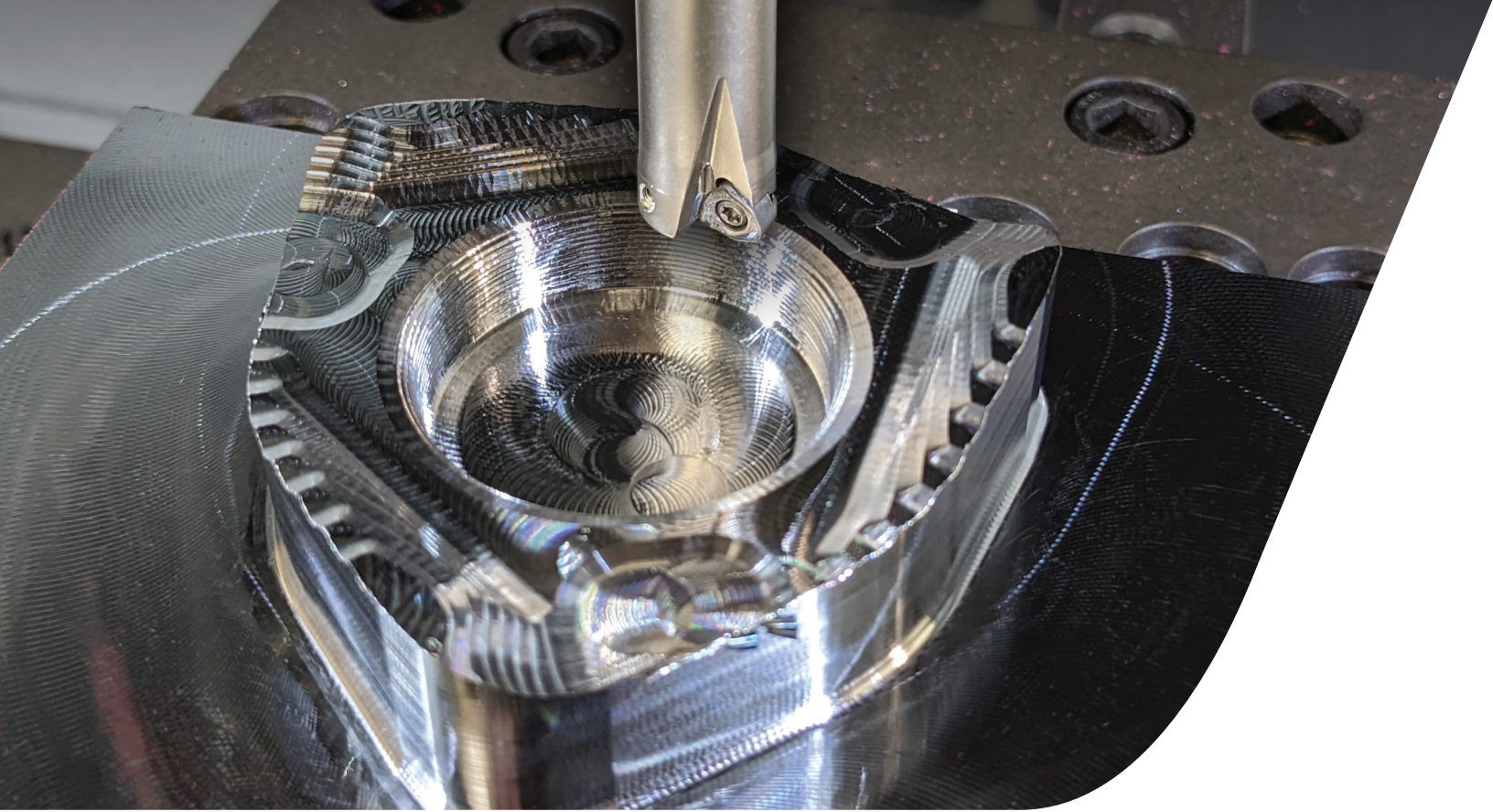


VAPOR™



High-Feed Indexable Milling

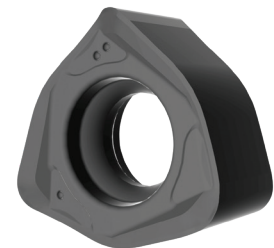
DAPRA[®]
WORKHOLDING • INDEXABLE MILLING • POWER TOOLS



VAPOR™ Double-Sided High-Feed Insert Platform

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.



TRI-X2™



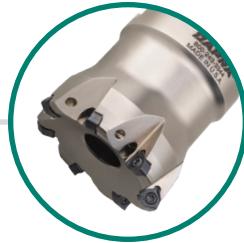
› Scan to learn more about VAPOR or visit dapra.com/vapor.

VAPOR™

CUTTER BODIES



END MILLS
Steel

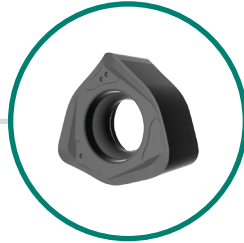


SHELL MILLS
Steel



MODULAR HEADS
Steel

INSERTS



6MM IC



Steel



Stainless



Iron



Super Alloys



Hardened



Slot



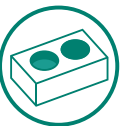
2D Profile



3D Profile



Face



Hole



Pocket



Shoulder



Chamfer



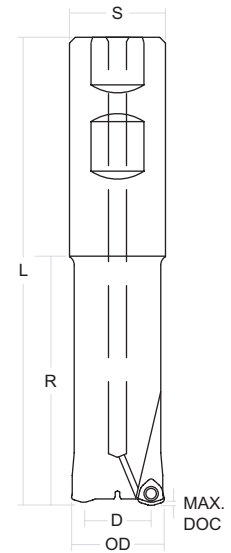
DAPRA NEXT TECHNOLOGY

Look for more new products with the **DNT** stamp.

6mm Series Cutter Bodies

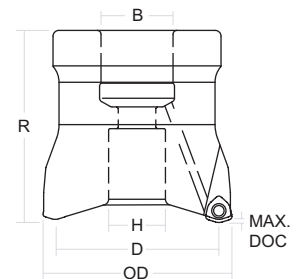
End Mills

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"



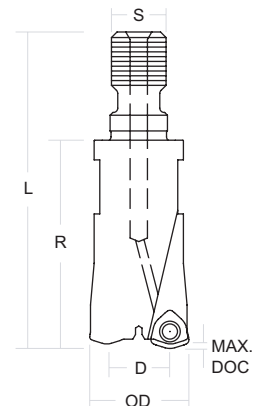
Shell Mills

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"

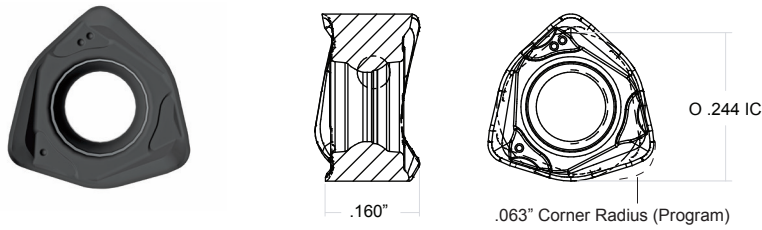
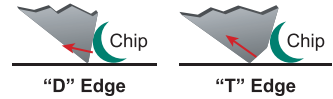


Modular Heads

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: 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"

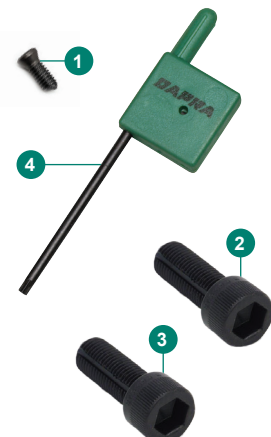
Insert Grade Availability

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 10 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 10 for insert grade and coating selection.

Technical Considerations

- › Always use anti-seize compound on screws.
- › Change insert screw every 10 inserts.
- › Use the shortest-length tool holder (end mill holder) for maximum rigidity; the shank of the cutting tool should be up inside the machine spindle taper whenever possible.
- › Thoroughly clean pocket and screw at each insert change.
- › Use tool holders appropriate for roughing operations: end mill holders and power chucks recommended; collets are not recommended.

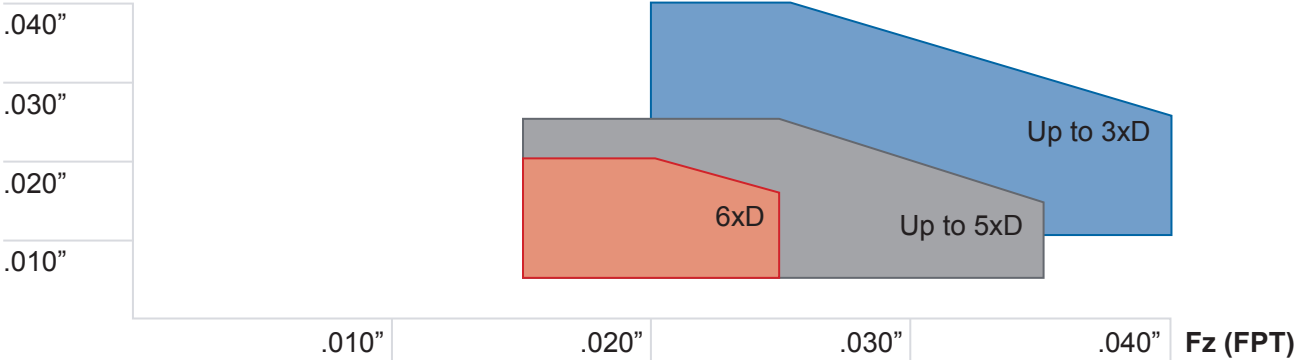


Hardened Steel (> 44 Rc)	Austenitic Stainless	Ferritic / Martensitic Stainless	Tough PH Stainless	Gray Cast Iron	Ductile / Malleable	Ni Co-Based Alloys	9 Series Inconel	Titanium
	300-600	400-700	250-550	500-800	500-700	50-150	35-75	120-180
	.010-.030	.010-.030	.010-.025	.020-.040	.020-.040	.007-.018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



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



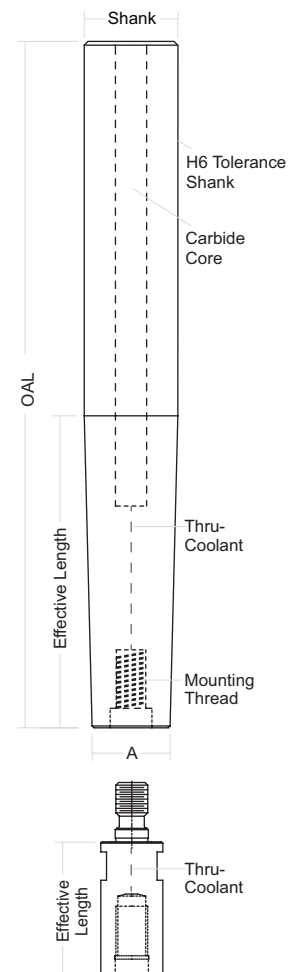
Carbide Core Modular Extensions

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

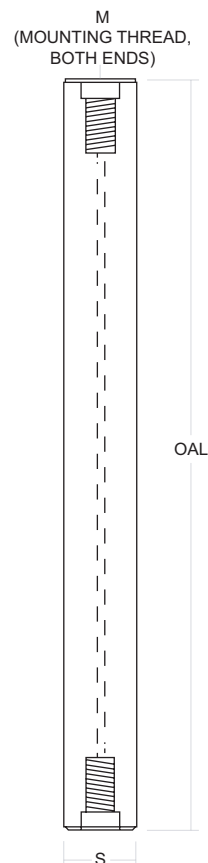


Solid Carbide Modular Extensions

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



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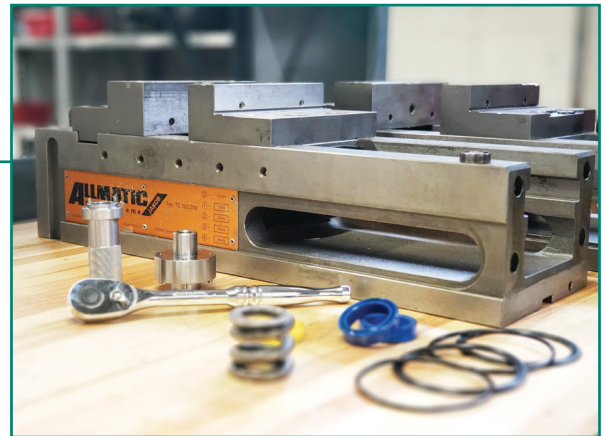


Engineered Specials

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

Service Center

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.

HEADQUARTERS

66 Granby Street
Bloomfield, CT 06002

860-242-8539
Fax: 860-242-3017

(800) 243-3344
info@dapra.com

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WORKHOLDING • INDEXABLE MILLING • POWER TOOLS

For more than 65 years, Dapra has provided workholding, indexable milling, and power tool solutions to a wide array of manufacturing segments including aerospace, automotive, mold and die, and firearms. With our proven high-performance solutions combined with industry-leading application expertise and a robust distribution network, Dapra has earned the trust of businesses from around the world. From small workshops to globally diversified manufacturers, we are more than a supplier – we are a partner in your success.

Est.
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