling System	Insert Type	Groove Width	Unit of Measurement for Grooving Width	Seat Size	Insert Tolerance	Corner Radii	Chipbreaker Type/Edge Prep
A4 = Grooving and Turning	**G** = Square **R** = Full radius **C** = Cut-off	Expressed in 1/100mm or .00"	**M** = Metric				

pocket seat size	cutting width (mm)
02	2,00–2,62
2B	2,39–2,62
03	3,0–3,05
04	4,0–4,05
05	5,0–5,05
06	6,0–6,05
08	8,0–8,05
10	10,0–10,05
2S	2,00–2,62
3S	3,00–3,05
4S	4,00–4,05
5S	5,00–5,05

P = Precision ground grooving width tolerance:
± .001" (0,025mm)

U = Utility moulded grooving width tolerance:
3,05–4,05: +0,15mm / -0
5,05–10,05: +0,25mm / -0

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

GMN =
Grooving and turning medium machining stable cutting edge

GMP =
Grooving and turning medium machining positive rake angle

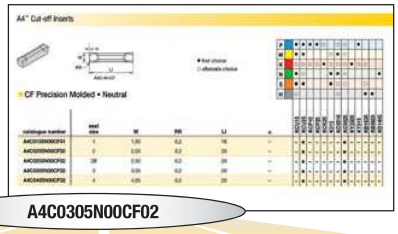
GUP =
Grooving and turning high positive geometry. Especially in stainless steels and high-temp alloys

B =
Flat top for special forms and applications

E =
Flat top, slight honed edge

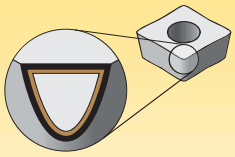
S =
Negative land plus hone

ST =
Single tip



Grooving and Cut-Off

A4	C	0305	N	00	CF	02
Tooling System	Insert Type	Cutting Width	Hand of Insert	Main Cutting Edge Lead Angle	Chipbreaker Type	Corner Radius
A4 = Grooving and Turning	**C** = Cut-off	Expressed in 1/100mm	**R** = Right hand **L** = Left hand **N** = Neutral	**00** = Neutral **06** = 6° **10** = 10°	**CF** = Cut-off fine positive rake	metric 02 = 0,2



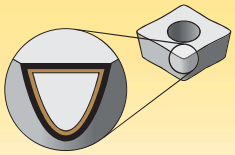
Coatings provide high-speed capability and are engineered for finishing to light roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grades

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, K, N	P, K, N	P, K, N					
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, K, N, S	P, K, N, S	P, K, N, S			
KCP10	**Composition:** A specially engineered cobalt-enriched carbide grade with thick MTCVD TiCN-Al_2O_3 coating for maximum wear resistance. **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	P	P	K	K	K		
KCP25	**Composition:** A tough cobalt-enriched carbide grade with a multilayer MTCVD TiCN-Al_2O_3 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	P, K	K	K	K	
KCK20	**Composition**: A specially toughened MTCVD TiCN-Al_2O_3 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	P, K	K	K	K			



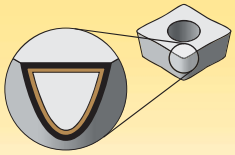
Coatings provide high-speed capability and are engineered for finishing to light roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

wear resistance ← → toughness

Grades

Coating	Grade Description	05	10	15	20	25	30	35	40	45
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	M	M					
			K	K	K					
			N	N	N					
			S	S	S					
KC5010	**Composition:** An advanced PVD AlTiN coating over a very deformation-resistant unalloyed carbide substrate. **Application:** The KC5010™ grade is ideal for finishing to general machining of most workpiece materials at higher speeds. Excellent for machining most steels, stainless steels, cast irons, non-ferrous materials, and high-temp alloys under stable conditions. It also performs well machining hardened and short chipping materials.		P	P	P					
			M	M	M					
			K	K	K					
			N	N	N					
			S	S	S					
			H							
KC5025	**Composition:** An advanced PVD-AlTiN-coated grade with a tough, ultra-fine-grain unalloyed substrate. **Application:** For general-purpose machining of most steels, stainless steels, high-temp alloys, titanium, irons, and non-ferrous materials. Speeds may vary from low to medium and will handle interruptions and high feed rates.				P	P	P			
					M	M	M			
					K	K	K			
					N	N	N			
					S	S	S			



Coatings provide high-speed capability and are engineered for finishing to light roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

wear resistance ← → toughness

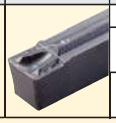
Grades

Coating	Grade Description	05	10	15	20	25	30	35	40	45
KY3500	**Composition:** Pure silicon nitride grade. **Application:** Maximum toughness. Used at high feed rates for rough machining of grey cast iron, including machining through interruptions.									
KT315	**Composition:** A multilayer PVD TiN/TiCN/TiN-coated cermet turning grade. **Application:** Ideal for high-speed finishing to medium machining of most carbon and alloy steels and stainless steels. Performs very well in cast and ductile iron applications, too. Provides long and consistent tool life and will produce excellent workpiece finishes.									
KB1630	**Composition:** An uncoated high content PcBN grade. PcBN tips are brazed onto a carbide insert. **Application:** Designed for roughing to finishing in interrupted cuts on hardened steels (>45 HRC). It can also be applied on grey cast iron, chilled irons, high chrome alloyed steels, high temp alloys and sintered powder metals. The tipped PcBN inserts are available in a wide range of insert styles, including Top Notch™ and Screw-On geometries.									
KB5625	**Composition:** A medium content PcBN with a PVD-TiN/AlTiN coating for added wear resistance. **Application:** Designed for roughing to finishing of hardened steels (>45 HRC). Use on bearing steels, hot and cold work steels, die steels, case hardened steels, carburised and nitrided irons, and some hard coatings.									
KD1405	**Composition:** A pure CVD-deposited diamond-sheet tool brazed directly to a carbide substrate. **Application:** KD1405™ is the best Kennametal abrasion-resistant tool material for non-ferrous and non-metallic materials. Best applied when abrasion resistance is the desired benefit.									

Select the geometry

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

● first choice
○ alternate choice

Chip Control	Description	Insert Geometry	Seat Size	Corner Radius mm	Starting Conditions mm	Plunge Feed Rates mm/rev 0,05 0,10 0,15 0,20 0,25 0,30 0,35
-GUP	Groove and turn inserts in new Beyond™ grades.		2	0,2	0,08	
			3	0,2	0,09	
				0,4	0,11	
			4	0,4	0,12	
				0,8	0,15	

Recommended Starting Feed Rate

Pictorial View of Insert

Corner Radius

Plunge Feed Rates

Seat Size

Recommended Feed Rate Range

Primary Workpiece Material Group

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

● first choice
○ alternate choice

Chip Control Geometry Designation

Maximum Feed Rate Values

	Material Group	Feed Factor
Data above is for P and K material groups. **Maximum** feed rates should be adjusted by multiplying max feed rate values by following factors for shown material groups.	M	.8
	N	1.2
	S	.8
	H	.5

Plunge Feed Rates

● first choice
○ alternate choice

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

Chip Control	Description	Insert Geometry	Seat Size	Corner Radius mm	Starting Conditions mm	Plunge Feed Rates mm/rev 0,05 0,10 0,15 0,20 0,25 0,30 0,35
-GUP	• Groove and turn inserts in new Beyond™ grades. • Available in moulded and precision-ground styles. • Positive rake angle with enhanced chip control. • Available in metric widths only.		2	0,2	0,08	
			3	0,2	0,09	
				0,4	0,11	
			4	0,4	0,12	
				0,8	0,15	
			5	0,4	0,15	
				0,8	0,16	
			6	0,4	0,16	
				0,8	0,18	
				1,2	0,20	
			8	0,4	0,17	
				0,8	0,20	
				1,2	0,22	
			10	0,4	0,18	
				0,8	0,22	
				1,2	0,24	
-GMP	• Groove and turn inserts. • Available in moulded and precision-ground styles. • Positive rake angle. • Available in metric widths only.		2	0,2	0,08	
			3	0,2	0,09	
				0,4	0,11	
			4	0,4	0,12	
				0,8	0,15	
			5	0,4	0,15	
				0,8	0,16	
			6	0,4	0,16	
				0,8	0,18	
				1,2	0,20	
			8	0,4	0,17	
				0,8	0,20	
				1,2	0,22	
			10	0,4	0,18	
				0,8	0,22	
				1,2	0,24	
-GMN	• Groove and turn moulded and precision ground inserts. • Stable cutting edge. • Available in metric and inch widths.		2	0,2	0,08	
			3	0,2	0,09	
				0,4	0,11	
			4	0,4	0,12	
				0,8	0,15	
			5	0,4	0,15	
				0,8	0,16	
			6	0,4	0,16	
				0,8	0,18	
				1,2	0,20	
			8	0,4	0,17	
				0,8	0,20	
				1,2	0,22	
			10	0,4	0,18	
				0,8	0,22	
				1,2	0,24	

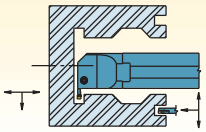
Maximum Feed Rate Values

Data above is for P and K material groups. **Maximum** feed rates should be adjusted by multiplying max feed rate values by following factors for shown material groups.

Material Group	Feed Factor
M	.8
N	.8
S	.5
H	1.2

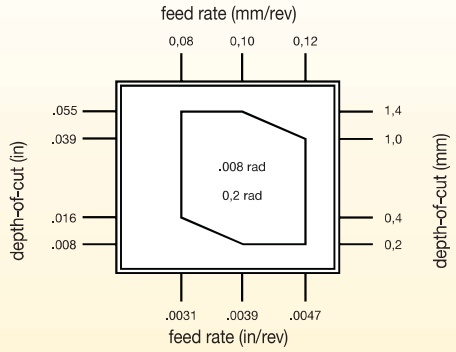
I.D. and Face Grooving

For I.D. and face grooving applications, reduce feed rate by 20%.

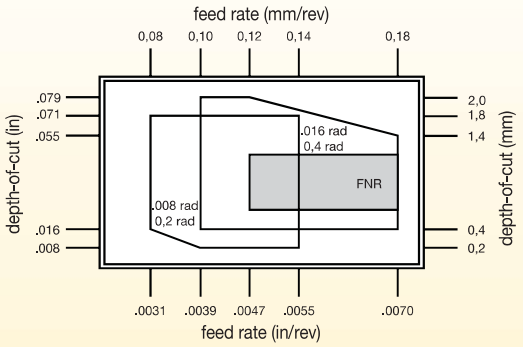


Turn and profile feed rates • GUP/GMP Geometries

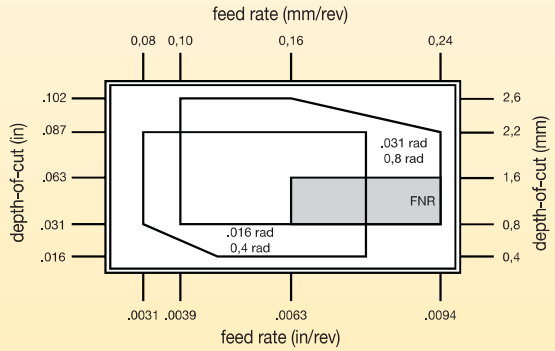
Seat Size 2



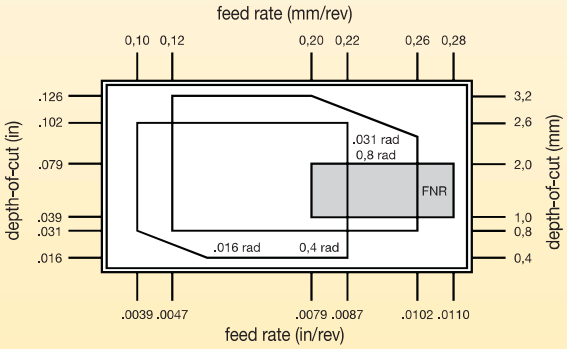
Seat Size 3



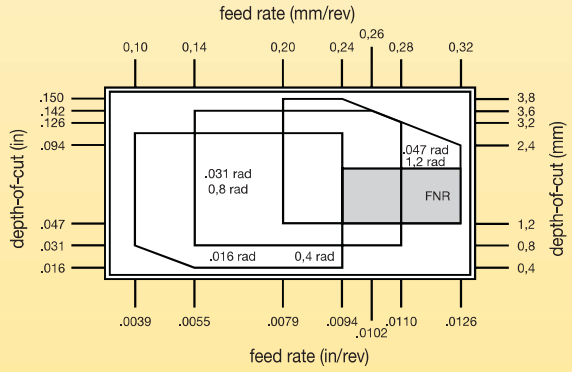
Seat Size 4



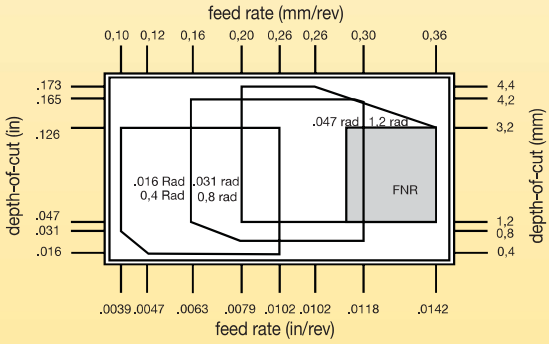
Seat Size 5



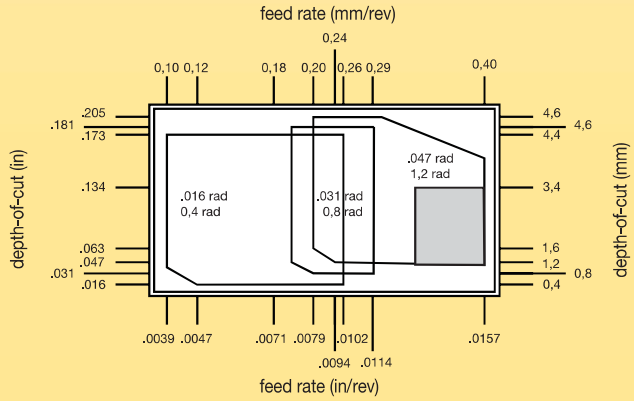
Seat Size 6



Seat Size 8

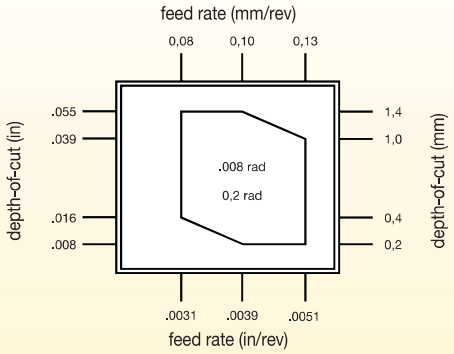


Seat Size 10

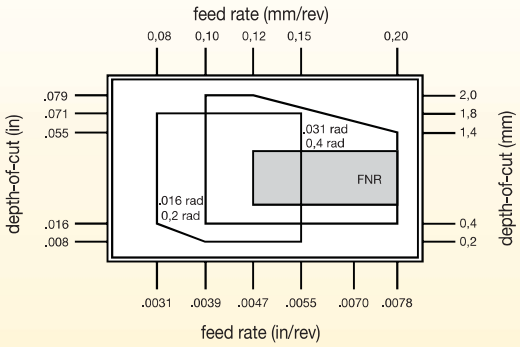


Turn and profile feed rates • GMN Geometries

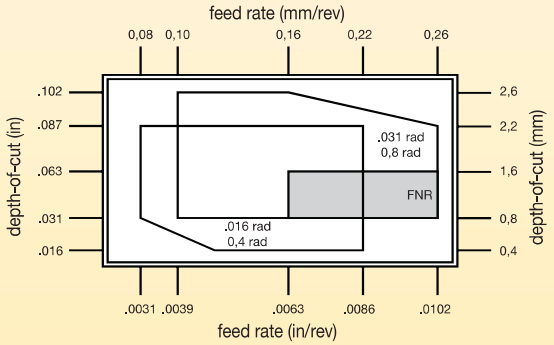
Seat Size 2



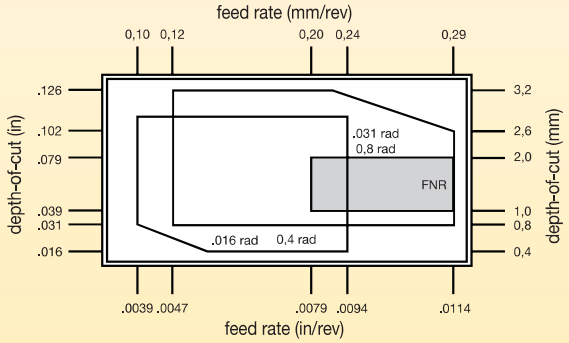
Seat Size 3



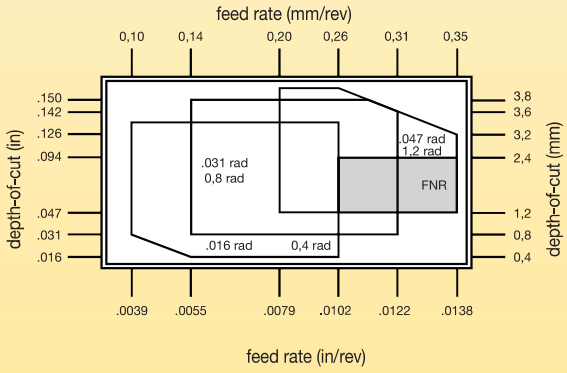
Seat Size 4



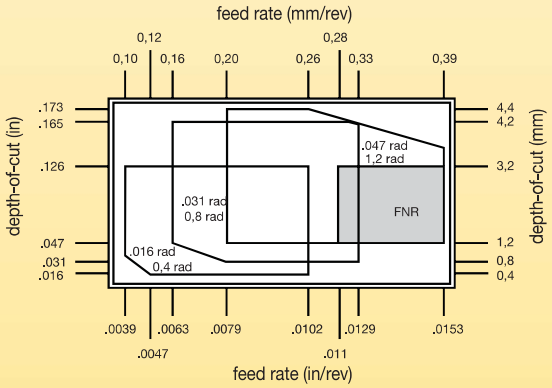
Seat Size 5



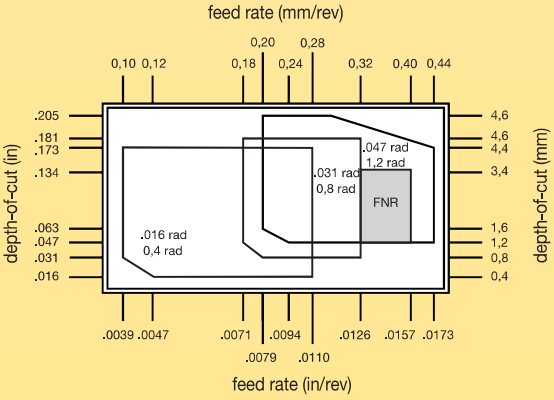
Seat Size 6



Seat Size 8



Seat Size 10



Cut-Off Feed Rates

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

● first choice
○ alternate choice

Chip Control	Description	Insert Geometry	Seat Size	Starting Conditions mm	Cut-Off Feed Rates mm/rev 0,05 0,10 0,15 0,20
-A4C-CF	• High positive rake angle. • Sharp cutting edge. • Available in neutral lead angle in 6° and 10° right- and left-hand styles.		1	0,06	
			2/2B	0,07	
			3	0,09	
			4	0,11	

Maximum Feed Rate Values

Data above is for P and K material groups. **Maximum** feed rates should be adjusted by multiplying max feed rate values by following factors for shown material groups.

Material Group	Feed Factor
M	.8
N	.8
S	.5
H	1.2

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.

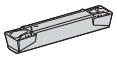
Google play | Available on the App Store

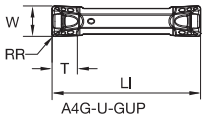
Recommended Starting Speeds [m/min]

Material Group		K313			KCU10/KC5010			KCU25/KC5025			KCP10			KCP25			KCK20B			KY3500		
P	0–1	–	–	–	140	**280**	335	110	**225**	270	185	**400**	450	145	**290**	365	200	**440**	490	–	–	–
	2	–	–	–	140	**200**	245	110	**160**	195	185	**270**	350	145	**200**	305	200	**300**	380	–	–	–
	3	–	–	–	140	**155**	245	110	**125**	195	170	**190**	260	140	**155**	245	600	**200**	280	–	–	–
	4	–	–	–	75	**110**	170	60	**90**	135	90	**145**	200	75	**110**	180	100	**160**	220	–	–	–
	5	–	–	–	120	**200**	260	100	**160**	210	150	**220**	305	120	**200**	270	165	**240**	330	–	–	–
	6	–	–	–	110	**150**	230	85	**120**	185	120	**180**	275	110	**150**	230	130	**190**	300	–	–	–
M	1	60	**90**	120	140	**210**	260	90	**170**	245	–	–	–	–	–	–	–	–	–	–	–	–
	2	45	**75**	110	120	**200**	245	90	**150**	245	–	–	–	–	–	–	–	–	–	–	–	–
	3	35	**65**	100	120	**180**	245	90	**140**	210	–	–	–	–	–	–	–	–	–	–	–	–
K	1	30	**75**	120	120	**180**	245	100	**145**	195	170	**245**	440	140	**200**	360	210	**305**	550	180	**760**	1040
	2	25	**70**	110	90	**150**	210	70	**120**	170	120	**195**	340	100	**160**	280	150	**245**	430	275	**365**	500
	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**	610	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	–	–	–	–	–	–	–	–	–	–	–	–
	2	8	**35**	75	15	**60**	135	8	**30**	75	–	–	–	–	–	–	–	–	–	–	–	–
	3	8	**40**	75	15	**70**	135	15	**40**	75	–	–	–	–	–	–	–	–	–	–	–	–
	4	8	**45**	75	15	**70**	170	8	**50**	110	–	–	–	–	–	–	–	–	–	–	–	–
H	1	–	–	–	30	**45**	60	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	15	**30**	45	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Material Group		KT315			KB5625			KB1630			KD1405		
P	0–1	180	**440**	475	–	–	–	–	–	–	–	–	–
	2	195	**270**	400	–	–	–	–	–	–	–	–	–
	3	180	**210**	275	–	–	–	–	–	–	–	–	–
	4	75	**160**	210	–	–	–	–	–	–	–	–	–
	5	150	**250**	310	–	–	–	–	–	–	–	–	–
	6	140	**200**	300	–	–	–	–	–	–	–	–	–
M	1	–	–	–	–	–	–	–	–	–	–	–	–
	2	–	–	–	–	–	–	–	–	–	–	–	–
	3	–	–	–	–	–	–	–	–	–	–	–	–
K	1	60	**275**	550	–	–	–	180	**760**	1040	–	–	–
	2	135	**275**	360	–	–	–	–	–	–	–	–	–
	3	180	**230**	360	–	–	–	–	–	–	–	–	–
N	1–2	–	–	–	–	–	–	–	–	–	365	**610**	1040
	3	–	–	–	–	–	–	–	–	–	275	**480**	800
	4	–	–	–	–	–	–	–	–	–	300	**550**	920
	5	–	–	–	–	–	–	–	–	–	275	**610**	1070
	6	–	–	–	–	–	–	–	–	–	150	**460**	760
S	1	–	–	–	–	–	–	120	**200**	275	–	–	–
	2	–	–	–	–	–	–	120	**215**	275	–	–	–
	3	–	–	–	–	–	–	120	**250**	275	–	–	–
	4	–	–	–	–	–	–	–	–	–	–	–	–
H	1	–	–	–	45	**150**	230	45	**120**	170	–	–	–
	2	–	–	–	45	**140**	230	45	**110**	170	–	–	–
	3	–	–	–	45	**130**	230	45	**100**	170	–	–	–
	4	–	–	–	45	**120**	230	45	**90**	170	–	–	–

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



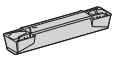


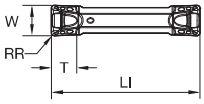
● first choice
○ alternate choice

		KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
P		●	●	●	●	○		○	○		●			
M		●	●				○	●	○					
K		○	○	○	○	●	○	○	○	●	○	○		
N		●	○				●	●	○					●
S		●	●				●	○	○			○		
H		○						○				●	●	

GUP Precision Moulded

catalogue number	seat size	W	RR	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4G0205M02U02GUP	2	2,05	0,2	20	2,0	●	●	●	●	–	–	–	–	–	–	–	–	–
A4G0305M03U02GUP	3	3,05	0,2	20	3,0	●	●	●	●	–	–	–	–	–	–	–	–	–
A4G0305M03U04GUP	3	3,05	0,4	20	3,0	●	●	●	●	–	–	–	–	–	–	–	–	–
A4G0405M04U04GUP	4	4,05	0,4	20	3,4	●	●	●	●	–	–	–	–	–	–	–	–	–
A4G0405M04U08GUP	4	4,05	0,8	20	3,4	●	●	●	●	–	–	–	–	–	–	–	–	–
A4R0405M04U00GUP	4	4,05	–	20	–	–	●	–	–	–	–	–	–	–	–	–	–	–
A4G0505M05U04GUP	5	5,05	0,4	25	4,2	●	●	●	●	–	–	–	–	–	–	–	–	–
A4G0505M05U08GUP	5	5,05	0,8	25	4,2	●	●	●	●	–	–	–	–	–	–	–	–	–
A4G0605M06U04GUP	6	6,05	0,4	30	4,5	●	●	●	●	–	–	–	–	–	–	–	–	–
A4G0605M06U08GUP	6	6,05	0,8	30	4,5	●	●	●	●	–	–	–	–	–	–	–	–	–
A4G0605M06U12GUP	6	6,05	1,2	30	4,5	●	●	●	●	–	–	–	–	–	–	–	–	–
A4R0605M06U00GUP	6	6,05	–	30	4,9	–	●	–	–	–	–	–	–	–	–	–	–	–
A4G0805M08U08GUP	8	8,05	0,8	30	6,0	●	●	●	●	–	–	–	–	–	–	–	–	–
A4G0805M08U12GUP	8	8,05	1,2	30	6,0	●	●	●	●	–	–	–	–	–	–	–	–	–
A4R0805M08U00GUP	8	8,05	–	30	6,5	–	●	–	–	–	–	–	–	–	–	–	–	–
A4G1005M10U08GUP	10	10,05	0,8	30	6,0	●	●	●	–	–	–	–	–	–	–	–	–	–
A4G1005M10U12GUP	10	10,05	1,2	30	6,1	–	●	–	●	–	–	–	–	–	–	–	–	–





A4G-P-GUP

● first choice
○ alternate choice

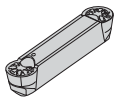
		KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
P		●	●	●	●	○		○	○		●			
M		●	●				○	●	○					
K		○	○	○	○	●	○	○	○	●	○	○		
N		●	○				●	●	○					●
S		●	●				●	○	○			○		
H		○						○				●	●	

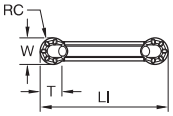
GUP Precision Ground

catalogue number	seat size	W	RR	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4G0200M02P02GUP	2	2,00	0,2	20	1,9	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G094I2BP05GUP	2B	2,38	0,2	20	1,9	–	●	–	–	–	–	–	–	–	–	–	–	–
A4G0300M03P02GUP	3	3,00	0,2	20	2,9	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0300M03P04GUP	3	3,00	0,4	20	2,9	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G125I03P05GUP	3	3,18	0,2	20	2,9	–	●	–	–	–	–	–	–	–	–	–	–	–
A4G125I03P1GUP	3	3,18	0,4	20	2,9	–	●	–	–	–	–	–	–	–	–	–	–	–
A4G0400M04P02GUP	4	4,00	0,2	20	3,3	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0400M04P04GUP	4	4,00	0,4	20	3,3	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0400M04P08GUP	4	4,00	0,8	20	3,3	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G187I04P1GUP	4	4,76	0,4	20	3,3	–	●	–	–	–	–	–	–	–	–	–	–	–
A4G0500M05P04GUP	5	5,00	0,4	25	4,1	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0500M05P08GUP	5	5,00	0,8	25	4,1	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0600M06P04GUP	6	6,00	0,4	30	4,5	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0600M06P08GUP	6	6,00	0,8	30	4,5	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G250I06P1GUP	6	6,35	0,4	30	4,4	–	●	–	–	–	–	–	–	–	–	–	–	–
A4G250I06P2GUP	6	6,35	0,8	30	4,4	–	●	–	–	–	–	–	–	–	–	–	–	–
A4G312I08P1GUP	8	7,94	0,4	30	5,9	–	●	–	–	–	–	–	–	–	–	–	–	–
A4G0800M08P08GUP	8	8,00	0,8	30	6,0	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0800M08P12GUP	8	8,00	1,2	30	6,0	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G375I10P1GUP	10	9,53	0,4	30	5,9	–	●	–	–	–	–	–	–	–	–	–	–	–
A4G1000M10P08GUP	10	10,00	0,8	30	6,0	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G1000M10P12GUP	10	10,00	1,2	30	6,0	●	●	–	–	–	–	–	–	–	–	–	–	–

● first choice
○ alternate choice

		KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
P		●	●	●	●	○		○	○		●			
M		●	●				○	●	○					
K		○	○	○	○	●	○	○	○	●	○	○		
N		●	○				●	●	○					●
S		●	●				●	○	○			○		
H		○						○				●	●	

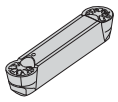


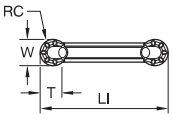


A4R-P-GUP

GUP Full Radius Precision Moulded

catalogue number	seat size	W	RC	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4R0305M03U00GUP	3	3,05	1,5	20	–	●	●	–	–	–	–	–	–	–	–	–	–	–
A4R0505M05U00GUP	5	5,05	2,5	25	–	●	●	–	–	–	–	–	–	–	–	–	–	–
A4R1005M10U00GUP	10	10,05	5,0	30	–	●	●	–	–	–	–	–	–	–	–	–	–	–



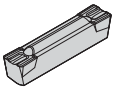


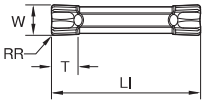
A4R-P-GUP

GUP Full Radius Precision Ground

catalogue number	seat size	W	RC	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4R0300M03P00GUP	3	3,00	1,5	20	–	●	●	–	–	–	–	–	–	–	–	–	–	–
A4R125I03P00GUP	3	3,18	1,6	20	–	●	●	–	–	–	–	–	–	–	–	–	–	–
A4R0400M04P00GUP	4	4,00	2,0	20	–	–	●	–	–	–	–	–	–	–	–	–	–	–
A4R187I04P00GUP	4	4,76	2,4	20	–	–	●	–	–	–	–	–	–	–	–	–	–	–
A4R0500M05P00GUP	5	5,00	2,5	25	–	–	●	–	–	–	–	–	–	–	–	–	–	–
A4R0600M06P00GUP	6	6,00	3,0	30	–	●	●	–	–	–	–	–	–	–	–	–	–	–
A4R250I06P00GUP	6	6,35	3,2	30	–	●	●	–	–	–	–	–	–	–	–	–	–	–
A4R312I08P00GUP	8	7,94	4,0	30	–	●	–	–	–	–	–	–	–	–	–	–	–	–
A4R0800M08P00GUP	8	8,00	4,0	30	–	–	●	–	–	–	–	–	–	–	–	–	–	–
A4R1000M10P00GUP	10	10,00	5,0	30	–	●	●	–	–	–	–	–	–	–	–	–	–	–

● first choice
○ alternate choice

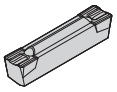


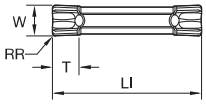


A4G-U-GMP

GMP Precision Moulded

catalogue number	seat size	W	RR	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4G0205M02U02GMP	2	2,05	0,2	20	2,0	–	●	–	–	–	–	●	●	–	–	–	–	–
A4G0255M2BU02GMP	2B	2,62	0,2	20	2,0	–	●	–	–	–	–	–	●	–	–	–	–	–
A4G0305M03U02GMP	3	3,05	0,2	20	3,5	●	●	–	–	–	–	●	●	–	●	–	–	–
A4G0305M03U04GMP	3	3,05	0,4	20	3,5	●	●	–	–	–	–	●	●	–	●	–	–	–
A4G0405M04U04GMP	4	4,05	0,4	20	3,4	●	●	●	●	–	–	●	●	–	●	–	–	–
A4G0405M04U08GMP	4	4,05	0,8	20	3,4	–	●	–	–	–	–	●	●	–	●	–	–	–
A4G0505M05U04GMP	5	5,05	0,4	25	4,2	●	●	●	–	–	–	●	●	–	–	–	–	–
A4G0505M05U08GMP	5	5,05	0,8	25	4,2	–	●	●	–	–	–	●	●	–	–	–	–	–
A4G0605M06U04GMP	6	6,05	0,4	30	4,9	–	–	–	●	–	–	●	●	–	–	–	–	–
A4G0605M06U08GMP	6	6,05	0,8	30	4,9	–	–	–	–	–	–	●	●	–	–	–	–	–
A4G0805M08U08GMP	8	8,05	0,8	30	6,1	–	●	–	–	–	–	–	●	–	–	–	–	–
A4G1005M10U08GMP	10	10,05	0,8	30	8,1	●	●	–	–	–	–	–	–	–	–	–	–	–

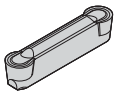


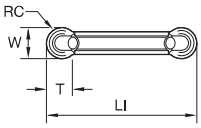


A4G-P-GMP

GMP Precision Ground

catalogue number	seat size	W	RR	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4G0200M02P02GMP	2	2,00	0,2	20	2,0	●	●	–	–	–	–	●	●	–	–	–	–	–
A4G0250M2BP02GMP	2B	2,50	0,2	20	2,0	●	–	–	–	–	–	●	–	–	–	–	–	–
A4G0300M03P02GMP	3	3,00	0,2	20	3,5	●	●	–	–	–	●	●	●	–	–	–	–	–
A4G0300M03P04GMP	3	3,00	0,4	20	3,5	●	●	–	–	–	●	●	●	–	–	–	–	–
A4G0400M04P02GMP	4	4,00	0,2	20	–	●	●	–	–	–	●	●	●	–	–	–	–	–
A4G0400M04P04GMP	4	4,00	0,4	20	3,5	●	●	–	–	–	●	●	●	–	–	–	–	–
A4G0400M04P08GMP	4	4,00	0,8	20	3,5	●	●	–	–	–	–	●	●	–	–	–	–	–
A4G0500M05P04GMP	5	5,00	0,4	25	–	●	●	–	–	–	●	●	●	–	–	–	–	–
A4G0500M05P08GMP	5	5,00	0,8	25	–	●	–	–	–	–	●	●	●	–	–	–	–	–
A4G0600M06P04GMP	6	6,00	0,4	30	4,9	●	●	–	–	–	–	●	–	–	–	–	–	–
A4G0600M06P08GMP	6	6,00	0,8	30	4,9	●	●	–	–	–	–	●	●	–	–	–	–	–
A4G0800M08P08GMP	8	8,00	0,8	30	6,4	–	●	–	–	–	–	●	–	–	–	–	–	–
A4G0800M08P12GMP	8	8,00	1,2	30	6,4	●	–	–	–	–	–	–	–	–	–	–	–	–





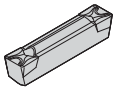
A4R-P-GMP

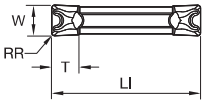
● first choice
○ alternate choice

		KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
P		●	●	●	●	○		○	○		●			
M		●	●				○	●	○					
K		○	○	○	○	●	○	○	○	●	○	○		
N		●	○				●	●	○					●
S		●	●				●	○	○			○		
H		○						○				●	●	

GMP Full Radius Precision Ground

catalogue number	seat size	W	RC	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4R0200M02P00GMP	2	2,00	1,0	20	1,7	●	●	–	–	–	–	●	●	–	–	–	–	–
A4R0300M03P00GMP	3	3,00	1,5	20	2,5	●	●	–	–	–	●	●	●	–	–	–	–	–
A4R0400M04P00GMP	4	4,00	2,0	20	–	●	●	–	–	–	●	●	●	–	–	–	–	–
A4R0500M05P00GMP	5	5,00	2,5	25	4,1	●	●	–	–	–	●	●	●	–	–	–	–	–
A4R0600M06P00GMP	6	6,00	3,0	30	4,8	●	●	–	–	–	–	●	●	–	–	–	–	–
A4R0800M08P00GMP	8	8,00	4,0	30	6,4	●	●	–	–	–	–	●	–	–	–	–	–	–

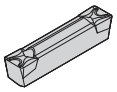


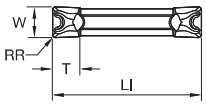


A4G-U-GMN

GMN Precision Moulded

catalogue number	seat size	W	RR	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4G0205M02U02GMN	2	2,05	0,2	20	2,0	●	●	●	–	–	–	●	●	–	–	–	–	–
A4G0255M2BU02GMN	2B	2,62	0,2	20	2,0	–	–	–	–	–	–	–	●	–	–	–	–	–
A4G0305M03U02GMN	3	3,05	0,2	20	3,5	●	●	●	●	–	–	●	●	–	–	–	–	–
A4G0305M03U04GMN	3	3,05	0,4	20	3,5	●	●	●	●	–	–	●	●	–	–	–	–	–
A4G0405M04U04GMN	4	4,05	0,4	20	3,4	●	●	–	●	–	–	●	●	–	–	–	–	–
A4G0405M04U08GMN	4	4,05	0,8	20	3,4	●	●	●	●	–	–	●	●	–	–	–	–	–
A4G0505M05U04GMN	5	5,05	0,4	25	4,2	●	●	●	●	–	–	●	●	–	–	–	–	–
A4G0505M05U08GMN	5	5,05	0,8	25	4,2	●	●	●	●	–	–	●	●	–	–	–	–	–
A4G0605M06U04GMN	6	6,05	0,4	30	4,9	●	●	●	●	–	–	●	●	–	–	–	–	–
A4G0605M06U08GMN	6	6,05	0,8	30	4,9	●	●	●	●	–	–	●	●	–	●	–	–	–
A4G0605M06U12GMN	6	6,05	1,2	30	4,9	–	–	–	●	–	–	●	●	–	–	–	–	–
A4G0805M08U08GMN	8	8,05	0,8	30	6,4	●	●	●	●	–	–	●	–	–	–	–	–	–
A4G0805M08U12GMN	8	8,05	1,2	30	6,4	–	●	●	●	–	–	●	–	–	–	–	–	–
A4G1005M10U08GMN	10	10,05	0,8	30	8,1	–	●	●	●	–	–	–	●	–	–	–	–	–
A4G1005M10U12GMN	10	10,05	1,2	30	8,1	–	–	–	●	–	–	–	●	–	–	–	–	–





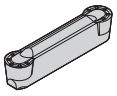
A4G-P-GMN

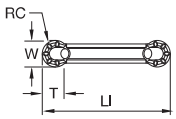
● first choice
○ alternate choice

		KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
P		●	●	●	●	○		○	○		●			
M		●	●				○	●	○					
K		○	○	○	○	●	○	○	○	●	○	○		
N		●	○				●	●	○					●
S		●	●				●	○	○			○		
H		○						○				●	●	

GMN Precision Ground

catalogue number	seat size	W	RR	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4G094I2BP05GMN	2B	2,39	0,2	20	1,9	●	–	–	–	–	–	●	–	–	–	–	–	–
A4G125I03P05GMN	3	3,18	0,2	20	3,4	●	●	–	–	–	–	●	●	–	–	–	–	–
A4G125I03P1GMN	3	3,18	0,4	20	3,4	●	●	–	–	–	–	●	●	–	–	–	–	–
A4G187I04P1GMN	4	4,76	0,4	20	3,5	●	●	–	–	–	–	●	–	–	–	–	–	–
A4G187I04P2GMN	4	4,76	0,8	20	3,5	●	●	–	–	–	–	●	●	–	–	–	–	–
A4G250I06P1GMN	6	6,35	0,4	30	4,7	●	●	–	–	–	–	●	–	–	–	–	–	–
A4G250I06P2GMN	6	6,35	0,8	30	4,7	●	●	–	–	–	–	●	–	–	–	–	–	–
A4G312I08P1GMN	8	7,94	0,4	30	6,2	–	●	–	–	–	–	●	–	–	–	–	–	–
A4G375I10P1GMN	10	9,53	0,4	30	7,9	–	–	–	–	–	–	●	–	–	–	–	–	–
A4G375I10P2GMN	10	9,53	0,8	30	7,9	●	–	–	–	–	–	●	–	–	–	–	–	–

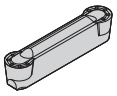


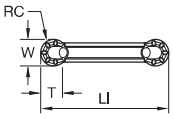


A4R-U-GMN

GMN Full Radius Precision Moulded

catalogue number	seat size	W	RC	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4R0205M02U00GMN	2	2,05	1,1	20	1,8	–	●	●	–	–	–	●	●	–	–	–	–	–
A4R0305M03U00GMN	3	3,05	1,5	20	2,6	●	●	●	●	–	–	●	●	–	–	–	–	–
A4R0405M04U00GMN	4	4,05	2,0	20	3,5	●	●	●	●	–	–	●	●	–	–	–	–	–
A4R0505M05U00GMN	5	5,05	2,5	25	4,2	●	●	●	●	–	–	●	●	–	–	–	–	–
A4R0605M06U00GMN	6	6,05	3,0	30	4,9	●	●	●	●	–	–	●	●	–	–	–	–	–
A4R0805M08U00GMN	8	8,05	4,0	30	6,5	●	●	●	●	–	–	●	●	–	–	–	–	–
A4R1005M10U00GMN	10	10,05	5,0	30	8,2	●	●	–	●	–	–	–	–	–	–	–	–	–

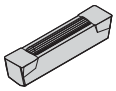


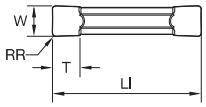


A4R-P-GMN

GMN Full Radius Precision Ground

catalogue number	seat size	W	RC	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4R125I03P00GMN	3	3,18	1,6	20	2,7	●	●	–	–	–	–	●	●	–	–	–	–	–
A4R187I04P00GMN	4	4,76	2,4	20	3,8	●	●	–	–	–	–	●	●	–	–	–	–	–
A4R250I06P00GMN	6	6,35	3,2	30	5,3	●	●	–	–	–	–	●	●	–	–	–	–	–
A4R312I08P00GMN	8	7,94	4,0	30	6,4	●	–	–	–	–	–	–	–	–	–	–	–	–
A4R375I10P00GMN	10	9,53	4,8	30	7,3	–	–	–	–	–	–	–	●	–	–	–	–	–





A4G-U-B

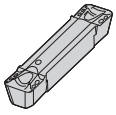
● first choice
○ alternate choice

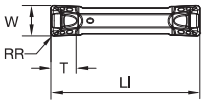
		KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
P		●	●	●	●	○		○	○		●			
M		●	●				○	●	○					
K		○	○	○	○	●	○	○	○	●	○	○		
N		●	○				●	●	○					●
S		●	●				●	○	○			○		
H		○						○				●	●	

Flat Top Precision Moulded

catalogue number	seat size	W	RR	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4G0305M03U02B	3	3,05	0,2	20	3,5	–	●	–	–	●	–	–	●	–	–	–	–	–
A4G0405M04U04B	4	4,05	0,4	20	3,4	–	–	–	–	●	–	–	●	–	–	–	–	–
A4G0505M05U04B	5	5,05	0,4	25	4,2	–	●	–	–	●	–	–	–	–	–	–	–	–
A4G0605M06U04B	6	6,05	0,4	30	4,9	–	●	–	–	●	–	–	–	–	–	–	–	–
A4G0805M08U08B	8	8,05	0,8	30	6,4	–	–	–	–	●	–	–	–	–	–	–	–	–
A4G1005M10U08B	10	10,05	0,8	30	8,1	–	–	–	–	●	–	–	–	–	–	–	–	–

A4™ Groove and Turn Inserts • Small Diameter Face Grooving





A4G-SP-GUP

● first choice
○ alternate choice

		KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
P		●	●	●	●	○		○	○		●			
M		●	●				○	●	○					
K		○	○	○	○	●	○	○	○	●	○	○		
N		●	○				●	●	○					●
S		●	●				●	○	○			○		
H		○						○				●	●	

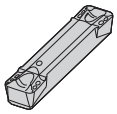
GUP Precision Moulded • Small Diameter Face Grooving

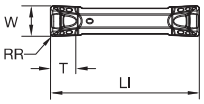
catalogue number	seat size	W	RR	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4G0200M2SP02GUP	2S	2,00	0,2	20	1,9	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0300M3SP02GUP	3S	3,00	0,2	20	2,9	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0300M3SP04GUP	3S	3,00	0,4	20	2,9	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0400M4SP04GUP	4S	4,00	0,4	20	3,4	●	–	–	–	–	–	–	–	–	–	–	–	–
A4G0400M4SP08GUP	4S	4,00	0,8	20	3,4	●	–	–	–	–	–	–	–	–	–	–	–	–
A4G0500M5SP04GUP	5S	5,00	0,4	25	4,1	–	●	–	–	–	–	–	–	–	–	–	–	–
A4G0500M5SP08GUP	5S	5,00	0,8	25	4,1	●	–	–	–	–	–	–	–	–	–	–	–	–

NOTE: A4-S inserts are reduced-height A4 inserts. For example, a 2S seat size holder will not accept a seat size 2 insert.

● first choice
○ alternate choice

		KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
P		●	●	●	●	○		○	○		●			
M		●	●				○	●	○					
K		○	○	○	○	●	○	○	○	●	○	○		
N		●	○				●	●	○					●
S		●	●				●	○	○			○		
H		○						○				●	●	



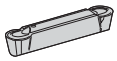


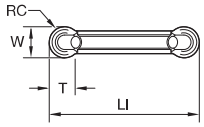
A4G-SU-GUP

GUP Precision Ground • Small Diameter Face Grooving

catalogue number	seat size	W	RR	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4G0205M2SU02GUP	2S	2,05	0,2	20	2,0	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0305M3SU02GUP	3S	3,05	0,2	20	3,0	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0305M3SU04GUP	3S	3,05	0,4	20	3,0	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0405M4SU04GUP	4S	4,05	0,4	20	3,4	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0505M5SU04GUP	5S	5,05	0,4	25	4,2	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0505M5SU08GUP	5S	5,05	0,8	25	4,2	–	●	–	–	–	–	–	–	–	–	–	–	–

NOTE: A4-S inserts are reduced-height A4 inserts. For example, a 2S seat size holder will not accept a seat size 2 insert.



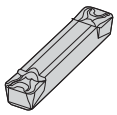


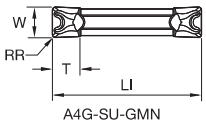
A4R-SP-GMP

GMP Full Radius Precision Ground • Small Diameter Face Grooving

catalogue number	seat size	W	RC	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4R0200M2SP00GMP	2S	2,00	1,0	20	1,6	–	●	–	–	–	–	–	–	–	–	–	–	–
A4R0300M3SP00GMP	3S	3,00	1,5	20	2,5	–	●	–	–	–	–	–	–	–	–	–	–	–
A4R0500M5SP00GMP	5S	5,00	2,5	25	4,1	–	●	–	–	–	–	–	–	–	–	–	–	–

NOTE: A4-S inserts are reduced-height A4 inserts. For example, a 2S seat size holder will not accept a seat size 2 insert.



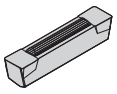


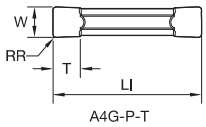
A4G-SU-GMN

GMN Precision Moulded • Small Diameter Face Grooving

catalogue number	seat size	W	RR	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4G0205M2SU02GMN	2S	2,05	0,2	20	2,0	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0305M3SU02GMN	3S	3,05	0,2	20	3,5	–	●	–	–	–	–	–	–	–	–	–	–	–
A4G0305M3SU04GMN	3S	3,05	0,4	20	3,5	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0405M4SU04GMN	4S	4,05	0,4	20	3,6	●	●	–	–	–	–	–	–	–	–	–	–	–
A4G0405M4SU08GMN	4S	4,05	0,8	20	3,6	–	●	–	–	–	–	–	–	–	–	–	–	–
A4G0505M5SU04GMN	5S	5,05	0,4	25	4,2	●	●	–	–	–	–	–	–	–	–	–	–	–

NOTE: A4-S inserts are reduced-height A4 inserts. For example, a 2S seat size holder will not accept a seat size 2 insert.





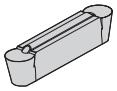
A4G-P-T

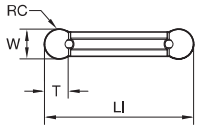
● first choice
○ alternate choice

P	
M	
K	●
N	
S	
H	

Flat Top Precision Ground • Ceramic

ISO catalogue number	seat size	W	RR	LI	T	KY3500
A4G0300M03P04T01025	3	3,00	0,4	20	3,4	●
A4G125I03P1T0425	3	3,18	0,4	20	3,4	●
A4G0400M04P04T01025	4	4,00	0,4	20	3,4	●
A4G0500M05P08T01025	5	5,00	0,8	25	4,2	●
A4G0600M06P08T01025	6	6,00	0,8	30	4,8	●
A4G250I06P2T0425	6	6,35	0,8	30	4,9	●
A4G0800M08P08T01025	8	8,00	0,8	30	6,4	●

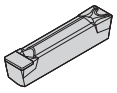


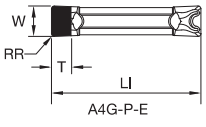


A4R-P-T

Flat Top Full Radius Precision Ground • Ceramic

ISO catalogue number	seat size	W	RC	LI	T	KY3500
A4R0300M03P00T01025	3	3,00	1,5	20	2,4	●
A4R0500M05P00T01025	5	5,00	2,5	25	4,1	●
A4R0600M06P00T01025	6	6,00	3,0	30	4,3	●
A4R250I06P00T0425	6	6,35	3,2	30	4,8	●
A4R0800M08P00T01025	8	8,00	4,0	30	6,4	●





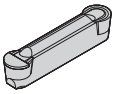
A4G-P-E

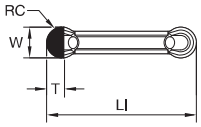
● first choice
○ alternate choice

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

Flat Top Precision Ground • PCD

catalogue number	seat size	W	RR	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4G0300M03P04E	3	3,00	0,4	20	3,0	–	–	–	–	–	–	–	–	–	–	–	–	●
A4G0400M04P04E	4	4,00	0,4	20	3,0	–	–	–	–	–	–	–	–	–	–	–	–	●
A4G0500M05P08E	5	5,00	0,8	25	3,0	–	–	–	–	–	–	–	–	–	–	–	–	●





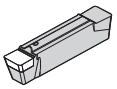
A4R-P-E

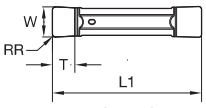
● first choice
○ alternate choice

		KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
P		●	●	●	●	○		○	○		●			
M		●	●				○	●	○					
K		○	○	○	○	●	○	○	○	●	○	○		
N		●	○				●	●	○					●
S		●	●				●	○	○			○		
H		○						○				●	●	

Flat Top Full Radius Precision Ground • PCD

catalogue number	seat size	W	RC	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4R0500M05P00E	5	5,00	2,5	25	3,0	–	–	–	–	–	–	–	–	–	–	–	–	●

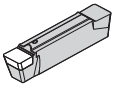


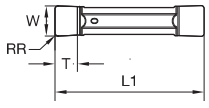


A4G-P-E-ST

Flat Top Precision Ground • PcBN

catalogue number	seat size	W	RR	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4G0300M03P04EST	3	3,00	0,4	20	3,0	–	–	–	–	–	–	–	–	–	–	●	–	–
A4G0500M05P08EST	5	5,00	0,8	25	3,5	–	–	–	–	–	–	–	–	–	–	●	–	–
A4G0600M06P08EST	6	6,00	0,8	30	4,0	–	–	–	–	–	–	–	–	–	–	●	–	–

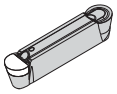


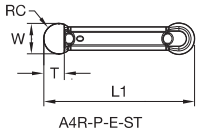


A4G-P-S-ST

Flat Top Precision Ground • T Land • PcBN

catalogue number	seat size	W	RR	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4G0300M03P04S02025ST	3	3,00	0,4	20	3,0	–	–	–	–	–	–	–	–	–	–	●	●	–
A4G0400M04P04S02025ST	4	4,00	0,4	20	3,3	–	–	–	–	–	–	–	–	–	–	●	●	–
A4G0500M05P08S02025ST	5	5,00	0,8	25	3,5	–	–	–	–	–	–	–	–	–	–	–	●	–
A4G0600M06P08S02025ST	6	6,00	0,8	30	4,0	–	–	–	–	–	–	–	–	–	–	–	●	–





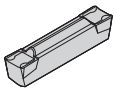
A4R-P-E-ST

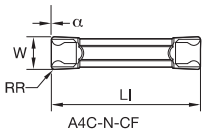
● first choice
○ alternate choice

Flat Top Full Radius Precision Ground • PcBN

catalogue number	seat size	W	RC	LI	T	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4R0300M03P00EST	3	3,00	1,5	20	2,2	–	–	–	–	–	–	–	–	–	–	●	–	–
A4R0400M04P00EST	4	4,00	2,0	20	2,9	–	–	–	–	–	–	–	–	–	–	●	–	–
A4R0500M05P00EST	5	5,00	2,5	25	3,7	–	–	–	–	–	–	–	–	–	–	●	–	–
A4R0600M06P00EST	6	6,00	3,0	30	4,4	–	–	–	–	–	–	–	–	–	–	●	–	–

A4™ Cut-off Inserts





A4C-N-CF

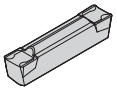
● first choice
○ alternate choice

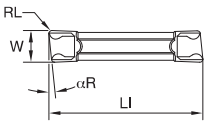
CF Precision Moulded • Neutral

catalogue number	seat size	W	RR	LI	α	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4C0155N00CF01	1	1,50	0,2	16	–	–	●	–	–	–	–	–	●	–	–	–	–	–
A4C0205N00CF02	2	2,05	0,2	20	–	–	●	–	–	–	–	–	●	–	–	–	–	–
A4C0255N00CF02	2B	2,50	0,2	20	–	–	●	–	–	–	–	–	●	–	–	–	–	–
A4C0305N00CF02	3	3,05	0,2	20	–	–	●	–	–	–	–	–	●	–	–	–	–	–
A4C0405N00CF02	4	4,05	0,2	20	–	–	●	–	–	–	–	–	●	–	–	–	–	–

● first choice
○ alternate choice

		KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
P		●	●	●	●	○		○	○		●			
M		●	●				○	●	○					
K		○	○	○	○	●	○	○	○	●	○	○		
N		●	○				●	●	○					●
S		●	●				●	○	○			○		
H		○						○				●	●	

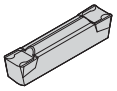


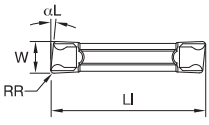


A4C-R-CF

CF Precision Moulded • Right Hand

catalogue number	seat size	W	RL	LI	αR	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4C0155R06CF01	1	1,50	0,2	16	6.0	–	–	–	–	–	–	–	●	–	–	–	–	–
A4C0155R10CF01	1	1,50	0,2	16	10.0	–	●	–	–	–	–	–	–	–	–	–	–	–
A4C0155R16CF01	1	1,50	0,2	16	16.0	–	–	–	–	–	–	–	●	–	–	–	–	–
A4C0205R06CF02	2	1,99	0,2	20	6.0	–	●	–	–	–	–	–	●	–	–	–	–	–
A4C0205R10CF02	2	1,99	0,2	20	10.0	–	●	–	–	–	–	–	–	–	–	–	–	–
A4C0255R06CF02	2B	2,49	0,2	20	6.0	–	–	–	–	–	–	–	●	–	–	–	–	–
A4C0305R06CF02	3	3,05	0,2	20	6.0	–	●	–	–	–	–	–	●	–	–	–	–	–
A4C0305R10CF02	3	3,05	0,2	20	10.0	–	●	–	–	–	–	–	●	–	–	–	–	–
A4C0405R06CF02	4	4,05	0,2	20	6.0	–	●	–	–	–	–	–	–	–	–	–	–	–
A4C0405R10CF02	4	4,05	0,2	20	10.0	–	●	–	–	–	–	–	●	–	–	–	–	–





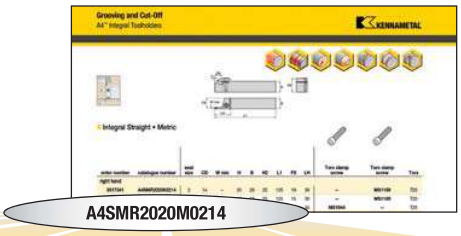
A4C-L-CF

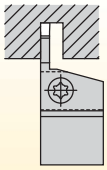
CF Precision Moulded • Left Hand

catalogue number	seat size	W	RR	LI	αL	KCU10	KCU25	KCP10	KCP25	KCK20	K313	KC5010	KC5025	KY3500	KT315	KB1630	KB5625	KD1405
A4C0155L06CF01	1	1,50	0,2	16	6.0	–	–	–	–	–	–	–	●	–	–	–	–	–
A4C0205L06CF02	2	1,99	0,2	20	6.0	–	●	–	–	–	–	–	●	–	–	–	–	–
A4C0205L10CF02	2	1,99	0,2	20	10.0	–	–	–	–	–	–	–	●	–	–	–	–	–
A4C0305L06CF02	3	3,05	0,2	20	6.0	–	●	–	–	–	–	–	●	–	–	–	–	–
A4C0305L10CF02	3	3,05	0,2	20	10.0	–	●	–	–	–	–	–	–	–	–	–	–	–
A4C0405L06CF02	4	4,05	0,2	20	6.0	–	●	–	–	–	–	–	–	–	–	–	–	–
A4C0405L10CF02	4	4,05	0,2	20	10.0	–	●	–	–	–	–	–	–	–	–	–	–	–

How Do Catalogue Numbers Work?

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.



A4	S	M	R	2020M	02	14
Tooling System	Tool Style	Support Type	Hand of Tool	Shank Size	Seat Size	Max Grooving Depth
A4 = Grooving and Turning	 **S** = Straight  **E** = End mounted 90º		 **R** = Right hand **L** = Left hand **N** = Neutral		**02** **03** **04** **05** **06** **08** **10**	in millimetres

M =
Maximum support for specific groove widths and straight clearance for unlimited workpiece diameters

E =
No steel support for face grooving

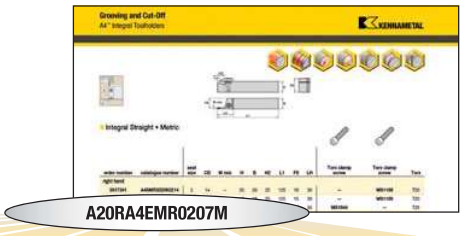
C =
Reinforced Support

metric:
Height x width in mm, letter indicates tool length according to ISO

metric tool length (mm)

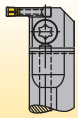
K = 125
M = 150
P = 170

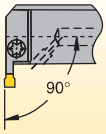
By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



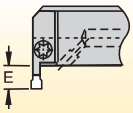
A20RA4EMR0207M

A	20	R	A4	E	M	R	02	07	M
Steel Bar with Coolant	Bar Diameter	Bar Length	A4™ Groove and Turn System	Tool Style	Support Type	Hand of Tool	Insert Seat Size	Grooving Depth in mm	Tool Units



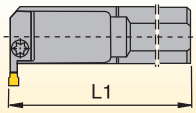


E = End mounted (90°)



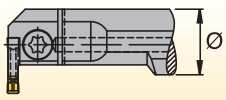
mm
7mm
10mm
12mm
16mm

M = Metric

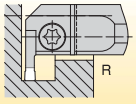


metric bars:
R = 200mm
S = 150mm
T = 300mm

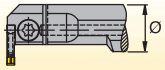
pocket seat size	cutting width (mm)
02	2,00–2,62
2B	2,39–2,62
03	3,0–3,05
04	4,0–4,05
05	5,0–5,05
06	6,0–6,05
08	8,0–8,05
10	10,0–10,05



metric bars:
Bar diameter in millimetres



R = Right hand



L = Left hand

M = Maximum support

How Do Catalogue Numbers Work?

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.

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°)	**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 Tools and **Beyond**™ Inserts for Your Shallow Groove and Turn Operations

Top Notch™

Top Notch Grooving is the proven solution for high productivity. The Top Notch system provides consistent tool performance, accurate indexing, and superior clamping to provide excellent surface finishing and superior tool life.

FEATURES AND BENEFITS

- The Beyond PVD coated grades are designed to cut a variety of workpiece materials.
- Rigid clamping securely locks insert in place through the toughest cuts.
- Versatile design enables one system to handle O.D. and I.D. grooving, face grooving, back turning, undercutting, and even threading operations.
- Chip control inserts provide excellent chip evacuation in grooving, and offer better chip control in multidirectional turning.

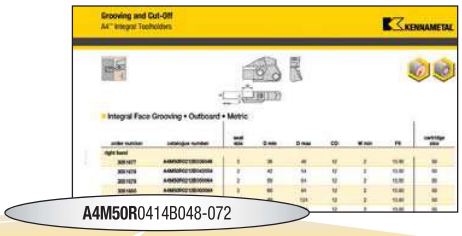
Experience the advantages at your Authorised Kennametal Distributor or at **kennametal.com**.

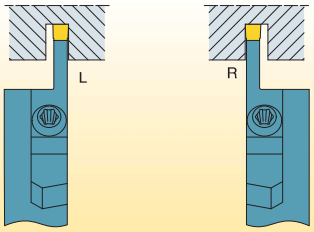
KENNAMETAL®

kennametal.com

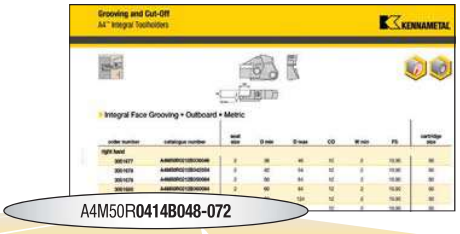
How Do Catalogue Numbers Work?

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.



A4M	50	R
Family Name	Modular System Size	Hand of Tool
A4 Modular Blade	**50** **65**	

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



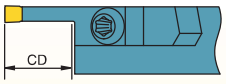
04

Seat Size

pocket seat size	cutting width mm
02	2,00–2,62
2B	2,39–2,62
03	3,0–3,05
04	4,0–4,05
05	5,0–5,05
06	6,0–6,05
08	8,0–8,05
10	10,0–10,05

14

Maximum Groove Depth



mm

14mm

19mm

20mm

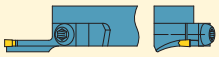
26mm

B

Tool Style

M = Maximum support for specific groove widths and straight clearance for unlimited workpiece diameters

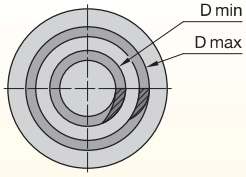
A = Inboard sweep face grooving toolholder



B = Outboard sweep face grooving toolholder

048–072

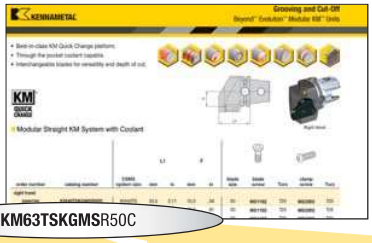
Face Grooving Diameter Range



diameters are min and max for outer face groove dia.
999 = unlimited D max

How Do Catalogue Numbers Work?

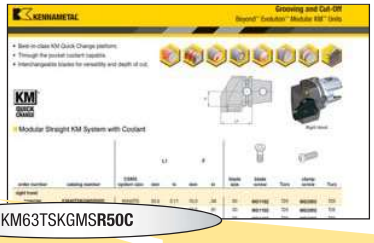
Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KM63TSKGMSR50C

KM	63	TS	KGM	S
KM™ Quick-Change	System Size	Feature	Insert Holding Method	Insert Location
KM **KM4X™** **PSC**	**40** = 40mm **50** = 50mm **63** = 63mm **80** = 80mm **100** = 100mm	**TS** **XMZ**	**KGM** **Modular Grooving**	**E** = End mount **S** = Side mount

By referencing this easy-to-use guide, you can identify the correct product to meet your needs.

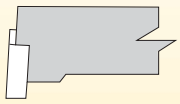


KM63TSKGMS**R50C**

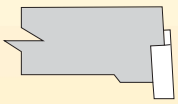
R	50	C	
Hand of Tool	Blade Size	Coolant	Special Features
R = Right hand **L** = Left hand	**50** **60**	**C** = Through the pocket coolant capable	**Y** = Mazak® INTEGREX®

End Mount

R

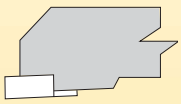


L

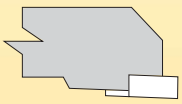


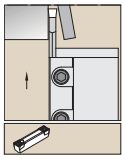
Side Mount

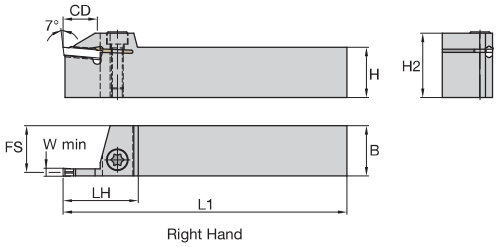
R



L







Right Hand

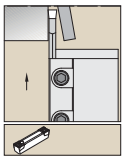
Integral Straight • Metric

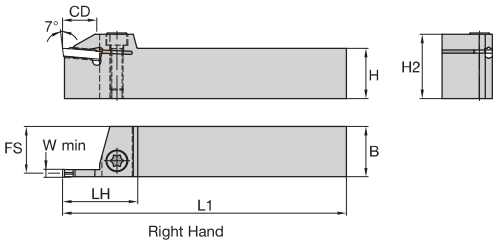
order number	catalogue number	seat size	CD	W min	H	B	H2	L1	FS	LH	clamp screw	clamp screw	Torx
right hand													
3017341	**A4SMR2020K0214**	2	14	–	20	20	25	125	19	30	–	**MS1160**	T20
3017342	**A4SMR1616K0214**	2	14	2	16	16	25	125	15	30	–	**MS1160**	T20
2974425	**A4SMR2020K0217**	2	17	2	20	20	31	125	19	34	**MS1944**	–	T25
3017340	**A4SMR2525M0214**	2	14	2	25	25	30	150	24	30	–	**MS1160**	T20
3017339	**A4SMR2525M0217**	2	17	2	25	25	31	150	24	34	**MS1944**	–	T25
1949633	**A4SMR1616K0314**	3	14	3	16	16	27	125	15	35	**MS2091**	–	T25
2503557	**A4SMR2016K0317**	3	17	3	20	16	32	125	15	37	**MS1970**	–	T30
1949635	**A4SMR2020K0314**	3	14	3	20	20	27	125	19	35	**MS1595**	–	T30
2503551	**A4SMR2020K0317**	3	17	3	20	20	32	125	19	37	**MS1970**	–	T30
1949637	**A4SMR2525M0317**	3	17	3	25	25	32	150	24	37	**MS1970**	–	T30
2503559	**A4SMR2016K0417**	4	17	4	20	16	32	125	14	37	**MS1970**	–	T30
1949639	**A4SMR2020K0414**	4	14	4	20	20	27	125	18	35	**MS1595**	–	T30
2503553	**A4SMR2020K0417**	4	17	4	20	20	32	125	18	37	**MS1970**	–	T30
1949641	**A4SMR2525M0417**	4	17	4	25	25	32	150	23	37	**MS1970**	–	T30
1949643	**A4SMR3225P0417**	4	17	4	32	25	40	170	23	37	**MS1970**	–	T30
1949645	**A4SMR2020K0519**	5	19	5	20	20	28	125	18	40	**MS1595**	–	T30
1949647	**A4SMR2525M0520**	5	20	5	25	25	33	150	23	40	**MS1970**	–	T30
1949649	**A4SMR3225P0522**	5	22	5	32	25	40	170	23	42	**MS1970**	–	T30
2503555	**A4SMR2020K0620**	6	20	6	20	20	33	125	17	40	**MS1970**	–	T30
2245484	**A4SMR2525M0620**	6	20	6	25	25	33	150	22	40	**MS1970**	–	T30
2263089	**A4SMR3225P0626**	6	26	6	32	25	40	170	22	45	**MS1970**	–	T30
2245485	**A4SMR2525M0820**	8	20	8	25	25	34	150	21	43	**MS1490**	–	T45
2263091	**A4SMR3225P0826**	8	26	8	32	25	41	170	21	47	**MS1490**	–	T45
2263173	**A4SMR3225P1026**	10	26	10	32	25	41	170	21	47	**MS1490**	–	T45

(continued)

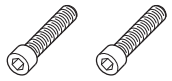
(Integral Straight • Metric — continued)


order number	catalogue number	seat size	CD	W min	H	B	H2	L1	FS	LH	clamp screw	clamp screw	Torx
left hand													
3017336	**A4SML2020K0214**	2	14	–	20	20	25	125	19	30	**–**	**MS1160**	T20
3017338	**A4SML1616K0214**	2	14	2	16	16	25	125	15	30	**–**	**MS1160**	T20
3017337	**A4SML2020K0217**	2	17	2	20	20	31	125	19	34	**MS1944**	**–**	T25
3017335	**A4SML2525M0214**	2	14	2	25	25	30	150	24	30	**–**	**MS1160**	T20
3017334	**A4SML2525M0217**	2	17	2	25	25	31	150	24	34	**MS1944**	**–**	T25
1949634	**A4SML1616K0314**	3	14	3	16	16	27	125	15	35	**MS2091**	**–**	T25
2503556	**A4SML2016K0317**	3	17	3	20	16	32	125	15	37	**MS1970**	**–**	T30
1949636	**A4SML2020K0314**	3	14	3	20	20	27	125	19	35	**MS1595**	**–**	T30
2503550	**A4SML2020K0317**	3	17	3	20	20	32	125	19	37	**MS1970**	**–**	T30
1949638	**A4SML2525M0317**	3	17	3	25	25	32	150	24	37	**MS1970**	**–**	T30
1949640	**A4SML2020K0414**	4	14	4	20	20	27	125	18	35	**MS1595**	**–**	T30
2503552	**A4SML2020K0417**	4	17	4	20	20	32	125	18	37	**MS1970**	**–**	T30
1949642	**A4SML2525M0417**	4	17	4	25	25	32	150	23	37	**MS1970**	**–**	T30
1949644	**A4SML3225P0417**	4	17	4	32	25	40	170	23	37	**MS1970**	**–**	T30
1949646	**A4SML2020K0519**	5	19	5	20	20	28	125	18	40	**MS1595**	**–**	T30
1949648	**A4SML2525M0520**	5	20	5	25	25	33	150	23	40	**MS1970**	**–**	T30
1949650	**A4SML3225P0522**	5	22	5	32	25	40	170	23	42	**MS1970**	**–**	T30
2503554	**A4SML2020K0620**	6	20	6	20	20	33	125	17	40	**MS1970**	**–**	T30
2245486	**A4SML2525M0620**	6	20	6	25	25	33	150	22	40	**MS1970**	**–**	T30
2263090	**A4SML3225P0626**	6	26	6	32	25	40	170	22	45	**MS1970**	**–**	T30
2245487	**A4SML2525M0820**	8	20	8	25	25	34	150	21	43	**MS1490**	**–**	T45
2263092	**A4SML3225P0826**	8	26	8	32	25	41	170	21	47	**MS1490**	**–**	T45
2263174	**A4SML3225P1026**	10	26	10	32	25	41	170	21	47	**MS1490**	**–**	T45

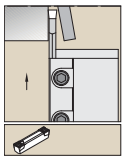


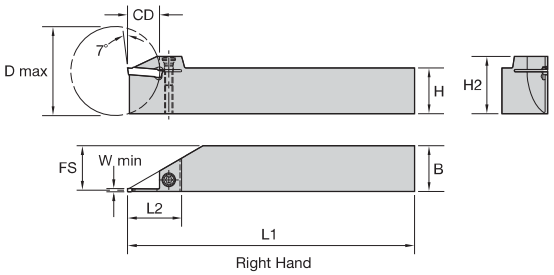


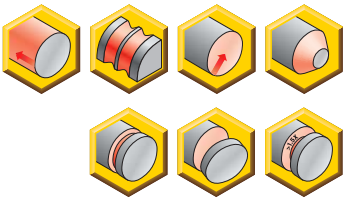
Integral Straight • Short Projection Toolholders • Metric



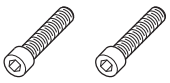
order number	catalogue number	seat size	CD	W min	H	B	H2	L1	FS	LH	clamp screw	clamp screw	Torx
right hand													
3854265	A4SMR2020K0208	2	8	2	20	20	24	125	19	26	–	MS1160	T20
3854267	A4SMR2020K0308	3	8	3	20	20	27	125	19	28	MS1595	–	T30
3854269	A4SMR2020K0408	4	8	4	20	20	27	125	18	28	MS1595	–	T30
3854271	A4SMR2525M0510	5	10	5	25	25	33	150	23	32	MS1970	–	T30
3854273	A4SMR2525M0610	6	10	6	25	25	33	150	22	37	MS1970	–	T30
left hand													
3854266	A4SML2020K0208	2	8	2	20	20	24	125	19	26	–	MS1160	T20
3854268	A4SML2020K0308	3	8	3	20	20	27	125	19	28	MS1595	–	T30
3854270	A4SML2020K0408	4	8	4	20	20	27	125	18	28	MS1595	–	T30
3854272	A4SML2525M0510	5	10	5	25	25	33	150	23	32	MS1970	–	T30
3854274	A4SML2525M0610	6	10	6	25	25	33	150	22	37	MS1970	–	T30



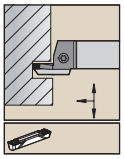




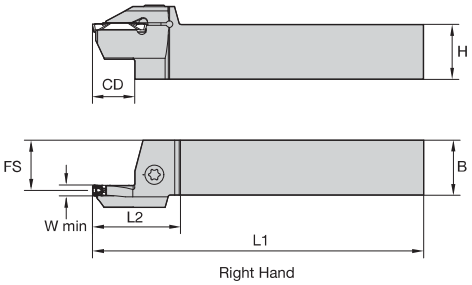
Integral Straight Top Clamp • Metric



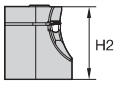
order number	catalogue number	seat size	D max	CD	W min	H	B	H2	L1	FS	LH	clamp screw	clamp screw	wrench size clamp screw
right hand														
2982224	A4SCR1010K0113	1	27	13,500	1,50	10	10	21	125	9,40	25	MS1156	–	T15
2978378	A4SCR1212K0113	1	27	13,500	1,50	12	12	21	125	11,40	25	MS1156	–	T15
2982223	A4SCR1616K0113	1	27	13,500	1,50	16	16	21	125	15,40	25	MS1156	–	T15
2982172	A4SCR2020K0113	1	27	13,500	1,50	20	20	25	125	19,40	25	MS1156	–	T15
4169745	A4SCR1212K0214	2	28	14,000	2,00	12	12	21	125	11,17	28	MS1160	–	T20
4169746	A4SCR1616K0217	2	34	17,000	2,00	16	16	26	125	15,20	31	–	MS1944	T25
4169747	A4SCR1212K0314	3	28	14,000	3,00	12	12	23	125	10,72	30	–	MS2091	25 IP
4169748	A4SCR1616K0317	3	34	17,000	3,00	16	16	27	125	14,72	33	–	MS2091	25 IP
left hand														
2982170	A4SCL1212K0113	1	27	13,500	1,50	12	12	21	125	11,40	25	MS1156	–	T15
2982169	A4SCL1616K0113	1	27	13,500	1,50	16	16	21	125	15,40	25	MS1156	–	T15
2982168	A4SCL2020K0113	1	27	13,500	1,50	20	20	25	125	19,40	25	MS1156	–	T15
4169749	A4SCL1212K0214	2	28	14,000	2,00	12	12	21	125	11,17	28	MS1160	–	T20
4169750	A4SCL1616K0217	2	34	17,000	2,00	16	16	26	125	15,20	31	–	MS1944	T25
4169752	A4SCL1616K0317	3	34	17,000	3,00	16	16	27	125	14,72	33	–	MS2091	25 IP

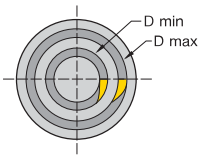


Right hand shown.



Right Hand





Integral Face Grooving • Outboard • Metric

order number	catalogue number	seat size	CD	D min	D max	W min	H	B	H2	L1	FS	LH	clamp screw	Torx
right hand														
3865920	A4SBR2020K2S12016020	2S	12	16	20	2,00	20	20	25	125	19,20	28	–	T20
3865921	A4SBR2020K2S12020025	2S	12	20	25	2,00	20	20	25	125	19,20	28	–	T20
3865922	A4SBR2020K2S12025036	2S	12	25	36	2,00	20	20	25	125	19,20	28	–	T20
3865923	A4SBR2020K3S14020025	3S	14	20	25	3,00	20	20	28	125	18,70	35	MS1595	T30
3865924	A4SBR2020K3S14025036	3S	14	25	36	3,00	20	20	28	125	18,70	35	MS1595	T30
3865926	A4SBR2020K4S14035048	4S	14	35	48	4,00	20	20	28	125	18,20	35	MS1595	T30
3865927	A4SBR2525M5S19028038	5S	19	28	38	5,00	25	25	33	150	22,70	40	MS1970	T30
3865928	A4SBR2525M5S19038058	5S	19	38	58	5,00	25	25	33	150	22,70	40	MS1970	T30
left hand														
3865929	A4SBL2020K2S12016020	2S	12	16	20	2,00	20	20	25	125	19,20	28	–	T20
3865931	A4SBL2020K2S12025036	2S	12	25	36	2,00	20	20	25	125	19,20	28	–	T20
3865932	A4SBL2020K3S14020025	3S	14	20	25	3,00	20	20	28	125	18,70	35	MS1595	T30
3865934	A4SBL2020K4S14025035	4S	14	25	35	4,00	20	20	28	125	18,20	35	MS1595	T30
3865937	A4SBL2525M5S19038058	5S	19	38	58	5,00	25	25	33	150	22,70	40	MS1970	T30

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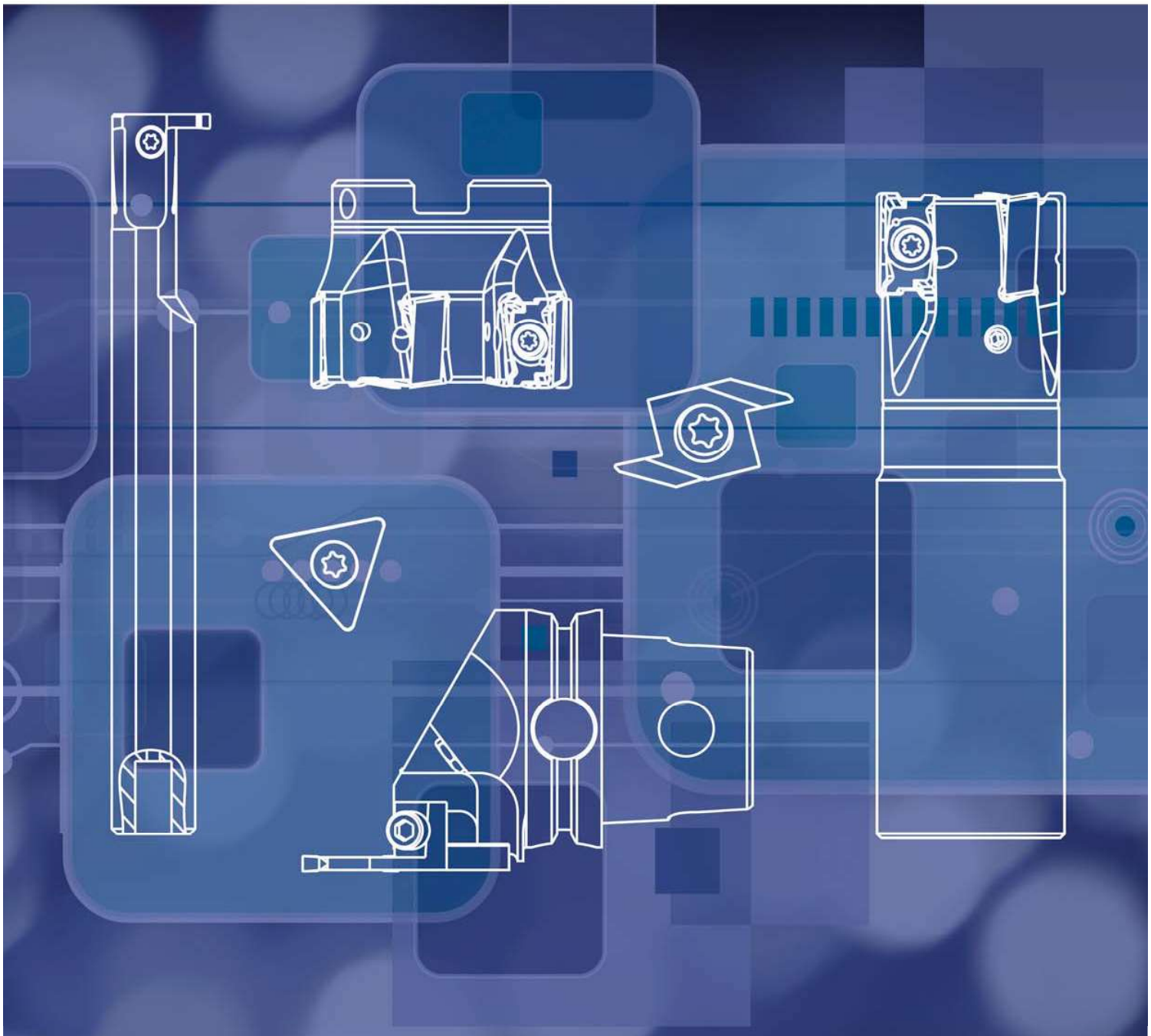

01

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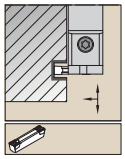
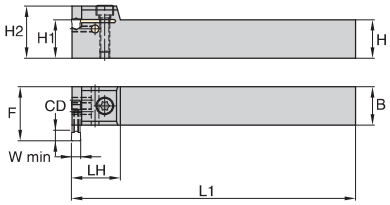
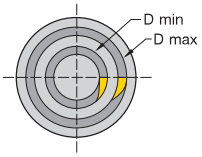




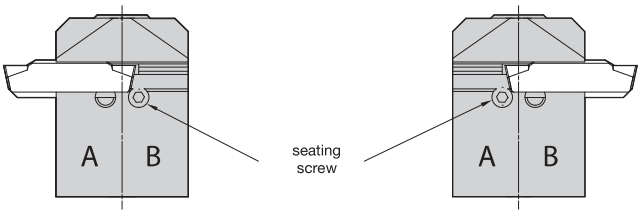


Integral Face Grooving • End Mount • Dua l Handed • Metric

order number	catalogue number	seat size	CD	W min	D min	H1	B	H2	L1	F	LH	clamp screw	Torx	hex seating screw	hex (mm)
2414136	**A4ENN2020K0305**	3	5	3,00	70	20	20	27	125,0	25,4	25	**MS2091**	T25	**MS2090**	1.5 mm
2414137	**A4ENN2525M0305**	3	5	3,00	70	25	25	32	150,0	30,4	25	**MS2091**	T25	**MS2090**	1.5 mm
1949651	**A4ENN2020K0407**	4	7	4,00	90	20	20	27	125,0	27,9	25	**MS2091**	T25	**MS2090**	1.5 mm
1949652	**A4ENN2525M0407**	4	7	4,00	90	25	25	32	150,0	33,1	25	**MS2091**	T25	**MS2090**	1.5 mm
1949654	**A4ENN2525M0509**	5	9	5,00	120	25	25	33	150,0	35,1	34	**MS1970**	T30	**193.297**	1.5 mm
2503543	**A4ENN2020K0611**	6	11	6,00	120	20	20	28	125,0	35,4	34	**MS1595**	T30	**193.297**	2 mm
2503544	**A4ENN2525M0611**	6	11	6,00	120	25	25	33	150,0	38,9	34	**MS1970**	T30	**193.297**	2 mm
2503545	**A4ENN3232P0611**	6	11	6,00	120	32	32	40	170,0	43,4	34	**MS1970**	T30	**193.297**	2 mm

NOTE: D min for face grooving applications.
A4EN-style toolholders are designed without steel support for face grooving capacity. Cutting feed recommendations should be reduced by 25–30%.
Recommended clamp screw torque, 50–70 in. lbs. (6–8 Nm).
Minimum cutting width supplied for reference only; see insert listing for actual width. Always match seat size of insert to seat size of holder.

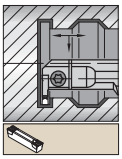
A4EN Insert Mounting



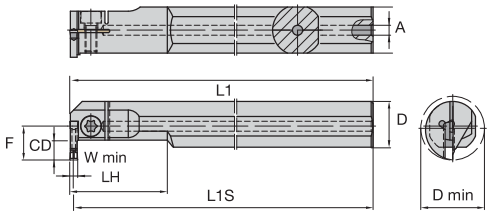
left-hand cut

right-hand cut

A4EN-style holders can be used for either left- or right-hand applications. The seating screw is to be used in position B for a left-hand cut and in position A for a right-hand cut.



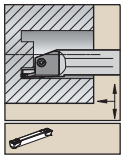
Steel shank with through coolant.

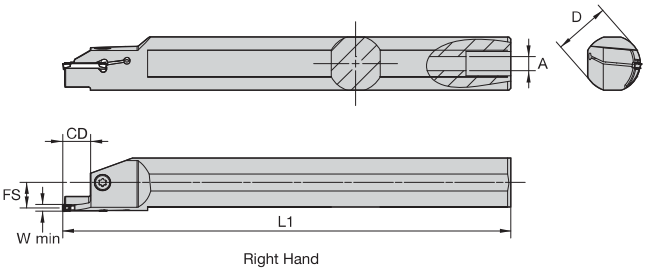


Right Hand

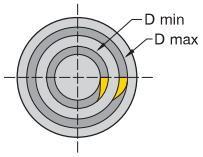
Steel Boring Bar • Metric

order number	catalogue number	seat size	CD	W min	D	D min	L1	F	L1S	A	clamp screw	wrench size clamp screw
right hand												
2979223	**A20RA4EMR0207M**	2	7,00	2,00	20	25	200	13	199,0	4,00	**MS2089**	25 IP
2979225	**A25RA4EMR0210M**	2	10,00	2,00	25	32	200	17	199,0	5,00	**MS2089**	25 IP
1949655	**A20RA4EMR0307M**	3	7,00	3,00	20	25	200	13	198,5	4,00	**MS2089**	25 IP
1949657	**A25RA4EMR0310M**	3	10,00	3,00	25	32	200	17	198,5	5,00	**MS1595**	T30
1949659	**A32SA4EMR0312M**	3	12,00	3,00	32	40	250	22	248,5	6,00	**MS1595**	T30
1949661	**A20RA4EMR0407M**	4	7,00	4,00	20	25	200	13	198,0	4,00	**MS2089**	25 IP
1949663	**A25RA4EMR0410M**	4	10,00	4,00	25	32	200	17	198,0	5,00	**MS1595**	T30
1949665	**A32SA4EMR0412M**	4	12,00	4,00	32	40	250	22	248,0	6,00	**MS1595**	T30
1949667	**A40TA4EMR0416M**	4	16,00	4,00	40	52	300	30	298,0	6,00	**MS1970**	T30
1949669	**A32SA4EMR0516M**	5	16,00	5,00	32	44	250	26	247,5	6,00	**MS1595**	T30
1949671	**A40TA4EMR0516M**	5	16,00	5,00	40	52	300	30	297,5	6,00	**MS1970**	T30
2263197	**A40TA4EMR0616M**	6	16,00	6,00	40	52	300	30	297,0	6,00	**MS1970**	T30
left hand												
2979192	**A20RA4EML0207M**	2	7,00	2,00	20	25	200	13	199,0	4,00	**MS2089**	25 IP
2979224	**A25RA4EML0210M**	2	10,00	2,00	25	32	200	17	199,0	5,00	**MS2089**	25 IP
1949656	**A20RA4EML0307M**	3	7,00	3,00	20	25	200	13	198,5	4,00	**MS2089**	25 IP
1949658	**A25RA4EML0310M**	3	10,00	3,00	25	32	200	17	198,5	5,00	**MS1595**	T30
1949660	**A32SA4EML0312M**	3	12,00	3,00	32	40	250	22	248,5	6,00	**MS1595**	T30
1949662	**A20RA4EML0407M**	4	7,00	4,00	20	25	200	13	198,0	4,00	**MS2089**	25 IP
1949664	**A25RA4EML0410M**	4	10,00	4,00	25	32	200	17	198,0	5,00	**MS1595**	T30
1949666	**A32SA4EML0412M**	4	12,00	4,00	32	40	250	22	248,0	6,00	**MS1595**	T30
1949668	**A40TA4EML0416M**	4	16,00	4,00	40	52	300	30	298,0	6,00	**MS1970**	T30
1949670	**A32SA4EML0516M**	5	16,00	5,00	32	44	250	26	247,5	6,00	**MS1595**	T30
1949672	**A40TA4EML0516M**	5	16,00	5,00	40	52	300	30	297,5	6,00	**MS1970**	T30
2263198	**A40TA4EML0616M**	6	16,00	6,00	40	52	300	30	297,0	6,00	**MS1970**	T30





Right Hand



Steel Face Grooving Boring Bar • Metric

order number	catalogue number	seat size	CD	D min	D max	W min	D	L1	FS	A	clamp screw	wrench size clamp screw
right hand												
3871038	**A16RA4SAR2S12M017021**	2S	12,00	17	21	2,00	16	201	7	4,00	**MS1160**	T20
3871039	**A20RA4SAR2S12M021026**	2S	12,00	21	23	2,00	20	201	9	4,00	**MS1160**	T20
3871040	**A25RA4SAR2S12M026036**	2S	12,00	26	36	2,00	25	201	12	6,35	**MS1160**	T20
3871041	**A20RA4SAR3S14M021026**	3S	14,00	21	26	3,00	20	201	9	4,00	**MS1160**	T20
3871042	**A25RA4SAR3S14M026036**	3S	14,00	26	36	3,00	25	201	11	6,35	**MS1160**	T20
left hand												
3871033	**A16RA4SAL2S12M017021**	2S	12,00	17	21	2,00	16	201	7	4,00	**MS1160**	T20
3871034	**A20RA4SAL2S12M021026**	2S	12,00	21	26	2,00	20	201	9	4,00	**MS1160**	T20
3871035	**A25RA4SAL2S12M026036**	2S	12,00	26	36	2,00	25	201	12	6,35	**MS1160**	T20
3871037	**A25RA4SAL3S14M026036**	3S	14,00	26	36	3,00	25	201	11	6,35	**MS1160**	T20

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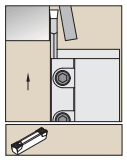
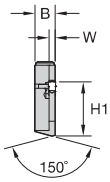
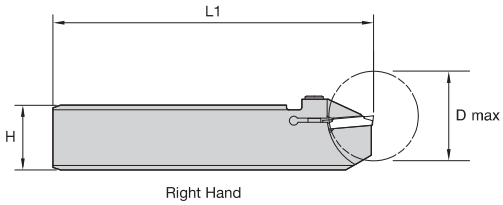


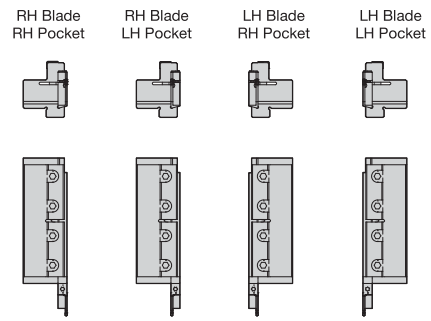




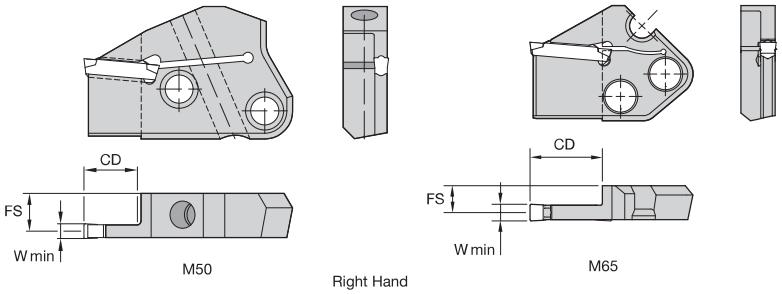
Single-Ended Cut-Off Blade • Metric

order number	catalogue number	seat size	H	W	H1	L1	B	D max	clamp screw	Torx
right hand										
3967127	**A4BHCL26K0317R**	3	26	3,0	21,4	125	7,95	35	**MS1571**	T20
3967124	**A4BHCL32K0317R**	3	32	3,0	25,0	125	7,95	35	**MS1571**	T20
3967117	**A4BHCR32K0217R**	2	32	2,0	25,0	125	7,95	35	**MS1571**	T20
left hand										
3967136	**A4BHCL32K0217L**	2	32	2,0	25,0	125	7,95	35	**MS1571**	T20
3967137	**A4BHCL32K0317L**	3	32	3,0	25,0	125	7,95	35	**MS1571**	T20
3967134	**A4BHCR26K0317L**	3	26	3,0	21,4	125	7,95	35	**MS1571**	T20

NOTE: Seat size 1 blades only.
Assembly wrenches 170.137 and 170.130 must be ordered separately.



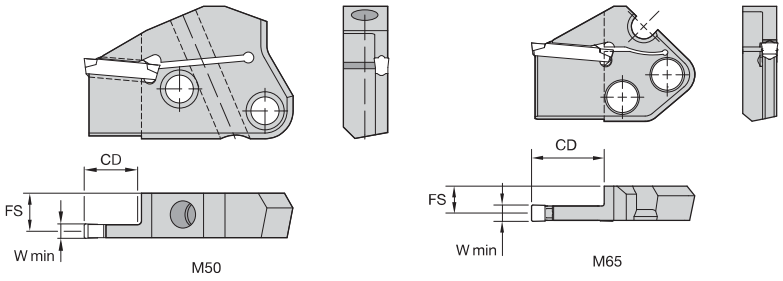

Right hand shown



Modular Straight Blade with Coolant

order number	catalogue number	seat size	CD	FS	blade size
right hand					
6401815	A4M50R0314MC	3	14,0	10,42	50
6401817	A4M50R0414MC	4	14,0	9,92	50
6401819	A4M50R0519MC	5	19,0	9,42	50
6401834	A4M65R0620MC	6	20,0	9,88	65
6401838	A4M65R0820MC	8	20,0	9,00	65
6401852	A4M65R1020MC	10	20,0	8,35	65
6401831	A4M65R0522MC	5	22,0	10,28	65
6401835	A4M65R0626MC	6	26,0	9,88	65
6401839	A4M65R0826MC	8	26,0	9,00	65
6401853	A4M65R1026MC	10	26,0	8,35	65
left hand					
6401814	A4M50L0314MC	3	14,0	10,42	50
6401816	A4M50L0414MC	4	14,0	9,92	50
6401818	A4M50L0519MC	5	19,0	9,43	50
6401832	A4M65L0620MC	6	20,0	9,88	65
6401836	A4M65L0820MC	8	20,0	9,00	65
6401840	A4M65L1020MC	10	20,0	8,35	65
6401820	A4M65L0522MC	5	22,0	10,28	65
6401833	A4M65L0626MC	6	26,0	9,88	65
6401837	A4M65L0826MC	8	26,0	9,00	65
6401851	A4M65L1026MC	10	26,0	8,35	65

Right hand shown.

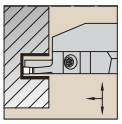


Right Hand

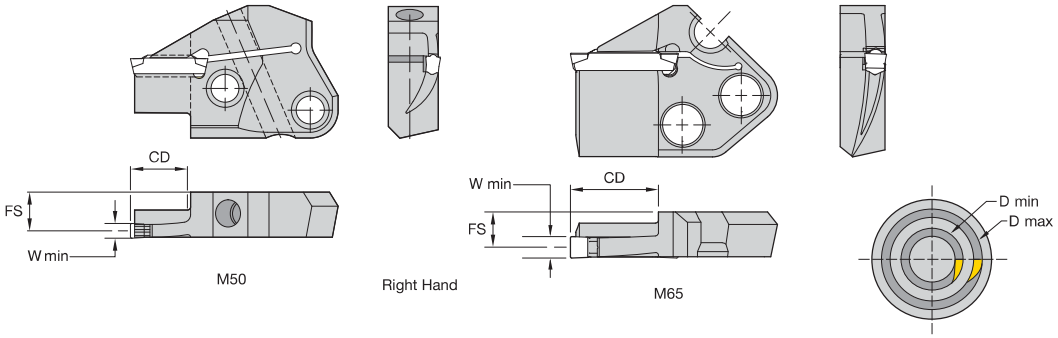
Modular Straight Blade

order number	catalogue number	seat size	W min	CD	FS	blade size
right hand						
3051624	**A4M50R0214M**	2	2,00	14,0	10,87	50
1989348	**A4M50R0314M**	3	3,00	14,0	10,43	50
1989350	**A4M50R0414M**	4	4,00	14,0	9,93	50
1989352	**A4M50R0519M**	5	5,00	19,0	9,43	50
3557114	**A4M65R0620M**	6	6,00	20,0	9,88	65
3557116	**A4M65R0626M**	6	6,00	26,0	9,88	65
3557120	**A4M65R0826M**	8	8,00	26,0	9,00	65
3557124	**A4M65R1026M**	10	10,00	26,0	8,35	65
left hand						
3022625	**A4M50L0214M**	2	2,00	14,0	10,87	50
1989347	**A4M50L0314M**	3	3,00	14,0	10,43	50
1989349	**A4M50L0414M**	4	4,00	14,0	9,93	50
3051623	**A4M50L2B14M**	2B	2,50	14,0	10,70	50
1989351	**A4M50L0519M**	5	5,00	19,0	9,43	50
3557115	**A4M65L0620M**	6	6,00	20,0	9,88	65
3557119	**A4M65L0820M**	8	8,00	20,0	9,00	65
3557123	**A4M65L1020M**	10	10,00	20,0	8,35	65
3557117	**A4M65L0626M**	6	6,00	26,0	9,88	65
3557121	**A4M65L0826M**	8	8,00	26,0	9,00	65
3557125	**A4M65L1026M**	10	10,00	26,0	8,35	65

NOTE: Seat size 2B only accepts 2B inserts. Seat size 2 accepts 2 or 2B inserts.



Right hand shown.



Modular Face Grooving Blade • Inboard

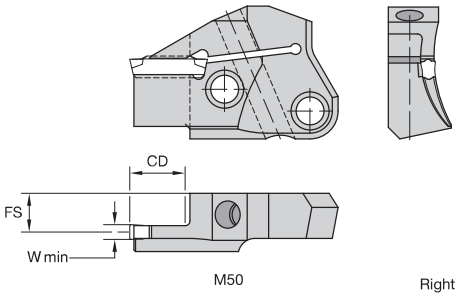
order number	catalogue number	seat size	D min	D max	cartridge size
right hand					
3051670	A4M50R0212A036046	2	36	46	50
3051671	A4M50R0212A042054	2	42	54	50
3051672	A4M50R0212A050064	2	50	64	50
3051673	A4M50R0212A060084	2	60	84	50
3051674	A4M50R0212A080124	2	80	124	50
3051675	A4M50R0212A120254	2	120	254	50
3051676	A4M50R0212A250999	2	250	–	50
2542517	A4M50R0314A036048	3	36	48	50
2542518	A4M50R0314A042058	3	42	58	50
2542519	A4M50R0314A052074	3	52	74	50
2542520	A4M50R0314A068100	3	68	100	50
2542521	A4M50R0314A090160	3	90	160	50
2542522	A4M50R0314A130300	3	130	300	50
2542523	A4M50R0314A290999	3	290	–	50
2542531	A4M50R0414A048072	4	48	72	50
2542532	A4M50R0414A064100	4	64	100	50
2542533	A4M50R0414A092150	4	92	150	50
2542534	A4M50R0414A132300	4	132	300	50
2542535	A4M50R0414A290999	4	290	–	50
2542541	A4M50R0519A058094	5	58	94	50
2542542	A4M50R0519A080136	5	80	136	50
2542543	A4M50R0519A120300	5	120	300	50
2542544	A4M50R0519A250999	5	250	–	50
3557131	A4M65R0624A070-112	6	70	112	65
3557163	A4M65R0624A100-212	6	100	212	65
3557165	A4M65R0624A200-999	6	200	999	65
3557167	A4M65R0824A090-200	8	90	200	65
3557169	A4M65R0824A184-999	8	184	999	65
3557173	A4M65R1024A200-999	10	200	999	65

(*continued*)

(Modular Face Grooving Blade • Inboard — continued)

order number	catalogue number	seat size	D min	D max	cartridge size
left hand					
3051629	**A4M50L0212A060084**	2	60	84	50
3051631	**A4M50L0212A120254**	2	120	254	50
3051632	**A4M50L0212A250999**	2	250	—	50
2542524	**A4M50L0314A036048**	3	36	48	50
2542527	**A4M50L0314A068100**	3	68	100	50
2542528	**A4M50L0314A090160**	3	90	160	50
2542529	**A4M50L0314A130300**	3	130	300	50
2542530	**A4M50L0314A290999**	3	290	—	50
2542537	**A4M50L0414A064100**	4	64	100	50
2542538	**A4M50L0414A092150**	4	92	150	50
2542539	**A4M50L0414A132300**	4	132	300	50
2542540	**A4M50L0414A290999**	4	290	—	50
2542545	**A4M50L0519A058094**	5	58	94	50
2542546	**A4M50L0519A080136**	5	80	136	50
2542547	**A4M50L0519A120300**	5	120	300	50
2542548	**A4M50L0519A250999**	5	250	—	50
3557132	**A4M65L0624A070-112**	6	70	112	65
3557164	**A4M65L0624A100-212**	6	100	212	65
3557166	**A4M65L0624A200-999**	6	200	999	65
3557174	**A4M65L1024A200-999**	10	200	999	65

Right hand shown.



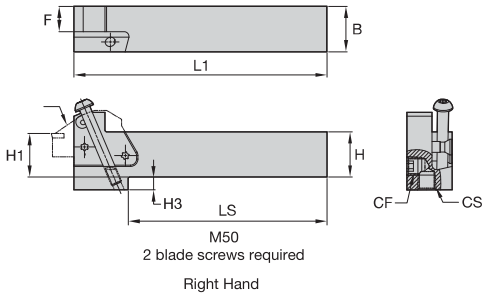
Modular Face Grooving Blade • Outboard

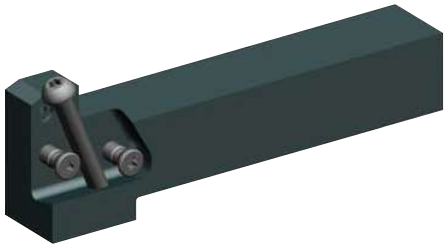
order number	catalogue number	seat size	D min	D max	CD	FS	cartridge size
right hand							
3051677	A4M50R0212B036046	2	36	46	12,00	10,900	50
3051678	A4M50R0212B042054	2	42	54	12,00	10,900	50
3051679	A4M50R0212B050064	2	50	64	12,00	10,900	50
3051680	A4M50R0212B060084	2	60	84	12,00	10,900	50
3051681	A4M50R0212B080124	2	80	124	12,00	10,900	50
3051682	A4M50R0212B120254	2	120	254	12,00	10,900	50
3051683	A4M50R0212B250999	2	250	–	12,00	10,900	50
3867457	A4M50R2S12B016020	2S	16	20	12,00	10,900	50
3867458	A4M50R2S12B020025	2S	20	25	12,00	10,900	50
3867459	A4M50R2S12B025036	2S	25	36	12,00	10,900	50
2398751	A4M50R0314B036048	3	36	48	14,00	10,500	50
2398752	A4M50R0314B042058	3	42	58	14,00	10,500	50
2398763	A4M50R0314B052074	3	52	74	14,00	10,500	50
2398764	A4M50R0314B068100	3	68	100	14,00	10,500	50
2398765	A4M50R0314B090160	3	90	160	14,00	10,500	50
2398766	A4M50R0314B130300	3	130	300	14,00	10,500	50
2398767	A4M50R0314B290999	3	290	–	14,00	10,500	50
2398775	A4M50R0414B048072	4	48	72	14,00	10,000	50
2398776	A4M50R0414B064100	4	64	100	14,00	10,000	50
2398777	A4M50R0414B092150	4	92	150	14,00	10,000	50
2398778	A4M50R0414B132300	4	132	300	14,00	10,000	50
2398779	A4M50R0414B290999	4	290	–	14,00	10,000	50
3867460	A4M50R3S14B020025	3S	20	25	14,00	10,490	50
3867461	A4M50R3S14B025036	3S	25	36	14,00	10,490	50
3867462	A4M50R4S14B025035	4S	25	35	14,00	10,000	50
3867464	A4M50R5S17B028038	5S	28	38	17,00	9,500	50
2398785	A4M50R0519B058094	5	58	94	19,00	9,500	50
2398786	A4M50R0519B080136	5	80	136	19,00	9,500	50
2398787	A4M50R0519B120300	5	120	300	19,00	9,500	50
2398788	A4M50R0519B250999	5	250	–	19,00	9,500	50
3557175	A4M65R0624B070-112	6	70	112	24,00	9,870	65
3557177	A4M65R0624B100-212	6	100	212	24,00	9,870	65
3557179	A4M65R0624B200-999	6	200	999	24,00	9,870	65
3557181	A4M65R0824B090-200	8	90	200	24,00	9,000	65
3557193	A4M65R0824B184-999	8	184	999	24,00	9,000	65
3557195	A4M65R1024B100-220	10	100	220	24,00	8,350	65
3557197	A4M65R1024B200-999	10	200	999	24,00	8,350	65

(*continued*)

(Modular Face Grooving Blade • Outboard — continued)

order number	catalogue number	seat size	D min	D max	CD	FS	cartridge size
left hand							
3051663	A4M50L0212B036046	2	36	46	12,00	10,900	50
3051664	A4M50L0212B042054	2	42	54	12,00	10,900	50
3051665	A4M50L0212B050064	2	50	64	12,00	10,900	50
3051666	A4M50L0212B060084	2	60	84	12,00	10,900	50
3051667	A4M50L0212B080124	2	80	124	12,00	10,900	50
3051668	A4M50L0212B120254	2	120	254	12,00	10,900	50
3867466	A4M50L2S12B016020	2S	16	20	12,00	10,900	50
3867467	A4M50L2S12B020025	2S	20	25	12,00	10,900	50
3867468	A4M50L2S12B025036	2S	25	36	12,00	10,900	50
2398768	A4M50L0314B036048	3	36	48	14,00	10,500	50
2398769	A4M50L0314B042058	3	42	58	14,00	10,500	50
2398770	A4M50L0314B052074	3	52	74	14,00	10,500	50
2398771	A4M50L0314B068100	3	68	100	14,00	10,500	50
2398772	A4M50L0314B090160	3	90	160	14,00	10,500	50
2398773	A4M50L0314B130300	3	130	300	14,00	10,500	50
2398774	A4M50L0314B290999	3	290	—	14,00	10,500	50
2398780	A4M50L0414B048072	4	48	72	14,00	10,000	50
2398781	A4M50L0414B064100	4	64	100	14,00	10,000	50
2398782	A4M50L0414B092150	4	92	150	14,00	10,000	50
2398783	A4M50L0414B132300	4	132	300	14,00	10,000	50
2398784	A4M50L0414B290999	4	290	—	14,00	10,000	50
3867469	A4M50L3S14B020025	3S	20	25	14,00	10,490	50
3867470	A4M50L3S14B025036	3S	25	36	14,00	10,490	50
3867472	A4M50L4S14B035048	4S	35	48	14,00	10,000	50
3867484	A4M50L5S17B028038	5S	28	38	17,00	9,500	50
2398789	A4M50L0519B058094	5	58	94	19,00	9,500	50
2398790	A4M50L0519B080136	5	80	136	19,00	9,500	50
2398791	A4M50L0519B120300	5	120	300	19,00	9,500	50
2398792	A4M50L0519B250999	5	250	—	19,00	9,500	50
3557176	A4M65L0624B070-112	6	70	112	24,00	9,870	65
3557178	A4M65L0624B100-212	6	100	212	24,00	9,870	65
3557180	A4M65L0624B200-999	6	200	999	24,00	9,870	65
3557182	A4M65L0824B090-200	8	90	200	24,00	9,000	65
3557194	A4M65L0824B184-999	8	184	999	24,00	9,000	65
3557198	A4M65L1024B200-999	10	200	999	24,00	8,350	65



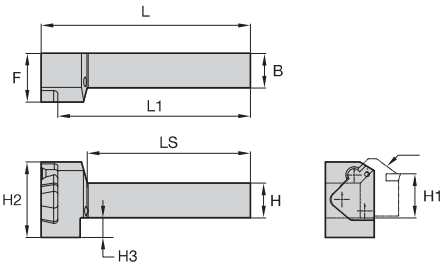


Modular Straight Toolholder • Metric

NOTE: For modular straight toolholder with coolant, see page C58.

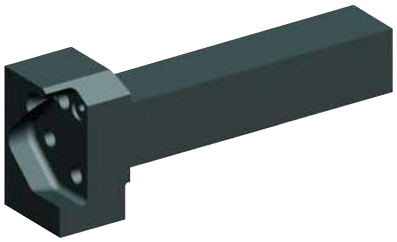
order number	catalogue number	B	H	L1	F	LS	H3	blade screw	Torx	clamp screw	Torx
right hand											
1600249	**KGMSR2525M50**	25	25	138,75	13,84	109,00	7,00	**MS1162**	T25	**MS2002**	T25
3553429	**KGMSR2525M65**	25	25	150,00	13,00	120,00	14,00	**MS1163**	T30	**–**	–
1621083	**KGMSR3232P50**	32	32	158,75	20,81	–	–	**MS1162**	T25	**MS2002**	T25
3553431	**KGMSR3232P65**	32	32	170,00	20,79	158,00	7,00	**MS1163**	T30	**–**	–
left hand											
1600250	**KGMSL2525M50**	25	25	138,75	13,84	109,00	7,00	**MS1162**	T25	**MS2002**	T25
3553430	**KGMSL2525M65**	25	25	150,00	13,00	120,00	14,00	**MS1163**	T30	**–**	–
1621084	**KGMSL3232P50**	32	32	158,75	20,81	–	–	**MS1162**	T25	**MS2002**	T25
3553432	**KGMSL3232P65**	32	32	170,00	20,79	158,00	7,00	**MS1163**	T30	**–**	–

NOTE: KGMS..: Right-hand holder uses right-hand blades.
KGME..: Right-hand holder uses left-hand blades.
M50 blade and clamp screw torque equals 8–10 Nm (71–88 in. lbs.).
M65 blade and clamp screw torque equals 18–20 Nm (159–177 in. lbs.).



M65
2 blade screws required

Right Hand



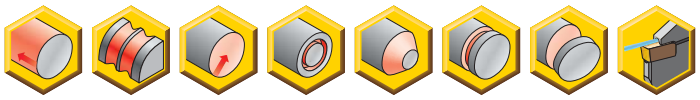
Modular End Mount Toolholders • Metric

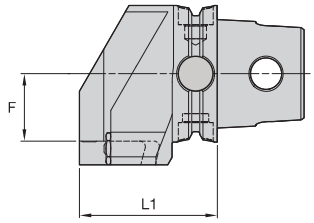
NOTE: For modular end mount toolholder with coolant, see page C59.

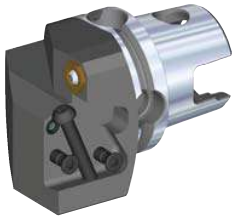
order number	catalogue number	B	H	L1	F	LS	H3	L	blade screw (2 required)	Torx	clamp screw	Torx
right hand												
1600270	**KGMER2525M50**	25	25	139,25	42,75	125,25	6,84	150,25	**MS1162**	T25	**MS2002**	T25
3553453	**KGMER2525M65**	25	25	138,15	35,00	129,00	14,00	150,00	**MS1163**	T30	–	–
1621085	**KGMER3232P50**	32	32	159,25	42,75	145,25	–	170,25	**MS1162**	T25	**MS2002**	T25
3553455	**KGMER3232P65**	32	32	158,15	35,00	153,00	7,00	170,00	**MS1163**	T30	–	–
left hand												
1600271	**KGMEL2525M50**	25	25	139,25	42,75	125,25	6,84	150,25	**MS1162**	T25	**MS2002**	T25
3553454	**KGMEL2525M65**	25	25	138,15	35,00	129,00	14,00	150,00	**MS1163**	T30	–	–
1621086	**KGMEL3232P50**	32	32	159,25	42,75	145,25	–	170,25	**MS1162**	T25	**MS2002**	T25
3553456	**KGMEL3232P65**	32	32	158,15	35,00	153,00	7,00	170,00	**MS1163**	T30	–	–

NOTE: KGMS..: Right-hand holder uses right-hand blades.
KGME..: Right-hand holder uses left-hand blades.
M50 blade and clamp screw torque equals 8–10 Nm (71–88 in. lbs.).
M65 blade and clamp screw torque equals 18–20 Nm (159–177 in. lbs.).

- Best-in-class KM Quick-Change platform.
- Through the pocket coolant capable.
- Interchangeable blades for versatility and depth of cut.







Right Hand

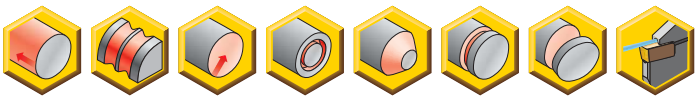
KM QUICK CHANGE

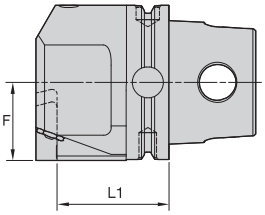
Modular Straight KM System with Coolant

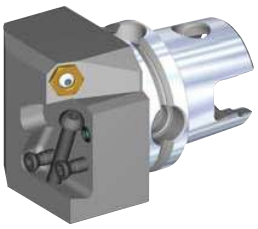
order number	catalogue number	CSMS system size	L1	F	blade size	blade screw	Torx	clamp screw	Torx
right hand									
5999790	**KM40TSKGMSR50C**	KM40TS	53,5	15,0	50	**MS1162**	T25	**MS2002**	T25
6000422	**KM50TSKGMSR65C**	KM50TS	53,5	22,0	65	**MS1163**	T30	–	–
5999864	**KM50TSKGMSR50C**	KM50TS	58,5	23,0	50	**MS1162**	T25	**MS2002**	T25
6000431	**KM63TSKGMSR65C**	KM63TS	58,5	30,0	65	**MS1163**	T30	–	–
5999948	**KM63TSKGMSR50C**	KM63TS	63,5	31,0	50	**MS1162**	T25	**MS2002**	T25
5999972	**KM63XMZKGMSR50CY**	KM63XMZ	63,5	31,0	50	**MS1162**	T25	**MS2002**	T25
6017695	**KM80TSKGMSR65C**	KM80TS	63,5	40,0	65	**MS1163**	T30	–	–
6000018	**KM80ATCKGMSR50C**	KM80ATC	66,5	41,0	50	**MS1162**	T25	**MS2002**	T25
6000014	**KM80TSKGMSR50C**	KM80TS	66,5	41,0	50	**MS1162**	T25	**MS2002**	T25
left hand									
5999861	**KM40TSKGMSL50C**	KM40TS	53,5	15,0	50	**MS1162**	T25	**MS2002**	T25
6000424	**KM50TSKGMSL65C**	KM50TS	53,5	22,0	65	**MS1163**	T30	–	–
5999865	**KM50TSKGMSL50C**	KM50TS	58,5	23,0	50	**MS1162**	T25	**MS2002**	T25
6000433	**KM63TSKGMSL65C**	KM63TS	58,5	30,0	65	**MS1163**	T30	–	–
5999949	**KM63TSKGMSL50C**	KM63TS	63,5	31,0	50	**MS1162**	T25	**MS2002**	T25
5999973	**KM63XMZKGMSLF50CY**	KM63XMZ	63,5	31,0	50	**MS1162**	T25	**MS2002**	T25
6017696	**KM80TSKGMSL65C**	KM80TS	63,5	40,0	65	**MS1163**	T30	–	–
6000019	**KM80ATCKGMSL50C**	KM80ATC	66,5	41,0	50	**MS1162**	T25	**MS2002**	T25
6000015	**KM80TSKGMSL50C**	KM80TS	66,5	41,0	50	**MS1162**	T25	**MS2002**	T25

NOTE: KGMS..: Right-hand holder uses right-hand blades.
KGME..: Right-hand holder uses left-hand blades.
M50 blade and clamp screw torque equals 8–10 Nm (71–88 in. lbs.).
M65 blade and clamp screw torque equals 18–20 Nm (159–177 in. lbs.).

- Best-in-class KM Quick-Change platform.
- Through the pocket coolant capable.
- Interchangeable blades for versatility and depth of cut.






Right Hand

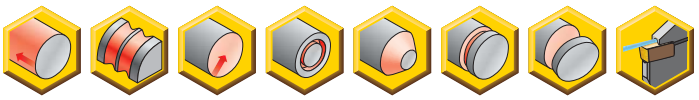
KM QUICK CHANGE

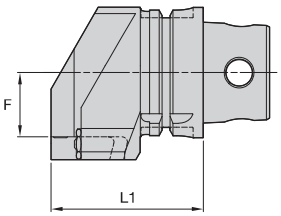
Modular End Mount KM System with Coolant • Metric

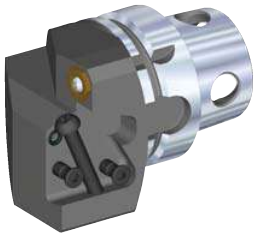
order number	catalogue number	CSMS system size	L1	F	blade size	blade screw	Torx	clamp screw	Torx
right hand									
5999788	**KM40TSKGMER50C**	KM40TS	28,0	20,50	50	**MS1162**	T25	**MS2002**	T25
5999862	**KM50TSKGMER50C**	KM50TS	38,0	25,50	50	**MS1162**	T25	**MS2002**	T25
6000410	**KM50TSKGMER65C**	KM50TS	47,0	25,50	65	**MS1163**	T30	–	–
6000425	**KM63TSKGMER65C**	KM63TS	47,0	32,52	65	**MS1163**	T30	–	–
5999946	**KM63TSKGMER50C**	KM63TS	48,0	32,50	50	**MS1162**	T25	**MS2002**	T25
6000434	**KM63XMZKGMER65CY**	KM63XMZ	47,0	32,50	65	**MS1163**	T30	–	–
5999950	**KM63XMZKGMER50CY**	KM63XMZ	48,0	32,50	50	**MS1162**	T25	**MS2002**	T25
6017697	**KM80ATCKGMER65C**	KM80ATC	57,0	40,50	65	**MS1163**	T30	–	–
6000016	**KM80ATCKGMER50C**	KM80ATC	58,0	40,50	50	**MS1162**	T25	**MS2002**	T25
6017693	**KM80TSKGMER65C**	KM80TS	57,0	40,50	65	**MS1163**	T30	–	–
6000012	**KM80TSKGMER50C**	KM80TS	58,0	40,50	50	**MS1162**	T25	**MS2002**	T25
left hand									
5999789	**KM40TSKGMEL50C**	KM40TS	28,0	20,50	50	**MS1162**	T25	**MS2002**	T25
5999863	**KM50TSKGMEL50C**	KM50TS	38,0	25,50	50	**MS1162**	T25	**MS2002**	T25
6000421	**KM50TSKGMEL65C**	KM50TS	47,0	25,50	65	**MS1163**	T30	–	–
6000430	**KM63TSKGMEL65C**	KM63TS	47,0	32,52	65	**MS1163**	T30	–	–
5999947	**KM63TSKGMEL50C**	KM63TS	48,0	32,50	50	**MS1162**	T25	**MS2002**	T25
6000436	**KM63XMZKGMELF65CY**	KM63XMZ	47,0	32,50	65	**MS1163**	T30	–	–
5999971	**KM63XMZKGMELF50CY**	KM63XMZ	48,0	32,50	50	**MS1162**	T25	**MS2002**	T25
6017698	**KM80ATCKGMEL65C**	KM80ATC	57,0	40,50	65	**MS1163**	T30	–	–
6000017	**KM80ATCKGMEL50C**	KM80ATC	58,0	40,50	50	**MS1162**	T25	**MS2002**	T25
6017694	**KM80TSKGMEL65C**	KM80TS	57,0	40,50	65	**MS1163**	T30	–	–
6000013	**KM80TSKGMEL50C**	KM80TS	58,0	40,50	50	**MS1162**	T25	**MS2002**	T25

NOTE: KGMS..: Right-hand holder uses right-hand blades.
KGME..: Right-hand holder uses left-hand blades.
M50 blade and clamp screw torque equals 8–10 Nm (71-88 in. lbs.).
M65 blade and clamp screw torque equals 18–20 Nm (159–177 in. lbs.).

- Through the pocket coolant capable.
- Interchangeable blades for versatility and depth of cut.





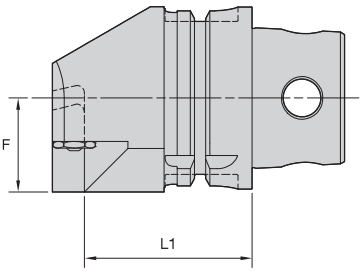


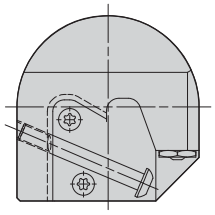
Right Hand

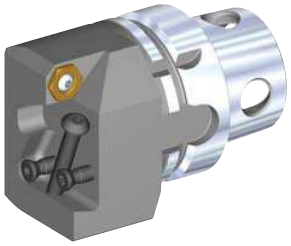
Modular Straight KM4X™ System with Coolant

order number	catalogue number	CSMS system size	L1	F	blade size	blade screw	Torx	clamp screw	Torx
right hand									
5543560	**KM4X63KGMSR65C**	KM4X63	68,5	30,0	65	**MS1163**	T30	–	–
6000407	**KM4X63KGMSR50C**	KM4X63	73,5	31,0	50	**MS1162**	T25	**MS2002**	T25
left hand									
5543558	**KM4X63KGMSL65C**	KM4X63	68,5	30,0	65	**MS1163**	T30	–	–
6000408	**KM4X63KGMSL50C**	KM4X63	73,5	31,0	50	**MS1162**	T25	**MS2002**	T25

NOTE: KGMS..: Right-hand holder uses right-hand blades.
KGME..: Right-hand holder uses left-hand blades.
M50 blade and clamp screw torque equals 8–10 Nm (71-88 in. lbs.).
M65 blade and clamp screw torque equals 18–20 Nm (159–177 in. lbs.).





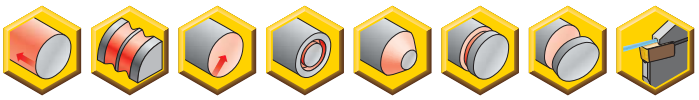


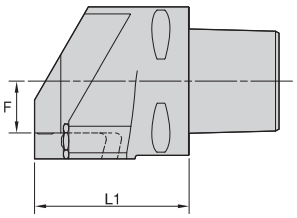
Right Hand

Modular End Mount KM4X™ System with Coolant

order number	catalogue number	CSMS system size	L1	F	cartridge size	blade screw	nozzle	clamp screw	kg	lbs
right hand										
5543555	**KM4X63KGMER65C**	KM4X63	57,0	32,5	65	**MS1163**	**PMT04525**	–	1,87	4.13
6000404	**KM4X63KGMER50C**	KM4X63	58,0	32,5	50	**MS1162**	**PMT04525**	**MS2002**	1,85	4.08
6000407	**KM4X63KGMSR50C**	KM4X63	73,5	31,0	50	**MS1162**	**PMT04525**	**MS2002**	1,86	4.11
left hand										
5543553	**KM4X63KGMEL65C**	KM4X63	57,0	32,5	65	**MS1163**	**PMT04525**	–	1,87	4.13
6000405	**KM4X63KGMEL50C**	KM4X63	58,0	32,5	50	**MS1162**	**PMT04525**	**MS2002**	1,85	4.08
6000408	**KM4X63KGMSL50C**	KM4X63	73,5	31,0	50	**MS1162**	**PMT04525**	**MS2002**	1,86	4.11

- Standard PSC Quick-Change platform.
- Through the pocket coolant capable.
- Interchangeable blades for versatility and depth of cut.



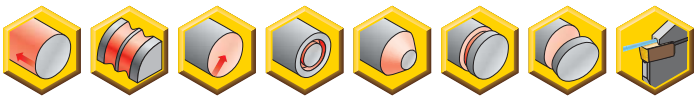


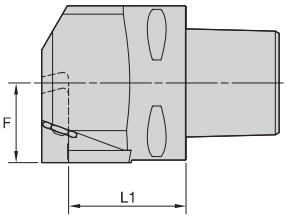
Right Hand

Modular Straight PSC System with Coolant

order number	catalogue number	CSMS system size	L1	F	blade size	blade screw	Torx	clamp screw	Torx
right hand									
6000028	**PSC40KGMSR50C**	PSC40	63,5	10,0	50	**MS1162**	T25	**MS2002**	T25
5405654	**PSC50KGMSR65C**	PSC50	49,0	25,5	65	**MS1163**	T30	**–**	–
6000152	**PSC50KGMSR50C**	PSC50	63,5	15,0	50	**MS1162**	T25	**MS2002**	T25
6000464	**PSC63KGMSR65C**	PSC63	60,5	21,0	65	**MS1163**	T30	**–**	–
6000211	**PSC63KGMSR50C**	PSC63	65,5	22,0	50	**MS1162**	T25	**MS2002**	T25
6000468	**PSC80KGMSR65C**	PSC80	68,5	29,0	65	**MS1163**	T30	**–**	–
6000216	**PSC80KGMSR50C**	PSC80	73,5	30,0	50	**MS1162**	T25	**MS2002**	T25
left hand									
6000029	**PSC40KGMSL50C**	PSC40	63,5	10,0	50	**MS1162**	T25	**MS2002**	T25
5405655	**PSC50KGMSL65C**	PSC50	49,0	25,5	65	**MS1163**	T30	**–**	–
6000153	**PSC50KGMSL50C**	PSC50	63,5	15,0	50	**MS1162**	T25	**MS2002**	T25
6000465	**PSC63KGMSL65C**	PSC63	60,5	21,0	65	**MS1163**	T30	**–**	–
6000213	**PSC63KGMSL50C**	PSC63	65,5	22,0	50	**MS1162**	T25	**MS2002**	T25
6000469	**PSC80KGMSL65C**	PSC80	68,5	29,0	65	**MS1163**	T30	**–**	–
6000217	**PSC80KGMSL50C**	PSC80	73,5	30,0	50	**MS1162**	T25	**MS2002**	T25

- Standard PSC Quick-Change platform.
- Through the pocket coolant capable.
- Interchangeable blades for versatility and depth of cut.





Right Hand

Modular End Mount PSC System with Coolant

order number	catalogue number	CSMS system size	L1	F	blade size	blade screw	Torx	clamp screw	Torx
right hand									
6000026	**PSC40KGMER50C**	PSC40	33,0	20,5	50	**MS1162**	T25	**MS2002**	T25
6000030	**PSC50KGMER50C**	PSC50	43,0	25,5	50	**MS1162**	T25	**MS2002**	T25
5405652	**PSC50KGMER65C**	PSC50	55,5	22,0	65	**MS1163**	T30	–	–
6000159	**PSC63KGMER50C**	PSC63	48,0	32,5	50	**MS1162**	T25	**MS2002**	T25
6000462	**PSC63KGMER65C**	PSC63	49,0	32,5	65	**MS1163**	T30	–	–
6000466	**PSC80KGMER65C**	PSC80	57,0	40,5	65	**MS1163**	T30	–	–
6000214	**PSC80KGMER50C**	PSC80	58,0	40,5	50	**MS1162**	T25	**MS2002**	T25
left hand									
6000027	**PSC40KGMEL50C**	PSC40	33,0	20,5	50	**MS1162**	T25	**MS2002**	T25
6000151	**PSC50KGMEL50C**	PSC50	43,0	25,5	50	**MS1162**	T25	**MS2002**	T25
5405653	**PSC50KGMEL65C**	PSC50	55,5	22,0	65	**MS1163**	T30	–	–
6000160	**PSC63KGMEL50C**	PSC63	48,0	32,5	50	**MS1162**	T25	**MS2002**	T25
6000463	**PSC63KGMEL65C**	PSC63	49,0	32,5	65	**MS1163**	T30	–	–
6000467	**PSC80KGMEL65C**	PSC80	57,0	40,5	65	**MS1163**	T30	–	–
6000215	**PSC80KGMEL50C**	PSC80	58,0	40,5	50	**MS1162**	T25	**MS2002**	T25

Top Notch™

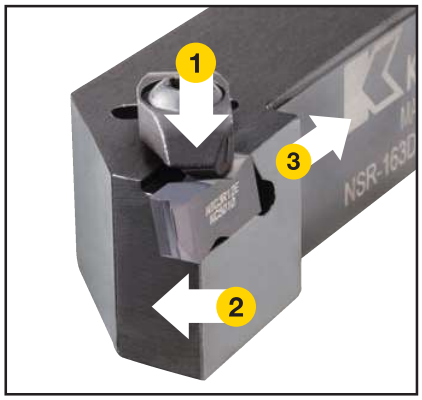
Grooving Tools and Beyond™ Inserts for Your Shallow Groove and Turn Operations

Primary Application

Top Notch Grooving Tools and Beyond Inserts are the proven solution for high productivity. The Top Notch system provides consistent tool performance, accurate indexing, and superior clamping to provide excellent surface finishing and superior tool life.

Features and Benefits

- The Beyond PVD coated grades are designed to cut a variety of workpiece materials.
- Rigid clamping securely locks insert in place through the toughest cuts.
- Versatile design enables one system to handle O.D. and I.D. grooving, face grooving, back turning, undercutting, and even threading operations.
- Chip control inserts provide excellent chip evacuation in grooving, and offer better chip control in multidirectional turning.



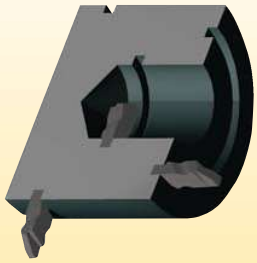
Our rigid clamping design prevents insert movement during high-feed rate applications. This benefit ensures excellent surface finish, improved productivity, and superior tool life and promotes perfect concentricity. The rugged bridge clamp generates locking forces in three directions to provide superior resistance to side thrust and tangential forces.

Step 1 • Select system based on the required groove depth

What you need to know

- Groove depth, width, and profile.
- Material to be machined.
- Application to be performed (face, O.D., or I.D. grooving).
- Toolholder requirements (e.g., KM™, square shank, right/left).

Top Notch™



Grooving

For grooving depth ≤1.5x grooving width, review system capability chart and proceed to Step 2.

Top Notch Grooving for Internal, External, and Face Grooving Applications

system capabilities		minimum in (mm)	maximum in (mm)
O.D./I.D. grooving	width	0.31 (0,79)	.375 (9,53)
	depth	.050 (1,27)	.375 (9,53)
face grooving	width	.125 (3,18)	.375 (9,53)
	depth	.150 (3,81)	.250 (6,35)
internal grooving	diameter	.440 (11,2)	–
face grooving diameter	standard	.940 (23,9)	–
	deep	1.875 (47,6)	–
deep O.D./I/D. grooving	width	.062 (1,57)	.250 (6,35)
	depth	.125 (3,18)	.500 (12,70)
deep face grooving	width	.125 (3,18)	.250 (6,35)
	depth	.250 (6,35)	.500 (12,70)

Step 2 • Select toolholder based on the application

NOTE: Toolholders are available as conventional square shank versions as well as Quick-Change versions. The insert size must match the gage insert of your toolholder selection.

Step 3 • Select chipbreaker style and feed rate

Chipbreaker and Feed Rates • in/rev (mm/rev)

workpiece material and application	P	M	K	N	S	H
first choice	**NG-K** .003–.011 (0,08–0,28)	**NG-K** .0025–.008 (0,07–0,20)	**NG** .004–.012 (0,01–0,30)	**NGP** .004–.012 (0,01–0,30)	**NG-K** .0025–.008 (0,07–0,20)	**NG-ST** CBN tipped .002–.004 (0,05–0,10)
alternate choice	**NG** .004–.012 (0,10–0,30)	**NGP** .004–.009 (0,10–0,23)	**NG-K** .003–.011 (0,08–0,28)	**NG-K** .003–.012 (0,08–0,30)	**NGP** .004–.008 (0,10–0,20)	–

_K chipbreaker inserts	flat-top inserts	positive rake inserts
		

Step 4 • Select grade and speed

Recommendations for Grade

Starting speed chart shown under “Application Guide”

machining condition	workpiece material P	M	K	N	S	H
high-performance for optimal conditions (clean cuts, good machine condition, higher speed capability)	**KCP10B** 120–450	**KCU10** 120–260	**KCK20B** 150–550	**KD1425** 150–1500	**KCU10** 15–170	**KB5625** 45–230
general purpose (first choice for general machining)	**KCP25B** 110–365	**KCU25** 120–245	**KCU10** 60–245	**KCU10** 120–975	**KCU10** 15–135	**KB5625** 80–150
unfavourable conditions (roughing, poor machine condition, interrupted cuts, low speed, I.D. grooving)	**KCU25** 85–270	**KCU25** 90–210	**KCU25** 50–195	**K313** 40–610	**KCU25** 8–110	**KB1630** 45–120

Step 5 • Select insert and holder from catalogue page

NOTE: The insert size must match the gage insert size of your toolholder selection.

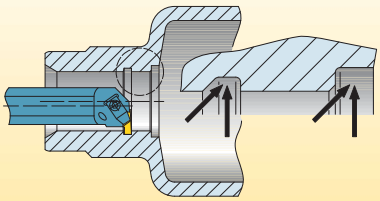
Example for Top Notch • Grooving

Material ..... low-alloyed steel
Groove depth ..... 2mm (.079")
Groove width ..... 3mm (.118")
Operation..... I.D. cut, limited speed capability, plunge groove and chamfer

Recommendation

Insert NG2M300RK
Grade KC5025
Insert width ..... 3mm (.118")
Insert size 2

Toolholder ..... A20QNNTOL2 (metric)
A12NEL2 (inch)
Gage insert N.2R



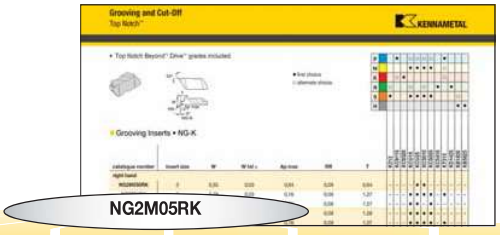
Speed: 120 m/min (400 SFM)
Feed: 0,15 mm/rev (.006 in/rev)

Congratulations!

You have successfully maximised your productivity by selecting the best Top Notch insert geometry, grade, and cutting specifications for your application!

How Do Catalogue Numbers Work?

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.

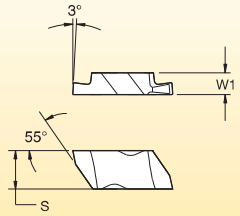


N	G		2	M	05	R		K	
Type of Insert	Insert Style	Additional Information	Insert Size	Size Identification	Groove Size**	Hand of Insert	Cutting Depth	Chipbreaker Design	Definition of Inserts
N = Top Notch	**B** = Blank (for special forms) **F** = Face grooving **G** = Grooving **P** = Back **R** = Full radius **U** = Undercutting (or relieving) **V** = Poly-Vee	**D** = Deep grooving **P** = Positive **C** = Groove and chamfer		**M** = Metric insert groove width **C** = Circlip groove insert width is nominal circlip size ☐ = Blank indicates inch width insert	Position pertains to groove width for F-, G-, and U-style inserts, radii for R-style grooving inserts, and circlip size for groove and chamfer inserts. Dimension in 0,01mm. **Metric example:** 3,25mm width groove or radius equals "325" catalogue position number. **Width Tolerance:** ±0,025mm unless otherwise specified.	**L** = Left hand **R** = Right hand	Shown for groove and chamfer inserts in 0,01mm increments.	**E** = Hone only **K** = Standard chip control **S** = T Land and Hone **ST** = STD Tip (PcBN)	Groove size "J" or "L" for Poly-Vee inserts "I" indicates internal face grooving

insert number	W1 mm
1	2,54
2	3,81
3	4,95
4	6,98
5	9,65
6	9,73

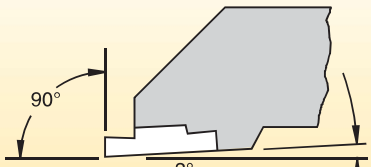
*Kennametal proprietary identification system.
**Omit position for Top Notch NB-style blanks.

Top Notch Threading and Grooving Insert Dimensions



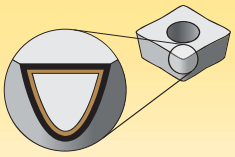
insert size	S mm	W1 mm
1	2,54	2,54
2	5,56	3,81
3	8,74	4,95
4	11,51	6,48
5	17,48	9,65
6	11,51	9,73
8	7,93	11,13

Top Notch Holder Design



NOTE: Holders are designed to locate insert inclined to 3° to provide back clearance down open side.

Kennametal and Top Notch tooling technology combine to bring you the very best threading and grooving system available in the world today.



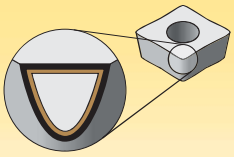
Coatings provide high-speed capability and are engineered for finishing to light roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grades

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								
		beyond								
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								
		beyond								
KCP10B	**Composition:** A specially engineered cobalt-enriched carbide grade with thick MTCVD TiCN-Al_2O_3-TiOCN coating for maximum wear resistance. **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								
		beyond DRIVE								
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								
		beyond DRIVE								
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								
		beyond DRIVE								



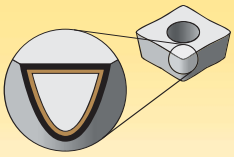
Coatings provide high-speed capability and are engineered for finishing to light roughing.

P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grades

Coating	Grade Description	05	10	15	20	25	30	35	40	45
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.									
KC5010	**Composition:** An advanced PVD AlTiN coating over a very deformation-resistant unalloyed carbide substrate. **Application:** The KC5010™ grade is ideal for finishing to general machining of most workpiece materials at higher speeds. Excellent for machining most steels, stainless steels, cast irons, non-ferrous materials, and high-temp alloys under stable conditions. It also performs well machining hardened and short chipping materials.									
KC5025	**Composition:** An advanced PVD-AlTiN-coated grade with a tough, ultra-fine-grain unalloyed substrate. **Application:** For general-purpose machining of most steels, stainless steels, high-temp alloys, titanium, irons, and non-ferrous materials. Speeds may vary from low to medium and will handle interruptions and high feed rates.									



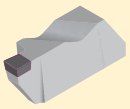
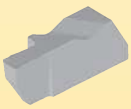
Coatings provide high-speed capability and are engineered for finishing to light roughing.

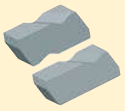
P	Steel
M	Stainless Steel
K	Cast Iron
N	Non-Ferrous
S	High-Temp Alloys
H	Hardened Materials

wear resistance ⟷ toughness

Grades

Coating	Grade Description	05	10	15	20	25	30	35	40	45
KT315 –	**Composition:** A multilayer PVD TiN/TiCN/TiN-coated cermet turning grade. **Application:** Ideal for high-speed finishing to medium machining of most carbon and alloy steels and stainless steels. Performs very well in cast and ductile iron applications, too. Provides long and consistent tool life and will produce excellent workpiece finishes.	P	P							
		K	K							
KB1630 –	**Composition:** An uncoated high content PcBN grade. PcBN tips are brazed onto a carbide insert. **Application:** Designed for roughing to finishing in interrupted cuts on hardened steels (>45 HRC). It can also be applied on grey cast iron, chilled irons, high chrome alloyed steels, high temp alloys and sintered powder metals. The tipped PcBN inserts are available in a wide range of insert styles, including Top Notch™ and Screw-On geometries.									
		K	K	K						
		S		S	S					
		H				H	H	H		
KB5625 –	**Composition:** A medium content PcBN with a PVD-TiN/AlTiN coating for added wear resistance. **Application:** Designed for roughing to finishing of hardened steels (>45 HRC). Use on bearing steels, hot and cold work steels, die steels, case hardened steels, carburised and nitrided irons, and some hard coatings.									
		H			H	H	H			
KD1425 –	**Composition:** A multimodal PCD grade with a range of grain sizes brazed onto a carbide substrate. **Application:** Engineered for extreme abrasion resistance, combined with good edge strength for demanding applications. An ideal choice for high-silicon aluminium alloys, bi-metallic (AL/GCI) materials, MMC, carbon-fibre reinforced plastics, and other abrasive non-metallic materials.									
		N	N	N	N					

insert style	application	rake angle	page(s)
NG 	• General-purpose grooving. • O-ring grooving. • Circlip grooving.	neutral	C154
NG-K 	• Chip control geometry. • General-purpose grooving. • O-ring grooving. • Circlip grooving. • Light turning.	10° positive	C146
NG-ST 	• Hard turning.	neutral	C163
NGC-K 	• Combined groove and chamfered edge break in one positive plunge with chip control. • Designed for DIN 471/472 standard circlup grooves.	10° positive	C152
NGD 	• Deep grooving.	neutral	C157
NGD-K 	• Chip control geometry. • Deep grooving. • Light turning.	10° positive	C149
NGP 	• General-purpose grooving. • O-ring grooving. • Circlip grooving.	5° positive	C152
NF 	• Face grooving. • Additional side clearance.	neutral	C161
NF-K 	• Face grooving with chip control. • Additional side clearance.	10° positive	C159
NFD-K 	• Deep face grooving with chip control. • Additional side clearance.	10° positive	C160

insert style	application	rake angle	page(s)
NFD-KI 	• Internal deep face grooving with chip control. • For use in boring bars for internal face grooves.	10° positive	C160
NP-K NPD-K 	• Turning. • Back turning positive. • Profiling with chip control.	10° positive	C151
NR 	• Full radius grooving. • Turning and profiling.	neutral	C158
NR-K 	• Chip control geometry. • Full radius grooving, turning, and profiling.	10° positive	C150
NRD 	• Deep grooving. • Full radius end-form.	neutral	C159
NRP 	• Full radius grooving. • Light-turning profiling.	5° positive	C153
NU 	• Undercutting.	neutral	C161
NV 	• Poly-Vee grooving.	neutral	C162
NB/NBD 	• Blanks. • Blanks for deep grooving. • Available in uncoated grades only.	–	C162–C163

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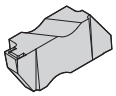
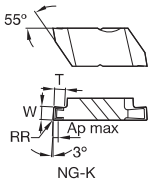




● first choice
○ alternate choice

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

Groove and Turn • Chip Control

catalogue number	insert size	W	W tol ±	Ap max	RR	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																		
NG2M050RK	2	0,50	0,03	0,64	0,09	0,64	●	●	–	●	–	–	●	–	–	–	–	–
NG2031RK	2	0,79	0,03	0,76	0,09	1,27	●	●	●	●	–	–	●	●	●	–	–	–
NG2M080RK	2	0,80	0,03	0,76	0,09	1,27	●	●	●	●	–	–	–	●	–	–	–	–
NG2M100RK	2	1,00	0,03	0,76	0,09	1,28	●	●	●	●	–	–	●	●	–	–	–	–
NG2047RK	2	1,19	0,03	0,76	0,09	1,27	●	●	●	●	–	–	●	●	●	–	–	–
NG2M120RK	2	1,20	0,03	0,76	0,09	1,27	●	●	●	●	–	–	●	●	–	–	–	–
NG2M140RK	2	1,40	0,03	0,76	0,09	1,28	●	●	●	●	–	–	●	●	–	–	–	–
NG2M150RK	2	1,50	0,03	1,09	0,19	2,79	–	●	–	●	–	–	–	●	–	–	–	–
NG2062RK	2	1,56	0,03	1,09	0,19	2,79	●	●	●	●	–	–	●	●	●	–	–	–
NG2M170RK	2	1,70	0,03	1,09	0,19	2,79	●	●	●	●	–	–	●	●	–	–	–	–
NG2M175RK	2	1,75	0,03	1,09	0,19	2,81	–	●	–	●	–	–	–	–	–	–	–	–
NG2M195RK	2	1,95	0,03	1,09	0,19	2,79	●	●	●	●	–	–	●	●	–	–	–	–
NG2M200RK	2	2,00	0,03	1,09	0,19	2,79	●	●	●	●	–	–	●	●	●	–	–	–
NG2M220RK	2	2,20	0,03	1,09	0,19	2,79	–	●	–	●	–	–	–	●	–	–	–	–
NG2M225RK	2	2,25	0,03	1,09	0,19	2,81	●	●	●	●	–	–	–	●	–	–	–	–
NG2094RK	2	2,39	0,03	1,09	0,19	2,79	●	●	●	●	–	–	●	●	●	–	–	–
NG2M250RK	2	2,50	0,03	1,09	0,19	2,79	–	●	–	●	–	–	–	●	–	–	–	–
NG2M275RK	2	2,75	0,03	1,09	0,19	2,79	●	●	●	●	–	–	–	●	–	–	–	–
NG2M300RK	2	3,00	0,03	1,09	0,19	2,79	●	●	●	●	–	–	●	●	–	–	–	–
NG2125RK	2	3,18	0,03	1,09	0,19	2,79	●	●	●	●	–	–	●	●	●	–	–	–
NG2M320RK	2	3,20	0,03	1,09	0,19	2,79	–	–	–	●	–	–	–	–	–	–	–	–
NG2M325RK	2	3,25	0,03	1,09	0,19	2,79	–	●	–	●	–	–	–	●	–	–	–	–
NG3M100RK	3	1,00	0,03	0,76	0,20	1,91	–	●	–	●	–	–	–	●	–	–	–	–
NG3047RK	3	1,19	0,03	0,76	0,19	1,91	●	●	●	●	–	–	●	●	–	–	–	–
NG3M120RK	3	1,20	0,03	0,76	0,19	1,91	●	●	●	●	–	–	–	●	–	–	–	–
NG3M150RK	3	1,50	0,03	1,02	0,19	2,39	–	●	–	●	–	–	–	●	–	–	–	–
NG3062RK	3	1,58	0,03	1,02	0,19	2,39	●	●	●	●	–	–	●	●	●	–	–	–
NG3M175RK	3	1,75	0,03	1,02	0,19	2,39	–	●	–	●	–	–	–	●	–	–	–	–
NG3072RK	3	1,83	0,03	1,02	0,19	2,39	●	●	●	●	–	–	●	●	–	–	–	–
NG3078RK	3	1,98	0,03	1,02	0,19	2,39	●	●	●	●	–	–	●	●	–	–	–	–
NG3M200RK	3	2,00	0,03	1,02	0,19	2,39	–	●	–	●	–	–	–	●	●	–	–	–
NG3M220RK	3	2,20	0,03	1,02	0,19	2,39	–	●	–	●	–	–	–	●	–	–	–	–
NG3M225RK	3	2,24	0,03	1,02	0,19	2,39	●	●	●	●	–	–	●	●	–	–	–	–
NG3094RK	3	2,39	0,03	1,02	0,19	3,81	●	●	●	–	–	–	●	●	●	–	–	–
NG3M250RK	3	2,50	0,03	1,02	0,19	3,81	–	●	–	●	–	–	–	●	–	–	–	–

(continued)

(Groove and Turn • Chip Control — continued)

● first choice
○ alternate choice

		KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
P		●	●	●	●	○		○	○	●			
M		●	●				○	●	○				
K		○	○	○	○	●	○	○	○	○	○		
N		●	○				○	●	○				●
S		●	●				●	○	○		○		
H		○						○			●	●	

catalogue number	insert size	W	W tol ±	Ap max	RR	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
NG3M275RK	3	2,75	0,03	1,02	0,19	3,81	●	●	●	●	–	–	●	●	–	–	–	–
NG3M300RK	3	3,00	0,03	1,02	0,19	3,81	●	●	●	●	–	–	●	●	–	–	–	–
NG3125RK	3	3,18	0,03	1,02	0,19	3,81	●	●	●	●	–	–	●	●	●	–	–	–
NG3M320RK	3	3,20	0,03	1,02	0,19	3,81	–	●	–	●	–	–	–	●	–	–	–	–
NG3M325RK	3	3,25	0,03	1,02	0,19	3,81	–	●	–	●	–	–	–	●	–	–	–	–
NG3M350RK	3	3,50	0,03	2,92	0,32	3,81	–	●	–	●	–	–	–	●	–	–	–	–
NG3156RK	3	3,96	0,03	2,92	0,19	3,81	●	●	●	●	–	–	●	●	–	–	–	–
NG3M400RK	3	4,00	0,03	2,92	0,32	3,81	●	●	●	●	–	–	●	●	–	–	–	–
NG3M425RK	3	4,25	0,03	2,92	0,32	3,81	●	●	●	●	–	–	–	●	–	–	–	–
NG3M450RK	3	4,50	0,03	2,92	0,32	3,81	–	●	–	●	–	–	–	–	–	–	–	–
NG3189RK	3	4,80	0,03	2,92	0,57	3,81	●	●	●	●	–	–	●	●	–	–	–	–
NG4M300RK	4	3,00	0,03	1,02	0,19	3,81	–	●	–	●	–	–	–	–	–	–	–	–
NG4125RK	4	3,18	0,03	1,06	0,19	3,81	●	●	●	●	–	–	●	–	–	–	–	–
NG4M350RK	4	3,50	0,03	2,92	0,57	6,35	–	●	–	●	–	–	–	–	–	–	–	–
NG4M400RK	4	4,00	0,03	2,92	0,57	6,35	–	●	●	●	–	–	●	●	–	–	–	–
NG4M450RK	4	4,50	0,03	2,92	0,57	6,35	–	●	–	●	–	–	–	–	–	–	–	–
NG4189RK	4	4,80	0,03	2,92	0,57	6,35	●	●	●	●	–	–	●	●	–	–	–	–
NG4M500RK	4	5,00	0,03	2,92	0,32	6,35	●	●	●	●	–	–	–	–	–	–	–	–
NG4M550RK	4	5,50	0,03	3,81	0,57	6,35	–	–	–	●	–	–	–	–	–	–	–	–
NG4M600RK	4	6,00	0,03	3,81	0,57	6,35	–	●	–	●	–	–	–	–	–	–	–	–
NG4250RK	4	6,35	0,03	3,81	0,57	6,35	–	●	●	●	–	–	●	●	–	–	–	–
left hand																		
NG2M050LK	2	0,50	0,03	0,64	0,09	0,64	●	●	–	●	–	–	●	–	–	–	–	–
NG2031LK	2	0,79	0,03	0,76	0,09	1,27	●	●	●	●	–	–	●	●	–	–	–	–
NG2M080LK	2	0,80	0,03	0,76	0,09	1,27	●	●	●	●	–	–	–	●	–	–	–	–
NG2M100LK	2	1,00	0,03	0,76	0,08	1,27	●	●	●	●	–	–	●	●	–	–	–	–
NG2047LK	2	1,19	0,03	0,76	0,09	1,27	●	●	●	●	–	–	●	●	–	–	–	–
NG2M120LK	2	1,20	0,03	0,76	0,09	1,27	●	●	●	●	–	–	●	●	–	–	–	–
NG2M140LK	2	1,40	0,03	0,76	0,09	1,27	●	●	●	●	–	–	–	●	–	–	–	–
NG2M150LK	2	1,50	0,03	1,09	0,19	2,79	–	●	–	●	–	–	–	●	–	–	–	–
NG2062LK	2	1,58	0,03	1,09	0,19	2,79	●	●	●	●	–	–	●	●	–	–	–	–
NG2M170LK	2	1,70	0,03	1,09	0,19	2,79	–	●	●	●	–	–	●	●	–	–	–	–
NG2M175LK	2	1,75	0,03	1,09	0,19	2,79	–	●	–	●	–	–	–	●	–	–	–	–
NG2M195LK	2	1,95	0,03	1,09	0,19	2,79	–	●	●	●	–	–	●	–	–	–	–	–
NG2M200LK	2	2,00	0,03	1,09	0,19	2,79	●	●	●	●	–	–	●	●	–	–	–	–
NG2M220LK	2	2,20	0,03	1,09	0,19	2,79	–	●	–	●	–	–	–	–	–	–	–	–
NG2M225LK	2	2,25	0,03	1,09	0,19	2,79	●	●	●	●	–	–	–	●	–	–	–	–
NG2094LK	2	2,39	0,03	1,09	0,19	2,79	●	●	●	●	–	–	●	●	–	–	–	–
NG2M250LK	2	2,50	0,03	1,09	0,19	2,79	–	●	–	●	–	–	–	●	–	–	–	–
NG2M275LK	2	2,75	0,03	1,09	0,19	2,79	●	●	–	●	–	–	●	–	–	–	–	–

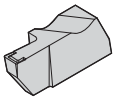
(continued)

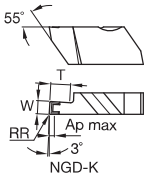
(Groove and Turn • Chip Control — continued)

● first choice
○ alternate choice

		KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
P		●	●	●	●	○		○	○	●			
M		●	●				○	●	○				
K		○	○	○	○	●	○	○	○	○	○		
N		●	○				○	●	○				●
S		●	●				●	○	○		○		
H		○						○			●	●	

catalogue number	insert size	W	W tol ±	Ap max	RR	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
NG2M300LK	2	3,00	0,03	1,09	0,19	2,79	●	●	●	●	–	–	●	●	–	–	–	–
NG2125LK	2	3,18	0,03	1,09	0,19	2,79	●	●	●	●	–	–	●	●	–	–	–	–
NG2M325LK	2	3,25	0,03	1,09	0,19	2,79	–	●	–	●	–	–	–	–	–	–	–	–
NG3M100LK	3	1,00	0,03	0,76	0,20	1,91	–	●	–	●	–	–	–	●	–	–	–	–
NG3047LK	3	1,19	0,03	0,76	0,19	1,90	●	●	●	●	–	–	●	●	–	–	–	–
NG3M120LK	3	1,20	0,03	0,76	0,19	1,91	●	●	●	●	–	–	–	●	–	–	–	–
NG3M150LK	3	1,50	0,03	1,02	0,19	2,39	–	●	–	●	–	–	–	●	–	–	–	–
NG3062LK	3	1,58	0,03	1,02	0,19	2,39	●	●	–	–	–	–	●	●	–	–	–	–
NG3M175LK	3	1,75	0,03	1,02	0,19	2,39	–	●	–	●	–	–	–	●	–	–	–	–
NG3072LK	3	1,83	0,03	1,02	0,19	2,39	●	●	●	●	–	–	●	●	–	–	–	–
NG3078LK	3	1,98	0,03	1,02	0,19	2,39	●	●	●	●	–	–	●	●	–	–	–	–
NG3M200LK	3	2,00	0,03	1,02	0,19	2,39	–	●	–	●	–	–	–	●	–	–	–	–
NG3M220LK	3	2,20	0,03	1,02	0,19	2,39	–	●	–	●	–	–	–	●	–	–	–	–
NG3M225LK	3	2,25	0,03	1,02	0,19	2,39	●	●	●	●	–	–	–	–	–	–	–	–
NG3094LK	3	2,39	0,03	1,02	0,19	3,81	●	●	●	●	–	–	●	●	●	–	–	–
NG3M250LK	3	2,50	0,03	1,02	0,19	3,81	–	●	–	●	–	–	–	●	–	–	–	–
NG3M275LK	3	2,75	0,03	1,02	0,19	3,81	●	●	●	●	–	–	–	●	–	–	–	–
NG3M300LK	3	3,00	0,03	1,02	0,19	3,81	●	●	●	●	–	–	●	●	–	–	–	–
NG3125LK	3	3,18	0,03	1,02	0,19	3,81	●	●	●	●	–	–	●	●	–	–	–	–
NG3M320LK	3	3,20	0,03	1,02	0,19	3,81	–	●	–	●	–	–	–	●	–	–	–	–
NG3M325LK	3	3,25	0,03	1,02	0,19	3,81	–	●	–	●	–	–	–	●	–	–	–	–
NG3M350LK	3	3,50	0,03	2,92	0,32	3,81	–	●	–	●	–	–	–	●	–	–	–	–
NG3156LK	3	3,96	0,03	2,92	0,19	3,81	●	●	●	●	–	–	●	●	–	–	–	–
NG3M400LK	3	4,00	0,03	2,92	0,32	3,81	●	●	●	●	–	–	–	●	–	–	–	–
NG3M425LK	3	4,25	0,03	2,92	0,32	3,81	●	●	●	●	–	–	–	–	–	–	–	–
NG3M450LK	3	4,50	0,03	2,92	0,32	3,81	–	●	–	●	–	–	–	–	–	–	–	–
NG3189LK	3	4,80	0,03	2,92	0,57	3,81	●	●	●	●	–	–	●	●	–	–	–	–
NG4M300LK	4	3,00	0,03	1,02	0,19	3,81	–	●	–	●	–	–	–	–	–	–	–	–
NG4125LK	4	3,18	0,03	1,06	0,19	3,81	●	●	●	●	–	–	–	–	–	–	–	–
NG4M320LK	4	3,20	0,03	1,02	0,19	3,81	–	–	–	●	–	–	–	–	–	–	–	–
NG4M350LK	4	3,50	0,03	2,92	0,57	6,35	–	●	–	●	–	–	–	–	–	–	–	–
NG4M400LK	4	4,00	0,03	2,92	0,57	6,35	●	●	●	●	–	–	–	–	–	–	–	–
NG4M450LK	4	4,50	0,03	2,92	0,57	6,35	–	●	–	●	–	–	–	●	–	–	–	–
NG4189LK	4	4,80	0,03	2,92	0,57	6,35	●	●	●	●	–	–	●	●	–	–	–	–
NG4M500LK	4	5,00	0,03	2,92	0,32	6,35	●	●	●	●	–	–	●	–	–	–	–	–
NG4M550LK	4	5,50	0,03	3,81	0,57	6,35	–	–	–	●	–	–	–	–	–	–	–	–
NG4M600LK	4	6,00	0,03	3,81	0,57	6,35	–	●	–	●	–	–	–	–	–	–	–	–
NG4250LK	4	6,35	0,03	3,81	0,57	6,35	●	●	●	●	–	–	●	●	–	–	–	–





● first choice
○ alternate choice

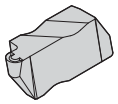
		KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
P		●	●	●	●	○		○	○	●			
M		●	●				○	●	○				
K		○	○	○	○	●	○	○	○	○	○		
N		●	○				○	●	○				●
S		●	●				●	○	○		○		
H		○						○			●	●	

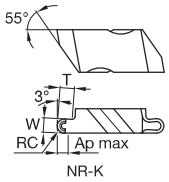
Groove and Turn • Deep Grooving • Chip Control

catalogue number	insert size	W	W tol ±	Ap max	RR	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																		
NGD2M150RK	2	1,50	0,03	1,09	0,19	4,06	●	●	–	–	–	–	●	●	–	–	–	–
NGD2M200RK	2	2,00	0,03	1,09	0,19	5,08	●	●	–	–	–	–	●	●	–	–	–	–
NGD2M250RK	2	2,50	0,03	1,09	0,19	5,08	●	●	–	–	–	–	–	●	–	–	–	–
NGD3062RK	3	1,58	0,03	1,02	0,19	3,18	●	●	–	–	–	●	●	●	–	–	–	–
NGD3M200RK	3	2,00	0,03	1,02	0,19	4,06	●	●	–	–	–	–	●	●	–	–	–	–
NGD3094RK	3	2,39	0,03	1,02	0,19	6,35	●	●	–	–	–	●	●	●	–	–	–	–
NGD3M250RK	3	2,50	0,03	1,02	0,19	6,35	–	●	–	–	–	–	●	●	–	–	–	–
NGD3M300RK	3	3,00	0,03	1,02	0,19	6,35	●	●	–	–	–	–	●	●	–	–	–	–
NGD3125RK	3	3,18	0,03	1,02	0,19	6,35	●	●	–	–	–	●	●	●	–	–	–	–
NGD3M400RK	3	4,00	0,03	2,92	0,32	6,35	●	●	–	–	–	–	●	●	–	–	–	–
NGD3189RK	3	4,80	0,03	2,92	0,58	6,35	●	●	–	–	–	–	●	●	–	–	–	–
NGD4125RK	4	3,18	0,03	1,02	0,19	6,35	●	●	–	–	–	–	●	●	–	–	–	–
NGD4189RK	4	4,80	0,03	2,92	0,57	9,53	●	●	–	–	–	–	●	●	–	–	–	–
NGD4M550RK	4	5,50	0,03	3,81	0,57	12,70	–	●	–	–	–	–	–	–	–	–	–	–
NGD4250RK	4	6,35	0,03	3,81	0,57	12,70	●	●	–	–	–	–	●	●	–	–	–	–
left hand																		
NGD2M150LK	2	1,50	0,03	1,09	0,19	4,06	●	●	–	–	–	–	–	●	–	–	–	–
NGD2M200LK	2	2,00	0,03	1,09	0,19	5,08	●	●	–	–	–	–	●	●	–	–	–	–
NGD2M250LK	2	2,50	0,03	1,09	0,19	5,08	●	●	–	–	–	–	●	●	–	–	–	–
NGD3062LK	3	1,57	0,03	1,02	0,19	3,18	●	●	–	–	–	–	●	●	–	–	–	–
NGD3M200LK	3	2,00	0,03	1,02	0,19	4,06	–	●	–	–	–	–	–	●	–	–	–	–
NGD3094LK	3	2,39	0,03	1,02	0,19	6,34	●	●	–	–	–	●	●	●	–	–	–	–
NGD3M250LK	3	2,50	0,03	1,02	0,19	6,35	–	●	–	–	–	–	–	●	–	–	–	–
NGD3M300LK	3	3,00	0,03	1,02	0,19	6,35	●	●	–	–	–	–	●	●	–	–	–	–
NGD3125LK	3	3,18	0,03	1,02	0,19	6,35	●	●	–	–	–	●	●	●	–	–	–	–
NGD3M350LK	3	3,50	0,03	2,92	0,32	6,35	–	●	–	–	–	–	–	●	–	–	–	–
NGD3M400LK	3	4,00	0,03	2,92	0,32	6,35	●	●	–	–	–	–	–	●	–	–	–	–
NGD3189LK	3	4,80	0,03	2,92	0,57	6,35	●	●	–	–	–	–	●	●	–	–	–	–
NGD4125LK	4	3,18	0,03	1,02	0,19	6,35	●	●	–	–	–	–	●	●	–	–	–	–
NGD4M400LK	4	4,00	0,03	2,92	0,57	9,53	–	●	–	–	–	–	–	–	–	–	–	–
NGD4189LK	4	4,80	0,03	2,92	0,57	9,53	●	●	–	–	–	–	●	●	–	–	–	–
NGD4M500LK	4	5,00	0,03	2,92	0,57	12,70	–	●	–	–	–	–	–	–	–	–	–	–
NGD4250LK	4	6,35	0,03	3,80	0,57	12,70	●	●	–	–	–	–	–	●	–	–	–	–

NOTE: Inserts have one cutting edge. Right-hand insert shown; left-hand insert is mirror image.
The following inserts are double ended: NGD3062RK, NGD4125RK, NGD3062LK, and NGD4125LK.

- Full radius inserts with chip control.





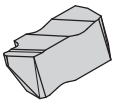
● first choice
○ alternate choice

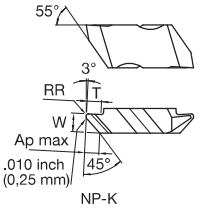
		KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
P		●	●	●	●	○		○	○	●			
M		●	●				○	●	○				
K		○	○	○	○	●	○	○	○	○	○		
N		●	○				○	●	○				●
S		●	●				●	○	○		○		
H		○						○			●	●	

Groove and Turn • Full Radius • Chip Control

catalogue number	insert size	W	Ap max	RC	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																	
NR3031RK	3	1,57	1,97	0,79	2,39	●	●	–	–	–	–	●	●	–	–	–	–
NR3047RK	3	2,39	1,91	1,19	3,81	●	●	–	–	–	–	●	●	–	–	–	–
NR3062RK	3	3,18	2,92	1,59	3,81	●	●	–	–	–	–	●	●	–	–	–	–
NR3078RK	3	3,97	2,54	1,98	3,81	●	●	–	–	–	–	●	–	–	–	–	–
NR4062RK	4	3,18	2,92	1,59	3,81	●	●	–	–	–	–	●	–	–	–	–	–
NR4094RK	4	4,79	3,81	2,39	6,35	●	●	–	–	–	–	●	–	–	–	–	–
NR4125RK	4	6,35	3,81	3,18	6,35	●	●	–	–	–	–	●	●	–	–	–	–
left hand																	
NR3031LK	3	1,58	1,98	0,79	2,39	●	●	–	–	–	–	●	●	–	–	–	–
NR3047LK	3	2,39	1,91	1,19	3,81	●	●	–	–	–	–	●	●	–	–	–	–
NR3062LK	3	3,18	2,92	1,59	3,81	●	●	–	–	–	–	●	●	–	–	–	–
NR3078LK	3	3,96	2,54	1,98	3,81	–	●	–	–	–	–	●	●	–	–	–	–
NR4062LK	4	3,18	2,92	1,59	3,81	●	●	–	–	–	–	●	–	–	–	–	–
NR4094LK	4	4,79	3,81	2,39	6,35	●	●	–	–	–	–	●	●	–	–	–	–
NR4125LK	4	6,36	3,81	3,18	6,35	●	●	–	–	–	–	●	–	–	–	–	–

NOTE: Right-hand insert shown; left-hand insert is mirror image.





● first choice
○ alternate choice

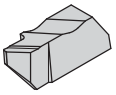
		KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
P		●	●	●	●	○		○	○	●			
M		●	●				○	●	○				
K		○	○	○	○	●	○	○	○	○	○		
N		●	○				○	●	○				●
S		●	●				●	○	○		○		
H		○						○			●	●	

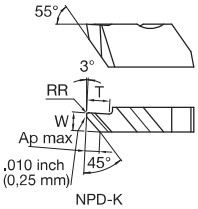
Groove and Profile • Chip Control

catalogue number	insert size	W	W tol ±	Ap max	RR	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																		
NP2002RK	2	3,82	0,03	—	0,25	2,81	●	●	–	–	–	–	●	●	–	–	–	–
NP2012RK	2	3,82	0,03	—	0,25	2,81	–	●	–	–	–	–	–	–	–	–	–	–
NP3002RK	3	4,95	0,03	—	0,25	5,08	●	●	–	–	–	–	●	–	–	–	–	–
NP3012RK	3	4,95	0,03	—	0,25	5,08	–	●	–	–	–	–	–	●	–	–	–	–

NOTE: Right-hand insert shown; left-hand insert is mirror image.
Tolerance on W ± 0,13mm (± .005").

• Profiling deep positive inserts.

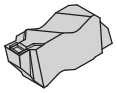


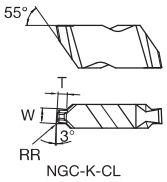


Groove and Profile • Deep Grooving • Chip Control

catalogue number	insert size	W	W tol ±	Ap max	RR	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																		
NPD2002RK	2	3,68	0,13	—	0,09	5,08	–	●	–	–	–	–	●	–	–	–	–	–
NPD3002RK	3	4,83	0,13	—	0,09	6,35	–	●	–	–	–	–	–	–	–	–	–	–
NPD3012RK	3	4,95	0,03	—	0,25	6,35	●	●	–	–	–	–	●	–	–	–	–	–

NOTE: Right-hand insert shown; left-hand insert is mirror image.
Tolerance on W ± 0,13mm (± .005").





NGC-K-CL

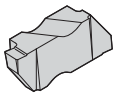
● first choice
○ alternate choice

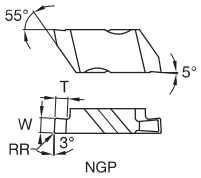
		KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
P		●	●	●	●	○		○	○	●			
M		●	●				○	●	○				
K		○	○	○	○	●	○	○	○	○	○		
N		●	○				○	●	○				●
S		●	●				●	○	○		○		
H		○						○			●	●	

Groove and Chamfer • Chip Control

catalogue number	seat size	circlip size	W	RR	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																	
NGC2C130R055K	2	1,30	1,39	0,08	0,6	–	●	–	–	–	–	–	–	–	–	–	–
NGC2C215R150K	2	2,15	2,24	0,08	1,5	–	●	–	–	–	–	–	–	–	–	–	–
left hand																	
NGC2C130L055K	2	1,30	1,39	0,08	0,6	–	●	–	–	–	–	–	–	–	–	–	–
NGC2C185L125K	2	1,85	1,94	0,08	1,3	–	●	–	–	–	–	–	–	–	–	–	–
NGC2C215L150K	2	2,15	2,24	0,08	1,5	–	●	–	–	–	–	–	–	–	–	–	–

NOTE: Groove and chamfer inserts for circlip grooves to DIN 471/472 specification.
Right-hand insert shown; left-hand insert is mirror image.





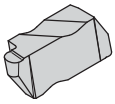
NGP

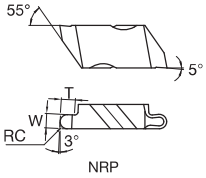
Groove and Turn • Positive

catalogue number	insert size	W	W tol ±	Ap max	RR	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																		
NGP2031R	2	0,79	0,03	—	0,09	1,27	●	–	–	–	–	–	●	–	–	–	–	–
NGP2062R	2	1,58	0,03	—	0,19	2,79	●	–	–	–	–	–	●	–	–	–	–	–
NGP2125R	2	3,18	0,03	—	0,19	2,79	●	–	–	–	–	–	–	–	–	–	–	–
NGP3088R	3	2,24	0,03	—	0,19	2,39	●	–	–	–	–	–	–	–	–	–	–	●
NGP3125R	3	3,18	0,03	—	0,19	3,81	●	–	–	–	–	–	●	–	–	–	–	●
NGP3156R	3	3,96	0,03	—	0,19	3,81	●	–	–	–	–	–	–	–	–	–	–	–
NGP4189R	4	4,80	0,03	—	0,57	6,35	●	–	–	–	–	–	–	–	–	–	–	–
NGP4250R	4	6,35	0,03	—	0,57	6,35	–	–	–	–	–	–	●	–	–	–	–	–
left hand																		
NGP2031L	2	0,79	0,03	—	0,09	1,27	●	–	–	–	–	–	–	–	–	–	–	–
NGP2062L	2	1,57	0,03	—	0,19	2,79	●	–	–	–	–	–	–	–	–	–	–	–
NGP2125L	2	3,18	0,03	—	0,19	2,79	●	–	–	–	–	–	–	–	–	–	–	–
NGP3088L	3	2,24	0,03	—	0,19	2,39	●	–	–	–	–	–	–	–	–	–	–	–
NGP3125L	3	3,18	0,03	—	0,19	3,81	–	–	–	–	–	–	●	–	–	–	–	–
NGP4250L	4	6,35	0,03	—	0,57	6,35	●	–	–	–	–	–	–	–	–	–	–	–

NOTE: All KD and KB grades are single-ended tipped inserts.
Right-hand insert shown; left-hand insert is mirror image.

- Full radius positive rake inserts.





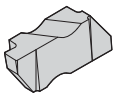
● first choice
○ alternate choice

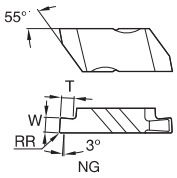
		KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
P		●	●	●	●	○		○	○	●			
M		●	●				○	●	○				
K		○	○	○	○	●	○	○	○	○	○		
N		●	○				○	●	○				●
S		●	●				●	○	○		○		
H		○						○			●	●	

Groove and Turn • Full Radius • Positive

catalogue number	insert size	W	Ap max	RC	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																	
NRP3031R	3	1,58	—	0,79	2,39	●	–	–	–	–	–	●	–	–	–	–	–
NRP3047R	3	2,39	—	1,19	3,81	●	–	–	–	–	●	●	–	–	–	–	–
NRP3062R	3	3,18	—	1,59	3,81	●	–	–	–	–	–	●	–	–	–	–	–
NRP3094R	3	4,78	—	2,39	3,81	●	–	–	–	–	–	●	–	–	–	–	–
left hand																	
NRP3031L	3	1,58	—	0,79	2,39	●	–	–	–	–	–	●	–	–	–	–	–
NRP3047L	3	2,39	—	1,19	3,81	●	–	–	–	–	–	●	–	–	–	–	–
NRP3062L	3	3,18	—	1,59	3,81	–	–	–	–	–	–	●	–	–	–	–	–
NRP3094L	3	4,78	—	2,39	3,81	●	–	–	–	–	–	●	–	–	–	–	–

NOTE: Right-hand insert shown; left-hand insert is mirror image.





● first choice
○ alternate choice

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

Groove and Turn • Flat Top

catalogue number	insert size	W	W tol ±	Ap max	RR	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																		
NG2031R	2	0,79	0,03	–	0,09	1,27	●	●	–	–	●	●	●	●	–	–	–	–
NG2041R	2	1,04	0,03	–	0,09	1,27	●	●	–	–	●	●	●	●	–	–	–	–
NG2047R	2	1,19	0,03	–	0,09	1,27	●	●	–	–	●	–	●	–	–	–	–	–
NG2058R	2	1,47	0,03	–	0,19	1,27	–	●	–	–	–	–	–	●	–	–	–	–
NG2062R	2	1,58	0,03	–	0,19	2,79	●	●	–	–	●	●	●	●	–	–	–	–
NG2094R	2	2,39	0,03	–	0,19	2,79	●	●	–	–	●	●	●	–	–	–	–	–
NG2125R	2	3,18	0,03	–	0,19	2,79	●	●	–	–	–	–	●	–	–	–	–	–
NG3047R	3	1,19	0,03	–	0,19	1,91	●	●	–	–	●	●	●	●	–	–	–	–
NG3062R	3	1,58	0,03	–	0,19	2,39	●	●	–	–	●	●	●	●	–	–	–	–
NG3072R	3	1,83	0,03	–	0,19	2,39	●	–	–	–	●	–	●	–	–	–	–	–
NG3078R	3	1,98	0,03	–	0,19	2,39	●	–	–	–	●	–	●	–	–	–	–	–
NG3088R	3	2,24	0,03	–	0,19	2,39	●	●	–	–	●	–	●	–	–	–	–	–
NG3094R	3	2,39	0,03	–	0,19	3,81	●	●	–	–	●	●	●	●	–	–	–	–
NG3097R	3	2,46	0,03	–	0,32	3,81	●	●	–	–	●	–	●	–	–	–	–	–
NG3105R	3	2,67	0,03	–	0,19	3,81	●	●	–	–	●	–	●	●	–	–	–	–
NG3110R	3	2,79	0,03	–	0,32	3,81	–	●	–	–	–	–	–	●	–	–	–	–
NG3122R	3	3,10	0,03	–	0,19	3,81	–	●	–	–	–	–	–	–	–	–	–	–
NG3125R	3	3,18	0,03	–	0,19	3,81	●	●	–	–	●	●	●	●	–	–	–	–
NG3142R	3	3,61	0,03	–	0,32	3,81	–	●	–	–	–	–	●	–	–	–	–	–
NG3156R	3	3,96	0,03	–	0,19	3,81	●	●	–	–	●	–	●	●	–	–	–	–
NG3178R	3	4,52	0,03	–	0,19	3,81	–	–	–	–	–	–	–	●	–	–	–	–
NG3185R	3	4,70	0,03	–	0,57	3,81	–	●	–	–	–	–	–	–	–	–	–	–
NG3189R	3	4,80	0,03	–	0,57	3,81	●	●	–	–	●	●	●	●	–	–	–	–
NG4125R	4	3,18	0,03	–	0,19	3,81	●	●	–	–	●	●	–	–	–	–	–	–
NG4189R	4	4,80	0,03	–	0,57	6,35	●	●	–	–	●	●	●	–	–	–	–	–
NG4213R	4	5,41	0,03	–	0,19	6,35	–	●	–	–	–	–	–	–	–	–	–	–
NG4250R	4	6,35	0,03	–	0,57	6,35	●	●	–	–	●	–	●	●	–	–	–	–
NG5312R	5	7,93	0,03	–	0,83	9,52	–	●	–	–	–	–	–	–	–	–	–	–
NG6375R	6	9,53	0,03	–	0,83	6,35	–	●	–	–	–	–	–	–	–	–	–	–

(continued)

(Groove and Turn • Flat Top — continued)

● first choice
○ alternate choice

		KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
P		●	●	●	●	○		○	○	●			
M		●	●				○	●	○				
K		○	○	○	○	●	○	○	○	○	○		
N		●	○				○	●	○				●
S		●	●				●	○	○		○		
H		○						○			●	●	

catalogue number	insert size	W	W tol ±	Ap max	RR	T											
left hand																	
NG1031L	1	0,79	0,08	—	0,19	1,27	–	●	–	–	–	–	–	–	–	–	–
NG1047L	1	1,19	0,08	—	0,19	1,91	–	●	–	–	–	–	●	–	–	–	–
NG1062L	1	1,58	0,08	—	0,19	1,91	–	●	–	–	–	–	●	–	–	–	–
NG1094L	1	2,39	0,08	—	0,19	1,91	–	●	–	–	–	–	●	–	–	–	–
NG2031L	2	0,79	0,03	—	0,09	1,27	●	●	–	–	●	●	●	–	–	–	–
NG2041L	2	1,04	0,03	—	0,09	1,27	–	●	–	–	●	–	●	●	–	–	–
NG2047L	2	1,19	0,03	—	0,09	1,27	●	●	–	–	–	–	●	–	–	–	–
NG2058L	2	1,47	0,03	—	0,19	1,27	–	●	–	–	–	–	–	–	–	–	–
NG2062L	2	1,58	0,03	—	0,19	2,79	●	●	–	–	●	●	●	●	–	–	–
NG2094L	2	2,39	0,03	—	0,19	2,79	●	●	–	–	●	●	●	–	–	–	–
NG2125L	2	3,18	0,03	—	0,19	2,79	●	●	–	–	●	–	●	–	–	–	–
NG3047L	3	1,19	0,03	—	0,19	1,91	●	●	–	–	●	●	●	–	–	–	–
NG3062L	3	1,57	0,03	—	0,19	2,38	●	●	–	–	●	●	●	●	–	–	–
NG3072L	3	1,83	0,03	—	0,19	2,39	●	–	–	–	–	–	●	–	–	–	–
NG3078L	3	1,98	0,03	—	0,19	2,39	●	–	–	–	–	–	–	–	–	–	–
NG3088L	3	2,24	0,03	—	0,19	2,39	●	●	–	–	–	–	●	–	–	–	–
NG3094L	3	2,39	0,03	—	0,19	3,81	●	●	–	–	●	●	●	●	–	–	–
NG3097L	3	2,46	0,03	—	0,32	3,81	●	●	–	–	–	–	–	–	–	–	–
NG3105L	3	2,67	0,03	—	0,19	3,81	●	●	–	–	–	–	●	–	–	–	–
NG3110L	3	2,79	0,03	—	0,32	3,81	–	●	–	–	–	–	–	●	–	–	–
NG3122L	3	3,10	0,03	—	0,19	3,81	–	●	–	–	–	–	–	–	–	–	–
NG3125L	3	3,18	0,03	—	0,19	3,81	●	●	–	–	●	●	●	●	–	–	–
NG3142L	3	3,61	0,03	—	0,32	3,81	●	●	–	–	–	–	–	–	–	–	–
NG3156L	3	3,96	0,03	—	0,19	3,81	–	●	–	–	–	–	–	●	–	–	–
NG3178L	3	4,52	–	—	0,19	3,81	–	●	–	–	–	–	–	–	–	–	–
NG3185L	3	4,70	0,03	—	0,57	3,81	–	–	–	–	–	–	–	●	–	–	–
NG3189L	3	4,80	0,03	—	0,57	3,81	●	●	–	–	●	–	●	●	–	–	–
NG4125L	4	3,18	0,03	—	0,19	3,81	●	●	–	–	–	●	–	–	–	–	–
NG4189L	4	4,80	0,03	—	0,57	6,35	●	●	–	–	●	–	●	–	–	–	–
NG4189LEST	4	4,80	0,03	—	0,57	6,35	–	–	–	–	–	–	–	–	–	●	–
NG4250L	4	6,35	0,03	—	0,57	6,35	●	●	–	–	●	–	●	●	–	–	–

NOTE: All KD and KB grades are single-ended tipped inserts.
Right-hand insert shown; left-hand insert is mirror image.

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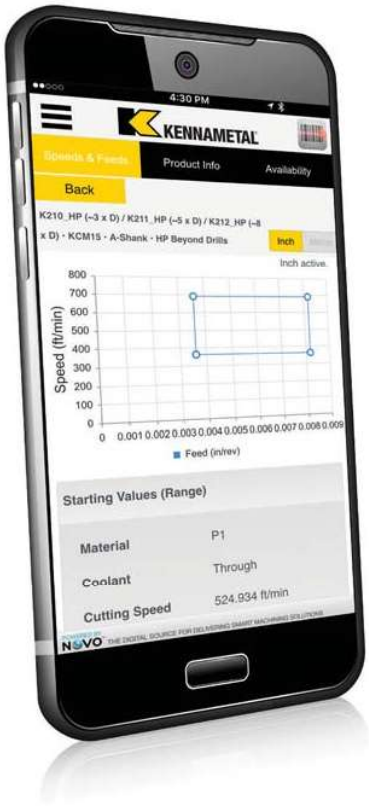
The Kennametal mobile app makes it easy to access product information, calculators, and much more from iPhone® and Android™ devices.



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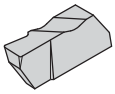
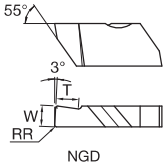
● first choice
○ alternate choice

		KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
P		●	●	●	●	○		○	○	●			
M		●	●				○	●	○				
K		○	○	○	○	●	○	○	○	○	○		
N		●	○				○	●	○				●
S		●	●				●	○	○		○		
H		○						○			●	●	





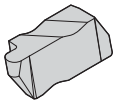
NGD

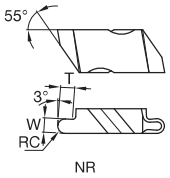
Groove and Turn • Deep Grooving • Flat Top

catalogue number	insert size	W	W tol ±	Ap max	RR	T
right hand						
NGD3189R	3	4,80	0,03	—	0,57	6,35
NGD4250R	4	6,35	0,03	—	0,57	12,70
left hand						
NGD3189L	3	4,80	0,03	—	0,57	6,35
NGD4250L	4	6,35	0,03	—	0,57	12,70

	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand												
NGD3189R	●	–	–	–	–	●	–	–	–	–	–	–
NGD4250R	●	–	–	–	–	●	–	–	–	–	–	–
left hand												
NGD3189L	●	–	–	–	–	●	●	–	–	–	–	–
NGD4250L	●	–	–	–	–	●	●	–	–	–	–	–

NOTE: Inserts have one cutting edge.
Right-hand insert shown; left-hand insert is mirror image.





● first choice
○ alternate choice

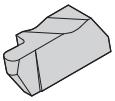
P	●	●	●	●	○		○	○	●				
M	●	●				○	●	○					
K	○	○	○	○	●	○	○	○	○	○			
N	●	○				○	●	○					●
S	●	●				●	○	○		○			
H	○						○			●	●		

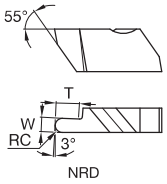
Groove and Turn • Full Radius • Flat Top

catalogue number	insert size	W	Ap max	RC	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																	
NR2M050R	2	1,00	–	0,50	1,27	●	●	–	–	–	–	●	●	–	–	–	–
NR2M075R	2	1,50	–	0,75	2,79	●	–	–	–	–	–	●	–	–	–	–	–
NR2031R	2	1,58	–	0,79	2,79	●	●	–	–	–	–	●	●	–	–	–	–
NR2M100R	2	2,00	–	1,00	2,79	●	–	–	–	–	–	●	●	–	–	–	–
NR2047R	2	2,39	–	1,19	2,79	–	●	–	–	–	–	–	–	–	–	–	–
NR2M125R	2	2,50	–	1,25	2,79	–	–	–	–	–	–	–	●	–	–	–	–
NR2M150R	2	3,00	–	1,50	2,79	–	–	–	–	–	–	–	●	–	–	–	–
NR2062R	2	3,18	–	1,59	2,79	●	●	–	–	–	–	●	–	–	–	–	–
NR2M175R	2	3,50	–	1,75	2,79	–	–	–	–	–	–	–	●	–	–	–	–
NR3031R	3	1,58	–	0,79	2,39	●	●	–	–	–	●	●	●	–	–	–	–
NR3M100R	3	2,00	–	1,00	2,39	–	–	–	–	–	–	–	●	–	–	–	–
NR3047R	3	2,39	–	1,19	3,81	●	●	–	–	–	●	●	–	–	–	–	–
NR3M150R	3	3,00	–	1,50	3,81	–	–	–	–	–	–	–	●	–	–	–	–
NR3062R	3	3,18	–	1,59	3,81	●	●	–	–	–	●	●	●	–	–	–	–
NR3078R	3	3,96	–	1,98	3,81	–	–	–	–	–	●	–	–	–	–	–	–
NR3M200R	3	4,00	–	2,00	3,81	–	–	–	–	–	–	–	●	–	–	–	–
NR3094R	3	4,78	–	2,39	3,81	●	●	–	–	–	–	●	●	–	–	–	–
NR4094R	4	4,78	–	2,39	6,35	–	–	–	–	–	●	–	–	–	–	–	–
NR4125R	4	6,35	–	3,18	6,35	●	●	–	–	–	–	●	–	–	–	–	–
left hand																	
NR2M050L	2	1,00	–	0,50	1,27	●	●	–	–	–	–	●	–	–	–	–	–
NR2031L	2	1,58	–	0,79	2,79	●	●	–	–	–	–	●	●	–	–	–	–
NR2M100L	2	2,00	–	1,00	2,79	–	–	–	–	–	–	–	●	–	–	–	–
NR2047L	2	2,39	–	1,19	2,79	–	●	–	–	–	–	–	–	–	–	–	–
NR2M150L	2	3,00	–	1,50	2,79	–	–	–	–	–	–	–	●	–	–	–	–
NR2062L	2	3,18	–	1,59	2,79	●	●	–	–	–	–	●	–	–	–	–	–
NR3031L	3	1,58	–	0,79	2,39	●	●	–	–	–	●	●	●	–	–	–	–
NR3M100L	3	2,00	–	1,00	2,39	–	–	–	–	–	–	–	●	–	–	–	–
NR3047L	3	2,39	–	1,19	3,81	●	●	–	–	–	●	●	–	–	–	–	–
NR3M150L	3	3,00	–	1,50	3,81	●	–	–	–	–	–	●	●	–	–	–	–
NR3062L	3	3,18	–	1,59	3,81	●	●	–	–	–	●	●	●	–	–	–	–
NR3M200L	3	4,00	–	2,00	3,81	–	–	–	–	–	–	–	●	–	–	–	–
NR3094L	3	4,78	–	2,39	3,81	–	●	–	–	–	●	●	●	–	–	–	–
NR4125L	4	6,35	–	3,18	6,35	–	●	–	–	–	–	●	–	–	–	–	–

NOTE: Right-hand insert shown; left-hand insert is mirror image.

● first choice
○ alternate choice



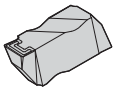


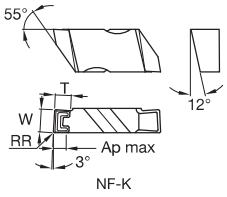
NRD

Groove and Turn • Deep Grooving • Full Radius • Flat Top

catalogue number	insert size	W	Ap max	RC	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																	
NRD3031R	3	1,58	–	0,79	3,18	●	●	–	–	–	–	●	●	–	–	–	–
NRD3062R	3	3,17	–	1,59	6,35	●	●	–	–	–	–	●	●	–	–	–	–
NRD4062R	4	3,18	–	1,59	6,35	●	●	–	–	–	–	●	–	–	–	–	–
NRD4094R	4	4,78	–	2,39	12,70	●	–	–	–	–	–	●	–	–	–	–	–
NRD4125R	4	6,35	–	3,18	12,70	–	●	–	–	–	–	●	–	–	–	–	–
left hand																	
NRD3031L	3	1,58	–	0,79	3,18	●	●	–	–	–	–	●	●	–	–	–	–
NRD3062L	3	3,17	–	1,59	6,35	●	●	–	–	–	–	●	●	–	–	–	–
NRD4062L	4	3,18	–	1,59	6,35	●	●	–	–	–	–	●	●	–	–	–	–
NRD4094L	4	4,78	–	2,39	12,70	●	●	–	–	–	–	●	–	–	–	–	–
NRD4125L	4	6,35	–	3,18	12,70	●	●	–	–	–	–	●	●	–	–	–	–

NOTE: Inserts have one cutting edge.
Right-hand insert shown; left-hand insert is mirror image.



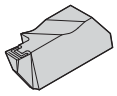


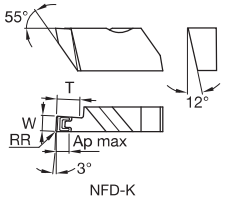
NF-K

Face Grooving • Chip Control

catalogue number	insert size	W	W tol ±	Ap max	RR	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																		
NF3M200RK	3	2,00	0,03	1,02	0,19	1,78	–	–	–	–	–	–	–	●	–	–	–	–
NF3M300RK	3	3,00	0,03	1,02	0,19	3,81	–	–	–	–	–	–	–	●	–	–	–	–
NF3125RK	3	3,18	0,03	1,02	0,19	3,81	–	●	–	–	–	–	–	●	–	–	–	–
NF3156RK	3	3,96	0,03	2,92	0,19	3,81	–	●	–	–	–	–	–	–	–	–	–	–
left hand																		
NF3M200LK	3	2,00	0,03	1,02	0,19	1,78	–	–	–	–	–	–	–	●	–	–	–	–
NF3M300LK	3	3,00	0,03	1,02	0,19	3,81	–	–	–	–	–	–	–	●	–	–	–	–
NF3125LK	3	3,18	0,03	1,02	0,19	3,81	–	●	–	–	–	–	–	●	–	–	–	–
NF3156LK	3	3,96	0,03	2,92	0,19	3,81	–	●	–	–	–	–	–	–	–	–	–	–

NOTE: Right-hand insert shown; left-hand insert is mirror image.





NFD-K

● first choice
○ alternate choice

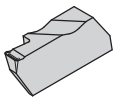
		KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
P		●	●	●	●	○		○	○	●			
M		●	●				○	●	○				
K		○	○	○	○	●	○	○	○	○	○		
N		●	○				○	●	○				●
S		●	●				●	○	○		○		
H		○						○			●	●	

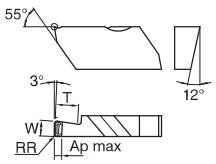
Face Grooving • Deep Grooving • Chip Control

catalogue number	insert size	W	W tol ±	Ap max	RR	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																		
NFD3M300RK	3	3,00	0,03	1,02	0,19	6,35	–	–	–	–	–	–	–	●	–	–	–	–
NFD3125RK	3	3,18	0,03	1,02	0,19	6,35	–	●	–	–	–	–	–	●	–	–	–	–
NFD4189RK	4	4,80	0,03	2,92	0,57	9,53	–	●	–	–	–	–	–	–	–	–	–	–
NFD4250RK	4	6,35	0,03	3,81	0,57	12,70	–	●	–	–	–	–	–	–	–	–	–	–
left hand																		
NFD3M300LK	3	3,00	0,03	1,02	0,19	6,35	–	–	–	–	–	–	–	●	–	–	–	–
NFD3125LK	3	3,18	0,03	1,02	0,19	6,35	–	●	–	–	–	–	–	●	–	–	–	–
NFD4189LK	4	4,80	0,03	2,92	0,57	9,53	–	●	–	–	–	–	–	●	–	–	–	–
NFD4250LK	4	6,35	0,03	3,81	0,57	12,70	–	●	–	–	–	–	–	–	–	–	–	–

NOTE: Inserts have one cutting edge.
Right-hand insert shown; left-hand insert is mirror image.

- Face grooving deep grooving inserts.



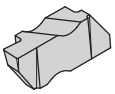


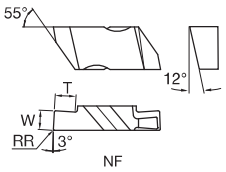
NFD-KI

Face Grooving • Internal Deep Grooving • Chip Control

catalogue number	insert size	W	W tol ±	Ap max	RR	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																		
NFD3125RKI	3	3,18	0,03	1,02	0,19	6,35	–	●	–	–	–	–	–	●	–	–	–	–
NFD3189RKI	3	4,80	0,03	2,92	0,57	6,35	–	●	–	–	–	–	–	–	–	–	–	–
left hand																		
NFD3125LKI	3	3,18	0,03	1,02	0,19	6,35	–	●	–	–	–	–	–	–	–	–	–	–
NFD3189LKI	3	4,80	0,03	2,92	0,57	6,35	–	●	–	–	–	–	–	–	–	–	–	–

NOTE: Inserts have one cutting edge.
NFD-KI inserts are compatible with NS-style boring bars only.
Right-hand insert shown; left-hand insert is mirror image.





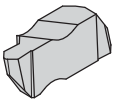
● first choice
○ alternate choice

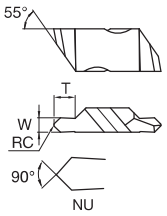
		KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
P		●	●	●	●	○		○	○	●			
M		●	●				○	●	○				
K		○	○	○	○	●	○	○	○	○	○		
N		●	○				○	●	○				●
S		●	●				●	○	○		○		
H		○						○			●	●	

Face Grooving • Flat Top

catalogue number	insert size	W	W tol ±	Ap max	RR	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																		
NF3125R	3	3,18	0,03	—	0,19	3,81	–	–	–	–	–	●	–	–	–	–	–	–
NF3188R	3	4,78	0,03	—	0,57	3,81	–	●	–	–	–	–	–	–	–	–	–	–
left hand																		
NF3125L	3	3,18	0,03	—	0,19	3,81	–	–	–	–	–	●	–	–	–	–	–	–
NF3188L	3	4,78	0,03	—	0,57	3,81	–	●	–	–	–	–	–	–	–	–	–	–

NOTE: Right-hand insert shown; left-hand insert is mirror image.





Groove and Turn • Flat Top • 90°

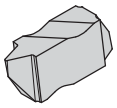
catalogue number	insert size	W	Ap max	RC	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																	
NU3094R	3	2,39	—	0,51	3,18	–	–	–	–	–	–	–	●	–	–	–	–
NU3125R	3	3,18	—	1,19	4,78	–	●	–	–	–	–	–	–	–	–	–	–
left hand																	
NU3094L	3	2,39	—	0,51	3,18	–	●	–	–	–	–	–	●	–	–	–	–
NU3125L	3	3,18	—	1,19	4,78	–	–	–	–	–	–	–	●	–	–	–	–
NU3156L	3	3,96	—	1,19	4,78	–	–	–	–	–	–	–	●	–	–	–	–

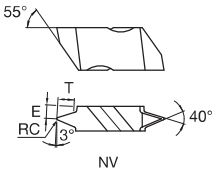
NOTE: Tolerance on W ± 0,13mm (± .005").
Right-hand insert shown; left-hand insert is mirror image.
NU inserts compatible with NR-style inserts.

- Poly-Vee grooving inserts.

● first choice
○ alternate choice

		KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
P		●	●	●	●	○		○	○	●			
M		●	●				○	●	○				
K		○	○	○	○	●	○	○	○	○	○		
N		●	○				○	●	○				●
S		●	●				●	○	○		○		
H		○						○			●	●	



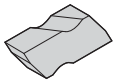


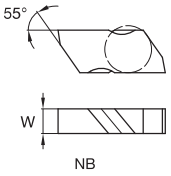
NV

Groove and Turn • Flat Top • Poly-Vee

catalogue number	insert size	E	RC	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																
NV3RJ	3	3,18	0,32	2,21	–	●	–	–	–	–	–	–	–	–	–	–
NV4RL	4	3,00	0,32	5,11	–	●	–	–	–	–	–	–	–	–	–	–
left hand																
NV4LL	4	3,00	0,32	5,11	–	●	–	–	–	–	–	–	–	–	–	–

NOTE: Right-hand insert shown; left-hand insert is mirror image.





NB

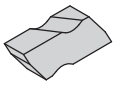
Groove and Turn • Blank

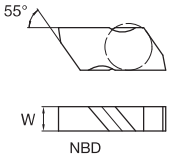
catalogue number	insert size	W	W tol ±	Ap max	RR	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																		
NB2R	2	3,84	–	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–
NB3R	3	4,95	–	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–
NB4R	4	6,48	–	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–
left hand																		
NB2L	2	3,84	–	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–
NB3L	3	4,95	–	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–
NB4L	4	6,48	–	–	–	–	–	–	–	–	–	●	–	–	–	–	–	–

NOTE: NB and NBD blanks are designed to allow modification of the W-dimension and end form. W-dimension is provided to indicate maximum possible width.
Available only in uncoated grades.
Right-hand insert shown; left-hand insert is mirror image.

● first choice
○ alternate choice

		KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
P		●	●	●	●	○		○	○	●			
M		●	●				○	●	○				
K		○	○	○	○	●	○	○	○	○	○		
N		●	○				○	●	○				●
S		●	●				●	○	○		○		
H		○						○			●	●	

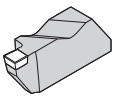


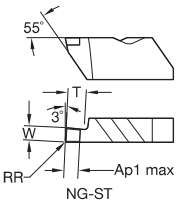


Groove and Turn • Deep Grooving • Blank

catalogue number	insert size	W	W tol ±	Ap max	RR	T
right hand						
NBD2R	2	3,81	–	–	–	–
NBD3R	3	4,95	–	–	–	–
left hand						
NBD3L	3	4,95	–	–	–	–

NOTE: NB and NBD blanks are designed to allow modification of the W-dimension and end form. W-dimension is provided to indicate maximum possible width.
Available only in uncoated grades.
Right-hand insert shown; left-hand insert is mirror image.





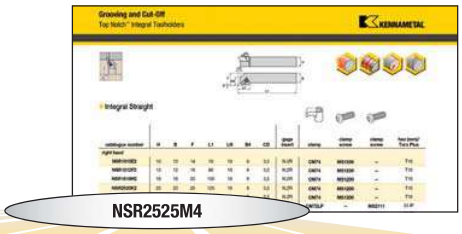
Groove and Turn • Flat Top • PcBN

catalogue number	insert size	W	Ap max	RR	T	KCU10	KCU25	KCP10B	KCP25B	KCK20B	K313	KC5010	KC5025	KT315	KB1630	KB5625	KD1425
right hand																	
NG3062REST	3	1,58	–	0,19	2,39	–	–	–	–	–	–	–	–	–	●	–	●
NG3M200RS02020ST	3	2,00	2,00	0,20	2,39	–	–	–	–	–	–	–	–	–	●	●	–
NG3094REST	3	2,39	–	0,19	3,81	–	–	–	–	–	–	–	–	–	●	–	●
NG3M300RS02020ST	3	3,00	3,00	0,20	3,81	–	–	–	–	–	–	–	–	–	●	●	–
NG3125REST	3	3,18	–	0,19	3,81	–	–	–	–	–	–	–	–	–	●	–	●
NG3125RS0820ST	3	3,18	3,00	0,25	3,81	–	–	–	–	–	–	–	–	–	●	●	–
NG3M400RS02020ST	3	4,00	3,00	0,20	3,81	–	–	–	–	–	–	–	–	–	–	●	–
NG3189REST	3	4,80	–	0,57	3,81	–	–	–	–	–	–	–	–	–	–	–	●
NG4189REST	4	4,80	–	0,57	6,35	–	–	–	–	–	–	–	–	–	●	–	–
left hand																	
NG3062LEST	3	1,58	–	0,19	2,39	–	–	–	–	–	–	–	–	–	●	–	●
NG3M200LS02020ST	3	2,00	2,00	0,20	2,39	–	–	–	–	–	–	–	–	–	–	●	–
NG3094LEST	3	2,39	–	0,19	3,81	–	–	–	–	–	–	–	–	–	●	–	●
NG3125LEST	3	3,18	–	0,19	3,81	–	–	–	–	–	–	–	–	–	●	–	–
NG3125LS0820ST	3	3,18	3,00	0,25	3,81	–	–	–	–	–	–	–	–	–	●	–	–
NG4189LEST	4	4,80	–	0,57	6,35	–	–	–	–	–	–	–	–	–	●	–	–

NOTE: All KB grades are single-ended tipped inserts.
Right-hand insert shown; left-hand insert is mirror image.

How Do Catalogue Numbers Work?

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.

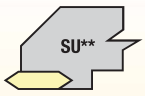


N	S	R		2525	M	4	
Insert Holding Method	Insert Mounting Location	Hand of Tool	Drop Head	Shank Size	Tool Length	Insert Size	Qualified Surface and Length

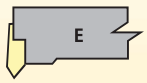
Insert Holding Method

N = Top Notch*

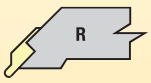
Insert Mounting Location



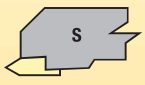
SU = Side mount utility



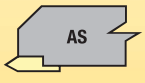
E = End



R = Undercut

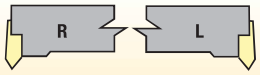


S = Side mount, offset

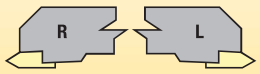


AS = Side mount, no offset

Hand of Tool

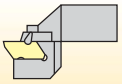


End mount



Side mount

Drop Head



DH = Drop Head

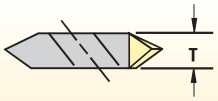
Shank Size

Metric:
Shank height and width in millimetre and holder length according to ISO standard.

Tool Length

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 Length	X

Insert Size



insert size	T mm
2	3,81
3	4,95
4	6,98
5	9,65
6	9,73
8	11,13

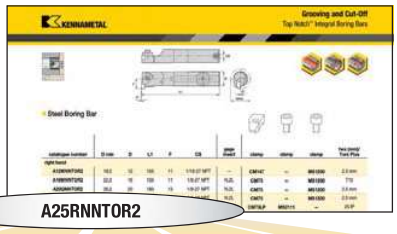
Qualified Surface and Length

Q = Qualified metric holder

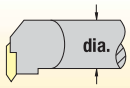
* Kennametal proprietary standard only.
** Side mount utility holder can only use NTU inserts.

How Do Catalogue Numbers Work?

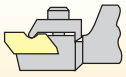
Each character in our catalogue number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



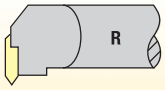
A	25	R	N	N	T	0	R	2
Bar Type	Bar Diameter	Bar Length	Insert Holding Method	Insert Shape	Insert Location	Rake Angle	Hand of Bar	Insert Size



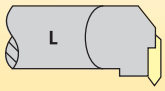
Bar diameter in millimetres



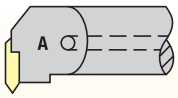
N* =
Top Notch



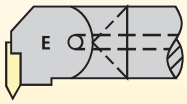
R = Right hand



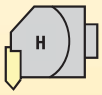
L = Left hand



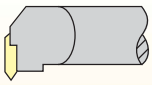
A = Steel with coolant



E = Carbide with coolant

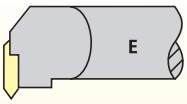


H = Interchangeable head

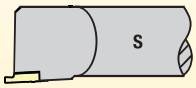


metric bars:

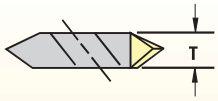
K	=	125mm
M	=	150mm
Q	=	180mm
R	=	200mm
S	=	250mm
T	=	300mm
U	=	350mm



E = End mount

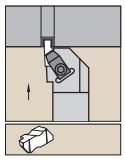


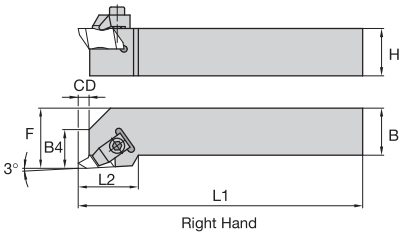
S = Straight mount

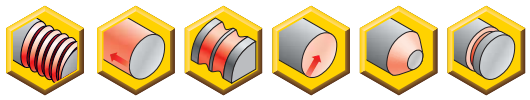


insert size	T mm
1	3,54
2	3,81
3	5,35
4	6,40
5	9,65
6	9,73
8	11,13

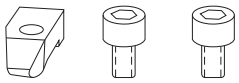
*Kennametal standard only.





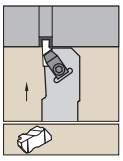


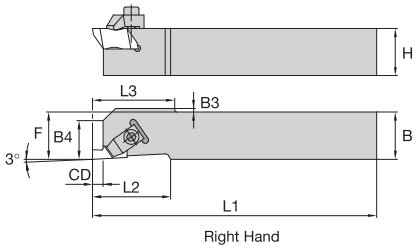
Integral Straight



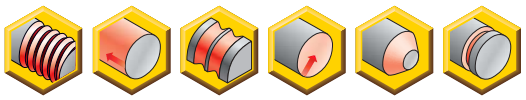
order number	catalogue number	H	B	F	L1	LH	B4	CD	gage insert	clamp	clamp screw	clamp screw	hex (mm)/ Torx Plus
right hand													
1098790	**NSR1010E2**	10	10	14	70	19	9	3,5	N.2R	**CM74**	**MS1200**	**–**	T10
1098791	**NSR1212F2**	12	12	16	80	19	9	3,5	N.2R	**CM74**	**MS1200**	**–**	T10
1098792	**NSR1616H2**	16	16	20	100	19	9	3,5	N.2R	**CM74**	**MS1200**	**–**	T10
1098793	**NSR2020K2**	20	20	25	125	19	9	3,5	N.2R	**CM74**	**MS1200**	**–**	T10
1098794	**NSR2525M2**	25	25	32	150	19	9	3,5	N.2R	**CM74**	**MS1200**	**–**	T10
1098795	**NSR2020K3**	20	20	25	125	32	13	5,3	N.3R	**CM72LP**	**–**	**MS2111**	25 IP
1098796	**NSR2525M3**	25	25	32	150	32	13	5,3	N.3R	**CM72LP**	**–**	**MS2111**	25 IP
1098797	**NSR3225P3**	32	25	32	170	32	13	5,3	N.3R	**CM72LP**	**–**	**MS2111**	25 IP
1098798	**NSR3232P3**	32	32	40	170	32	13	5,3	N.3R	**CM72LP**	**–**	**MS2111**	25 IP
1098799	**NSR2525M4**	25	25	32	150	35	14	7,5	N.4R	**CM72LP**	**–**	**MS2111**	25 IP
1098800	**NSR3225P4**	32	25	32	170	35	14	7,5	N.4R	**CM72LP**	**–**	**MS2111**	25 IP
1098801	**NSR3232P4**	32	32	40	170	35	14	7,5	N.4R	**CM72LP**	**–**	**MS2111**	25 IP
left hand													
1098861	**NSL1010E2**	10	10	14	70	19	9	3,5	N.2L	**CM75**	**MS1200**	**–**	T10
1098862	**NSL1212F2**	12	12	16	80	19	9	3,5	N.2L	**CM75**	**MS1200**	**–**	T10
1098863	**NSL1616H2**	16	16	20	100	19	9	3,5	N.2L	**CM75**	**MS1200**	**–**	T10
1098864	**NSL2020K2**	20	20	25	125	19	9	3,5	N.2L	**CM75**	**MS1200**	**–**	T10
1098865	**NSL2525M2**	25	25	32	150	19	9	3,5	N.2L	**CM75**	**MS1200**	**–**	T10
1098866	**NSL2020K3**	20	20	25	125	32	13	5,3	N.3L	**CM73LP**	**–**	**MS2111**	25 IP
1098867	**NSL2525M3**	25	25	32	150	32	13	5,3	N.3L	**CM73LP**	**–**	**MS2111**	25 IP
1098868	**NSL3225P3**	32	25	32	170	32	13	5,3	N.3L	**CM73LP**	**–**	**MS2111**	25 IP
1098869	**NSL3232P3**	32	32	40	170	32	13	5,3	N.3L	**CM73LP**	**–**	**MS2111**	25 IP
1098870	**NSL2525M4**	25	25	32	150	35	14	7,5	N.4L	**CM73LP**	**–**	**MS2111**	25 IP
1098871	**NSL3225P4**	32	25	32	170	35	14	7,5	N.4L	**CM73LP**	**–**	**MS2111**	25 IP
1098872	**NSL3232P4**	32	32	40	170	35	14	7,5	N.4L	**CM73LP**	**–**	**MS2111**	25 IP

NOTE: F dimension measured over sharp point of N-style threading insert.





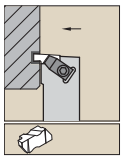
Right Hand

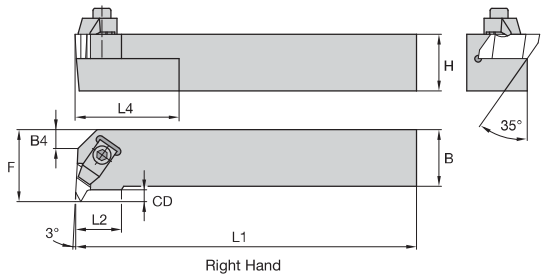


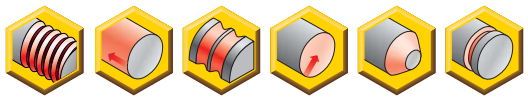
Integral Straight • No Offset

order number	catalogue number	H	B	F	L1	LH	B4	CD	B3	L3	gage insert	clamp	clamp screw	clamp screw	hex (mm)/ Torx Plus
right hand															
1098788	**NASR1010M2Q**	10	10	10	150	19	9	3,5	2,03	19	N.2R	**CM182**	**MS1200**	**–**	T10
1098789	**NASR1212M2Q**	12	12	12	150	19	9	3,5	–	–	N.2R	**CM182**	**MS1200**	**–**	T10
1098786	**NASR1616K3Q**	16	16	16	125	32	13	5,3	–	–	N.3R	**CM184LP**	**–**	**MS2111**	25 IP
left hand															
1098859	**NASL1010M2Q**	10	10	10	150	19	9	3,5	2,03	19	N.2L	**CM183**	**MS1200**	**–**	T10
1098860	**NASL1212M2Q**	12	12	12	150	19	9	6,9	–	–	N.2L	**CM183**	**MS1200**	**–**	T10
1098857	**NASL1616K3Q**	16	16	16	125	32	13	5,3	–	–	N.3L	**CM185LP**	**–**	**MS2111**	25 IP

NOTE: F dimension measured over sharp point of N-style threading insert.



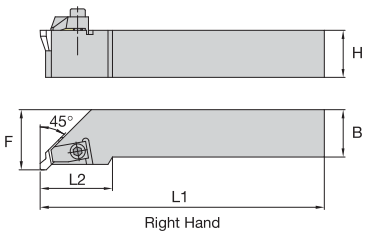


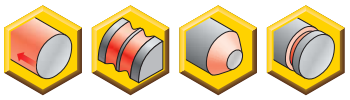


Integral End Mount

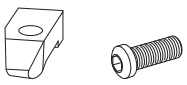
order number	catalogue number	H	B	F	L1	LH	CD	gage insert	clamp	clamp screw	clamp screw	Torx/ Torx Plus
right hand												
1098803	NER1616H2	16	16	20	100	15	3,5	N.2L	CM75	MS1200	–	T10
1098804	NER2020K2	20	20	25	125	15	3,5	N.2L	CM75	MS1200	–	T10
1098805	NER2525M2	25	25	32	150	15	3,5	N.2L	CM75	MS1200	–	T10
1098806	NER2525M3	25	25	32	150	22	5,3	N.3L	CM73LP	–	MS2111	25 IP
1098807	NER3225P3	32	25	32	170	22	3,8	N.3L	CM73LP	–	MS2111	25 IP
1098808	NER2525M4	25	25	35	150	24	6,4	N.4L	CM73LP	–	MS2111	25 IP
1098809	NER3225P4	32	25	35	170	24	6,4	N.4L	CM73LP	–	MS2111	25 IP
1098810	NER3232P4	32	32	40	170	24	6,4	N.4L	CM73LP	–	MS2111	25 IP
left hand												
1098874	NEL1616H2	16	16	20	100	15	3,5	N.2R	CM74	MS1200	–	T10
1098875	NEL2020K2	20	20	25	125	15	3,5	N.2R	CM74	MS1200	–	T10
1098876	NEL2525M2	25	25	32	150	15	3,5	N.2R	CM74	MS1200	–	T10
1098877	NEL2525M3	25	25	32	150	22	5,3	N.3R	CM72LP	–	MS2111	25 IP
1098878	NEL3225P3	32	25	32	170	22	3,8	N.3R	CM72LP	–	MS2111	25 IP
1098879	NEL2525M4	25	25	35	150	24	6,4	N.4R	CM72LP	–	MS2111	25 IP
1098880	NEL3225P4	32	25	35	170	24	6,4	N.4R	CM72LP	–	MS2111	25 IP
1098881	NEL3232P4	32	32	40	170	24	6,4	N.4R	CM72LP	–	MS2111	25 IP

NOTE: F dimension measured over sharp point of N-style threading insert.



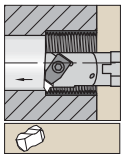


Integral 45° Undercut • Metric

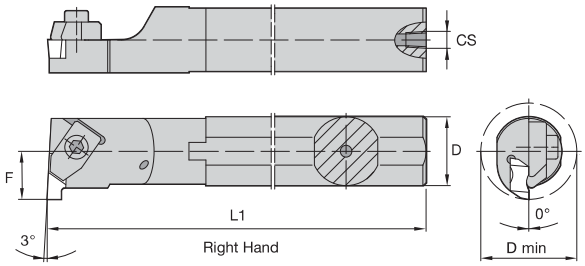


order number	catalogue number	H	B	F	L1	LH	gage insert	clamp	clamp screw	hex (mm)/ Torx Plus
right hand										
1098812	NRR2020K3	20	20	25	125	32	NU3125L	CM73LP	MS2111	25 IP
1098813	NRR2525M3	25	25	32	150	32	NU3125L	CM73LP	MS2111	25 IP
1098814	NRR3225P3	32	25	32	170	32	NU3125L	CM73LP	MS2111	25 IP
left hand										
1098883	NRL2020K3	20	20	25	125	32	NU3125R	CM72LP	MS2111	25 IP
1098884	NRL2525M3	25	25	32	150	32	NU3125R	CM72LP	MS2111	25 IP
1098885	NRL3225P3	32	25	32	170	32	NU3125R	CM72LP	MS2111	25 IP

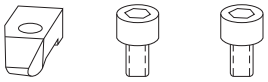
NOTE: NR-style toolholders are compatible with “NU” style inserts only.



Steel shank with through coolant.

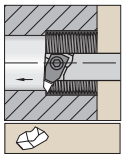


Steel Boring Bar • Metric

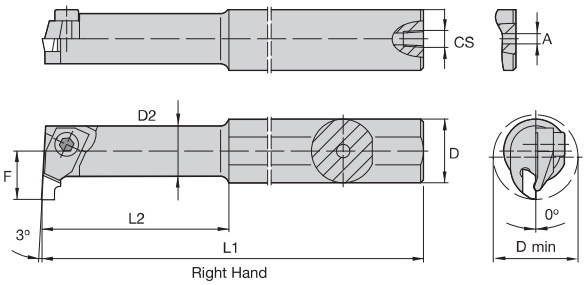


order number	catalogue number	D min	D	L1	F	CS	gage insert	clamp	clamp screw	clamp screw	hex (mm)/ Torx Plus
right hand											
1098945	A12MNNTOR2	18,5	12	150	11	1/16-27 NPT	–	CM147	–	MS1200	2.5 mm
1098947	A16MNNTOR2	22,0	16	150	11	1/8-27 NPT	N.2L	CM75	–	MS1200	T10
1098949	A20QNNTOR2	26,0	20	180	13	1/8-27 NPT	N.2L	CM75	–	MS1200	2.5 mm
1098951	A25RNNTOR2	34,0	25	200	17	1/4-18 NPT	N.2L	CM75	–	MS1200	2.5 mm
1098953	A25RNNTOR3	34,0	25	200	17	1/8 - 27 NPT	N.3L	CM73LP	MS2111	–	25 IP
1098955	A32SNNTOR3	44,0	32	250	22	1/4-18 NPT	N.3L	CM73LP	MS2111	–	25 IP
1098957	A40TNNTOR3	54,0	40	300	27	1/4-18 NPT	N.3L	CM73LP	MS2111	–	25 IP
1099001	A40TNNTOR4	54,0	40	300	27	1/4-18 NPT	N.4L	CM73LP	MS2111	–	25 IP
1099003	A50UNNTOR4	70,0	50	350	35	1/4-18 NPT	N.4L	CM73LP	MS2111	–	25 IP
left hand											
1098946	A12MNNTOL2	18,5	12	150	11	1/16-27 NPT	NG2R	CM146	–	MS1200	2.5 mm
1098948	A16MNNTOL2	22,0	16	150	11	1/8-27 NPT	N.2R	CM74	–	MS1200	T10
1098950	A20QNNTOL2	26,0	20	180	13	1/8-27 NPT	NG2R	CM74	–	MS1200	2.5 mm
1098952	A25RNNTOL2	34,0	25	200	17	1/4-18 NPT	N.2R	CM74	–	MS1200	2.5 mm
1098954	A25RNNTOL3	34,0	25	200	17	1/4-18 NPT	N.3R	CM72LP	MS2111	–	25 IP
1098956	A32SNNTOL3	44,0	32	250	22	1/4-18 NPT	N.3R	CM72LP	MS2111	–	25 IP
1098958	A40TNNTOL3	54,0	40	300	27	1/4-18 NPT	N.3R	CM72LP	MS2111	–	25 IP
1099002	A40TNNTOL4	54,0	40	300	27	1/4-18 NPT	N.4R	CM72LP	MS2111	–	25 IP

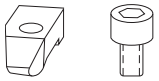
NOTE: Minimum bore capability varies with depth of groove. See page C172 for details.



Necked steel shank with through coolant.

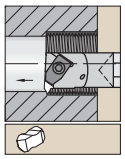


Steel Boring Bar • Small ID • Metric

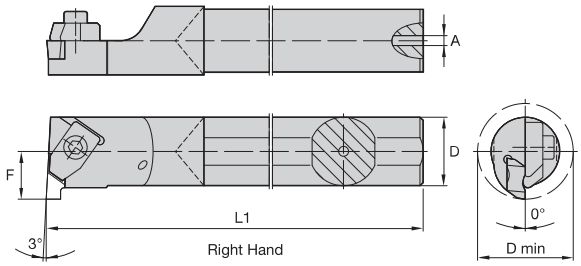


order number	catalogue number	D min	D	D2	L1	L2	F	A	CS	gage insert	clamp	clamp screw	hex (mm)
right hand													
1098944	**A12MNNTOR1**	11,5	12	10,0	150	31,30	7	4,0	1/16-27 NPT	N.1L	**CM109**	**MS1034**	1.5 mm
1098943	**A10KNNTOR1**	11,5	10	10,0	125	—	7	3,2	—	NG1L	**CM109**	**MS1034**	1.5 mm

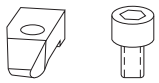
NOTE: Minimum bore capability varies with depth of groove. See page C172 for details.



Carbide shank with through coolant.

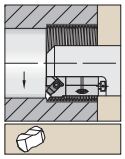


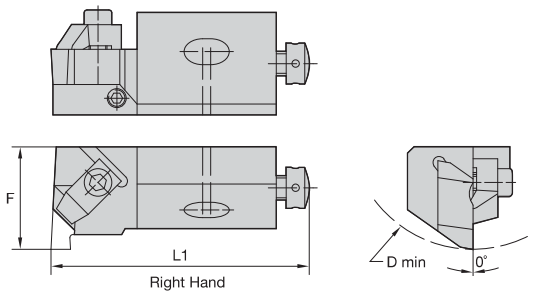
Carbide Boring Bar



order number	catalogue number	D min	D	L1	F	A	gage insert	clamp	clamp screw	Torx/ Torx Plus
right hand										
1152834	**E16RNNTOR2**	22,0	16	200	11	5,537	N.2L	**CM75**	**MS1200**	T10
1152836	**E20SNNTOR2**	26,0	20	250	13	7,137	N.2L	**CM75**	**MS1200**	T10
left hand										
1152835	**E16RNNTOL2**	22,0	16	200	11	5,537	N.2R	**CM74**	**MS1200**	T10

NOTE: Minimum bore capability varies with depth of groove. See page C172 for details.





Steel Boring Cartridge

order number	catalogue number	D min	F	L1	gage insert	clamp	clamp screw	hex (mm)	radial adjusting screw	hex (mm)	axial screw	hex (mm)	washer
right hand													
1098380	**NER12CA2**	50	20	55,7	N.2L	**CM75**	**MS1025**	2.5 mm	**KUAM23**	2.5 mm	**KUAM31**	2.5 mm	**CSWM 060 050**
left hand													
1098624	**NEL12CA2**	50	20	55,0	N.2R	**CM74**	**MS1025**	2.5 mm	**KUAM23**	2.5 mm	**KUAM31**	2.5 mm	**CSWM 060 050**
1098626	**NEL25CA3**	100	32	100,0	N.3R	**CM72LP**	**MS412**	4 mm	**KUAM26**	4 mm	**KUAM33**	4 mm	**CSWM 100 080**

NOTE: Minimum bore diameter (D min) capability varies with thread type and pitch. See page C172 for details.
F dimension measured over sharp point of Top Notch-style threading insert.

Machining Guidelines for Chip Control • Grooving

When the proper cutter diameter is not available,
proper cutter positioning will provide positive results.

- Centre height of insert should be positioned at the centre of the workpiece or up to 0,13mm (.005") above.
- Dwell time in the bottom of the groove (more than three revolutions) is not recommended.
- Chip control is feed rate related and should be adjusted to fit the particular situation. Recommended feed range is 0,08–0,3 mm/rev (.003–.012 IPR).

Machining Guidelines for Chip Control • Turning/Profiling

Maximum depth of cut for side cutting (turning/profiling)
depends on the material being cut and the width of the tool.

- 0,79–1,6mm (.031–.062") wide insert can cut up to 0,6mm (.025" deep).
- 1,7–3,3mm (.067–.128") wide insert can cut up to 1mm (.040" deep).
- 3,5–4,8mm (.138–.189") wide insert can cut up to 2mm (.080" deep).
- 5–6,35mm (.197–.250") wide insert can cut up to 3mm (.120" deep).

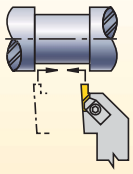
Groove Limits (Maximum Internal Groove Depth vs. Minimum Bore Diameter)

insert catalogue number	maximum internal groove depth mm	minimum bore diameter mm
NG-1094L	1,91	20,32
—	1,02	11,18
NG-2031R/L	1,27	18,54
NG-2041R/L	—	—
NG-2047R/L	—	—
NG-2058R/L	—	—
—	2,79	63,50
NG-2062R/L	2,59	44,45
NG-2094R/L	2,49	38,10
NG-2125R/L	2,03	25,40
—	1,40	18,54
NG-3047R/L	—	—
NG-3062R/L	2,39	44,45
NG-3072R/L	2,29	41,28
NG-3078R/L	1,91	34,93
NG-3088R/L	—	—
NG-3094R/L	—	—
NG-3097R/L	3,81	60,33
NG-3105R/L	—	—
NG-3110R/L	3,68	53,98
NG-3122R/L	—	—
NG-3125R/L	3,51	47,63
NG-3142R/L	—	—
NG-3156R/L	3,18	41,28
NG-3178R/L	—	—
NG-3185R/L	2,79	34,93
NG-3189R/L	—	—
NG-4125R/L	3,81	69,85
—	6,35	146,05
NG-4189R/L	6,22	127,00
NG-4213R/L	6,10	114,30
NG-4219R/L	5,54	82,55
NG-4250R/L	5,08	63,50

NOTE: The same maximum groove depth and minimum bore diameter values also apply to metric, NG-K (chip control), and NR (full radius) inserts of similar size.

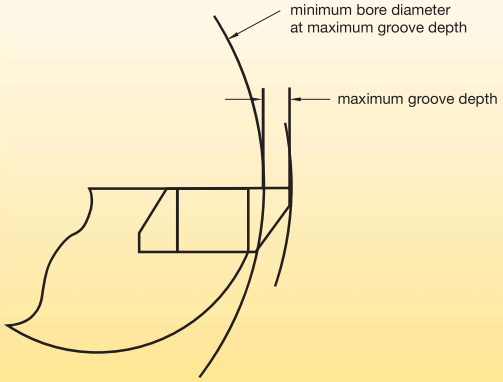
Finish Turning the Groove

1. Plunge both sides of groove width.
2. Plunge centre area to remove web of material remaining.
3. To avoid insert chipping and to achieve groove wall perpendicularity, follow the tool path outlined.
4. Use the lightest depth of cut that still allows good chipbreaking, tool life, and surface finish.



insert catalogue number	maximum internal groove depth mm	minimum bore diameter mm
—	9,53	731,82
NG-5250R/L	9,17	401,62
NG-5281R/L	8,74	274,62
NG-5312R/L	8,31	185,72
NG-5344R/L	7,47	122,22
NG-5375R/L	6,53	90,47
—	5,46	71,42
NG-6250R/L	6,35	146,05
NG-6281R/L	6,22	127,00
NG-6312R/L	6,10	114,30
NG-6344R/L	5,54	82,55
NG-6375R/L	5,08	63,50

Internal Groove Depth versus Bar Interference



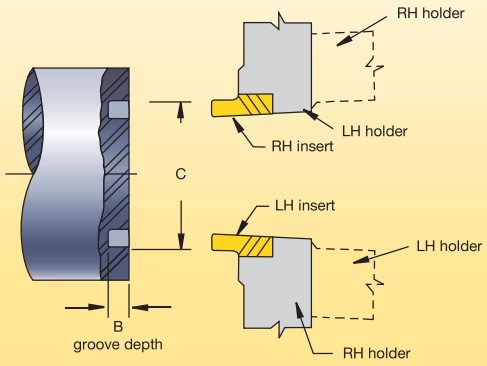
NOTE: Internal grooving depth limits are a function of bar clearance versus bore diameters.

Machining Guidelines for Face Grooving Operations • External

Standard NF/NDF Inserts

insert family	maximum groove depth "B" mm	minimum groove diameter "C" mm
NF-3	1,52	23,90
NF-3	2,39	30,50
NF-3	3,18	36,10
NF-3	3,81	41,30
NFD-3	6,35	47,60
NF-4/6	1,52	23,90
NF-4/6	2,39	30,50
NF-4/6	3,18	36,10
NF-4/6	3,81	41,30
NF-4/6	4,78	47,60
NF-4/6	6,35	57,20
NFD-4	9,53	57,20
NFD-4	12,70	57,20

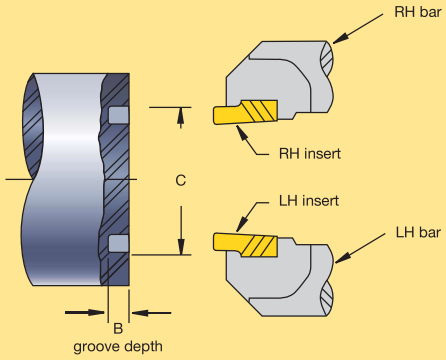
Toolholders



Standard NG/NGD Inserts

insert family	maximum groove depth "B" mm	minimum groove diameter "C" mm
NG-2	1,27	54,0
NG-2	2,79	88,9
NG-3	2,39	101,6
NG-3	3,18	127,0
NG-3	3,81	139,7
NGD-3	6,35	174,6
NG-4	3,81	152,4
NG-4	6,35	209,6
NGD-4	9,53	222,3
NGD-4	12,70	222,3
NG-5	9,53	333,0

Boring Bars

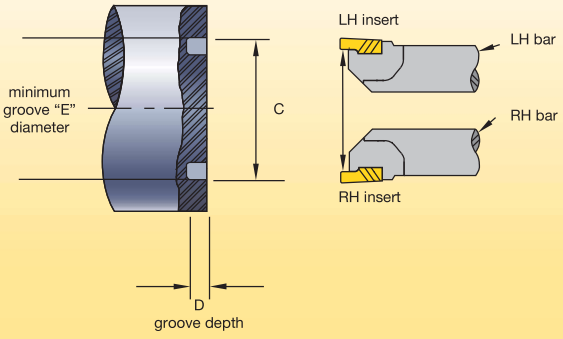


Machining Guidelines for Face Grooving Operations • Internal

insert family	maximum groove depth "D" mm	minimum groove diameter "E" mm
NFD-3-KI	6,35	57,2

NOTE: For internal applications, use only NFD-KI inserts.

Boring Bars

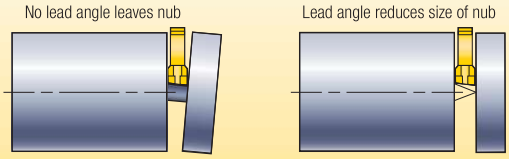


Tool Application Guidelines

- Always use good general machining practices.
- Make the machine and workpiece setup as rigid as possible.
- Integral shank toolholders offer the best rigidity. They should be your first toolholder choice, when possible.
- Use the toolholder with the shortest possible depth of cut for the application ("CD" dimension).
- When changing inserts, make sure the new insert locates securely against the toolholder's positive stop.
- Never tighten the clamping screw without an insert in the pocket.
- Toolholder projection out of the tool block should be as short as possible.
- Inserts should cut as close to centre as possible.
- Dwell time in bottom of groove should be less than three revolutions.
- Recommended cutting speed and feeds are a starting point. Adjust, as necessary, for optimum tool life and chip control.

Definitions and Guidelines

1. Width of cut (W) = width of the insert.
2. Lead angle = 0° (neutral); 6° (RH or LH).

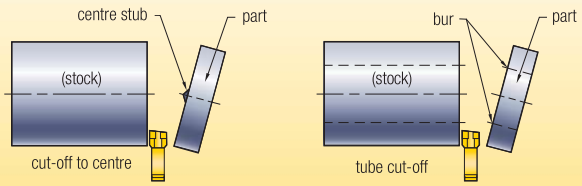


Reduce bur of cut-off faces:

- Use lead angle-type inserts (Figures 1 and 2). Lead angle on a cut-off insert reduces the bur that remains on the part but decreases tool life and increases tool side deflection and possibly cycle time.
- If 0° lead angle is mandatory, use the narrowest possible cut-off insert and blade. This will minimise the centre stub or cut-off bur length.

Figure 1

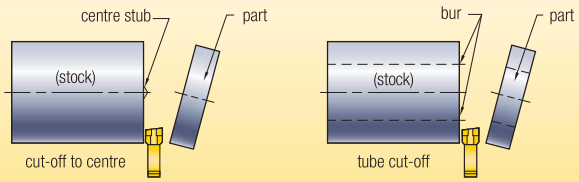
Insert selection **left-hand lead**



Left-hand lead insert leaves centre stub or bur on part and produces clean stock surface.

Figure 2

Insert selection **right-hand lead**



Reduces nub but decreases tool life and productivity

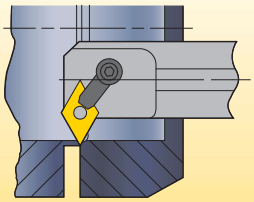
Right-hand lead insert leaves centre stub or bur on stock and produces clean part surface.

- Check total height and maintain on centre with part diameter.
- The cutting edge height should be within ±0,1mm (.004") to the centre; recommended cutting position is 0,05mm (.002") above centre.

Tubing

- On tubing-type parts that require a chamfer on the I.D., align I.D. chamfer tool with cut-off surface. This will enable the chamfering operation to actually separate the part from the bar (see Figure 3). Note the part may drop onto the chamfering bar, which, in this case, will act like a catcher for the part.

Figure 3

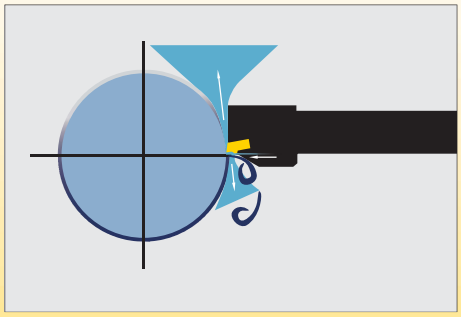


Internal chamfer line up

Improve surface finish of cut-off faces:

- Use insert with 0° lead angle.
- Increase coolant flow or improve application technique, as shown in Figure 4.
- Decrease the feed rate near the break-through point of the cut.
- Check that the grooving tool is set at the correct angle.
- Use blades with the greatest possible face height and smallest possible cutting width.
- Increase the speed.

Figure 4

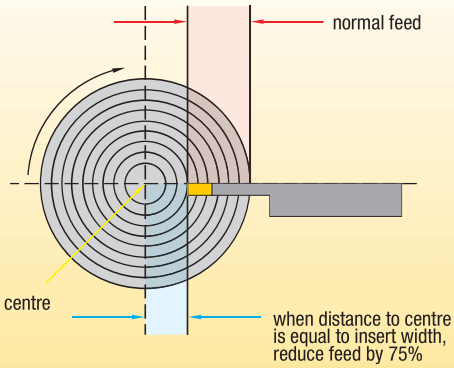


Preferred method for applying coolant

- Mount cut-off tool upside down. This enables gravity to remove chips and avoid cutting the chips twice. Another benefit of mounting the tool upside down is preventing chips from wedging between the tool insert and the groove side walls, which galls the side wall surfaces.

Programming Guidelines

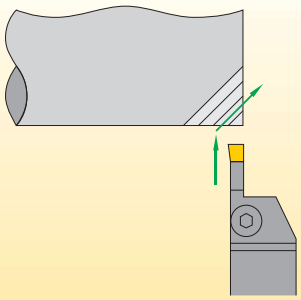
Feed reduction in cut-off



Feed reduction when approaching centre = longer tool life

Chamfering

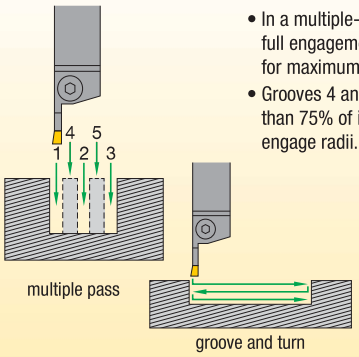
Chamfering with a grooving tool reduced machine index time and tool stations.



(continued)

Programming Guidelines *(continued)*

Pocketing



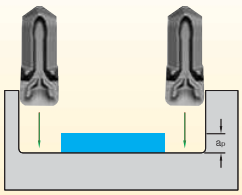
- In a multiple-pass operation, generate full engagement grooves in 1, 2, and 3 for maximum stability.
- Grooves 4 and 5 should be no more than 75% of insert width, so as not to engage radii.

If pocket is deeper than wide = multiple pass

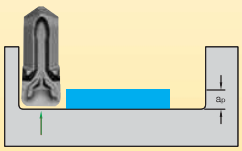
If pocket is wider than deep = groove and turn

Square Pocket

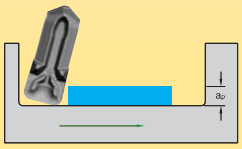
Steps 1 and 2
Plunge the radius and wall on each side to open up two grooves.



Step 3
Retract tool 0,1mm; this is necessary to create a flat bottom.

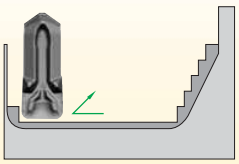


Step 4
Side turn. This tool is designed to deflect, creating the necessary front clearance.

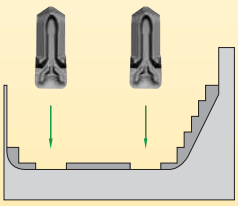


Profile Pocket

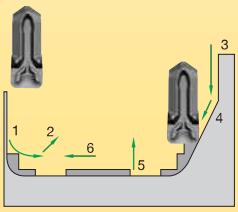
Step 1
Rough to have about the same amount of stock left on all surfaces for finish.



Step 2
Open up two grooves away from wall and radius.

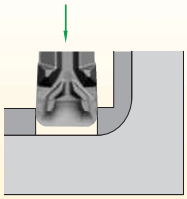


Step 3
(1 and 2) Finish wall and radius.
(3 and 4) Finish wall, angle, and radius on opposite side of pocket.
(5) Retract tool 0,1mm (.004").
(6) Side turn to finish the floor of the pocket.

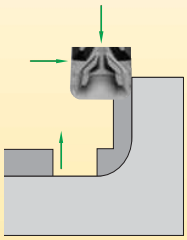


Generating a Radius

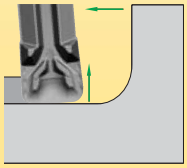
Step 1
Open up a groove away from the radius.



Step 2
Retract and move the material on the wall and generate the radius. By generating the groove in the prior step, only one surface is engaged at a time, reducing the risk of vibrations.

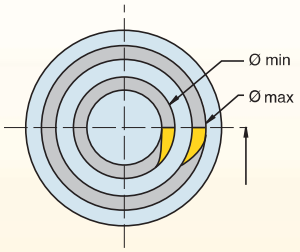


Step 3
Retract the tool 0,1mm (.004") and then side turn.



Grooving Tool Failure and Solution Guide

Face Grooving Application Guidelines

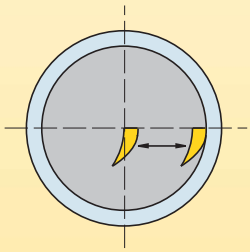


Tool Selection
- When selecting the toolholder, always start at the largest diameter possible and work toward the smaller diameter. This will allow the strongest tool to be used.

Cutting the First Groove
- The outside diameter of the first groove must be between the diameter minimum and diameter maximum capability of the face grooving tool (see illustration above). This creates clearance for the toolholder.

Chip Control
- Adjust speed and feed for good chip control and evacuation from the groove. Chip compaction can cause poor surface finish, tool breakage, and reduced tool life.

Tool Setting
- The tool should be set as close to the centre as possible to avoid extreme formation of burs.
- Align the cutting edge square to the workpiece.



Widening a Face Groove
- After the first groove has been cut, the groove width can be widened in either direction using the same tool. The best practice is to work from the O.D. to the I.D.

Practical Solutions to Grooving Problems

problem	remedy
bur	1. Verify tool centre height. 2. Use sharp tools (index more often). 3. Use positive rake PVD coated insert. 4. Use correct grade for workpiece material. 5. Use correct geometry (e.g., positive rake for workhardening material). 6. Change tool path.
poor surface finish	1. Increase speed. 2. Use sharp tools (index more often). 3. Dwell time in bottom 1–3 revolutions (max). 4. Use proper chip control geometry. 5. Increase coolant flow. 6. Verify proper setup (overhang, shank size). 7. Use correct geometry (e.g., positive rake for workhardening material).
groove bottom not flat	1. Use sharp tools (index more often). 2. Dwell time in bottom 1–3 revolutions (max). 3. Reduce tool overhang (increase rigidity). 4. Reduce feed rate at groove bottom. 5. Use a wider insert. 6. Verify tool centre height.
poor chip control	1. Use sharp tools (index more often). 2. Increase coolant concentration. 3. Adjust feed rate (usually increase first).
chatter	1. Reduce tool and workpiece overhang. 2. Adjust speed (usually increase first). 3. Adjust feed (usually increase first). 4. Verify tool centre height.
insert chipping	1. Use correct grade for workpiece material. 2. Increase speed. 3. Reduce feed. 4. Use a stronger grade. 5. Increase tool and setup rigidity.
built-up edge	1. Use positive rake PVD coated insert. 2. Increase speed. 3. Reduce feed. 4. Increase coolant flow/concentration. 5. Use cermets.
side walls not straight	1. Check tool alignment for square. 2. Reduce workpiece and tool overhang. 3. Use sharp inserts (index more often).

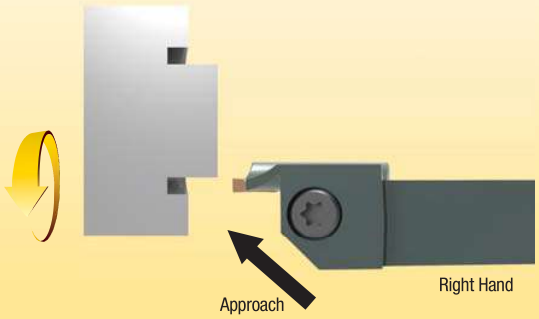
Steps to proper face grooving tool selection

- Step 1: Select your spindle rotation
- Step 2: Select your angle of approach and toolholder orientation

Integral Tooling

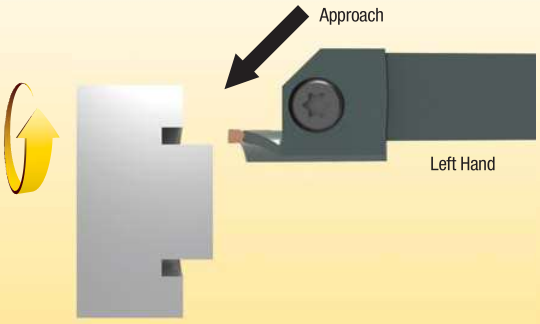
Anti-Clockwise Rotation

Square Shank

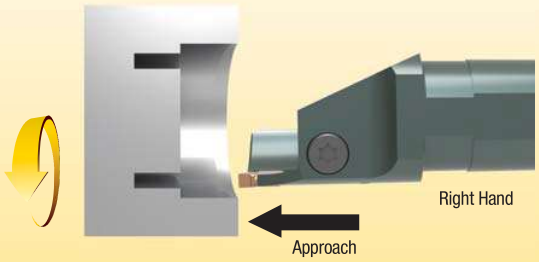


Clockwise Rotation

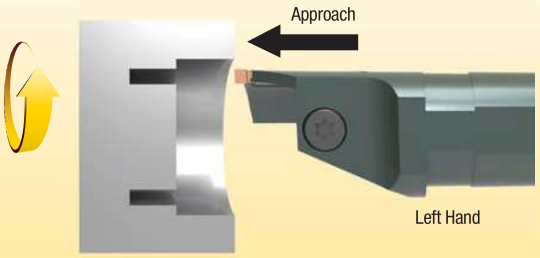
Square Shank



Boring Bar



Boring Bar



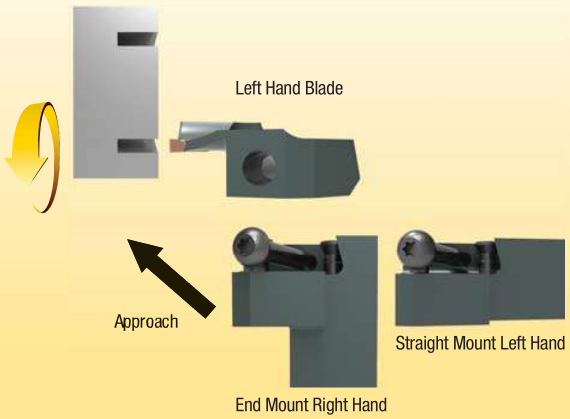
Steps to proper modular face grooving tool selection

- Step 1: Select your spindle rotation
- Step 2: Select your angle of approach and toolholder orientation
- Step 3: Identify combination of blade and shank tool

Modular Tooling

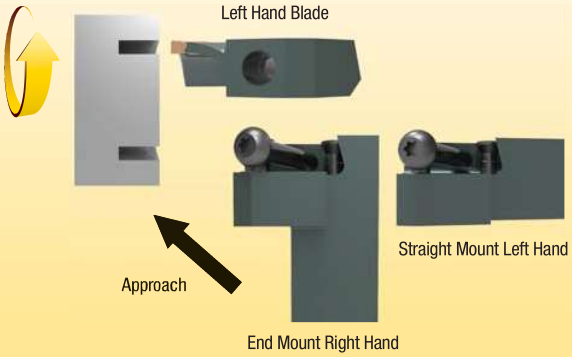
Anti-Clockwise Rotation

Left Hand Outboard Sweep

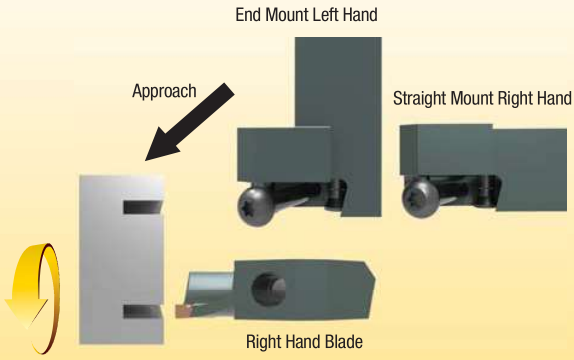


Clockwise Rotation

Left Hand Inboard Sweep



Right Hand Inboard Sweep



Right Hand Outboard Sweep