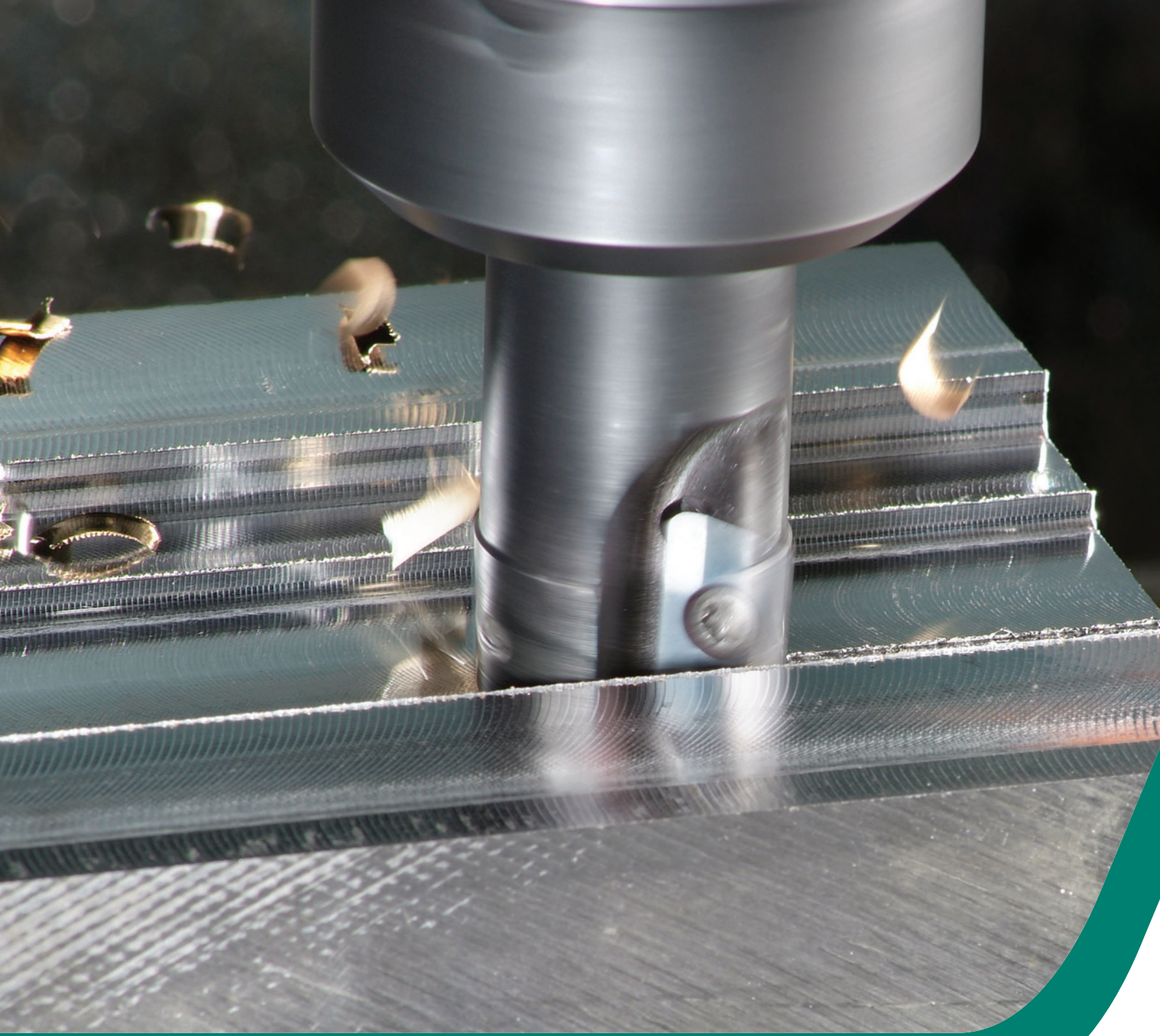




Square Shoulder

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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application information

SINGLE-SIDED SQUARE SHOULDER INSERT PLATFORM

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

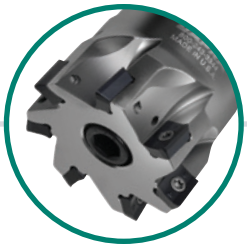
A high-performance platform offering flexibility and versatility.

- 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

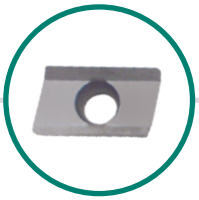
INSERTS



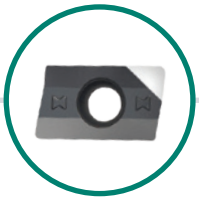
APET



XPET

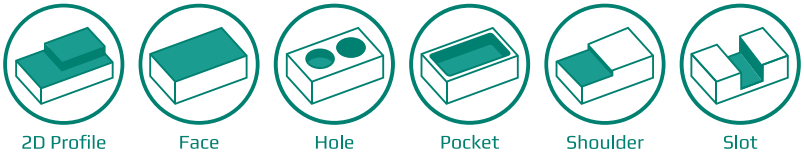


XPET-ALU



PCD-TIPPED





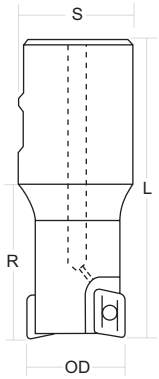
10mm Series Cutter Bodies

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.

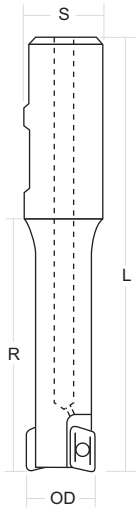
** Cylindrical shank – no Weldon flats.



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.

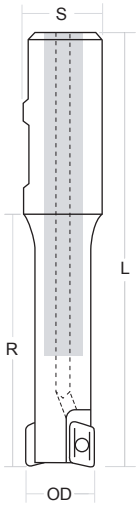


10mm Series Cutter Bodies

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”

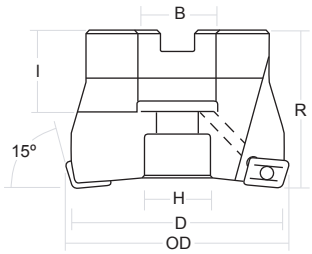
** Cylindrical shank – no Weldon flats.



15° Back-Corner Shell Mills

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

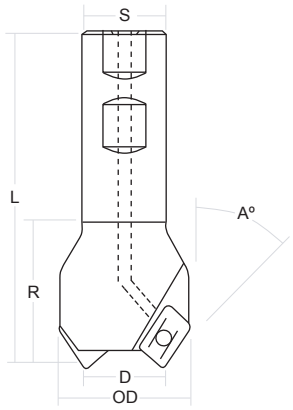
EDP	D Cutting Dia.	Description	DOC Max.	Flutes	OD	B Arbor Dia.	R Overall Length	H Counter Bore Dia.
22210	2.000”	BCSM2000-0750-R35-4C	.250”	4	2.11”	.750”	1.50”	.60”



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.

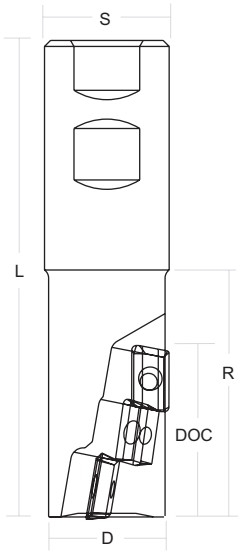


10mm Series Cutter Bodies

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.

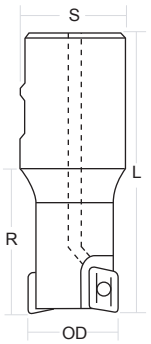


Metric End Mills

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

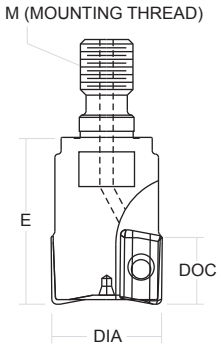
* Non-stock standard – made to order.

EDP # 22040 does not include coolant thru.

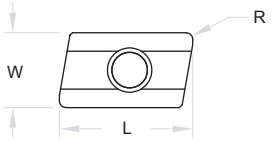


Modular Heads

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

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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					
			.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.

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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
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

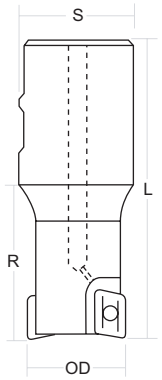
12mm Series Cutter Bodies

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.

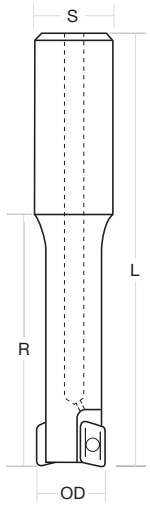
** Cylindrical shank – no Weldon flats.



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.

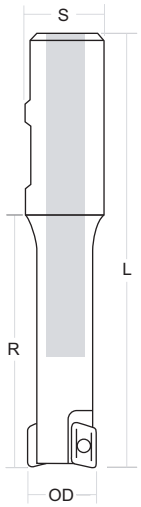


Extended-Reach End Mills with Carbide Core

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.

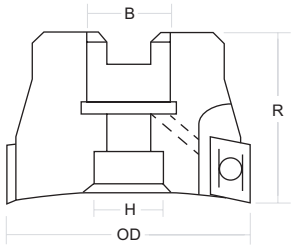


12mm Cutter Bodies

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”

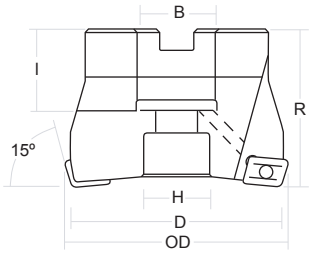
EDP # 20965 does not include coolant thru.



15° Back-Corner Shell Mills

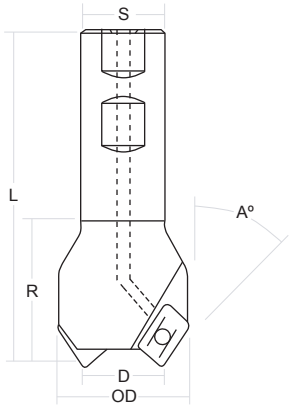
› Utilizes the unused insert corner for general face milling, giving you 4 usable edges rather than 2

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°

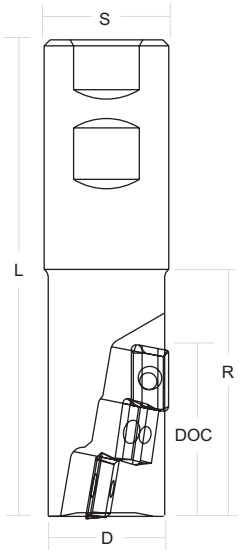


12mm Series Cutter Bodies

Helical Roughing (Stacked) End Mills

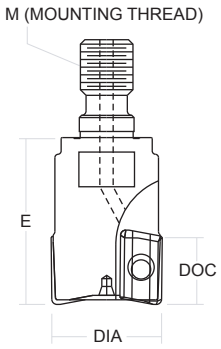
EDP	D Cutting Dia.	Description	DOC Max.	Flutes	S Shank Dia.	L Overall Length	R Effective Length	# of Inserts
21045	1.000”	HREM1000-1000-R45-2-110	1.100”	2	1.000”	4.50”	2.00”	6
21075	1.250”	HREM1250-1250-R45-3-150	1.480”	3	1.250”	4.83”	2.50”	12

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	$^{15}/_{16}$”

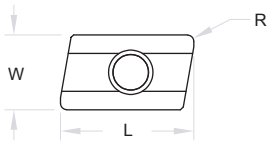


12mm Series Accessories

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	

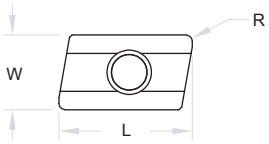
See page IM-155 for insert grade and coating selection.

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		
				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



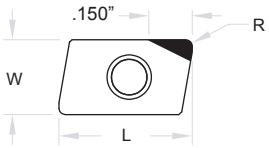
XPET
Cutting Edge
(Honed Edge)
High Shear

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

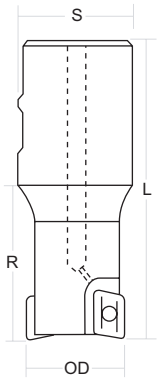
16mm Series Cutter Bodies

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.



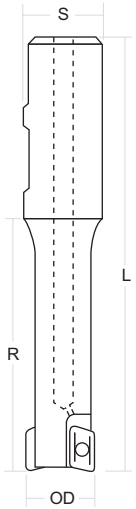
Extended-Reach End Mills

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.

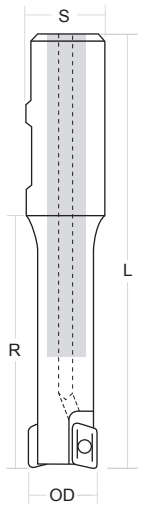
EDP # 20615 does not include coolant thru.



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”



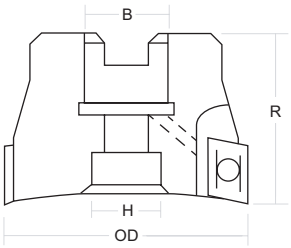
* Non-stock standard – made to order.

** 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

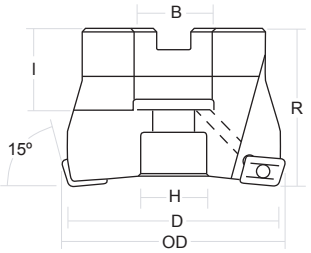


EDP # 20980, 20990, and 21000 do not include coolant thru.

16mm Series Cutter Bodies

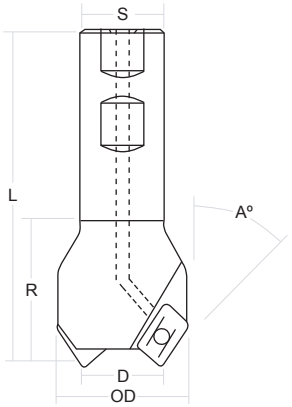
15° Back-Corner Shell Mills

› 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



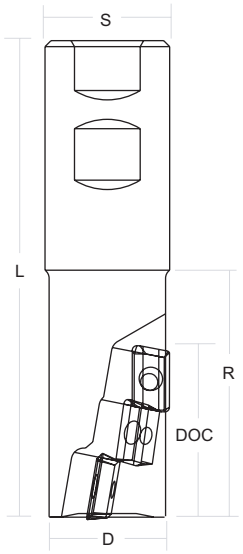
EDP	D Cutting Dia.	Description	DOC Max.	Flutes	OD	S Shank Dia.	L Overall Length	R Effective Length	A
22310	.625”	CMEM0625-45-R55-2C	.245”	2	1.40”	.750”	3.50”	1.45”	45°
22259	.700”	CMEM0700-30-R55-2C	.475”	2	1.25”	.750”	3.50”	1.45”	30°
22280	1.000”	CMEM1000-30-R55-3C	.475”	3	1.53”	1.000”	4.00”	1.72”	30°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

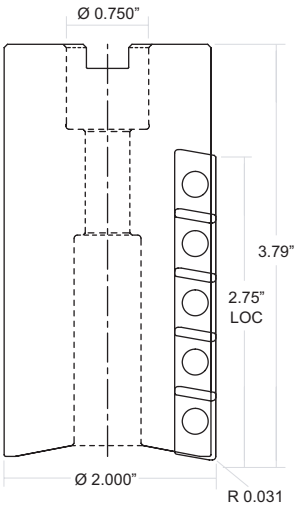
Helical Roughing End Mills do not include coolant thru.



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.

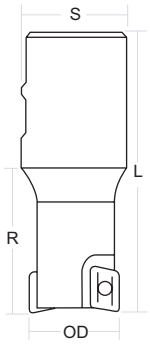


16mm Cutter Bodies

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

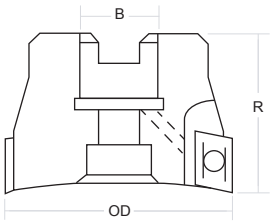
* Non-stock standard – made to order. // Does not include coolant thru.



Metric Shell Mills

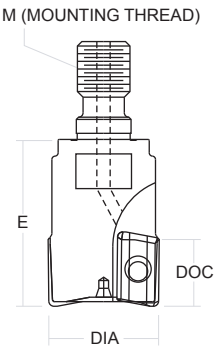
EDP	OD	Description	DOC Max.	Flutes	B Arbor Dia.	R Overall Length	Mounting Screw
22105	50mm	SSSM50-22-R55-4C	16mm	4	22mm	38mm	M10
22130	80mm	SSSM80-27-R55-6	16mm	6	27mm	50mm	M12

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	$^{15}/_{16}$”

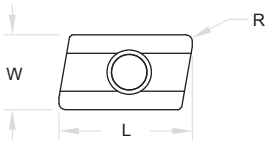


16mm Series Accessories

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	

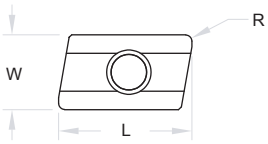
See page IM-155 for insert grade and coating selection.

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	

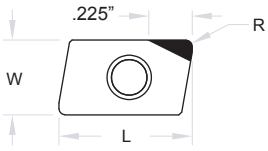
See page IM-155 for insert grade and coating selection.

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

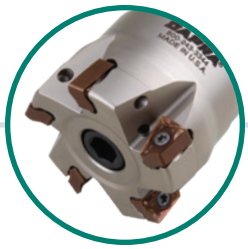
Premium 90-degree milling platform maximizing value and performance.

- 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

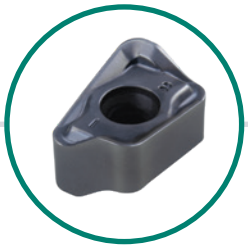


SHELL MILLS
Steel

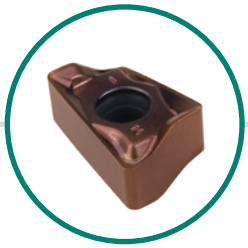


MODULAR HEADS
Steel

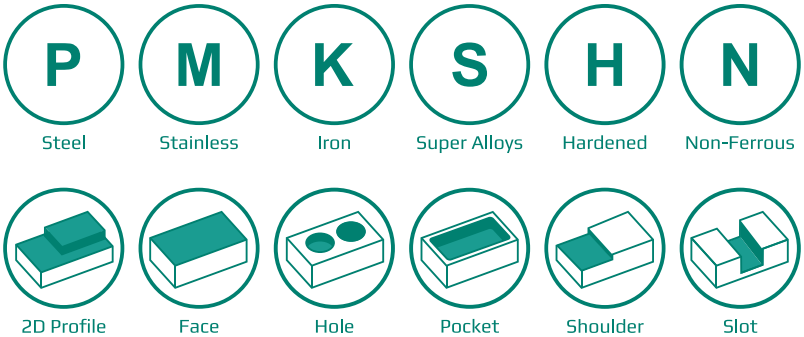
INSERTS



DSS-T



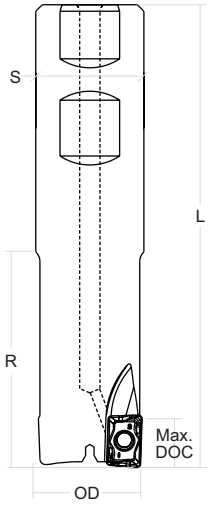
DSS-D



12mm Series Cutter Bodies

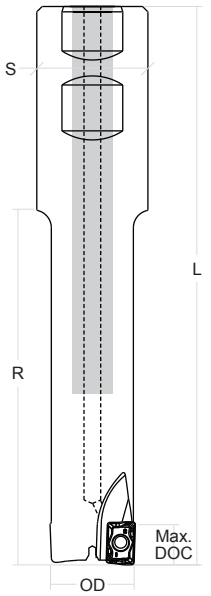
End Mills

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”

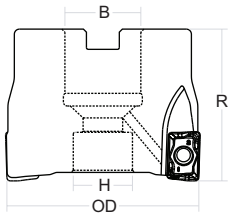


12mm Series Cutter Bodies

Shell Mills

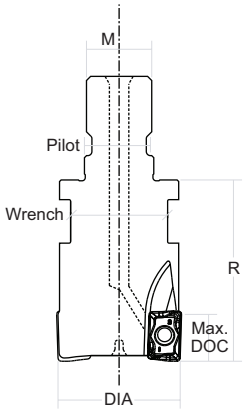
EDP	OD	Description	DOC Max.	Flutes	B Arbor Dia.	R Overall Length	H Counter Bore Dia.
33400	1.500”	DSSSM-1500-0750-D45-5C	.420”	5	.750”	1.50”	0.59”
33405	2.000”	DSSSM-2000-0750-D45-5C	.420”	5	.750”	1.50”	0.59”
33410	2.500”	DSSSM-2500-1000-D45-6C	.420”	6	1.000”	1.75”	0.82”
33415	3.000”	DSSSM-3000-1000-D45-6C	.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.

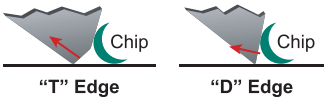


Modular Heads

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.

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

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**				

Carbide Core Modular Extensions

Ideal for Standard Inch End Mill Holders

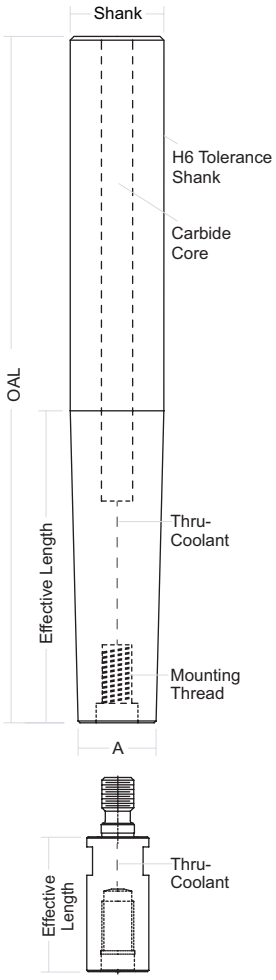
- All styles of modular extensions are universal – use them with any of our screw-on modular heads, as well as many competitors' modular heads
- Cylindrical inch shanks, providing adaptation for end mill holders (add your own flat), milling chucks and heat-shrink holders
- 3 sizes to accommodate modular 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



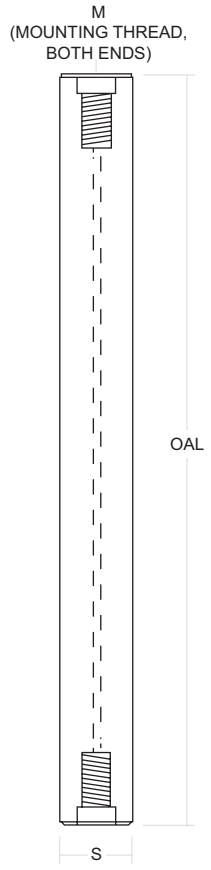
Solid Carbide Modular Extensions

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	★ ○
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.