

MASTER CATALOG 2018

VOLUME ONE | **TURNING TOOLS**



ISO/ANSI TURNING | GROOVING & CUT-OFF | THREADING | APPLICATION SPECIFIC

Getting started made **EASY**

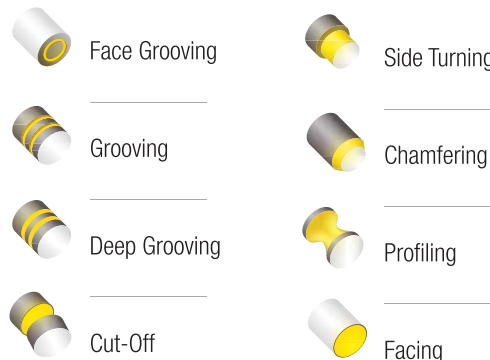
beyond™ EVOLUTION™

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.

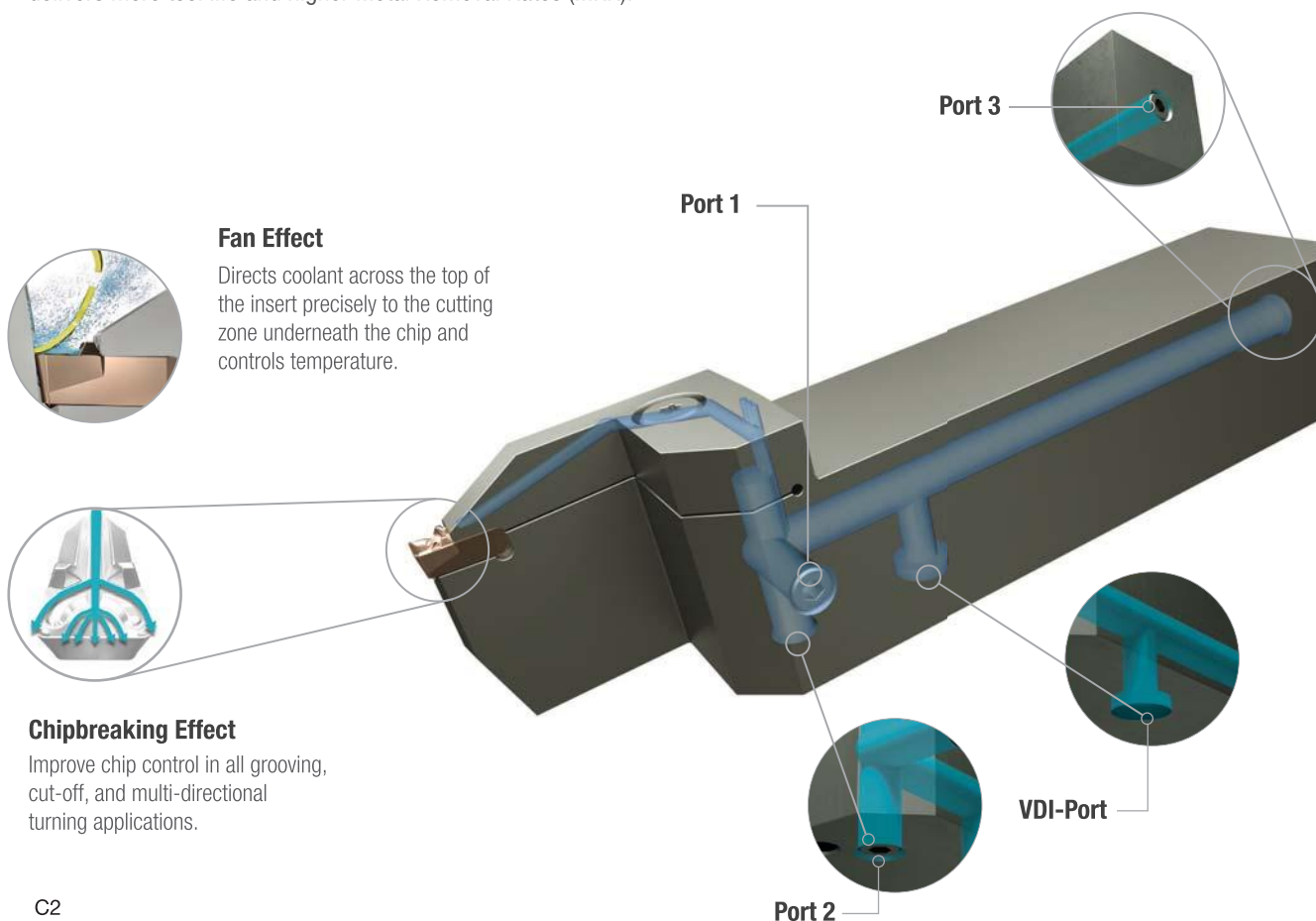


Productivity made **EASY**

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).

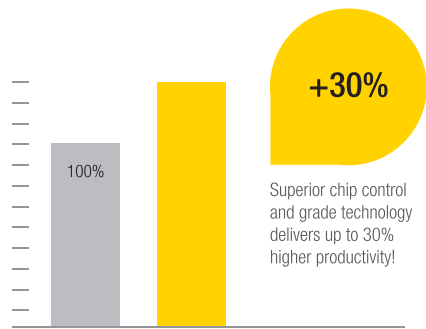


Smooth surface finish made EASY Triple-V Seating

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

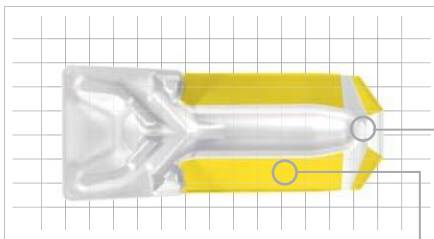
Solution: The Beyond™ Evolution™ proprietary new Triple-V Seating feature provides functional stability and minimizes vibration.

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.



Top and Bottom-V

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

V-Back Design

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



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

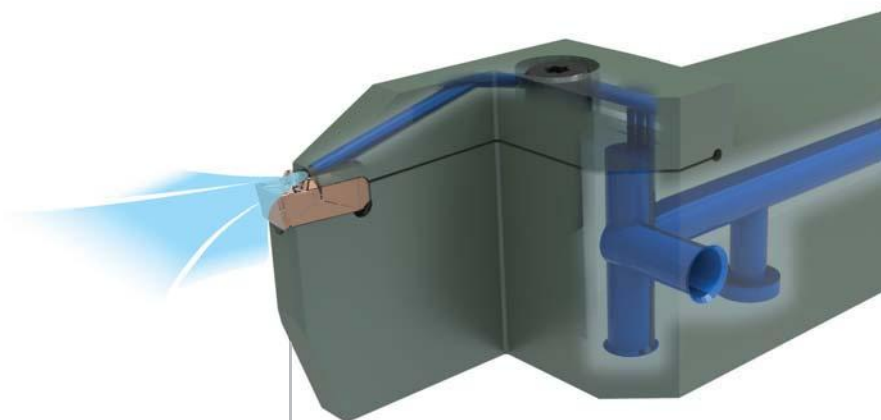
For more information, please visit kenametal.com/novo.

NOVO: The Digital Source for Delivering Smart Machining Solutions

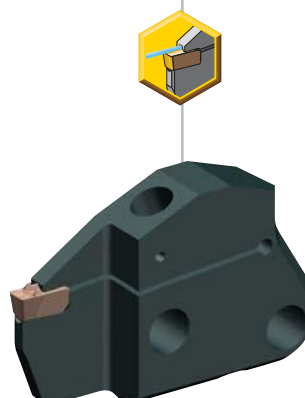
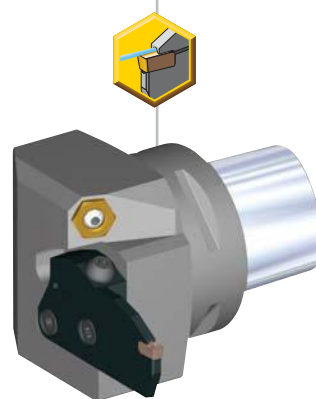
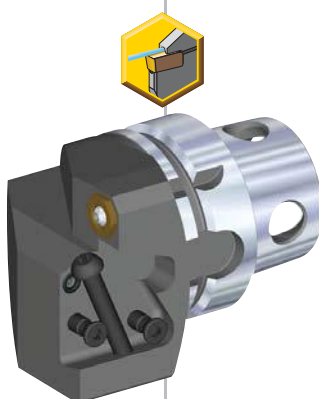
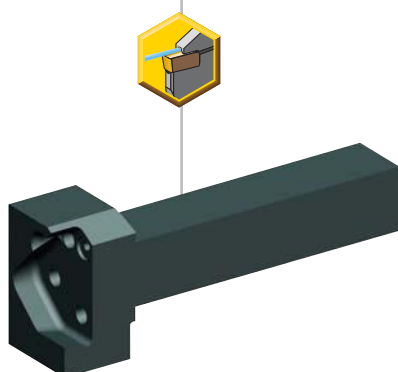
Your day made **EASY** —



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



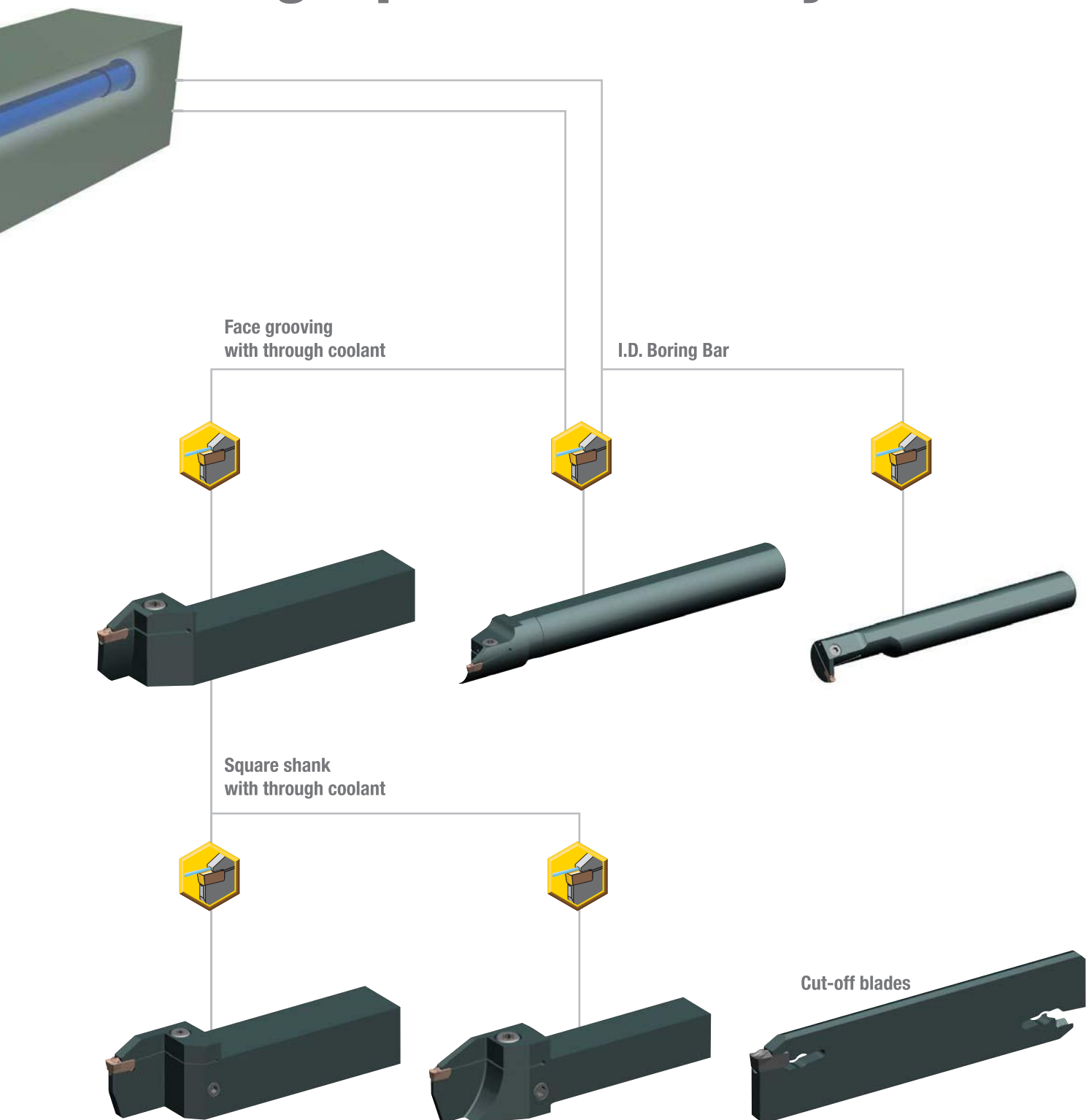
Modular with
through coolant





EVOLUTION™

high-performance system.



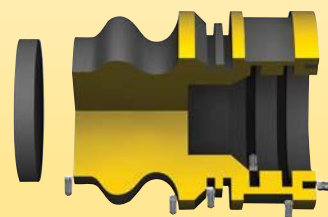
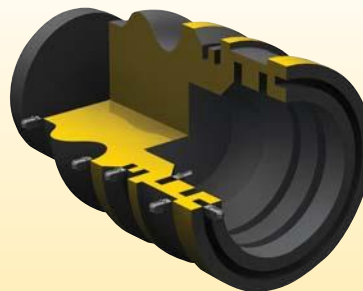
Step 1 • Identify your grooving or cut-off application

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.

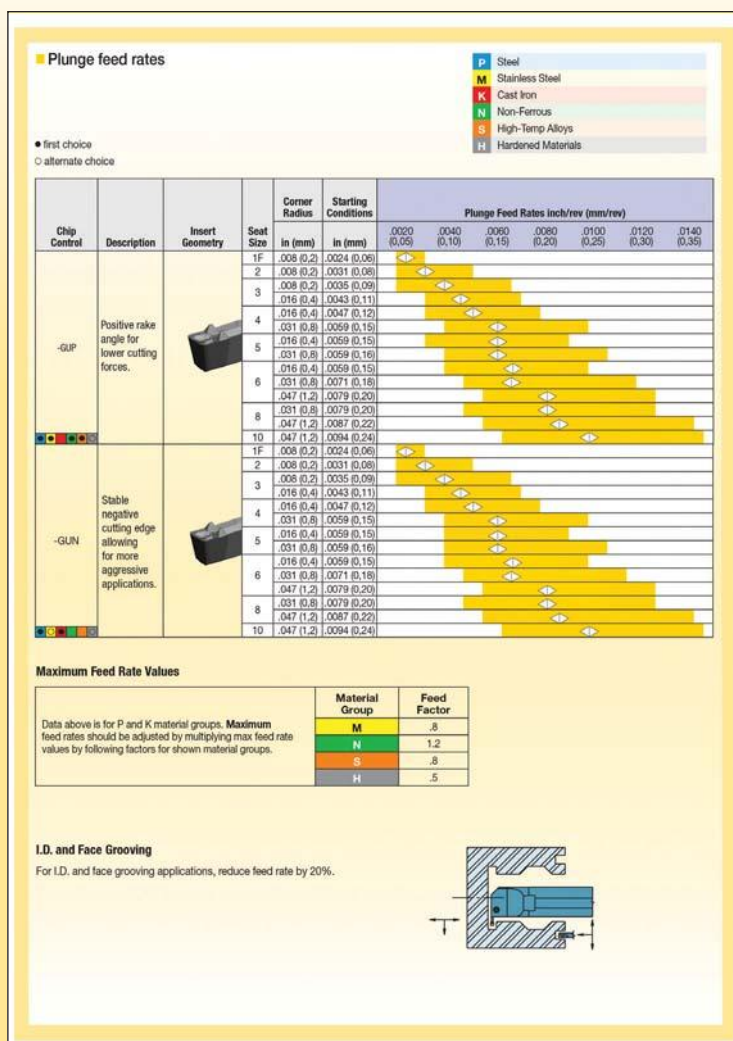
General Recommendation to Select the Insert Size

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.



Step 3 • Select the starting speed

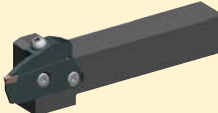
Based on material and grade, identify starting speed (vc). First choice is in **bold** type.

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

Recommended Starting Speeds [SFM]																						
Material Group	K313			KCU10			KCU25			KCM35B			KCP10B			KCP25B			KCK20B A			
P	0-1	-	-	-	450	925	1180	360	740	880	290	590	700	600	1320	1475	475	925	1200	660	1450	1620
	2	-	-	-	450	650	1000	360	520	880	290	420	510	600	880	1150	475	650	1000	660	970	1260
	3	-	-	-	450	510	800	360	410	800	290	330	510	550	630	850	450	510	800	600	700	920
	4	-	-	-	250	360	550	200	290	540	160	230	350	300	480	650	250	360	600	330	530	710
	5	-	-	-	400	660	850	320	530	680	260	420	540	500	720	1000	400	650	875	550	800	1100
	6	-	-	-	350	500	750	280	400	600	220	320	480	400	600	900	350	500	750	440	660	990
M	1	200	300	400	450	700	940	300	550	800	250	400	450	-	-	-	-	-	-	-	-	-
	2	150	250	350	400	650	800	300	500	800	250	350	450	-	-	-	-	-	-	-	-	-
	3	120	220	320	400	600	800	300	450	700	250	300	450	-	-	-	-	-	-	-	-	-
K	1	100	250	400	400	600	800	320	480	760	-	-	-	560	800	1440	455	650	1170	700	1000	1800
	2	75	225	350	300	500	800	240	400	560	-	-	-	400	640	1120	325	520	910	500	800	1400
	3	65	190	300	200	350	500	160	280	400	-	-	-	400	560	880	325	455	715	500	700	1100
N	1-2	500	1200	2000	500	1800	3200	400	1440	2560	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	400	900	1400	400	1200	2360	320	960	1600	-	-	-	-	-	-	-	-	-	-	-	-
	5	150	300	500	300	550	800	240	440	640	-	-	-	-	-	-	-	-	-	-	-	-

Step 4 • Select toolholder based on application

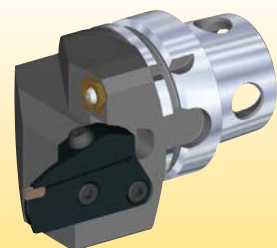
Choose the high-performance holder based on your specific grooving or cut-off application, with the corresponding seat size.

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 catalog page

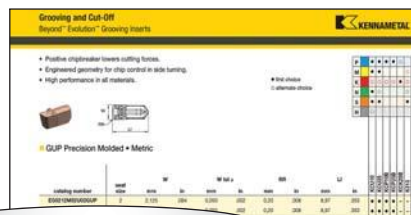
Congratulations!

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



How Do Catalog Numbers Work?

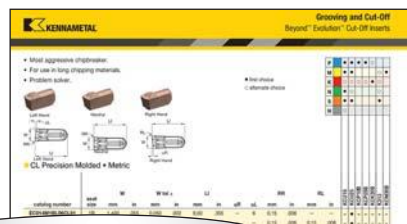
Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



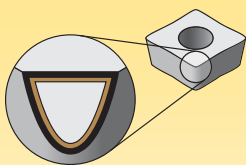
EG0312M03U02GUP

E	G	0312	M	03	U	02	GUP																																																										
Family Name	Insert Type	Groove Width	Unit	Seat Size	Tolerance	Corner Radius	Chipbreaker/ Edge Condition																																																										
Beyond™ Evolution™	G = Square R = Full Radius	Metric = 1/100 mm Inch = 1/1000"	M = Metric I = Inch		U = Precision Molded P = Precision Ground		GUP = Groove-Turn Universal Positive GUN = Groove-Turn Universal Negative FB = Flat Top Blank PB = Positive Chip Control Blank																																																										
				<table><thead><tr><th rowspan="2">seat size</th><th colspan="2">groove width</th></tr><tr><th>mm</th><th>inch</th></tr></thead><tbody><tr><td>1B</td><td>1,40</td><td>.055</td></tr><tr><td>1F</td><td>1,60–1,99</td><td>.063–.078</td></tr><tr><td>02</td><td>2,00–2,99</td><td>.079–.117</td></tr><tr><td>03</td><td>3,00–3,99</td><td>.118–.156</td></tr><tr><td>04</td><td>4,00–4,99</td><td>.157–.196</td></tr><tr><td>05</td><td>5,00–5,99</td><td>.197–.235</td></tr><tr><td>06</td><td>6,00–7,99</td><td>.236–.314</td></tr><tr><td>08</td><td>8,00–8,99</td><td>.315–.353</td></tr><tr><td>10</td><td>9,00–10,12</td><td>.354–.398</td></tr></tbody></table> *.312" = seat size 08	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			<table><thead><tr><th colspan="2">mm</th></tr></thead><tbody><tr><td>00</td><td>full radius</td></tr><tr><td>01</td><td>0,1</td></tr><tr><td>02</td><td>0,2</td></tr><tr><td>04</td><td>0,4</td></tr><tr><td>08</td><td>0,8</td></tr><tr><td>12</td><td>1,2</td></tr></tbody></table> <table><thead><tr><th colspan="2">inch</th></tr></thead><tbody><tr><td>00</td><td>full radius</td></tr><tr><td>05</td><td>.008</td></tr><tr><td>1</td><td>.016</td></tr><tr><td>2</td><td>.032</td></tr><tr><td>3</td><td>.047</td></tr></tbody></table>	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
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By referencing this easy-to-use guide, you can identify the correct product to meet your needs.



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		N = Neutral	00 = Neutral	CL = Cut-Off Low Feed	
			I = Inch		L = Left hand			
					R = Right hand		CM = Cut-Off Medium	
							CR = Cut-Off Rough	
							</	



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

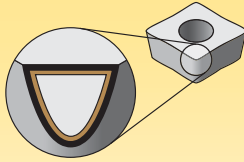
Grades

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

beyond

beyond

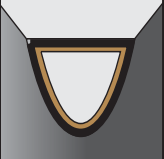
beyond



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

		wear resistance ← → toughness										
Coating	Grade Description		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-Al₂O₃-TiOCN coating with superior interlayer adhesion. Application: An excellent finishing to medium machining grade for a variety of workpiece materials, including most steels, ferritic, martensitic, and PH stainless steels, and cast irons. The cobalt-enriched substrate offers a balanced combination of deformation resistance and edge toughness, while the thick coating layers offer outstanding abrasion resistance and crater wear resistance for high-speed machining. Smooth coating provides resistance to edge build-up and microchipping and produces excellent surface finishes.	P									
			K									
KCP25B	 —	Composition: A tough cobalt-enriched carbide grade with a newly designed multilayer MTCVD-TiCN-Al₂O₃-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 minimizes microchipping and improves coating adhesion to substrate leading to long tool life and improved workpiece finishes.	P									
			K									
KCK20B	 —	Composition: A multilayered coating with thick MTCVD TiCN-Al₂O₃-TiOCN layers applied over a carbide substrate specifically engineered for cast irons. Application: Delivers consistent performance in high-speed machining of gray 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									
KCM35B	 —	Composition: A multilayer TiN-MT-TiCN-Al₂O₃-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™

beyond

DRIVE™

beyond

DRIVE™

beyond

DRIVE™

Select the geometry

- 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	Starting Conditions	Plunge Feed Rates inch/rev (mm/rev)					
				in (mm)	in (mm)	.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)		○	●			
			4	.016 (0,4)	.0043 (0,11)		○	○	●		
				.016 (0,4)	.0047 (0,12)			○	○	●	
				.031 (0,8)	.0059 (0,15)				○	○	●

Pictorial View of Insert

Corner Radius

Seat Size

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

● first choice

○ alternate choice

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

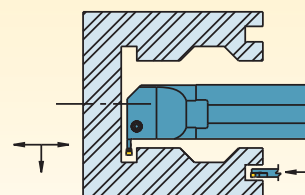
Chip Control	Description	Insert Geometry	Seat Size	Corner Radius	Starting Conditions	Plunge Feed Rates inch/rev (mm/rev)						
				in (mm)	in (mm)	.0020 (0,05)	.0040 (0,10)	.0060 (0,15)	.0080 (0,20)	.0100 (0,25)	.0120 (0,30)	.0140 (0,35)
-GUP	Positive rake angle for lower cutting forces.		1F	.008 (0,2)	.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)		●					
			5	.016 (0,4)	.0059 (0,15)		●					
				.031 (0,8)	.0059 (0,16)		●					
			6	.016 (0,4)	.0059 (0,15)		●					
				.031 (0,8)	.0071 (0,18)		●					
-GUN	Stable negative cutting edge allowing for more aggressive applications.		3	.047 (1,2)	.0079 (0,20)		●					
				.031 (0,8)	.0079 (0,20)		●					
			8	.047 (1,2)	.0087 (0,22)		●					
				.047 (1,2)	.0094 (0,24)		●					
			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)		●					
			5	.016 (0,4)	.0059 (0,15)		●					
				.031 (0,8)	.0059 (0,16)		●					
			6	.016 (0,4)	.0059 (0,15)		●					
				.031 (0,8)	.0071 (0,18)		●					
			8	.047 (1,2)	.0079 (0,20)		●					
				.047 (1,2)	.0087 (0,22)		●					
			10	.047 (1,2)	.0094 (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

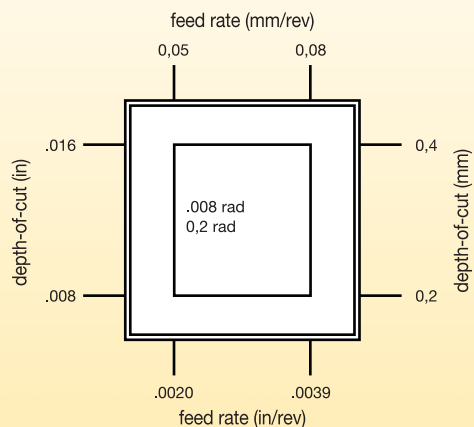
I.D. and Face Grooving

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

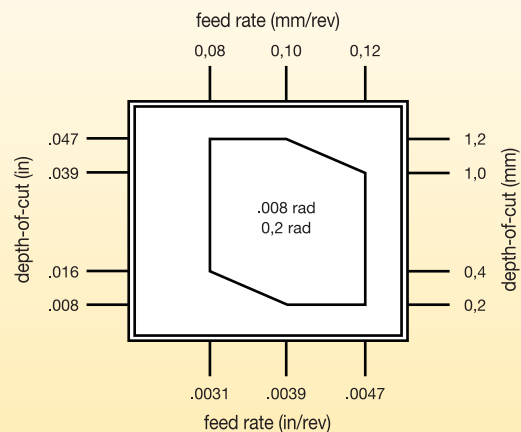


Turn and profile feed rates

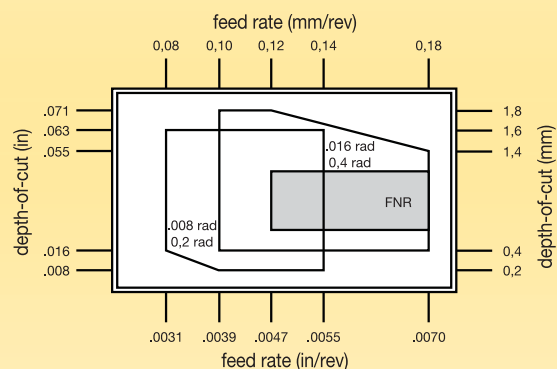
Seat Size 1F



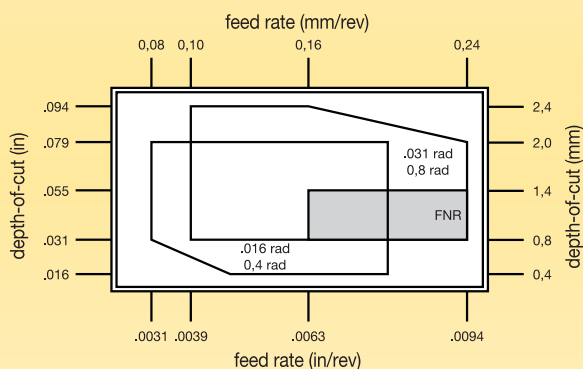
Seat Size 2



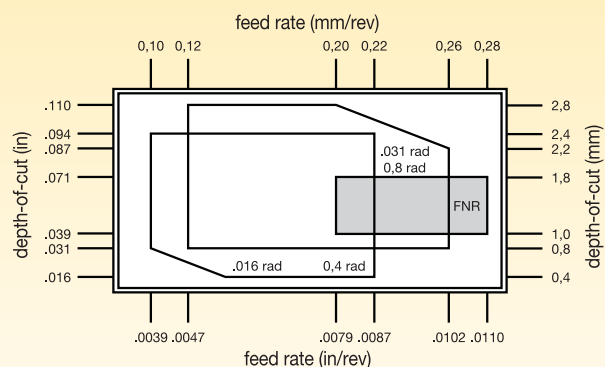
Seat Size 3



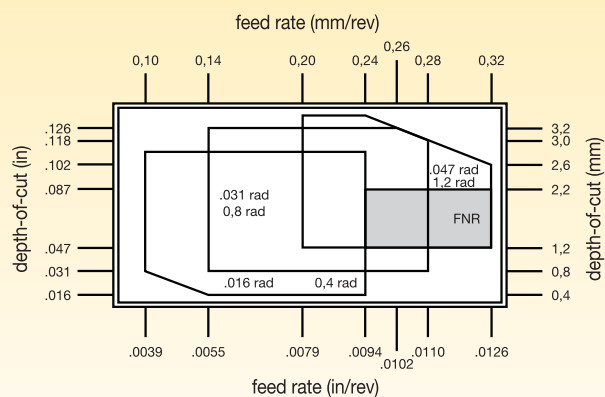
Seat Size 4



Seat Size 5



Seat Size 6

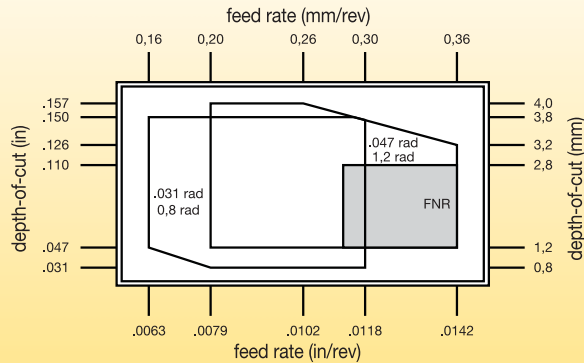


* FNR = Full Nose Radius

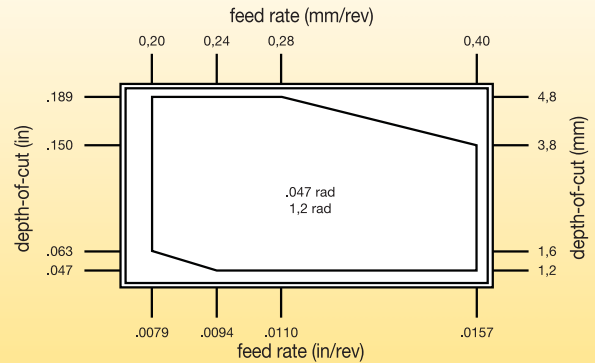
(continued)

(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 in (mm)	Cut-Off Feed Rates inch/rev (mm/rev)							
					.0020 (0,05)	.0040 (0,10)	.0060 (0,15)	.0080 (0,20)	.0100 (0,25)	.0120 (0,30)	.0140 (0,35)	.0160 (0,40)
-CL	Aggressive geometry for hard to break chips.		1B	.0024 (0,06)								
			2	.0028 (0,07)								
			3	.0031 (0,08)								
			4	.0035 (0,09)								
-CF	Positive geometry for reduced cutting forces.		1B	.0024 (0,06)								
			2	.0028 (0,07)								
			3	.0035 (0,09)								
			4	.0043 (0,11)								
			5	.0051 (0,13)								
-CM	Stable cutting edge for aggressive feed rates. Primarily in cast iron.		1B	.0024 (0,06)								
			2	.0028 (0,07)								
			3	.0035 (0,09)								
			4	.0043 (0,11)								
			5	.0055 (0,14)								
			6	.0063 (0,16)								
			8	.0067 (0,17)								
-CR	Most stable cutting edge for steel.		2	.0039 (0,10)								
			3	.0055 (0,14)								
			4	.0063 (0,16)								
			5	.0075 (0,19)								
			6	.0083 (0,21)								
			8	.0090 (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

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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

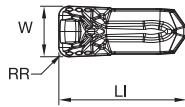
Recommended Starting Speeds [SFM]

Material Group		K313			KCU10			KCU25			KCM35B			KCP10B			KCP25B			KCK20B		
P	0-1	-	-	-	450	925	1180	360	740	880	290	590	700	600	1320	1475	475	925	1200	660	1450	1620
	2	-	-	-	450	650	1000	360	520	880	290	420	510	600	880	1150	475	650	1000	660	970	1260
	3	-	-	-	450	510	800	360	410	800	290	330	510	550	630	850	450	510	800	600	700	920
	4	-	-	-	250	360	550	200	290	540	160	230	350	300	480	650	250	360	600	330	530	710
	5	-	-	-	400	660	850	320	530	680	260	420	540	500	720	1000	400	650	875	550	800	1100
	6	-	-	-	350	500	750	280	400	600	220	320	480	400	600	900	350	500	750	440	660	990
M	1	200	300	400	450	700	940	300	550	800	250	400	450	-	-	-	-	-	-	-	-	-
	2	150	250	350	400	650	800	300	500	800	250	350	450	-	-	-	-	-	-	-	-	-
	3	120	220	320	400	600	800	300	450	700	250	300	450	-	-	-	-	-	-	-	-	-
K	1	100	250	400	400	600	800	320	480	760	-	-	-	560	800	1440	455	650	1170	700	1000	1800
	2	75	225	350	300	500	800	240	400	560	-	-	-	400	640	1120	325	520	910	500	800	1400
	3	65	190	300	200	350	500	160	280	400	-	-	-	400	560	880	325	455	715	500	700	1100
N	1-2	500	1200	2000	500	1800	3200	400	1440	2560	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	400	900	1400	400	1200	2360	320	960	1600	-	-	-	-	-	-	-	-	-	-	-	-
	5	150	300	500	300	550	800	240	440	640	-	-	-	-	-	-	-	-	-	-	-	-
	6	120	250	500	400	700	1000	320	560	800	-	-	-	-	-	-	-	-	-	-	-	-
S	1	25	100	250	50	180	450	25	125	200	25	125	200	-	-	-	-	-	-	-	-	-
	2	25	110	250	50	195	450	25	100	250	25	100	200	-	-	-	-	-	-	-	-	-
	3	25	125	250	50	225	500	50	125	250	50	125	200	-	-	-	-	-	-	-	-	-
	4	25	150	250	50	225	550	25	175	350	50	150	300	-	-	-	-	-	-	-	-	-
H	1	-	-	-	100	150	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	-	-	-	50	100	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

NOTE: FIRST choice starting speeds are in **bold** type.

As the average chip thickness increases, the speed should be decreased.

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



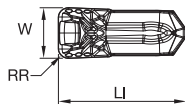
- first choice
- alternate choice

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

■ GUP Precision Molded • Metric

catalog number	seat size	W		W tol ±		RR		LI		KC10	KC25	KCP10B	KCP25B	KCK20B	KCM35B	K313
		mm	in	mm	in	mm	in	mm	in							
EG0212M02U02GUP	2	2,125	.084	0,050	.002	0,20	.008	8,97	.353	●	●	●	●	-	-	-
EG0251M02U02GUP	2	2,511	.099	0,050	.002	0,20	.008	8,97	.353	●	●	●	●	-	-	-
EG0312M03U02GUP	3	3,125	.123	0,075	.003	0,20	.008	9,60	.378	●	●	●	-	-	-	-
EG0312M03U04GUP	3	3,125	.123	0,075	.003	0,40	.016	9,60	.378	●	●	●	●	-	-	-
EG0412M04U04GUP	4	4,125	.162	0,075	.003	0,40	.016	10,19	.401	●	●	●	●	-	-	-
EG0412M04U08GUP	4	4,125	.162	0,075	.003	0,80	.031	10,19	.401	●	●	●	●	-	-	-
EG0512M05U04GUP	5	5,125	.202	0,075	.003	0,40	.016	12,25	.482	●	●	●	●	-	-	-
EG0512M05U08GUP	5	5,125	.202	0,075	.003	0,80	.031	12,25	.482	●	●	●	●	-	-	-
EG0612M06U04GUP	6	6,125	.241	0,075	.003	0,40	.016	14,60	.575	●	●	●	●	-	-	-
EG0612M06U08GUP	6	6,125	.241	0,075	.003	0,80	.031	14,60	.574	●	●	●	●	-	-	-
EG0712M06U08GUP	6	7,125	.281	0,075	.003	0,80	.032	14,60	.574	●	●	●	●	-	-	-
EG0812M08U08GUP	8	8,125	.320	0,075	.003	0,80	.031	17,47	.688	●	●	●	●	-	-	-
EG0812M08U12GUP	8	8,125	.320	0,075	.003	1,18	.046	17,45	.687	●	●	●	●	-	-	-
EG1012M10U12GUP	10	10,125	.399	0,075	.003	1,20	.047	20,80	.817	●	●	●	●	-	-	-

- More precise widths and better repeatability.



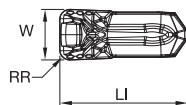
■ GUP Precision Ground • Metric

catalog number	seat size	W		W tol ±		RR		LI		KC10	KC25	KCP10B	KCP25B	KCK20B	KCM35B	K313
		mm	in	mm	in	mm	in	mm	in							
EG0200M02P02GUP	2	2,000	.079	0,025	.001	0,20	.008	8,80	.347	●	●	-	-	-	-	●
EG0300M03P02GUP	3	3,000	.118	0,025	.001	0,20	.008	9,40	.372	●	●	-	-	-	-	●
EG0300M03P04GUP	3	3,000	.118	0,025	.001	0,40	.016	9,60	.376	●	●	-	-	-	-	●
EG0400M04P04GUP	4	4,000	.157	0,025	.001	0,40	.016	10,10	.399	●	●	-	-	-	-	●
EG0400M04P08GUP	4	4,000	.158	0,025	.001	0,80	.032	10,10	.399	●	●	-	-	-	-	●
EG0500M05P04GUP	5	5,000	.197	0,025	.001	0,40	.016	12,20	.480	●	●	-	-	-	-	●
EG0500M05P08GUP	5	5,000	.197	0,025	.001	0,80	.032	12,20	.480	●	●	-	-	-	-	●
EG0600M06P04GUP	6	6,000	.236	0,025	.001	0,40	.016	14,50	.572	●	●	-	-	-	-	●
EG0600M06P08GUP	6	6,000	.236	0,025	.001	0,80	.031	14,50	.572	●	●	-	-	-	-	●
EG0700M06P08GUP	6	7,000	.276	0,025	.001	0,80	.031	14,50	.572	●	●	-	-	-	-	●
EG0800M08P08GUP	8	8,000	.315	0,025	.001	0,80	.031	17,40	.685	●	●	-	-	-	-	●
EG0800M08P12GUP	8	8,000	.315	0,025	.001	1,20	.047	17,40	.685	●	●	-	-	-	-	●
EG1000M10P12GUP	10	10,000	.394	0,025	.001	1,20	.047	20,70	.815	●	●	-	-	-	-	●

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

- first choice
- alternate choice

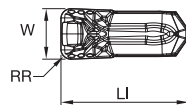
P	●	●	●	●	○				
M	●	●	●	●	●	○			
K	○	○	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○	○
S	●	●	●	●	●	●	●	●	●
H	○	○	○	○	○	○	○	○	○



GUP Precision Molded • Inch

catalog number	seat size	W		W tol ±		RR		LI		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
		mm	in	mm	in	mm	in	mm	in							
EG130I03U05GUP	3	3,301	.130	0,075	.003	0,20	.008	9,60	.378	●	●	●	●	-	-	-
EG130I03U1GUP	3	3,301	.130	0,075	.003	0,40	.016	9,60	.378	●	●	●	●	-	-	-
EG192I04U1GUP	4	4,877	.192	0,075	.003	0,40	.016	10,19	.401	●	●	●	●	-	-	-
EG192I04U2GUP	4	4,877	.192	0,075	.003	0,79	.031	10,19	.401	●	●	●	●	-	-	-
EG255I06U1GUP	6	6,478	.255	0,075	.003	0,40	.016	14,58	.574	●	●	●	●	-	-	-
EG255I06U2GUP	6	6,478	.255	0,075	.003	0,80	.031	14,58	.574	●	●	●	●	-	-	-
EG317I08U3GUP	8	8,051	.317	0,075	.003	1,19	.047	17,46	.687	●	●	●	●	-	-	-
EG380I10U3GUP	10	9,651	.380	0,075	.003	1,19	.047	20,80	.817	●	●	●	●	-	-	-

- More precise widths and better repeatability.



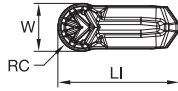
GUP Precision Ground • Inch

catalog number	seat size	W		W tol ±		RR		LI		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
		mm	in	mm	in	mm	in	mm	in							
EG063I1FP05GUP	1F	1,600	.063	0,025	.001	0,20	.008	9,00	.353	●	●	-	-	-	-	●
EG094I02P05GUP	2	2,388	.094	0,025	.001	0,20	.008	8,88	.350	●	●	-	-	-	-	●
EG125I03P05GUP	3	3,175	.125	0,025	.001	0,20	.008	9,40	.371	●	●	-	-	-	-	●
EG125I03P1GUP	3	3,175	.125	0,025	.001	0,40	.016	9,40	.372	●	●	-	-	-	-	●
EG187I04P1GUP	4	4,760	.188	0,025	.001	0,40	.016	10,10	.399	●	●	-	-	-	-	●
EG187I04P2GUP	4	4,762	.188	0,025	.001	0,79	.031	10,10	.399	●	●	-	-	-	-	●
EG250I06P1GUP	6	6,350	.250	0,025	.001	0,40	.016	14,50	.572	●	●	-	-	-	-	●
EG250I06P2GUP	6	6,350	.250	0,025	.001	0,80	.031	14,50	.572	●	●	-	-	-	-	●
EG312I08P3GUP	8	7,920	.312	0,025	.001	1,20	.047	17,40	.685	●	●	-	-	-	-	●
EG375I10P3GUP	10	9,525	.375	0,025	.001	1,20	.047	20,70	.815	●	●	-	-	-	-	●

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

- first choice
- alternate choice

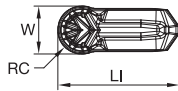
P	●	●	●	●	○	○	○	○	○
M	●	●	●	●	○	○	○	○	○
K	○	○	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○	○
S	●	●	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○



■ GUP Full Radius Precision Molded • Metric

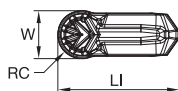
catalog number	seat size	W		W tol ±		RC		LI		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
		mm	in	mm	in	mm	in	mm	in							
ER0212M02U00GUP	2	2,120	.084	0,050	.002	1,060	.04	8,97	.353	●	●	●	●	-	-	-
ER0312M03U00GUP	3	3,125	.123	0,075	.003	1,560	.06	9,60	.378	●	●	●	●	-	-	-
ER0412M04U00GUP	4	4,125	.162	0,075	.003	2,060	.08	10,20	.401	●	●	●	●	-	-	-
ER0512M05U00GUP	5	5,125	.202	0,075	.003	2,560	.10	12,20	.482	●	●	●	●	-	-	-
ER0612M06U00GUP	6	6,125	.241	0,075	.003	3,060	.12	14,60	.575	●	●	●	●	-	-	-
ER0812M08U00GUP	8	8,125	.320	0,075	.003	4,060	.16	17,50	.688	●	●	●	●	-	-	-

- More precise widths and better repeatability.



■ GUP Full Radius Precision Ground • Metric

catalog number	seat size	W		W tol ±		RC		LI		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
		mm	in	mm	in	mm	in	mm	in							
ER0200M02P00GUP	2	2,000	.079	0,025	.001	1,000	.04	8,91	.351	●	●	-	-	-	-	-
ER0300M03P00GUP	3	3,000	.118	0,025	.001	1,500	.06	9,50	.376	●	●	-	-	-	-	-
ER0400M04P00GUP	4	4,000	.157	0,025	.001	2,000	.08	10,10	.399	●	●	-	-	-	-	-
ER0500M05P00GUP	5	5,000	.197	0,025	.001	2,500	.10	12,20	.480	●	●	-	-	-	-	-
ER0600M06P00GUP	6	6,000	.236	0,025	.001	3,000	.12	14,50	.572	●	●	-	-	-	-	-
ER0800M08P00GUP	8	8,000	.315	0,025	.001	4,000	.16	17,40	.685	●	●	-	-	-	-	-



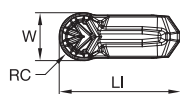
■ GUP Full Radius Precision Molded • Inch

catalog number	seat size	W		W tol ±		RC		LI		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
		mm	in	mm	in	mm	in	mm	in							
ER130103U00GUP	3	3,302	.130	0,075	.003	1,650	.07	9,60	.378	●	●	●	●	-	-	-
ER192104U00GUP	4	4,878	.192	0,075	.003	2,440	.10	10,20	.401	●	●	●	●	-	-	-
ER255106U00GUP	6	6,478	.255	0,075	.003	3,240	.13	14,60	.575	●	●	●	●	-	-	-
ER317108U00GUP	8	8,052	.317	0,075	.003	4,030	.16	17,50	.688	●	●	●	●	-	-	-

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

- first choice
- alternate choice

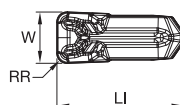
P	●	●	●	●	○				
M	●	●	●	●	●	○			
K	○	○	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○	○
S	●	●	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○



■ GUP Full Radius Precision Ground • Inch

catalog number	seat size	W		W tol ±		RC		LI		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
		mm	in	mm	in	mm	in	mm	in							
ER125I03P00GUP	3	3,175	.125	0,025	.001	1,590	.06	9,50	.376	●	●	-	-	-	-	●
ER187I04P00GUP	4	4,762	.187	0,025	.001	2,380	.09	10,10	.399	●	●	-	-	-	-	●
ER250I06P00GUP	6	6,350	.250	0,025	.001	3,170	.13	14,50	.572	●	●	-	-	-	-	●
ER312I08P00GUP	8	7,920	.312	0,025	.001	3,960	.16	17,40	.685	●	●	-	-	-	-	●

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



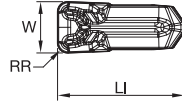
■ GUN Precision Molded • Metric

catalog number	seat size	W		W tol ±		RR		LI		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
		mm	in	mm	in	mm	in	mm	in							
EG0212M02U02GUN	2	2,125	.084	0,050	.002	0,20	.008	8,97	.353	●	●	●	●	●	-	-
EG0251M02U02GUN	2	2,510	.099	0,050	.002	0,20	.008	8,97	.353	●	●	●	●	●	-	-
EG0312M03U02GUN	3	3,125	.123	0,075	.003	0,20	.008	9,60	.378	●	●	●	●	●	-	-
EG0312M03U04GUN	3	3,125	.123	0,075	.003	0,40	.016	9,60	.378	●	●	●	●	●	-	-
EG0412M04U04GUN	4	4,125	.162	0,075	.003	0,40	.016	10,19	.401	●	●	●	●	●	-	-
EG0412M04U08GUN	4	4,125	.162	0,075	.003	0,80	.031	10,19	.401	●	●	●	●	●	-	-
EG0512M05U04GUN	5	5,125	.202	0,075	.003	0,40	.016	12,20	.481	●	●	●	●	●	-	-
EG0512M05U08GUN	5	5,125	.202	0,075	.003	0,80	.031	12,20	.481	●	●	●	●	●	-	-
EG0612M06U04GUN	6	6,125	.241	0,075	.003	0,40	.016	14,60	.575	●	●	●	●	●	-	-
EG0612M06U08GUN	6	6,125	.241	0,075	.003	0,80	.031	14,60	.574	●	●	●	●	●	-	-
EG0812M08U08GUN	8	8,125	.320	0,075	.003	0,80	.031	17,50	.687	●	●	●	●	●	-	-
EG0812M08U12GUN	8	8,125	.320	0,075	.003	1,20	.047	17,50	.687	●	●	●	●	●	-	-
EG1012M10U12GUN	10	10,125	.399	0,075	.003	1,20	.047	20,80	.817	●	●	●	●	●	-	-

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

● first choice
○ alternate choice

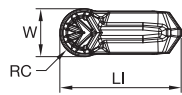
P	●	●	●	●	○				
M	●	●	●	●	●	○			
K	○	○	○	○	○	○	○	○	○
N	●	○	○	○	○	○	○	○	○
S	●	●	○	○	○	○	○	○	○
H	○	○	○	○	○	○	○	○	○



■ GUN Precision Molded • Inch

catalog number	seat size	W		W tol ±		RR		LI		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
		mm	in	mm	in	mm	in	mm	in							
EG06311FU05GUN	1F	1,600	.063	0,050	.002	0,20	.008	9,00	.355	●	●	●	●	●	-	-
EG094102U05GUN	2	2,388	.094	0,050	.002	0,20	.008	8,97	.353	●	●	●	●	●	-	-
EG125103U05GUN	3	3,175	.125	0,075	.003	0,20	.008	9,60	.378	●	●	●	●	●	-	-
EG125103U1GUN	3	3,175	.125	0,075	.003	0,40	.016	9,60	.378	●	●	●	●	●	-	-
EG130103U05GUN	3	3,302	.130	0,075	.003	0,20	.008	9,60	.378	●	●	●	●	●	-	-
EG130103U1GUN	3	3,302	.130	0,075	.003	0,40	.016	9,60	.378	●	●	●	●	●	-	-
EG187104U1GUN	4	4,750	.187	0,075	.003	0,40	.016	10,20	.401	●	●	●	●	●	-	-
EG187104U2GUN	4	4,750	.187	0,075	.003	0,80	.032	10,19	.401	●	●	●	●	●	-	-
EG192104U1GUN	4	4,877	.192	0,075	.003	0,40	.016	10,19	.401	●	●	●	●	●	-	-
EG192104U2GUN	4	4,878	.192	0,075	.003	0,79	.031	10,19	.401	●	●	●	●	●	-	-
EG250106U1GUN	6	6,350	.250	0,075	.003	0,40	.016	14,58	.574	●	●	●	●	●	-	-
EG250106U2GUN	6	6,350	.250	0,075	.003	0,80	.032	14,58	.574	●	●	●	●	●	-	-
EG255106U1GUN	6	6,477	.255	0,075	.003	0,40	.016	14,58	.574	●	●	●	●	●	-	-
EG255106U2GUN	6	6,477	.255	0,075	.003	0,80	.031	14,58	.574	●	●	●	●	●	-	-
EG312108U3GUN	8	7,925	.312	0,075	.003	1,20	.047	17,46	.687	●	●	●	●	●	-	-
EG317108U3GUN	8	8,052	.317	0,075	.003	1,19	.047	17,46	.687	●	●	●	●	●	-	-
EG375110U3GUN	10	9,525	.375	0,075	.003	1,20	.047	20,80	.817	●	●	●	●	●	-	-
EG380110U3GUN	10	9,651	.380	0,075	.003	1,20	.047	20,80	.817	●	●	●	●	●	-	-

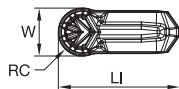
- Negative rake face for strongest cutting edge.
- First choice in profiling.
- >180° cutting edge.
- High performance in all materials.



■ GUN Full Radius Precision Molded • Metric

catalog number	seat size	W		W tol ±		RC		LI		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
		mm	in	mm	in	mm	in	mm	in							
ER0212M02U00GUN	2	2,120	.083	0,050	.002	1,060	.04	8,97	.353	●	●	●	●	●	-	-
ER0312M03U00GUN	3	3,125	.123	0,075	.003	1,560	.06	9,60	.378	●	●	●	●	●	-	-
ER0412M04U00GUN	4	4,125	.162	0,075	.003	2,060	.08	10,20	.401	●	●	●	●	●	-	-
ER0512M05U00GUN	5	5,125	.202	0,075	.003	2,560	.10	12,20	.482	●	●	●	●	●	-	-
ER0612M06U00GUN	6	6,125	.241	0,075	.003	3,060	.12	14,60	.575	●	●	●	●	●	-	-
ER0812M08U00GUN	8	8,125	.320	0,075	.003	4,060	.16	17,47	.688	●	●	●	●	●	-	-

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



- first choice
- alternate choice

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

■ GUN Full Radius Precision Molded • Inch

catalog number	seat size	W		W tol ±		RC		LI		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
		mm	in	mm	in	mm	in	mm	in							
ER094I02U00GUN	2	2,387	.094	0,050	.002	1,190	.05	8,97	.353	●	●	●	●	●	-	-
ER125I03U00GUN	3	3,177	.125	0,075	.003	1,590	.06	9,60	.378	●	●	●	●	●	-	-
ER130I03U00GUN	3	3,300	.130	0,075	.003	1,650	.07	9,60	.378	●	●	●	●	●	-	-
ER187I04U00GUN	4	4,750	.187	0,075	.003	2,370	.09	10,20	.401	●	●	●	●	●	-	-
ER192I04U00GUN	4	4,873	.192	0,075	.003	2,440	.10	10,20	.401	●	●	●	●	●	-	-
ER250I06U00GUN	6	6,346	.250	0,075	.003	3,170	.13	14,60	.575	●	●	●	●	●	-	-
ER255I06U00GUN	6	6,473	.255	0,075	.003	3,240	.13	14,60	.575	●	●	●	●	●	-	-
ER312I08U00GUN	8	7,925	.312	0,075	.003	3,960	.16	17,50	.688	●	●	●	●	●	-	-
ER317I08U00GUN	8	8,052	.317	0,075	.003	4,030	.16	17,50	.688	●	●	●	●	●	-	-

Beyond™ Evolution™ Cut-Off Inserts

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



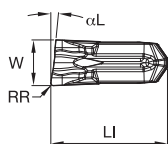
Left Hand



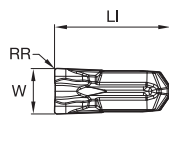
Neutral



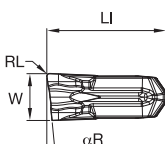
Right Hand



Left Hand



Neutral



Right Hand

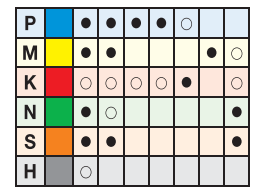
- first choice
- alternate choice

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

■ CF Precision Molded • Metric

catalog number	seat size	W		W tol ±		LI		RR		RL		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K313
		mm	in	mm	in	mm	in	αR	αL	mm	in	mm	in					
EC014M1BL06CF01	1B	1,404	.055	0,050	.002	9,00	.355	—	6	0,15	.006	—	—	-	●	-	●	-
EC014M1BN00CF01	1B	1,400	.055	0,050	.002	9,00	.355	—	—	0,15	.006	0,15	.006	-	●	-	●	-
EC014M1BR06CF01	1B	1,404	.055	0,050	.002	9,00	.355	6	—	—	—	0,15	.006	-	●	-	●	-
EC020M02L06CF02	2	2,000	.079	0,050	.002	8,97	.353	—	6	0,20	.008	—	—	-	●	-	●	-
EC020M02N00CF02	2	2,000	.079	0,050	.002	8,97	.353	—	—	0,20	.008	0,20	.008	-	●	-	●	-
EC020M02R06CF02	2	2,000	.079	0,050	.002	8,97	.353	6	—	—	—	0,20	.008	-	●	-	●	-
EC030M03L06CF02	3	3,000	.118	0,075	.003	9,60	.378	—	6	0,20	.008	—	—	-	●	-	●	-
EC030M03N00CF02	3	3,000	.118	0,075	.003	9,60	.378	—	—	0,20	.008	0,20	.008	-	●	-	●	-
EC030M03R06CF02	3	3,000	.118	0,075	.003	9,60	.378	6	—	—	—	0,20	.008	-	●	-	●	-
EC040M04L06CF02	4	4,000	.157	0,075	.003	10,19	.401	—	6	0,20	.008	—	—	-	●	-	●	-
EC040M04N00CF02	4	4,000	.158	0,075	.003	10,19	.401	—	—	0,20	.008	0,20	.008	-	●	-	●	-
EC040M04R06CF02	4	4,000	.158	0,075	.003	10,19	.401	6	—	—	—	0,20	.008	-	●	-	●	-
EC050M05N00CF03	5	5,000	.197	0,075	.003	12,20	.482	—	—	0,30	.012	0,30	.012	-	●	-	●	-

- first choice
- alternate choice



Grooving and Cut-Off

catalog number	seat size	seat dimensions												KC10	KC125	KCP10B	KCP25B	KCK20B	KCM35B	K313
		W		W tol ±		LI		RR		RL										
		mm	in	mm	in	mm	in	αR	αL	mm	in	mm	in							
EC014M1BL06CL01	1B	1,400	.055	0,050	.002	9,00	.355	—	6	0,15	.006	—	—	—	●	—	—	—	●	—
EC014M1BN00CL01	1B	1,400	.055	0,050	.002	9,00	.355	—	—	0,15	.006	0,15	.006	—	●	—	—	—	●	—
EC014M1BR06CL01	1B	1,400	.055	0,050	.002	9,00	.355	6	—	—	—	0,15	.006	—	●	—	—	—	●	—
EC020M02L06CL02	2	2,000	.079	0,050	.002	8,96	.353	—	6	0,20	.008	—	—	—	●	—	—	—	●	—
EC020M02N00CL02	2	2,000	.079	0,050	.002	8,97	.353	—	—	0,20	.008	0,20	.008	—	●	—	—	—	●	—
EC020M02R06CL02	2	2,000	.079	0,050	.002	8,96	.353	6	—	—	—	0,20	.005	—	●	—	—	—	●	—
EC030M03L06CL02	3	3,000	.118	0,075	.003	9,59	.378	—	6	0,20	.008	—	—	—	●	—	—	—	●	—
EC030M03N00CL02	3	3,000	.118	0,075	.003	9,60	.378	—	—	0,20	.008	0,20	.008	—	●	—	—	—	●	—
EC030M03R06CL02	3	3,000	.118	0,075	.003	9,59	.378	6	—	—	—	0,20	.008	—	●	—	—	—	●	—
EC040M04L06CL02	4	4,000	.158	0,075	.003	10,19	.401	—	6	0,20	.008	—	—	—	●	—	—	—	●	—
EC040M04N00CL02	4	4,000	.157	0,075	.003	10,20	.401	—	—	0,20	.008	0,20	.008	—	●	—	—	—	●	—
EC040M04R06CL02	4	4,000	.158	0,075	.003	10,19	.401	6	—	—	—	0,20	.008	—	●	—	—	—	●	—

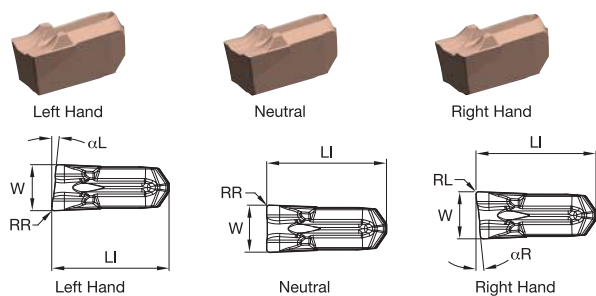
- first choice
- alternate choice

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

catalog number	seat size	W		W tol ±		LI				RR		RL		KCU10	KCU25	KCP10B	KCP25B	KCK20B	KCM35B	K213
		mm	in	mm	in	mm	in	αR	αL	mm	in	mm	in							
EC014M1BL06CM01	1B	1,400	.055	0,050	.002	9,00	.355	—	6	0,20	.008	—	—	—	●	—	—	—	—	—
EC014M1BN00CM01	1B	1,400	.055	0,050	.002	9,00	.355	—	—	0,15	.006	0,15	.006	—	●	—	—	—	—	—
EC014M1BR06CM01	1B	1,400	.055	0,050	.002	9,00	.355	6	—	—	—	0,20	.008	—	●	—	—	—	—	—
EC020M02L06CM02	2	2,000	.079	0,050	.002	9,00	.353	—	6	0,20	.008	—	—	—	●	—	—	—	—	—
EC020M02N00CM02	2	2,000	.079	0,050	.002	8,98	.353	—	—	0,20	.008	0,20	.008	—	●	—	—	—	—	—
EC020M02R06CM02	2	2,000	.079	0,050	.002	9,00	.353	6	—	—	—	0,20	.008	—	●	—	—	—	—	—
EC030M03L06CM02	3	3,000	.118	0,075	.003	9,60	.378	—	6	0,20	.008	—	—	—	●	—	—	—	—	—
EC030M03N00CM02	3	3,000	.118	0,075	.003	9,60	.378	—	—	0,20	.008	0,20	.008	—	●	—	—	—	—	—
EC030M03R06CM02	3	3,000	.118	0,075	.003	9,60	.378	6	—	—	—	0,20	.008	—	●	—	—	—	—	—
EC040M04L06CM02	4	4,000	.157	0,075	.003	10,20	.401	—	6	0,20	.008	—	—	—	●	—	—	—	—	—
EC040M04N00CM02	4	4,000	.158	0,075	.003	10,20	.402	—	—	0,20	.008	0,20	.008	—	●	—	—	—	—	—
EC040M04R06CM02	4	4,000	.157	0,075	.003	10,20	.401	6	—	—	—	0,20	.008	—	●	—	—	—	—	—
EC050M05N00CM03	5	5,000	.197	0,075	.003	12,20	.482	—	—	0,30	.012	0,30	.012	—	●	—	—	—	—	—
EC060M06N00CM03	6	6,000	.236	0,075	.003	14,59	.574	—	—	0,30	.012	0,30	.012	—	●	—	—	—	—	—
EC070M06N00CM04	6	7,000	.276	0,075	.003	14,60	.574	—	—	0,40	.016	0,40	.016	—	●	—	—	—	—	—
EC080M08N00CM04	8	8,000	.315	0,075	.003	17,50	.688	—	—	0,40	.016	0,40	.016	—	●	—	—	—	—	—

- 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



P							
M							
K							
N							
S							
H							

Grooving and Cut-Off

■ CR Precision Molded • Metric

catalog number	seat size	W		W tol ±		LI		RR		RL		KCUI0	KCUI25	KCP10B	KCP25B	KCK20B	KCM35B	K313
		mm	in	mm	in	mm	in	αR	αL	mm	in							
EC020M02L06CR02	2	2,000	.079	0,050	.002	9,00	.353	—	6	0,20	.008	—	—	-	●	-	-	-
EC020M02N00CR02	2	2,000	.079	0,050	.002	8,98	.353	—	—	0,20	.008	0,20	.008	-	●	-	-	-
EC020M02R06CR02	2	2,000	.079	0,050	.002	9,00	.353	6	—	—	—	0,20	.008	-	●	-	-	-
EC030M03L06CR02	3	3,000	.118	0,075	.003	9,60	.378	—	6	0,20	.008	—	—	-	●	-	-	-
EC030M03N00CR02	3	3,000	.118	0,075	.003	9,60	.378	—	—	0,20	.008	0,20	.008	-	●	-	-	-
EC030M03R06CR02	3	3,000	.118	0,075	.003	9,60	.378	6	—	—	—	0,20	.008	-	●	-	-	-
EC040M04L06CR02	4	4,000	.157	0,075	.003	10,20	.402	—	6	0,20	.008	—	—	-	●	-	-	-
EC040M04N00CR02	4	4,000	.158	0,075	.003	10,20	.402	—	—	0,20	.008	0,20	.008	-	●	-	-	-
EC040M04R06CR02	4	4,000	.157	0,075	.003	10,20	.402	6	—	—	—	0,20	.008	-	●	-	-	-
EC050M05N00CR03	5	5,000	.197	0,075	.003	12,25	.482	—	—	0,30	.012	0,30	.012	-	●	-	-	-
EC060M06L06CR04	6	6,000	.236	0,075	.003	14,59	.574	—	6	0,40	.016	—	—	-	●	-	-	-
EC060M06N00CR03	6	6,000	.236	0,075	.003	14,59	.574	—	—	0,30	.012	0,30	.012	-	●	-	-	-
EC060M06R06CR04	6	6,000	.236	0,075	.003	14,59	.574	6	—	—	—	0,40	.016	-	●	-	-	-
EC070M06N00CR04	6	7,000	.276	0,075	.003	14,60	.574	—	—	0,40	.016	0,40	.016	-	●	-	-	-
EC080M08L06CR04	8	8,000	.315	0,075	.003	17,50	.687	—	6	0,40	.016	—	—	-	●	-	-	-
EC080M08N00CR04	8	8,000	.315	0,075	.003	17,50	.687	—	—	0,40	.016	0,40	.016	-	●	-	-	-
EC080M08R06CR04	8	8,000	.315	0,075	.003	17,50	.687	6	—	—	—	0,40	.016	-	●	-	-	-

How Do Catalog 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.



EV**S****M****L****2525M****03****16****030035****C**

EV**S****M****L****160316030035****C**

Metric								
EV	S	M	L	2525M	03	16	030035	C
Inch								
EV	S	M	L	16	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		L = Left hand R = Right hand		1B 1F 02 03 04 05 06 08 10	in millimeters	030 = Minimum diameter in mm 035 = Maximum diameter in mm	C = Through the pocket coolant capable
M = Maximum support for specific groove width and straight clearance for unlimited workpiece diameter A = Face grooving-inboard sweep B = Face grooving-outboard sweep				Metric = Height x Width in mm letter indicates tool length according to ISO Inch = Height x Width in 1/16" increments				

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



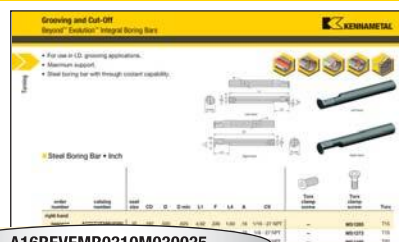
EVSCTL2525M0316C

EVSCTL160316C

Metric								
EV	S	C	T	L	2525M	03	16	C
Inch								
EV	S	C	T	L	16	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 millimeters	C = Through the pocket coolant capable
C = Reinforced support				Metric = Height x Width in mm letter indicates tool length according to ISO				
				Inch = Height x Width in 1/16" increments				

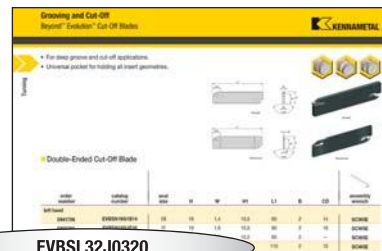
How Do Catalog Numbers Work?

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.



A16REVMR0310M030035

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.			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 millimeters	M = Metric I = Inch	030 = Minimum diameter in mm 035 = Maximum diameter in mm																					
Metric = Diameter in mm Inch = Diameter in 1/16" increments <table border="1"> <thead> <tr> <th>symbol</th> <th>mm</th> <th>inch</th> </tr> </thead> <tbody> <tr> <td>K</td> <td>125</td> <td>5</td> </tr> <tr> <td>M</td> <td>150</td> <td>6</td> </tr> <tr> <td>Q</td> <td>180</td> <td>7</td> </tr> <tr> <td>R</td> <td>200</td> <td>8</td> </tr> <tr> <td>S</td> <td>250</td> <td>10</td> </tr> <tr> <td>T</td> <td>300</td> <td>12</td> </tr> </tbody> </table>											symbol	mm	inch	K	125	5	M	150	6	Q	180	7	R	200	8	S	250	10	T	300	12
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 millimeters	According to ISO G = 90mm J = 110mm M = 150mm X = Special	1B 1F 02 03 04 05 06 08 10	in millimeters

How Do Catalog Numbers Work?

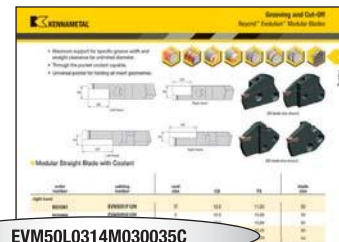
Each character in our catalog number signifies a specific trait of that product. Use the following key columns and corresponding images to easily identify which attributes apply.



KGMSL2525M50C

KGMSL1650C

Metric					
KGM	S	L	2525M	50	C
Inch					
KGM	S	L	16	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 Inch = Height x Width in 1/16" increments	50 65	C = Through coolant capable

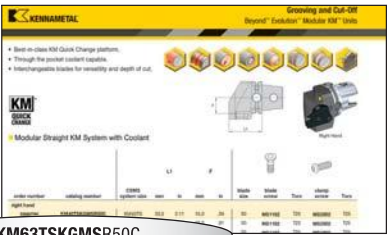


EVM50L0314M030035C

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 millimeters	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

How Do Catalog 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.



KM63TSKGMRS50C

KM

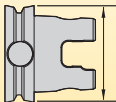
KM™
Quick-Change

KM™
KM4X™
PSC

63

System
Size

40 = 40mm
50 = 50mm
63 = 63mm
80 = 80mm
100 = 100mm



TS

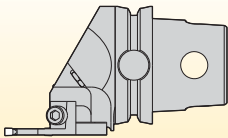
Feature

TS
XMZ

KGM

Insert
Holding Method

KGM



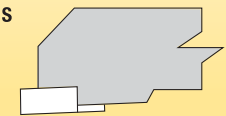
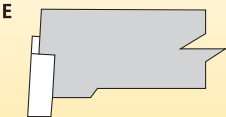
Modular Grooving

S

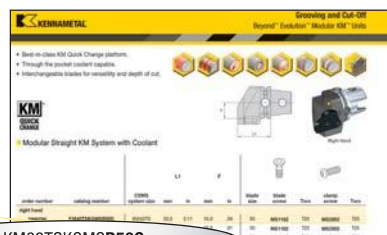
Insert
Location

E = End mount

S = Side mount



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



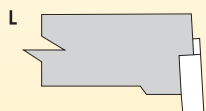
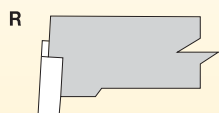
KM63TSKGMSR50C

R

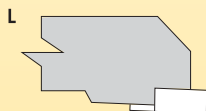
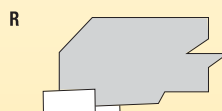
Hand
of Tool

R = Right hand
L = Left hand

End Mount



Side Mount



50

Blade Size

50
60

C

Coolant

C = Through the pocket coolant capable

Special
Features

Y = Mazak®
INTEGREX®

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.



VDIB2M402544C

C

Internal
Coolant

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

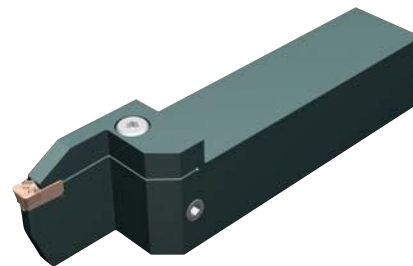
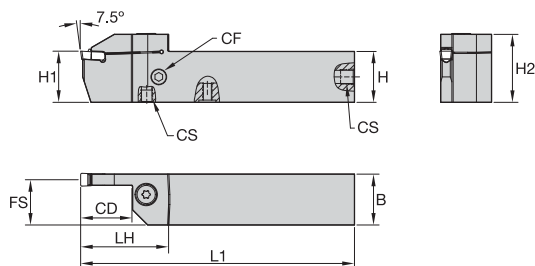
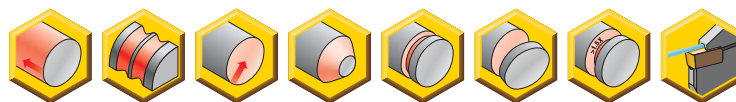
SELECT

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 catalog 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.

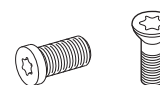
NOVO applications can ensure you have the right tools on your machines, in the right sequence. Resulting in flawless execution that accelerates every job, and maximizes every shift. kennametal.com/novo

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



Left Hand

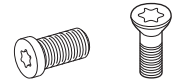
■ Integral Straight • Inch



order number	catalog number	seat size	CD	H1	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx clamp screw	Torx
right hand														
5956542	EVSMR120216	2	.63	.750	.750	1.03	4.50	.71	1.22	—	—	—	MS1160	T20
5956450	EVSMR160216	2	.63	1.000	1.000	1.28	6.00	.96	1.22	—	—	—	MS1160	T20
6401859	EVSMR160216C	2	.63	1.000	1.000	1.33	6.00	.96	1.39	G1/8 - 28	G1/8 - 28	MS2091	—	25 IP
5956541	EVSMR120222	2	.87	.750	.750	1.10	4.50	.71	1.50	—	—	MS2091	—	25 IP
6401860	EVSMR120222C	2	.87	.750	.750	1.09	4.50	.71	1.63	M8X1	M8X1	MS2091	—	25 IP
5956449	EVSMR160226	2	1.02	1.000	1.000	1.35	6.00	.96	1.65	—	—	MS2091	—	25 IP
6401858	EVSMR160226C	2	1.02	1.000	1.000	1.34	6.00	.96	1.78	G1/8 - 28	G1/8 - 28	MS2091	—	25 IP
5939462	EVSMR120316C	3	.63	.750	.750	1.09	4.50	.69	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5939458	EVSMR160316C	3	.63	1.000	1.000	1.34	6.00	.94	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5939461	EVSMR120322C	3	.87	.750	.750	1.10	4.50	.69	1.69	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5939457	EVSMR160326C	3	1.02	1.000	1.000	1.35	6.00	.94	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5939460	EVSMR120416C	4	.63	.750	.750	1.09	4.50	.68	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5939456	EVSMR160416C	4	.63	1.000	1.000	1.34	6.00	.93	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5939459	EVSMR120422C	4	.87	.750	.750	1.10	4.50	.68	1.69	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5939455	EVSMR160426C	4	1.02	1.000	1.000	1.35	6.00	.93	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5939454	EVSMR200426C	4	1.02	1.250	1.250	1.62	6.00	1.18	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5939463	EVSMR200432C	4	1.26	1.250	1.250	1.62	6.00	1.18	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955445	EVSMR120516C	5	.63	.750	.750	1.09	4.50	.66	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5955441	EVSMR160516C	5	.63	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955444	EVSMR120522C	5	.87	.750	.750	1.10	4.50	.66	1.69	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5955430	EVSMR160526C	5	1.02	1.000	1.000	1.35	6.00	.91	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955446	EVSMR200526C	5	1.02	1.250	1.250	1.62	6.00	1.16	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955447	EVSMR200532C	5	1.26	1.250	1.250	1.62	6.00	1.16	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955443	EVSMR120616C	6	.63	.750	.750	1.09	4.50	.64	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5955429	EVSMR160616C	6	.63	1.000	1.000	1.34	6.00	.89	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955442	EVSMR120622C	6	.87	.750	.750	1.10	4.50	.64	1.69	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5955428	EVSMR160626C	6	1.02	1.000	1.000	1.35	6.00	.89	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955448	EVSMR200626C	6	1.02	1.250	1.250	1.62	6.00	1.14	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955449	EVSMR200632C	6	1.26	1.250	1.250	1.66	6.00	1.14	2.17	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5955450	EVSMR240640C	6	1.58	1.500	1.500	1.93	7.00	1.39	2.48	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5955427	EVSMR160826C	8	1.02	1.000	1.000	1.39	6.00	.86	1.93	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5955451	EVSMR200826C	8	1.02	1.250	1.250	1.66	6.00	1.11	1.93	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5955452	EVSMR200832C	8	1.26	1.250	1.250	1.66	6.00	1.11	2.17	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5955453	EVSMR240840C	8	1.58	1.500	1.500	1.93	7.00	1.36	2.48	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5955454	EVSMR201032C	10	1.26	1.250	1.250	1.69	6.00	1.08	2.17	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5955455	EVSMR241040C	10	1.58	1.500	1.500	1.94	7.00	1.33	2.48	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45

(continued)

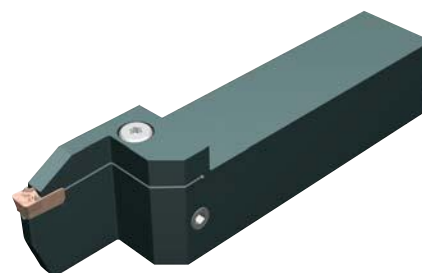
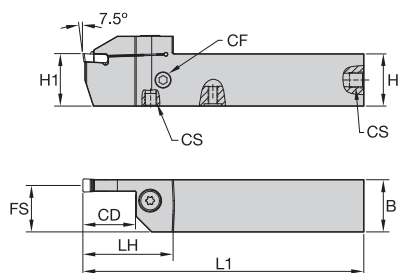
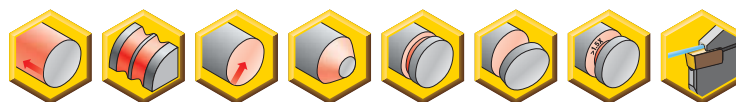
(Integral Straight • Inch — continued)



order number	catalog number	seat size	CD	H1	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx clamp screw	Torx
left hand														
5956543	EVSML120216	2	.63	.750	.750	1.03	4.50	.71	1.22	—	—	—	MS1160	T20
5956545	EVSML160216	2	.63	1.000	1.000	1.28	6.00	.96	1.22	—	—	—	MS1160	T20
5956544	EVSML120222	2	.87	.750	.750	1.10	4.50	.71	1.50	—	—	MS2091	—	25 IP
5956546	EVSML160226	2	1.02	1.000	1.000	1.35	6.00	.96	1.65	—	—	MS2091	—	25 IP
5939464	EVSML120316C	3	.63	.750	.750	1.09	4.50	.69	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5939466	EVSML160316C	3	.63	1.000	1.000	1.34	6.00	.94	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5939465	EVSML120322C	3	.87	.750	.750	1.10	4.50	.69	1.69	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5939467	EVSML160326C	3	1.02	1.000	1.000	1.35	6.00	.94	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5939468	EVSML120416C	4	.63	.750	.750	1.09	4.50	.68	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5939470	EVSML160416C	4	.63	1.000	1.000	1.34	6.00	.93	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5939469	EVSML120422C	4	.87	.750	.750	1.10	4.50	.68	1.69	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5939471	EVSML160426C	4	1.02	1.000	1.000	1.35	6.00	.93	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5939472	EVSML200426C	4	1.02	1.250	1.250	1.62	6.00	1.18	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5939453	EVSML200432C	4	1.26	1.250	1.250	1.62	6.00	1.18	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955456	EVSML120516C	5	.63	.750	.750	1.09	4.50	.66	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5955459	EVSML160516C	5	.63	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955457	EVSML120522C	5	.87	.750	.750	1.10	4.50	.66	1.69	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5955460	EVSML160526C	5	1.02	1.000	1.000	1.35	6.00	.91	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955426	EVSML200526C	5	1.02	1.250	1.250	1.62	6.00	1.16	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955461	EVSML200532C	5	1.26	1.250	1.250	1.62	6.00	1.16	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955462	EVSML120616C	6	.63	.750	.750	1.09	4.50	.64	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5955464	EVSML160616C	6	.63	1.000	1.000	1.34	6.00	.89	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955463	EVSML120622C	6	.87	.750	.750	1.10	4.50	.64	1.69	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5955465	EVSML160626C	6	1.02	1.000	1.000	1.35	6.00	.89	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955466	EVSML200626C	6	1.02	1.250	1.250	1.62	6.00	1.14	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5955467	EVSML200632C	6	1.26	1.250	1.250	1.66	6.00	1.14	2.17	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5955468	EVSML240640C	6	1.58	1.500	1.500	1.93	7.00	1.39	2.48	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5955469	EVSML160826C	8	1.02	1.000	1.000	1.39	6.00	.86	1.93	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5955470	EVSML200826C	8	1.02	1.250	1.250	1.66	6.00	1.11	1.93	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5955471	EVSML200832C	8	1.26	1.250	1.250	1.66	6.00	1.11	2.17	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5955472	EVSML240840C	8	1.58	1.500	1.500	1.93	7.00	1.36	2.48	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5955473	EVSML201032C	10	1.26	1.250	1.250	1.69	6.00	1.08	2.17	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5955474	EVSML241040C	10	1.58	1.500	1.500	1.94	7.00	1.33	2.48	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45

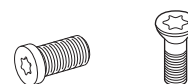
screw catalog number	screw order number	torque		thread	socket	wrench catalog number	wrench order number
		Nm	in. lbs.				
MS1160	1099645	7	62	M5	T20	KT20	1022703
MS1162	1127019	9	80	M6	T25	KT25	1022725
MS1163	1124104	18	159	M8	T30	KT30L	1099676
MS1273	1020977	4	35.4	M4	T15	KT15	1022701
MS1490	2263299	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

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



Left Hand

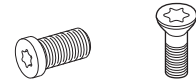
■ Integral Straight • Metric



order number	catalog 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
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

(continued)

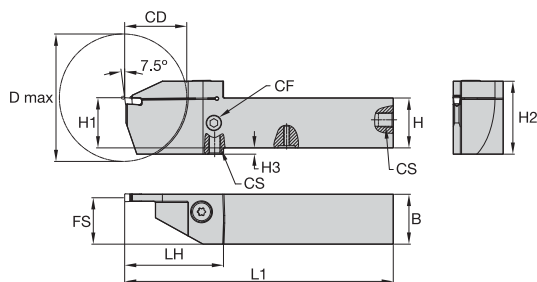
(Integral Straight • Metric — continued)



order number	catalog number	seat size	CD	H1	H	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx clamp screw	Torx
left hand															
5953956	EVSMML2020K0216	2	16	20	20	20	27	125	19	31	—	—	—	MS1160	T20
5953954	EVSMML2525M0216	2	16	25	25	25	32	150	24	31	—	—	—	MS1160	T20
6401881	EVSMML2525M0216C	2	16	25	25	25	33	150	24	35	G1/8 - 28	G1/8 - 28	MS2091	—	25 IP
5953955	EVSMML2020K0222	2	22	20	20	20	29	125	19	38	—	—	MS2091	—	25 IP
5953953	EVSMML2525M0226	2	26	25	25	25	34	150	24	42	—	—	MS2091	—	25 IP
5939442	EVSMML2020K0316C	3	16	20	20	20	29	125	19	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5939438	EVSMML2525M0316C	3	16	25	25	25	34	150	24	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5939441	EVSMML2020K0322C	3	22	20	20	20	29	125	19	43	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5939437	EVSMML2525M0326C	3	26	25	25	25	34	150	24	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5939440	EVSMML2020K0416C	4	16	20	20	20	29	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5939436	EVSMML2525M0416C	4	16	25	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5939439	EVSMML2020K0422C	4	22	20	20	20	29	125	18	43	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5939435	EVSMML2525M0426C	4	26	25	25	25	34	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5939433	EVSMML3232P0426C	4	26	32	32	32	42	170	30	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5939432	EVSMML3232P0432C	4	32	32	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5954239	EVSMML2020K0516C	5	16	20	20	20	29	125	18	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5954235	EVSMML2525M0516C	5	16	25	25	25	34	150	23	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5954238	EVSMML2020K0522C	5	22	20	20	20	29	125	18	43	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5954234	EVSMML2525M0526C	5	26	25	25	25	34	150	23	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5954220	EVSMML3232P0526C	5	26	32	32	32	42	170	30	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5954219	EVSMML3232P0532C	5	32	32	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5954237	EVSMML2020K0616C	6	16	20	20	20	29	125	17	37	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5954233	EVSMML2525M0616C	6	16	25	25	25	34	150	22	37	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5954236	EVSMML2020K0622C	6	22	20	20	20	29	125	17	43	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5954232	EVSMML2525M0626C	6	26	25	25	25	34	150	22	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5954218	EVSMML3232P0626C	6	26	32	32	32	42	170	29	47	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5954217	EVSMML3232P0632C	6	32	32	32	32	43	170	29	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5954213	EVSMML4040R0640C	6	40	40	40	40	51	200	37	63	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5954231	EVSMML2525M0826C	8	26	25	25	25	35	150	21	49	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5954216	EVSMML3232P0826C	8	26	32	32	32	43	170	28	49	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5954215	EVSMML3232P0832C	8	32	32	32	32	43	170	28	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5954212	EVSMML4040R0840C	8	40	40	40	40	51	200	36	63	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5954214	EVSMML3232P1032C	10	32	32	32	32	43	170	28	55	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
5954211	EVSMML4040R1040C	10	40	40	40	40	51	200	36	63	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45

screw catalog number	screw order number	torque		thread	socket	wrench catalog number	wrench order number
		Nm	in. lbs.				
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.

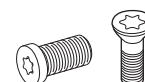


CD = Maximum cut-off depth for solid bars.
D max = Maximum bar diameter for deep grooving or cut-off of tubes.



Left Hand

■ Integral Reinforced Straight Top Clamp • Inch



order number	catalog number	seat size	CD	D max	H1	B	H2	H3	L1	FS	LH	CF	CS	Torx clamp screw	Torx clamp screw	Torx
right hand																
6179398	EVSCTR081B16	1B	.63	1.654	.500	.500	.93	—	4.50	.47	1.22	—	—	—	MS1160	T20
6179399	EVSCTR081F16	1F	.63	1.654	.500	.500	.93	—	4.50	.47	1.22	—	—	—	MS1160	T20
6179400	EVSCTR080216	2	.63	1.654	.500	.500	.93	—	4.50	.46	1.22	—	—	—	MS1160	T20
5980815	EVSCTR100216	2	.63	1.654	.625	.625	.90	—	4.50	.59	1.22	—	—	—	MS1160	T20
5980818	EVSCTR120216	2	.63	1.654	.750	.750	1.03	—	4.50	.71	1.22	—	—	—	MS1160	T20
5980913	EVSCTR160216	2	.63	1.654	1.000	1.000	1.28	—	6.00	.96	1.22	—	—	—	MS1160	T20
5980914	EVSCTR160226	2	1.02	2.441	1.000	1.000	1.35	—	6.00	.96	1.65	—	—	MS2091	—	25 IP
6179721	EVSCTR080316C	3	.63	2.047	.500	.500	.93	.16	4.50	.45	1.32	M8X1.25	M8X1.25	MS1944	—	T25
5980816	EVSCTR100316C	3	.63	2.047	.625	.625	.92	—	4.50	.57	1.42	1/16 - 27 NPTF	1/16 - 27 NPTF	MS2091	—	25 IP
5980819	EVSCTR120316C	3	.63	2.047	.750	.750	1.09	—	4.50	.69	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5980915	EVSCTR160316C	3	.63	2.441	1.000	1.000	1.34	—	6.00	.94	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5980820	EVSCTR120326C	3	1.02	2.441	.750	.750	1.26	.16	4.50	.69	1.85	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5980916	EVSCTR160326C	3	1.02	2.441	1.000	1.000	1.35	—	6.00	.94	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5980817	EVSCTR100416C	4	.63	2.047	.625	.625	.92	—	4.50	.55	1.42	1/16 - 27 NPTF	1/16 - 27 NPTF	MS2091	—	25 IP
5980911	EVSCTR120416C	4	.63	2.047	.750	.750	1.09	—	4.50	.68	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5980912	EVSCTR120426C	4	1.02	2.441	.750	.750	1.26	.16	4.50	.70	1.85	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5980917	EVSCTR160426C	4	1.02	2.441	1.000	1.000	1.35	—	6.00	.92	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5980918	EVSCTR160432C	4	1.26	2.520	1.000	1.000	1.51	.16	6.00	.92	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5980932	EVSCTR200432C	4	1.26	2.520	1.250	1.250	1.62	—	6.00	1.25	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5980919	EVSCTR160526C	5	1.02	2.441	1.000	1.000	1.35	—	6.00	.91	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5980920	EVSCTR160532C	5	1.26	2.441	1.000	1.000	1.53	.16	6.00	.91	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5980933	EVSCTR200540C	5	1.58	3.228	1.250	1.250	1.82	.16	6.00	1.25	2.48	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45
left hand																
6179722	EVSCTL081B16	1B	.63	1.654	.500	.500	.93	—	4.50	.47	1.22	—	—	—	MS1160	T20
6179723	EVSCTL081F16	1F	.63	1.654	.500	.500	.93	—	4.50	.47	1.22	—	—	—	MS1160	T20
6179724	EVSCTL080216	2	.63	1.654	.500	.500	.93	—	4.50	.46	1.22	—	—	—	MS1160	T20
5980938	EVSCTL100216	2	.63	1.654	.625	.625	.90	—	4.50	.59	1.22	—	—	—	MS1160	T20

(continued)

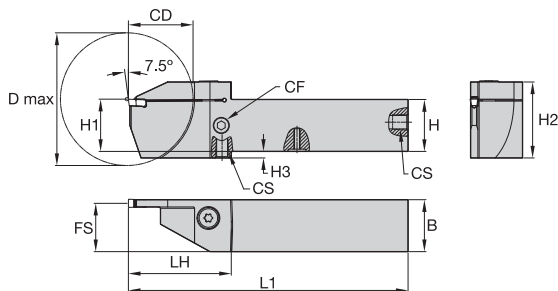
(Integral Reinforced Straight Top Clamp • Inch — continued)

order number	catalog number	seat size	CD	D max	H1	B	H2	H3	L1	FS	LH	CF	CS	Torx clamp screw	Torx clamp screw	Torx
5981011	EVSCTL120216	2	.63	1.654	.750	.750	1.03	—	4.50	.71	1.22	—	—	—	MS1160	T20
5981016	EVSCTL160216	2	.63	1.654	1.000	1.000	1.28	—	6.00	.96	1.22	—	—	—	MS1160	T20
5981017	EVSCTL160226	2	1.02	2.441	1.000	1.000	1.35	—	6.00	.96	1.65	—	—	MS2091	—	25 IP
6179725	EVSCTL080316C	3	.63	2.047	.500	.500	.93	.16	4.50	.45	1.32	M8X1.25	M8X1.25	MS1944	—	T25
5980939	EVSCTL100316C	3	.63	2.047	.625	.625	.92	—	4.50	.57	1.42	1/16 - 27 NPTF	1/16 - 27 NPTF	MS2091	—	25 IP
5981012	EVSCTL120316C	3	.63	2.047	.750	.750	1.09	—	4.50	.69	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5981018	EVSCTL160316C	3	.63	2.441	1.000	1.000	1.34	—	6.00	.94	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5981013	EVSCTL120326C	3	1.02	2.441	.750	.750	1.26	.16	4.50	.69	1.85	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5981019	EVSCTL160326C	3	1.02	2.441	1.000	1.000	1.35	—	6.00	.94	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5980940	EVSCTL100416C	4	.63	2.047	.625	.625	.92	—	4.50	.55	1.42	1/16 - 27 NPTF	1/16 - 27 NPTF	MS2091	—	25 IP
5981014	EVSCTL120416C	4	.63	2.047	.750	.750	1.09	—	4.50	.68	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5981015	EVSCTL120426C	4	1.02	2.441	.750	.750	1.26	.16	4.50	.70	1.85	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	—	T30
5981020	EVSCTL160426C	4	1.02	2.441	1.000	1.000	1.35	—	6.00	.92	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5981021	EVSCTL160432C	4	1.26	2.520	1.000	1.000	1.51	.16	6.00	.92	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1595	—	T30
5981024	EVSCTL200432C	4	1.26	2.520	1.250	1.250	1.62	—	6.00	1.25	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5981022	EVSCTL160526C	5	1.02	2.441	1.000	1.000	1.35	—	6.00	.91	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5981023	EVSCTL160532C	5	1.26	2.520	1.000	1.000	1.53	.16	6.00	.91	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	—	T30
5981025	EVSCTL200540C	5	1.58	3.228	1.250	1.250	1.82	.16	6.00	1.25	2.48	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	—	T45

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

screw catalog number	screw order number	torque		thread	socket	wrench catalog number	wrench order number
		Nm	in. lbs.				
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.

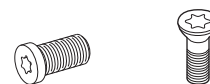


CD = Maximum cut-off depth for solid bars.
D max = Maximum bar diameter for deep grooving or cut-off of tubes.



Left Hand

■ Integral Reinforced Straight Top Clamp • Metric



order number	catalog 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

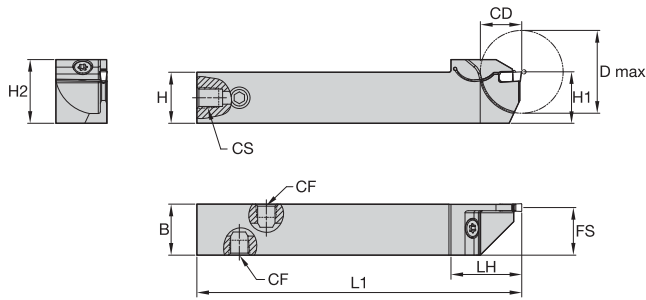
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(Integral Reinforced Straight Top Clamp • Metric — continued)

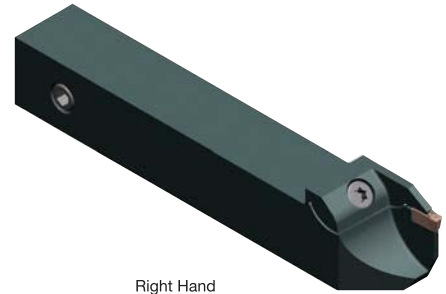
order number	catalog number	seat size												CF	CS	Torx clamp screw	Torx clamp screw	Torx
			CD	D	max	H1	H	B	H2	H3	L1	FS	LH					
left hand																		
6179760	EVSCTL1212K1B16	1B	16	42		12	12	12	23	4	125	11	31	—	—	—	MS1160	T20
6179761	EVSCTL1212K1F16	1F	16	42		12	12	12	23	4	125	11	31	—	—	—	MS1160	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 catalog number	screw order number	torque		thread	socket	wrench catalog number	wrench order number
		Nm	in. lbs.				
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.



Right Hand

■ Integral Reinforced Front Clamp • Inch



order number	catalog number	seat size	CD	D max	H1	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx
right hand														
6180116	EVSCFR061B10	1B	.39	.787	.375	.375	.53	4.50	.35	.81	—	—	191.916	T15
6180119	EVSCFR081B10	1B	.39	.787	.500	.500	.66	4.50	.47	.81	—	—	191.916	T15
6180120	EVSCFR081B13	1B	.51	1.024	.500	.500	.66	4.50	.47	.93	—	—	191.916	T15
6180129	EVSCFR101B16	1B	.63	1.260	.625	.625	.80	4.50	.60	1.04	—	—	MS1160	T20
6180143	EVSCFR121B16	1B	.63	1.260	.750	.750	.93	4.50	.72	1.04	—	—	MS1160	T20
6180117	EVSCFR061F10	1F	.39	.787	.375	.375	.53	4.50	.34	.81	—	—	191.916	T15
6180121	EVSCFR081F10	1F	.39	.787	.500	.500	.66	4.50	.47	.81	—	—	191.916	T15
6180124	EVSCFR081F13	1F	.51	1.024	.500	.500	.66	4.50	.47	.93	—	—	191.916	T15
6180130	EVSCFR101F16	1F	.63	1.260	.625	.625	.80	4.50	.59	1.04	—	—	MS1160	T20
6180144	EVSCFR121F16	1F	.63	1.260	.750	.750	.93	4.50	.72	1.04	—	—	MS1160	T20
6180118	EVSCFR060210	2	.39	.787	.375	.375	.53	4.50	.34	.81	—	—	191.916	T15
6180125	EVSCFR080210	2	.39	.787	.500	.500	.66	4.50	.46	.81	—	—	191.916	T15
6180126	EVSCFR080216	2	.63	1.260	.500	.500	.66	4.50	.46	1.04	—	—	191.916	T15
6180141	EVSCFR100216	2	.63	1.260	.625	.625	.80	4.50	.59	1.04	—	—	MS1160	T20
6180146	EVSCFR120216	2	.63	1.260	.750	.750	.93	4.50	.71	1.04	—	—	MS1160	T20
6180127	EVSCFR080310C	3	.39	.787	.500	.500	.69	4.50	.44	.85	M8X1.25	M8X1.25	191.916	T15
6180128	EVSCFR080316C	3	.63	1.260	.500	.500	.69	4.50	.44	1.08	M8X1.25	M8X1.25	191.916	T15
6180142	EVSCFR100316C	3	.63	1.260	.625	.625	.81	4.50	.57	1.08	M8X1.25	M8X1.25	MS1160	T20
6180147	EVSCFR120316C	3	.63	1.260	.750	.750	.94	4.50	.69	1.08	M8X1.25	M8X1.25	MS1160	T20

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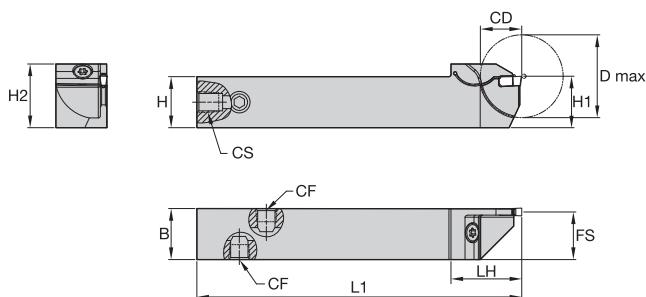
(Integral Reinforced Front Clamp • Inch — continued)



order number	catalog number	seat size	CD	D max	H1	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx
left hand														
6179726	EVSCFL061B10	1B	.39	.787	.375	.375	.53	4.50	.35	.81	—	—	191.916	T15
6179729	EVSCFL081B10	1B	.39	.787	.500	.500	.66	4.50	.47	.81	—	—	191.916	T15
6179730	EVSCFL081B13	1B	.51	1.024	.500	.500	.66	4.50	.47	.93	—	—	191.916	T15
6179737	EVSCFL101B16	1B	.63	1.260	.625	.625	.80	4.50	.60	1.04	—	—	MS1160	T20
6179751	EVSCFL121B16	1B	.63	1.260	.750	.750	.93	4.50	.72	1.04	—	—	MS1160	T20
6179727	EVSCFL061F10	1F	.39	.787	.375	.375	.53	4.50	.34	.81	—	—	191.916	T15
6179731	EVSCFL081F10	1F	.39	.787	.500	.500	.66	4.50	.47	.81	—	—	191.916	T15
6179732	EVSCFL081F13	1F	.51	1.024	.500	.500	.66	4.50	.47	.93	—	—	191.916	T15
6179738	EVSCFL101F16	1F	.63	1.260	.625	.625	.80	4.50	.59	1.04	—	—	MS1160	T20
6179752	EVSCFL121F16	1F	.63	1.260	.750	.750	.93	4.50	.72	1.04	—	—	MS1160	T20
6179728	EVSCFL060210	2	.39	.787	.375	.375	.53	4.50	.34	.81	—	—	191.916	T15
6179733	EVSCFL080210	2	.39	.787	.500	.500	.66	4.50	.46	.81	—	—	191.916	T15
6179734	EVSCFL080216	2	.63	1.260	.500	.500	.66	4.50	.46	1.04	—	—	191.916	T15
6179739	EVSCFL100216	2	.63	1.260	.625	.625	.80	4.50	.59	1.04	—	—	MS1160	T20
6179753	EVSCFL120216	2	.63	1.260	.750	.750	.93	4.50	.71	1.04	—	—	MS1160	T20
6179735	EVSCFL080310C	3	.39	.787	.500	.500	.69	4.50	.44	.85	M8X1.25	M8X1.25	191.916	T15
6179736	EVSCFL080316C	3	.63	1.260	.500	.500	.69	4.50	.44	1.08	M8X1.25	M8X1.25	191.916	T15
6179740	EVSCFL100316C	3	.63	1.260	.625	.625	.81	4.50	.57	1.08	M8X1.25	M8X1.25	MS1160	T20
6179754	EVSCFL120316C	3	.63	1.260	.750	.750	.94	4.50	.69	1.08	M8X1.25	M8X1.25	MS1160	T20

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

screw catalog number	screw order number	torque		thread	socket	wrench catalog number	wrench order number
		Nm	in. lbs.				
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.



Right Hand

■ Integral Reinforced Front Clamp • Metric



order number	catalog 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)

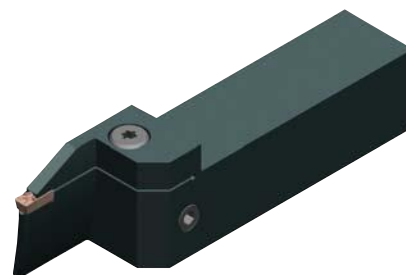
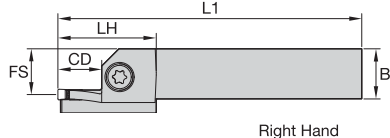
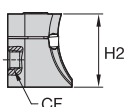
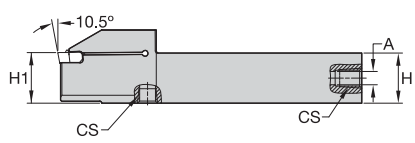
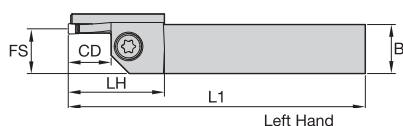
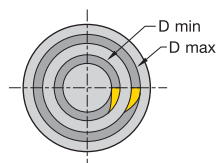
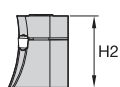
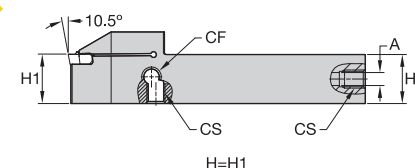
(Integral Reinforced Front Clamp • Metric — continued)



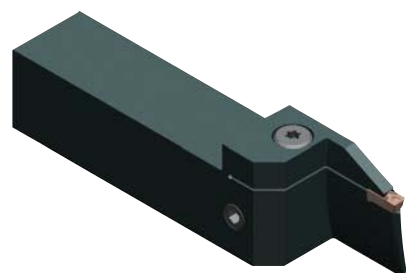
order number	catalog number	seat size	CD	D max	H1	H	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx
left hand															
6179709	EVSCFL1010K1B10	1B	10	20	10	10	10	14	125	9	21	—	—	191.916	T15
6179922	EVSCFL1212K1B10	1B	10	20	12	12	12	16	125	11	21	—	—	191.916	T15
6179923	EVSCFL1212K1B13	1B	13	26	12	12	12	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 catalog number	screw order number	torque		thread	socket	wrench catalog 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

■ Integral Face Grooving Straight Outboard • Inch



order number	catalog number	seat size	CD	D min	D max	H1	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx
right hand															
6080418	EVSBR120312035040C	3	.47	1.378	1.575	.751	.750	1.09	4.50	.70	1.30	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6117117	EVSBR120312040050C	3	.47	1.575	1.969	.750	.750	1.09	4.50	.70	1.30	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6117119	EVSBR120312050060C	3	.47	1.969	2.362	.750	.750	1.09	4.50	.70	1.30	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6117351	EVSBR120312060075C	3	.47	2.362	2.953	.750	.750	1.09	4.50	.70	1.30	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6117353	EVSBR120312075100C	3	.47	2.953	3.937	.750	.750	1.09	4.50	.70	1.30	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6080489	EVSBR160312100180C	3	.47	3.937	7.087	1.000	1.000	1.34	6.00	.95	1.30	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080491	EVSBR160312180250C	3	.47	7.087	9.843	1.000	1.000	1.34	6.00	.95	1.30	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080477	EVSBR160320060075C	3	.79	2.362	2.953	1.000	1.000	1.35	6.00	.95	1.61	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080479	EVSBR160320075100C	3	.79	2.953	3.937	1.000	1.000	1.35	6.00	.95	1.61	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080481	EVSBR160320100180C	3	.79	3.937	7.087	1.000	1.000	1.35	6.00	.95	1.61	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080483	EVSBR160320180250C	3	.79	7.087	9.843	1.000	1.000	1.35	6.00	.95	1.61	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080419	EVSBR120416040050C	4	.63	1.575	1.969	.750	.750	1.09	4.50	.68	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6080475	EVSBR120416050060C	4	.63	1.969	2.362	.750	.750	1.34	4.50	.68	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6117355	EVSBR120416060075C	4	.63	2.362	2.953	.750	.750	1.09	4.50	.68	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6117357	EVSBR120416075100C	4	.63	2.953	3.937	.750	.750	1.09	4.50	.68	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6117402	EVSBR160416100180C	4	.63	3.937	7.087	1.000	1.000	1.34	6.00	.93	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117404	EVSBR160416180250C	4	.63	7.087	9.843	1.000	1.000	1.34	6.00	.93	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117359	EVSBR160426060075C	4	1.02	2.362	2.953	1.000	1.000	1.35	6.00	.93	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117381	EVSBR160426075100C	4	1.02	2.953	3.937	1.000	1.000	1.35	6.00	.93	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117383	EVSBR160426100180C	4	1.02	3.937	7.087	1.000	1.000	1.35	6.00	.93	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117386	EVSBR160426180250C	4	1.02	7.087	9.843	1.000	1.000	1.35	6.00	.93	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080420	EVSBR160516050060C	5	.63	1.969	2.362	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117166	EVSBR160516060075C	5	.63	2.362	2.953	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117170	EVSBR160516075100C	5	.63	2.953	3.937	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117264	EVSBR160516100180C	5	.63	3.937	7.087	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117268	EVSBR160516180250C	5	.63	7.087	9.843	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117272	EVSBR160516250350C	5	.63	9.843	13.780	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30

(continued)

(Integral Face Grooving Straight Outboard • Inch — continued)



order number	catalog number	seat size	CD	D min	D max	H1	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx
6117276	EVSBR160516350999C	5	.63	13.780	39.331	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117164	EVSBR160526050060C	5	1.02	1.969	2.362	1.000	1.000	1.35	6.00	.91	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117168	EVSBR160526060075C	5	1.02	2.362	2.953	1.000	1.000	1.35	6.00	.91	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117262	EVSBR160526075100C	5	1.02	2.953	3.937	1.000	1.000	1.35	6.00	.91	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117280	EVSBR200532100180C	5	1.26	3.937	7.087	1.250	1.250	1.62	6.00	1.16	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117282	EVSBR200532180250C	5	1.26	7.087	9.843	1.250	1.250	1.62	6.00	1.16	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117284	EVSBR200532250350C	5	1.26	9.843	13.780	1.250	1.250	1.62	6.00	1.16	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117286	EVSBR200532350999C	5	1.26	13.780	39.331	1.250	1.250	1.62	6.00	1.16	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079180	EVSBR160616060075C	6	.63	2.362	2.953	1.000	1.000	1.34	6.00	.89	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079354	EVSBR160616075100C	6	.63	2.953	3.937	1.000	1.000	1.34	6.00	.89	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079358	EVSBR160616100180C	6	.63	3.937	7.087	1.000	1.000	1.34	6.00	.89	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079362	EVSBR160616180250C	6	.63	7.087	9.843	1.000	1.000	1.34	6.00	.89	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079366	EVSBR160616250350C	6	.63	9.843	13.780	1.000	1.000	1.34	6.00	.89	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079370	EVSBR160616350999C	6	.63	13.780	39.331	1.000	1.000	1.34	6.00	.89	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079352	EVSBR160626060075C	6	1.02	2.362	2.953	1.000	1.000	1.35	6.00	.89	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079356	EVSBR160626075100C	6	1.02	2.953	3.937	1.000	1.000	1.35	6.00	.89	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079374	EVSBR200632100180C	6	1.26	3.937	7.087	1.250	1.000	1.66	6.00	1.14	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45
6079376	EVSBR200632180250C	6	1.26	7.087	9.843	1.250	1.250	1.66	6.00	1.14	2.17	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45
6079378	EVSBR200632250350C	6	1.26	9.843	13.780	1.250	1.250	1.66	6.00	1.14	2.17	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45
6079380	EVSBR200632350999C	6	1.26	13.780	39.331	1.250	1.250	1.66	6.00	1.14	2.17	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45
left hand															
6117118	EVSBL120312040050C	3	.47	1.575	1.969	.750	.750	1.09	4.50	.70	1.30	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6117120	EVSBL120312050060C	3	.47	1.969	2.362	.750	.750	1.09	4.50	.70	1.30	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6117352	EVSBL120312060075C	3	.47	2.362	2.953	.750	.750	1.09	4.50	.70	1.30	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6117354	EVSBL120312075100C	3	.47	2.953	3.937	.750	.750	1.09	4.50	.70	1.30	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6080472	EVSBL120312035040C	3	.47	1.378	1.575	.751	.750	1.09	4.50	.70	1.30	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6080490	EVSBL160312100180C	3	.47	3.937	7.087	1.000	1.000	1.34	6.00	.95	1.30	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080492	EVSBL160312180250C	3	.47	7.087	9.843	1.000	1.000	1.34	6.00	.95	1.30	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080480	EVSBL160320075100C	3	.79	2.953	3.937	1.000	1.000	1.35	6.00	.95	1.61	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080482	EVSBL160320100180C	3	.79	3.937	7.087	1.000	1.000	1.35	6.00	.95	1.61	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080484	EVSBL160320180250C	3	.79	7.087	9.843	1.000	1.000	1.35	6.00	.95	1.61	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080478	EVSBL160320060075C	3	.79	2.362	2.953	1.000	1.000	1.35	6.00	.95	1.61	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080473	EVSBL120416040050C	4	.63	1.575	1.969	.750	.750	1.09	4.50	.68	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6080476	EVSBL120416050060C	4	.63	1.969	2.362	.750	.750	1.34	4.50	.68	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6117356	EVSBL120416060075C	4	.63	2.362	2.953	.750	.750	1.09	4.50	.68	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6117358	EVSBL120416075100C	4	.63	2.953	3.937	.750	.750	1.09	4.50	.68	1.46	1/16 - 27 NPTF	1/16 - 27 NPTF	MS1595	T30
6117403	EVSBL160416100180C	4	.63	3.937	7.087	1.000	1.000	1.34	6.00	.93	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117405	EVSBL160416180250C	4	.63	7.087	9.843	1.000	1.000	1.34	6.00	.93	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117360	EVSBL160426060075C	4	1.02	2.362	2.953	1.000	1.000	1.35	6.00	.93	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117382	EVSBL160426075100C	4	1.02	2.953	3.937	1.000	1.000	1.35	6.00	.93	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117384	EVSBL160426100180C	4	1.02	3.937	7.087	1.000	1.000	1.35	6.00	.93	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117387	EVSBL160426180250C	4	1.02	7.087	9.843	1.000	1.000	1.35	6.00	.93	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080474	EVSBL160516050060C	5	.63	1.969	2.362	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117167	EVSBL160516060075C	5	.63	2.362	2.953	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117261	EVSBL160516075100C	5	.63	2.953	3.937	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117265	EVSBL160516100180C	5	.63	3.937	7.087	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117269	EVSBL160516180250C	5	.63	7.087	9.843	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117273	EVSBL160516250350C	5	.63	9.843	13.780	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117277	EVSBL160516350999C	5	.63	13.780	39.331	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117165	EVSBL160526050060C	5	1.02	1.969	2.362	1.000	1.000	1.35	6.00	.91	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117169	EVSBL160526060075C	5	1.02	2.362	2.953	1.000	1.000	1.35	6.00	.91	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117263	EVSBL160526075100C	5	1.02	2.953	3.937	1.000	1.000	1.35	6.00	.91	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117281	EVSBL200532100180C	5	1.26	3.937	7.087	1.250	1.250	1.62	6.00	1.16	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117283	EVSBL200532180250C	5	1.26	7.087	9.843	1.250	1.250	1.62	6.00	1.16	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30

(continued)

(Integral Face Grooving Straight Outboard • Inch — continued)

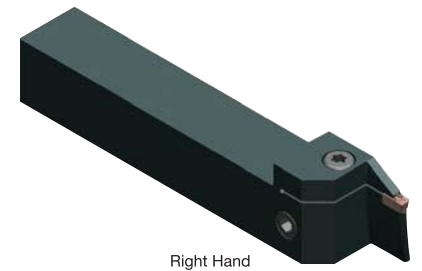
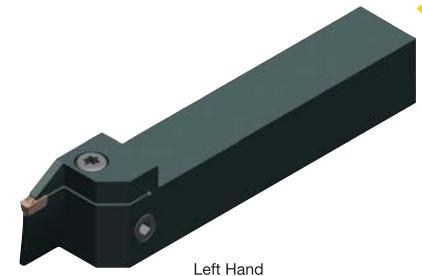
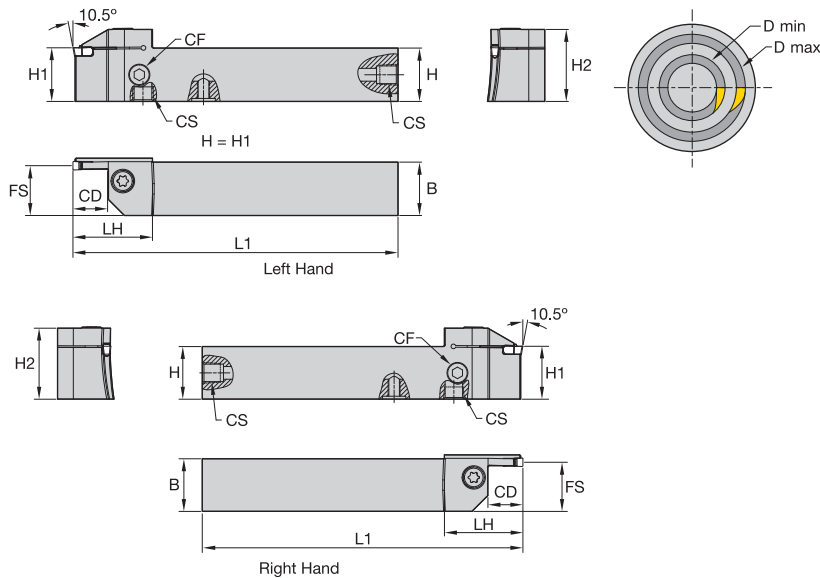


Grooving and Cut-Off

order number	catalog number	seat size	CD	D min	D max	H1	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx
6117384	EVSBL160426100180C	4	1.02	3.937	7.087	1.000	1.000	1.35	6.00	.93	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117387	EVSBL160426180250C	4	1.02	7.087	9.843	1.000	1.000	1.35	6.00	.93	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6080474	EVSBL160516050060C	5	.63	1.969	2.362	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117167	EVSBL160516060075C	5	.63	2.362	2.953	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117261	EVSBL160516075100C	5	.63	2.953	3.937	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117265	EVSBL160516100180C	5	.63	3.937	7.087	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117269	EVSBL160516180250C	5	.63	7.087	9.843	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117273	EVSBL160516250350C	5	.63	9.843	13.780	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117277	EVSBL160516350999C	5	.63	13.780	39.331	1.000	1.000	1.34	6.00	.91	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117165	EVSBL160526050060C	5	1.02	1.969	2.362	1.000	1.000	1.35	6.00	.91	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117169	EVSBL160526060075C	5	1.02	2.362	2.953	1.000	1.000	1.35	6.00	.91	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117263	EVSBL160526075100C	5	1.02	2.953	3.937	1.000	1.000	1.35	6.00	.91	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117281	EVSBL200532100180C	5	1.26	3.937	7.087	1.250	1.250	1.62	6.00	1.16	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117283	EVSBL200532180250C	5	1.26	7.087	9.843	1.250	1.250	1.62	6.00	1.16	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117285	EVSBL200532250350C	5	1.26	9.843	13.780	1.250	1.250	1.62	6.00	1.16	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6117287	EVSBL200532350999C	5	1.26	13.780	39.331	1.250	1.250	1.62	6.00	1.16	2.09	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079351	EVSBL160616060075C	6	.63	2.362	2.953	1.000	1.000	1.34	6.00	.89	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079355	EVSBL160616075100C	6	.63	2.953	3.937	1.000	1.000	1.34	6.00	.89	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079359	EVSBL160616100180C	6	.63	3.937	7.087	1.000	1.000	1.34	6.00	.89	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079363	EVSBL160616180250C	6	.63	7.087	9.843	1.000	1.000	1.34	6.00	.89	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079367	EVSBL160616250350C	6	.63	9.843	13.780	1.000	1.000	1.34	6.00	.89	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079371	EVSBL160616350999C	6	.63	13.780	39.331	1.000	1.000	1.34	6.00	.89	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079353	EVSBL160626060075C	6	1.02	2.362	2.953	1.000	1.000	1.35	6.00	.89	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079357	EVSBL160626075100C	6	1.02	2.953	3.937	1.000	1.000	1.35	6.00	.89	1.46	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6079375	EVSBL200632100180C	6	1.26	3.937	7.087	1.250	1.000	1.66	6.00	1.14	1.85	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45
6079377	EVSBL200632180250C	6	1.26	7.087	9.843	1.250	1.250	1.66	6.00	1.14	2.17	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45
6079379	EVSBL200632250350C	6	1.26	9.843	13.780	1.250	1.250	1.66	6.00	1.14	2.17	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45
6079381	EVSBL200632350999C	6	1.26	13.780	39.331	1.250	1.250	1.66	6.00	1.14	2.17	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1490	T45

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

screw catalog number	screw order number	torque		thread	socket	wrench catalog number	wrench order number
MS1160	1099645	Nm	in. lbs.	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



Grooving and Cut-Off

■ Integral Face Grooving Straight Outboard • Metric



order number	catalog 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
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

(continued)

Grooving and Cut-Off

Beyond™ Evolution™ Integral Face Grooving Toolholders



(Integral Face Grooving Straight Outboard • Metric — continued)



Grooving and Cut-Off

order number	catalog number	seat size	CD	D max	D min	W min	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx
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
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

(continued)

(Integral Face Grooving Straight Outboard • Metric — continued)

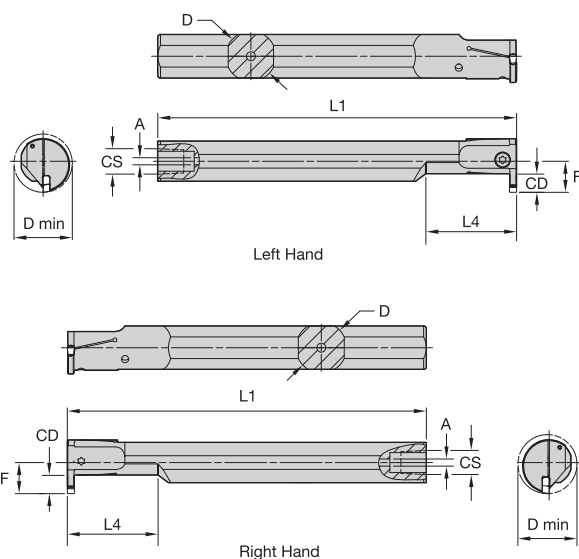
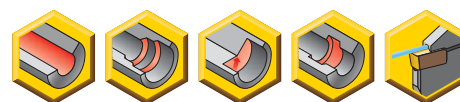


order number	catalog number	seat size	CD	D max	D min	W min	B	H2	L1	FS	LH	CF	CS	Torx clamp screw	Torx
6124236	EVSBL3232P0532100180C	5	32	180	100	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
6124238	EVSBL3232P0532180250C	5	32	250	180	32	32	42	170	30	53	1/8 - 27 NPTF	1/8 - 27 NPTF	MS1970	T30
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 catalog number	screw order number	torque		thread	socket	wrench catalog number	wrench order number
		Nm	in. lbs.				
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.



Left Hand



Right Hand

■ Steel Boring Bar • Inch

order number	catalog number	seat size	CD	D	D min	L1	F	L4	A	CS	Torx clamp screw	Torx clamp screw	Torx
right hand													
5980635	A08KEVEMR1F05I	1F	.197	.500	.625	4.92	.336	1.00	.16	1/16 - 27 NPT	—	MS1285	T15
5980637	A10MEVEMR1F07I	1F	.276	.625	.787	5.91	.436	1.25	.16	1/8 - 27 NPT	—	MS1273	T15
5980639	A12QEVEMR1F07I	1F	.276	.750	1.000	7.09	.550	1.50	.16	1/8 - 27 NPT	—	MS1160	T20
5980636	A08KEVEMR0205I	2	.197	.500	.625	4.92	.336	1.00	.16	1/16 - 27 NPT	—	MS1285	T15
5980638	A10MEVEMR0207I	2	.276	.625	.787	5.91	.436	1.25	.16	1/8 - 27 NPT	—	MS1273	T15
5980640	A12QEVEMR0207I	2	.276	.750	.984	7.09	.550	1.50	.16	1/8 - 27 NPT	—	MS1160	T20
5980671	A16REVEMR0210I	2	.394	1.000	1.250	7.87	.681	2.00	.16	1/4 - 18 NPT	—	MS1162	T25
5954291	A10MEVEMR0307I	3	.276	.625	.787	5.91	.436	1.25	.16	1/8 - 27 NPT	—	MS1273	T15
5954292	A12QEVEMR0307I	3	.276	.750	.984	7.09	.549	1.50	.16	1/8 - 27 NPT	—	MS1160	T20
5954293	A16REVEMR0310I	3	.394	1.000	1.250	7.87	.681	2.00	.16	1/4 - 18 NPT	—	MS1162	T25
5954295	A20SEVEMR0312I	3	.472	1.250	1.500	9.84	.832	2.00	.25	1/4 - 18 NPT	MS1595	—	T25
5954294	A16REVEMR0410I	4	.394	1.000	1.250	7.87	.681	2.50	.16	1/4 - 18 NPT	—	MS1162	T25
5954296	A20SEVEMR0412I	4	.472	1.250	1.500	9.84	.832	2.50	.25	1/4 - 18 NPT	MS1595	—	T30

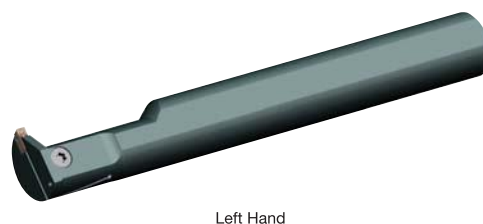
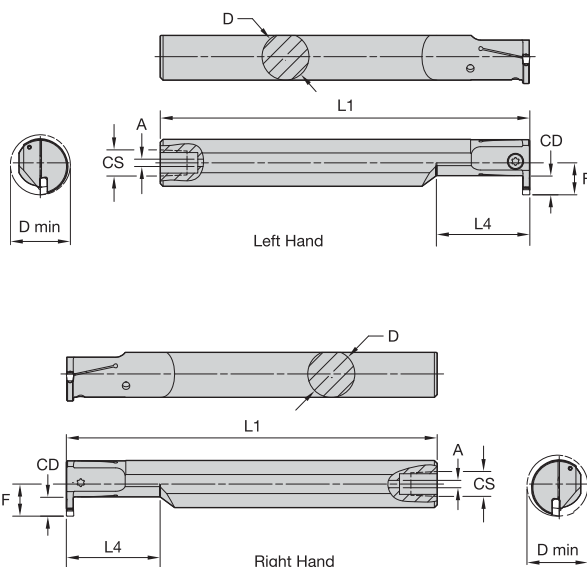
(continued)

(Steel Boring Bar • Inch — continued)

order number	catalog number	seat size	CD	D	D min	L1	F	L4	A	CS	 Torx clamp screw	 Torx clamp screw	Torx
left hand													
5980672	A08KEVEML1F05I	1F	.197	.500	.625	4.92	.336	1.00	.16	1/16 - 27 NPT	—	MS1285	T15
5980674	A10MEVEML1F07I	1F	.276	.625	.787	5.91	.436	1.25	.16	1/8 - 27 NPT	—	MS1273	T15
5980676	A12QEVEML1F07I	1F	.276	.750	1.000	7.09	.550	1.50	.16	1/8 - 27 NPT	—	MS1160	T20
5980673	A08KEVEML0205I	2	.197	.500	.625	4.92	.336	1.00	.16	1/16 - 27 NPT	—	MS1285	T15
5980675	A10MEVEML0207I	2	.276	.625	.787	5.91	.436	1.25	.16	1/8 - 27 NPT	—	MS1273	T15
5980677	A12QEVEML0207I	2	.276	.750	.984	7.09	.550	1.50	.16	1/8 - 27 NPT	—	MS1160	T20
5980678	A16REVEML0210I	2	.394	1.000	1.250	7.87	.681	2.00	.16	1/4 - 18 NPT	—	MS1162	T25
5954297	A10MEVEML0307I	3	.276	.625	.787	5.91	.436	1.25	.16	1/8 - 27 NPT	—	MS1273	T15
5954298	A12QEVEML0307I	3	.276	.750	.984	7.09	.549	1.50	.16	1/8 - 27 NPT	—	MS1160	T20
5954299	A16REVEML0310I	3	.394	1.000	1.250	7.87	.681	2.00	.16	1/4 - 18 NPT	—	MS1162	T25
5954301	A20SEVEML0312I	3	.472	1.250	1.500	9.84	.832	2.00	.25	1/4 - 18 NPT	MS1595	—	T30
5954300	A16REVEML0410I	4	.394	1.000	1.250	7.87	.681	2.00	.16	1/4 - 18 NPT	—	MS1162	T25
5954302	A20SEVEML0412I	4	.472	1.250	1.500	9.84	.832	2.50	.25	1/4 - 18 NPT	MS1595	—	T30

screw catalog number	screw order number	torque		thread	socket	wrench catalog number	wrench order number
		Nm	in. lbs.				
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.



Left Hand



Right Hand

Steel Boring Bar • Metric

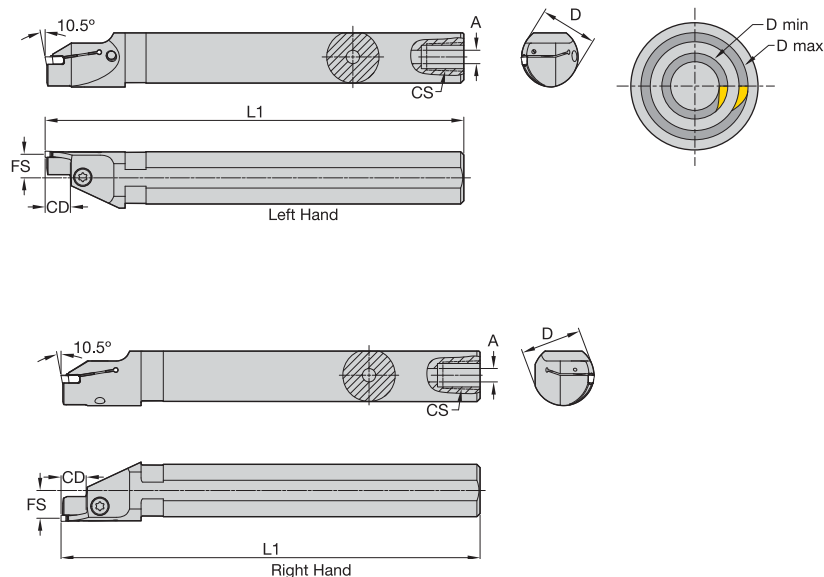
order number	catalog number	seat size	CD	D	D min	L1	F	L4	A	CS	Torx clamp screw	Torx clamp screw	Torx
right hand													
5980518	A12KEVEMR1F05M	1F	5,00	12	16	125	9	24,0	4,00	1/16 - 27 NPT	—	MS1285	T15
5980520	A16MEVEMR1F07M	1F	7,00	16	20	150	11	32,0	4,00	1/8 - 27 NPT	—	MS1273	T15
5980622	A20QEVEMR1F07M	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	catalog 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 catalog number	screw order number	torque		thread	socket	wrench catalog number	wrench order number
		Nm	in. lbs.				
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



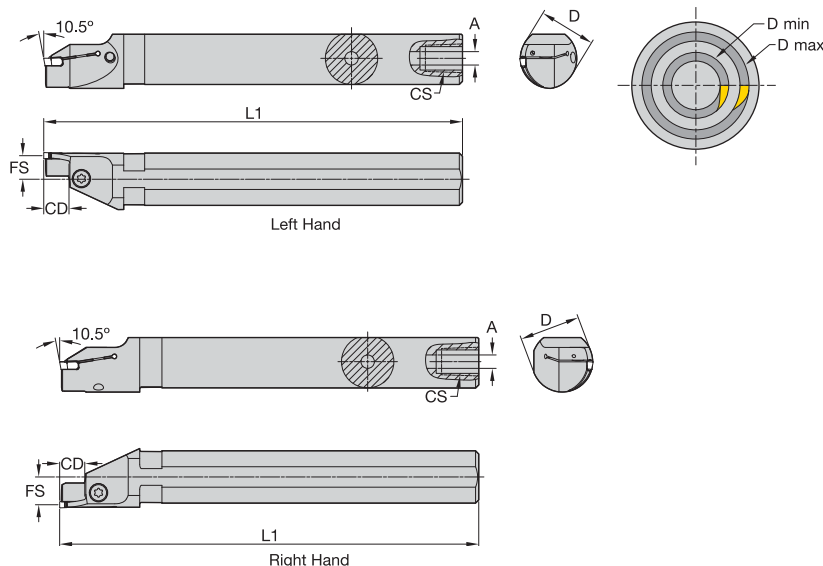
Right Hand

Steel Face Grooving Boring Bar • Inch



order number	catalog number	seat size	CD	D	D min	D max	L1	F	CS	Torx clamp screw	Torx
right hand											
6116533	A16REVSAR0212I026030	2	.472	1.000	1.024	1.181	7.87	.510	1/4-18 NPT	MS1160	T20
6116534	A16REVSAR0312I030035	3	.472	1.000	1.181	1.378	7.87	.510	1/4-18 NPT	MS1162	T25
6116529	A20SEVSAR0312I033042	3	.472	1.250	1.299	1.654	9.84	.635	1/4-18 NPT	MS1162	T25
6116531	A24TEVSAR0312I041050	3	.472	1.500	1.614	1.969	11.81	.760	1/4-18 NPT	MS1162	T25
left hand											
6116539	A16REVSAL0212I026030	2	.472	1.000	1.024	1.181	7.87	.510	1/4-18 NPT	MS1160	T20
6116540	A16REVSAL0312I030035	3	.472	1.000	1.181	1.378	7.87	.510	1/4-18 NPT	MS1162	T25
6116530	A20SEVSAL0312I033042	3	.472	1.250	1.295	1.303	9.84	.635	1/4-18 NPT	MS1162	T25
6116532	A24TEVSAL0312I041050	3	.472	1.500	1.610	1.618	11.81	.760	1/4-18 NPT	MS1162	T25

screw catalog number	screw order number	torque		thread	socket	wrench catalog number	wrench order number
		Nm	in. lbs.				
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



Grooving and Cut-Off

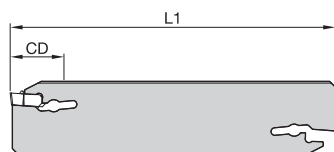
Steel Face Grooving Boring Bar • Metric



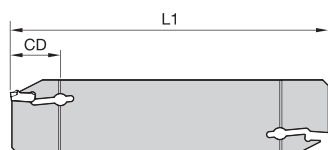
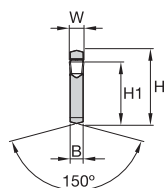
order number	catalog number	seat size	CD	D	D min	D max	L1	F	CS	Torx clamp screw	Torx
right hand											
6116521	A25REVSAR0212M026030	2	12,00	25	26	30	200	13	1/4-18 NPT	MS1160	T20
6116522	A25REVSAR0312M030035	3	12,00	25	30	35	200	13	—	MS1162	T25
6116297	A32SEVSAR0312M033042	3	12,00	32	33	42	250	16	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 catalog number	screw order number	torque		thread	socket	wrench catalog number	wrench order number
		Nm	in. lbs.				
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

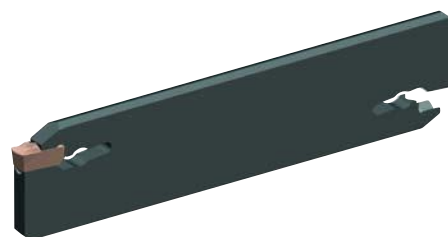
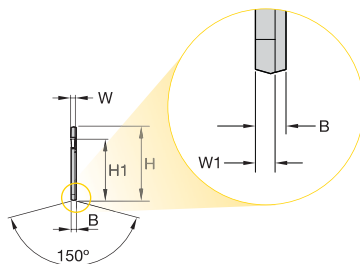
- For deep groove and cut-off applications.
- Universal pocket for holding all insert geometries.



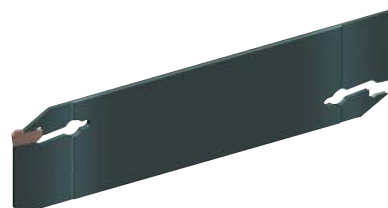
Straight



Reinforced



Straight



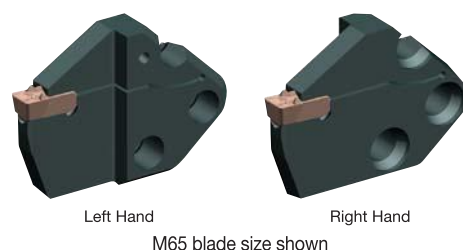
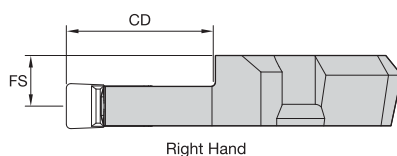
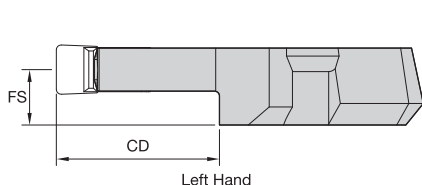
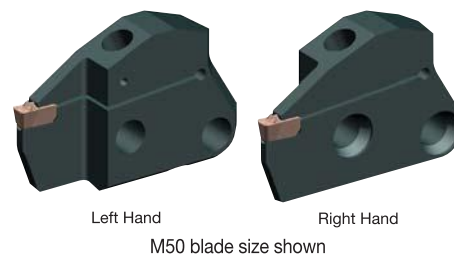
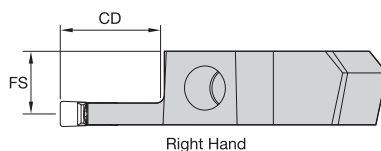
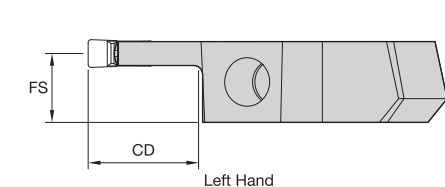
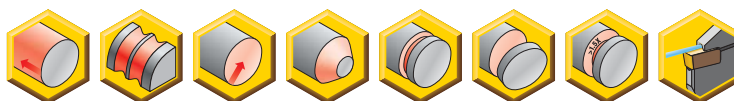
Reinforced

Double-Ended Cut-Off Blade

order number	catalog 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.



■ Modular Straight Blade with Coolant

order number	catalog 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

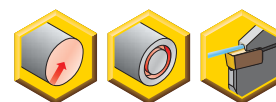
(continued)

(Modular Straight Blade with Coolant — continued)

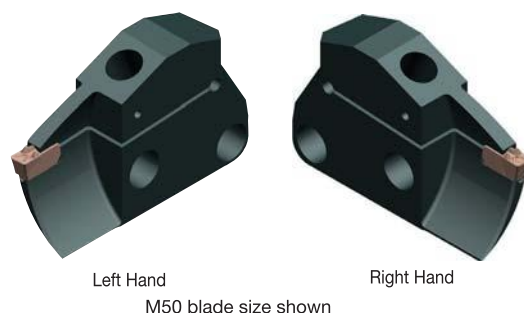
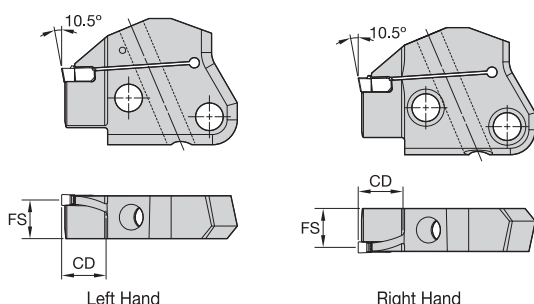
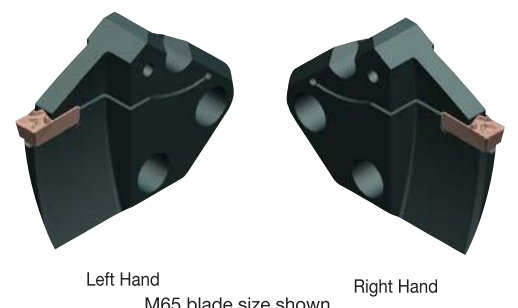
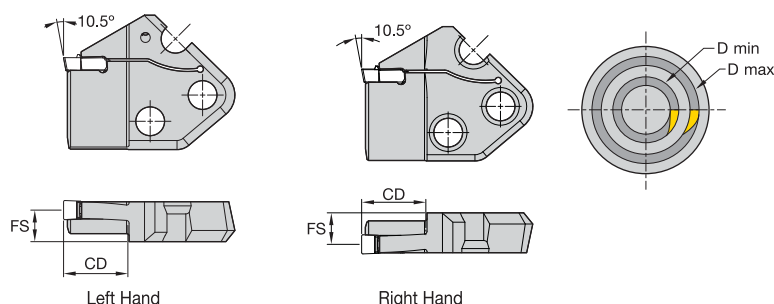
Grooving and Cut-Off

	order number	catalog 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.



Grooving and Cut-Off



■ Modular Inboard Face Grooving Blade with Coolant

order number	catalog number	seat size	D min		D max		CD	FS	blade size
			in	mm	in	mm			
right hand									
6097181	EVM50R0312A035040C	3	1.378	35	1.575	40	12,0	10,50	50
6097182	EVM50R0312A040050C	3	1.575	40	1.969	50	12,0	10,50	50
6097183	EVM50R0312A050060C	3	1.969	50	2.362	60	12,0	10,50	50
6097184	EVM50R0312A060075C	3	2.362	60	2.953	75	12,0	10,50	50
6116789	EVM50R0312A075100C	3	2.953	75	3.937	100	12,0	10,50	50
6117063	EVM50R0312A100180C	3	3.937	100	7.087	180	12,0	10,50	50
6117067	EVM50R0312A180250C	3	7.087	180	9.843	250	12,0	10,50	50
6117071	EVM50R0312A250350C	3	9.843	250	13.780	350	12,0	10,50	50
6117075	EVM50R0312A350999C	3	13.780	350	39.331	999	12,0	10,50	50
6097185	EVM50R0320A075100C	3	2.953	75	3.937	100	20,0	10,50	50
6097186	EVM50R0320A100180C	3	3.937	100	7.087	180	20,0	10,50	50
6097187	EVM50R0320A180250C	3	7.087	180	9.843	250	20,0	10,50	50
6097188	EVM50R0320A250350C	3	9.843	250	13.780	350	20,0	10,50	50
6097189	EVM50R0320A350999C	3	13.780	350	39.331	999	20,0	10,50	50
6079480	EVM50R0416A040050C	4	1.575	40	1.969	50	16,0	10,00	50
6079481	EVM50R0416A050060C	4	1.969	50	2.362	60	16,0	10,00	50
6079482	EVM50R0416A060075C	4	2.362	60	2.953	75	16,0	10,00	50
6079483	EVM50R0416A075100C	4	2.953	75	3.937	100	16,0	10,00	50
6117079	EVM50R0416A100180C	4	3.937	100	7.087	180	16,0	10,00	50
6117093	EVM50R0416A180250C	4	7.087	180	9.843	250	16,0	10,00	50
6117097	EVM50R0416A250350C	4	9.843	250	13.780	350	16,0	10,00	50
6117101	EVM50R0416A350999C	4	13.780	350	39.331	999	16,0	10,00	50
6079484	EVM50R0426A100180C	4	3.937	100	7.087	180	26,0	10,00	50
6079485	EVM50R0426A180250C	4	7.087	180	9.843	250	26,0	10,00	50
6079486	EVM50R0426A250350C	4	9.843	250	13.780	350	26,0	10,00	50
6079487	EVM50R0426A350999C	4	13.780	350	39.331	999	26,0	10,00	50
6079488	EVM50R0520A050060C	5	1.969	50	2.362	60	20,0	9.50	50

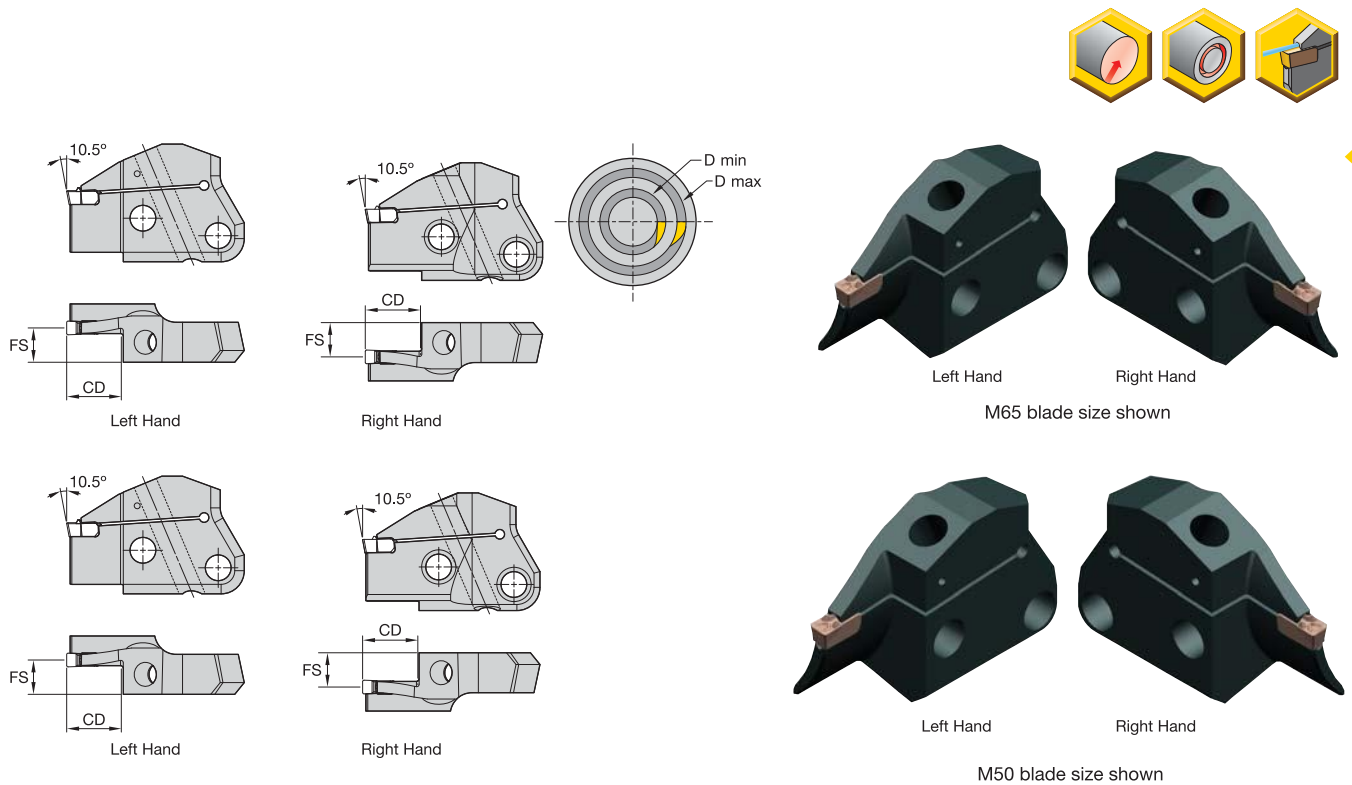
(continued)

(Modular Inboard Face Grooving Blade with Coolant — continued)

Grooving and Cut-Off

order number	catalog number	seat size	D min		D max		CD	FS	blade size
			in	mm	in	mm			
6079489	EVM50R0520A060075C	5	2.362	60	2.953	75	20,0	9,50	50
6079490	EVM50R0520A075100C	5	2.953	75	3.937	100	20,0	9,50	50
6079491	EVM50R0520A100180C	5	3.937	100	7.087	180	20,0	9,50	50
6079492	EVM50R0520A180250C	5	7.087	180	9.843	250	20,0	9,50	50
6079493	EVM50R0520A250350C	5	9.843	250	13.780	350	20,0	9,50	50
6079494	EVM50R0520A350999C	5	13.780	350	39.331	999	20,0	9,50	50
6079223	EVM65R0620A060075C	6	2.362	60	2.953	75	20,0	9,88	65
6079224	EVM65R0620A075100C	6	2.953	75	3.937	100	20,0	9,88	65
6079225	EVM65R0620A100180C	6	3.937	100	7.087	180	20,0	9,88	65
6079226	EVM65R0620A180250C	6	7.087	180	9.843	250	20,0	9,88	65
6079227	EVM65R0620A250350C	6	9.843	250	13.780	350	20,0	9,88	65
6079228	EVM65R0620A350999C	6	13.780	350	39.331	999	20,0	9,88	65
6079229	EVM65R0820A080180C	8	3.150	80	7.087	180	20,0	9,00	65
6079230	EVM65R0820A180999C	8	7.087	180	39.331	999	20,0	9,00	65
left hand									
6097190	EVM50L0312A035040C	3	1.378	35	1.575	40	12,0	10,50	50
6097191	EVM50L0312A040050C	3	1.575	40	1.969	50	12,0	10,50	50
6097192	EVM50L0312A050060C	3	1.969	50	2.362	60	12,0	10,50	50
6097193	EVM50L0312A060075C	3	2.362	60	2.953	75	12,0	10,50	50
6116790	EVM50L0312A075100C	3	2.953	75	3.937	100	12,0	10,50	50
6117064	EVM50L0312A100180C	3	3.937	100	7.087	180	12,0	10,50	50
6117068	EVM50L0312A180250C	3	7.087	180	9.843	250	12,0	10,50	50
6117072	EVM50L0312A250350C	3	9.843	250	13.780	350	12,0	10,50	50
6117076	EVM50L0312A350999C	3	13.780	350	39.331	999	12,0	10,50	50
6097194	EVM50L0320A075100C	3	2.953	75	3.937	100	20,0	10,50	50
6097195	EVM50L0320A100180C	3	3.937	100	7.087	180	20,0	10,50	50
6097196	EVM50L0320A180250C	3	7.087	180	9.843	250	20,0	10,50	50
6097197	EVM50L0320A250350C	3	9.843	250	13.780	350	20,0	10,50	50
6097198	EVM50L0320A350999C	3	13.780	350	39.331	999	20,0	10,50	50
6079495	EVM50L0416A040050C	4	1.575	40	1.969	50	16,0	10,00	50
6079496	EVM50L0416A050060C	4	1.969	50	2.362	60	16,0	10,00	50
6079497	EVM50L0416A060075C	4	2.362	60	2.953	75	16,0	10,00	50
6079498	EVM50L0416A075100C	4	2.953	75	3.937	100	16,0	10,00	50
6117080	EVM50L0416A100180C	4	3.937	100	7.087	180	16,0	10,00	50
6117094	EVM50L0416A180250C	4	7.087	180	9.843	250	16,0	10,00	50
6117098	EVM50L0416A250350C	4	9.843	250	13.780	350	16,0	10,00	50
6117102	EVM50L0416A350999C	4	13.780	350	39.331	999	16,0	10,00	50
6079499	EVM50L0426A100180C	4	3.937	100	7.087	180	26,0	10,00	50
6079500	EVM50L0426A180250C	4	7.087	180	9.843	250	26,0	10,00	50
6079501	EVM50L0426A250350C	4	9.843	250	13.780	350	26,0	10,00	50
6079502	EVM50L0426A350999C	4	13.780	350	39.331	999	26,0	10,00	50
6079503	EVM50L0520A050060C	5	1.969	50	2.362	60	20,0	9,50	50
6079504	EVM50L0520A060075C	5	2.362	60	2.953	75	20,0	9,50	50
6079505	EVM50L0520A075100C	5	2.953	75	3.937	100	20,0	9,50	50
6079506	EVM50L0520A100180C	5	3.937	100	7.087	180	20,0	9,50	50
6079507	EVM50L0520A180250C	5	7.087	180	9.843	250	20,0	9,50	50
6079508	EVM50L0520A250350C	5	9.843	250	13.780	350	20,0	9,50	50
6079509	EVM50L0520A350999C	5	13.780	350	39.331	999	20,0	9,50	50
6079234	EVM65L0620A060075C	6	2.362	60	2.953	75	20,0	9,88	65
6079235	EVM65L0620A075100C	6	2.953	75	3.937	100	20,0	9,88	65
6079236	EVM65L0620A100180C	6	3.937	100	7.087	180	20,0	9,88	65
6079237	EVM65L0620A180250C	6	7.087	180	9.843	250	20,0	9,88	65
6079238	EVM65L0620A250350C	6	9.843	250	13.780	350	20,0	9,88	65
6079239	EVM65L0620A350999C	6	13.780	350	39.331	999	20,0	9,88	65
6079240	EVM65L0820A080180C	8	3.150	80	7.087	180	20,0	9,00	65
6079241	EVM65L0820A180999C	8	7.087	180	39.331	999	20,0	9,00	65

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



■ Modular Outboard Face Grooving Blade with Coolant

order number	catalog number	seat size	D min		D max		CD	FS	blade size
			in	mm	in	mm			
right hand									
6079340	EVM50R0312B035040C	3	1.378	35	1.575	40	12,0	10,50	50
6079411	EVM50R0312B040050C	3	1.575	40	1.969	50	12,0	10,50	50
6079412	EVM50R0312B050060C	3	1.969	50	2.362	60	12,0	10,50	50
6079413	EVM50R0312B060075C	3	2.362	60	2.953	75	12,0	10,50	50
6117061	EVM50R0312B075100C	3	2.953	75	3.937	100	12,0	10,50	50
6117065	EVM50R0312B100180C	3	3.937	100	7.087	180	12,0	10,50	50
6117069	EVM50R0312B180250C	3	7.087	180	9.843	250	12,0	10,50	50
6117073	EVM50R0312B250350C	3	9.843	250	13.780	350	12,0	10,50	50
6117077	EVM50R0312B350999C	3	13.780	350	39.331	999	12,0	10,50	50
6079414	EVM50R0320B075100C	3	2.953	75	3.937	100	20,0	10,50	50
6079415	EVM50R0320B100180C	3	3.937	100	7.087	180	20,0	10,50	50
6079416	EVM50R0320B180250C	3	7.087	180	9.843	250	20,0	10,50	50
6079417	EVM50R0320B250350C	3	9.843	250	13.780	350	20,0	10,50	50
6079418	EVM50R0320B350999C	3	13.780	350	39.331	999	20,0	10,50	50
6079429	EVM50R0416B040050C	4	1.575	40	1.969	50	16,0	10,00	50
6079430	EVM50R0416B050060C	4	1.969	50	2.362	60	16,0	10,00	50
6079451	EVM50R0416B060075C	4	2.362	60	2.953	75	16,0	10,00	50
6079452	EVM50R0416B075100C	4	2.953	75	3.937	100	16,0	10,00	50
6117091	EVM50R0416B100180C	4	3.937	100	7.087	180	16,0	10,00	50
6117095	EVM50R0416B180250C	4	7.087	180	9.843	250	16,0	10,00	50
6117099	EVM50R0416B250350C	4	9.843	250	13.780	350	16,0	10,00	50
6117103	EVM50R0416B350999C	4	13.780	350	39.331	999	16,0	10,00	50
6079453	EVM50R0426B100180C	4	3.937	100	7.087	180	26,0	10,00	50
6079454	EVM50R0426B180250C	4	7.087	180	9.843	250	26,0	10,00	50
6079455	EVM50R0426B250350C	4	9.843	250	13.780	350	26,0	10,00	50
6079456	EVM50R0426B350999C	4	13.780	350	39.331	999	26,0	10,00	50
6079457	EVM50R0520B050060C	5	1.969	50	2.362	60	20,0	9,50	50

(continued)

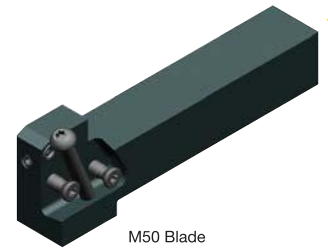
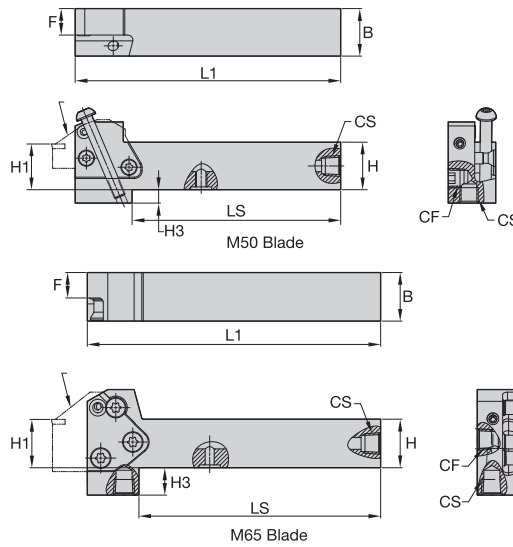
(Modular Outboard Face Grooving Blade with Coolant — continued)

Grooving and Cut-Off

order number	catalog number	seat size	D min		D max		CD	FS	blade size
			in	mm	in	mm			
6079458	EVM50R0520B060075C	5	2.362	60	2.953	75	20,0	9,50	50
6079459	EVM50R0520B075100C	5	2.953	75	3.937	100	20,0	9,50	50
6079460	EVM50R0520B100180C	5	3.937	100	7.087	180	20,0	9,50	50
6079461	EVM50R0520B180250C	5	7.087	180	9.843	250	20,0	9,50	50
6079462	EVM50R0520B250350C	5	9.843	250	13.780	350	20,0	9,50	50
6079463	EVM50R0520B350999C	5	13.780	350	39.331	999	20,0	9,50	50
6079246	EVM65R0620B060075C	6	2.362	60	2.953	75	20,0	9,88	65
6079247	EVM65R0620B075100C	6	2.953	75	3.937	100	20,0	9,88	65
6079248	EVM65R0620B100180C	6	3.937	100	7.087	180	20,0	9,88	65
6079249	EVM65R0620B180250C	6	7.087	180	9.843	250	20,0	9,88	65
6079250	EVM65R0620B250350C	6	9.843	250	13.780	350	20,0	9,88	65
6079261	EVM65R0620B350999C	6	13.780	350	39.331	999	20,0	9,88	65
6079262	EVM65R0820B080180C	8	3.150	80	7.087	180	20,0	9,00	65
6079263	EVM65R0820B180999C	8	7.087	180	39.331	999	20,0	9,00	65
left hand									
6079420	EVM50L0312B035040C	3	1.378	35	1.575	40	12,0	10,50	50
6079421	EVM50L0312B040050C	3	1.575	40	1.969	50	12,0	10,50	50
6079422	EVM50L0312B050060C	3	1.969	50	2.362	60	12,0	10,50	50
6079423	EVM50L0312B060075C	3	2.362	60	2.953	75	12,0	10,50	50
6117062	EVM50L0312B075100C	3	2.953	75	3.937	100	12,0	10,50	50
6117066	EVM50L0312B100180C	3	3.937	100	7.087	180	12,0	10,50	50
6117070	EVM50L0312B180250C	3	7.087	180	9.843	250	12,0	10,50	50
6117074	EVM50L0312B250350C	3	9.843	250	13.780	350	12,0	10,50	50
6117078	EVM50L0312B350999C	3	13.780	350	39.331	999	12,0	10,50	50
6079424	EVM50L0320B075100C	3	2.953	75	3.937	100	20,0	10,50	50
6079425	EVM50L0320B100180C	3	3.937	100	7.087	180	20,0	10,50	50
6079426	EVM50L0320B180250C	3	7.087	180	9.843	250	20,0	10,50	50
6079427	EVM50L0320B250350C	3	9.843	250	13.780	350	20,0	10,50	50
6079428	EVM50L0320B350999C	3	13.780	350	39.331	999	20,0	10,50	50
6079464	EVM50L0416B040050C	4	1.575	40	1.969	50	16,0	10,00	50
6079465	EVM50L0416B050060C	4	1.969	50	2.362	60	16,0	10,00	50
6079466	EVM50L0416B060075C	4	2.362	60	2.953	75	16,0	10,00	50
6079467	EVM50L0416B075100C	4	2.953	75	3.937	100	16,0	10,00	50
6117092	EVM50L0416B100180C	4	3.937	100	7.087	180	16,0	10,00	50
6117096	EVM50L0416B180250C	4	7.087	180	9.843	250	16,0	10,00	50
6117100	EVM50L0416B250350C	4	9.843	250	13.780	350	16,0	10,00	50
6117104	EVM50L0416B350999C	4	13.780	350	39.331	999	16,0	10,00	50
6079468	EVM50L0426B100180C	4	3.937	100	7.087	180	26,0	10,00	50
6079469	EVM50L0426B180250C	4	7.087	180	9.843	250	26,0	10,00	50
6079470	EVM50L0426B250350C	4	9.843	250	13.780	350	26,0	10,00	50
6079471	EVM50L0426B350999C	4	13.780	350	39.331	999	26,0	10,00	50
6079472	EVM50L0520B050060C	5	1.969	50	2.362	60	20,0	9,50	50
6079473	EVM50L0520B060075C	5	2.362	60	2.953	75	20,0	9,50	50
6079474	EVM50L0520B075100C	5	2.953	75	3.937	100	20,0	9,50	50
6079475	EVM50L0520B100180C	5	3.937	100	7.087	180	20,0	9,50	50
6079476	EVM50L0520B180250C	5	7.087	180	9.843	250	20,0	9,50	50
6079477	EVM50L0520B250350C	5	9.843	250	13.780	350	20,0	9,50	50
6079478	EVM50L0520B350999C	5	13.780	350	39.331	999	20,0	9,50	50
6079266	EVM65L0620B060075C	6	2.362	60	2.953	75	20,0	9,88	65
6079267	EVM65L0620B075100C	6	2.953	75	3.937	100	20,0	9,88	65
6079268	EVM65L0620B100180C	6	3.937	100	7.087	180	20,0	9,88	65
6079269	EVM65L0620B180250C	6	7.087	180	9.843	250	20,0	9,88	65
6079270	EVM65L0620B250350C	6	9.843	250	13.780	350	20,0	9,87	65
6079271	EVM65L0620B350999C	6	13.780	350	39.331	999	20,0	9,88	65
6079272	EVM65L0820B080180C	8	3.150	80	7.087	180	20,0	9,00	65
6079273	EVM65L0820B180999C	8	7.087	180	39.331	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.



Grooving and Cut-Off

■ Modular Straight Toolholder with Coolant • Inch

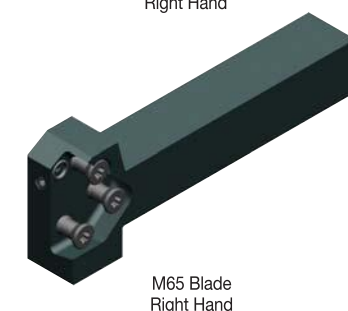
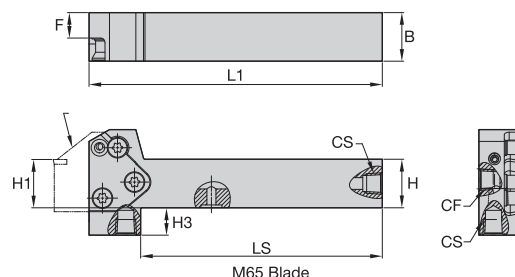
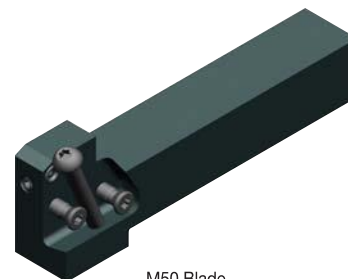
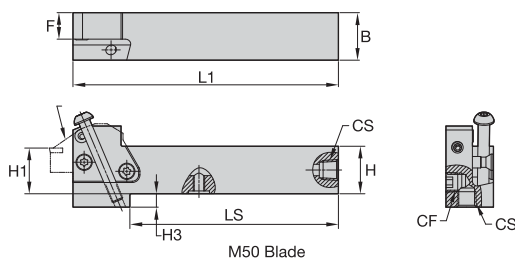
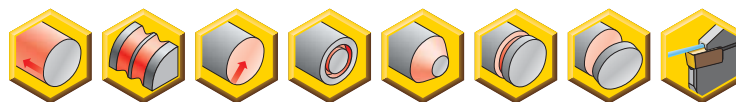


order number	catalog number	H	H1	B	L1	LS	F	CS	CF	H2	H3	blade size	blade screw	Torx	clamp screw	Torx
right hand																
5979194	KGMSR1650C	1.00	1.00	1.00	5.5	4.27	.56	1/8 - 27 NPTF	1/8 - 27 NPTF	1.67	0.25	50	—	T25	—	T25
5979801	KGMSR1665C	1.00	1.00	1.00	6.0	4.62	.53	1/8 - 27 NPTF	1/8 - 27 NPTF	2.09	0.50	65	MS1163	T30	—	—
5979802	KGMSR2050C	1.25	1.25	1.25	5.5	4.72	.81	1/8 - 27 NPTF	1/8 - 27 NPTF	1.78	—	50	MS1162	T25	MS2002	T25
5979803	KGMSR2065C	1.25	1.25	1.25	6.0	4.88	.78	1/8 - 27 NPTF	1/8 - 27 NPTF	2.09	0.25	65	MS1163	T30	—	—
5979804	KGMSR2450C	1.50	1.50	1.50	5.5	4.72	1.06	1/8 - 27 NPTF	1/8 - 27 NPTF	2.03	—	50	MS1162	T25	MS2002	T25
5979805	KGMSR2465C	1.50	1.50	1.50	7.0	5.90	1.03	1/8 - 27 NPTF	1/8 - 27 NPTF	2.09	—	65	MS1163	T30	—	—
left hand																
5979195	KGMSL1650C	1.00	1.00	1.00	5.5	4.27	.56	1/8 - 27 NPTF	1/8 - 27 NPTF	1.67	0.25	50	—	T25	—	T25
5979806	KGMSL1665C	1.00	1.00	1.00	6.0	4.62	.52	1/8 - 27 NPTF	1/8 - 27 NPTF	2.10	0.50	65	MS1163	T30	—	—
5979807	KGMSL2050C	1.25	1.25	1.25	5.5	4.52	.81	1/8 - 27 NPTF	1/8 - 27 NPTF	1.67	—	50	MS1162	T25	MS2002	T25
5979808	KGMSL2065C	1.25	1.25	1.25	6.0	4.88	.78	1/8 - 27 NPTF	1/8 - 27 NPTF	2.09	0.25	65	MS1163	T30	—	—
5979809	KGMSL2450C	1.50	1.50	1.50	5.5	4.74	1.06	1/8 - 27 NPTF	1/8 - 27 NPTF	2.03	—	50	MS1162	T25	MS2002	T25
5979810	KGMSL2465C	1.50	1.50	1.50	7.0	5.90	1.03	1/8 - 27 NPTF	1/8 - 27 NPTF	2.09	—	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 71–88 in. lbs. (8–10 Nm).
 M65 blade and clamp screw torque equals 159–177 in. lbs. (18–20 Nm).

screw catalog number	screw order number	torque		thread	socket	wrench catalog 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.



■ Modular Straight Toolholder with Coolant • Metric



order number	catalog 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.

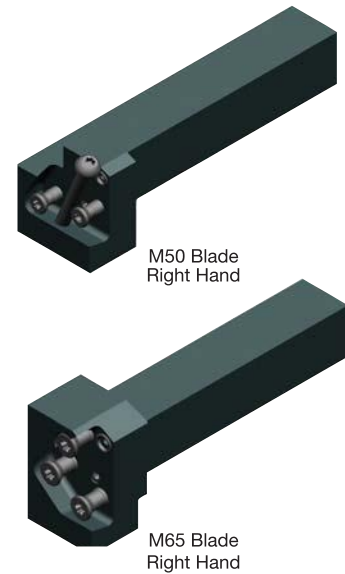
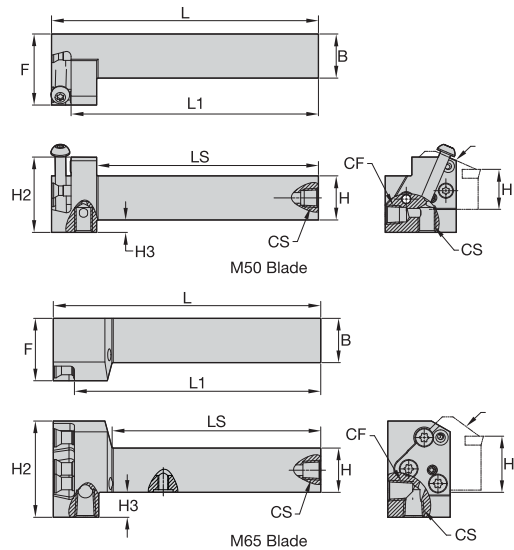
KGME...: Right-hand holder uses left-hand blades.

M50 blade and clamp screw torque equals 71–88 in. lbs. (8–10 Nm).

M65 blade and clamp screw torque equals 159–177 in. lbs. (18–20 Nm).

screw catalog number	screw order number	torque		thread	socket	wrench catalog number	wrench order number
		Nm	in. lbs.				
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.



Grooving and Cut-Off

■ Modular End Mount Toolholder with Coolant • Inch

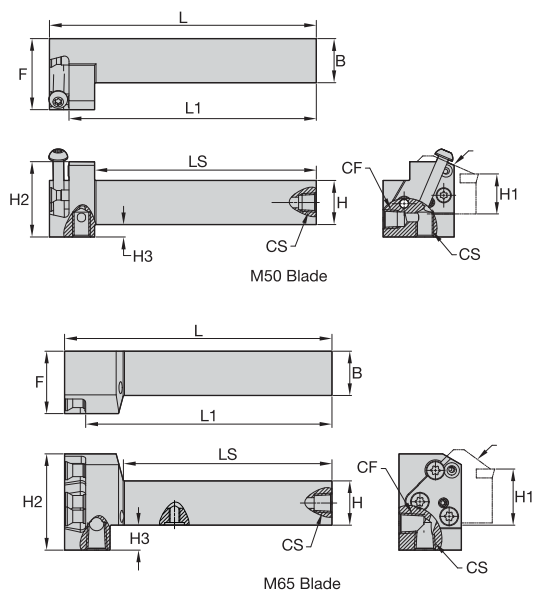
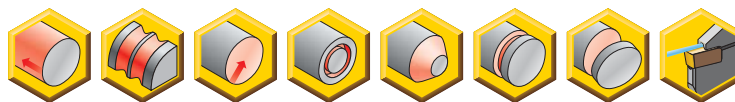


order number	catalog number	H	H1	B	L1	LS	F	H2	H3	blade size	blade screw	Torx	clamp screw	Torx
right hand														
5979196	KGMER1650C	1.00	1.00	1.00	5.5	4.96	1.58	1.67	0.25	50	—	T25	—	T25
5979814	KGMER1665C	1.00	1.00	1.00	5.5	4.70	1.38	2.09	0.50	65	MS1163	T30	—	—
5979815	KGMER2050C	1.25	1.25	1.25	5.5	4.96	1.58	1.67	—	50	—	T25	—	T25
5979816	KGMER2065C	1.25	1.25	1.25	5.5	4.70	1.38	2.09	0.25	65	MS1163	T30	—	—
5979817	KGMER2450C	1.50	1.50	1.50	5.5	4.96	1.58	1.92	—	50	MS1162	T25	MS2002	T25
5979818	KGMER2465C	1.50	1.50	1.50	6.5	5.70	1.49	2.09	—	65	MS1163	T30	—	—
left hand														
5979197	KGME1650C	1.00	1.00	1.00	5.5	4.96	1.58	1.67	0.25	50	—	T25	—	T25
5979819	KGME1665C	1.00	1.00	1.00	5.5	4.70	1.38	2.09	0.50	65	MS1163	T30	—	—
5979820	KGME12050C	1.25	1.25	1.25	5.5	4.96	1.58	1.67	—	50	—	T25	—	T25
5979881	KGME12065C	1.25	1.25	1.25	5.5	4.70	1.38	2.09	0.25	65	MS1163	T30	—	—
5979882	KGME12450C	1.50	1.50	1.50	5.5	4.96	1.58	1.92	—	50	MS1162	T25	MS2002	T25
5979883	KGME12465C	1.50	1.50	1.50	6.5	5.70	1.49	2.09	—	65	MS1163	T30	—	—

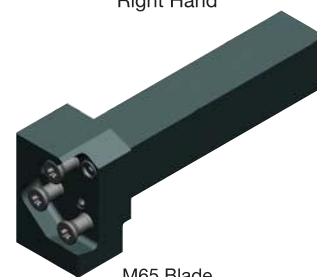
NOTE: KGMS...: Right-hand holder uses right-hand blades.
 KGME...: Right-hand holder uses left-hand blades.
 M50 blade and clamp screw torque equals 71–88 in. lbs. (8–10 Nm)
 M65 blade and clamp screw torque equals 159–177 in. lbs. (18–20 Nm)

screw catalog number	screw order number	torque		thread	socket	wrench catalog number	wrench order number
		Nm	in. lbs.				
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
Right Hand



M65 Blade
Right Hand

■ Modular End Mount Toolholder with Coolant • Metric

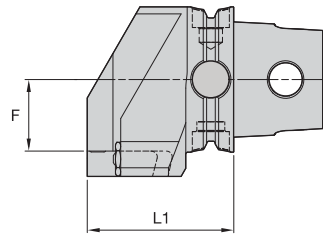


order number	catalog number	B	H	H1	L1	F	CS	CF	LS	H3	blade size	blade screw	Torx	clamping screw	Torx
right hand															
5979765	KGMER2525M65C	25	25	25	138,15	35,00	G 1/8	G 1/8	117,00	14,00	65	MS1163	T30	—	—
5979192	KGMER2525M50C	25	25	25	139,25	40,00	G 1/8	G 1/8	124,85	7,00	50	MS1162	T25	MS2002	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	KGME2525M65C	25	25	25	138,15	35,00	G 1/8	G 1/8	117,00	14,00	65	MS1163	T30	—	—
5979193	KGME2525M50C	25	25	25	139,25	40,00	G 1/8	G 1/8	124,85	7,00	50	MS1162	T25	MS2002	T25
5979770	KGME3232P65C	32	32	32	158,15	35,00	G 1/8	G 1/8	137,00	7,00	65	MS1163	T30	—	—
5979769	KGME3232P50C	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 71–88 in. lbs. (8–10 Nm).
M65 blade and clamp screw torque equals 159–177 in. lbs. (18–20 Nm).

screw catalog number	screw order number	torque		thread	socket	wrench catalog number	wrench order number
		Nm	in. lbs.				
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

Grooving and Cut-Off

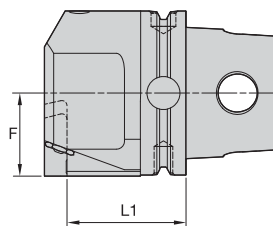
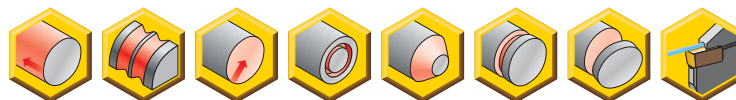
■ Modular Straight KM System with Coolant



order number	catalog number	CSMS system size	L1		F		blade size	blade screw	Torx	clamp screw	Torx
			mm	in	mm	in					
right hand											
5999790	KM40TSKGMSR50C	KM40TS	53,5	2.11	15,0	.59	50	MS1162	T25	MS2002	T25
6000422	KM50TSKGMSR65C	KM50TS	53,5	2.11	22,0	.87	65	MS1163	T30	—	—
5999864	KM50TSKGMSR50C	KM50TS	58,5	2.30	23,0	.91	50	MS1162	T25	MS2002	T25
6000431	KM63TSKGMSR65C	KM63TS	58,5	2.30	30,0	1.18	65	MS1163	T30	—	—
5999948	KM63TSKGMSR50C	KM63TS	63,5	2.50	31,0	1.22	50	MS1162	T25	MS2002	T25
5999972	KM63XMZKGMSR50CY	KM63XMZ	63,5	2.50	31,0	1.22	50	MS1162	T25	MS2002	T25
6017695	KM80TSKGMSR65C	KM80TS	63,5	2.50	40,0	1.58	65	MS1163	T30	—	—
6000018	KM80ATCKGMSR50C	KM80ATC	66,5	2.62	41,0	1.61	50	MS1162	T25	MS2002	T25
6000014	KM80TSKGMSR50C	KM80TS	66,5	2.62	41,0	1.61	50	MS1162	T25	MS2002	T25
left hand											
5999861	KM40TSKGMSL50C	KM40TS	53,5	2.11	15,0	.59	50	MS1162	T25	MS2002	T25
6000424	KM50TSKGMSL65C	KM50TS	53,5	2.11	22,0	.87	65	MS1163	T30	—	—
5999865	KM50TSKGMSL50C	KM50TS	58,5	2.30	23,0	.91	50	MS1162	T25	MS2002	T25
6000433	KM63TSKGMSL65C	KM63TS	58,5	2.30	30,0	1.18	65	MS1163	T30	—	—
5999949	KM63TSKGMSL50C	KM63TS	63,5	2.50	31,0	1.22	50	MS1162	T25	MS2002	T25
5999973	KM63XMZKGMSLF50CY	KM63XMZ	63,5	2.50	31,0	1.22	50	MS1162	T25	MS2002	T25
6017696	KM80TSKGMSL65C	KM80TS	63,5	2.50	40,0	1.58	65	MS1163	T30	—	—
6000019	KM80ATCKGMSL50C	KM80ATC	66,5	2.62	41,0	1.61	50	MS1162	T25	MS2002	T25
6000015	KM80TSKGMSL50C	KM80TS	66,5	2.62	41,0	1.61	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 71–88 in. lbs. (8–10 Nm).
 M65 blade and clamp screw torque equals 159–177 in. lbs. (18–20 Nm).

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



Right Hand



■ Modular End Mount KM System with Coolant • Metric



order number	catalog number	CSMS system size	L1		F		blade size	blade screw	Torx	clamp screw	Torx
			mm	in	mm	in					
right hand											
5999788	KM40TSKGMER50C	KM40TS	28,0	1.10	20,50	0.81	50	MS1162	T25	MS2002	T25
5999862	KM50TSKGMER50C	KM50TS	38,0	1.50	25,50	1.00	50	MS1162	T25	MS2002	T25
6000410	KM50TSKGMER65C	KM50TS	47,0	1.85	25,50	1.00	65	MS1163	T30	—	—
6000425	KM63TSKGMER65C	KM63TS	47,0	1.85	32,52	1.28	65	MS1163	T30	—	—
5999946	KM63TSKGMER50C	KM63TS	48,0	1.89	32,50	1.28	50	MS1162	T25	MS2002	T25
6000434	KM63XMZKGMER65CY	KM63XMZ	47,0	1.85	32,50	1.28	65	MS1163	T30	—	—
5999950	KM63XMZKGMER50CY	KM63XMZ	48,0	1.89	32,50	1.28	50	MS1162	T25	MS2002	T25
6017697	KM80ATCKGMER65C	KM80ATC	57,0	2.24	40,50	1.59	65	MS1163	T30	—	—
6000016	KM80ATCKGMER50C	KM80ATC	58,0	2.28	40,50	1.59	50	MS1162	T25	MS2002	T25
6017693	KM80TSKGMER65C	KM80TS	57,0	2.24	40,50	1.59	65	MS1163	T30	—	—
6000012	KM80TSKGMER50C	KM80TS	58,0	2.28	40,50	1.59	50	MS1162	T25	MS2002	T25
left hand											
5999789	KM40TSKGMEL50C	KM40TS	28,0	1.10	20,50	0.81	50	MS1162	T25	MS2002	T25
5999863	KM50TSKGMEL50C	KM50TS	38,0	1.50	25,50	1.00	50	MS1162	T25	MS2002	T25
6000421	KM50TSKGMEL65C	KM50TS	47,0	1.85	25,50	1.00	65	MS1163	T30	—	—
6000430	KM63TSKGMEL65C	KM63TS	47,0	1.85	32,52	1.28	65	MS1163	T30	—	—
5999947	KM63TSKGMEL50C	KM63TS	48,0	1.89	32,50	1.28	50	MS1162	T25	MS2002	T25
6000436	KM63XMZKGMELF65CY	KM63XMZ	47,0	1.85	32,50	1.28	65	MS1163	T30	—	—
5999971	KM63XMZKGMELF50CY	KM63XMZ	48,0	1.89	32,50	1.28	50	MS1162	T25	MS2002	T25
6017698	KM80ATCKGMEL65C	KM80ATC	57,0	2.24	40,50	1.59	65	MS1163	T30	—	—
6000017	KM80ATCKGMEL50C	KM80ATC	58,0	2.28	40,50	1.59	50	MS1162	T25	MS2002	T25
6017694	KM80TSKGMEL65C	KM80TS	57,0	2.24	40,50	1.59	65	MS1163	T30	—	—
6000013	KM80TSKGMEL50C	KM80TS	58,0	2.28	40,50	1.59	50	MS1162	T25	MS2002	T25

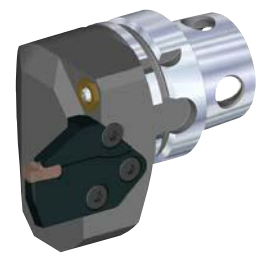
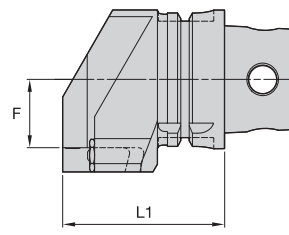
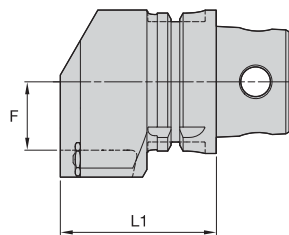
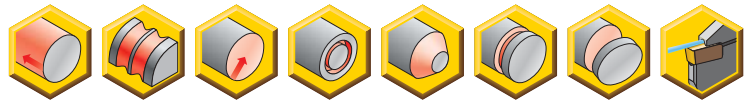
NOTE: KGMS...: Right-hand holder uses right-hand blades.

KGME...: Right-hand holder uses left-hand blades.

M50 blade and clamp screw torque equals 71–88 in. lbs. (81–10 Nm).

M65 blade and clamp screw torque equals 1591–177 in. lbs. (181–20 Nm).

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



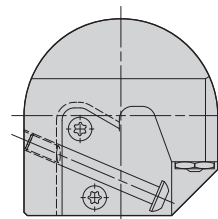
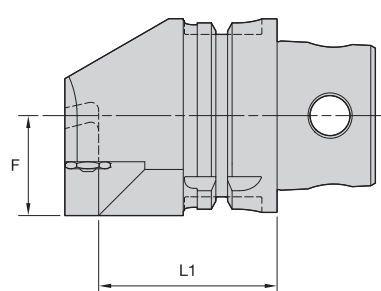
Right Hand

Grooving and Cut-Off

■ Modular Straight KM4X™ System with Coolant

 											
order number	catalog number	CSMS system size	L1		F		blade size	blade screw	Torx	clamp screw	Torx
right hand											
5543560	KM4X63KGMSR65C	KM4X63	68,5	2.70	30,0	1.18	65	MS1163	T30	—	—
6000407	KM4X63KGMSR50C	KM4X63	73,5	2.89	31,0	1.22	50	MS1162	T25	MS2002	T25
left hand											
5543558	KM4X63KGMSL65C	KM4X63	68,5	2.70	30,0	1.18	65	MS1163	T30	—	—
6000408	KM4X63KGMSL50C	KM4X63	73,5	2.89	31,0	1.22	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 71–88 in. lbs. (8–10 Nm).
 M65 blade and clamp screw torque equals 159–177 in. lbs. (18–20 Nm).

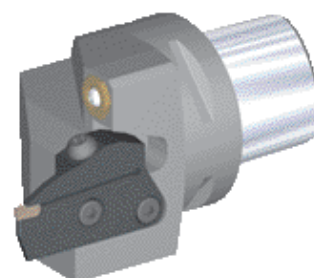
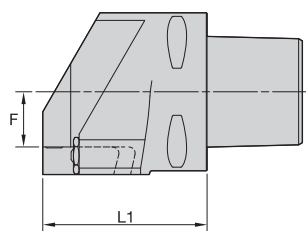


Right Hand

■ Modular End Mount KM4X System with Coolant

												
order number	catalog number	CSMS system size	L1		F		cartridge size	blade screw	nozzle	clamp screw	kg	lbs
			mm	in	mm	in						
right hand												
5543555	KM4X63KGMER65C	KM4X63	57,0	2.244	32,5	1.280	65	MS1163	PMT04525	—	1,87	4.13
6000404	KM4X63KGMER50C	KM4X63	58,0	2.283	32,5	1.280	50	MS1162	PMT04525	MS2002	1,85	4.08
6000407	KM4X63KGMSR50C	KM4X63	73,5	2.894	31,0	1.220	50	MS1162	PMT04525	MS2002	1,86	4.11
left hand												
5543553	KM4X63KGME65C	KM4X63	57,0	2.244	32,5	1.280	65	MS1163	PMT04525	—	1,87	4.13
6000405	KM4X63KGME50C	KM4X63	58,0	2.283	32,5	1.280	50	MS1162	PMT04525	MS2002	1,85	4.08
6000408	KM4X63KGMSL50C	KM4X63	73.5	2.894	31.0	1.220	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.



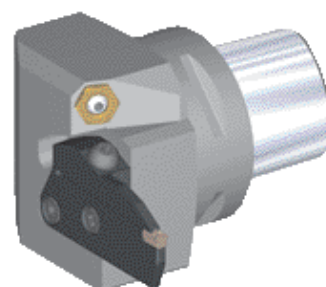
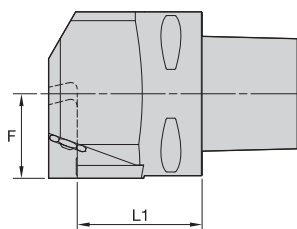
Right Hand

■ Modular Straight PSC System with Coolant



order number	catalog number	CSMS system size	L1		F		blade size	blade screw	Torx	clamp screw	Torx
			mm	in	mm	in					
right hand											
6000028	PSC40KGMSR50C	PSC40	63,5	2.50	10,0	.39	50	MS1162	T25	MS2002	T25
5405654	PSC50KGMSR65C	PSC50	49,0	1.93	25,5	1.00	65	MS1163	T30	—	—
6000152	PSC50KGMSR50C	PSC50	63,5	2.50	15,0	.59	50	MS1162	T25	MS2002	T25
6000464	PSC63KGMSR65C	PSC63	60,5	2.38	21,0	.83	65	MS1163	T30	—	—
6000211	PSC63KGMSR50C	PSC63	65,5	2.58	22,0	.87	50	MS1162	T25	MS2002	T25
6000468	PSC80KGMSR65C	PSC80	68,5	2.70	29,0	1.14	65	MS1163	T30	—	—
6000216	PSC80KGMSR50C	PSC80	73,5	2.89	30,0	1.18	50	MS1162	T25	MS2002	T25
left hand											
6000029	PSC40KGMSL50C	PSC40	63,5	2.50	10,0	.39	50	MS1162	T25	MS2002	T25
5405655	PSC50KGMSL65C	PSC50	49,0	1.93	25,5	1.00	65	MS1163	T30	—	—
6000153	PSC50KGMSL50C	PSC50	63,5	2.50	15,0	.59	50	MS1162	T25	MS2002	T25
6000465	PSC63KGMSL65C	PSC63	60,5	2.38	21,0	.83	65	MS1163	T30	—	—
6000213	PSC63KGMSL50C	PSC63	65,5	2.58	22,0	.87	50	MS1162	T25	MS2002	T25
6000469	PSC80KGMSL65C	PSC80	68,5	2.70	29,0	1.14	65	MS1163	T30	—	—
6000217	PSC80KGMSL50C	PSC80	73,5	2.89	30,0	1.18	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

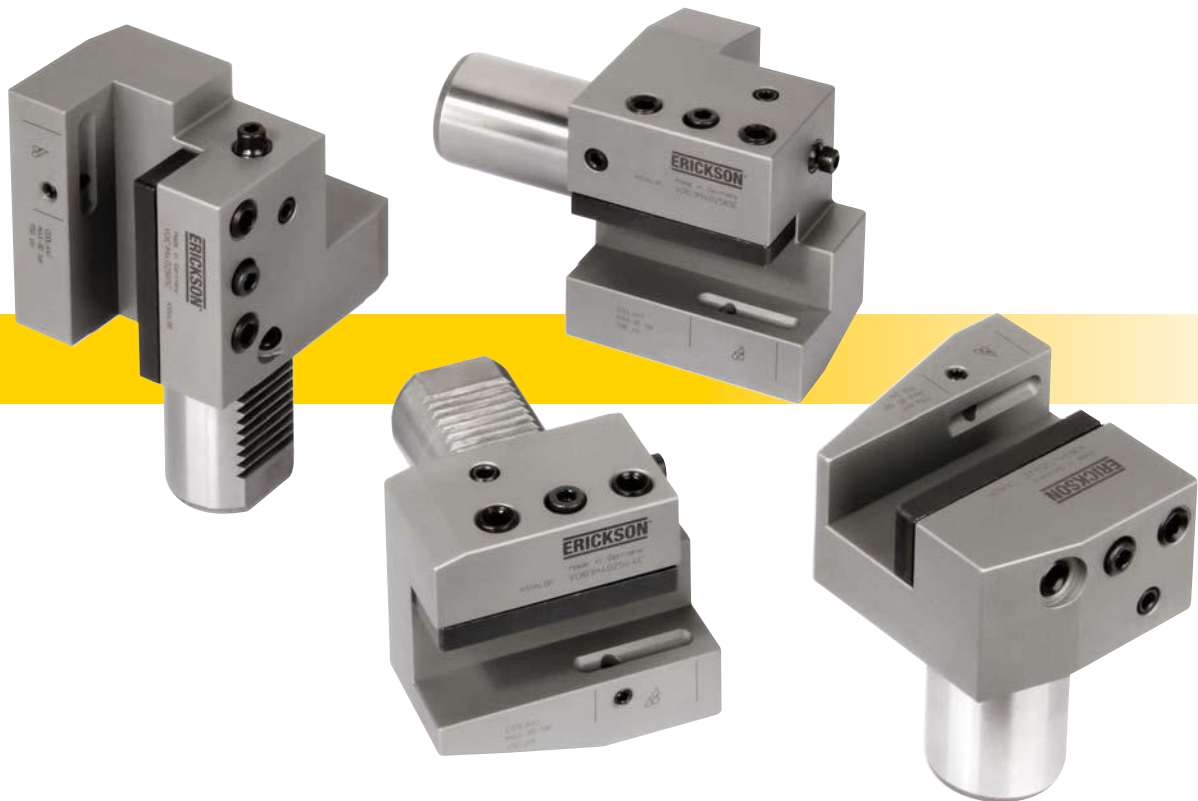
Grooving and Cut-Off

■ Modular End Mount PSC System with Coolant

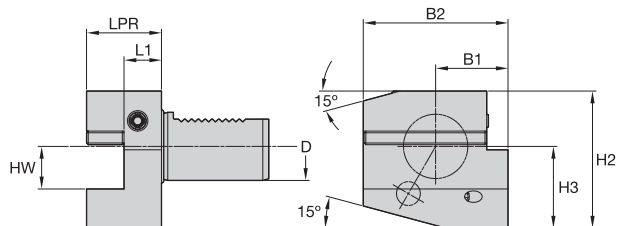


order number	catalog number	CSMS system size	L1		F		blade size	blade screw	Torx	clamp screw	Torx
			mm	in	mm	in					
right hand											
6000026	PSC40KGMER50C	PSC40	33,0	1.30	20,5	.81	50	MS1162	T25	MS2002	T25
6000030	PSC50KGMER50C	PSC50	43,0	1.69	25,5	1.00	50	MS1162	T25	MS2002	T25
5405652	PSC50KGMER65C	PSC50	55,5	2.19	22,0	.87	65	MS1163	T30	—	—
6000159	PSC63KGMER50C	PSC63	48,0	1.89	32,5	1.28	50	MS1162	T25	MS2002	T25
6000462	PSC63KGMER65C	PSC63	49,0	1.93	32,5	1.28	65	MS1163	T30	—	—
6000466	PSC80KGMER65C	PSC80	57,0	2.24	40,5	1.59	65	MS1163	T30	—	—
6000214	PSC80KGMER50C	PSC80	58,0	2.28	40,5	1.59	50	MS1162	T25	MS2002	T25
left hand											
6000027	PSC40KGME150C	PSC40	33,0	1.30	20,5	.81	50	MS1162	T25	MS2002	T25
6000151	PSC50KGME150C	PSC50	43,0	1.69	25,5	1.00	50	MS1162	T25	MS2002	T25
5405653	PSC50KGME165C	PSC50	55,5	2.19	22,0	.87	65	MS1163	T30	—	—
6000160	PSC63KGME150C	PSC63	48,0	1.89	32,5	1.28	50	MS1162	T25	MS2002	T25
6000463	PSC63KGME165C	PSC63	49,0	1.93	32,5	1.28	65	MS1163	T30	—	—
6000467	PSC80KGME165C	PSC80	57,0	2.24	40,5	1.59	65	MS1163	T30	—	—
6000215	PSC80KGME150C	PSC80	58,0	2.28	40,5	1.59	50	MS1162	T25	MS2002	T25

➤ VDI Toolholders



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



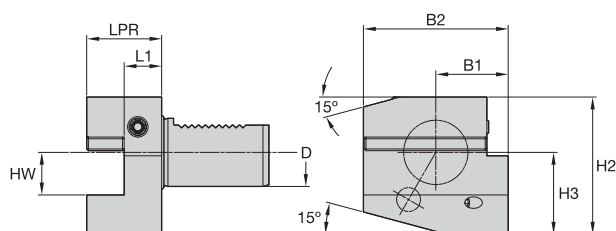
Grooving and Cut-Off

■ VDI Form B1 • HPC • Right Hand Short • Metric

order number	catalog 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 adapter with coolant support for square shank toolholder.
- ISO 10889.

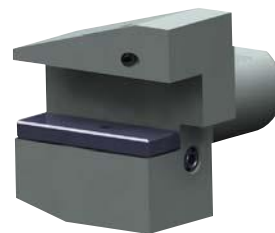
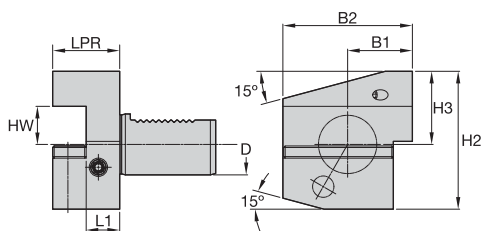


Artwork shows right hand tool.
Left hand tool mirror inverted.

■ VDI Form B2 • HPC • Left Hand Short • Metric

order number	catalog 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 adapter with coolant support for square shank toolholder.
- ISO 10889.

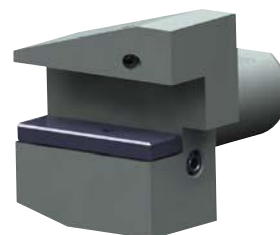
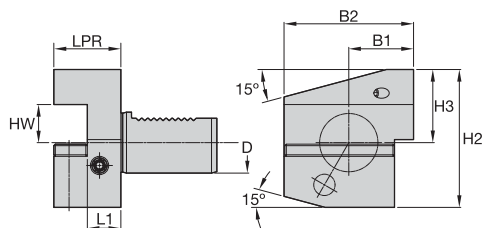


VDI Form B3 • HPC • Right Hand Short Inverted • Metric

order number	catalog 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 adapter with coolant support for square shank toolholder.
- ISO 10889.

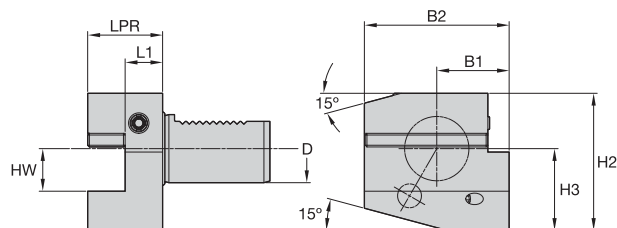


Artwork shows right hand tool.
Left hand tool mirror inverted.

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

order number	catalog 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 adapter with coolant support for square shank toolholder.
- ISO 10889.



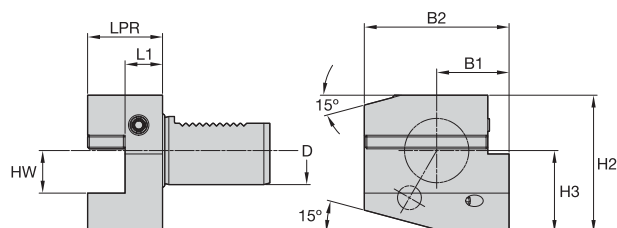
Grooving and Cut-Off

■ VDI Form B5 • HPC • Right Hand Long • Metric

order number	catalog 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

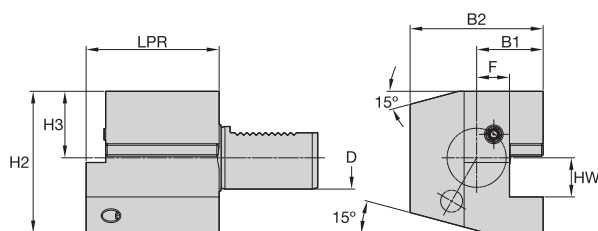
- VDI adapter with coolant support for square shank toolholder.
- ISO 10889.


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

■ VDI Form B6 • HPC • Left Hand Long • Metric

order number	catalog 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 adapter with coolant support for square shank toolholder.
- ISO 10889.

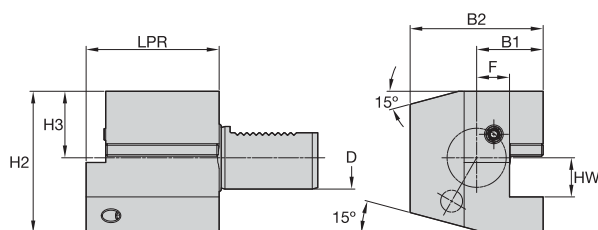


■ VDI Form C1 • HPC • Right Hand • Metric

order number	catalog 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 adapter with coolant support for square shank toolholder.
- ISO 10889.

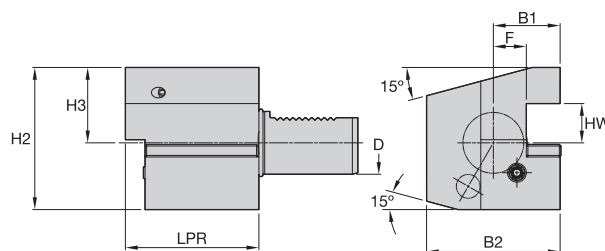


Artwork shows right hand tool.
Left hand tool mirror inverted.

■ VDI Form C2 • HPC • Left Hand • Metric

order number	catalog 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 adapter with coolant support for square shank toolholder.
- ISO 10889.



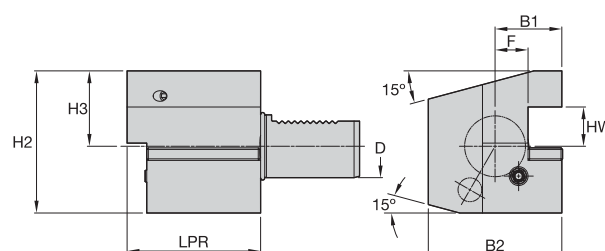
Grooving and Cut-Off

■ VDI Form C3 • HPC • Right Hand Inverted • Metric

order number	catalog 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 adapter with coolant support for square shank toolholder.
- ISO 10889.

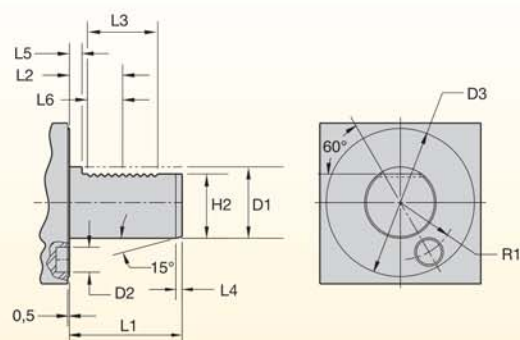


Artwork shows right hand tool.
Left hand tool mirror inverted.

■ VDI Form C4 • HPC • Left Hand Inverted • Metric

order number	catalog 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 1.181	14,00 0.551	68,00 2.677	55,00 2.165	29,70 1.169	40,00 1.575	2,00 0.079	7,00 0.276	20,00 0.787	27,00 1.063	25,00 0.984
40	40,00 1.575	14,00 0.551	83,00 3.268	63,00 2.480	29,70 1.169	40,00 1.575	3,00 0.118	7,00 0.276	20,00 0.787	36,00 1.417	32,00 1.260
50	50,00 1.969	16,00 0.630	98,00 3.858	78,00 3.071	35,70 1.406	48,00 1.890	3,00 0.118	8,00 0.315	24,00 0.945	45,00 1.772	37,00 1.457
60	60,00 2.362	16,00 0.630	123,00 4.843	94,00 3.701	43,70 1.720	56,00 2.205	4,00 0.157	10,00 0.394	28,00 1.102	55,00 2.165	48,00 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 Authorized Kennametal Distributor or at kennametal.com.



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	catalog 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	catalog 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!

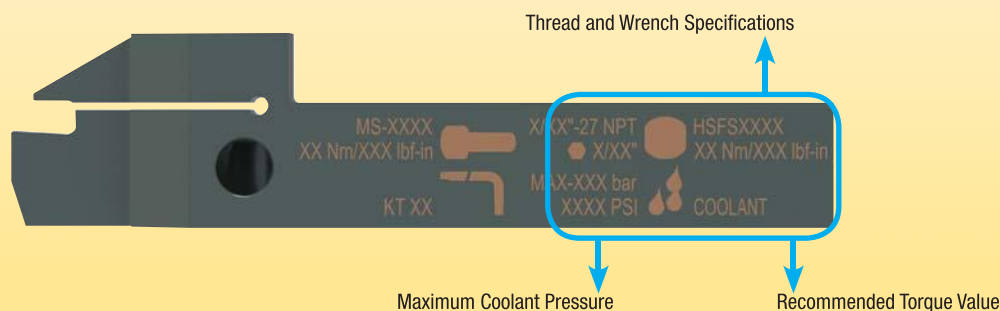
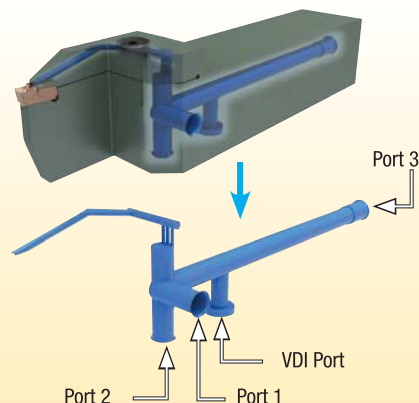
■ Coolant Hose Accessories

order number	catalog 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 adapter
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 5076 psi (350 bar).
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 >1015 psi [70 bar], use 10–20 µm filter.
 - For pressure <1015 psi [70 bar], 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 >1160 psi [80 bar], 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



1,087 psi
(75 bar)



2,900 psi
(200 bar)

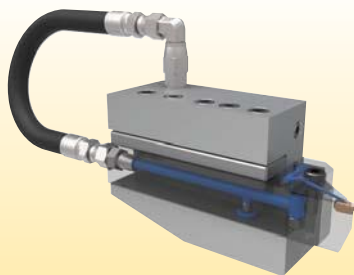
Material steel ST52;
Insert size 6mm; f = 0,25 mm/U

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

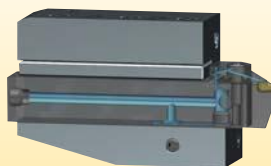
Recommendation to improve tool life and/or productivity: Apply high pressure coolant: 80–350 bar recommended.

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 adapter to toolholder



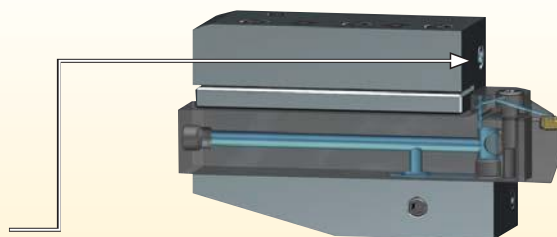
A marker on the toolholder must remain within the coolant range indicated on the VDI system for uninterrupted coolant transfer.

■ Technical Details

Pressure limit 1160 psi [lbf/in²] (80 bar).

Nozzle set comes pre-assembled.

For the holder application with internal coolant only nozzle can be plugged by M5 screw (delivered). Use LocTite light, medium strength, or thread sealant.



Holder	Slide Area	Max. Pressure	Torque (Pressure Screws)
VDI 30	0.87" (22mm)	1160 psi [lbf/in ²] (80 bar)	14.75 ft. lb. (20 Nm)
VDI 40	1.18" (30mm)	1160 psi [lbf/in ²] (80 bar)	25.81 ft. lb. (35 Nm)

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