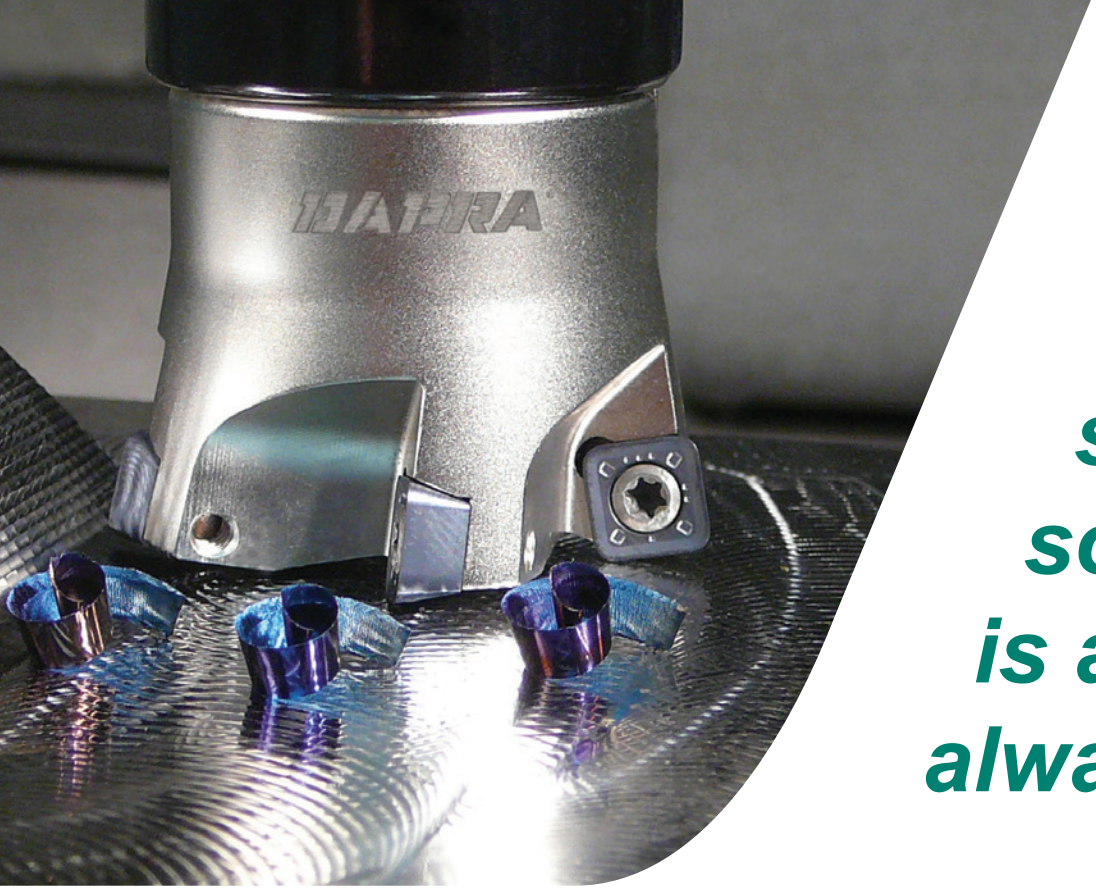
INDEXABLE MILLING

TITLE:	INDEXABLE MILLING						
	IM-1:	HIGH-FEED	IM-27:	SQUARE SHOULDER			
	IM-69:	BUTTON / FACE	IM-117:	BALL NOSE / BACK DRAFT			
ADDRESS:	6440 N RIDGEWAY AVE	CITY:	LINCOLNWOOD	STATE:	IL	ZIP:	60712
COUNTRY:	USA						
PHONE:	(847) 677-8770	URL:	GENERALCUTTINGTOOLS.COM	E-MAIL:	INFO@GENERALCUTTINGTOOLS.COM		
CREATED BY:	PRATT	REVISION:	A				
CATALOG ID:	C-IM-202302						

APPLICATIONS:



DAPRA™
WORKHOLDING • INDEXABLE MILLING • POWER TOOLS



The simplest solution is almost always best.

Our approach to milling is simple:

No bells. No whistles. No fluff. Simply put — <u>No bullshit.</u>

We've developed a versatile product line of high-performance tools shaped by over 65 years of experience that gets the job done.

Getting the job done doesn't just mean working hard — it's helping our customers efficiently and effectively compete in a dynamic marketplace. From simplified selection and sourcing of tools to reducing cycle time and scrap, our mission is your success.

Through leading application experts, strategic partnerships, and key investments in our manufacturing operations, we remain committed to our vision.

Let's get to work!

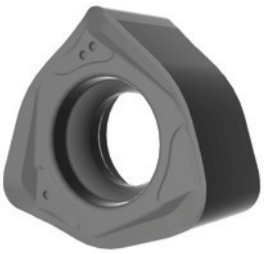
NOW AVAILABLE!

VAPOR™

High-Feed Indexable Milling

PAGE IM-21





TRI-X2

DAPRA NEXT TECHNOLOGY
DNT
FALL 2022

DAPRA NEXT TECHNOLOGY

Look for more new products with the DNT stamp.

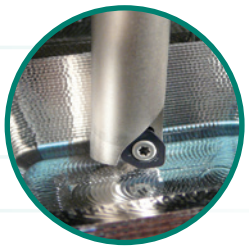
INDEXABLE MILLING

Industries

- Medical
- Aerospace
- Automotive
- Rail
- Oil and Gas
- Die & Mold
- Power Generation
- Heavy Industry
- General Engineering
- Firearms

ISO Materials

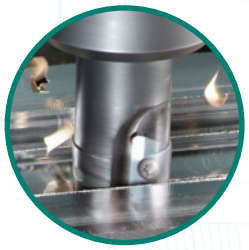
- P — Steel
- M — Stainless
- K — Iron
- N — Non-Ferrous
- S — Super Alloys
- H — Hardened



HIGH-FEED IM-1

SINGLE-SIDED
8mm | 10mm | 12mm

DOUBLE-SIDED
6mm



SQUARE SHOULDER IM-27

SINGLE-SIDED
10mm | 12mm | 16mm

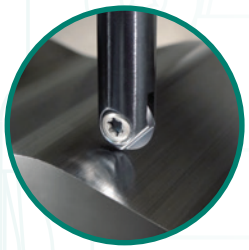
DOUBLE-SIDED
12mm



BUTTON / FACE IM-69

SINGLE-SIDED
3/8" | 1/2" | 5/8" | 3/4"
10mm | 12mm

DOUBLE-SIDED
12mm

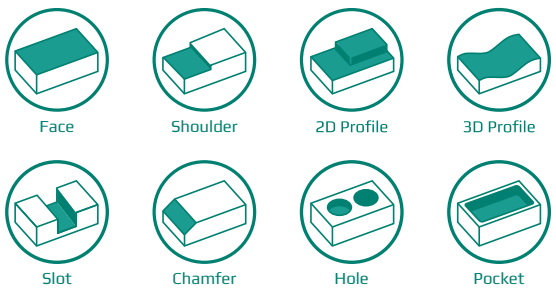


BALL NOSE / BACK DRAFT IM-117

SINGLE-SIDED
RDBN | HBN | BNR | BDR
FBR | HFBD

DOUBLE-SIDED
SBN | SBD

Applications

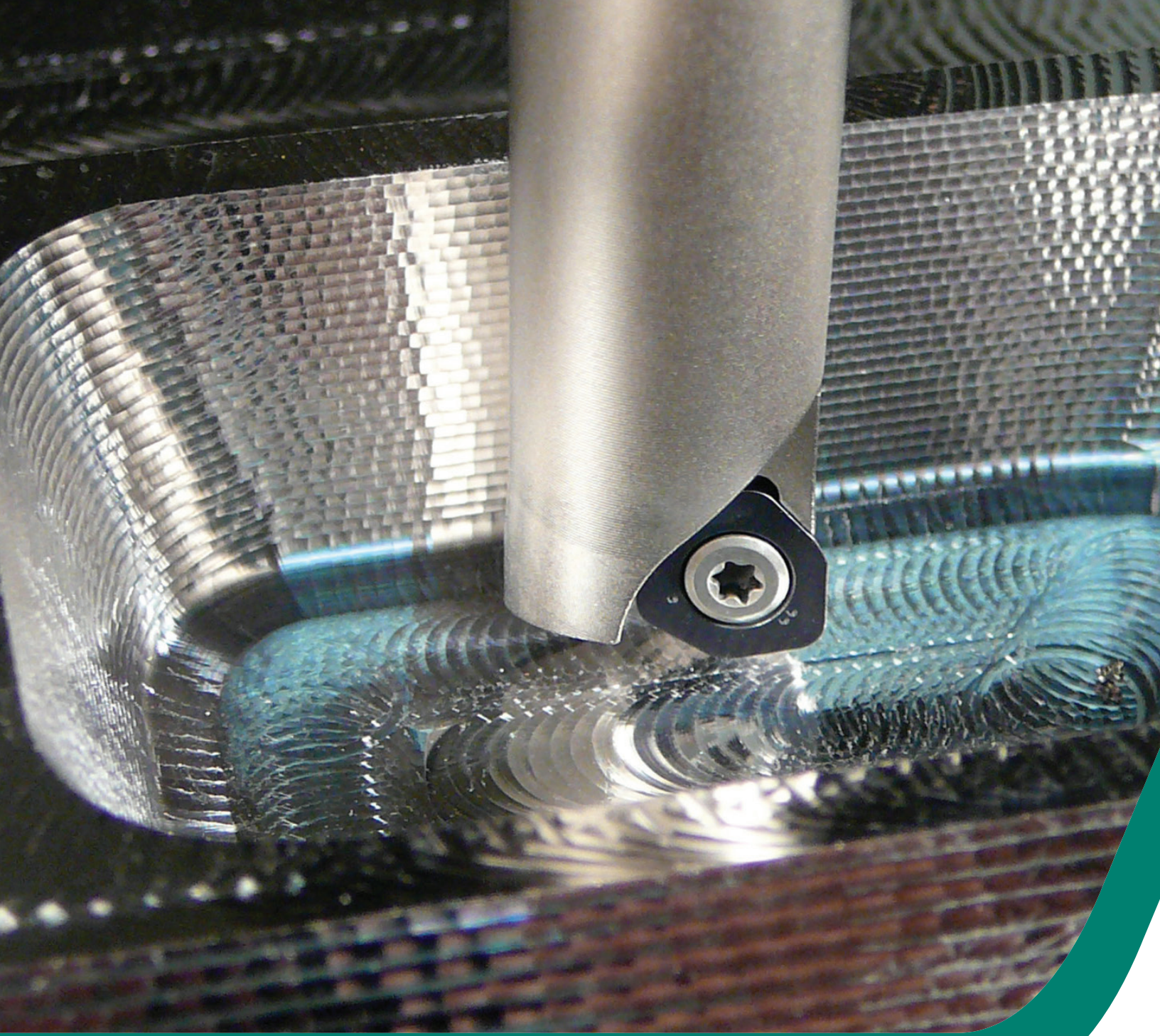


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High-Feed

Single-Sided Insert Platform IM-3

8mm Series IM-5

10mm Series IM-9

12mm Series IM-15

Double-Sided Insert Platform IM-21

6mm Series IM-23



High-Feed
Single-Sided Insert Platform

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application information

SINGLE-SIDED HIGH-FEED INSERT PLATFORM

8mm Series	IM-5
10mm Series	IM-9
12mm Series	IM-15

Single-sided High-Feed inserts are designed for increased ramping clearance while maintaining optimal performance.

- Increased edge strength.
- Reduced cutting loads.
- Capable of high MRR in deep cavities.

CUTTER BODIES



END MILLS
Steel

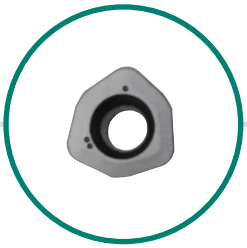


SHELL MILLS
Steel



MODULAR HEADS
Steel

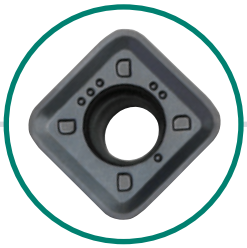
INSERTS



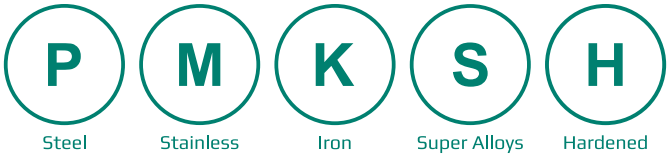
8MM IC

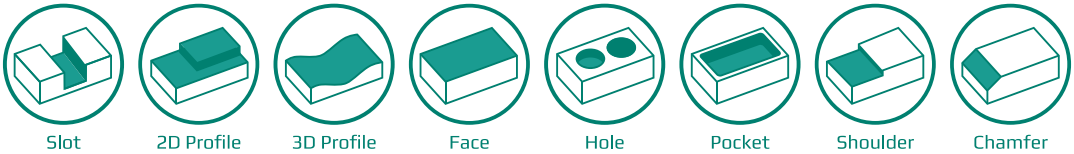


10MM IC



12MM IC

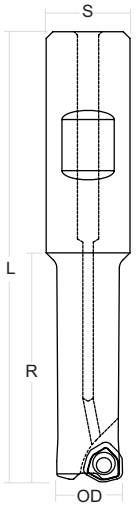




8mm Series Cutter Bodies

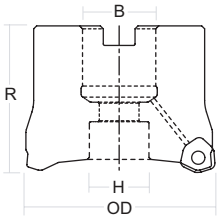
End Mills

EDP	OD	Description	R Effective Length	L Overall Length	S Shank Dia.	Flutes	DOC Max.	Insert
60000	.500”	HFEM050-150-R2-1	1.500”	3.530”	.750”	1	.015”	RF-08
60010	.500”	HFEM050-250-R2-1	2.500”	4.530”	.750”	1	.015”	RF-08
60020	.625”	HFEM063-200-R2-1	2.000”	4.030”	.750”	1	.025”	RF-08
60030	.625”	HFEM063-300-R2-1	3.000”	5.030”	.750”	1	.020”	RF-08
60040	.750”	HFEM075-200-R2-2	2.000”	4.030”	.750”	2	.025”	RF-08
60050	.750”	HFEM075-300-R2-2	3.000”	5.030”	.750”	2	.020”	RF-08
60060	1.000”	HFEM100-250-R2-3	2.500”	4.750”	1.000”	3	.025”	RF-08
60070	1.000”	HFEM100-450-R2-3	4.500”	6.830”	1.000”	3	.025”	RF-08



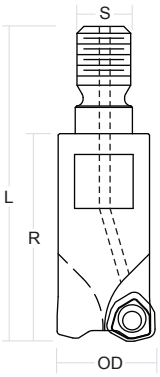
Shell Mills

EDP	OD	Description	R Effective Length	B Arbor Dia.	H Counter Bore Dia.	Flutes	DOC Max.	Insert
60380	2.000”	HFSM200-075-R2-7C	1.500”	0.750”	0.590”	7	.040”	RF-08

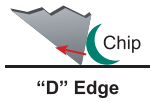


Modular Heads

EDP	OD	Description	R Effective Length	L Overall Length	S Shank Dia.	Flutes	Thread	DOC Max.	Insert
60200	.750”	HFEM075-MOD-R2-2C	1.500”	2.275”	0.413”	2	M10	.020”	RF-08
60210	1.000”	HFEM100-MOD-R2-3C	1.500”	2.375”	0.492”	3	M12	.020”	RF-08

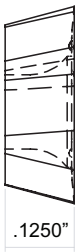


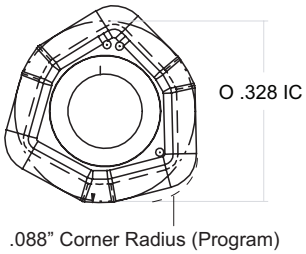
8mm Series Inserts



"D" Edge







"D" Edge: Honed edge provides high-shear cutting action that minimizes tool pressure, temperature build-up, and burr creation.

Insert	Thickness	# of Usable Edges	Corner Radius Actual	Programmed Corner Radius	DOC Max.	DOC Recommended	FPT Compensated
RF-08-D	.125"	3	.062"	.088"	.030"	.010-.025"	.012-.032"

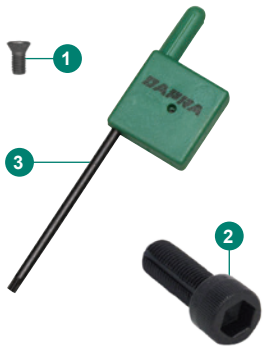
Insert Grade Availability

Insert	Edge	IC	Grade	Coating					
				Uncoated	GLH	TCI	HM	IN	TS
RF-08-D	D	8mm	DMK30	62100	62160	62190	62185		62187
			DMK35	62193			62194	62195	
			DMK25	62000	62060	62090			
			DMP25	62200	62260	62290			

See page IM-155 for insert grade and coating selection.

8mm Series Accessories

EDP	Part Number	Description
83040	TRS-3	1 8mm Insert Screw (Torque range: 12-15 in-lbs.)
QM07041	TC-3/8-SHCS	2 Shell Mill Socket Head Cap Screw with Coolant for 2" shell mills (3/8-24 x 1" long)
83000	T8-F	3 T8 Flag Wrench
41110	ASG-120	Anti-Seize Grease



8mm Series Recommended Parameters

Style	Edge	Grade	Coating	Speed / Feed / DOC		Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
RF-08	D	DMK30	TCI	Speed		450-700	350-600	250-450		
				Feed*		.012-.032	.012-.032	.010-.030		
				DOC	< 3xD	.010-.025	.010-.025	.010-.025		
					> 3xD	.010-.015	.010-.015	.010-.015		
			GLH / TS	Speed		**550-800**	**450-700**	**250-450**	250-450	
				Feed*		**.012-.032**	**.012-.032**	**.010-.030**	.010-.025	
				DOC	< 3xD	**.010-.025**	**.010-.025**	**.010-.025**	.010-.020	
					> 3xD	**.010-.015**	**.010-.015**	**.010-.015**	.010-.015	
			HM	Speed				250-450	**250-450**	
				Feed*				.010-.030	**.010-.025**	
				DOC	< 3xD			.010-.025	**.010-.020**	
					> 3xD			.010-.015	**.010-.015**	
		DMK35	HM	Speed						
				Feed*						
				DOC	< 3xD					
					> 3xD					
			IN	Speed						
				Feed*						
				DOC	< 3xD					
					> 3xD					
			TS	Speed						
				Feed*						
				DOC	< 3xD					
					> 3xD					
		DMK25	HM	Speed						
				Feed*						
				DOC	< 3xD					
					> 3xD					
			GLH / TS	Speed		450-800	400-700	300-600		
				Feed*		.010-.030	.010-.030	.010-.030		
				DOC	< 3xD	.010-.025	.010-.025	.010-.025		
					> 3xD	.010-.015	.010-.015	.010-.015		
		DMP25	TCI	Speed		400-700	350-600			
				Feed*		.012-.032	.012-.032			
				DOC	< 3xD	.010-.025	.010-.025			
					> 3xD	.010-.015	.010-.015			
			GLH / TS	Speed		450-800	400-700	**300-600**	**300-500**	**250-400**
				Feed*		.012-.032	.012-.032	**.010-.030**	**.010-.025**	**.007-.020**
				DOC	< 3xD	.010-.025	.010-.025	**.010-.025**	**.010-.020**	**.005-.015**
					> 3xD	.010-.015	.010-.015	**.010-.015**	**.010-.015**	**.005-.010**
			HM	Speed		450-800	400-700	**300-600**	**300-500**	**250-400**
				Feed*		.012-.032	.012-.032	**.010-.030**	**.010-.025**	**.007-.020**
				DOC	< 3xD	.010-.025	.010-.025	**.010-.025**	**.010-.020**	**.005-.015**
					> 3xD	.010-.015	.010-.015	**.010-.015**	**.010-.015**	**.005-.010**

* Feed Rate Compensation for DOC:
DOC < .025" Feed = 100%
DOC > .025" Feed = 75%

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

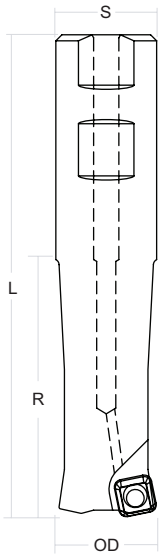
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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Copper Alloys	Ni Co-Based Alloys	9 Series Inconel	Titanium
250-550	350-600	250-450	400-750	300-600	400-600			
.010-.030	.010-.030	.010-.025	.012-.032	.012-.032	.012-.032			
.010-.025	.010-.025	.010-.025	.010-.025	.010-.025	.010-.025			
.010-.015	.010-.015	.010-.015	.010-.015	.010-.015	.010-.015			
300-600	**400-700**	**250-550**	500-800	450-700	400-600	50-150	35-90	**120-180**
.010-.030	**.010-.030**	**.010-.025**	.012-.032	.012-.032	.012-.032	.008-.020	.008-.020	**.010-.030**
.010-.025	**.010-.025**	**.010-.025**	.010-.025	.010-.025	.010-.025	.010-.020	.010-.020	**.010-.020**
.010-.015	**.010-.015**	**.010-.015**	.010-.015	.010-.015	.010-.015	.010-.015	.010-.015	**.010-.015**
300-600	400-700	**250-550**	500-800	450-700		50-150	35-90	**120-180**
.010-.030	.010-.030	**.010-.025**	.012-.032	.012-.032		.008-.020	.008-.020	**.010-.030**
.010-.025	.010-.025	**.010-.025**	.010-.025	.010-.025		.010-.020	.010-.020	**.010-.020**
.010-.015	.010-.015	**.010-.015**	.010-.015	.010-.015		.010-.015	.010-.015	**.010-.015**
		250-500				**50-150**	**35-90**	120-180
		.010-.025				**.008-.025**	**.008-.025**	.010-.030
		.010-.025				**.010-.020**	**.010-.020**	.010-.020
		.010-.015				**.010-.015**	**.010-.015**	.010-.015
		250-500				**50-150**	**35-90**	120-180
		.010-.025				**.008-.025**	**.008-.025**	.010-.030
		.010-.025				**.010-.020**	**.010-.020**	.010-.020
		.010-.015				**.010-.015**	**.010-.015**	.010-.015
								120-180
								.010-.030
								.010-.020
								.010-.015
300-700	400-850	250-600	**500-900**	**400-800**	**400-650**			
.010-.030	.010-.030	.010-.030	**.010-.030**	**.010-.030**	**.010-.030**			
.010-.025	.010-.025	.010-.025	**.010-.025**	**.010-.025**	**.010-.025**			
.010-.015	.010-.015	.010-.015	**.010-.015**	**.010-.015**	**.010-.015**			
300-600	400-700	250-600	**400-800**	**350-700**	**400-650**			
.010-.030	.010-.030	.010-.030	**.010-.030**	**.010-.030**	**.010-.030**			
.010-.025	.010-.025	.010-.025	**.010-.025**	**.010-.025**	**.010-.025**			
.010-.015	.010-.015	.010-.015	**.010-.015**	**.010-.015**	**.010-.015**			
			450-800	300-750	**400-600**			
			.012-.032	.012-.032	**.012-.032**			
			.010-.025	.010-.025	**.010-.025**			
			.010-.015	.010-.015	**.010-.015**			
			450-800	**300-750**	**400-600**			
			.012-.032	**.012-.032**	**.012-.032**			
			.010-.025	**.010-.025**	**.010-.025**			
			.010-.015	**.010-.015**	**.010-.015**			
			450-800	**300-750**				
			.012-.032	**.012-.032**				
			.010-.025	**.010-.025**				
			.010-.015	**.010-.015**				

10mm Series Cutter Bodies

End Mills

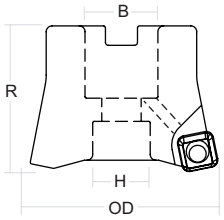
EDP	OD	Description	R Effective Length	L Overall Length	S Shank Dia.	Flutes	DOC Max.	Insert
60300	1.000”	HFEM100-250-R3-2	2.500”	4.750”	1.000”	2	.040”	RF-10
60310	1.000”	HFEM100-450-R3-2	4.500”	6.750”	1.000”	2	.030”	RF-10
60320	1.250”	HFEM125-300-R3-3	3.000”	5.280”	1.250”	3	.040”	RF-10
60330	1.250”	HFEM125-500-R3-3	5.000”	7.280”	1.250”	3	.030”	RF-10
60340	1.500”	HFEM150-350-R3-3	3.500”	5.780”	1.250”	3	.040”	RF-10
60350	1.500”	HFEM150-550-R3-3	5.500”	7.780”	1.250”	3	.030”	RF-10



Shell Mills

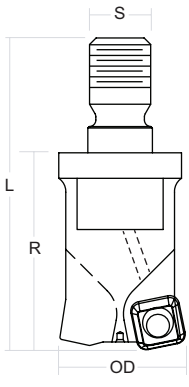
EDP	OD	Description	R Effective Length	B Arbor Dia.	H Counter Bore Dia.	Flutes	DOC Max.	Insert
60400	2.000”	HFSM200-075-R3-5C	2.000”	0.750”	0.590”	5	.040”	RF-10
60410*	3.000”	HFSM300-100-R3-6C	2.000”	1.000”	0.790”	6	.040”	RF-10

* Non-stock standard – made to order.

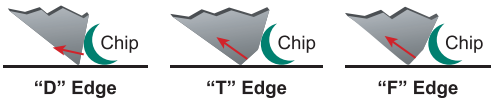


Modular Heads

EDP	OD	Description	R Effective Length	L Overall Length	S Shank Dia.	Flutes	Thread	DOC Max.	Insert
60500	1.000”	HFEM100-MOD-R3-2C	1.500”	2.375”	0.492”	2	M12	.030”	RF-10
60510	1.250”	HFEM125-MOD-R3-3C	1.750”	2.750”	0.669”	3	M16	.030”	RF-10
60520	1.500”	HFEM150-MOD-R3-3C	1.750”	2.750”	0.669”	3	M16	.030”	RF-10

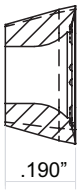


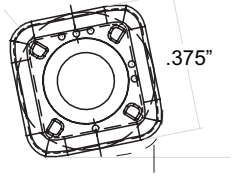
10mm Series Inserts



"D" Edge "T" Edge "F" Edge







.105" Programmed Corner Radius

"D" Edge: Honed edge provides high-shear cutting action that minimizes tool pressure, temperature build-up, and burr creation.

"T" Edge: Strong, negative edge directs cutting forces tangentially providing strength and durability.

"F" Edge: Specifically reinforced for the heaviest feeds and the most abusive applications in steels and irons.

Insert	Thickness	# of Usable Edges	Corner Radius Actual	Programmed Corner Radius	DOC Max.	DOC Recommended	FPT Compensated
RF-10-D	.190"	4	.075"	.105"	.045"	.015-.040"	.015-.050"
RF-10-T	.190"	4	.075"	.105"	.045"	.015-.040"	.020-.060"
RF-10-F	.190"	4	.075"	.105"	.045"	.015-.040"	.030-.065"

Insert Grade Availability

Insert	Edge	IC	Grade	Coating					
				Uncoated	GLH	TCI	HM	IN	TS
RF-10	D	10mm	DMK30	63100	63160	63190	63185		63187
			DMK35	63193			63194	63195	
			DMK25	63000	63060	63090			
			DMP25	63200	63260	63285			
RF-10	T	10mm	DMK30	63300	63360	63390	63385		63395
			DMP25	63400	63460	63490	63485		63487
			DMK15	63290	63292	63298	63296		63297
RF-10	F	10mm	DMK30	63500	63560	63590			63595

See page IM-155 for insert grade and coating selection.

10mm Series Accessories

EDP	Part Number	Description
22610	SSTX-15-S	1 10mm Insert Screw (Torque range: 30-35 in-lbs.)
QM07041	TC-3/8-SHCS	2 Shell Mill Socket Head Cap Screw with Coolant for 1.5" and 2" shell mills (3/8-24 x 1" long)
QM07051	TC-1/2-SHCS	3 Shell Mill Socket Head Cap Screw with Coolant for 2.5" and 3" shell mills (1/2-20 x 1-1/4" long)
83010	T15-T	4 T15 T-Handle Wrench
41110	ASG-120	Anti-Seize Grease



10mm Series Recommended Parameters

Style	Edge	Grade	Coating	Speed / Feed / DOC		Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
RF-10	D	DMK30	TCI	Speed		450-700	350-600	300-500		
				Feed*		.015-.050	.015-.050	.015-.040		
				DOC	< 3xD	.020-.060	.020-.060	.020-.050		
					> 3xD	.010-.030	.010-.030	.010-.025		
			GLH / TS	Speed		**550-800**	450-700	350-550		
				Feed*		**.015-.050**	.015-.050	.015-.040		
				DOC	< 3xD	**.020-.060**	.020-.060	.020-.050		
					> 3xD	**.010-.030**	.010-.030	.010-.025		
			HM	Speed				350-550		
				Feed*				.015-.040		
				DOC	< 3xD			.020-.050		
					> 3xD			.010-.025		
		DMK35	HM	Speed						
				Feed*						
				DOC	< 3xD					
					> 3xD					
			IN	Speed						
				Feed*						
				DOC	< 3xD					
					> 3xD					
			TS	Speed						
				Feed*						
				DOC	< 3xD					
					> 3xD					
		DMK25	HM	Speed						
				Feed*						
				DOC	< 3xD					
					> 3xD					
			GLH / TS	Speed		450-800	400-700	300-550		
				Feed*		.015-.040	.015-.040	.015-.030		
				DOC	< 3xD	.015-.050	.015-.050	.015-.045		
					> 3xD	.010-.025	.010-.025	.010-.025		
		DMP25	TCI	Speed		**400-700**	350-650			
				Feed*		**.015-.040**	.015-.040			
				DOC	< 3xD	**.020-.060**	.020-.060			
					> 3xD	**.010-.030**	.010-.030			
			GLH / TS	Speed		**450-800**	400-700	300-550		
				Feed*		**.015-.040**	.015-.040	.015-.030		
				DOC	< 3xD	**.020-.060**	.020-.060	.020-.050		
					> 3xD	**.010-.030**	.010-.030	.010-.025		
			HM	Speed		450-800	400-700	300-550		
				Feed*		.015-.040	.015-.040	.015-.030		
				DOC	< 3xD	.020-.060	.020-.060	.020-.050		
					> 3xD	.010-.030	.010-.030	.010-.025		

* Feed Rate Compensation for DOC:
DOC < .035" Feed = 100%
DOC > .035" Feed = 75%

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

Continued on next page

Visit **generalcuttingtools.com** for technical reference & application information

Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Copper Alloys	Ni Co-Based Alloys	9 Series Inconel	Titanium
250-500	350-600	250-450	400-750	300-600	400-600			
.015-.040	.015-.040	.010-.035	.015-.045	.015-.040	.015-.045			
.010-.035	.015-.040	.010-.030	.015-.040	.015-.040	.015-.040			
.010-.025	.010-.025	.010-.020	.010-.025	.010-.025	.010-.025			
250-550	**400-700**	**250-500**	500-800	450-700	400-600	50-150	35-90	**120-180**
.015-.040	**.015-.040**	**.010-.035**	.015-.045	.015-.040	.015-.045	.008-.025	.008-.025	**.010-.030**
.010-.035	**.015-.040**	**.010-.030**	.015-.040	.015-.040	.015-.040	.010-.030	.010-.025	**.010-.035**
.010-.025	**.010-.025**	**.010-.020**	.010-.025	.010-.025	.010-.025	.010-.020	.010-.020	**.010-.025**
250-550	400-700	**250-500**	500-800	450-700		50-150	35-90	**120-180**
.015-.040	.015-.040	**.010-.035**	.015-.045	.015-.040		.008-.025	.008-.025	**.010-.030**
.010-.035	.015-.040	**.010-.030**	.015-.040	.015-.040		.010-.030	.010-.025	**.010-.035**
.010-.025	.010-.025	**.010-.020**	.010-.025	.010-.025		.010-.020	.010-.020	**.010-.025**
		250-500				**50-150**	**35-90**	120-180
		.010-.035				**.008-.025**	**.008-.025**	.010-.030
		.010-.030				**.010-.030**	**.010-.025**	.010-.035
		.010-.020				**.010-.020**	**.010-.020**	.010-.025
		250-500				**50-150**	**35-90**	**120-180**
		.010-.035				**.008-.025**	**.008-.025**	**.010-.030**
		.010-.030				**.010-.030**	**.010-.025**	**.010-.035**
		.010-.020				**.010-.020**	**.010-.020**	**.010-.025**
								120-180
								.010-.030
								.010-.035
								.010-.025
250-500	350-600	250-450	400-750	300-600	**400-600**			
.015-.030	.015-.030	.010-.025	.015-.040	.015-.035	**.015-.040**			
.015-.030	.015-.035	.015-.030	.015-.040	.015-.040	**.015-.040**			
.010-.025	.010-.025	.010-.025	.010-.025	.010-.025	**.010-.025**			
250-550	400-700	250-500	500-800	450-700	**400-700**			
.015-.030	.015-.030	.010-.025	.015-.040	.015-.035	**.015-.040**			
.015-.030	.015-.035	.015-.030	.015-.040	.015-.040	**.015-.040**			
.010-.025	.010-.025	.010-.025	.010-.025	.010-.025	**.010-.025**			
			400-750	300-600	400-600			
			.015-.040	.015-.035	.015-.040			
			.015-.040	.015-.040	.015-.040			
			.010-.025	.010-.025	.010-.025			
			500-800	450-700	400-700			
			.015-.040	.015-.035	.015-.040			
			.015-.040	.015-.040	.015-.040			
			.010-.025	.010-.025	.010-.025			
			500-800	450-700				
			.015-.040	.015-.035				
			.015-.040	.015-.040				
			.010-.025	.010-.025				

10mm Series Recommended Parameters

Style	Edge	Grade	Coating	Speed / Feed / DOC		Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
RF-10	T	DMK30	TCI	Speed		450-700	350-600	300-500	250-450	
				Feed*		.020-.050	.020-.050	.020-.045	.020-.040	
				DOC	< 3xD	.015-.040	.015-.040	.015-.035	.010-.030	
					> 3xD	.010-.025	.010-.025	.010-.025	.010-.020	
			GLH / TS	Speed		**550-800**	**450-700**	**350-550**	250-450	
				Feed*		**.020-.050**	**.020-.050**	**.020-.045**	.020-.040	
				DOC	< 3xD	**.015-.040**	**.015-.040**	**.015-.035**	.010-.020	
					> 3xD	**.010-.025**	**.010-.025**	**.010-.025**	.010-.015	
			HM	Speed				350-550	250-450	
				Feed*				.020-.045	.020-.040	
				DOC	< 3xD			.015-.035	.010-.020	
					> 3xD			.010-.025	.010-.015	
		DMP25	TCI	Speed		400-700	350-650			
				Feed*		.020-.050	.020-.050			
				DOC	< 3xD	.015-.040	.015-.040			
					> 3xD	.010-.025	.010-.025			
			GLH / TS	Speed		**450-800**	**400-700**	**300-550**	**300-500**	250-400
				Feed*		**.020-.050**	**.020-.050**	**.020-.045**	**.020-.040**	.010-.025
				DOC	< 3xD	**.015-.040**	**.015-.040**	**.015-.035**	**.010-.025**	.005-.020
					> 3xD	**.010-.025**	**.010-.025**	**.010-.025**	**.010-.015**	.005-.015
			HM	Speed		**450-800**	**400-700**	**300-550**	**300-500**	250-400
				Feed*		**.020-.050**	**.020-.050**	**.020-.045**	**.020-.040**	.010-.025
				DOC	< 3xD	**.015-.040**	**.015-.040**	**.015-.035**	**.010-.025**	.005-.020
					> 3xD	**.010-.025**	**.010-.025**	**.010-.025**	**.010-.015**	.005-.015
		DMK15	TCI	Speed		450-700	350-600			
				Feed*		.020-.040	.020-.040			
				DOC	< 3xD	.015-.040	.015-.040			
					> 3xD	.010-.025	.010-.025			
			GLH / TS	Speed		450-800	400-700	300-600	**300-500**	**250-450**
				Feed*		.020-.040	.020-.040	.020-.040	**.015-.040**	**.010-.025**
				DOC	< 3xD	.015-.040	.015-.040	.015-.035	**.010-.025**	**.005-.020**
					> 3xD	.010-.025	.010-.025	.010-.025	**.010-.015**	**.005-.015**
			HM	Speed		450-800	400-700	300-600	**300-500**	**250-400**
				Feed*		.020-.050	.020-.050	.020-.040	**.015-.040**	**.010-.025**
				DOC	< 3xD	.015-.040	.015-.040	.015-.035	**.010-.025**	**.005-.020**
					> 3xD	.010-.025	.010-.025	.010-.025	**.010-.015**	**.005-.015**
	F	DMK30	TCI	Speed		**450-700**	350-600	300-500	250-450	
				Feed*		**.020-.055**	.020-.055	.020-.050	.020-.040	
				DOC	< 3xD	**.015-.040**	.015-.040	.015-.035	.010-.030	
					> 3xD	**.010-.025**	.010-.025	.010-.025	.010-.020	
			GLH / TS	Speed		**550-800**	**450-700**	350-550	250-450	
				Feed*		**.020-.055**	**.020-.055**	.020-.050	.020-.040	
					< 3xD	**.015-.040**	**.015-.040**	.015-.035	.010-.030	
					> 3xD	**.010-.025**	**.010-.025**	.010-.025	.010-.020	

* Feed Rate Compensation for DOC:
DOC < .035" Feed = 100%
DOC > .035" Feed = 75%

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› The parameters provided are suggested starting operating parameters.
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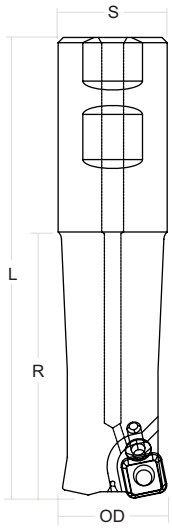
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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Copper Alloys	Ni Co-Based Alloys	9 Series Inconel	Titanium
			400-750	300-600				
			.020-.050	.020-.050				
			.015-.040	.015-.040				
			.010-.025	.010-.025				
			500-800	450-700				
			.020-.050	.020-.050				
			.015-.040	.015-.040				
			.010-.025	.010-.025				
			500-800	450-700				
			.020-.050	.020-.050				
			.015-.040	.015-.040				
			.010-.025	.010-.025				
			400-750	300-600				
			.020-.050	.020-.045				
			.015-.040	.015-.040				
			.010-.025	.010-.025				
			500-800	**450-700**				
			.020-.050	**.020-.045**				
			.015-.040	**.015-.040**				
			.010-.025	**.010-.025**				
			500-800	**450-700**				
			.020-.050	**.020-.045**				
			.015-.040	**.015-.040**				
			.010-.025	**.010-.025**				
			400-750	300-750				
			.020-.050	.020-.045				
			.015-.040	.015-.040				
			.010-.025	.010-.025				
			450-800	**300-750**				
			.020-.050	**.020-.045**				
			.015-.040	**.015-.040**				
			.010-.025	**.010-.025**				
			450-800	**300-750**				
			.020-.050	**.020-.045**				
			.015-.040	**.015-.040**				
			.010-.025	**.010-.025**				
			400-750	300-600				
			.020-.050	.020-.045				
			.015-.040	.015-.040				
			.010-.025	.010-.025				
			500-800	450-700				
			.020-.050	.020-.045				
			.015-.040	.015-.040				
			.010-.025	.010-.025				

12mm Series Cutter Bodies

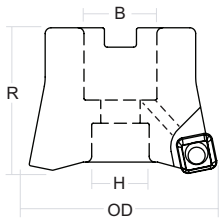
End Mills

EDP	OD	Description	R Effective Length	L Overall Length	S Shank Dia.	Flutes	DOC Max.	Insert
60600	1.250”	HFEM125-300-R4-2	3.000”	5.280”	1.250”	2	.050”	RF-12
60610	1.250”	HFEM125-500-R4-2	5.000”	7.280”	1.250”	2	.040”	RF-12
60620	1.500”	HFEM150-350-R4-3	3.500”	5.780”	1.250”	3	.050”	RF-12
60630	1.500”	HFEM150-550-R4-3	5.500”	7.780”	1.250”	3	.040”	RF-12



Shell Mills

EDP	OD	Description	R Effective Length	B Arbor Dia.	H Counter Bore Dia.	Flutes	DOC Max.	Insert
60700	2.000”	HFSM200-075-R4-4C	1.500”	.750”	0.590”	4	.060”	RF-12
60710	2.000”	HFSM200-075-R4-5C	2.000”	.750”	0.590”	5	.060”	RF-12
60720	2.500”	HFSM250-100-R4-5C	2.000”	1.000”	0.790”	5	.060”	RF-12
60730	3.000”	HFSM300-100-R4-6C	2.000”	1.000”	0.790”	6	.060”	RF-12
60740	4.000”	HFSM400-150-R4-8	2.000”	1.500”	2.060”	8	.060”	RF-12
60750	5.000”	HFSM500-150-R4-8	2.000”	1.500”	2.060”	8	.060”	RF-12
60760	6.000”	HFSM600-200-R4-9	2.000”	2.000”	2.875”	9	.060”	RF-12



12mm Series Inserts



"D" Edge



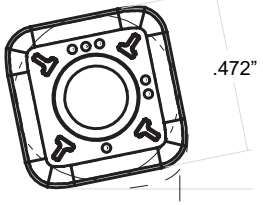
"T" Edge



"F" Edge







"D" Edge: Honed edge provides high-shear cutting action that minimizes tool pressure, temperature build-up, and burr creation.

"T" Edge: Strong, negative edge directs cutting forces tangentially providing strength and durability.

"F" Edge: Specifically reinforced for the heaviest feeds and the most abusive applications in steels and irons.

Insert	Thickness	# of Usable Edges	Corner Radius Actual	Programmed Corner Radius	DOC Max.	DOC Recommended	FPT Compensated
RF-12-D	.220"	4	.094"	.135"	.060"	.020-.050"	.020-.055"
RF-12-T	.220"	4	.094"	.135"	.060"	.020-.050"	.025-.070"
RF-12-F	.220"	4	.094"	.135"	.060"	.020-.050"	.035-.080"

Insert Grade Availability

Insert	Edge	IC	Grade	Coating					
				Uncoated	GLH	TCI	HM	IN	TS
RF-12	D	12mm	DMK30	64000	64060	64090	64085	64062	64087
			DMK35	64093			64094	64095	
			DMP25	64100	64160	64185	64125		
RF-12	T	12mm	DMK30	64200	64260	64290	64285		64295
			DMP25	64300	64360	64390	64385		64395
			DMK15	64190	64192	64198	64196		64197
RF-12	F	12mm	DMK30	64600	64660	64690	64685		64695

See page IM-155 for insert grade and coating selection.

12mm Series Accessories

EDP	Part Number	Description
83090	TRS-4L	1 12mm Insert Screw (Torque range: 30-35 in-lbs.)
QM07041	TC-3/8-SHCS	2 Shell Mill Socket Head Cap Screw with Coolant for 1.5" and 2" shell mills (3/8-24 x 1" long)
QM07051	TC-1/2-SHCS	3 Shell Mill Socket Head Cap Screw with Coolant for 2.5" and 3" shell mills (1/2-20 x 1-1/4" long)
QM07061	TC-3/4-SHCS	4 Shell Mill Socket Head Cap Screw with Coolant for 4" shell mills (3/4-16 x 1-1/2" long)
83010	T15-T	5 T15 T-Handle Wrench
41110	ASG-120	Anti-Seize Grease



12mm Series Recommended Parameters

Style	Edge	Grade	Coating	Speed / Feed / DOC		Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
RF-12	D	DMK30	TCI	Speed		450-700	350-600	300-500		
				Feed*		.015-.050	.015-.050	.015-.040		
				DOC	< 3xD	.020-.060	.020-.060	.020-.050		
					> 3xD	.010-.030	.010-.030	.010-.025		
			GLH / TS	Speed		**550-800**	450-700	350-550		
				Feed*		**.015-.050**	.015-.050	.015-.040		
				DOC	< 3xD	**.020-.060**	.020-.060	.020-.050		
					> 3xD	**.010-.030**	.010-.030	.010-.025		
			HM	Speed				350-550		
				Feed*				.015-.040		
				DOC	< 3xD			.020-.050		
					> 3xD			.010-.025		
		DMK35	HM	Speed						
				Feed*						
				DOC	< 3xD					
					> 3xD					
			IN	Speed						
				Feed*						
				DOC	< 3xD					
					> 3xD					
			TS	Speed						
				Feed*						
				DOC	< 3xD					
					> 3xD					
		DMK25	HM	Speed						
				Feed*						
				DOC	< 3xD					
					> 3xD					
			GLH / TS	Speed		450-800	400-700	300-550		
				Feed*		.015-.040	.015-.040	.015-.030		
				DOC	< 3xD	.015-.050	.015-.050	.015-.045		
					> 3xD	.010-.025	.010-.025	.010-.025		
		DMP25	TCI	Speed		**400-700**	350-650			
				Feed*		**.015-.040**	.015-.040			
				DOC	< 3xD	**.020-.060**	.020-.060			
					> 3xD	**.010-.030**	.010-.030			
			GLH / TS	Speed		**450-800**	400-700	300-550		
				Feed*		**.015-.040**	.015-.040	.015-.030		
				DOC	< 3xD	**.020-.060**	.020-.060	.020-.050		
					> 3xD	**.010-.030**	.010-.030	.010-.025		
			HM	Speed		450-800	400-700	300-550		
				Feed*		.015-.040	.015-.040	.015-.030		
				DOC	< 3xD	.020-.060	.020-.060	.020-.050		
					> 3xD	.010-.030	.010-.030	.010-.025		

* Feed Rate Compensation for DOC:
DOC < .050" Feed = 100%
DOC > .050" Feed = 75%

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Continued on next page

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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Copper Alloys	Ni Co-Based Alloys	9 Series Inconel	Titanium
250-500	350-600	250-450	400-750	300-600	400-600			
.015-.040	.015-.040	.010-.035	.015-.050	.015-.050	.015-.050			
.020-.050	.020-.060	.020-.050	.020-.060	.020-.060	.020-.060			
.010-.025	.010-.030	.010-.025	.010-.030	.010-.030	.010-.030			
250-550	**400-700**	**250-500**	500-800	450-700	400-600	50-150	35-90	**120-180**
.015-.040	**.015-.040**	**.010-.035**	.015-.050	.015-.050	.015-.050	.008-.030	.008-.025	**.010-.035**
.020-.050	**.020-.060**	**.020-.050**	.020-.060	.020-.060	.020-.060	.010-.030	.010-.030	**.010-.035**
.010-.025	**.010-.030**	**.010-.025**	.010-.030	.010-.030	.010-.030	.010-.020	.010-.020	**.010-.025**
250-550	400-700	**250-500**	500-800	450-700		50-150	35-90	**120-180**
.015-.040	.015-.040	**.010-.035**	.015-.050	.015-.050		.008-.030	.008-.025	**.010-.035**
.020-.050	.020-.060	**.020-.050**	.020-.060	.020-.060		.010-.030	.010-.030	**.010-.035**
.010-.025	.010-.030	**.010-.025**	.010-.030	.010-.030		.010-.020	.010-.020	**.010-.025**
		250-500				**50-150**	**35-90**	120-180
		.010-.035				**.008-.025**	**.008-.025**	.010-.035
		.020-.050				**.010-.030**	**.010-.030**	.010-.035
		.010-.025				**.010-.020**	**.010-.020**	.010-.025
		250-500				**50-150**	**35-90**	**120-180**
		.010-.035				**.008-.025**	**.008-.025**	**.010-.035**
		.020-.050				**.010-.030**	**.010-.030**	**.010-.035**
		.010-.025				**.010-.020**	**.010-.020**	**.010-.025**
								120-180
								.010-.035
								.010-.035
								.010-.025
250-500	350-600	250-450	400-750	300-600	**400-600**			
.015-.030	.015-.030	.010-.025	.015-.040	.015-.035	**.015-.040**			
.020-.030	.020-.035	.020-.030	.020-.050	.020-.050	**.020-.060**			
.010-.025	.010-.025	.010-.025	.010-.025	.010-.025	**.010-.030**			
250-550	400-700	250-500	500-800	450-700	**400-700**			
.015-.030	.015-.030	.010-.025	.015-.040	.015-.035	**.015-.040**			
.020-.030	.020-.035	.020-.030	.020-.050	.020-.050	**.020-.060**			
.010-.025	.010-.025	.010-.025	.010-.025	.010-.025	**.010-.030**			
			400-750	300-600	400-600			
			.015-.040	.015-.035	.015-.040			
			.020-.050	.020-.050	.020-.060			
			.010-.025	.010-.025	.010-.030			
			500-800	450-700	400-700			
			.015-.040	.015-.035	.015-.040			
			.020-.050	.020-.050	.020-.060			
			.010-.025	.010-.025	.010-.030			
			500-800	450-700				
			.015-.040	.015-.035				
			.020-.050	.020-.050				
			.010-.025	.010-.025				

12mm Series Recommended Parameters

Style	Edge	Grade	Coating	Speed / Feed / DOC		Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
RF-12	T	DMK30	TCI	Speed		450-700	350-600	300-500	250-450	
				Feed*		.020-.060	.020-.060	.020-.050	.020-.040	
				DOC	< 3xD	.020-.060	.020-.060	.020-.050	.015-.050	
					> 3xD	.015-.030	.015-.030	.015-.030	.015-.030	
			GLH / TS	Speed		**550-800**	**450-700**	**350-550**	250-450	
				Feed*		**.020-.060**	**.020-.060**	**.020-.050**	.020-.040	
				DOC	< 3xD	**.020-.060**	**.020-.060**	**.020-.050**	.015-.050	
					> 3xD	**.015-.030**	**.015-.030**	**.015-.030**	.015-.030	
			HM	Speed				350-550	250-450	
				Feed*				.020-.050	.020-.040	
				DOC	< 3xD			.020-.050	.015-.050	
					> 3xD			.015-.030	.015-.030	
		DMP25	TCI	Speed		400-700	350-650			
				Feed*		.020-.060	.020-.060			
				DOC	< 3xD	.020-.060	.020-.060			
					> 3xD	.015-.030	.015-.030			
			GLH / TS	Speed		**450-800**	**400-700**	**300-550**	**300-500**	250-400
				Feed*		**.020-.060**	**.020-.060**	**.020-.050**	**.020-.040**	.010-.030
				DOC	< 3xD	**.020-.060**	**.020-.060**	**.020-.050**	**.015-.050**	.005-.030
					> 3xD	**.015-.030**	**.015-.030**	**.015-.030**	**.015-.030**	.005-.020
			HM	Speed		**450-800**	**400-700**	**300-550**	**300-500**	250-400
				Feed*		**.020-.060**	**.020-.060**	**.020-.050**	**.020-.040**	.010-.030
				DOC	< 3xD	**.020-.060**	**.020-.060**	**.020-.050**	**.015-.050**	.005-.030
					> 3xD	**.015-.030**	**.015-.030**	**.015-.030**	**.015-.030**	.005-.020
		DMK15	TCI	Speed		450-700	350-600			
				Feed*		.020-.050	.020-.050			
				DOC	< 3xD	.020-.050	.020-.050			
					> 3xD	.015-.030	.015-.030			
			GLH / TS	Speed		450-800	400-700	300-600	**300-500**	**250-450**
				Feed*		.020-.050	.020-.050	.020-.040	**.015-.040**	**.010-.030**
				DOC	< 3xD	.020-.050	.020-.050	.020-.050	**.015-.050**	**.005-.030**
					> 3xD	.015-.030	.015-.030	.015-.030	**.015-.030**	**.005-.015**
			HM	Speed		450-800	400-700	300-600	**300-500**	**250-400**
				Feed*		.020-.050	.020-.050	.020-.040	**.015-.040**	**.010-.030**
				DOC	< 3xD	.020-.050	.020-.050	.020-.050	**.015-.050**	**.005-.030**
					> 3xD	.015-.030	.015-.030	.015-.030	**.015-.030**	**.005-.015**
	F	DMK30	TCI	Speed		**450-700**	350-600	300-500	250-450	
				Feed*		**.020-.065**	.020-.065	.020-.060	.020-.045	
				DOC	< 3xD	**.020-.060**	.020-.060	.020-.050	.015-.050	
					> 3xD	**.015-.030**	.015-.030	.015-.030	.015-.030	
			GLH / TS	Speed		**550-800**	**450-700**	350-550	250-450	
				Feed*		**.020-.065**	**.020-.065**	.020-.060	.020-.045	
					< 3xD	**.020-.060**	**.020-.060**	.020-.050	.015-.050	
					> 3xD	**.015-.030**	**.015-.030**	.015-.030	.015-.030	

* Feed Rate Compensation for DOC:
DOC < .050" Feed = 100%
DOC > .050" Feed = 75%

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Copper Alloys	Ni Co-Based Alloys	9 Series Inconel	Titanium
			400-750	300-600				
			.020-.060	.020-.060				
			.020-.060	.020-.060				
			.010-.030	.010-.030				
			500-800	450-700				
			.020-.060	.020-.060				
			.020-.060	.020-.060				
			.010-.030	.010-.030				
			500-800	450-700				
			.020-.060	.020-.060				
			.020-.060	.020-.060				
			.010-.030	.010-.030				
			400-750	300-600				
			.020-.060	.020-.060				
			.020-.060	.020-.060				
			.010-.030	.010-.030				
			500-800	**450-700**				
			.020-.060	**.020-.060**				
			.020-.060	**.020-.060**				
			.010-.030	**.010-.030**				
			500-800	450-700				
			.020-.060	.020-.060				
			.020-.060	.020-.060				
			.010-.030	.010-.030				
			400-750	300-600				
			.020-.060	.020-.060				
			.020-.060	.020-.060				
			.010-.030	.010-.030				
			500-800	**450-700**				
			.020-.060	**.020-.060**				
			.020-.060	**.020-.060**				
			.010-.030	**.010-.030**				
			500-800	**450-700**				
			.020-.060	**.020-.060**				
			.020-.060	**.020-.060**				
			.010-.030	**.010-.030**				
			400-750	300-600				
			.020-.065	.020-.065				
			.020-.060	.020-.060				
			.010-.030	.010-.030				
			500-800	450-700				
			.020-.065	.020-.065				
			.020-.060	.020-.060				
			.010-.030	.010-.030				

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FALL 2023



High-Feed
Double-Sided Insert Platform

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DOUBLE-SIDED HIGH-FEED INSERT PLATFORM

6mm Series IM-23

VAPOR was developed for lighter, faster cutting capitalizing on modern high-feed machining principles.

- TRI-X2™ double-sided, six-edged insert reduces overall manufacturing costs.
- Extreme metal removal rates due to low depth of cut and high feed rates.
- Best-in-class insert screw size – for ease of indexing and screw longevity.
- Reduced vibration tendencies on long-reach tools.

CUTTER BODIES



END MILLS
Steel

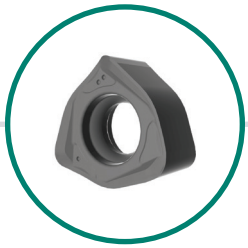


SHELL MILLS
Steel

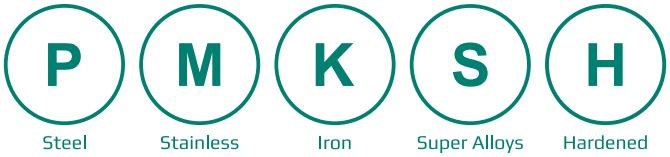


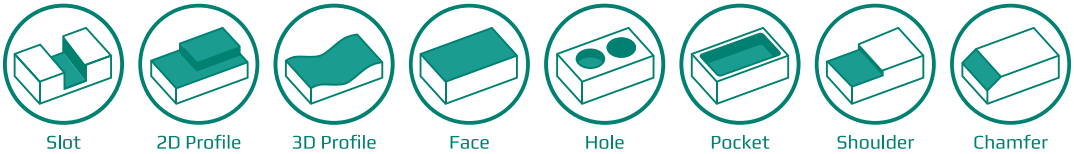
MODULAR HEADS
Steel

INSERTS



6MM IC

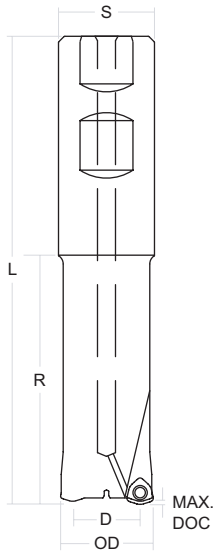




6mm Series Cutter Bodies

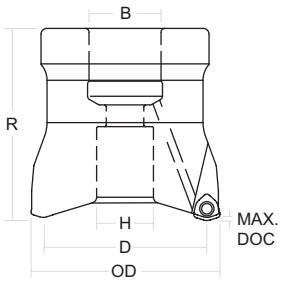
End Mills

EDP	OD	Description	D Effective Dia.	R Effective Length	L Overall Length	S Shank Dia.	Flutes	Insert	DOC Max.
72000	0.500”	DTMEM050-150-R2-1C	0.230”	1.500”	3.720”	0.750”	1	DTM-06	.040”
72005	0.500”	DTMEM050-250-R2-1C	0.230”	2.500”	4.720”	0.750”	1	DTM-06	.040”
72010	0.625”	DTMEM063-200-R2-2C	0.355”	2.000”	4.180”	0.750”	2	DTM-06	.040”
72015	0.625”	DTMEM063-300-R2-2C	0.355”	3.000”	5.180”	0.750”	2	DTM-06	.040”
72020	0.750”	DTMEM075-200-R2-3C	0.480”	2.000”	4.180”	0.750”	3	DTM-06	.040”
72025	0.750”	DTMEM075-300-R2-3C	0.480”	3.000”	6.180”	0.750”	3	DTM-06	.040”
72030	1.000”	DTMEM100-250-R2-4C	0.730”	2.500”	4.875”	1.000”	4	DTM-06	.040”
72040	1.000”	DTMEM100-250-R2-5C	0.730”	2.500”	4.875”	1.000”	5	DTM-06	.040”
72045	1.000”	DTMEM100-450-R2-5C	0.730”	4.500”	6.875”	1.000”	5	DTM-06	.040”
72050	1.250”	DTMEM125-300-R2-5C	0.980”	3.000”	5.400”	1.250”	5	DTM-06	.040”
72060	1.500”	DTMEM150-350-R2-6C	1.230”	3.500”	5.780”	1.250”	6	DTM-06	.040”
72065	1.500”	DTMEM150-550-R2-6C	1.230”	5.500”	7.780”	1.250”	6	DTM-06	.040”



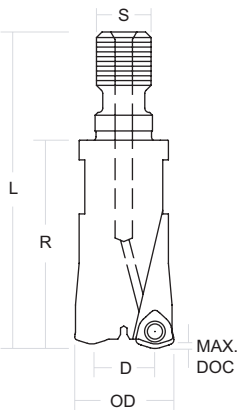
Shell Mills

EDP	OD	Description	D Effective Diameter	R Effective Length	B Arbor Dia.	Flutes	Insert	DOC Max.
72100	1.500”	DTMSM150-050-R2-6C	1.230”	2.000”	0.500”	6	DTM-06	.040”
72105	2.000”	DTMSM200-075-R2-7C	1.730”	2.000”	0.750”	7	DTM-06	.040”

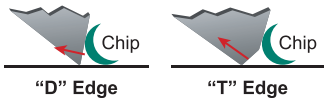


Modular Heads

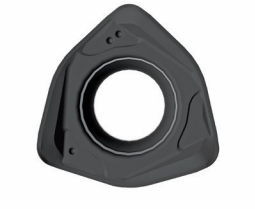
EDP	OD	Description	D Effective Dia.	R Effective Length	L Overall Length	S Shank Dia.	Flutes	Insert	DOC Max.	Thread
72200	0.750”	DTMEM075-MOD-R2-3C	0.480”	1.500”	2.275”	0.413”	3	DTM-06	.040”	M10
72205	1.000”	DTMEM100-MOD-R2-4C	0.730”	1.500”	2.375”	0.492”	4	DTM-06	.040”	M12
72206	1.000”	DTMEM100-MOD-R2-5C	0.730”	1.500”	2.375”	0.492”	5	DTM-06	.040”	M12
72210	1.250”	DTMEM125-MOD-R2-5C	0.980”	1.750”	2.750”	0.669”	5	DTM-06	.040”	M16

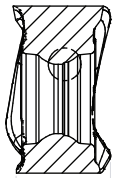


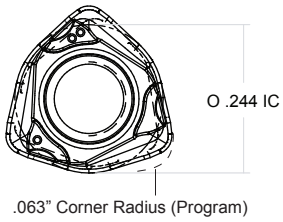
6mm Series Tri-X2 Inserts



"D" Edge "T" Edge







"D" Edge: Honed edge provides high-shear cutting action that minimizes tool pressure, temperature build-up, and burr creation.

"T" Edge: Strong, negative edge directs cutting forces tangentially providing strength and durability.

Insert	Thickness	# of Usable Edges	Corner Radius Actual	Programmed Corner Radius	DOC Max.	DOC Recommended	FPT Compensated
DTM-06-D	.160"	6	.031"	.063"	.040"	.030"	.012-.030"
DTM-06-T	.160"	6	.031"	.063"	.040"	.030"	.015-.035"

Insert Grade Availability

Insert	Edge	IC	Grade	Coating			
				Uncoated	GLH	HM	UHT
DNT DTM-06	D	6mm	DMM25	11000053			11000054
DTM-06	T	6mm	DMK30	74100	74160	74185	
			DMP25	74200	74260	74285	
			DMK15	74000	74060	74085	

See page IM-155 for insert grade and coating selection.

6mm Series Accessories

EDP	Part Number	Description
22600L	SSTX-08-SL	1 6mm Insert Screw (Torque setting: 12 in-lbs. / 1.0 Nm)
QM07035	1/4-SHCS	2 Socket Head Cap Screw for 1.5" VAPOR shell mills (1/4-28 x 1" long)
QM07041	TC-3/8-SHCS	3 Socket Head Cap Screw with Coolant for 2" VAPOR shell mills (3/8-24 x 1" long)
83000	T8-F	4 T8 Flag-Style Wrench
41110	ASG-120	Anti-Seize Grease



6mm Series Recommended Parameters

Style	Edge	Grade	Coating	Speed / Feed / DOC		Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)
DTM-06	D	DMM25	UHT	Speed		**550-800**	**400-700**	**400-550**	300-500
				Feed*		**.020-.040**	**.020-.040**	**.020-.035**	.015-.030
				DOC	< 3xD	**.015-.030**	**.015-.030**	**.015-.030**	.010-.030
					> 3xD	**.010-.020**	**.010-.020**	**.010-.020**	.010-.020
	T	DMK30	GLH	Speed		**550-800**	**400-700**	400-550	
				Feed*		**.020-.040**	**.020-.040**	.020-.035	
				DOC	< 3xD	**.015-.030**	**.015-.030**	.015-.030	
					> 3xD	**.010-.025**	**.010-.025**	.010-.020	
			HM	Speed		550-800	450-750	400-600	
				Feed*		.020-.040	.020-.040	.020-.035	
				DOC	< 3xD	.015-.030	.015-.030	.015-.030	
					> 3xD	.010-.025	.010-.025	.010-.020	
		DMP25	GLH	Speed		**550-800**	**400-700**	**400-550**	**300-500**
				Feed*		**.020-.040**	**.020-.040**	**.020-.035**	**.015-.030**
				DOC	< 3xD	**.015-.030**	**.015-.030**	**.015-.030**	**.010-.030**
					> 3xD	**.010-.025**	**.010-.025**	**.010-.020**	**.010-.020**
			HM	Speed		550-800	450-750	**400-600**	**300-500**
				Feed*		.020-.040	.020-.040	**.020-.035**	**.015-.030**
				DOC	< 3xD	.015-.030	.015-.030	**.015-.030**	**.010-.030**
					> 3xD	.010-.025	.010-.025	**.010-.020**	**.010-.020**
		DMK15	GLH	Speed		550-800	400-700	400-550	**300-500**
				Feed*		.015-.035	.015-.035	.015-.030	**.015-.030**
				DOC	< 3xD	.015-.030	.015-.030	.015-.030	**.010-.030**
					> 3xD	.010-.025	.010-.025	.010-.020	**.010-.020**
			HM	Speed		550-800	450-750	400-600	**300-500**
				Feed*		.015-.035	.015-.035	.015-.030	**.015-.030**
				DOC	< 3xD	.015-.030	.015-.030	.015-.030	**.010-.030**
					> 3xD	.010-.025	.010-.025	.010-.020	**.010-.020**

* Feed Rate Compensation for DOC:
DOC < .030” Feed = 100%
DOC > .030” Feed = 75%
Max. DOC .040” Feed = 60%

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

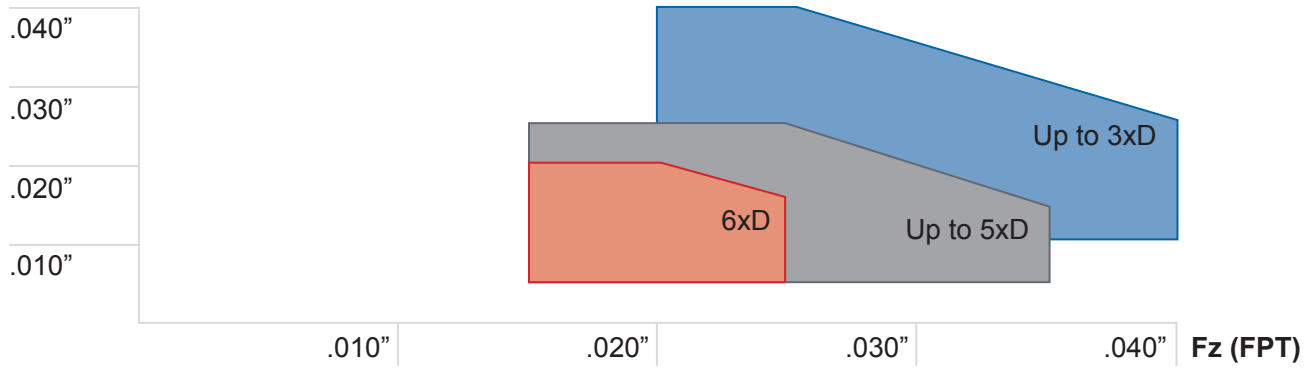
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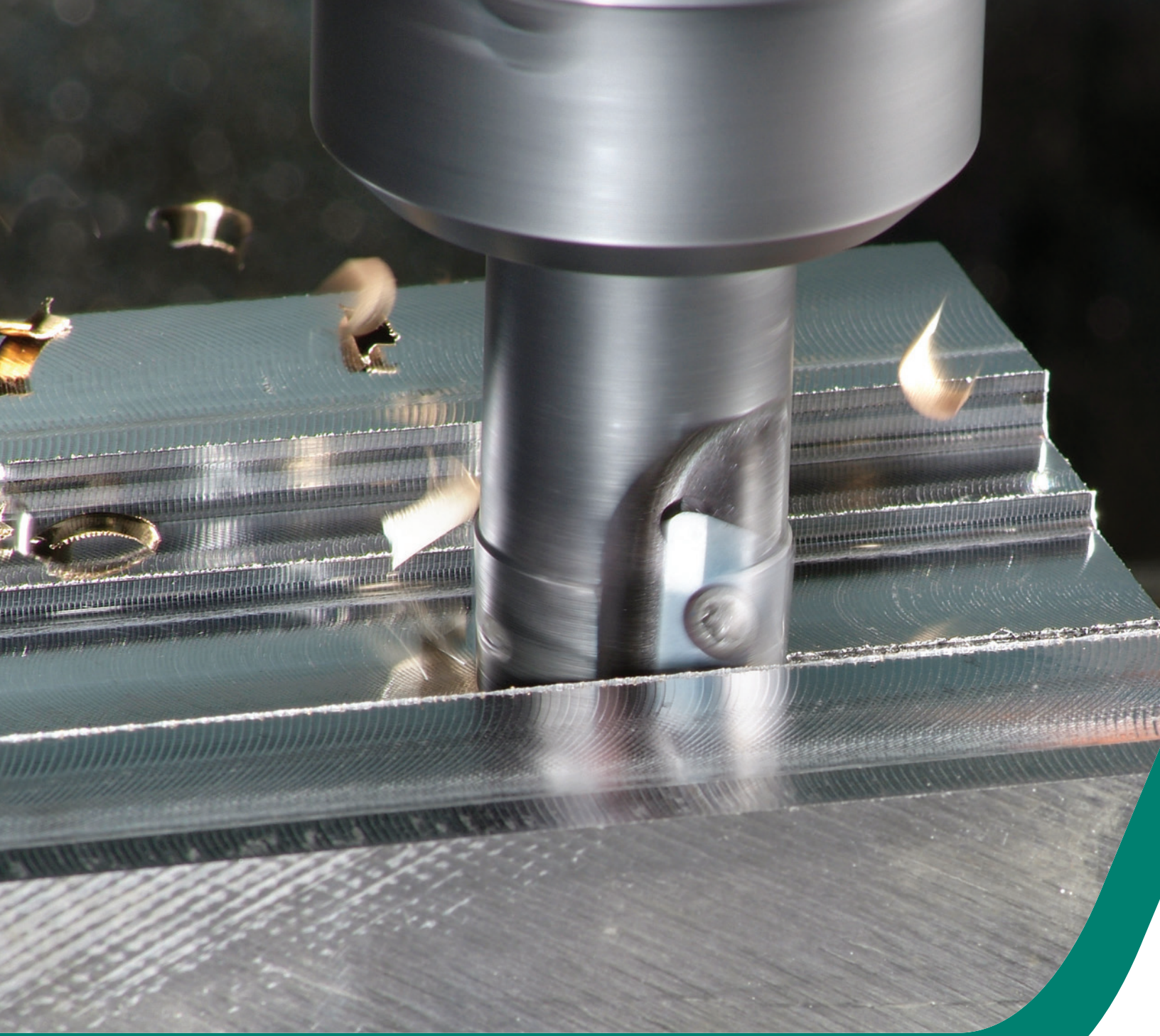
Hardened Steel (> 44 Rc)	Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium
	300-600	**400-700**	**250-550**	500-800	500-700	**50-150**	**35-75**	**120-180**
	.010-.030	**.010-.030**	**.010-.025**	.020-.040	.020-.040	**.007-.018**	**.007-.015**	**.010-.025**
	.010-.030	**.010-.030**	**.010-.030**	.015-.030	.015-.030	**.010-.020**	**.010-.020**	**.010-.025**
	.010-.020	**.010-.020**	**.010-.020**	.010-.020	.010-.020	**.010-.015**	**.010-.015**	**.010-.015**
				500-800	500-700			
				.020-.040	.020-.040			
				.015-.030	.015-.030			
				.010-.025	.010-.025			
				500-800	500-700			
				.020-.040	.020-.040			
				.015-.030	.015-.030			
				.010-.025	.010-.025			
250-400				500-800	**500-700**			
.015-.030				.020-.040	**.020-.040**			
.010-.020				.015-.030	**.015-.030**			
.010-.015				.010-.025	**.010-.025**			
250-400				500-800	**500-700**			
.015-.030				.020-.040	**.020-.040**			
.010-.020				.015-.030	**.015-.030**			
.010-.015				.010-.025	**.010-.025**			
250-400				**500-800**	**500-700**			
.015-.030				**.020-.040**	**.020-.040**			
.010-.020				**.015-.030**	**.015-.030**			
.010-.015				**.010-.025**	**.010-.025**			
250-400				**500-800**	**500-700**			
.015-.030				**.020-.040**	**.020-.040**			
.010-.020				**.015-.030**	**.015-.030**			
.010-.015				**.010-.025**	**.010-.025**			

Feed per Tooth & Depth of Cut Comparison

(Typical parameters for Alloyed Steel)

Ap (DOC)







Square Shoulder

Single-Sided Insert Platform	IM-29
10mm Series	IM-31
12mm Series	IM-39
16mm Series	IM-49
Double-Sided Insert Platform	IM-61
12mm Series	IM-63





Square Shoulder

Single-Sided Insert Platform

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SINGLE-SIDED SQUARE SHOULDER INSERT PLATFORM

10mm Series	IM-31
12mm Series	IM-39
16mm Series	IM-49

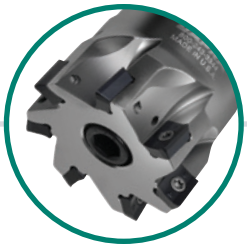
A high-performance platform offering flexibility and versatility.

- Inserts provide reliable accuracy and repeatability.
- XPET inserts feature a high positive cutting geometry for aggressive material removal rates and low horsepower consumption.
- APET inserts have strong edge preparation providing for heavy chip loads.

CUTTER BODIES



END MILLS
Steel / Carbide Core
Extended-Reach



SHELL MILLS
Steel



MODULAR HEADS
Steel

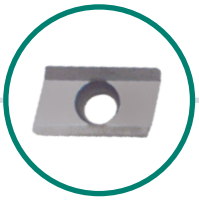
INSERTS



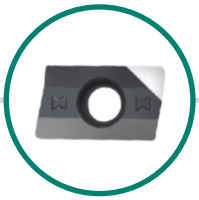
APET



XPET

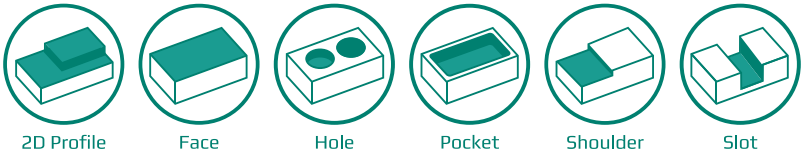


XPET-ALU



PCD-TIPPED





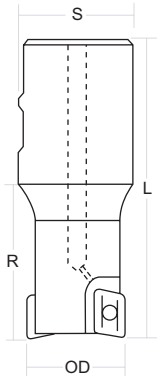
10mm Series Cutter Bodies

End Mills

EDP	OD	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length
20000C	.500”	SSEM0500-0625-R35-1C	.350”	1	.625”	2.75”	.97”
20010C	.500”	SSEM0500-0625-R35-1C-WOF**	.350”	1	.625”	2.75”	.97”
20020C	.625”	SSEM0625-0625-R35-2C	.350”	2	.625”	3.00”	1.09”
20070	.750”	SSEM0750-0750-R35-2C	.350”	2	.750”	3.50”	1.47”
20080*	.750”	SSEM0750-0750-R35-2C-WOF**	.350”	2	.750”	3.50”	1.47”
20100C	.750”	SSEM0750-0750-R35-3C	.350”	3	.750”	3.50”	1.47”
20090C	.750”	SSEM0750-0750-R35-3C-WOF**	.350”	3	.750”	3.50”	1.47”
20150C	1.000”	SSEM1000-0750-R35-4C	.350”	4	.750”	3.50”	1.47”
20160C	1.000”	SSEM1000-0750-R35-4C-WOF**	.350”	4	.750”	3.50”	1.47”
20130	1.000”	SSEM1000-1000-R35-3C	.350”	3	1.000”	4.00”	1.72”
20140	1.000”	SSEM1000-1000-R35-3C-WOF**	.350”	3	1.000”	4.00”	1.72”
20230	1.250”	SSEM1250-1250-R35-5C	.350”	5	1.250”	4.78”	2.50”
20240	1.250”	SSEM1250-1250-R35-5C-WOF**	.350”	5	1.250”	4.78”	2.50”

* Non-stock standard – made to order.

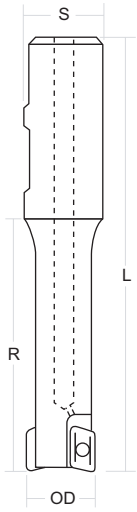
** Cylindrical shank – no Weldon flats.



Extended-Reach End Mills

EDP	OD	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length
20500C	.500”	SSER0500-2000-R35-1C	.350”	1	.625”	3.91”	2.00”
20510C	.500”	SSER0500-2000-R35-1C-WOF**	.350”	1	.625”	3.91”	2.00”
20520	.625”	SSER0625-2500-R35-2C	.350”	2	.750”	4.41”	2.50”
20530	.625”	SSER0625-2500-R35-2C-WOF**	.350”	2	.750”	4.41”	2.50”
20525	.625”	SSER0625-3300-R35-2C	.350”	2	.750”	5.21”	3.30”
20533C	.625”	SSER0625-7000-SS-R35-2C-WOF**	.350”	2	.625”	7.00”	1.25”
20540	.750”	SSER0750-2500-R35-2C	.350”	2	1.000”	4.78”	2.50”
20550	.750”	SSER0750-4000-R35-2C	.350”	2	1.000”	6.28”	4.00”
20565C	.750”	SSER0750-7000-SS-R35-2C-WOF**	.350”	2	.750”	7.00”	1.13”

** Cylindrical shank – no Weldon flats.

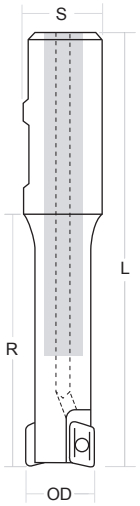


10mm Series Cutter Bodies

Extended-Reach End Mills with Carbide Core

EDP	OD	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length
20700C	.750”	CC-SSER0750-2500-R35-2C	.350”	2	1.000”	4.78”	2.50”
20710C	.750”	CC-SSER0750-2500-R35-2C-WOF**	.350”	2	1.000”	4.78”	2.50”
20720C	.750”	CC-SSER0750-4000-R35-2C	.350”	2	1.000”	6.28”	4.00”

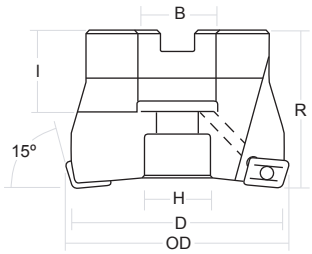
** Cylindrical shank – no Weldon flats.



15° Back-Corner Shell Mills

› Utilizes the unused insert corner for general face milling, giving you 4 usable edges rather than 2

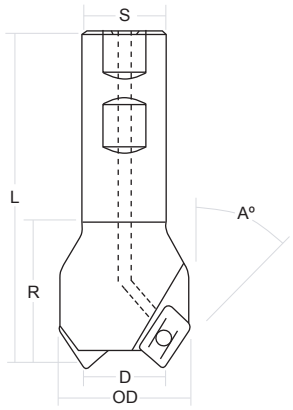
EDP	D Cutting Dia.	Description	DOC Max.	Flutes	OD	B Arbor Dia.	R Overall Length	H Counter Bore Dia.
22210	2.000”	BCSM2000-0750-R35-4C	.250”	4	2.11”	.750”	1.50”	.60”



Chamfering End Mills

EDP	D Cutting Dia.	Description	DOC Max.	Flutes	OD	S Shank Dia.	L Overall Length	R Effective Length	A
22248	.500”	CMEM0500-30-R35-2	.300”	2	.80”	.750”	3.50”	1.45”	30°
22248-C	.500”	CMEM0500-30-R35-2-C	.300”	2	.80”	.750”	3.50”	1.45”	30°
22255	.500”	CMEM0500-45-R35-2C	.245”	2	.94”	.750”	3.50”	1.45”	45°
22260	.750”	CMEM0750-45-R35-3	.245”	3	1.18”	.750”	3.50”	1.45”	45°
22300	.750”	CMEM0750-45-R35-3C	.245”	3	1.18”	.750”	3.50”	1.45”	45°

EDP # 22248 and 22260 do not include coolant thru.

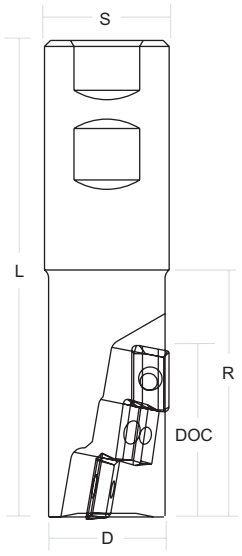


10mm Series Cutter Bodies

Helical Roughing (Stacked) End Mills

EDP	D Cutting Dia.	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length	# of Inserts
21042	.750”	HREM0750-0750-R35-2-090	1.020”	2	.750”	3.50”	1.45”	6
21060	1.000”	HREM1000-1000-R35-2-120	1.200”	2	1.000”	4.15”	1.75”	8

Helical Roughing End Mills do not include coolant thru.

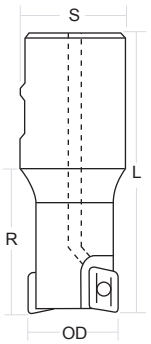


Metric End Mills

EDP	OD	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length
22005*	16mm	SSEM16-16-R35-2C	10mm	2	16mm	80mm	31mm
22015*	20mm	SSEM20-20-R35-2C	10mm	2	20mm	90mm	39mm
22040*	32mm	SSEM32-32-R35-5	10mm	5	32mm	100mm	44mm

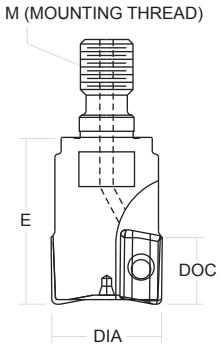
* Non-stock standard – made to order.

EDP # 22040 does not include coolant thru.

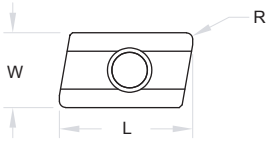


Modular Heads

EDP	Dia.	Description	M	DOC Max.	E	Flutes	Inserts	Open-End Wrench
22400	.750”	SSEM0750-MOD-R35-2C	M10	.350”	1.50”	2	10mm	9/16”



10mm Series Inserts





APET
Cutting Edge
(T-Land Edge)
High Strength



XPET
Cutting Edge
(Honed Edge)
High Shear

APET Inserts

Insert	L	W	R	Grade	Coating				
					Uncoated	GLH	TCI	HM	
APET100308	0.380”	0.250”	.031”	DMP35	25200	25260	25290	25285	
				DMP30	25100	25160	25190	25185	
				DMK25	25000	25060	25090	25085	
APET100316	0.380”	0.250”	.062”	DMP35	25500	25560	25590	25585	
				DMP30	25400	25460	25490	25485	
				DMK25	25300	25360	25390	25385	

See page IM-155 for insert grade and coating selection.

XPET Inserts

Insert	L	W	R	Grade	Coating				
					Uncoated	GLH	TCI	HM	
XPET100308	0.380”	0.250”	.031”	DMP35	27300	27360	27390	27385	
				DMK30	27100	27160	27190	27185	
				DMP30	27200	27260	27290	27285	
				DMK25	27000	27060	27090	27085	
XPET100316	0.380”	0.250”	.062”	DMP35	27700	27760	27790	27785	
				DMK30	27500	27560	27590		
				DMP30	27600	27660	27690	27685	
				DMK25	27400	27460	27490	27485	

See page IM-155 for insert grade and coating selection.

XPET-ALU Inserts

Ground and lapped rake face for machining aluminium and copper alloys, bronze, brass, etc.

Insert	L	W	R	Grade	Coating				
					Uncoated	GLH			
XPET100308-ALU	0.380”	0.250”	.031”	DMK25	29902	29908			
XPET100316-ALU	0.380”	0.250”	.062”	DMK25	29910	29911			

See page IM-155 for insert grade and coating selection.

10mm Series Accessories

EDP	Part Number	Description
22600	SSTX-08-S	1 10mm Insert Screw (Torque setting: 12 in-lbs. / 1.0 Nm)
83000	T8-F	2 T8 Flag-Style Wrench
41110	ASG-120	Anti-Seize Grease



10mm Series Recommended Parameters

Style	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
APET	DMP35	TCI	Speed	**500-800**	**400-700**	250-550		
			Feed	**.004-.008**	**.004-.008**	.004-.007		
		GLH	Speed	**700-1000**	**500-800**	250-550		
			Feed	**.004-.008**	**.004-.008**	.004-.007		
		HM	Speed	700-1000	500-800	250-550		
			Feed	.004-.008	.004-.008	.004-.007		
	DMP30	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
			Feed	**.004-.008**	**.004-.008**	.004-.007	.003-.006	
		GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
			Feed	**.004-.008**	**.004-.008**	**.004-.007**	**.003-.006**	
		HM	Speed	700-1200	500-900	**350-650**	**300-500**	
			Feed	.004-.008	.004-.008	**.004-.007**	**.003-.006**	
	DMK25	TCI	Speed	500-900	400-800	350-550	300-450	
			Feed	.004-.007	.004-.007	.004-.006	.003-.006	
		GLH	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
			Feed	.004-.007	.004-.007	.004-.006	**.003-.006**	**.002-.005**
		HM	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
			Feed	.004-.007	.004-.007	.004-.006	**.003-.006**	**.002-.005**

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

Continued on next page

Visit **generalcuttingtools.com** for technical reference & application information

Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum Alloys / Non-Ferrous
			500-800	400-700					
			.004-.009	.004-.008					
			600-1000	500-900					
			.004-.009	.004-.008					
			600-1000	500-900					
			.004-.009	.004-.008					
			600-900	**500-800**					
			.004-.009	**.004-.008**					
			600-1000	**500-900**					
			.004-.009	**.004-.008**					
			600-1000	**500-900**					
			.004-.009	**.004-.008**					
			600-1000	**600-900**					
			.004-.009	**.004-.008**					
			700-1200	**600-900**					
			.004-.009	**.004-.008**					
			700-1200	**600-900**					
			.004-.009	**.004-.008**					

10mm Series Recommended Parameters

Style	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
XPET	DMP35	TCI	Speed	**500-800**	400-700	250-450		
			Feed	**.003-.008**	.003-.007	.003-.006		
		GLH	Speed	**700-1000**	500-900	250-550		
			Feed	**.003-.008**	.003-.007	.003-.006		
		HM	Speed	700-1000	500-900	250-550		
			Feed	.003-.008	.003-.007	.003-.006		
	DMK30	TCI	Speed	500-900	400-800	350-550		
			Feed	.002-.007	.002-.006	.002-.005		
		GLH	Speed	700-1000	500-900	**250-650**		
			Feed	.002-.007	.002-.006	**.002-.005**		
		HM	Speed	700-1000	500-900	**250-650**		
			Feed	.002-.007	.002-.006	**.002-.005**		
	DMP30	HP	Speed	500-900	400-800	350-550	300-450	
			Feed	.003-.008	.003-.007	.003-.006	.002-.005	
		TCI	Speed	**500-900**	**400-800**	350-550	300-450	
			Feed	**.003-.008**	**.003-.007**	.003-.006	.002-.005	
		GLH	Speed	**700-1200**	**500-900**	350-650	300-500	
			Feed	**.003-.008**	**.003-.007**	.003-.006	.002-.005	
		HM	HP	700-1200	500-900	350-650	300-500	
			Feed	.003-.008	.003-.007	.003-.006	.002-.005	
	DMK25	TCI	Speed					
			Feed					
		GLH	Speed					
			Feed					
		HM	Speed					
			Feed					
XPET-ALU	DMK25	GLH	Speed					
			Feed					
		Uncoated	Speed					
			Feed					

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

Visit **generalcuttingtools.com** for technical reference & application information

Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum Alloys / Non-Ferrous
300-500	**400-800**	250-450	500-800	400-700				400-900	
.003-.007	**.003-.007**	.002-.005	.003-.008	.003-.007				.003-.008	
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	400-900	
.003-.007	**.003-.007**	**.002-.005**	.003-.008	.003-.007	**.002-.005**	**.002-.004**	**.003-.006**	.003-.008	
300-600	500-900	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**		
.003-.007	.003-.007	**.002-.005**	.003-.008	.003-.007	**.002-.005**	**.002-.004**	**.003-.006**		
300-500	400-800	250-450	**500-900**	**500-800**				**400-900**	
.003-.006	.003-.006	.002-.005	**.003-.007**	**.003-.006**				**.003-.007**	
300-600	500-900	250-500	**600-1000**	**500-900**				**400-900**	
.003-.006	.003-.006	.002-.005	**.003-.007**	**.003-.006**				**.003-.007**	
300-600	500-900	250-500	**600-1000**	**500-900**					
.003-.006	.003-.006	.002-.005	**.003-.007**	**.003-.006**					
			500-900	500-800					
			.003-.008	.003-.007					
			500-900	500-800					
			.003-.008	.003-.007					
			600-1000	500-900					
			.003-.008	.003-.007					
			600-1000	500-900					
			.003-.008	.003-.007					
			500-900	500-800				**400-900**	
			.003-.008	.003-.007				**.003-.007**	
			600-1000	500-900				**400-900**	**1000+ (Cast)**
			.003-.008	.003-.007				**.003-.007**	**.007-.015**
			600-1000	500-900					
			.003-.008	.003-.007					
									1500+
									.010-.020
									1500+
									.010-.020

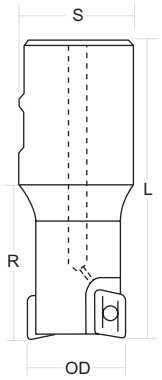
12mm Series Cutter Bodies

End Mills

EDP	OD	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length
20035	.625”	SSEM0625-0625-R45-1C	.430”	1	.625”	3.00”	1.09”
20105	.750”	SSEM0750-0750-R45-2C	.430”	2	.750”	3.50”	1.47”
20106*	.750”	SSEM0750-0750-R45-2C-WOF**	.430”	2	.750”	3.50”	1.47”
20107	.750”	SSEM0750-0750-R45-2LC	.430”	2	.750”	4.28”	2.25”
20169	1.000”	SSEM1000-1000-R45-3SC	.430”	3	1.000”	3.28”	1.00”
20165	1.000”	SSEM1000-1000-R45-3C	.430”	3	1.000”	4.28”	2.00”
20166	1.000”	SSEM1000-1000-R45-3C-WOF**	.430”	3	1.000”	4.28”	2.00”
20167	1.000”	SSEM1000-1000-R45-3LC	.430”	3	1.000”	5.28”	3.00”
20245	1.250”	SSEM1250-1250-R45-4C	.430”	4	1.250”	4.78”	2.50”
20247	1.250”	SSEM1250-1250-R45-4LC	.430”	4	1.250”	6.03”	3.75”
20295	1.500”	SSEM1500-1250-R45-5C	.430”	5	1.250”	4.78”	2.50”

* Non-stock standard – made to order.

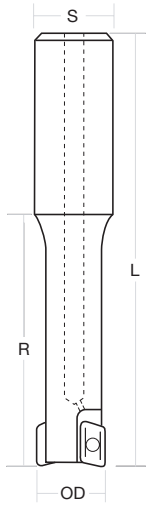
** Cylindrical shank – no Weldon flats.



Extended-Reach End Mills

EDP	OD	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length
20535	.625”	SSER0625-7000-SS-R45-1C-WOF**	.430”	1	.625”	7.00”	1.09”
20567	.750”	SSER0750-7000-SS-R45-2C-WOF**	.430”	2	.750”	7.00”	1.45”
20603	1.000”	SSER1000-9000-SS-R45-2C-WOF**	.430”	2	1.000”	9.00”	2.00”
20612	1.250”	SSER1250-10000-SS-R45-2C-WOF**	.430”	2	1.250”	10.00”	2.50”

** Cylindrical shank – no Weldon flats.

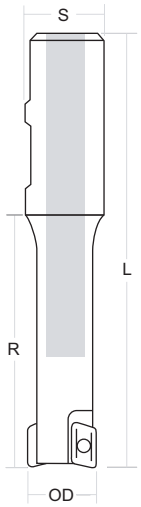


Extended-Reach End Mills with Carbide Core

EDP	OD	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length
20722*	.750”	CC-SSER0750-4000-R45-2	.430”	2	1.000”	6.30”	4.00”
20724*	1.000”	CC-SSER1000-4000-R45-3	.430”	3	1.250”	6.29”	4.00”
20726*	1.000”	CC-SSER1000-6000-R45-3	.430”	3	1.250”	8.29”	6.00”

* Non-stock standard – made to order.

Extended-Reach End Mills with Carbide Core do not include coolant thru.

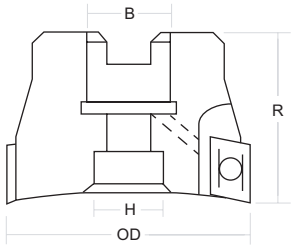


12mm Cutter Bodies

Shell Mills

EDP	OD	Description	DOC Max.	Flutes	B Arbor Dia.	R Overall Length	H Counter Bore Dia.
20890	1.500”	SSSM1500-0750-R45-5C	.430”	5	.750”	1.75”	.58”
20913	2.000”	SSSM2000-0750-R45-5C	.430”	5	.750”	1.50”	.60”
20915	2.000”	SSSM2000-0750-R45-7C	.430”	7	.750”	1.50”	.60”
20945	2.500”	SSSM2500-1000-R45-8C	.430”	8	1.000”	1.75”	.80”
20955	3.000”	SSSM3000-1000-R45-7C	.430”	7	1.000”	2.00”	.80”
20957	3.000”	SSSM3000-1000-R45-10C	.430”	10	1.000”	2.00”	.80”
20965	4.000”	SSSM4000-1500-R45-12	.430”	12	1.500”	2.00”	1.90”

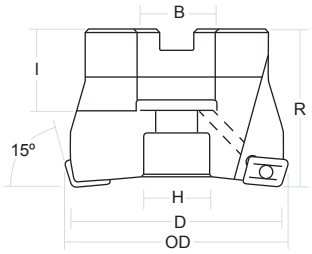
EDP # 20965 does not include coolant thru.



15° Back-Corner Shell Mills

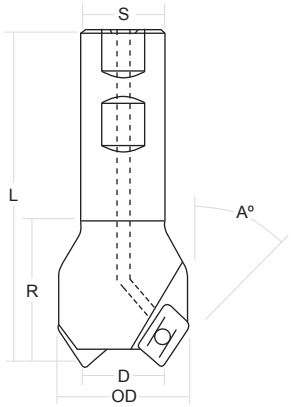
› Utilizes the unused insert corner for general face milling, giving you 4 usable edges rather than 2

EDP	D Cutting Dia.	Description	DOC Max.	Flutes	OD	B Arbor Dia.	R Overall Length	H Counter Bore Dia.
22215	2.000”	BCSM2000-0750-R45-4C	.312”	4	2.13”	.750”	1.50”	.60”
22235	3.000”	BCSM3000-1000-R45-6C	.312”	6	3.13”	1.00”	2.00”	.80”



Chamfering End Mills

EDP	D Cutting Dia.	Description	DOC Max.	Flutes	OD	S Shank Dia.	L Overall Length	R Effective Length	A
22265	.750”	CMEM0750-30-R45-3C	.355”	3	1.14”	.750”	3.50”	1.45”	30°
22305	.750”	CMEM0750-45-R45-3C	.290”	3	1.31”	.750”	3.50”	1.45”	45°

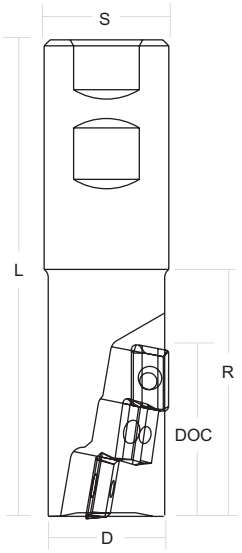


12mm Series Cutter Bodies

Helical Roughing (Stacked) End Mills

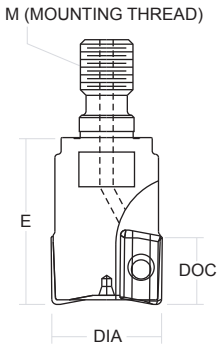
EDP	D Cutting Dia.	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length	# of Inserts
21045	1.000”	HREM1000-1000-R45-2-110	1.100”	2	1.000”	4.50”	2.00”	6
21075	1.250”	HREM1250-1250-R45-3-150	1.480”	3	1.250”	4.83”	2.50”	12

Helical Roughing End Mills do not include coolant thru.



Modular Heads

EDP	Dia.	Description	M	Max. DOC	E	Flutes	Open-End Wrench
22405	.750”	SSEM0750-MOD-R45-2C	M10	.430”	1.50”	2	$^{9}/_{16}$”
22407	1.000”	SSEM1000-MOD-R45-3C	M12	.430”	1.50”	3	$^{11}/_{16}$”
22415	1.250”	SSEM1250-MOD-R45-4C	M16	.430”	1.75”	4	$^{15}/_{16}$”

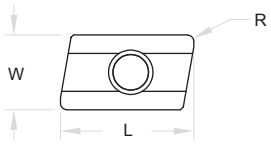


12mm Series Accessories

EDP	Part Number	Description
22605	SSTX-10-S	1 12mm Insert Screw (Torque setting: 20 in-lbs. / 2.25 Nm)
QM07041	TC-3/8-SHCS	2 Shell Mill Socket Head Cap Screw with Coolant for 1.5” and 2” shell mills (3/8-24 x 1” long)
QM07051	TC-1/2-SHCS	3 Shell Mill Socket Head Cap Screw with Coolant for 2.5” and 3” shell mills (1/2-20 x 1-1/4” long)
QM07061	TC-3/4-SHCS	4 Shell Mill Socket Head Cap Screw with Coolant for 4” shell mills (3/4-16 x 1-1/2” long)
83005	T10-T	5 T10 TORX T-Handle Wrench
41110	ASG-120	Anti-Seize Grease



12mm Series Inserts





APET
Cutting Edge
(T-Land Edge)
High Strength



XPET
Cutting Edge
(Honed Edge)
High Shear

APET Inserts

Insert	L	W	R	Grade	Coating				
					Uncoated	GLH	TCI	HM	
APET120408	.472”	0.312”	.031”	DMP35	30800	30860	30890	30885	
				DMP30	30700	30760	30790	30785	
				DMK25	30500	30560	30590	30585	
APET120416	.472”	0.312”	.062”	DMP35	31200	31260	31290	31285	
				DMP30	31100	31160	31190	31185	
				DMK25	30900	30960	30990	30985	
APET120431	.472”	0.312”	.120”	DMP35	31600	31660	31690	31685	
				DMP30	31500	31560	31590	31585	
				DMK25	31300	31360	31390	31385	

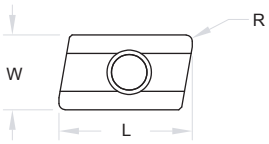
See page IM-155 for insert grade and coating selection.

XPET Inserts

Insert	L	W	R	Grade	Coating				
					Uncoated	GLH	TCI	HM	IN
XPET120408	.472”	0.312”	.031”	DMP35	32400	32460	32490	32485	
				DMK35	32200			32201	32202
				DMP30	32300	32360	32390	32385	
				DMK25	32100	32160	32190	32185	
XPET120416	.472”	0.312”	.062”	DMP35	32800	32860	32890	32885	
				DMK35	32640			32641	32642
				DMP30	32700	32760	32790	32785	
				DMK25	32500	32560	32590		
XPET120431	.472”	0.312”	.120”	DMP35	33200	33260	33290	33285	
				DMP30	33100	33160	33190	33185	
				DMK25	32900	32960	32990	32985	

See page IM-155 for insert grade and coating selection.

12mm Series Inserts





APET
Cutting Edge
(T-Land Edge)
High Strength



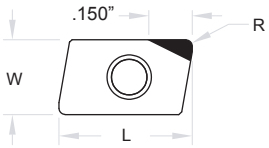
XPET
Cutting Edge
(Honed Edge)
High Shear

XPET-ALU Inserts

Ground and lapped rake face for machining aluminium and copper alloys, bronze, brass, etc.

Insert	L	W	R	Grade	Coating				
					Uncoated	GLH			
XPET120408-ALU	.472”	.312”	.031”	DMK25	32010	32025			
XPET120416-ALU	.472”	.312”	.062”		32600	32615			
XPET120431-ALU	.472”	.312”	.120”		33000	33015			

See page IM-155 for insert grade and coating selection.



PCD-Tipped XPET Inserts

The ultimate in wear resistance for aluminium or graphite milling.

Insert	L	W	R	Grade	Coating				
					Uncoated				
XPET120408-PCD-150	.472”	.312”	.031”	DMK25	29895				

See page IM-155 for insert grade and coating selection.

12mm Series Recommended Parameters

Style	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
APET	DMP35	TCI	Speed	**500-800**	**400-700**	250-550		
			Feed	**.004-.010**	**.004-.009**	.004-.008		
		GLH	Speed	**700-1000**	**500-800**	250-550		
			Feed	**.004-.010**	**.004-.009**	.004-.008		
		HM	Speed	700-1000	500-800	250-550		
			Feed	.004-.010	.004-.009	.004-.008		
	DMP30	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
			Feed	**.004-.010**	**.004-.009**	.004-.008	.003-.007	
		GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
			Feed	**.004-.010**	**.004-.009**	**.004-.008**	**.003-.007**	
		HM	Speed	700-1200	500-900	350-650	**300-500**	
			Feed	.004-.010	.004-.009	.004-.008	**.003-.007**	
	DMK25	TCI	Speed	500-900	400-800	350-550	300-450	
			Feed	.004-.008	.004-.007	.003-.006	.003-.006	
		GLH	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
			Feed	.004-.008	.004-.007	.003-.006	**.003-.006**	**.002-.005**
		HM	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
			Feed	.004-.008	.004-.007	.003-.006	**.003-.006**	**.002-.005**

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

Continued on next page

Visit **generalcuttingtools.com** for technical reference & application information

Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum Alloys / Non-Ferrous
			500-800	400-700					
			.004-.010	.004-.009					
			600-1000	500-900					
			.004-.010	.004-.009					
			600-1000	500-900					
			.004-.010	.004-.009					
			600-900	**500-800**					
			.004-.010	**.004-.009**					
			600-1000	**500-900**					
			.004-.010	**.004-.009**					
			600-1000	**500-900**					
			.004-.010	**.004-.009**					
			600-1000	**600-900**					
			.004-.010	**.004-.009**					
			700-1200	**600-900**					
			.004-.010	**.004-.009**					
			700-1200	**600-900**					
			.004-.010	**.004-.009**					

12mm Series Recommended Parameters

Style	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
XPET	DMK35	HM	Speed					
			Feed					
		IN	Speed					
			Feed					
		TS	Speed					
			Feed					
	DMP35	TCI	Speed	**500-800**	400-700	250-450		
			Feed	**.003-.008**	.003-.008	.003-.007		
		GLH	Speed	**700-1000**	500-900	250-550		
			Feed	**.003-.008**	.003-.008	.003-.007		
		HM	Speed	700-1000	500-900	250-550		
			Feed	.003-.008	.003-.008	.003-.007		
	DMP30	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
			Feed	**.003-.008**	**.003-.008**	.003-.007	.002-.006	
		GLH	Speed	**700-1200**	**500-900**	350-650	300-500	
			Feed	**.003-.008**	**.003-.008**	.003-.007	.002-.006	
		HM	Speed	700-1200	500-900	350-650	300-500	
			Feed	.003-.008	.003-.008	.003-.007	.002-.006	
	DMK25	TCI	Speed					
			Feed					
		GLH	Speed					
			Feed					
		HM	Speed					
			Feed					
XPET-ALU	DMK25	GLH	Speed					
			Feed					
		DL	Speed					
			Feed					
		Uncoated	Speed					
			Feed					
	PCD150	Diamond-Tipped	Speed					
			Feed					

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

Visit **generalcuttingtools.com** for technical reference & application information

Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum Alloys / Non-Ferrous
250-500		**250-500**			**55-90**	**35-65**	**120-180**		
.003-.007		**.003-.006**			**.002-.005**	**.002-.004**	**.003-.006**		
300-600		**250-500**			**55-90**	**35-65**	**120-180**		
.003-.007		**.003-.006**			**.002-.005**	**.002-.004**	**.003-.006**		
300-600		**250-500**			**55-90**	**35-65**	**120-180**		
.003-.007		**.003-.006**			**.002-.005**	**.002-.004**	**.003-.006**		
300-500	**400-800**	250-450	500-800	400-700				400-900	
.003-.007	**.003-.008**	.002-.006	.003-.009	.003-.008				.003-.009	
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	400-900	
.003-.007	**.003-.008**	**.002-.006**	.003-.009	.003-.008	**.002-.005**	**.002-.004**	**.003-.006**	.003-.009	
300-600	500-900	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**		
.003-.007	.003-.008	**.002-.006**	.003-.009	.003-.008	**.002-.005**	**.002-.004**	**.003-.006**		
			500-900	500-800					
			.003-.009	.003-.008					
			600-1000	500-900					
			.003-.009	.003-.008					
			600-1000	500-900					
			.003-.009	.003-.008					
			500-900	500-800				**400-900**	
			.003-.009	.003-.008				**.003-.009**	
			600-1000	500-900				**400-900**	**1000+ (cast)**
			.003-.009	.003-.008				**.003-.009**	**.007-.015**
			600-1000	500-900					
			.003-.009	.003-.008					
									1500+
									.010-.020
									1500+
									.010-.020
									1500+
									.010-.020
									1500+
									.003-.015

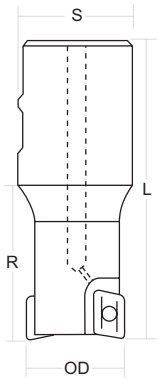
16mm Series Cutter Bodies

End Mills

EDP	OD	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length
20040C	.625”	SSEM0625-0750-R55-1C	.600”	1	.750”	3.35”	1.15”
20050	.625”	SSEM0625-0750-R55-1-WOF**	.600”	1	.750”	3.35”	1.15”
20110C	.750”	SSEM0750-0750-R55-1C	.600”	1	.750”	3.49”	1.40”
20190	1.000”	SSEM1000-1000-R55-2C	.600”	2	1.000”	4.28”	2.00”
20220	1.000”	SSEM1000-1000-R55-2C-WOF**	.600”	2	1.000”	4.28”	2.00”
20210	1.000”	SSEM1000-1000-R55-2LC	.600”	2	1.000”	5.28”	3.00”
20220	1.000”	SSEM1000-1000-R55-2LC-WOF**	.600”	2	1.000”	5.28”	3.00”
20270	1.250”	SSEM1250-1250-R55-3C	.600”	3	1.250”	4.78”	2.50”
20280	1.250”	SSEM1250-1250-R55-3C-WOF**	.600”	3	1.250”	4.78”	2.50”
20300C	1.500”	SSEM1500-1250-R55-3C	.600”	3	1.250”	4.78”	2.50”
20320	1.500”	SSEM1500-1250-R55-4C	.600”	4	1.250”	4.78”	2.50”

** Cylindrical shank – no Weldon flats.

EDP # 20050 does not include coolant thru.



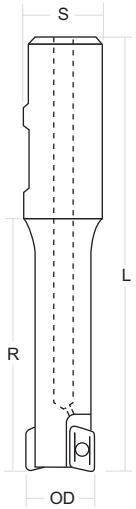
Extended-Reach End Mills

EDP	OD	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length
20570	1.000”	SSER1000-4000-R55-2C	.600”	2	1.250”	6.28”	4.00”
20580	1.000”	SSER1000-4000-R55-2C-WOF**	.600”	2	1.250”	6.28”	4.00”
20590	1.000”	SSER1000-6000-R55-2C	.600”	2	1.250”	8.28”	6.00”
20605C*	1.000”	SSER1000-9000-SS-R55-2C-WOF**	.600”	2	1.000”	9.00”	1.50”
20610	1.250”	SSER1250-4000-R55-3C	.600”	3	1.250”	6.28”	4.00”
20615*	1.250”	SSER1250-10000-SS-R55-2-WOF**	.600”	2	1.250”	10.00”	1.88”
20620	1.500”	SSER1500-4000-R55-3C	.600”	3	1.500”	6.69”	4.00”

* Non-stock standard – made to order.

** Cylindrical shank – no Weldon flats.

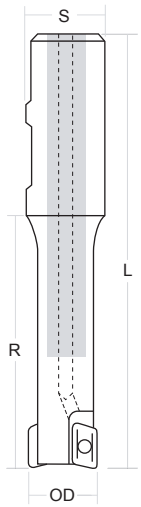
EDP # 20615 does not include coolant thru.



16mm Series Cutter Bodies

Extended-Reach End Mills with Carbide Core

EDP	OD	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length
20730C	1.000”	CC-SSER1000-4000-R55-2C	.600”	2	1.250”	6.28”	4.00”
20740C	1.000”	CC-SSER1000-6000-R55-2C	.600”	2	1.250”	8.28”	6.00”
20750C*	1.000”	CC-SSER1000-6000-R55-2C-WOF**	.600”	2	1.250”	8.28”	6.00”
20760C	1.000”	CC-SSER1000-8000-R55-2C	.600”	2	1.250”	10.28”	8.00”
20770	1.250”	CC-SSER1250-3200-R55-3	.600”	3	1.250”	5.50”	2.62”
20770C	1.250”	CC-SSER1250-3200-R55-3C	.600”	3	1.250”	5.50”	2.62”
20780C	1.250”	CC-SSER1250-4000-R55-3C	.600”	3	1.250”	6.28”	4.00”
20790C*	1.250”	CC-SSER1250-4000-R55-3C-WOF**	.600”	3	1.250”	6.28”	4.00”
20800C	1.250”	CC-SSER1250-6000-R55-2C	.600”	2	1.500”	8.70”	6.00”
20805*	1.250”	CC-SSER1250-6000-R55-3C	.600”	3	1.500”	8.70”	6.00”
20810C	1.250”	CC-SSER1250-8000-R55-2C	.600”	2	1.500”	10.70”	8.00”
20820C	1.500”	CC-SSER1500-6000-R55-2C	.600”	2	1.500”	8.69”	6.00”



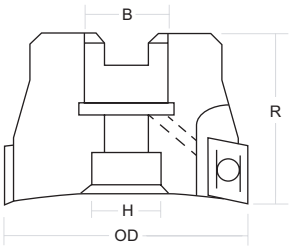
* Non-stock standard – made to order.

** Cylindrical shank – no Weldon flats.

EDP # 20770 does not include coolant thru.

Shell Mills

EDP	OD	Description	DOC Max.	Flutes	B Arbor Dia.	R Overall Length	H Counter Bore Dia.
20905	1.500”	SSSM1500-0750-R55-4C	.600”	4	.750”	1.75”	.58”
21020	2.000”	SSSM2000-0750-R55-3C	.600”	3	.750”	1.50”	.60”
20930	2.000”	SSSM2000-0750-R55-4C	.600”	4	.750”	1.50”	.60”
20940	2.000”	SSSM2000-0750-R55-5C	.600”	5	.750”	1.50”	.60”
20950	2.500”	SSSM2500-1000-R55-5C	.600”	5	1.000”	1.75”	.80”
21040	3.000”	SSSM3000-1000-R55-3C	.600”	3	1.000”	2.00”	.80”
20960	3.000”	SSSM3000-1000-R55-6C	.600”	6	1.000”	2.00”	.80”
20970C	4.000”	SSSM4000-1500-R55-8C	.600”	8	1.500”	2.00”	1.90”
20980	5.000”	SSSM5000-1500-R55-8	.600”	8	1.500”	2.00”	2.10”
20990	6.000”	SSSM6000-2000-R55-7	.600”	7	2.000”	2.00”	2.75”
21000	8.000”	SSSM8000-FM-R55-9	.600”	9	2.500”	2.50”	4.00” BC

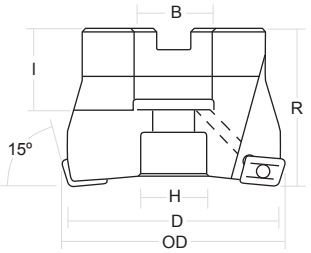


EDP # 20980, 20990, and 21000 do not include coolant thru.

16mm Series Cutter Bodies

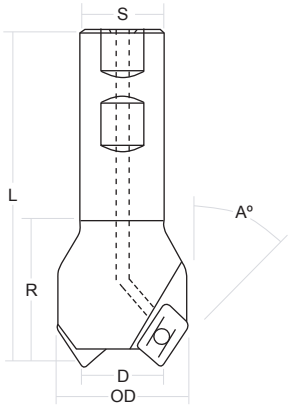
15° Back-Corner Shell Mills

› Utilizes the unused insert corner for general face milling, giving you 4 usable edges rather than 2



EDP	D Cutting Dia.	Description	DOC Max.	Flutes	OD	B Arbor Dia.	R Overall Length	H Counter Bore Dia.
22230	2.000”	BCSM2000-0750-R55-4C	.375”	4	2.16”	.750”	1.50”	.60”
22240	3.000”	BCSM3000-1000-R55-5C	.375”	5	3.16”	1.00”	2.00”	.80”
22245	4.000”	BCSM4000-1500-R55-6C	.378”	6	4.16”	1.50”	2.25”	.77”

Chamfering End Mills



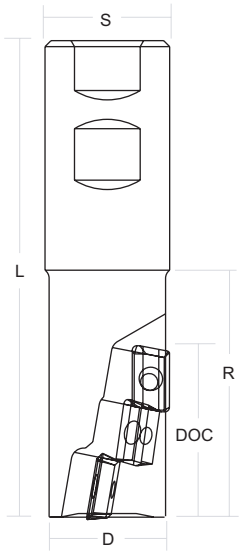
EDP	D Cutting Dia.	Description	DOC Max.	Flutes	OD	S Shank Dia.	L Overall Length	R Effective Length	A
22310	.625”	CMEM0625-45-R55-2C	.245”	2	1.40”	.750”	3.50”	1.45”	45°
22259	.700”	CMEM0700-30-R55-2C	.475”	2	1.25”	.750”	3.50”	1.45”	30°
22280	1.000”	CMEM1000-30-R55-3C	.475”	3	1.53”	1.000”	4.00”	1.72”	30°
22320	1.000”	CMEM1000-45-R55-3C	.390”	3	1.76”	1.000”	4.00”	1.72”	45°

16mm Series Cutter Bodies

Helical Roughing End Mills

EDP	D Cutting Dia.	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length	# of Inserts
21070	1.250”	HREM1250-1250-R55-2-165	1.650”	2	1.250”	4.88”	2.44”	6
21080	1.500”	HREM1500-1250-R55-3-215	2.150”	3	1.250”	5.65”	3.15”	12
21050	40mm	HREM40mm-1250-R55-2-165	1.650”	2	1.250”	4.80”	2.44”	6

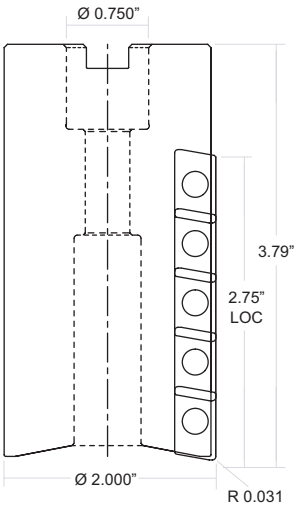
Helical Roughing End Mills do not include coolant thru.



Helical Roughing Shell Mills

EDP	Cutting Dia.	Description	DOC Max.	Flutes	LOC	Overall Length	# of Inserts
21085	2.000”	HRSM2000-0750-R55-4-265	.750”	4	2.75”	3.79”	20

Helical Roughing Shell Mills do not include coolant thru.

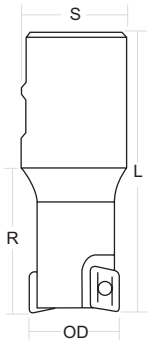


16mm Cutter Bodies

Metric End Mills

EDP	OD	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length
22050*	32mm	SSEM32-32-R55-3	16mm	3	32mm	100mm	44mm
22060*	40mm	SSEM40-32-R55-4	16mm	4	32mm	115mm	55mm

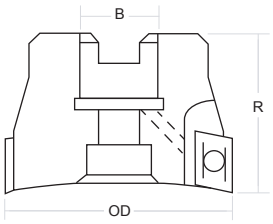
* Non-stock standard – made to order. // Does not include coolant thru.



Metric Shell Mills

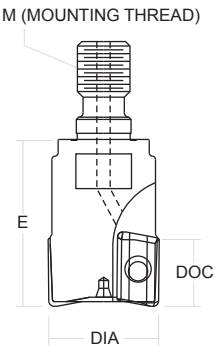
EDP	OD	Description	DOC Max.	Flutes	B Arbor Dia.	R Overall Length	Mounting Screw
22105	50mm	SSSM50-22-R55-4C	16mm	4	22mm	38mm	M10
22130	80mm	SSSM80-27-R55-6	16mm	6	27mm	50mm	M12

EDP # 22130 does not include coolant thru.



Modular Heads

EDP	Dia.	Description	M	DOC Max.	E	Flutes	Open-End Wrench
22410	1.000”	SSEM1000-MOD-R55-2C	M12	.600”	1.50”	2	$^{11}/_{16}$”
22420	1.250”	SSEM1250-MOD-R55-2C	M16	.600”	1.75”	2	$^{15}/_{16}$”
22430	1.500”	SSEM1500-MOD-R55-2C	M16	.600”	1.75”	2	$^{15}/_{16}$”

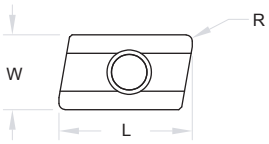


16mm Series Accessories

EDP	Part Number	Description
22610	SSTX-15-S	1 16mm Insert Screw (Torque setting: 30 in-lbs. / 3.5 Nm)
QM07041	TC-3/8-SHCS	2 Shell Mill Socket Head Cap Screw with Coolant for 1.5” and 2” shell mills (3/8-24 x 1” long)
QM07051	TC-1/2-SHCS	3 Shell Mill Socket Head Cap Screw with Coolant for 2.5” and 3” shell mills (1/2-20 x 1-1/4” long)
QM07061	TC-3/4-SHCS	4 Shell Mill Socket Head Cap Screw with Coolant for 4” shell mills (3/4-16 x 1-1/2” long)
83010	T15-T	5 T-15 TORX T-Handle Wrench
41110	ASG-120	Anti-Seize Grease



16mm Series Inserts





APET
Cutting Edge
(T-Land Edge)
High Strength



XPET
Cutting Edge
(Honed Edge)
High Shear

APET Inserts

Insert	L	W	R	Grade	Coating				
					Uncoated	GLH	TCI	HM	
APET160408	.625”	.375”	.031”	DMP35	25800	25860	25890	25885	
				DMP30	25700	25760	25790	25785	
				DMK25	25600	25660	25690	25685	
APET160412	.625”	.375”	.047”	DMP35	26100	26160	26190	26185	
				DMP30	26000	26060	26090	26085	
				DMK25	25900	25960	25990	25985	
APET160416	.625”	.375”	.062”	DMP35	26400	26460	26490	26485	
				DMP30	26300	26360	26390	26385	
				DMK25	26200	26260	26290	26285	
APET160431	.625”	.375”	.120”	DMP35	26700	26760	26790	26785	
				DMP30	26600	26660	26690	26685	
				DMK25	26500	26560	26590	26585	

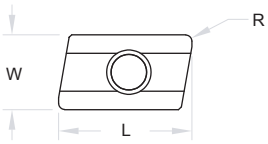
See page IM-155 for insert grade and coating selection.

XPET Inserts

Insert	L	W	R	Grade	Coating				
					Uncoated	GLH	TCI	HM	IN
XPET160404	.625”	.375”	.015”	DMP35	28000	28060	28090	28085	
				DMP30	27900	27960	27990	27985	
				DMK25	27800	27860		27885	
XPET160408	.625”	.375”	.031”	DMP35	28400	28460	28490	28485	
				DMK35	28183			28184	28185
				DMK30	28200	28260	28290	28285	
				DMP30	28300	28360	28390	28385	
				DMK25	28100	28160	28181	28165	
XPET160412	.625”	.375”	.047”	DMP35	28800	28860	28890	28885	
				DMK30	28600	28660	28690	28685	
				DMP30	28700	28760		28785	
				DMK25	28500	28560	28590	28585	

See page IM-155 for insert grade and coating selection.

16mm Series Inserts





APET
Cutting Edge
(T-Land Edge)
High Strength



XPET
Cutting Edge
(Honed Edge)
High Shear

XPET Inserts (Continued)

Insert	L	W	R	Grade	Coating				
					Uncoated	GLH	TCI	HM	IN
XPET160416	.625”	.375”	.062”	DMP35	29200	29260	29290	29285	
				DMK35	29083			29084	29085
				DMK30	29000	29060		29065	
				DMP30	29100	29160	29190	29185	
				DMK25	28900	28960	28990	28985	
XPET160424	.625”	.375”	.094”	DMP35	29400	29460	29490	29485	
XPET160431	.625”	.375”	.120”	DMP35	29800	29860	29890	29885	
				DMK30	29600	29660		29685	
				DMP30	29700	29760		29785	
				DMK25	29500	29560	29590	29585	

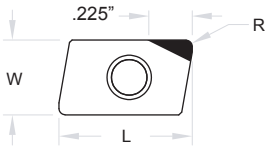
See page IM-155 for insert grade and coating selection.

XPET-ALU Inserts

Ground and lapped rake face for machining aluminium and copper alloys, bronze, brass, etc.

Insert	L	W	R	Grade	Coating				
					Uncoated	GLH			
XPET160404-ALU	.625”	.375”	.015”	DMK25	29912	29914			
XPET160408-ALU	.625”	.375”	.031”		29916	29921			
XPET160412-ALU	.625”	.375”	.047”		29924	29928			
XPET160416-ALU	.625”	.375”	.062”		29932	29936			
XPET160431-ALU	.625”	.375”	.120”		29940	29948			

See page IM-155 for insert grade and coating selection.



PCD-Tipped XPET Inserts

The ultimate in wear resistance for aluminium or graphite milling.

Insert	L	W	R	Grade	Coating				
					Uncoated				
XPET160408-PCD-225	.625”	.375”	.031”	DMK25	29900				

See page IM-155 for insert grade and coating selection.

16mm Series Recommended Parameters

Style	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
APET	DMP35	TCI	Speed	**500-800**	**400-700**	250-550		
			Feed	**.005-.012**	**.005-.012**	.005-.010		
		GLH	Speed	**700-1000**	**500-800**	250-550		
			Feed	**.005-.012**	**.005-.012**	.005-.010		
		HM	Speed	700-1000	500-800	250-550		
			Feed	.005-.012	.005-.012	.005-.010		
	DMP30	HP	Speed	500-900	400-800	350-550	300-450	
			Feed	.005-.012	.005-.012	.005-.010	.004-.008	
		TCI	Speed	**500-900**	**400-800**	350-550	300-450	
			Feed	**.005-.012**	**.005-.012**	.005-.010	.004-.008	
		GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
			Feed	**.005-.012**	**.005-.012**	**.005-.010**	**.004-.008**	
		HM	Speed	700-1200	500-900	**350-650**	**300-500**	
			Feed	.005-.012	.005-.012	**.005-.010**	**.004-.008**	
	DMK25	TCI	Speed	500-900	400-800	350-550	300-450	
			Feed	.004-.010	.004-.009	.004-.008	.003-.007	
		GLH	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
			Feed	.004-.010	.004-.009	.004-.008	**.003-.007**	**.003-.006**
		HM	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
			Feed	.004-.010	.004-.009	.004-.008	**.003-.007**	**.003-.006**

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

Continued on next page

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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum Alloys / Non-Ferrous
			500-800	400-700					
			.005-.012	.005-.012					
			600-1000	500-900					
			.005-.012	.005-.012					
			600-1000	500-900					
			.005-.012	.005-.012					
			600-900	500-800					
			.005-.012	.005-.012					
			600-900	**500-800**					
			.005-.012	**.005-.012**					
			600-1000	**500-900**					
			.005-.012	**.005-.012**					
			600-1000	**500-900**					
			.005-.012	**.005-.012**					
			600-1000	**600-900**					
			.005-.012	**.005-.012**					
			700-1200	**600-900**					
			.005-.012	**.005-.012**					
			700-1200	**600-900**					
			.005-.012	**.005-.012**					

16mm Series Recommended Parameters

Style	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
XPET	DMK35	HM	Speed					
			Feed					
		IN	Speed					
			Feed					
		TS	Speed					
			Feed					
	DMP35	TCI	Speed	**500-800**	400-700	250-450		
			Feed	**.003-.010**	.003-.009	.003-.007		
		GLH	Speed	**700-1000**	500-900	250-550		
			Feed	**.003-.010**	.003-.009	.003-.007		
		HM	Speed	700-1000	500-900	250-550		
			Feed	.003-.010	.003-.009	.003-.007		
		IN	Speed					
			Feed					
	DMK30	TCI	Speed	500-900	400-800	350-550		
			Feed	.003-.008	.003-.007	.003-.007		
		GLH	Speed	700-1000	500-900	**250-650**		
			Feed	.003-.008	.003-.007	**.003-.007**		
		HM	Speed	700-1000	500-900	**250-650**		
			Feed	.003-.008	.003-.007	**.003-.007**		
	DMP30	HP	Speed	500-900	400-800	350-550	300-450	
			Feed	.003-.009	.003-.008	.003-.007	.003-.006	
		TCI	Speed	**500-900**	**400-800**	350-550	300-450	
			Feed	**.003-.009**	**.003-.008**	.003-.007	.003-.006	
		GLH	Speed	**700-1200**	**500-900**	350-650	300-500	
			Feed	**.003-.009**	**.003-.008**	.003-.007	.003-.006	
		HM	Speed	700-1200	500-900	350-650	300-500	
			Feed	.003-.009	.003-.008	.003-.007	.003-.006	
	DMK25	TCI	Speed					
			Feed					
		GLH	Speed					
			Feed					
		HM	Speed					
			Feed					
		DL	Speed					
			Feed					
XPET-ALU	DMK25	GLH	Speed					
			Feed					
		DL	Speed					
			Feed					
		Uncoated	Speed					
			Feed					
	PCD225	Diamond-Tipped	Speed					
			Feed					

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum Alloys / Non-Ferrous
250-500		**250-500**			**55-90**	**35-65**	**120-180**		
.003-.008		**.003-.007**			**.002-.006**	**.002-.005**	**.003-.007**		
300-600		**250-500**			**55-90**	**35-65**	**120-180**		
.003-.008		**.003-.007**			**.002-.006**	**.002-.005**	**.003-.007**		
300-600		**250-500**			**55-90**	**35-65**	**120-180**		
.003-.008		**.003-.007**			**.002-.006**	**.002-.005**	**.003-.007**		
300-500	**400-800**	250-450	500-800	400-700				400-900	
.003-.008	**.003-.010**	.003-.007	.003-.010	.003-.009				.003-.009	
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	400-900	
.003-.008	**.003-.010**	**.003-.007**	.003-.010	.003-.009	**.002-.006**	**.002-.005**	**.003-.007**	.003-.009	
300-600	500-900	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**		
.003-.008	.003-.010	**.003-.007**	.003-.010	.003-.009	**.002-.006**	**.002-.005**	**.003-.007**		
		250-500			55-90	35-65	120-180		
		.003-.007			.002-.006	.002-.005	.003-.007		
300-500	400-800	250-450	**500-900**	**500-800**				**400-900**	
.003-.007	.003-.008	.003-.006	**.003-.009**	**.003-.008**				**.003-.009**	
300-600	500-900	250-500	**600-1000**	**500-900**				**400-900**	
.003-.007	.003-.008	.003-.006	**.003-.009**	**.003-.008**				**.003-.009**	
300-600	500-900	250-500	**600-1000**	**500-900**					
.003-.007	.003-.008	.003-.006	**.003-.009**	**.003-.008**					
			500-900	500-800					
			.003-.009	.003-.008					
			600-900	500-800					
			.003-.009	.003-.008					
			600-1000	500-900					
			.003-.009	.003-.008					
			600-1000	500-900					
			.003-.009	.003-.008					
			500-900	500-800				**400-900**	
			.003-.009	.003-.008				**.003-.009**	
			600-1000	500-900				**400-900**	**1000+ (cast)**
			.003-.009	.003-.008				**.003-.009**	**.007-.015**
			600-1000	500-900					
			.003-.009	.003-.008					
									1000+ (cast)
									.007-.015
									1500+
									.010-.025
									1500+
									.010-.025
									1500+
									.010-.025
									1500+
									.003-.015





Square Shoulder

Double-Sided Insert Platform

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for technical reference &
application information

DOUBLE-SIDED SQUARE SHOULDER INSERT PLATFORM

12mm Series IM-63

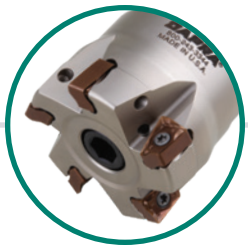
Premium 90-degree milling platform maximizing value and performance.

- Four usable cutting edges per insert.
- Two insert cutting geometries allowing for machining a variety of materials.
- Insert cutting edge convexity and wiper create smooth surface finishes.

CUTTER BODIES



END MILLS
Steel / Carbide Core
Extended-Reach

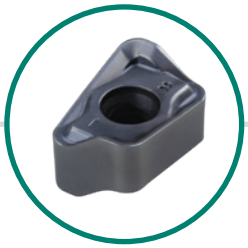


SHELL MILLS
Steel

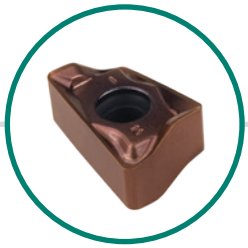


MODULAR HEADS
Steel

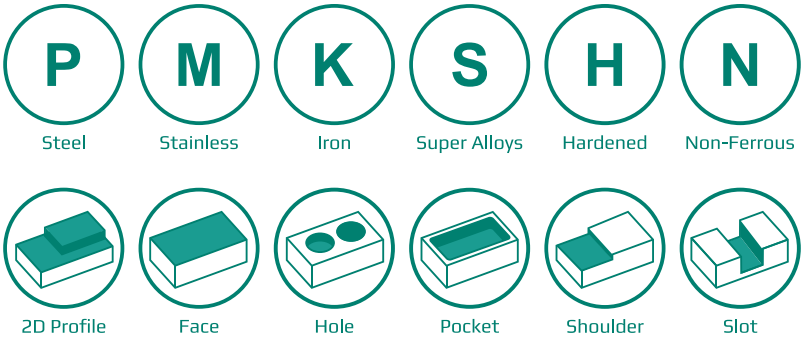
INSERTS



DSS-T



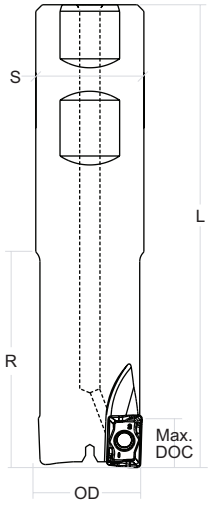
DSS-D



12mm Series Cutter Bodies

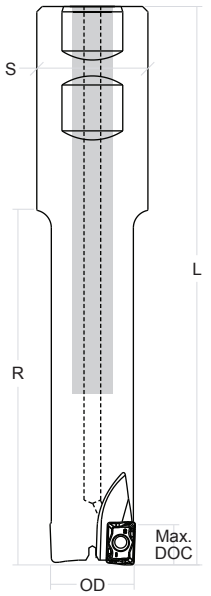
End Mills

EDP	OD	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length
33300	1.000”	DSSEM-1000-1000-D45-2C	.420”	2	1.000”	4.28”	2.00”
33305	1.000”	DSSEM-1000-1000-D45-2LC	.420”	2	1.000”	5.28”	3.00”
33310	1.000”	DSSEM-1000-1000-D45-3C	.420”	3	1.000”	4.28”	2.00”
33315	1.000”	DSSEM-1000-1000-D45-3LC	.420”	3	1.000”	5.28”	3.00”
33325	1.250”	DSSEM-1250-1250-D45-4C	.420”	4	1.250”	4.78”	2.50”
33330	1.250”	DSSEM-1250-1250-D45-4LC	.420”	4	1.250”	6.03”	3.75”
33335	1.500”	DSSEM-1500-1250-D45-4C	.420”	4	1.250”	4.78”	2.50”



Extended-Reach End Mills with Carbide Core

EDP	OD	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length
33385	1.000”	CC-DSSER1000-4000-D45-3C	.420”	3	1.250”	6.28”	4.00”
33390	1.000”	CC-DSSER1000-6000-D45-2C	.420”	2	1.250”	8.28”	6.00”
33395	1.250”	CC-DSSER1250-6000-D45-3C	.420”	3	1.500”	8.70”	6.00”

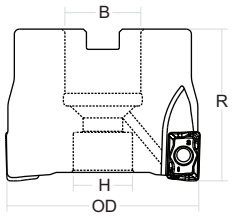


12mm Series Cutter Bodies

Shell Mills

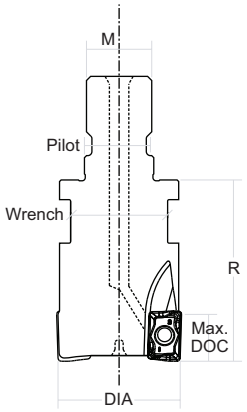
EDP	OD	Description	DOC Max.	Flutes	B Arbor Dia.	R Overall Length	H Counter Bore Dia.
33400	1.500”	DSSSM-1500-0750-D45-5C	.420”	5	.750”	1.50”	0.59”
33405	2.000”	DSSSM-2000-0750-D45-5C	.420”	5	.750”	1.50”	0.59”
33410	2.500”	DSSSM-2500-1000-D45-6C	.420”	6	1.000”	1.75”	0.82”
33415	3.000”	DSSSM-3000-1000-D45-6C	.420”	6	1.000”	2.00”	0.82”
33420	4.000”	DSSSM-4000-1500-D45-8C	.420”	8	1.500”	2.25”	1.19”
33425	5.000”	DSSSM-5000-1500-D45-9	.420”	9	1.500”	2.00”	2.12”
33430	6.000”	DSSSM-6000-2000-D45-10	.420”	10	2.000”	2.00”	2.75”

EDP # 33425 and 33430 do not include coolant thru.

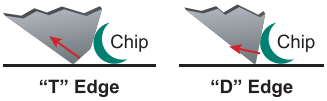


Modular Heads

EDP	Dia.	Description	M Thread	DOC Max.	Flutes	Pilot	R Effective Length	Wrench
33485	1.000”	DSSEM-1000-MOD-D45-2C	M12	.420”	2	.492”	1.50”	$1^{1}/_{16}$”
33490	1.000”	DSSEM-1000-MOD-D45-3C	M12	.420”	3	.492”	1.50”	$1^{1}/_{16}$”
33495	1.250”	DSSEM-1250-MOD-D45-4C	M16	.420”	4	.669”	1.75”	$1^{5}/_{16}$”



12mm Series Inserts



"T" Edge "D" Edge



"T" Edge: Strong, negative edge directs cutting forces tangentially providing strength and durability.

"D" Edge: Honed edge provides high-shear cutting action that minimizes tool pressure, temperature build-up, and burr creation.

DSS Inserts

Insert	Edge	L	W	R	Grade	Coating			
						Uncoated	HM	TS	IN
DSS-1208	T	.480	.315	.031	DMK30	33700	33765	33785	
					DMP25	33800	33865	33885	
					DMK15	33900	33965	33985	
	D	.480	.315	.031	DMK30	33590	33592	33593	33591
					DMK35	33500	33565		33545
DSS-1216	T	.480	.315	.062	DMK30	34000	34065	34085	
					DMP25	34100	34165	34185	
					DMK15	34200	34265	34285	
	D	.480	.315	.062	DMK30	33595	33597	33598	33596
					DMK35	33600	33665		33645

See page IM-155 for insert grade and coating selection.

12mm Series Accessories

EDP	Part Number	Description
22606	SSTX-10-SL	1 12mm Insert Screw (Torque range: 13-16 in-lbs. / 1.5-1.8 Nm)
QM07041	TC-3/8-SHCS	2 Shell Mill Socket Head Cap Screw with Coolant for 1.5” and 2” shell mills (3/8-24 x 1” long)
QM07051	TC-1/2-SHCS	3 Shell Mill Socket Head Cap Screw with Coolant for 2.5” and 3” shell mills (1/2-20 x 1-1/4” long)
QM07061	TC-3/4-SHCS	4 Shell Mill Socket Head Cap Screw with Coolant for 4” shell mills (3/4-16 x 1-1/2” long)
41070	T10-F	5 T10 Flag-Style Wrench
41110	ASG-120	Anti-Seize Grease



12mm Series Recommended Parameters

Style	Edge	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)
DSS-1208 DSS-1216	D	DMK35	HM	Speed				
				Feed				
			IN	Speed				
				Feed				
			TS	Speed				
				Feed				
		DMK30	HM	Speed	**700-1000**	500-900	300-550	
				Feed	**.003-.008**	.003-.007	.003-.007	
			IN	Speed	700-1000	500-900	300-550	
				Feed	.003-.008	.003-.007	.003-.007	
			TS	Speed	**700-1000**	500-900	300-550	
				Feed	**.003-.008**	.003-.007	.003-.007	
	T	DMK30	HM	Speed	700-1000	500-800	250-550	
				Feed	.004-.010	.004-.009	.004-.008	
			TS	Speed	700-1000	500-800	250-550	
				Feed	.004-.010	.004-.009	.004-.008	
		DMP25	HM	Speed	**700-1200**	**500-900**	**350-650**	**300-500**
				Feed	**.004-.009**	**.004-.008**	**.004-.007**	**.003-.007**
			TS	Speed	**700-1200**	**500-900**	**350-650**	**300-500**
				Feed	**.004-.009**	**.004-.008**	**.004-.007**	**.003-.007**
		DMK15	HM	Speed	700-1200	500-900	350-650	**300-500**
				Feed	.004-.008	.004-.007	.003-.006	**.003-.006**
			TS	Speed	700-1200	500-900	350-650	**300-500**
				Feed	.004-.008	.004-.007	.003-.006	**.003-.006**

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

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Hardened Steel (> 48 Rc)	Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys
	250-500		**250-500**			**55-90**	**35-65**	**120-180**	
	.003-.007		**.002-.006**			**.002-.005**	**.002-.004**	**.003-.006**	
	250-500		**250-500**			**55-90**	**35-65**	**120-180**	
	.003-.007		**.002-.006**			**.002-.005**	**.002-.004**	**.003-.006**	
	250-500		**250-500**			**55-90**	**35-65**	**120-180**	
	.003-.007		**.002-.006**			**.002-.005**	**.002-.004**	**.003-.006**	
	300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	**400-800**
	.003-.007	**.003-.008**	**.002-.006**	.003-.009	.003-.008	**.002-.005**	**.002-.004**	**.003-.006**	**.003-.008**
	300-600	**500-900**	**250-500**			**55-90**	**35-65**	**120-180**	**400-800**
	.003-.007	**.003-.008**	**.002-.006**			**.002-.005**	**.002-.004**	**.003-.006**	**.003-.008**
	300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	**400-800**
	.003-.007	**.003-.008**	**.002-.006**	.003-.009	.003-.008	**.002-.005**	**.002-.004**	**.003-.006**	**.003-.008**
				600-1000	500-900				
				.004-.010	.004-.008				
				600-1000	500-900				
				.004-.010	.004-.008				
				600-1000	**500-900**				
				.004-.010	**.004-.008**				
				600-1000	**500-900**				
				.004-.010	**.004-.008**				
250-450				**700-1200**	**600-900**				
.002-.005				**.004-.010**	**.004-.008**				
250-450				**700-1200**	**600-900**				
.002-.005				**.004-.010**	**.004-.008**				


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Button / Face

Single-Sided Insert Platform	IM-71
3/8" Series	IM-73
1/2" Series	IM-77
5/8" Series	IM-87
3/4" Series	IM-95
10mm Series	IM-103
12mm Series	IM-107
Double-Sided Insert Platform	IM-111
12mm Series	IM-113





Button / Face

Single-Sided Insert Platform

Visit **generalcuttingtools.com**
for technical reference &
application information

SINGLE-SIDED BUTTON / FACE INSERT PLATFORM

3/8″ Series	IM-73	3/4″ Series	IM-95
1/2″ Series	IM-77	10mm Series	IM-103
5/8″ Series	IM-87	12mm Series	IM-107

Single-sided button / face inserts and cutter bodies combine to offer excellent roughing and 3D contouring capabilities.

- Variety of insert cutting edge options
- Wiper offered on octagonal insert style for superior finishes
- Cutter bodies manufactured from hardened, high-shock tool steel for durability and tool life

CUTTER BODIES



END MILLS
Steel / Carbide Core

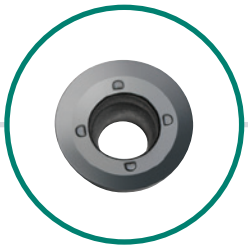


SHELL MILLS
Steel

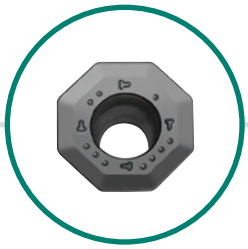


MODULAR HEADS
Steel

INSERTS

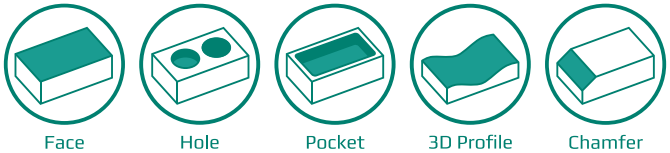


BUTTON



OCTAGONAL



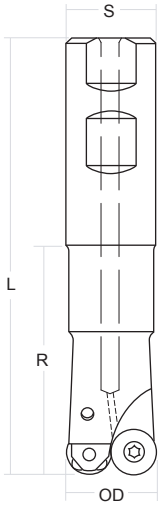


3/8" Series Cutter Bodies

End Mills

EDP	OD	Description	R Effective Length	L Overall Length	S Shank Dia.	Flutes	Insert
80000	.750"	TREM075-200-R3-2C	2.000"	4.030"	.750"	2	Button
80020	.750"	TREM075-300-R3-2C	3.000"	5.030"	.750"	2	Button
80040	1.000"	TREM100-250-R3-2C	2.500"	4.750"	1.000"	2	Button
80060	1.000"	TREM100-250-R3-3C	2.500"	4.750"	1.000"	3	Button

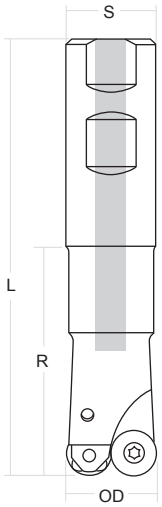
Optional cylindrical shank tools, without Weldon Flats. // Contact General Cutting Tools for availability.



Carbide Core End Mills

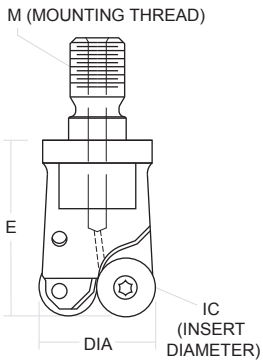
EDP	OD	Description	R Effective Length	L Overall Length	S Shank Dia.	Flutes	Insert
80420	1.000"	CC-TREM100-450-R3-2	4.500"	6.750"	1.000"	2	Button
80440	1.000"	CC-TREM100-450-R3-3	4.500"	6.750"	1.000"	3	Button

EDP # 80420 and 80440 do not include coolant thru.
Optional cylindrical shank tools, without Weldon Flats. // Contact General Cutting Tools for availability.

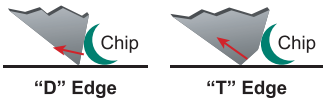


Modular Heads

EDP	Dia.	Description	M Thread	E Effective Length	Flutes	Wrench	Insert
82505	.750"	TREM075-MOD-R3-2C	M10	1.50"	2	9/16"	Button

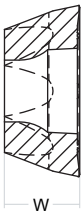


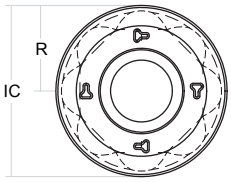
3/8" Series Inserts



"D" Edge "T" Edge







"D" Edge: Honed edge provides high-shear cutting action that minimizes tool pressure, temperature build-up, and burr creation.

"T" Edge: Strong, negative edge directs cutting forces tangentially providing strength and durability.

Button Inserts

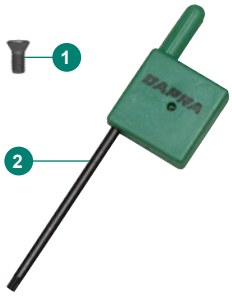
Insert	Edge	IC	W	R	Grade	Coating				
						Uncoated	GLH	TCI		
RPMH-33	D	.375"	.157"	.187"	DMK30	85200	85260	85290		
	T	.375"	.157"	.187"	DMK30	85500	85560			
					DMP25	85600	85660	85690		
					DMK15	85400	85460			
RDCH-32*	D	.375"	.125"	.187"	DMK15	96000				
	T	.375"	.125"	.187"	DMK15	96200		96260		

* Ground insert.

See page IM-155 for insert grade and coating selection.

3/8" Series Accessories

EDP	Part Number	Description
83040	TRS-3	1 Insert Screw (Torque range: 12-15 in.-lbs.)
83000	T8-F	2 T8 Flag-Style Wrench
41110	ASG-120	Anti-Seize Grease



3/8" Series Recommended Cutting Parameters

Style	Edge	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
RPMH-33	D	DMK30	TCI	Speed	**500-800**	**400-700**	250-450		
				Feed	**.003-.015**	**.003-.015**	.003-.012		
			GLH	Speed	**700-1000**	**500-800**	**250-600**		
				Feed	**.003-.015**	**.003-.015**	**.003-.012**		
	T	DMK30	GLH	Speed	**700-1000**	**500-800**	**250-600**		
				Feed	**.003-.020**	**.003-.015**	**.003-.012**		
		DMP25	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
				Feed	**.004-.020**	**.004-.015**	.004-.012	.003-.012	
			GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
				Feed	**.004-.020**	**.004-.015**	**.004-.012**	**.003-.012**	
		DMK15	GLH	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
				Feed	.004-.020	.004-.015	.004-.012	**.003-.012**	**.003-.010**
RDCH-32	D	DMK15	Uncoated	Speed					
				Feed					
	T	DMK15	TCI	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
				Feed	.004-.020	.004-.015	.004-.012	**.003-.012**	**.003-.010**

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

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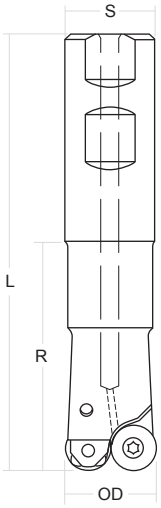
Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum / Non-Ferrous
300-500	**400-800**	250-450	500-800	400-700				400-900	
.004-.012	**.004-.015**	.003-.012	.004-.020	.003-.015				.004-.015	
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	400-900	1200+ (cast)
.004-.012	**.004-.015**	**.003-.012**	.004-.020	.003-.015	**.002-.006**	**.002-.005**	**.003-.007**	.004-.015	.007-.020
			600-1000	500-900					
			.004-.020	.003-.015					
			500-800	**400-700**					
			.004-.020	**.003-.015**					
			600-1000	**500-900**					
			.004-.020	**.003-.015**					
			600-1000	**500-900**					
			.004-.020	**.003-.015**					
									1500+
									.007-.020
			600-1000	**500-900**					
			.004-.020	**.003-.015**					

1/2" Series Cutter Bodies

End Mills

EDP	OD	Description	R Effective Length	L Overall Length	S Shank Dia.	Flutes	Insert	
80080	1.000"	TREM100-125-R4-2C	1.250"	3.530"	1.000"	2	Button	Octagonal
80090	1.000"	TREM100-250-R4-2C	2.500"	4.750"	1.000"	2	Button	Octagonal
80110	1.000"	TREM100-450-R4-2C	4.500"	6.750"	1.000"	2	Button	Octagonal
80130	1.250"	TREM125-300-R4-3	3.000"	5.280"	1.250"	3	Button	Octagonal
80160	1.500"	TREM150-350-R4-3	3.500"	5.780"	1.250"	3	Button	Octagonal

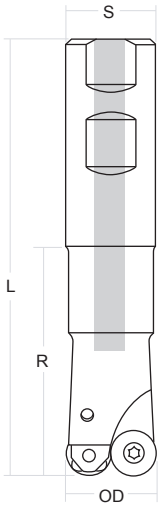
EDP # 80130 and 80160 do not include coolant thru.
Optional cylindrical shank tools, without Weldon Flats. // Contact General Cutting Tools for availability.



Carbide Core End Mills

EDP	OD	Description	R Effective Length	L Overall Length	S Shank Dia.	Flutes	Insert	
80460*	1.000"	CC-TREM100-450-R4-2	4.500"	6.750"	1.000"	2	Button	Octagonal
80480*	1.250"	CC-TREM125-500-R4-3	5.000"	7.280"	1.250"	3	Button	Octagonal

* Non-stock standard – made to order. // Does not include coolant thru.

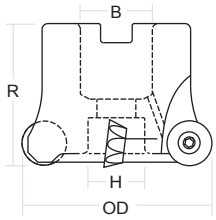


1/2" Series Cutters

Shell Mills

EDP	OD	Description	R Effective Length	B Arbor Dia.	H Counter Bore Dia.	Flutes	Insert	
80710	2.000"	TRSM200-075-R4-4C	1.500"	.750"	.590"	4	Button	Octagonal
80730	2.000"	TRSM200-075-R4-5C	1.500"	.750"	.590"	5	Button	Octagonal
80760	2.500"	TRSM250-100-R4-6C	2.000"	1.000"	.790"	6	Button	Octagonal
80800	3.000"	TRSM300-100-R4-6C	2.000"	1.000"	.790"	6	Button	Octagonal
80870	4.000"	TRSM400-150-R4-7	2.000"	1.500"	2.050"	7	Button	Octagonal
80930	5.000"	TRSM500-150-R4-9	2.000"	1.500"	2.060"	9	Button	Octagonal

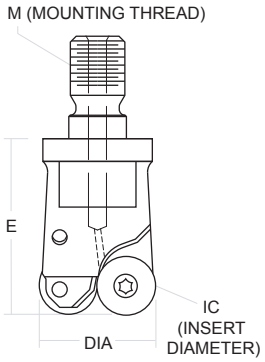
EDP # 80870 and 80930 do not include coolant thru.



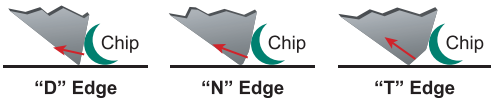
Modular Heads

EDP	Dia.	Description	M Thread	E Effective Length	Flutes	Wrench	Insert	
82515	1.000"	TREM100-MOD-R4-2C	M12	1.50"	2	11/16"	Button	Octagonal
82525	1.250"	TREM125-MOD-R4-3C	M16	1.75"	3	15/16"	Button	Octagonal
SY00075	1.500"	TREM150-MOD-R4-3	M16	1.75"	3	15/16"	Button	Octagonal

EDP # SY00075 does not include coolant thru.

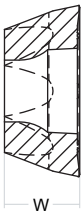


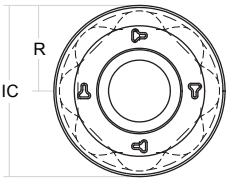
1/2" Series Inserts



"D" Edge "N" Edge "T" Edge







"D" Edge: Honed edge provides high-shear cutting action that minimizes tool pressure, temperature build-up, and burr creation.

"N" Edge: Enhanced-Flat, T-land insert face combines strength and shear.

"T" Edge: Strong, negative edge directs cutting forces tangentially providing strength and durability.

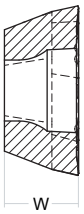
Button Inserts

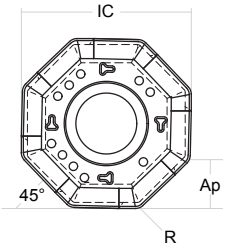
Insert	Edge	IC	W	R	Grade	Coating				
						Uncoated	GLH	TCI	HM	
RPMH-44	D	.500"	.220"	.250"	DMK30	86300	86360	86390		
					DMK25	86200	86260	86290		
					DMP25	86400	86460	86490	86485	
	N	.500"	.220"	.250"	DMK30	87000	87060	87090	87085	
					DMK25	86900	86960			
					DMP25	87100	87160	87190	87185	
					DMK15	86800	86860		86885	
	T	.500"	.220"	.250"	DMK30	86600	86660	86690	86685	
					DMP25	86700	86760	86790	86785	
					DMK15	86500	86560	86590	86585	
RDCH-43*	D	.500"	.187"	.250"	DMK30	96500	96560	96590		
	T	.500"	.187"	.250"	DMP25	96700	96760	96790		

* Ground insert.

See page IM-155 for insert grade and coating selection.







Octagonal Inserts

Insert	Edge	IC	W	R	Ap	Grade	Coating				
							Uncoated	GLH	TCI	HM	
OPMH-442	D	.500"	.220"	.031"	.135"	DMK30	90200	90260	90290		
						DMK25	90100	90160			
						DMP25	90300	90360			
	N	.500"	.220"	.031"	.135"	DMK25	90800	90860			
						DMP25	91000	91060	91090	91085	
	T	.500"	.220"	.031"	.135"	DMP25	90600	90660	90690		
						DMK15	90400	90460		90485	

See page IM-155 for insert grade and coating selection.

1/2" Series Accessories

EDP	Part Number	Description
83050	TRS-4	1 Insert Screw (Torque range: 30-35 in-lbs.)
QM07041	TC-3/8-SHCS	2 Shell Mill Socket Head Cap Screw with Coolant for 1.5" and 2" shell mills (3/8-24 x 1" long)
QM07051	TC-1/2-SHCS	3 Shell Mill Socket Head Cap Screw with Coolant for 2.5" and 3" shell mills (1/2-20 x 1-1/4" long)
QM07061	TC-3/4-SHCS	4 Shell Mill Socket Head Cap Screw with Coolant for 4" shell mills (3/4-16 x 1-1/2" long)
83010	T15-T	5 T15 TORX T-Handle Wrench
41110	ASG-120	Anti-Seize Grease



1/2" Series Recommended Cutting Parameters

Style	Edge	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
OPMH-442	D	DMK30	TCI	Speed	**500-800**	**400-700**	250-450		
				Feed	**.003-.014**	**.003-.013**	.003-.010		
			GLH	Speed	**700-1000**	**500-900**	**250-550**		
				Feed	**.003-.014**	**.003-.013**	**.003-.010**		
			HM	Speed	700-1000	500-900	**250-550**		
				Feed	.003-.014	.003-.013	**.003-.010**		
		DMK25	GLH	Speed	700-1000	500-900	250-650		
				Feed	.003-.012	.003-.010	.003-.010		
			HM	Speed	700-1000	500-900	250-650		
				Feed	.003-.012	.003-.010	.003-.010		
		DMP25	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
				Feed	**.003-.013**	**.003-.012**	.003-.010	.003-.009	
			GLH	Speed	**700-1200**	**500-900**	**350-650**	300-500	
				Feed	**.003-.013**	**.003-.012**	**.003-.010**	.003-.009	
	N	DMK25	GLH	Speed	700-1000	500-900	250-650		
				Feed	.003-.012	.003-.010	.003-.010		
		DMP25	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
				Feed	**.005-.015**	**.005-.015**	.005-.013	.004-.012	
			GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
				Feed	**.005-.015**	**.005-.015**	**.005-.013**	**.004-.012**	
			HM	Speed	700-1200	500-900	**350-650**	**300-500**	
				Feed	.005-.015	.005-.015	**.005-.013**	**.004-.012**	
	T	DMP25	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
				Feed	**.005-.015**	**.005-.015**	.005-.013	.004-.012	
			GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
				Feed	**.005-.015**	**.005-.015**	**.005-.013**	**.004-.012**	
		DMK15	GLH	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
				Feed	.004-.014	.004-.013	.004-.012	**.003-.010**	**.003-.008**
			HM	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
				Feed	.004-.014	.004-.013	.004-.012	**.003-.010**	**.003-.008**

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

Continued on next page

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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum / Non-Ferrous
300-500	**400-800**	250-450	500-800	400-700				400-900	
.003-.012	**.003-.014**	.003-.010	.003-.014	.003-.013				.003-.010	
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	400-900	
.003-.012	**.003-.014**	**.003-.010**	.003-.014	.003-.013	**.002-.007**	**.002-.006**	**.003-.008**	.003-.010	
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**		
.003-.012	**.003-.014**	**.003-.010**	.003-.014	.003-.013	**.002-.007**	**.002-.006**	**.003-.008**		
300-600	500-900	250-500	**600-1000**	**500-900**	55-90	35-65	120-180	**400-900**	
.003-.010	.003-.012	.003-.009	**.003-.013**	**.003-.012**	.002-.007	.002-.006	.003-.008	**.003-.013**	
300-600	500-900	250-500	**600-1000**	**500-900**	55-90	35-65	120-180		
.003-.010	.003-.012	.003-.009	**.003-.013**	**.003-.012**	.002-.007	.002-.006	.003-.008		
			600-900	**500-800**					
			.003-.013	**.003-.012**					
			600-1000	**500-900**					
			.003-.013	**.003-.012**					
	500-900	250-500	600-1000	**500-900**					
	.003-.012	.003-.009	.003-.013	**.003-.012**					
			600-900	**500-800**					
			.005-.015	**.005-.015**					
			600-1000	**500-900**					
			.005-.015	**.005-.015**					
			600-1000	**500-900**					
			.005-.015	**.005-.015**					
			600-900	**500-800**					
			.005-.015	**.005-.015**					
			600-1000	**500-900**					
			.005-.015	**.005-.015**					
			700-1200	**600-900**					
			.005-.015	**.005-.015**					
			700-1200	**600-900**					
			.005-.015	**.005-.015**					

1/2" Series Recommended Cutting Parameters

Style	Edge	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
RPMH-44	D	DMK30	TCI	Speed	**500-800**	**400-700**	250-450		
				Feed	**.007-.020**	**.005-.015**	.005-.012		
			GLH	Speed	**700-1000**	**500-800**	**250-600**		
				Feed	**.007-.020**	**.005-.015**	**.005-.012**		
		DMK25	TCI	Speed	500-900	400-800	350-550		
				Feed	.007-.020	.005-.015	.005-.012		
			GLH	Speed	700-1200	500-900	350-650		
				Feed	.007-.020	.005-.015	.005-.012		
		DMP25	TCI	Speed	**500-900**	**400-800**	350-550		
				Feed	**.007-.020**	**.005-.015**	.005-.012		
			GLH	Speed	**700-1200**	**500-900**	**350-650**		
				Feed	**.007-.020**	**.005-.015**	**.005-.012**		
			HM	Speed	700-1200	500-900	**350-650**		
				Feed	.007-.020	.005-.015	**.005-.012**		
	N	DMK30	TCI	Speed	**500-800**	**400-700**	250-600		
				Feed	**.007-.020**	**.007-.020**	.005-.015		
			GLH	Speed	**700-1000**	**500-800**	**250-600**		
				Feed	**.007-.020**	**.007-.020**	**.005-.015**		
			HM	Speed	700-1000	500-800	**250-600**		
				Feed	.007-.020	.007-.020	**.005-.015**		
		DMK25	GLH	Speed	700-1200	500-900	350-650	300-500	
				Feed	.007-.020	.007-.020	.005-.015	.004-.012	
		DMP25	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
				Feed	**.007-.020**	**.007-.020**	.005-.015	.004-.012	
			GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
				Feed	**.007-.020**	**.007-.020**	**.005-.015**	**.004-.012**	
			HM	Speed	700-1200	500-900	**350-650**	**300-500**	
				Feed	.007-.020	.007-.020	**.005-.015**	**.004-.012**	
		DMK15	GLH	Speed	700-1200	500-900	350-650	300-500	
				Feed	.007-.020	.007-.020	.005-.015	.004-.012	
	T	DMK30	TCI	Speed	**500-800**	**400-700**	250-600		
				Feed	**.007-.020**	**.007-.020**	.005-.015		
			GLH	Speed	**700-1000**	**500-800**	**250-600**		
				Feed	**.007-.020**	**.007-.020**	**.005-.015**		
			HM	Speed	700-1000	500-800	**250-600**		
				Feed	.007-.020	.007-.020	**.005-.015**		
		DMP25	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
				Feed	**.007-.020**	**.007-.020**	.005-.015	.004-.012	
			GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
				Feed	**.007-.020**	**.007-.020**	**.005-.015**	**.004-.012**	
			HM	Speed	700-1200	500-900	**350-650**	**300-500**	
				Feed	.007-.020	.007-.020	**.005-.015**	**.004-.012**	
		DMK15	TCI	Speed	500-900	400-800	350-550	300-450	
				Feed	.007-.020	.007-.020	.005-.015	.004-.012	
			GLH	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
				Feed	.007-.020	.007-.020	.005-.015	**.004-.012**	**.003-.012**
			HM	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
				Feed	.007-.020	.007-.020	.005-.015	**.004-.012**	**.003-.012**

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› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

Continued on next page

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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum / Non-Ferrous
300-500	**400-800**	250-450	500-800	400-700				400-900	
.005-.015	**.005-.020**	.003-.012	.004-.020	.003-.015				.004-.015	
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	400-900	
.005-.015	**.005-.020**	**.003-.012**	.004-.020	.003-.015	**.002-.006**	**.002-.005**	**.003-.007**	.004-.015	
			600-900	**500-800**				**400-900**	
			.004-.020	**.003-.015**				**.004-.015**	
			600-1000	**500-900**			120-180	**400-900**	
			.004-.020	**.003-.015**			.003-.007	**.004-.015**	
			600-900	**500-800**					
			.004-.020	**.003-.015**					
			600-1000	**500-900**					
			.004-.020	**.003-.015**					
			600-1000	**500-900**					
			.004-.020	**.003-.015**					
	400-800	250-450	500-800	400-700					
	.005-.020	.003-.012	.007-.020	.006-.020					
	500-900	**250-500**	600-1000	500-900					
	.005-.020	**.003-.012**	.007-.020	.006-.020					
	500-900	**250-500**	600-1000	500-900					
	.005-.020	**.003-.012**	.007-.020	.006-.020					
			600-1000	**500-900**					
			.007-.020	**.006-.020**					
			600-900	**500-800**					
			.007-.020	**.006-.020**					
			600-1000	**500-900**					
			.007-.020	**.006-.020**					
			600-1000	**500-900**					
			.007-.020	**.006-.020**					
			700-1200	**600-900**					
			.007-.020	**.006-.015**					
			500-800	400-700					
			.007-.020	.006-.020					
			600-1000	500-900					
			.007-.020	.006-.020					
			600-1000	500-900					
			.007-.020	.006-.020					
			600-900	**500-800**					
			.007-.020	**.006-.020**					
			600-1000	**500-900**					
			.007-.020	**.006-.020**					
			600-1000	**500-900**					
			.007-.020	**.006-.020**					
			600-1000	**600-900**					
			.007-.020	**.006-.020**					
			700-1200	**600-900**					
			.007-.020	**.006-.020**					
			700-1200	**600-900**					
			.007-.020	**.006-.020**					

1/2" Series Recommended Cutting Parameters

Style	Edge	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)	
RDCH-43	D	DMK30	TCI	Speed	**500-800**	**400-700**	250-450			
				Feed	**.007-.020**	**.005-.015**	.005-.012			
			GLH	Speed	**700-1000**	**500-800**	**250-600**			
				Feed	**.007-.020**	**.005-.015**	**.005-.012**			
			Uncoated	Speed						
				Feed						
	T	DMP25	TCI	Speed	**500-900**	**400-800**	350-550	300-450		
				Feed	**.007-.020**	**.007-.020**	.005-.015	.004-.012		
			GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**		
				Feed	**.007-.020**	**.007-.020**	**.005-.015**	**.004-.012**		

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› See page IM-155 for insert grade and coating selection.

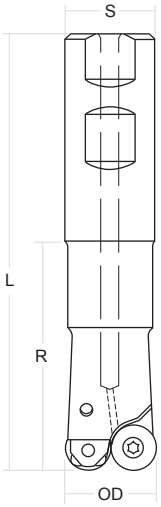
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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum / Non-Ferrous
300-500	**400-800**	250-450	500-800	400-700					
.005-.015	**.005-.020**	.003-.012	.004-.020	.003-.015					
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	**400-900**	**1200+ (Cast)**
.005-.015	**.005-.020**	**.003-.012**	.004-.020	.003-.015	**.002-.006**	**.002-.005**	**.003-.007**	**.003-.012**	**.007-.020**
									1500+
									.010-.020
			600-900	**500-800**					
			.007-.020	**.006-.020**					
			600-1000	**500-900**					
			.007-.020	**.006-.020**					

5/8" Series Cutter Bodies

End Mills

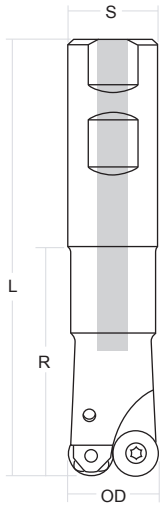
EDP	OD	Description	R Effective Length	L Overall Length	S Shank Dia.	Flutes	Insert	
80150	1.250"	TREM125-300-R5-2C	3.000"	5.250"	1.250"	2	Button	Octagonal



Carbide Core End Mills

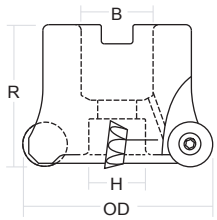
EDP	OD	Description	R Effective Length	L Overall Length	S Shank Dia.	Flutes	Insert	
80490	1.250"	CC-TREM125-500-R5-2	5.000"	7.250"	1.250"	2	Button	Octagonal

EDP # 80490 does not include coolant thru.



5/8" Series Cutter Bodies

Shell Mills

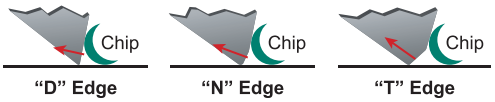


EDP	OD	Description	R Effective Length	B Arbor Dia.	H Counter Bore Dia.	Flutes	Insert	
80740	2.000"	TRSM200-075-R5-3C	1.500"	.750"	.590"	3	Button	Octagonal
80780	2.500"	TRSM250-100-R5-4C	2.000"	1.000"	.790"	4	Button	Octagonal
80830	3.000"	TRSM300-100-R5-5C	2.000"	1.000"	.790"	5	Button	Octagonal
80840	3.430"	TRSM343-100-R5-5	2.000"	1.000"	.790"	5	Button	Octagonal
80890	4.000"	TRSM400-150-R5-6	2.000"	1.500"	2.060"	6	Button	Octagonal
80900*	4.430"	TRSM443-150-R5-6	2.000"	1.500"	2.060"	6	Button	Octagonal
80960*	5.000"	TRSM500-150-R5-8	2.000"	1.500"	2.060"	8	Button	Octagonal
81000	6.000"	TRSM600-200-R5-10	2.000"	2.000"	2.875"	10	Button	Octagonal
81010	6.430"	TRSM643-200-R5-10	2.000"	2.000"	2.875"	10	Button	Octagonal

* Non-stock standard – made to order.

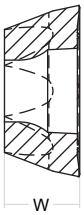
EDP # 80840, 80890, 80900, 80960, 81000, and 81010 do not include coolant thru.

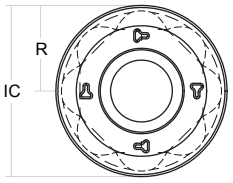
5/8" Series Inserts



"D" Edge "N" Edge "T" Edge







"D" Edge: Honed edge provides high-shear cutting action that minimizes tool pressure, temperature build-up, and burr creation.

"N" Edge: Enhanced-Flat, T-land insert face combines strength and shear.

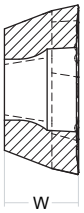
"T" Edge: Strong, negative edge directs cutting forces tangentially providing strength and durability.

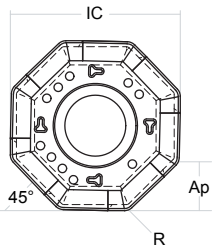
Button Inserts

Insert	Edge	IC	W	R	Grade	Coating				
						Uncoated	GLH	TCI	HM	
RPMH-54	D	.625"	.220"	.312"	DMK30	87400	87460		87485	
					DMK25	87300	87360			
	N	.625"	.220"	.312"	DMK30	88100	88160	88190		
					DMK25	88000	88060			
					DMP25	88200	88260	88290	88270	
	T	.625"	.220"	.312"	DMK30	87700	87760	87790		
					DMP25	87800	87860	87890	87885	

See page IM-155 for insert grade and coating selection.







Octagonal Inserts

Insert	Edge	IC	W	R	Ap	Grade	Coating				
							Uncoated	GLH	TCI	HM	
OPMH-544	D	.625"	.220"	.062"	.165"	DMK30	91300	91360	91390		
						DMP25	91400	91460			
						DMK15	91100	91160			
	N	.625"	.220"	.062"	.165"	DMK30	92000	92060	92090		
						DMK15	91800	91860			
	T	.625"	.220"	.062"	.165"	DMP25	91700	91760	91790		
						DMK15	91500	91560		91585	
OXCH-534*	D	.625"	.187"	.062"	.165"	DMK30	98100	98160	98190		

* Ground insert.

See page IM-155 for insert grade and coating selection.

5/8" Series Accessories

EDP	Part Number	Description
83080	TRS-6	1 Insert Screw (Torque range: 40-50 in-lbs.)
QM07041	TC-3/8-SHCS	2 Shell Mill Socket Head Cap Screw with Coolant for 1.5" and 2" shell mills (3/8-24 x 1" long)
QM07051	TC-1/2-SHCS	3 Shell Mill Socket Head Cap Screw with Coolant for 2.5" and 3" shell mills (1/2-20 x 1-1/4" long)
QM07061	TC-3/4-SHCS	4 Shell Mill Socket Head Cap Screw with Coolant for 4" shell mills (3/4-16 x 1-1/2" long)
83020	T20-T	5 T20 TORX T-Handle Wrench
41110	ASG-120	Anti-Seize Grease



5/8" Series Recommended Cutting Parameters

Style	Edge	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
OPMH-544	D	DMK30	TCI	Speed	**500-800**	**400-700**	250-450		
				Feed	**.003-.014**	**.003-.013**	.003-.010		
			GLH	Speed	**700-1000**	**500-900**	**250-550**		
				Feed	**.003-.014**	**.003-.013**	**.003-.010**		
		DMP25	GLH	Speed	**700-1200**	**500-900**	**350-650**	300-500	
				Feed	**.003-.013**	**.003-.012**	**.003-.010**	.003-.009	
		DMK15	GLH	Speed					
				Feed					
	N	DMK30	TCI	Speed	**500-800**	**400-700**	250-550		
				Feed	**.005-.015**	**.005-.015**	.005-.013		
			GLH	Speed	**700-1000**	**500-800**	**250-550**		
				Feed	**.005-.015**	**.005-.015**	**.005-.013**		
		DMK15	GLH	Speed	700-1200	500-900	350-650	300-500	250-450
				Feed	.004-.014	.004-.013	.004-.012	.003-.010	.003-.008
	T	DMP25	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
				Feed	**.005-.015**	**.005-.015**	.005-.013	.004-.012	
			GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
				Feed	**.005-.015**	**.005-.015**	**.005-.013**	**.004-.012**	
		DMK15	GLH	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
				Feed	.004-.014	.004-.013	.004-.012	**.003-.010**	**.003-.008**
			HM	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
				Feed	.004-.014	.004-.013	.004-.012	**.003-.010**	**.003-.008**
OXCH-543	D	DMK30	TCI	Speed	**500-800**	**400-700**	250-450		
				Feed	**.003-.014**	**.003-.013**	.003-.010		
			GLH	Speed	**700-1000**	**500-900**	**250-550**		
				Feed	**.003-.014**	**.003-.013**	**.003-.010**		
			Uncoated	Speed					
				Feed					

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

Continued on next page

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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum / Non-Ferrous
300-500	**400-800**	250-450	500-800	400-700				400-900	
.003-.012	**.003-.014**	.003-.010	.003-.014	.003-.013				.003-.010	
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	400-900	
.003-.012	**.003-.014**	**.003-.010**	.003-.014	.003-.013	**.002-.007**	**.002-.006**	**.003-.008**	.003-.010	
			600-1000	**500-900**					
			.003-.013	**.003-.012**					
			600-1000	**500-900**				**400-900**	**1000+ (Cast)**
			.003-.013	**.003-.012**				**.003-.013**	**.007-.020**
	400-800	250-450	500-800	400-700					
	.003-.013	.003-.010	.005-.015	.005-.015					
	500-900	**250-500**	600-1000	500-900					
	.003-.013	**.003-.010**	.005-.015	.005-.015					
			700-1200	**600-900**					
			.005-.015	**.005-.015**					
			600-900	**500-800**					
			.005-.015	**.005-.015**					
			600-1000	**500-900**					
			.005-.015	**.005-.015**					
			700-1200	**600-900**					
			.005-.015	**.005-.015**					
			700-1200	**600-900**					
			.005-.015	**.005-.015**					
300-500	**400-800**	250-450	500-800	400-700				**400-900**	
.003-.012	**.003-.014**	.003-.010	.003-.014	.003-.013				**.003-.010**	
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	**400-900**	**1000+ (Cast)**
.003-.012	**.003-.014**	**.003-.010**	.003-.014	.003-.013	**.002-.007**	**.002-.006**	**.003-.008**	**.003-.010**	**.007-.020**
									1500+
									.007-.020

5/8" Series Recommended Cutting Parameters

Style	Edge	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
RPMH-54	D	DMK30	GLH	Speed	**700-1000**	**500-800**	**250-600**		
				Feed	**.007-.020**	**.005-.015**	**.005-.012**		
		DMK25	GLH	Speed	700-1200	500-900	350-650		
				Feed	.007-.020	.005-.015	.005-.012		
	N	DMK30	TCI	Speed	**500-800**	**400-700**	250-600		
				Feed	**.007-.020**	**.007-.020**	.005-.015		
			GLH	Speed	**700-1000**	**500-800**	**250-600**		
				Feed	**.007-.020**	**.007-.020**	**.005-.015**		
		DMK25	GLH	Speed	700-1200	500-900	350-650	300-500	
				Feed	.007-.020	.007-.020	.005-.015	.004-.012	
		DMP25	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
				Feed	**.007-.020**	**.007-.020**	.005-.015	.004-.012	
			GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
				Feed	**.007-.020**	**.007-.020**	**.005-.015**	**.004-.012**	
			HM	Speed	700-1200	500-900	**350-650**	**300-500**	
				Feed	.007-.020	.007-.020	**.005-.015**	**.004-.012**	
	T	DMK30	TCI	Speed	**500-800**	**400-700**	250-600		
				Feed	**.007-.020**	**.007-.020**	.005-.015		
			GLH	Speed	**700-1000**	**500-800**	**250-600**		
				Feed	**.007-.020**	**.007-.020**	**.005-.015**		
		DMP25	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
				Feed	**.007-.020**	**.007-.020**	.005-.015	.004-.012	
			GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
				Feed	**.007-.020**	**.007-.020**	**.005-.015**	**.004-.012**	
			HM	Speed	700-1200	500-900	**350-650**	**300-500**	
				Feed	.007-.020	.007-.020	**.005-.015**	**.004-.012**	

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

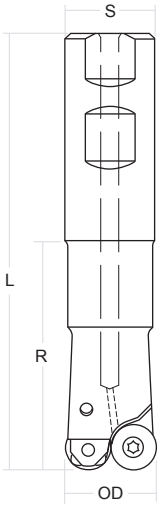
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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum / Non-Ferrous
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	400-900	
.005-.015	**.005-.020**	**.003-.012**	.004-.020	.003-.015	**.002-.006**	**.002-.005**	**.003-.007**	.004-.015	
			600-1000	**500-900**			120-180	**400-900**	
			.004-.020	**.003-.015**			.003-.007	**.004-.015**	
	400-800	250-450	500-800	400-700					
	.005-.020	.003-.012	.007-.020	.006-.020					
	500-900	**250-500**	600-1000	500-900					
	.005-.020	**.003-.012**	.007-.020	.006-.020					
			600-1000	**500-900**					
			.007-.020	**.006-.020**					
			600-900	**500-800**					
			.007-.020	**.006-.020**					
			600-1000	**500-900**					
			.007-.020	**.006-.020**					
			600-1000	**500-900**					
			.007-.020	**.006-.020**					
			500-800	400-700					
			.007-.020	.006-.020					
			600-1000	500-900					
			.007-.020	.006-.020					
			600-900	**500-800**					
			.007-.020	**.006-.020**					
			600-1000	**500-900**					
			.007-.020	**.006-.020**					
			600-1000	**500-900**					
			.007-.020	**.006-.020**					

3/4" Series Cutter Bodies

End Mills

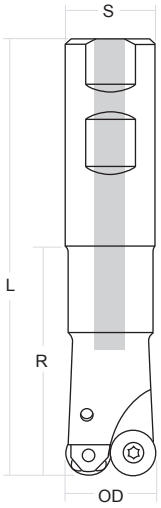
EDP	OD	Description	R Effective Length	L Overall Length	S Shank Dia.	Flutes	Insert	
80180	1.500"	TREM150-350-R6-2C	3.500"	6.190"	1.500"	2	Button	Octagonal



Carbide Core End Mills

EDP	OD	Description	R Effective Length	L Overall Length	S Shank Dia.	Flutes	Insert	
80505	1.500"	CC-TREM150-550-R6-2	5.500"	8.190"	1.500"	2	Button	Octagonal

EDP # 80505 does not include coolant thru.

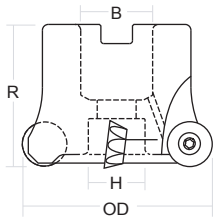


3/4" Series Cutter Bodies

Shell Mills

EDP	OD	Description	R Effective Length	B Arbor Dia.	H Counter Bore Dia.	Flutes	Insert	
80850C	3.000"	TRSM300-100-R6-4C	2.000"	1.000"	.790"	4	Button	Octagonal
80860	3.500"	TRSM350-100-R6-4	2.000"	1.000"	.790"	4	Button	Octagonal
80920	4.500"	TRSM450-150-R6-6	2.000"	1.500"	2.060"	6	Button	Octagonal
81040	6.500"	TRSM650-200-R6-8	2.000"	2.000"	2.875"	8	Button	Octagonal
80620	8.440"	TRSM850-FM-R6-10 FLANGE MOUNTED	2.380"	2.500"	4.0" B/C	10	Button	Octagonal

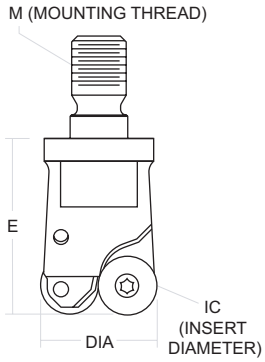
EDP # 80860, 80920, 81040, and 80620 do not include coolant thru.



Modular Heads

EDP	Dia.	Description	M Thread	E Effective Length	Flutes	Wrench	Insert	
SY00080	1.500"	TREM150-MOD-R6-2	M16	1.75"	2	15/16"	Button	Octagonal

EDP # SY0080 does not include coolant thru.



3/4" Series Inserts

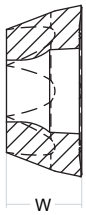


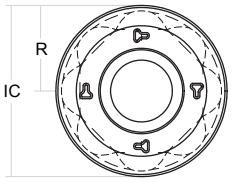
"N" Edge



"T" Edge







"N" Edge: Enhanced-Flat, T-land insert face combines strength and shear.

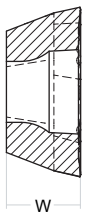
"T" Edge: Strong, negative edge directs cutting forces tangentially providing strength and durability.

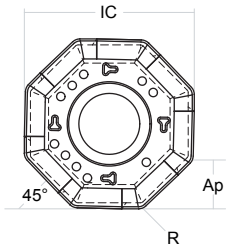
Button Inserts

Insert	Edge	IC	W	R	Grade	Coating				
						Uncoated	GLH	TCI		
RPMH-64	N	.750"	.220"	.375"	DMK25	89100	89160			
					DMP25	89300	89360			
	T	.750"	.220"	.375"	DMK30	88800	88860			
					DMP25	88900	88960	88990		

See page IM-155 for insert grade and coating selection.







Octagonal Inserts

Insert	Edge	IC	W	R	Ap	Grade	Coating				
							Uncoated	GLH			
OPMH-644	N	.750"	.220"	.062"	.200"	DMK30	93100	93160			
						DMK25	93000	93060			
						DMK15	92900	92960			
	T	.750"	.220"	.062"	.200"	DMK30	92700	92760			
						DMP25	92800	92860			
						DMK15	92600	92660			
OXCH-634*	T	.750"	.187"	.062"	.200"	DMK15	98600	98660			

* Ground insert.

See page IM-155 for insert grade and coating selection.

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3/4" Series Accessories

EDP	Part Number	Description
83080	TRS-6	1 Insert Screw (Torque range: 40-50 in-lbs.)
QM07041	TC-3/8-SHCS	2 Shell Mill Socket Head Cap Screw with Coolant for 1.5" and 2" shell mills (3/8-24 x 1" long)
QM07051	TC-1/2-SHCS	3 Shell Mill Socket Head Cap Screw with Coolant for 2.5" and 3" shell mills (1/2-20 x 1-1/4" long)
QM07061	TC-3/4-SHCS	4 Shell Mill Socket Head Cap Screw with Coolant for 4" shell mills (3/4-16 x 1-1/2" long)
83020	T20-T	5 T20 TORX T-Handle Wrench
41110	ASG-120	Anti-Seize Grease



3/4" Series Recommended Cutting Parameters

Style	Edge	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
OPMH-644	N	DMK30	GLH	Speed	**700-1000**	**500-800**	**250-550**		
				Feed	**.005-.015**	**.005-.015**	**.005-.013**		
		DMK25	GLH	Speed	700-1000	500-900	250-650		
				Feed	.003-.012	.003-.010	.003-.010		
		DMK15	GLH	Speed	700-1200	500-900	350-650	300-500	250-450
				Feed	.004-.014	.004-.013	.004-.012	.003-.010	.003-.008
	T	DMK30	GLH	Speed	**700-1000**	**500-800**	250-550		
				Feed	**.005-.015**	**.005-.015**	.005-.013		
		DMP25	GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
				Feed	**.005-.015**	**.005-.015**	**.005-.013**	**.004-.012**	
		DMK15	GLH	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
				Feed	.004-.014	.004-.013	.004-.012	**.003-.010**	**.003-.008**
OXCH-634	T	DMK15	GLH	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
				Feed	.004-.014	.004-.013	.004-.012	**.003-.010**	**.003-.008**

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› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

Continued on next page

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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum / Non-Ferrous
	500-900	**250-500**	600-1000	500-900					
	.003-.013	**.003-.010**	.005-.015	.005-.015					
	500-900	250-500	**600-1000**	**500-900**					
	.003-.012	.003-.009	**.003-.013**	**.003-.012**					
			700-1200	**600-900**					
			.005-.015	**.005-.015**					
			600-1000	500-900					
			.005-.015	.005-.015					
			600-1000	**500-900**					
			.005-.015	**.005-.015**					
			700-1200	**600-900**					
			.005-.015	**.005-.015**					
			700-1200	**600-900**					
			.005-.015	**.005-.015**					

3/4" Series Recommended Cutting Parameters

Style	Edge	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
RPMH-64	N	DMK25	GLH	Speed	700-1200	500-900	350-650	300-500	
				Feed	.007-.020	.007-.020	.005-.015	.004-.012	
		DMP25	GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
				Feed	**.007-.020**	**.007-.020**	**.005-.015**	**.004-.012**	
	T	DMK30	GLH	Speed	**700-1000**	**500-800**	**250-600**		
				Feed	**.007-.020**	**.007-.020**	**.005-.015**		
		DMP25	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
				Feed	**.007-.020**	**.007-.020**	.005-.015	.004-.012	
			GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
				Feed	**.007-.020**	**.007-.020**	**.005-.015**	**.004-.012**	

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› See page IM-155 for insert grade and coating selection.

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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum / Non-Ferrous
			600-1000	**500-900**					
			.007-.020	**.006-.020**					
			600-1000	**500-900**					
			.007-.020	**.006-.020**					
			600-1000	500-900					
			.007-.020	.006-.020					
			600-900	**500-800**					
			.007-.020	**.006-.020**					
			600-1000	**500-900**					
			.007-.020	**.006-.020**					

10mm Series Cutter Bodies

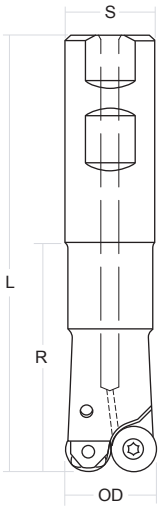
Metric End Mills

EDP	OD	Description	R Effective Length	L Overall Length	S Shank Dia.	Flutes	Insert
82000	20mm	TREM20-50-R5-2	50mm	103mm	20mm	2	Button
82020	20mm	TREM20-75-R5-2C-WOF**	75mm	128mm	20mm	2	Button
82050	25mm	TREM25-65-R5-3	65mm	121mm	25mm	3	Button
82050C	25mm	TREM25-65-R5-3C	65mm	121mm	25mm	3	Button
82060	25mm	TREM25-115-R5-3	115mm	171mm	25mm	3	Button

** Cylindrical shank – no Weldon flats.

EDP # 82000, 82050, and 82060 do not include coolant thru.

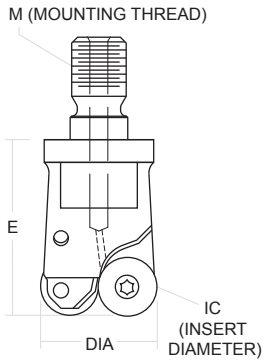
Additional cylindrical shank tools are available without Weldon Flats. // Contact General Cutting Tools for availability.



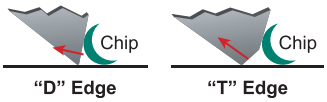
Metric Modular Heads

EDP	OD	Description	M Thread	E Effective Length	IC	Flutes	Insert
82550	20mm	TREM20-MOD-R5-2C	M10	38mm	10mm	2	Button
82560*	25mm	TREM25-MOD-R5-2C	M12	38mm	10mm	2	Button
82565	25mm	TREM25-MOD-R5-3C	M12	38mm	10mm	3	Button

* Non-stock standard – made to order.

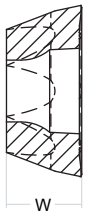


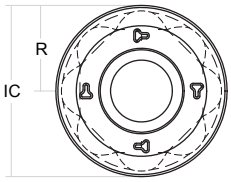
10mm Series Inserts



"D" Edge "T" Edge







"D" Edge: Honed edge provides high-shear cutting action that minimizes tool pressure, temperature build-up, and burr creation.

"T" Edge: Strong, negative edge directs cutting forces tangentially providing strength and durability.

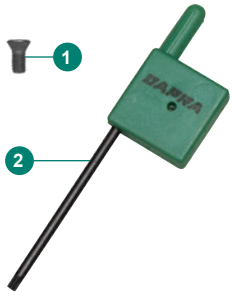
Metric Button Inserts

Insert	Edge	IC	W	R	Grade	Coating				
						Uncoated	GLH	TCI		
RDCH-10	D	10mm	3.18mm	5mm	DMK30	99050	99080	99095		
					DMP25	99100	99130			
					DMK15	99000	99030			
	T	10mm	3.18mm	5mm	DMK30	99200	99230	99245		
					DMP25	99250	99280	99295		
					DMK15	99150	99180	99195		

See page IM-155 for insert grade and coating selection.

10mm Series Accessories

EDP	Part Number	Description
83040	TRS-3	1 Insert Screw (Torque range: 1.5-1.7 nM)
83000	T8-F	2 T8 Flag-Style Wrench
41110	ASG-120	Anti-Seize Grease



10mm Series Recommended Cutting Parameters

Style	Edge	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
RDCH-10	D	DMK30	TCI	Speed	**500-800**	**400-700**	250-450		
				Feed	**.003-.015**	**.003-.015**	.003-.012		
			GLH	Speed	**700-1000**	**500-800**	**250-600**		
				Feed	**.003-.015**	**.003-.015**	**.003-.012**		
		DMP25	GLH	Speed	**500-900**	**400-800**	**350-550**		
				Feed	**.003-.015**	**.003-.012**	**.003-.012**		
		DMK15	GLH	Speed					
				Feed					
	T	DMK30	TCI	Speed	**500-800**	**400-700**	250-450		
				Feed	**.003-.020**	**.003-.015**	.003-.012		
			GLH	Speed	**700-1000**	**500-800**	**250-600**		
				Feed	**.003-.020**	**.003-.015**	**.003-.012**		
		DMP25	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
				Feed	**.004-.020**	**.004-.015**	.004-.012	.003-.012	
			GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
				Feed	**.004-.020**	**.004-.015**	**.004-.012**	**.003-.012**	
		DMK15	TCI	Speed	500-900	400-800	350-550		
				Feed	.004-.020	.004-.015	.004-.012		
			GLH	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
				Feed	.004-.020	.004-.015	.004-.012	**.003-.012**	**.003-.012**

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

Visit **generalcuttingtools.com** for technical reference & application information

Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum / Non-Ferrous
300-500	**400-800**	250-450	500-800	400-700				400-900	
.004-.012	**.004-.015**	.003-.012	.004-.020	.003-.015				.004-.015	
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	400-900	1200+ (Cast)
.004-.012	**.004-.015**	**.003-.012**	.004-.020	.003-.015	**.002-.006**	**.002-.005**	**.003-.007**	.004-.015	.007-.020
			600-1000	**500-900**					
			.004-.015	**.003-.012**					
			600-1000	500-900				**400-900**	**1200+ (Cast)**
			.004-.015	.003-.012				**.004-.015**	**.007-.020**
			500-800	400-700					
			.004-.020	.003-.015					
			600-1000	500-900					
			.004-.020	.003-.015					
			500-800	**400-700**					
			.004-.020	**.003-.015**					
			600-1000	**500-900**					
			.004-.020	**.003-.015**					
			500-800	**400-700**					
			.004-.020	**.003-.015**					
			600-1000	**500-900**					
			.004-.020	**.003-.015**					

12mm Series Cutter Bodies

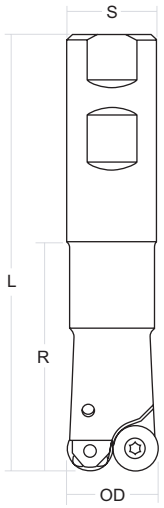
Metric End Mills

EDP	OD	Description	R Effective Length	L Overall Length	S Shank Dia.	Flutes	Insert
82070	25mm	TREM25-65-R6-2	65mm	121mm	25mm	2	Button
82080	25mm	TREM25-115-R6-2	115mm	171mm	25mm	2	Button
82090	32mm	TREM32-75-R6-2	75mm	133mm	32mm	2	Button
82110	32mm	TREM32-130-R6-2-WOF**	130mm	184mm	32mm	2	Button

** Cylindrical shank – no Weldon flats.

EDP # 82070, 82080, 82090, and 82110 do not include coolant thru.

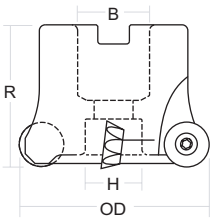
Additional cylindrical shank tools are available without Weldon Flats. // Contact General Cutting Tools for availability.



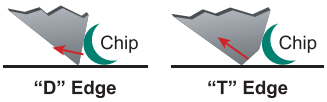
Metric Shell Mills

EDP	OD	Description	R Effective Length	B Arbor Dia.	H Counter Bore Dia.	Flutes	Insert
82300	50mm	TRSM50-22-R6-4	38mm	22mm	10.4mm	4	Button
82310	63mm	TRSM63-27-R6-5	50mm	27mm	12.4mm	5	Button

EDP # 82300 and 82310 do not include coolant thru.

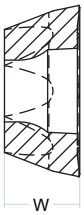


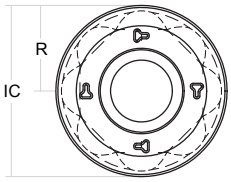
12mm Series Inserts



"D" Edge "T" Edge







"D" Edge: Honed edge provides high-shear cutting action that minimizes tool pressure, temperature build-up, and burr creation.

"T" Edge: Strong, negative edge directs cutting forces tangentially providing strength and durability.

Metric Button Inserts

Insert	Edge	IC	W	R	Grade	Coating				
						Uncoated	GLH	TCI		
RDCH-12	D	12mm	4.75mm	6mm	DMK30	99350	99380			
					DMP25	99400	99430			
					DMK15	99300	99330			
	T	12mm	4.75mm	6mm	DMK30	99500	99530	99545		
					DMP25	99550	99580	99595		
					DMK15	99450	99480	99495		

See page IM-155 for insert grade and coating selection.

12mm Series Accessories

EDP	Part Number	Description
83050	TRS-4	1 Insert Screw (Torque range: 3.5-4.0 nM)
83010	T15-T	2 T15 TORX T-Handle Wrench
41110	ASG-120	Anti-Seize Grease



12mm Series Recommended Cutting Parameters

Style	Edge	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
RDCH-12	D	DMK30	GLH	Speed	**700-1000**	**500-800**	**250-600**		
				Feed	**.003-.020**	**.003-.015**	**.003-.012**		
		DMP25	GLH	Speed	**700-1200**	**500-900**	**350-650**		
				Feed	**.007-.020**	**.005-.015**	**.005-.012**		
		DMK15	GLH	Speed					
				Feed					
	T	DMK30	TCI	Speed	**500-800**	**400-700**	250-450		
				Feed	**.004-.020**	**.004-.020**	.004-.015		
			GLH	Speed	**700-1000**	**500-800**	**250-600**		
				Feed	**.004-.020**	**.004-.020**	**.004-.015**		
		DMP25	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
				Feed	**.004-.020**	**.004-.020**	.004-.015	.003-.012	
			GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
				Feed	**.004-.020**	**.004-.020**	**.004-.015**	**.003-.012**	
		DMK15	TCI	Speed	500-900	400-800	350-550		
				Feed	.004-.020	.004-.015	.004-.012		
			GLH	Speed	700-1200	500-900	350-650	**300-500**	**250-450**
				Feed	.004-.020	.004-.015	.004-.012	**.003-.012**	**.003-.012**

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum / Non-Ferrous
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	**400-900**	**1200+ (Cast)**
.004-.015	**.004-.020**	**.003-.012**	.004-.020	.004-.015	**.002-.006**	**.002-.005**	**.003-.007**	**.004-.015**	**.007-.020**
			600-1000	**500-900**					
			.004-.015	**.004-.015**					
			600-1000	500-900				**400-900**	**1200+ (Cast)**
			.004-.015	.004-.015				**.004-.015**	**.007-.020**
			500-800	400-700					
			.004-.020	.004-.015					
			600-1000	500-900					
			.004-.020	.004-.015					
			500-800	**400-700**					
			.004-.020	**.004-.015**					
			600-1000	**500-900**					
			.004-.020	**.004-.015**					
			500-800	**400-700**					
			.004-.020	**.004-.015**					
			600-1000	**500-900**					
			.004-.020	**.004-.015**					



Button / Face

Double-Sided Insert Platform

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application information

DOUBLE-SIDED BUTTON / FACE INSERT PLATFORM

12mm Series IM-113

- EDGE² DTB inserts allow 12 usable indexes.
- Inserts perform well in hardened steel applications.
- Cutter bodies manufactured from hardened, high-shock tool steel for durability and tool life.

CUTTER BODIES



END MILLS
Steel
Carbide Core, Long-Reach

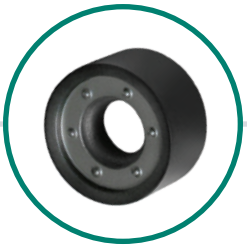


SHELL MILLS
Steel



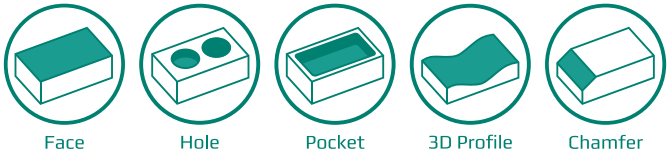
MODULAR HEADS
Steel

INSERTS



BUTTON

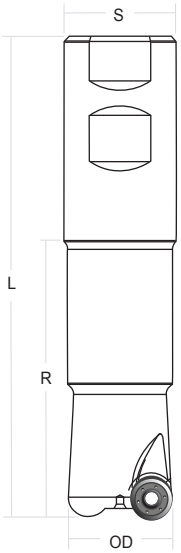




12mm Series Cutter Bodies

End Mills

EDP	OD	Description	S Shank Dia.	L Overall Length	R Effective Length	Flutes
70060	1.250”	DTEM125-300-R4-3	3.00”	5.40”	1.25”	3
70080	1.500”	DTEM150-350-R4-3	3.50”	5.90”	1.25”	3

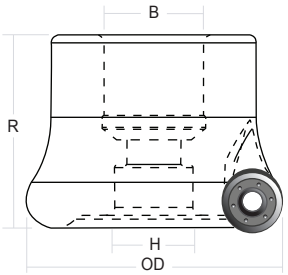


Carbide Core, Long-Reach End Mills

EDP	OD	Description	S Shank Dia.	L Overall Length	R Effective Length	Flutes
70240	1.250”	CC-DTEM125-500-R4-3	5.00”	7.40”	1.25”	3
70260	1.500”	CC-DTEM150-550-R4-3	5.50”	7.90”	1.25”	3

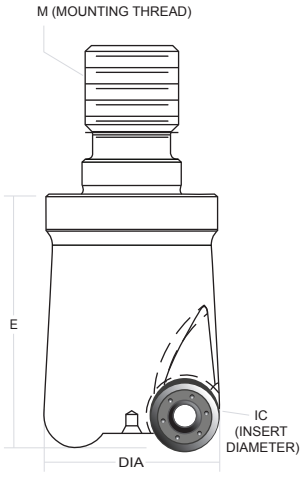
Shell Mills

EDP	OD	Description	R Effective Length	B Arbor Dia.	H Counter Bore Dia.	Flutes
70120	2.000”	DTSM200-075-R4-5	1.50”	0.75”	0.59”	5
70140	2.500”	DTSM250-100-R4-6	1.75”	1.00”	0.79”	6
70160	3.000”	DTSM300-100-R4-7	2.00”	1.00”	0.79”	7
70180	4.000”	DTSM400-150-R4-8	2.25”	1.50”	1.10”	8
70180C	4.000”	DTSM400-150-R4-8C	2.25”	1.50”	1.10”	8

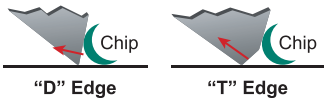


Modular Heads

EDP	Dia.	Description	M Thread	E Effective Length	Flutes	Wrench
70340	1.250”	DTEM125-MOD-R4-2	M16	1.75”	2	$^{15}/_{16}$”
70360	1.500”	DTEM150-MOD-R4-2	M16	1.75”	2	$^{15}/_{16}$”

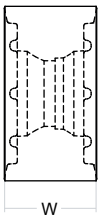


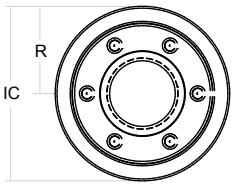
12mm Series Inserts



"D" Edge "T" Edge







"D" Edge: Honed edge provides high-shear cutting action that minimizes tool pressure, temperature build-up, and burr creation.

"T" Edge: Strong, negative edge directs cutting forces tangentially providing strength and durability.

Button Inserts

Insert	Edge	IC	W	R	Grade	Coating				
						Uncoated	GLH	TCI	TS	HM
DTB-12	D	12mm	.250"	6mm	DMK30	70450	70460	70480	70485	70454
	T	12mm	.250"	6mm	DMK30	70600	70610	70630	70635	70625
					DMP25	70650	70660	70680	70695	70675
					DMK15	70550	70560	70580	70585	70575

See page IM-155 for insert grade and coating selection.

12mm Series Accessories

EDP	Part Number	Description
83090	TRS-4L	1 Insert Screw (Torque range: 30-35 in-lbs.)
QM07041	TC-3/8-SHCS	2 Shell Mill Socket Head Cap Screw with Coolant for 1.5" and 2" shell mills (3/8-24 x 1" long)
QM07051	TC-1/2-SHCS	3 Shell Mill Socket Head Cap Screw with Coolant for 2.5" and 3" shell mills (1/2-20 x 1-1/4" long)
QM07061	TC-3/4-SHCS	4 Shell Mill Socket Head Cap Screw with Coolant for 4" shell mills (3/4-16 x 1-1/2" long)
83010	T15-T	5 T15 TORX T-Handle Wrench
41110	ASG-120	Anti-Seize Grease



12mm Series Recommended Cutting Parameters

Style	Edge	Grade	Coating	Speed / Feed	Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
DTB-12	D	DMK30	TCI	Speed	**500-800**	**400-700**	250-450		
				Feed	**.007-.020**	**.005-.015**	.005-.012		
			GLH	Speed	**700-1000**	**500-800**	250-600		
				Feed	**.007-.020**	**.005-.015**	.005-.012		
			HM	Speed	700-1000	**500-800**	250-600		
				Feed	.007-.020	**.005-.015**	.005-.012		
			TS	Speed	700-1000	500-800	250-600		
				Feed	.007-.020	.005-.015	.005-.012		
	T	DMK30	TCI	Speed	**500-800**	400-700	250-600		
				Feed	**.007-.020**	.007-.020	.005-.015		
			GLH	Speed	**700-1000**	500-800	250-600		
				Feed	**.007-.020**	.007-.020	.005-.015		
			HM	Speed	700-1000	500-800	250-600		
				Feed	.007-.020	.007-.020	.005-.015		
			TS	Speed	700-1000	500-800	250-600		
				Feed	.007-.020	.007-.020	.005-.015		
		DMP25	TCI	Speed	**500-900**	**400-800**	350-550	300-450	
				Feed	**.007-.020**	**.007-.020**	.005-.015	.004-.012	
			GLH	Speed	**700-1200**	**500-900**	**350-650**	**300-500**	
				Feed	**.007-.020**	**.007-.020**	**.005-.015**	**.004-.012**	
			HM	Speed	700-1200	500-900	**350-650**	**300-500**	
				Feed	.007-.020	.007-.020	**.005-.015**	**.004-.012**	
			TS	Speed	700-1200	500-900	**350-650**	**300-500**	
				Feed	.007-.020	.007-.020	**.005-.015**	**.004-.012**	
		DMK15	TCI	Speed	500-900	400-800	350-550	300-450	
				Feed	.007-.020	.007-.020	.005-.015	.004-.012	
			GLH	Speed	700-1200	500-900	**350-650**	**300-500**	**250-450**
				Feed	.007-.020	.007-.020	**.005-.015**	**.004-.012**	**.003-.012**
			HM	Speed	700-1200	500-900	**350-650**	**300-500**	**250-450**
				Feed	.007-.020	.007-.020	**.005-.015**	**.004-.012**	**.003-.012**
			TS	Speed	700-1200	500-900	**350-650**	**300-500**	**250-450**
				Feed	.007-.020	.007-.020	**.005-.015**	**.004-.012**	**.003-.012**

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-155 for insert grade and coating selection.

Visit **generalcuttingtools.com** for technical reference & application information

Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys
300-500	**400-800**	250-450	500-800	400-700				**400-900**
.005-.015	**.005-.020**	.003-.012	.004-.020	.003-.015				**.004-.015**
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	**400-900**
.005-.015	**.005-.020**	**.003-.012**	.004-.020	.003-.015	**.002-.006**	**.002-.005**	**.003-.007**	**.004-.015**
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	
.005-.015	**.005-.020**	**.003-.012**	.004-.020	.003-.015	**.002-.006**	**.002-.005**	**.003-.007**	
300-600	**500-900**	**250-500**	600-1000	500-900	**55-90**	**35-65**	**120-180**	
.005-.015	**.005-.020**	**.003-.012**	.004-.020	.003-.015	**.002-.006**	**.002-.005**	**.003-.007**	
			500-800	400-700				
			.007-.020	.006-.020				
			600-1000	500-900				
			.007-.020	.006-.020				
			600-1000	500-900				
			.007-.020	.006-.020				
			600-1000	500-900				
			.007-.020	.006-.020				
			600-900	**500-800**				
			.007-.020	**.006-.020**				
			600-1000	**500-900**				
			.007-.020	**.006-.020**				
			600-1000	**500-900**				
			.007-.020	**.006-.020**				
			600-1000	**500-900**				
			.007-.020	**.006-.020**				
			600-1000	**600-900**				
			.007-.020	**.006-.015**				
			700-1200	**600-900**				
			.007-.020	**.006-.015**				
			700-1200	**600-900**				
			.007-.020	**.006-.015**				
			700-1200	**600-900**				
			.007-.020	**.006-.015**				





Ball Nose / Back Draft

Single-Sided Insert Platform IM-119

Cutter Bodies IM-121

RDBN Insert Series IM-127

HBN Insert Series IM-128

BNR Insert Series IM-129

BDR Insert Series IM-131

FBR Insert Series IM-132

HFBD Insert Series IM-133

Double-Sided Insert Platform IM-141

Cutter Bodies IM-143

SBN Insert Series IM-147

SBD Insert Series IM-148



Ball Nose / Back Draft

Single-Sided Insert Platform

Visit **generalcuttingtools.com**
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application information

SINGLE-SIDED BALL NOSE / BACK DRAFT INSERT PLATFORM

Cutter Bodies	IM-121	BDR Insert Series	IM-131
RDBN Insert Series	IM-127	FBR Insert Series	IM-132
HBN Insert Series	IM-128	HFBD Insert Series	IM-133
BNR Insert Series	IM-129		

Large variety of inserts and cutter bodies that achieve high-level surface finishes on a wide range of materials.

- Tool performance that reduces or eliminates costly bench work.
- Periphery-ground inserts to achieve closer tolerances and less runout.
- Cutter bodies ensure close-tolerance finishing capabilities.

CUTTER BODIES



END MILLS

Steel / Carbide Core / Solid Carbide

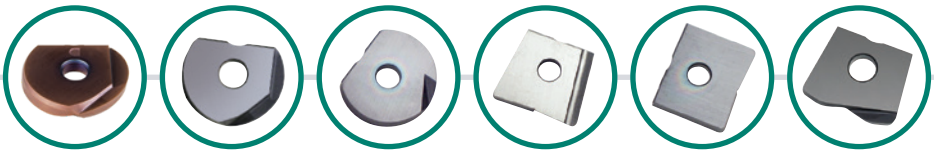
Standard / Oversized / Undersized



MODULAR HEADS

Steel

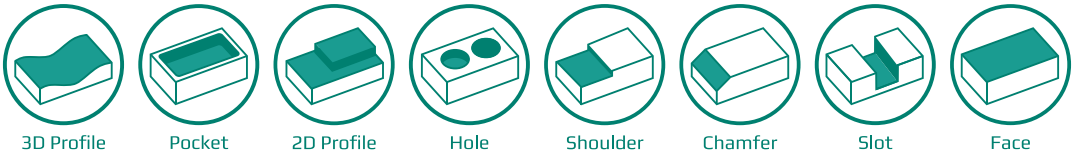
INSERTS



RDBN HBN BNR BDR FBR HFBD



Steel Stainless Iron Super Alloys Hardened Non-Ferrous

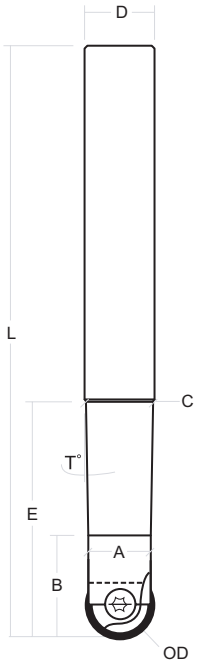


3D Profile Pocket 2D Profile Hole Shoulder Chamfer Slot Face

Standard Shank Cutter Bodies

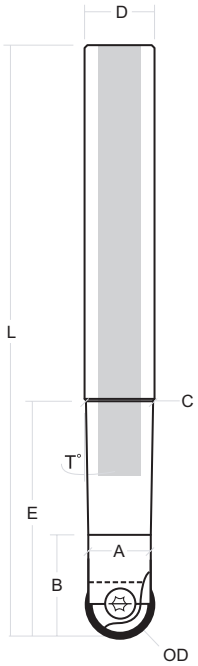
Steel Ball Nose End Mills – Standard Shank

EDP	OD – Insert Size		Description	A Ø	B Straight Length	C Taper End Ø	D Shank Ø	E Effective Length	T Taper Angle	L Overall Length
	Inch	Metric								
40095	0.375”	10mm	BNEM-0375-3950-SS	0.335”	0.625”	0.365”	0.375”	1.250”	0.516°	3.950”
40100	0.500”	12mm	BNEM-0500-3500-SS	0.413”	0.750”	0.490”	0.500”	1.250”	4.400°	3.500”
40110	0.500”	12mm	BNEM-0500-5250-SS	0.413”	0.750”	0.490”	0.500”	2.000”	1.775°	5.250”
40120	0.500”	12mm	BNEM-0500-6000-SS	0.413”	0.750”	0.490”	0.500”	2.500”	1.000°	6.000”
40270	0.500”	12mm	SE-BNEM-0500-7000-SS	0.413”	0.750”	0.490”	0.500”	1.210”	4.400°	7.000”
41250	0.500”	12mm	BNEM-0500-7000-12MM-SS	0.413"	0.750"	Straight	12mm	0.750”	N/A	7.000"
40130	0.625”	16mm	BNEM-0625-5500-SS	0.547”	0.750”	0.615”	0.625”	1.380”	3.090°	5.500”
40140	0.625”	16mm	BNEM-0625-6250-SS	0.547”	0.750”	0.615”	0.625”	2.500”	1.088°	6.250”
40280	0.625”	16mm	SE-BNEM-0625-7000-SS	0.547”	0.750”	0.615”	0.625”	1.340”	3.100°	7.000”
40150	0.750”	20mm	BNEM-0750-4500-SS	0.670”	1.000”	0.740”	0.750”	1.750”	2.690°	4.500”
40160	0.750”	20mm	BNEM-0750-7000-SS	0.670”	1.000”	0.740”	0.750”	3.000”	1.030°	7.000”
40170	0.750”	20mm	BNEM-0750-8250-SS	0.670”	1.000”	0.740”	0.750”	4.500”	0.573°	8.250”
40290	0.750”	20mm	SE-BNEM-0750-9000-SS	0.670”	1.000”	0.740”	0.750”	1.710”	2.700°	9.000”
41260	0.750”	20mm	BNEM-0750-10000-18MM-SS	0.670"	1.000"	Straight	18mm	1.000”	N/A	10.000"
40180	1.000”	25mm	BNEM-1000-6250-SS	0.860”	1.500”	0.990”	1.000”	2.000”	7.400°	6.250”
40190	1.000”	25mm	BNEM-1000-7500-SS	0.860”	1.500”	0.990”	1.000”	3.750”	1.660°	7.500”
40200	1.000”	25mm	BNEM-1000-9000-SS	0.860”	1.500”	0.990”	1.000”	5.000”	1.088°	9.000”
41270	1.000"	25mm	BNEM-1000-10000-25MM-SS	0.860"	1.500"	Straight	25mm	1.500”	N/A	10.000"
40300	1.000”	25mm	SE-BNEM-1000-10000-SS	0.860”	1.500”	0.990”	1.000”	1.940”	7.400°	10.000”
40210	1.250”	30mm / 32mm	BNEM-1250-7000-SS	1.070”	1.750”	1.240”	1.250”	2.500”	6.447°	7.000”
40220	1.250”	30mm / 32mm	BNEM-1250-9000-SS	1.070”	1.750”	1.240”	1.250”	4.500”	1.775°	9.000”



Carbide Core Ball Nose End Mills – Standard Shank

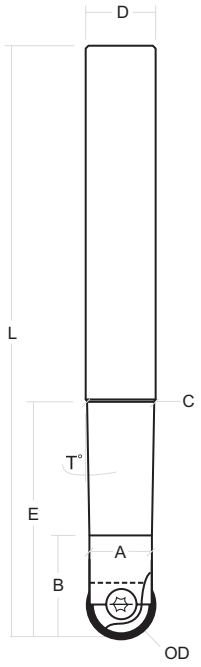
EDP	OD – Insert Size		Description	A Ø	B Straight Length	C Taper End Ø	D Shank Ø	E Effective Length	T Taper Angle	L Overall Length
	Inch	Metric								
40570	0.750”	20mm	CC-BNEM-0750-7000-SS	0.670”	1.000”	0.740”	0.750”	3.000”	1.031°	7.000”
40580	0.750”	20mm	CC-BNEM-0750-8250-SS	0.670”	1.000”	0.740”	0.750”	4.500”	0.573°	8.250”
40590	1.000”	25mm	CC-BNEM-1000-6250-SS	0.860”	1.500”	0.990”	1.000”	2.000”	7.400°	6.250”
40600	1.000”	25mm	CC-BNEM-1000-7500-SS	0.860”	1.500”	0.990”	1.000”	3.750”	1.661°	7.500”
40610	1.000”	25mm	CC-BNEM-1000-9000-SS	0.860”	1.500”	0.990”	1.000”	5.000”	1.088°	9.000”
40620	1.250”	30mm / 32mm	CC-BNEM-1250-7000-SS	1.070”	1.750”	1.240”	1.250”	2.500”	6.447°	7.000”



Oversized Shank Cutter Bodies

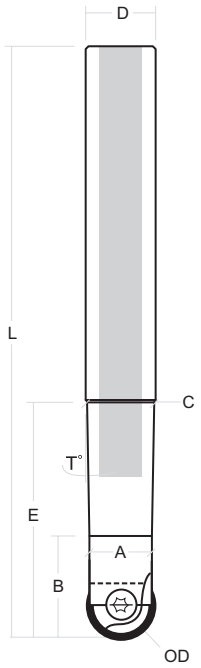
Steel Ball Nose End Mills – Oversized Shank

EDP	OD – Insert Size		Description	A Ø	B Straight Length	C Taper End Ø	D Shank Ø	E Effective Length	T Taper Angle	L Overall Length
	Inch	Metric								
40000	0.313”	8mm	BNEM-0313-5500-OS	0.280”	0.625”	0.415”	0.500”	1.910”	3.000°	5.500”
40010	0.375”	10mm	BNEM-0375-3500-OS	0.335”	0.625”	0.365”	0.500”	1.340”	1.200°	3.500”
40020	0.375”	10mm	BNEM-0375-6000-OS	0.335”	0.625”	0.365”	0.500”	1.880”	0.688°	6.000”
40230	0.375”	10mm	SE-BNEM-0375-6000-OS	Tapered	N/A	N/A	0.500”	1.380”	3.000°	5.880”
40030	0.500”	12mm	BNEM-0500-6000-OS	0.414”	0.750”	0.490”	0.625”	2.500”	1.260°	6.000”
40240	0.500”	12mm	SE-BNEM-0500-6000-OS	Tapered	N/A	N/A	0.625”	2.310”	3.000°	6.000”
40040	0.625”	16mm	BNEM-0625-7000-OS	0.547”	0.750”	0.615”	0.750”	3.130”	0.802°	7.000”
40050	0.750”	20mm	BNEM-0750-7500-OS	0.670”	1.000”	0.740”	1.000”	3.500”	0.802°	7.500”
40250	0.750”	20mm	SE-BNEM-0750-9500-OS	Tapered	N/A	N/A	1.000”	3.000”	3.000°	9.500”
40070	1.000”	25mm	BNEM-1000-8250-OS	0.860”	1.500”	0.990”	1.250”	4.500”	1.260°	8.250”
40260	1.000”	25mm	SE-BNEM-1000-9500-OS	Tapered	N/A	N/A	1.250”	3.880”	3.000°	9.500”
40080	1.000”	25mm	BNEM-1000-10000-OS	0.860”	1.500”	0.990”	1.250”	4.500”	0.022°	10.000”



Carbide Core Ball Nose End Mills – Oversized Shank

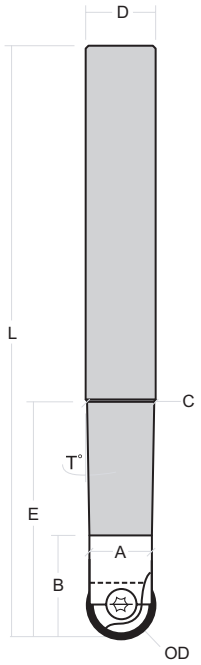
EDP	OD – Insert Size		Description	A Ø	B Straight Length	C Taper End Ø	D Shank Ø	E Effective Length	T Taper Angle	L Overall Length
	Inch	Metric								
40510	0.750”	20mm	CC-BNEM-0750-9500-OS	0.670”	1.000”	0.740”	1.000”	4.500”	0.573°	9.500”
40520	1.000”	25mm	CC-BNEM-1000-8250-OS	0.860”	1.500”	0.990”	1.250”	4.500”	1.260°	8.250”
40560	1.250”	30mm / 32mm	CC-BNEM-1250-11000-OS	1.070”	1.750”	1.240”	1.500”	7.500”	0.859°	11.000”



Solid Carbide Cutter Bodies

Solid Carbide Ball Nose End Mills – Standard Shank

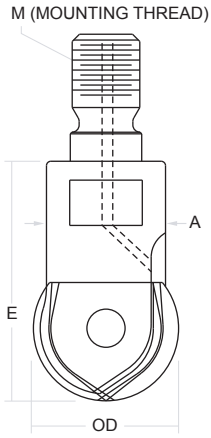
EDP	OD – Insert Size		Description	A Ø	B Straight Length	C Taper End Ø	D Shank Ø	E Effective Length	T Taper Angle	L Overall Length
	Inch	Metric								
40640	0.375”	10mm	SC-BNEM-0375-3950-SS	0.335”	0.625”	0.365”	0.375”	1.500”	0.516°	3.950”
40645	0.375”	10mm	SC-BNEM-0375-3950-OS	0.335”	0.750”	0.360”	0.500”	1.375”	0.120°	3.950”
40650	0.375”	10mm	SC-BNEM-0375-7000-SS	0.335”	0.625”	0.365”	0.375”	3.000”	0.172°	7.000”
40660	0.500”	12mm	SC-BNEM-0500-3950-SS	0.413”	0.750”	0.490”	0.500”	1.500”	2.920°	3.950”
40670	0.500”	12mm	SC-BNEM-0500-7000-SS	0.413”	0.750”	0.490”	0.500”	4.000”	0.688°	7.000”
40680	0.500”	12mm	SC-BNEM-0500-7000-12MM-SS	0.413”	0.500”	0.490”	12mm	1.450”	1.500°	7.000”
40690	0.625”	16mm	SC-BNEM-0625-7000-SS	0.547”	0.750”	0.615”	0.625”	1.500”	3.400°	7.000”
40695	0.625”	16mm	SC-BNEM-0625-7000-15MM-SS	0.547”	1.300”	Straight	15mm	1.300”	N/A	7.000”
40700	0.750”	20mm	SC-BNEM-0750-7500-SS	0.670”	1.000”	0.740”	0.750”	2.250”	1.600°	7.500”
40710	0.750”	20mm	SC-BNEM-0750-10000-SS	0.670”	1.000”	0.740”	0.750”	6.000”	0.400°	10.000”
40720	0.750”	20mm	SC-BNEM-0750-10000-18MM-SS	0.670”	1.000”	0.698”	18mm	2.250”	1.600°	10.000”
40730	1.000”	25mm	SC-BNEM-1000-7500-SS	0.860”	1.500”	0.990”	1.000”	3.000”	2.500°	7.500”
40740	1.000”	25mm	SC-BNEM-1000-10000-SS	0.860”	1.500”	0.990”	1.000”	7.000”	0.670°	10.000”
40750	1.000”	25mm	SC-BNEM-1000-10000-25MM-SS	0.860”	1.500”	0.990”	25mm	3.000”	2.500°	10.000”



Modular Heads

Ball Nose Modular Heads

EDP	OD – Insert Size		Description	M Thread	A Ø	E Effective Length	Flutes	Wrench
	Inch	Metric						
40835-6	0.500”	12mm	GWR12-MOD-C (M6)	M6	0.417”	1.05”	2	3/8”
40835	0.500”	12mm	GWR12-MOD-C (M8)	M8	0.417”	1.05”	2	3/8”
40840C	0.625”	16mm	GWR16-MOD-C	M8	0.510”	1.11”	2	7/16”
40855	0.750”	20mm	GWR20-MOD-C	M10	0.690”	1.28”	2	9/16”
40865	1.000”	25mm	GWR25-MOD-C	M12	0.820”	1.65”	2	11/16”
40875	1.250”	30mm / 32mm	GWR32-MOD-C	M16	1.142”	1.78”	2	15/16”

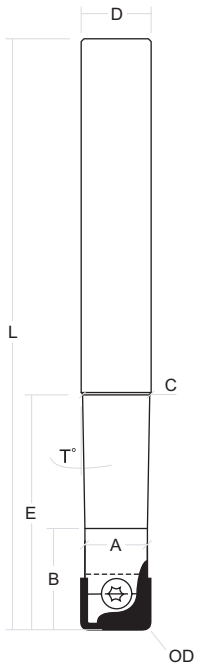


Back Draft & Flat Bottom Cutter Bodies

For use with BDR and FBR inserts only.

Back Draft & Flat Bottom Cutter Bodies

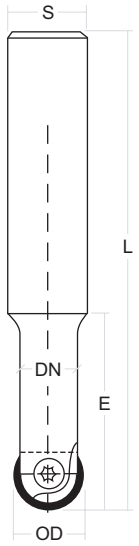
EDP	OD – Insert Size	Description	A Ø	B Straight Length	C Taper End Ø	D Shank Ø	E Effective Length	T Taper Angle	L Overall Length
40760	0.375”	BDEM-0375-5250-OS	0.335”	0.625”	0.365”	0.500”	1.125”	1.700°	5.250”
40770	0.500”	BDEM-0500-6000-SS	0.413”	0.750”	0.490”	0.500”	1.500”	2.900°	6.000”
40810	0.500”	SC-BDEM-0500-3950-SS	0.413”	0.750”	0.490”	0.500”	1.500”	2.920°	3.950”
40820	0.500”	SC-BDEM-0500-7000-SS	0.413”	0.750”	0.490”	0.500”	4.000”	0.688°	7.000”
40780	0.625”	BDEM-0625-7000-SS	0.547”	0.750”	0.615”	0.625”	1.875”	1.700°	7.000”
40790	0.750”	BDEM-0750-9000-SS	0.670”	1.000”	0.740”	0.750”	2.250”	1.600°	9.000”
40800	1.000”	BDEM-1000-10000-SS	0.860”	1.500”	0.990”	1.000”	3.000”	2.500°	10.000”



Metric Series Cutter Bodies

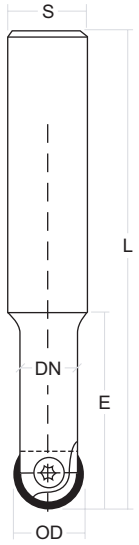
Metric Shank Cutter Bodies

EDP	OD – Insert Size		Description	E Effective Length	L Overall Length	S Shank Ø	DN Neck Ø
	Metric	Inch					
50000	8mm	0.313”	GWR08-100-10-RZK	25mm	100mm	10mm	7mm
50010	10mm	0.375”	GWR10-130-10-RZ	25mm	130mm	10mm	9mm
50020	12mm	0.500”	GWR12-150-12-RZ	47mm	150mm	12mm	10.5mm
50030	16mm	0.625”	GWR16-180-16-RZ	52mm	180mm	16mm	14.5mm
50040	20mm	0.750”	GWR20-230-20-RZ	65mm	230mm	20mm	18mm



Metric Shank / Imperial Cutter Bodies

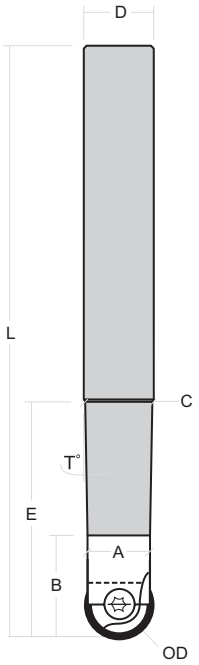
EDP	OD – Insert Size		Description	E Effective Length	L Overall Length	S Shank Ø	DN Neck Ø
	Metric	Inch					
41250	12mm	0.500"	BNEM-0500-7000-12MM-SS	0.750"	7.00”	12mm	0.413"
41260	20mm	0.750"	BNEM-0750-10000-18MM-SS	1.000"	10.00”	18mm	0.670"
41270	25mm	1.000"	BNEM-1000-10000-25MM-SS	1.500"	10.00”	25mm	0.860"



Metric Series Cutter Bodies

Metric Shank / Solid Carbide Imperial Cutter Bodies

EDP	OD – Insert Size		Description	A Ø	B Straight Length	C Taper End Ø	D Shank Ø	E Effective Length	T Taper Angle	L Overall Length
	Inch	Metric								
40680	0.500”	12mm	SC-BNEM-0500-7000-12MM-SS	0.413”	0.500”	0.490”	12mm	1.450”	1.500°	7.000”
40695	0.625”	16mm	SC-BNEM-0625-7000-15MM-SS	0.547”	1.300”	Straight	15mm	1.300”	N/A	7.000”
40720	0.750”	20mm	SC-BNEM-0750-10000-18MM-SS	0.670”	1.000”	0.698”	18mm	2.250”	1.600°	10.000”
40750	1.000”	25mm	SC-BNEM-1000-10000-25MM-SS	0.860”	1.500”	0.990”	25mm	3.000”	2.500°	10.000”



Metric Undersized Shank Cutter Bodies

EDP	OD – Insert Size		Description	E Effective Length	L Overall Length	S Shank Ø	DN Neck Ø
	Metric	Inch					
41200	12mm	0.500"	US-GWR12-150-11MM-RZ	32mm	150mm	11mm	10.5mm
41210	16mm	0.625"	US-GWR16-180-15MM-RZ	36mm	180mm	15mm	14.5mm
41220	20mm	0.750"	US-GWR20-230-18MM-RZ	45mm	230mm	18mm	18mm
41230	25mm	1.000"	US-GWR25-250-24MM-RZ	51mm	250mm	24mm	22.5mm



Rough-Duty Ball Nose Inserts

- Tougher carbide substrate for added shock resistance
- Stronger ground cutting edges for extra strength and durability
- Helical geometry for reduced cutting forces



RDBN Inserts

Insert	Size / Dia.	Thickness	Grade	Coating		
				Uncoated	TS	HM
RDBN	0.500”	0.098”	T1	57000	57003	57001
	0.625”	0.118”		57020	57023	57021
	0.750”	0.118”		57040	57043	57041
	1.000”	0.157”		57060	57063	57061

See page IM-156 for insert grade and coating selection.

Helical Cutting Edge Ball Nose Inserts

- Single-sided HBN series helical cutting edge inserts provide optimized performance in ball nose finishing applications
- High-shear cutting edge reduces tool pressure and stress
- Smoother cutting action improves tool life and reduces chatter



HBN Inserts

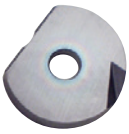
Insert	Size / Dia.	Thickness	Grade	Coating			
				Uncoated	FP-GLH	FP-HM	FPD
Inches							
HBN	0.375”	0.0981”	F1	42300	42340	42365	49105
	0.500”	0.0981”		42400	42440	42465	49110
	0.625”	0.1178”		42500	42540	42565	
	0.750”	0.1178”		42600	42640	42665	49120
	1.000”	0.1572”		42700	42740	42765	49130
	1.250”	0.1965”		42800	42840	42865	
Metric							
HBN	10mm	2.5mm	F1	54000	54060	54065	
	12mm	2.5mm		54100	54160	54165	
	16mm	3.0mm		54200	54260	54265	
	20mm	3.0mm		54300	54360	54365	
	25mm	4.0mm		54400	54460	54465	
	30mm	5.0mm		54500	54560	54565	
	32mm	5.0mm		54600	54660		

See page IM-156 for insert grade and coating selection.

Standard Ball Nose Inserts

- Precision-ground inserts maintain a positional tolerance of .0005”
- A variety of edge geometry options for a multitude of applications.
- Excellent for light roughing, semi-finishing, and finishing of most materials.





BNR-N



BNR-CB



BNR-N-PCD

BNR Inserts

Insert	Edge	Size / Dia.	Thickness	Grade	Coating						
					Uncoated	FP-GLH	FP-TS	FP-HM	FP-DL	FPD	PCD
Inches											
BNR	N	0.375”	0.0981”	F1	43000	43040	43067	43065	43030	49000	43070
		0.500”	0.0981”		43100	43140	43167	43165	43135	49010	43170
		0.625”	0.1178”		43200	43240	43267	43265		43230	
		0.750”	0.1178”		43300	43340	43395	43365	43372	49020	43370
		1.000”	0.1572”		43400	43440	43467	43465	43475	49030	43470
		1.250”	0.1965”		43500	43540	43567	43565			
	CB	0.312”	0.0784”		43700	43740		43765		49300	
		0.375”	0.0981”		43800	43840	43867	43865			
		0.500”	0.0981”		43900	43940	43967	43965		49310	
		0.625”	0.1178”		44000	44040	44067	44065			
		0.750”	0.1178”		44100	44140	44167	44165			
		1.000”	0.1572”		44200	44240	44267	44265		MP00795	
		1.250”	0.1965”		44300	44340	44367	44365			

See page IM-156 for insert grade and coating selection.

Standard Ball Nose Inserts

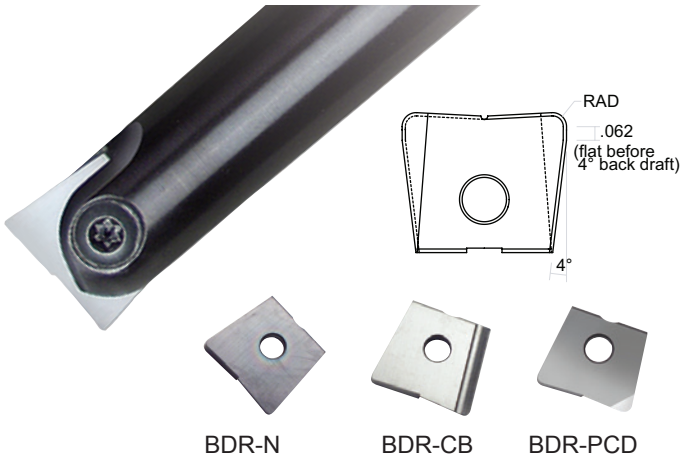
BNR Inserts (continued)

Insert	Edge	Size / Dia.	Thickness	Grade	Coating				
					Uncoated	FP-GLH	FP-TS	FP-HM	FP-DL
Metric									
BNR	N	12mm	2.5mm	F1	51200	51240	51267		
		16mm	3.0mm		51300	51340	51367		
		20mm	3.0mm		51400	51440	51467	51465	
		25mm	4.0mm		51500	51540	51567	51565	
		30mm	5.0mm		51600	51640	51667	51665	
		32mm	5.0mm						
	CB	8mm	2.0mm		52000	52040		52065	
		10mm	2.5mm		52100	52140	52167	52165	
		12mm	2.5mm		52200	52240	52267	52265	
		20mm	3.0mm		52400	52490			
		25mm	4.0mm		52500	52540	52567	52565	
		32mm	5.0mm		52600	52660	52667	52665	

See page IM-156 for insert grade and coating selection.

Back Draft Inserts

- Reduced tool pressure for long-reach wall, core, and cavity finishing
- Wiper flat produces fine finishes on straight-wall work
- Multiple corner radii available
- Strong “N” geometry for steels, irons, and graphite electrodes
- Sharper “CB” geometry for stainless and high-temp. alloys, and for minimizing fracture on graphite



BDR-N BDR-CB BDR-PCD

BDR Inserts

Insert	Edge	Size / Dia.	Corner Radius	Thickness	Hole Dia.	Grade	Coating						
							Uncoated	FP-GLH	FP-TS	FP-HM	FP-DL	FPD	PCD
BDR	N	0.375”	1/32	0.0981”	0.1578”	F1	46600	46640	46667	46665	46630	49050	49200*
		0.375”	1/16	0.0981”	0.1578”		46700	46740	46767	46765	46730	49055	
		0.500”	1/32	0.0981”	0.1972”		46800	46840	46867	46865	46805	49060	49210*
		0.500”	1/16	0.0981”	0.1972”		46900	46940	46967	46965	46930	49070	49220*
		0.625”	1/32	0.1178”	0.1972”		47000	47040	47067	47065			
		0.625”	1/16	0.1178”	0.1972”		47100	47140	47167	47165			
		0.750”	1/32	0.1178”	0.1972”		47200	47240		47265	47230	47250	49230*
		0.750”	1/16	0.1178”	0.1972”		47300	47340	47367	47365	47330	49080	49240*
		1.000”	1/32	0.1572”	0.2365”		47400	47440	47467	47465	47430	49090	49250*
		1.000”	1/16	0.1572”	0.2365”		47500	47540	47567	47565	47530	49100	49255*
		1.000”	1/8	0.1572”	0.2365”		47600	47640	47667	47665			
	CB	0.500”	1/32	0.0981”	0.1972”		47800	47840	47867	47885			
		0.500”	1/16	0.0981”	0.1972”		47900	47940	47967	47985			
		0.500”	1/8	0.0981”	0.1972”		48000	48040	48067	48085			
		0.625”	1/32	0.1178”	0.1972”		48100	48140	48167	48185			
		0.625”	1/16	0.1178”	0.1972”		48200	48240	48267	48285			
		0.750”	1/32	0.1178”	0.1972”		48300	48340	48367	48365			
		0.750”	1/16	0.1178”	0.1972”		48400	48440	48467	48465			
		0.750”	1/8	0.1178”	0.1972”		48500	48540	48567	48565			
		1.000”	1/32	0.1572”	0.2365”		48600	48640	48667	48665			
		1.000”	1/16	0.1572”	0.2365”		48700	48740	48767	48765			
		1.000”	1/8	0.1572”	0.2365”		48800	48840	48867	48865			

* DOC of PCD-tipped BDR inserts is 0.125”.

See page IM-156 for insert grade and coating selection.

Flat Bottom Inserts

- For fine finishing of tapered walls or floor work
- Multiple corner radii available
- Excellent for any bull nose cutter applications



FBR-N

FBR-CB

FBR Inserts

Insert	Edge	Size / Dia.	Corner Radius	Thickness	Hole Dia.	Grade	Coating				
							Uncoated	FP-GLH	FP-TS	FP-HM	FP-DL
FBR	N	0.375”	1/32	0.0981”	0.1578”	F1	44500	44540	44567	44565	
		0.500”	1/32	0.0981”	0.1972”		44600	44640	44667	44665	
		0.500”	1/16	0.0981”	0.1972”		44700	44740	44767	44765	
		0.625”	1/32	0.1178”	0.1972”		44820	44840	44867	44865	
		0.750”	1/32	0.1178”	0.1972”		45000	45040	45067	45065	
		0.750”	1/16	0.1178”	0.1972”		45100	45140	45167	45165	
		1.000”	1/16	0.1572”	0.2365”		45300	45340	45367	45365	
	CB	0.500”	1/32	0.0981”	0.1972”		45600	45640	45667	45665	
		0.625”	1/32	0.1178”	0.1972”		45800	45840	45867	45865	
		0.750”	1/32	0.1178”	0.1972”		46000	46040	46067	46065	
		0.750”	1/16	0.1178”	0.1972”		46100	46140	46167	46165	
		1.000”	1/32	0.1572”	0.2365”		46200	46240			
		1.000”	1/16	0.1572”	0.2365”		46300	46340	46367	46365	

See page IM-156 for insert grade and coating selection.

HFBD High-Feed Inserts

- $^{3}/_{8}$" to 1" diameter
- Use for cavity / core roughing, pocketing, detail area roughing, and helical interpolation
- Utilizes BNEM cutter body (will not fit BDEM)



HFBD Inserts

Insert	Size / Dia.	Uses Holder	Corner Radius (Actual)	Program Radius	FPT	Max. DOC	Grade	Coating			
								Uncoated	FP-GLH	FP-TS	FP-HM
HFBD	0.375"	BNEM0375 / GWR10	.020"	.0295"	.010-.020	.013"	F1	42000	42010	42027	42025
	0.500"	BNEM0500 / GWR12	.034"	.0558"	.012-.025	.020"		42030	42050	42067	42065
	0.625"	BNEM0625 / GWR16	.048"	.0766"	.012-.030	.025"		42080	42090	42087	42085
	0.750"	BNEM0750 / GWR20	.062"	.0852"	.012-.040	.028"		42110	42120	42137	42135
	1.000"	BNEM1000 / GWR25	.076"	.1104"	.012-.040	.033"		42140	42160	42177	42165

See page IM-156 for insert grade and coating selection.

Single-Sided Accessories



** T10-T wrenches are available for older-style insert screws.*

Insert Screw	Screw EDP	Insert Size		Dia.	Major Dia.	Pitch	Wrench	Wrench EDP	Torque	
		Inch	Metric						Nm	in-lbs.
1 GWS-08	41000	.312	8	3mm	3mm	.5mm	8 T8-F	83000	Manual	
2 GWS-10	41010	.375	10	4mm	4mm	.5mm	9 T15-T	83010	Manual	
3 GWS-12	41020	.500	12	5mm	5mm	.5mm	10 T20-T	83020	6.0	53
4 GWS-16	41030	.625	16	5mm	5mm	.5mm	10 T20-T	83020	6.2	55
5 GWS-20	41040	.750	20	5mm	5mm	.5mm	10 T20-T	83020	6.2	55
6 GWS-25	41050	1.000	25	6mm	6mm	.75mm	11 T30-T	41100	6.5	58
7 GWS-32	41060	1.250	30/32	8mm	8mm	.75mm	11 T30-T	41100	6.5	58

All listed tools use Anti-Seize Grease ASG-120 (41110).

Ball Nose / Back Draft Recommended Parameters

Style	Edge	Coating	Speed / Feed		Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
RDBN		HM	Speed		700-1000	500-900	450-800	**300-600**	**250-600**
			Feed	≤ .50" Dia.	.005-.010	.005-.010	.004-.008	**.003-.008**	**.003-.007**
				> .50" Dia.	.005-.012	.005-.012	.005-.010	**.005-.010**	**.004-.010**
		TS	Speed		**700-1000**	**500-900**	**450-800**	**300-600**	250-600
			Feed	≤ .50" Dia.	**.005-.010**	**.005-.010**	**.004-.008**	**.003-.008**	.003-.007
				> .50" Dia.	**.005-.012**	**.005-.012**	**.005-.010**	**.005-.010**	.004-.010
HBN		Uncoated	Speed						
			Feed	≤ .50" Dia.					
				> .50" Dia.					
		FP-GLH	Speed		**700-1000**	**500-900**	**400-800**	**300-700**	**250-500**
			Feed	≤ .50" Dia.	**.010-.020**	**.010-.020**	**.010-.020**	**.008-.015**	**.006-.015**
				> .50" Dia.	**.015-.025**	**.015-.025**	**.012-.025**	**.010-.020**	**.008-.015**
		FP-HM	Speed		450-800	400-700	**300-550**	**300-500**	**250-400**
			Feed	≤ .50" Dia.	.020-.060	.020-.060	**.020-.050**	**.015-.050**	**.005-.030**
				> .50" Dia.	.015-.030	.015-.030	**.015-.030**	**.015-.030**	**.005-.020**

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› The parameters provided are suggested starting operating parameters.
› See page IM-156 for insert grade and coating selection.

Continued on next page

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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum / Non-Ferrous	Carbon Graphite
300-600	**450-800**	**250-550**	**600-1000**	**500-900**	**55-90**	**35-75**	**120-180**	400-900		
.003-.008	**.004-.010**	**.003-.008**	**.005-.012**	**.004-.008**	**.003-.006**	**.002-.005**	**.003-.007**	.005-.012		
.003-.010	**.004-.012**	**.003-.010**	**.005-.012**	**.005-.010**	**.003-.007**	**.002-.006**	**.003-.008**	.005-.012		
300-600	450-800	**250-550**	600-1000	500-900	**55-90**	**35-75**	**120-180**	400-900		
.003-.008	.004-.010	**.003-.008**	.005-.012	.004-.008	**.003-.006**	**.002-.005**	**.003-.007**	.005-.012		
.003-.010	.004-.012	**.003-.010**	.005-.012	.005-.010	**.003-.007**	**.002-.006**	**.003-.008**	.005-.012		
									1200+	700--1200
									.007-.012	.010-.020
									.007-.015	.010-.020
300-600	**500-900**	**300-550**	**700-1200**	**600-1000**	55-90	35-75	120-180	**400-900**	1000+ (cast)	**700-1200**
.003-.007	**.004-.008**	**.003-.007**	**.004-.010**	**.003-.007**	.002-.005	.002-.004	.003-.007	**.005-.010**	.007-.012	**.010-.020**
.003-.008	**.004-.010**	**.003-.008**	**.005-.012**	**.004-.008**	.003-.006	.002-.005	.003-.007	**.005-.012**	.007-.015	**.010-.020**
300-600	500-900	**300-550**	**700-1200**	**600-1000**	**55-90**	**35-75**	**120-180**			700-1200
.003-.007	.004-.008	**.003-.007**	**.004-.010**	**.003-.007**	**.002-.005**	**.002-.004**	**.003-.007**			.010-.020
.003-.008	.004-.010	**.003-.008**	**.005-.012**	**.004-.008**	**.003-.006**	**.002-.005**	**.003-.007**			.010-.020

Ball Nose / Back Draft Recommended Parameters

Style	Edge	Coating	Speed / Feed		Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
BNR	N	FP-GLH / FP-TS	Speed		**800-1200**	**700-1000**	**450-800**	**300-700**	**250-700**
			Feed	≤ .50" Dia.	**.005-.010**	**.005-.010**	**.004-.008**	**.003-.008**	**.003-.008**
				> .50" Dia.	**.005-.012**	**.005-.012**	**.005-.010**	**.004-.010**	**.004-.010**
		FP-HM	Speed		800-1200	700-1000	**450-800**	**300-700**	**250-700**
			Feed	≤ .50" Dia.	.005-.010	.005-.010	**.004-.008**	**.003-.008**	**.003-.008**
				> .50" Dia.	.005-.012	.005-.012	**.005-.010**	**.004-.010**	**.004-.010**
		FPD	Speed						
			Feed	≤ .50" Dia.					
				> .50" Dia.					
		FP-DL	Speed						
			Feed	≤ .50" Dia.					
				> .50" Dia.					
		PCD	Speed						
			Feed	≤ .50" Dia.					
				> .50" Dia.					
	CB	Uncoated	Speed						
			Feed	≤ .50" Dia.					
				> .50" Dia.					
		FPD	Speed						
			Feed	≤ .50" Dia.					
				> .50" Dia.					
		FP-GLH / FP-TS	Speed		**800-1200**	**600-1000**	500-900	300-700	
			Feed	≤ .50" Dia.	**.003-.008**	**.003-.008**	.003-.007	.003-.007	
				> .50" Dia.	**.005-.010**	**.005-.010**	.004-.008	.003-.008	
		FP-HM	Speed		800-1200	600-1000	500-900	300-700	
				≤ .50" Dia.	.003-.008	.003-.008	.003-.007	.003-.007	
				> .50" Dia.	.005-.010	.005-.010	.004-.008	.003-.008	

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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum / Non-Ferrous	Carbon Graphite
			700-1200	**600-1000**						700-1200
			.005-.012	**.004-.008**						.010-.020
			.005-.015	**.005-.012**						.010-.020
			700-1200	**600-1000**						
			.005-.012	**.004-.008**						
			.005-.015	**.005-.012**						
										1200+
										.010-.020
										.010-.020
										1200+
										.010-.020
										.010-.020
									1500+ (cast)	**1200+**
									.005-.010	**.010-.020**
									.005-.010	**.010-.020**
									1200+	700--1200
									.010-.020	.010-.020
									.010-.020	.010-.020
										1200+
										.010-.020
										.010-.020
300-600	**500-900**	**300-550**	700-1200	600-1000	55-90	35-75	120-180	**400-900**	1000+ (cast)	700-1200
.003-.007	**.004-.008**	**.003-.007**	.004-.010	.003-.007	.002-.005	.002-.004	.003-.007	**.005-.010**	.007-.012	.010-.020
.003-.008	**.004-.010**	**.003-.008**	.005-.012	.004-.008	.003-.006	.002-.005	.003-.007	**.005-.012**	.007-.015	.010-.020
300-600	500-900	**300-550**	700-1200	600-1000	**55-90**	**35-75**	**120-180**			700-1200
.003-.007	.004-.008	**.003-.007**	.004-.010	.003-.007	**.002-.005**	**.002-.004**	**.003-.007**			.010-.020
.003-.008	.004-.010	**.003-.008**	.005-.012	.004-.008	**.003-.006**	**.002-.005**	**.003-.007**			.010-.020

Ball Nose / Back Draft Recommended Parameters

Style	Edge	Coating	Speed / Feed		Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
BDR / FBR	N	FP-GLH / FP-TS	Speed		**800-1200**	**700-1000**	**450-800**	**300-700**	**250-700**
			Feed	≤ .50" Dia.	**.005-.010**	**.005-.010**	**.004-.008**	**.003-.008**	**.003-.008**
				> .50" Dia.	**.005-.012**	**.005-.012**	**.005-.010**	**.004-.010**	**.003-.010**
		FP-HM	Speed		800-1200	700-1000	**450-800**	**300-700**	**250-700**
			Feed	≤ .50" Dia.	.005-.010	.005-.010	**.004-.008**	**.003-.008**	**.003-.008**
				> .50" Dia.	.005-.012	.005-.012	**.005-.010**	**.004-.010**	**.003-.010**
BDR	N	FPD	Speed						
			Feed	≤ .50" Dia.					
				> .50" Dia.					
		FP-DL	Speed						
			Feed	≤ .50" Dia.					
				> .50" Dia.					
		PCD	Speed						
			Feed	≤ .50" Dia.					
				> .50" Dia.					
BDR / FBR	CB	Uncoated	Speed						
			Feed	≤ .50" Dia.					
				> .50" Dia.					
		FP-GLH	Speed		**800-1200**	**600-1000**	500-900		
			Feed	≤ .50" Dia.	**.005-.008**	**.005-.008**	.004-.007		
				> .50" Dia.	**.005-.010**	**.005-.010**	.005-.008		
		FP-HM	Speed		800-1200	600-1000	500-900		
			Feed	≤ .50" Dia.	.005-.008	.005-.008	.004-.007		
					.005-.010	.005-.010	.005-.008		
HFBD*		Uncoated	Speed						
			Feed	≤ .50" Dia.					
				> .50" Dia.					
		FP-GLH / FP-TS	Speed		**700-1000**	**500-900**	**400-800**	**300-700**	**250-500**
			Feed	≤ .50" Dia.	**.010-.020**	**.010-.020**	**.010-.020**	**.008-.015**	**.006-.015**
				> .50" Dia.	**.015-.025**	**.015-.025**	**.012-.025**	**.010-.020**	**.008-.015**
		FP-HM	Speed		700-1000	500-900	**400-800**	**300-700**	**250-500**
			Feed	≤ .50" Dia.	.010-.020	.010-.020	**.010-.020**	**.008-.015**	**.006-.015**
				> .50" Dia.	.015-.025	.015-.025	**.012-.025**	**.010-.020**	**.008-.015**

* DAPRA recommends a maximum 1° ramp angle on HFBD inserts.

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› See page IM-156 for insert grade and coating selection.

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Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum / Non-Ferrous	Carbon Graphite
			700-1200	**600-1000**						
			.005-.010	**.004-.008**						
			.005-.012	**.004-.010**						
			700-1200	**600-1000**						
			.005-.010	**.004-.008**						
			.005-.012	**.004-.010**						
										1000+
										.010-.020
										.010-.020
										1000+
										.010-.020
										.010-.020
										1000+
										.010-.020
										.010-.020
									1200+	
									.007-.012	
									.007-.015	
300-600	**500-900**	**300-550**	700-1200	600-1000	55-90	35-75	120-180	**400-900**	1000+ (cast)	700-1200
.004-.007	**.005-.010**	**.003-.007**	.005-.010	.004-.008	.002-.006	.002-.004	.003-.007	**.004-.008**	.007-.012	.010-.020
.004-.008	**.005-.010**	**.003-.008**	.005-.012	.004-.010	.002-.006	.002-.005	.003-.007	**.004-.010**	.007-.015	.010-.020
300-600	500-900	**300-550**	700-1200	600-1000	**55-90**	**35-75**	**120-180**			
.004-.007	.005-.010	**.003-.007**	.005-.010	.004-.008	**.002-.006**	**.002-.004**	**.003-.007**			
.004-.008	.005-.010	**.003-.008**	.005-.012	.004-.010	**.002-.006**	**.002-.005**	**.003-.007**			
									1200+	
									.015-.030	
									.015-.030	
250-550	**400-700**	250-550	**600-1000**	**500-900**	55-90	35-75	120-180	**400-900**		700-1200
.010-.015	**.010-.020**	.006-.015	**.010-.020**	**.008-.015**	.005-.010	.005-.008	.007-.012	**.010-.015**		.015-.030
.012-.020	**.015-.025**	.008-.020	**.015-.025**	**.012-.020**	.005-.012	.005-.010	.008-.012	**.015-.020**		.015-.030
250-550	400-700	**250-550**	**600-1000**	**500-900**	**55-90**	**35-75**	**120-180**	400-900		
.010-.015	.010-.020	**.006-.015**	**.010-.020**	**.008-.015**	**.005-.010**	**.005-.008**	**.007-.012**	.010-.015		
.012-.020	.015-.025	**.008-.020**	**.015-.025**	**.012-.020**	**.005-.012**	**.005-.010**	**.008-.012**	.015-.020		



Ball Nose / Back Draft

Double-Sided Insert Platform

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application information

DOUBLE-SIDED BALL NOSE / BACK DRAFT INSERT PLATFORM

Cutter Bodies	IM-143
SBN Series Inserts	IM-147
SBD Series Inserts	IM-148

The EDGE^2 SBN design allows for two usable cutting edges that delivers cost savings without sacrificing surface finish.

- A thicker cross section of carbide provides for better heat and stress absorption.
- Periphery-ground inserts to achieve closer tolerances and less runout.
- Cutter bodies ensure close-tolerance finishing capabilities.

CUTTER BODIES

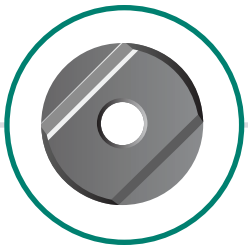


END MILLS
Steel / Solid Carbide / Carbide Core



MODULAR HEADS
Steel

INSERTS

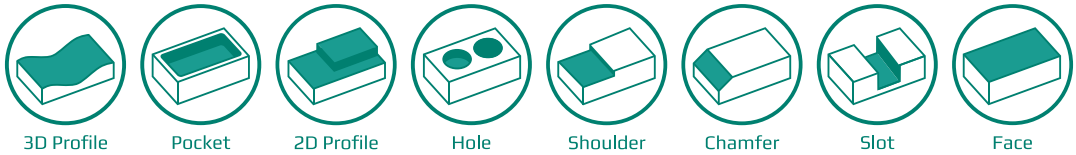


SBN



SBD

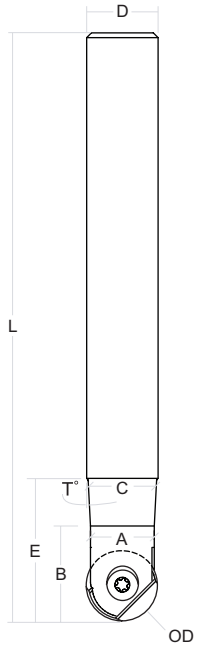




Standard Shank Cutter Bodies

SBN End Mills – Standard Shank

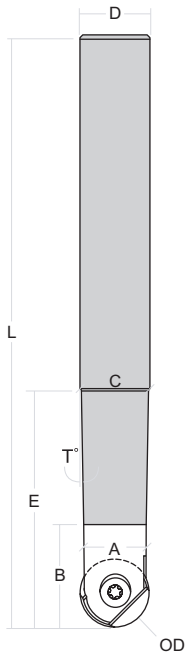
EDP	OD – Insert Size	Description	A Ø	B Straight Length	C Taper End Ø	D Shank Ø	E Effective Length	T Taper Angle	L Overall Length
Inch Shank									
41415	0.500”	SBNEM-0500-7000-SS	0.450”	0.750”	0.470”	0.500”	1.250”	1.7°	7.000”
41440	0.750”	SBNEM-0750-7500-SS	0.670”	1.000”	0.720”	0.750”	1.880”	1.5°	7.500”
41455	1.000”	SBNEM-1000-8000-SS	0.890”	1.500”	0.970”	1.000”	2.500”	2.2°	8.000”
Metric Shank									
41420	0.500”	SBNEM-0500-7000-SS-12MM	0.450”	1.250”	Straight	12mm	1.250”	N/A	7.000”
41445	0.750”	SBNEM-0750-10000-SS-18MM	0.670”	1.880”	Straight	18mm	1.880”	N/A	10.000”
41460	1.000”	SBNEM-1000-10000-SS-25MM	0.890”	1.500”	0.970”	25mm	2.500”	1.7°	10.000”



Solid Carbide Cutter Bodies

SBN End Mills – Solid Carbide Shank

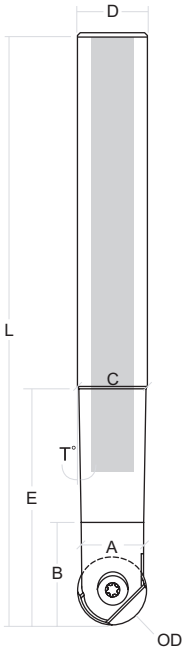
EDP	OD – Insert Size	Description	A Ø	B Straight Length	C Taper End Ø	D Shank Ø	E Effective Length	T Taper Angle	L Overall Length
Inch Shank									
41510	0.500”	SC-SBNEM-0500-7000-SS	0.450”	0.750”	0.470”	0.500”	2.000”	0.70°	7.000”
41525	0.750”	SC-SBNEM-0750-7500-SS	0.670”	1.000”	0.720”	0.750”	2.500”	1.00°	7.500”
41530	0.750”	SC-SBNEM-0750-10000-SS	0.670”	1.000”	0.720”	0.750”	3.750”	0.50°	10.000”
41535	1.000”	SC-SBNEM-1000-8000-SS	0.890”	1.500”	0.970”	1.000”	3.000”	2.25°	8.000”
41540	1.000”	SC-SBNEM-1000-11000-SS	0.890”	1.500”	0.970”	1.000”	4.500”	0.75°	11.000”
Metric Shank									
41515	0.500”	SC-SBNEM-0500-7000-SS-12MM	0.450”	1.250”	Straight	12mm	1.250”	N/A	7.000”
41529	0.750”	SC-SBNEM-0750-9000-SS-18MM	0.670”	1.500”	Straight	18mm	1.500”	N/A	9.000”
41545	1.000”	SC-SBNEM-1000-10000-SS-25MM	0.890”	1.500”	0.970”	25mm	2.000”	3.70°	10.000”



Carbide Core Cutter Bodies

SBN End Mills – Carbide Core Shank

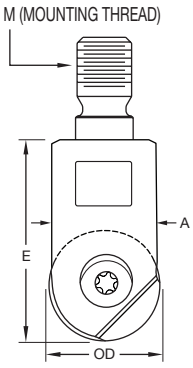
EDP	OD – Insert Size	Description	A Ø	B Straight Length	C Taper End Ø	D Shank Ø	E Effective Length	T Taper Angle	L Overall Length
Inch Shank									
41470	0.750”	CC-SBNEM-0750-9000-SS	0.670”	1.000”	0.720”	0.750”	2.250”	1.10°	9.000”
41475	1.000”	CC-SBNEM-1000-8000-SS	0.890”	1.500”	0.970”	1.000”	3.000”	1.50°	8.000”



Modular Heads

SBN Modular Heads

EDP	OD – Insert Size	Description	M Thread	A Ø	E Effective Length	Flutes	Wrench
41590-M6	.500”	SBNEM-0500-MOD-M6	M6	0.440”	1.06”	2	3/8”
41590	.500”	SBNEM-0500-MOD	M8	0.440”	1.06”	2	3/8”
41600	.750”	SBNEM-0750-MOD	M10	0.670”	1.25”	2	9/16”
41605	1.000”	SBNEM-1000-MOD	M12	0.890”	1.63”	2	9/16”



Double-Sided Accessories

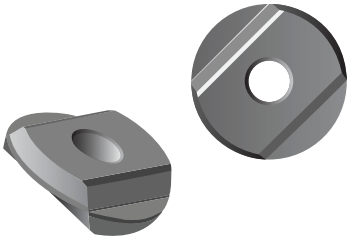
Insert Screw	Screw EDP	Thread	Wrench	Wrench EDP	Torque	
					Nm	in-lbs.
1 SBNS-0500-T20	41710	M5x.5	4 T20-T	83020	6.0	45
2 SBNS-0750-T20	41720	M5x.5	4 T20-T	83020	6.2	55
3 SBNS-1000-T20	41730	M6x.75	4 T20-T	83020	6.5	58

All listed tools use Anti-Seize Grease ASG-120 (41110).



SBN Spherical Ball Nose Inserts

- Thick carbide insert construction for better heat and stress absorption
- Superior surface finishes due to an enhanced grinding process
- Close-tolerance insert pocket produced by EDM, removing less body material for improved insert support





SBN Inserts

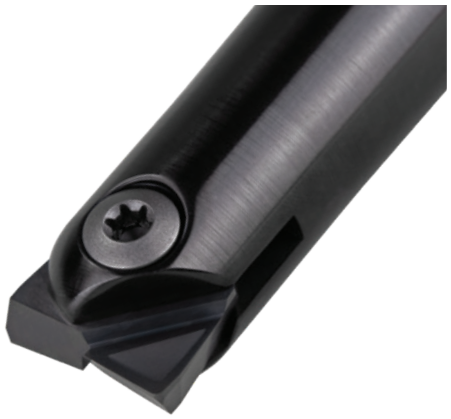
Insert	Size / Dia.	Thickness	Radius	Hole Diameter	Grade	Coating			
						Uncoated	GLH	TS	HM
SBN	.500”	0.138”	0.250”	0.2070”	UC	55500	55560	55587	55585
	.750”	0.218”	0.375”	0.2070”		55700	55760	55787	55765
	1.000”	0.250”	0.500”	0.2464”		55800	55860	55887	55865

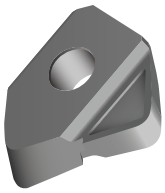
See page IM-156 for insert grade and coating selection.

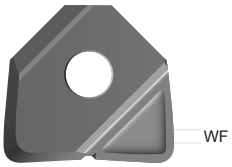
SBD Back Draft-Style Inserts

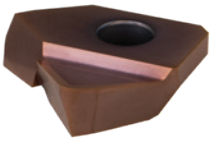
- Insert thickness provides optimum rigidity and heat control, resulting in superior tool life
- EDM pocket provides accuracy and accepts cutting forces with minimal deflection, allowing no insert movement

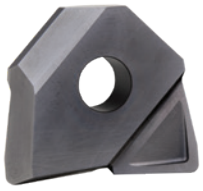
(Back draft angle: 7° per side)











SBD Inserts

Insert	Size / Dia.	Thickness	Radius	Hole Diameter	WF Wiper Flat	Grade	Coating		
							Uncoated	TS	HM
SBD	.500”	0.138”	0.031”	0.2070”	0.050”	UC	54700	54795	54785
	.500”	0.138”	0.062”	0.2070”	0.050”		54800	54895	54885
	.750”	0.218”	0.031”	0.2070”	0.075”		55000	55095	55085
	.750”	0.218”	0.062”	0.2070”	0.075”		55100	55195	55185
	1.000”	0.250”	0.031”	0.2464”	0.100”		55200	55295	55285
	1.000”	0.250”	0.062”	0.2464”	0.100”		55300	55395	55385

See page IM-156 for insert grade and coating selection.

Ball Nose / Back Draft Recommended Parameters

Style	Edge	Coating	Speed / Feed		Low-Carbon Steel	Alloy Steel	Tool Steels	Medium Hardened Steel (36-48 Rc)	Hardened Steel (> 48 Rc)
SBN		GLH / TS	Speed		**800-1200**	**700-1000**	**450-800**	**300-700**	**250-700**
			Feed	≤ .50" Dia.	**.005-.010**	**.005-.010**	**.004-.008**	**.003-.007**	**.003-.007**
				> .50" Dia.	**.005-.012**	**.005-.012**	**.005-.010**	**.004-.008**	**.003-.008**
		HM	Speed		800-1200	700-1000	**450-800**	**300-700**	**250-700**
			Feed	≤ .50" Dia.	.005-.010	.005-.010	**.004-.008**	**.003-.007**	**.003-.007**
				> .50" Dia.	.005-.012	.005-.012	**.005-.010**	**.004-.008**	**.003-.008**
SBD		Uncoated	Speed						
			Feed	≤ .50" Dia.					
				> .50" Dia.					
		HM	Speed		800-1200	600-1000	**500-900**	**300-600**	**250-600**
			Feed	≤ .50" Dia.	.005-.010	.005-.010	**.004-.008**	**.003-.008**	**.003-.008**
				> .50" Dia.	.005-.012	.005-.012	**.005-.010**	**.004-.010**	**.004-.010**
		TS	Speed		**800-1200**	**600-1000**	**500-900**	**300-600**	**250-600**
			Feed	≤ .50" Dia.	**.005-.010**	**.005-.010**	**.004-.008**	**.003-.008**	**.003-.008**
				> .50" Dia.	**.005-.012**	**.005-.012**	**.005-.010**	**.004-.010**	**.004-.010**

› **Bold text** indicates best choice for material shown.
› The parameters provided are suggested starting operating parameters.
› See page IM-156 for insert grade and coating selection.

Visit **generalcuttingtools.com** for technical reference & application information

Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium	Copper Alloys	Aluminum / Non-Ferrous	Carbon Graphite
	500-900	**300-550**	**700-1200**	**600-1000**						700-1200
	.004-.008	**.003-.007**	**.005-.012**	**.004-.008**						.010-.020
	.004-.010	**.003-.008**	**.005-.015**	**.005-.012**						.010-.020
	500-900	**300-550**	**700-1200**	**600-1000**						700-1200
	.004-.008	**.003-.007**	**.005-.012**	**.004-.008**						.010-.020
	.004-.010	**.003-.008**	**.005-.015**	**.005-.012**						.010-.020
									1200+	
									.007-.012	
									.007-.015	
300-600	**500-900**	**300-550**	**700-1200**	**600-1000**	**55-90**	**35-75**	**120-180**	400-900	1000+ (cast)	700-1200
.004-.007	**.005-.010**	**.003-.007**	**.005-.010**	**.004-.008**	**.002-.006**	**.002-.004**	**.003-.007**	.004-.008	.007-.012	.010-.020
.004-.008	**.005-.010**	**.003-.008**	**.005-.012**	**.004-.010**	**.002-.006**	**.002-.005**	**.003-.007**	.004-.010	.007-.015	.010-.020
300-600	500-900	**300-550**	**700-1200**	**600-1000**	**55-90**	**35-75**	**120-180**	**400-900**	1000+ (cast)	700-1200
.004-.007	.005-.010	**.003-.007**	**.005-.010**	**.004-.008**	**.002-.006**	**.002-.004**	**.003-.007**	**.004-.008**	.007-.012	.010-.020
.004-.008	.005-.010	**.003-.008**	**.005-.012**	**.004-.010**	**.002-.006**	**.002-.005**	**.003-.007**	**.004-.010**	.007-.015	.010-.020

Carbide Core Modular Extensions

Ideal for Standard Inch End Mill Holders

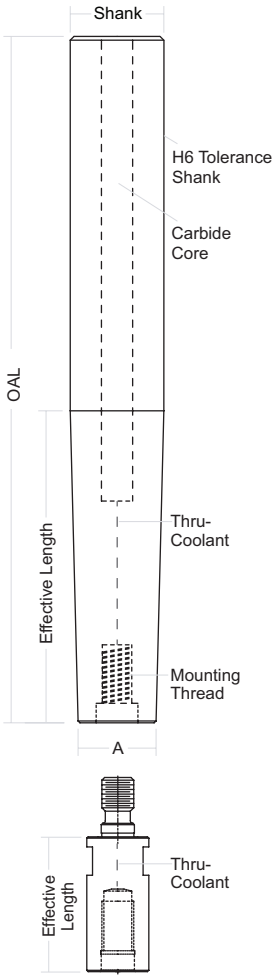
- All styles of modular extensions are universal – use them with any of our screw-on modular heads, as well as many competitors' modular heads
- Cylindrical inch shanks, providing adaptation for end mill holders (add your own flat), milling chucks and heat-shrink holders
- 3 sizes to accommodate modular head sizes from $^{3}/_{4}$" to 1-$^{1}/_{2}$"
- Carbide core for enhanced vibration dampening capability; reduced deflection and improved rigidity
- Optional add-on extensions for additional 2" reach – screw on to base extensions (for $^{3}/_{4}$" to 1-$^{1}/_{2}$" modular heads)
- Thru-coolant for delivery of air or coolant right at the cutting edge



Carbide Core Modular Extensions

EDP	For Head Dia.	Description	Shank Dia.	Effective Length	OAL	Thread	CC	A
22475	.750" / 20mm	CC-ME-0750-2500-5500-C	.750"	2.5"	5.5"	M10	$^{3}/_{8}$" x 4.0"	.660"
22485	.750" / 20mm	CC-ME-0750-3500-C-SS	.750"	3.7"	5.8"	M10	$^{3}/_{8}$" x 4.0"	.660"
22480	.750" / 20mm	CC-ME-0750-3500-C	1.000"	3.7"	6.0"	M10	$^{7}/_{16}$" x 4.0"	.660"
22495	1.000" / 25mm	CC-ME-1000-2500-5500-C	1.000"	2.5"	5.5"	M12	$^{7}/_{16}$" x 4.0"	.935"
22500	1.000" / 25mm	CC-ME-1000-4500-C	1.000"	4.7"	7.0"	M12	$^{7}/_{16}$" x 5.0"	.935"
22505	1.250" / 1.500"	CC-ME-1250-3250-C	1.250"	3.5"	5.8"	M16	$^{1}/_{2}$" x 4.0"	1.175"
22510	1.250" / 1.500"	CC-ME-1250-5500-C	1.250"	5.7"	8.0"	M16	$^{1}/_{2}$" x 6.0"	1.175"

Extensions feature a cylindrical shank, with no Weldon flats. Hold with high-performance milling chucks or heat / mechanical shrink holders, or mill Weldon flats and use a short-length solid end mill holder.



2" Add-On Extensions

EDP	For Head Dia.	Description	Effective Length	Thread
22520	.750" / 20mm	ME-0750-2C Extension Adapter	2.0"	M10
22530	1.000" / 25mm	ME-1000-2C Extension Adapter	2.0"	M12
22540	1.250" / 1.500"	ME-1250-2C Extension Adapter	2.0"	M16

Solid Carbide Modular Extensions

- Optimum rigidity reduces deflection and chatter
- No braze joints
- Best option for finishing with modular heads
- Thru-coolant for delivery of air or coolant right at the cutting edge



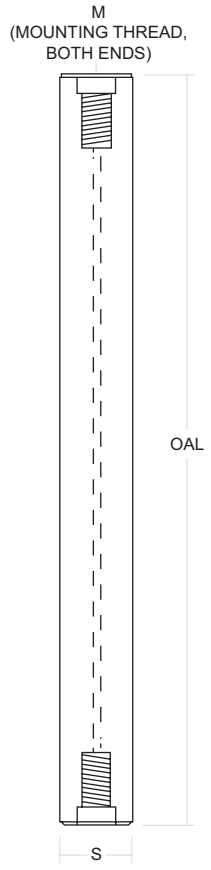
Solid Carbide Modular Extensions

EDP	For Head Dia.	Description	Shank Dia.	Effective Length	OAL	Thread	A
22550-6	.500”	SC-ME-0500-6500-C-M6	.500”	1.500”	6.5”	M6	.460”
22560	.750”	SC-ME-0750-7700-C	.750”	2.250”	7.7”	M10	.709”
22570	1.000”	SC-ME-1000-8300-C	1.00”	5.000”	8.3”	M12	.890” / .950”

Heavy Metal Modular Extensions

- Made of high-density tungsten, providing extra resistance to vibration and deflection
- Machined on both ends; can be cut in half and used with two different modular heads
- Metric shank diameter provides clearance for each inch size modular head
- Thru-coolant equipped





Heavy Metal Modular Extensions

EDP	For Head Dia.	Description	Shank Dia.	OAL	M
22440	.750” / 20mm	ME-0750-18MM-900-C	18mm	9”	M10
22460	1.000” / 25mm	ME-1000-25MM-1100-C	25mm	11”	M12
22470	1.250” / 1.500”	ME-125/150-25MM-1200-C	25mm	12”	M16

Torque Wrench Systems

- Accurate, repeatable application of torque to insert screws – no over-tightening, stripping or binding
- More secure grip and leverage when compared to typical flag-style wrenches, with choice of two handle styles
- Color-coded adapters and bits for quick identification of the correct size for your application
- Each adapter has a preset torque value – simply tighten until you hear a click



T-Handle Torque Driver
TW-TH with TW-AD-20 and TW-BT-20

Complete Set Part Numbers

T10	T15	T20
Straight Handle: TW-SS-10	Straight Handle: TW-SS-15	Straight Handle: TW-SS-20
T-Handle: TW-TS-10	T-Handle: TW-TS-15	T-Handle: TW-TS-20

Individual Pieces

Torque Driver Handle: Straight Handle – TW-SH-L T-Handle – TW-TH	Torque Driver Handle: Straight Handle – TW-SH-L T-Handle – TW-TH	Torque Driver Handle: Straight Handle – TW-SH-L T-Handle – TW-TH
Adapter: TW-AD-10	Adapter: TW-AD-15	Adapter: TW-AD-20
TORX® Bits: TW-BT-10	TORX® Bits: TW-BT-15	TORX® Bits: TW-BT-20



T10 Torque Adapter
TW-AD-10



T15 Torque Adapter
TW-AD-15



T20 Torque Adapter
TW-AD-20



Straight-Handle Torque Driver
TW-SH-L



T-Handle Torque Driver
TW-TH



T10 TORX® Bits (set of 6)
TW-BT-10



T15 TORX® Bits (set of 6)
TW-BT-15



T20 TORX® Bits (set of 6)
TW-BT-20



Straight-Handle Torque Driver
TW-SH-L with TW-AD-10 and TW-BT-10

TORX® is a registered trademark of Camcar/Textron.

Notes

Insert Grade & Coating Selection

TOUGHEST (Shock Resistant)

HARDEST (Wear Resistant)

Grade	Materials		Machining Conditions			Coating			Coolant
			Roughing	Medium	Light				
			Severe	Moderate	Rigid	1st Choice	2nd Choice	3rd Choice	
DMK35	**High-Temp. Alloys**	S20-S40	■	■	■	IN	HM	TS	●
	Stainless Steel	M20-M40	■	■	■	HM	IN		●
DMP35	**Steel**	P30-P40	■	■	▬	HM	GLH	TCI	★ ○
	Iron	K25-K40	■	▬	□	HM	GLH	TCI	◆
	High-Temp. Alloys	S20-S35	▬	▬	▬	HM	TS	GLH	●
	Stainless Steel	M20-M35	▬	▬	▬	HM	GLH	TCI	●
DMK30 (High-Feed, Button / Face)	**Steel**	P30-P40	■	■	▬	GLH	HM	TCI	★
	Iron	K25-K40	■	▬	□	HM	GLH	TCI	◆
	High-Temp. Alloys	S20-S35	▬	▬	▬	HM	TS	GLH	●
	Stainless Steel	M20-M35	▬	▬	▬	HM	GLH	TCI	●
DMK30 (Square Shoulder)	Steel	P15-P25	▬	▬	▬	HM	GLH	TCI	★ ○
	Iron	K15-K25	▬	■	▬	HM	GLH	TCI	◆
	Stainless Steel	M15-M25	□	□	▬	HM	GLH	TCI	●
	Copper Alloys	N20-N30	■	■	■	GLH	TCI		●
DMP30	**Steel**	P25-P35	▬	■	▬	HM	GLH	TCI	★ ○
	Iron (Ductile)	K20-K30	■	■	▬	HM	GLH	TCI	◆
	Hardened Steel (< 45 Rc)	H20-H30	▬	■	■	HM	GLH	TS	★ ○
DMM25 (High-Feed)	Steel	P30-P40	▬	■	■	UHT			★
	Iron	K25-K40	▬	▬	▬	UHT			★
	High-Temp. Alloys	S20-S35	■	■	■	UHT			●
	Stainless Steel	M20-M35	■	■	■	UHT			★
DMP25	**Steel**	P25-P35	▬	■	▬	GLH	HM	TCI	★
	Iron (Ductile)	K20-K30	■	■	▬	HM	GLH	TCI	◆
	Hardened Steel (< 45 Rc)	H20-H30	▬	■	■	HM	GLH	TS	★ ○
DMK25 (High-Feed, Button / Face)	Steel	P15-P25	▬	▬	▬	GLH	HM	TCI	★
	Iron	K15-K25	▬	■	▬	HM	GLH	TCI	◆
	Stainless Steel	M15-M25	□	□	▬	HM	GLH	TCI	●
	Copper Alloys	N20-N30	■	■	■	GLH	TCI		●
DMK25 (Square Shoulder)	**Hardened Steel (> 45 Rc)**	H10-H30	□	▬	■	HM	GLH	TS	★ ○
	Iron	K10-K30	▬	■	■	HM	GLH	TCI	◆
	Non-Ferrous	N10-N30	■	■	■	GLH	TCI	Uncoated	●
	Non-Ferrous (Alu, Graph)	N10-N30	▬	■	■	PCD	DL	Uncoated	●
	Steel	P10-P25	□	▬	■	GLH	HM	TCI	★ ○
DMK15	**Hardened Steel (> 45 Rc)**	H10-H30	□	▬	■	HM	GLH	TS	★ ○
	Iron	K10-K30	▬	■	■	HM	GLH	TCI	◆
	Non-Ferrous	N10-N30	■	■	■	Uncoated	GLH	TCI	●
	Steel	P10-P25	□	▬	■	GLH	HM	TCI	★

■ Highly Recommended
▬ Recommended
□ Not Recommended

● Coolant Beneficial
◆ Coolant Optional
○ Coolant Detrimental
★ Air Preferred

› **Bold text** indicates preferred material.

Ball Nose Insert Grade & Coating Selection

Grade	Materials		Machining Conditions			Coating			Coolant
			Roughing	Medium	Light				
			Severe	Moderate	Rigid	1st Choice	2nd Choice	3rd Choice	
F1 / UC	**Steel**	P10-P25	☐	■	■	GLH	HM	TS	◆
	Hardened Steel (> 45 Rc)	H10-H20	☐	▬	■	HM	GLH	TS	★ ○
	Iron	K10-K25	▬	■	■	HM	GLH	TS	◆
	Stainless Steel	M10-M20	☐	▬	■	HM	GLH	TS	●
	High-Temp. Alloys	S10-S20	☐	▬	■	HM	TS	GLH	●
	Non-Ferrous (Alu, Graph)	N10-N40	■	■	■	PCD	FPD	FPDL	●
	Non-Ferrous (Wood, Plastic)	N10-N40	■	■	■	Uncoated			●
	Copper Alloys	N10-N30	■	■	■	GLH	FPO		●
T1	**Steel**	P10-P35	■	■	■	HM	TS		◆
	Hardened Steel (> 45 Rc)	H10-H25	▬	■	■	HM	TS		★ ○
	Iron	K10-K35	■	■	■	HM	TS		◆
	Stainless Steel	M10-M30	■	■	■	HM	TS		●
	High-Temp. Alloys	S10-S25	■	■	■	TS	HM		●
	Non-Ferrous (Alu, Graph, Wood, Plastic)	N10-N40	▬	▬	▬	T1			●
	Copper Alloys	N10-N40	■	▬	▬	TS	HM		●

■ Highly Recommended
▬ Recommended
☐ Not Recommended

● Coolant Beneficial
◆ Coolant Optional
○ Coolant Detrimental
★ Air Preferred

› **Bold text** indicates preferred material.

Notes

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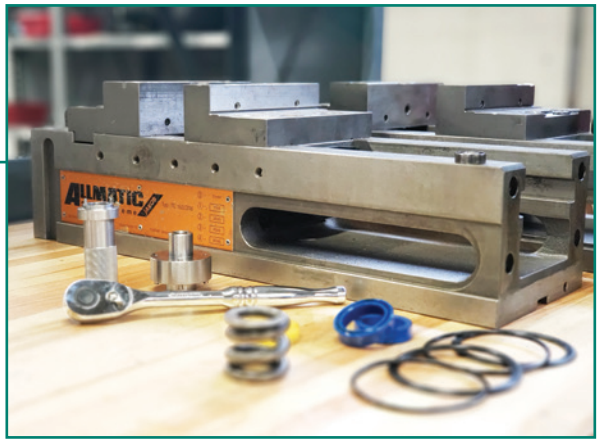


Engineered Specials

In consultation with our tool design engineers and application experts, we can deliver custom solutions for a wide array of applications.

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Our U.S.-based certified technicians have the knowledge, tools, and expertise to maintain the performance of your workholding and power tools.





Center of Excellence

The CoE supports product development, application testing, and customer and channel partner training.



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