

Superior Solutions for Sheet Metal Fabricators

HIGH PERFORMANCE TOOLING SYSTEMS FOR TRUMPF STYLE PRESSES

- MATE NEXT™
- MATE QUICKLOCK™
- MATE TRUMPF STYLE



2015
PN

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MACHINE GROUP MODEL CLASSIFICATION

	<u>Non Keyed</u>	<u>Keyed</u>	<u>Rotational</u>	<u>Minimatic</u>
	<u>A</u>	<u>E</u>	<u>H</u>	<u>S</u>
	CN 700	400	190R	100
	CN 900	150K	200R	120R
	CN 701	151K	500R	160
	CN 901	152K	600L	
		180K		
	<u>B</u>	180.2K	<u>I</u>	
	CN 901E	180KD	2000R	
	CN 902	180LK	2010R	
	CS 75	180.2LK	2020R	
	CS 75.2	202K	5000R	
		225K	6000L	
	<u>C</u>	235K	3000	
	CN 1200S	300K	3000L	
	CN 1200A	300LK		
	CS 15	300PK		
	CS 20	400K		
	CS 20A			
	MP 25	<u>F</u>		
	MP 25D	150W		
		152W		
	<u>D</u>	180W		
	20	180.2W		
	20A	180R		
	202M	180LW		
		180.2LW		
	<u>G</u>	ELX/SWIFT		
	Trumatic	185		
		240		
		240R		
		250		
		260R		

Alignment Rings				
Size 1	VANTD	VANTE	VANTE	VANTM
Size 2 and 3	VAPTD	VAPTE	VAPTE	-
Heavy Duty	-	VANTF	VANTF	-
Size 1-X	-	-	-	VAPTM
QuickLock™ Alignment Ring				
Size 1 and 2	-	MATE00480	MATE00480	-
NEXT™ Tool Holders				
Size 40	-	MATE00371	MATE00371	-
Size 76	-	MATE00372	MATE00372	-
Stripper Styles				
Size 1	SNT1	SKT1	SRT1	SKTX
Size 2 and 3	SNT2	SKT2	SRT2	-
Size 3	SNT3	SKT3	-	-
Size 1-X	-	-	-	SKTX



[Dimensions in Inches (mm)]

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Mate has been there from the beginning with products, service, and solutions. For the past five decades, Mate has led the tooling industry in quality, price, delivery, and service. This dedication and expertise result in products that are long lasting, reliable and productive.

Mate's products and services are aimed at just one thing: helping customers manufacture sheet metal parts as productively and efficiently as possible. All Mate products are 100% unconditionally customer satisfaction guaranteed. Standard tooling or special requests – anywhere in the world, Mate is there. Call us today, we look forward to working with you.

Dean A. Sundquist
Chairman and CEO

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[Dimensions in Inches (mm)]



MATE TOOLING SYSTEMS FOR TRUMPF STYLE PUNCH PRESSES

Mate offers the most comprehensive range of tooling systems designed to accommodate any punching application in your Trumpf style punch press. Use this simple chart to determine which tooling system is right for your typical punching application.

<div> <div>LESS</div> <div>←</div> <div>→</div> <div>MORE</div> </div>	Mate NEXT™ Tooling System	Mate QuickLock™ Tooling System	Mate Trumpf Style Tooling System
Overall Value – The combination of: the features, the purchase price, and the operating costs.	• • • •	• • •	• •
Cost Savings – The ongoing cost savings of operating the tooling system over an extended period of time.	• • • •	• • •	• •
Ease of Use – Design features that make it faster to install, simpler for the operator to set up, and more convenient to maintain.	• • • •	• • •	• •
Interchangeability – The ability of a tooling system to be compatible with popular systems from other major suppliers.	• • •	• • •	• • • •
Quick Set-up – Integral features which enable tools to be changed quickly and accurately, thus maximizing machine up time.	• • • •	• • •	• •
Grind Life – The sum of the number of holes punched between regrinds AND the total usable length of the punch tip.	• • • •	• • •	• • •
Features – Elements of a system that make it simple to use, easy to maintain, extend service life, and increase productivity.	• • • •	• • •	• •
Purchase Price – The initial purchase price of the system.	• • •	• •	• •

Mate Trumpf Style Tooling System

The Mate Trumpf Style Tooling System is designed to enable fabricators to produce high quality piece parts, economically. Features include:

Standard System

- Alignment Ring: Shock-resistant tool steel for maximum accuracy and durability.
- Punches: Abrasion resistant High Speed Steel for increased tool life. 1/4-degree back taper for improved stripping performance.
- Urethane Strippers reduce punching noise and eliminate sheet marking.
- Metal Strippers: High-strength tool steel for superior strength and flatness.
- Dies: Wear-resistant tool steel with uniform corner clearance radii for improved die strength and enhanced piece part quality.

Maxima™ Coating:

Maxima Coating-Titanium Zirconium Nitride Ti(Zr)N coating is available for extreme applications to eliminate galling.

Slug Free® Dies:

Mate Slug Free® die geometry is available to eliminate slug pulling in extreme applications. Clearing the slug during each cycle improves piece part quality and extends tool life.



[Dimensions in Inches (mm)]

Mate QuickLock™ Tooling System for Trumpf Style Presses

The Mate QuickLock™ tooling system for Trumpf style presses combines the economy of conventional Trumpf style tooling with the convenience of alignment via a keyed alignment ring. The keyed alignment ring engages the alignment key in the punch for quick tool alignment without an alignment fixture. This results in quicker tool set-ups and increased machine productivity.

Features include:

- High Speed Steel punches, with 1/4 degree back taper and near polished flanks for extended interval between regrinds.
- Punches include an alignment key for use with the Mate QuickLock alignment ring.
- Alignment ring with a keyway that engages the key on both Mate QuickLock size 1 and size 2 punches for quick and consistent tool alignment.
- Urethane strippers, in an extended size range, for quieter operation and improved piece part quality.
Available as push-on or screw-on, depending on punch point size.
- Highly wear-resistant punches and dies for maximum productivity.



CONVENIENCE

See Pages 26-31

Mate NEXT™ Insert Tooling System for Trumpf Style Presses

The Mate NEXT™ Insert Tooling System for Trumpf style presses, is a high performance tooling system designed to maximize tool life, minimize tool set-up times, improve accuracy, reduce punching costs, and maximize productivity.

The Mate NEXT Insert Tooling System includes:

- Two sizes of insert punch holders with precision orientation features for quick and accurate ~tool change without alignment fixtures.
 - Size 40: 0.031(0.80) to 1.575(40.00)
 - Size 76: 1.575(40.00) to 3.000(76.20)
- Interchangeable, highly abrasion-resistant, punch inserts for exceptional interval between regrinds. Size 40 punch inserts use exclusive M4PM™ tool steel for longest tool life.
- Precision ground shims which return the punch insert to the original length after 0.118(3.00) has been removed during regrinding.
- Push-on urethane stripper for size 40 punch holders provide positive on-the-die stripping without marking. Ideal for decorative material.



HIGH PERFORMANCE

See Pages 20 – 25

[Dimensions in Inches (mm)]



MAXIMA™ COATING / MATE SLUG FREE® DIES

Maxima™ Coating

Maxima is a premium tool steel coating that has been specially formulated for punch press tooling applications. Maxima is a multilayer Zirconium Titanium Nitride (ZrTiN) coating that is hard, wear resistant, and lubricious. It acts as a barrier between the punch and the sheet metal being punched and, because of its exceptional lubricity, greatly improves stripping.

Maxima is applied to the precision ground surface of Mate's premium tool steel punches. Maxima is an extremely hard, wear resistant, slippery material which reduces the friction that occurs during the stripping portion of the punching cycle, it is particularly good for abrasive tooling applications. Less friction means less heat build up, less galling, and longer tool life.

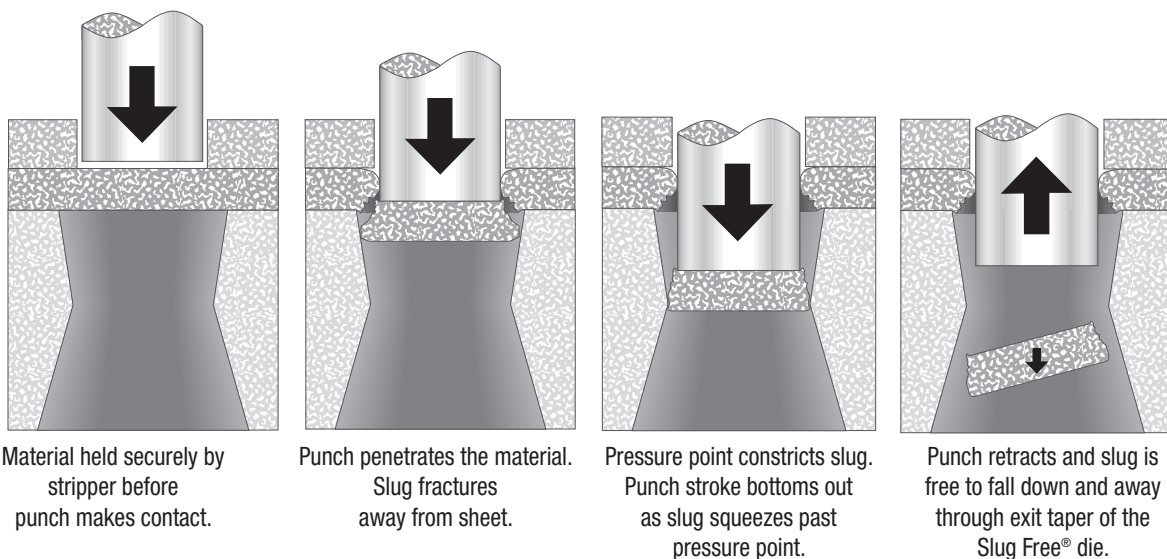


Mate Slug Free® Dies

Mate Slug Free® dies eliminate slug pulling. Slug pulling is a condition where the slug returns to the top of the sheet during the stripping portion of the punching cycle. The slug comes between the punch and the top of the sheet on the next cycle. This causes damage to the piece part and the tooling. Slug Free dies eliminate this problem.

The Slug Free die has been designed with an opening that has a constriction point below the surface so the slug cannot return once it passes this point. Once the slug is separated from the punch, it is free to fall away from the punching area. Slug pulling is eliminated.

For more information visit www.mate.com/slugfree



Slug Free® Dies:

- Eliminate slug pulling
- Reduce tool breakage
- Improve tool life
- Increase quality



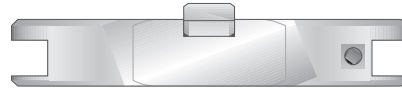
[Dimensions in Inches (mm)]

PRODUCT FEATURES AND BENEFITS

The sum of all of the features and benefits of each Mate product guarantee superior performance in every punching application. Here are just some of the features that make this a true statement.

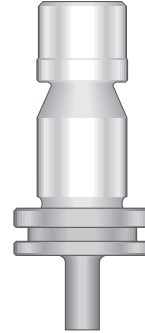
Alignment Rings

- Precision machined and ground for accurate tool alignment.
- High impact-resistant steel to maintain superior flatness and durability.



Punches

- Premium high speed tool steel for longer tool life.
- 1/4° back taper and near polished flanks to reduce friction and eliminate galling.
- Minute corner radii on punch point to reduce chipping.
- Single point turned radii at base of punch point to reduce stress.
- Solid surface contact with alignment ring for superior alignment.
- Superior tolerances and surface finishes.
- 0.118 (3.00) grind life in 0.250 (6.35) material.
- Three replacement lengths (small, long, extra-long)



Urethane Strippers

- Quiet.
- Cushions impact.
- Eliminates sheet rattle.
- Safe: will not shatter.
- Non-marring even on polished aluminum.
- Improved flatter sheets, no puckering.
- Positive stripping keeps sheets from moving.



Strippers

- E-F, non-E-F, and H-I based on machine group.
- High strength tool steel, will not deform or break.



Dies

- High chrome air hardened tool steel.
- 0.059 (1.50) grind life.
- Double-cut die opening to improve die strength.
- Uniform clearance radii in die corners.
- Precision slot orientation—die opening orientation and slot cut in single operation to improve accuracy.
- Improved die strength: Domed relief in size 1 and Stress Free® relief in size 2.
- Superior roundness and flatness.



Die Adapters

- Permits size 1 dies to be used in machines with size 2 die bases.
- Precision machined in shock resistant tool steel for greater accuracy, superior machine fit, and longer life.



[Dimensions in Inches (mm)]



TRUMPF STYLE TOOLING

ROUND SIZE 0, 1, 2, 3

All size 0 and size 1 punches made from Premium M4PM™ Steel, See Page 35 for information

Size 0-A



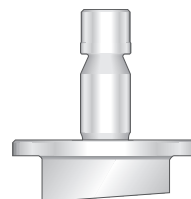
Size 0-B



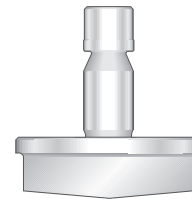
Size 1



Size 2



Size 3



ROUND PUNCHES

Size	Range	Part Number	Without Shear	Whisper Shear	Rooftop Shear	Maxima™ Coating – Add
Size 0-A	0.030(0.76) to 0.236(5.99)	PATA0A				
Size 0-B	0.237(6.02) to 0.413(10.49)	PATB0A				
Size 1	0.030(0.76) to 1.181(30.00)	PATD0A				
Size 2-A	1.182(30.02) to 1.625(41.28)	PATE0A				
Size 2-B	1.626(41.30) to 3.0104(76.36)	PATF0A				
Size 3	3.000(76.20) to 4.134(105.00)	PATJ0A				

ROUND MACHINE STRIPPERS

Size	Keyed	Non-Keyed	Rotational	Price
Size 0	SKT00A	SNT00A	SRT00A	
Size 1	SKT10A	SNT10A	SRT10A	
Size 2	SKT20A	SNT20A	SRT20A	
Size 3	SKT30A	SNT30A	N/A	

PUSH-ON URETHANE STRIPPERS*

Size	Inside Diameter	Part Number	Price
Size 0-A	0.250(6.35)	TP0A00US	
Size 0-B	0.430(10.92)	TP0B00US	
Size 1	0.590(14.98)	TP0106US	
Size 1	0.890(22.60)	TP0109US	
Size 1	1.065(27.05)	TP0112US	

*For short (74,0) length; custom molding available for most sizes

Type (Group)



Non-Keyed (A through D & G)



Keyed (E & F)



Rotational (H & I)

ROUND DIES

Size	Range	Part Number	Price
Size 1	1.181(30.00) +0.079(2.00) Opening	DOT100	
Size 2	3.000(76.20) +0.079(2.00) Opening	DOT200	
Size 3	4.134(105.00) +0.079(2.00) Opening	DOT300	



Size 1



Size 2



Size 3



DISCOUNTS ON ALL MATE TRUMPF STYLE TOOLING
10% discount on orders between \$500 and \$1499
15% discount on orders \$1500 and over

[Dimensions in Inches (mm)]

See Pages 12 – 13 for
• Punch Chucks
• Alignment Rings
• Die Adapters

See Page 54 for critical
tool dimensions

TRUMPF STYLE TOOLING

RECTANGLE SIZE 0, 1, 2, 3

All size 0 and size 1 punches made from Premium M4PM™ Steel, See Page 35 for information

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TRUMPF STYLE TOOLING

Size 0-A



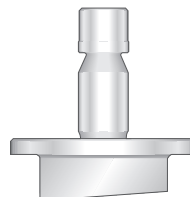
Size 0-B



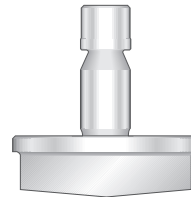
Size 1



Size 2



Size 3



RECTANGLE PUNCHES

Size	Range	Part Number	Without Shear	Whisper Shear	Rooftop Shear	Maxima™ Coating – Add
Size 0-A	0.030(0.76) to 0.236(5.99)	PATA1A				
Size 0-B	0.237(6.02) to 0.413(10.49)	PATB1A				
Size 1	0.030(0.76) to 1.181(30.00)	PATD1A				
Size 2-A	1.182(30.02) to 2.125(53.97)	PATE1A				
Size 2-B	2.126(53.98) to 3.0063(76.36)	PATF1A				
Size 3	3.006(76.36) to 4.134(105.00)	PATJ1A				

RECTANGLE MACHINE STRIPPERS

Size	Keyed	Non-Keyed	Rotational	Price
Size 0	SKT01A	SNT01A	SRT01A	
Size 1	SKT11A	SNT11A	SRT11A	
Size 2	SKT21A	SNT21A	SRT21A	
Size 3	SKT31A	SNT31A	N/A	

PUSH-ON URETHANE STRIPPERS*

Size	Inside Diameter	Part Number	Price
Size 0-A	0.250(6.35)	TP0A00US	
Size 0-B	0.430(10.92)	TP0B00US	
Size 1	0.590(14.98)	TP0106US	
Size 1	0.890(22.60)	TP0109US	
Size 1	1.065(27.05)	TP0112US	

*For short (74,0) length; custom molding available for most sizes

Type (Group)



Non-Keyed (A through D & G)



Keyed (E & F)



Rotational (H & I)

RECTANGLE DIES

Size	Range	Part Number	Price
Size 1	1.181(30.00) +0.079(2.00) Opening	DOT110	
Size 2	3.000(76.20) +0.079(2.00) Opening	DOT210	
Size 3	4.134(105.00) +0.079(2.00) Opening	DOT310	



Size 1



Size 2



Size 3

[Dimensions in Inches (mm)]



TRUMPF STYLE TOOLING

STANDARD SHAPE SIZE 0, 1, 2, 3

All size 0 and size 1 punches made from Premium M4PM™ Steel, See Page 35 for information

Size 0-A



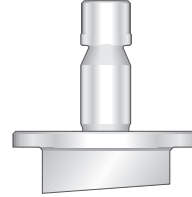
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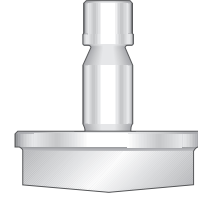
Size 1



Size 2



Size 3



SHAPED PUNCHES

Size	Range	Part Number	Without Shear	Whisper Shear	Rooftop Shear	Maxima™ Coating – Add
Size 0-A	0.030(0.76) to 0.236(5.99)	PATA_A				
Size 0-B	0.237(6.02) to 0.413(10.49)	PATB_A				
Size 1	0.030(0.76) to 1.181(30.00)	PATD_A				
Size 2-A	1.182(30.02) to 2.000(50.80)	PATE_A				
Size 2-B	2.001(50.83) to 3.0063(76.36)	PATF_A				
Size 3	3.006(76.36) to 4.134(105.00)	PATJ_A				

SHAPED MACHINE STRIPPERS

Size	Keyed	Non-Keyed	Rotational	Price
Size 0	SKT0_A	SNT0_A	SRT0_A	
Size 1	SKT1_A	SNT1_A	SRT1_A	
Size 2	SKT2_A	SNT2_A	SRT2_A	
Size 3	SKT3_A	SNT3_A	N/A	

PUSH-ON URETHANE STRIPPERS*

Size	Inside Diameter	Part Number	Price
Size 0-A	0.250(6.35)	TP0A00US	
Size 0-B	0.430(10.92)	TP0B00US	
Size 1	0.590(14.98)	TP0106US	
Size 1	0.890(22.60)	TP0109US	
Size 1	1.065(27.05)	TP0112US	

*For short (74,0) length; custom molding available for most sizes

Type (Group)



Non-Keyed (A through D & G)



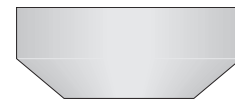
Keyed (E & F)



Rotational (H & I)

SHAPED DIES

Size	Range	Part Number	Price
Size 1	1.181(30.00) +0.079(2.00) Opening	DOT1_0	
Size 2	3.000(76.20) +0.079(2.00) Opening	DOT2_0	
Size 3	4.134(105.00) +0.079(2.00) Opening	DOT3_0	\$307.00



Size 1

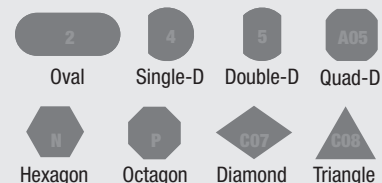


Size 2



Size 3

STANDARD SHAPES



[Dimensions in Inches (mm)]

TRUMPF STYLE TOOLING

SQUARE SIZE 0, 1, 2, 3

All size 0 and size 1 punches made from Premium M4PM™ Steel, See Page 35 for information

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TRUMPF STYLE TOOLING

Size 0-A



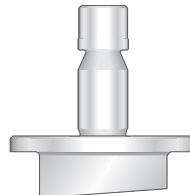
Size 0-B



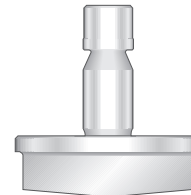
Size 1



Size 2



Size 3



SQUARE PUNCHES

Size	Range	Part Number	Without Shear	Whisper Shear	Rooftop Shear	Maxima™ Coating – Add
Size 0-A	0.030(0.76) to 0.236(5.99)	PATA3A				
Size 0-B	0.237(6.02) to 0.413(10.49)	PATB3A				
Size 1	0.030(0.76) to 1.181(30.00)	PATD3A				
Size 2-A	1.182(30.02) to 1.768(44.90)	PATE3A				
Size 2-B	1.769(44.91) to 3.0063(76.36)	PATF3A				
Size 3	3.006(76.36) to 4.134(105.00)	PATJ3A				

SQUARE MACHINE STRIPPERS

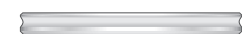
Size	Keyed	Non-Keyed	Rotational	Price
Size 0	SKT03A	SNT03A	SRT03A	
Size 1	SKT13A	SNT13A	SRT13A	
Size 2	SKT23A	SNT23A	SRT23A	
Size 3	SKT33A	SNT33A	N/A	

PUSH-ON URETHANE STRIPPERS*

Size	Inside Diameter	Part Number	Price
Size 0-A	0.250 (6.35)	TP0A00US	
Size 0-B	0.430 (10.92)	TP0B00US	
Size 1	0.590 (14.98)	TP0106US	
Size 1	0.890 (22.60)	TP0109US	
Size 1	1.065 (27.05)	TP0112US	

*For short (74,0) length; custom molding available for most sizes

Type (Group)



Non-Keyed (A through D & G)



Keyed (E & F)



Rotational (H & I)

SQUARE DIES

Size	Range	Part Number	Price
Size 1	1.181(30.00) +0.079(2.00) Opening	DOT130	
Size 2	3.000(76.20) +0.079(2.00) Opening	DOT230	
Size 3	4.134(105.00) +0.079(2.00) Opening	DOT330	



Size 1



Size 2



Size 3









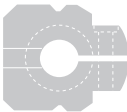




See Page 54 for critical tool dimensions

DISCOUNTS ON ALL MATE TRUMPF STYLE TOOLING
10% discount on orders between \$500 and \$1499
15% discount on orders \$1500 and over

[Dimensions in Inches (mm)]



ALIGNMENT RINGS

<p>Size 1 Manual Tool Change VANTD</p> <p>(RECESSED)</p> 	<p>Sizes 2 and 3 Manual Tool Change VAPTD</p> 	<p>Replacement Dowel 8 x 16mm DPI17304</p> <p>For all Sizes</p> 
<p>Size 1 Automatic Tool Change VANTE</p> <p>(RECESSED)</p> 	<p>Sizes 2 and 3 Automatic Tool Change VAPTE</p> 	<p>Alignment Key For all Sizes VKETE000</p> 
<p>Size 1 Minimatic VANTM</p> <p>(RECESSED)</p> 	<p>Size 1-X Minimatic VAPTM</p> 	<p>Alignment Key For Minimatic VKETM000</p> 
<p>Size 1 and 2 Heavy Duty VANTF</p> 		<p>Alignment Key For Heavy Duty VKETF000</p> 

DISCOUNTS ON ALL MATE TRUMPF STYLE TOOLING

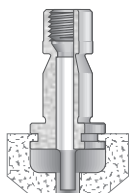
10% discount on orders between \$500 and \$1499

15% discount on orders \$1500 and over

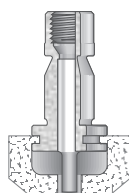


[Dimensions in Inches (mm)]

Size 0-A Punch Chuck
VINTS010



Sizes 0-B Punch Chuck
VINTS020



Punch Chuck Set Screw
VINSSS



Size 2 Die Adapter
Accepts Size 1 Dies
MAT20000



Size 3 Die Adapter
Accepts Size 2 Dies
MAT30000



Size 3 Die Adapter
Accepts Size 1 Dies
MAT40000



Size 1 Die Shim Pack
2x 0.004(0.1) Thickness
1x 0.012(0.30) Thickness
1x 0.024(0.61) Thickness
MST1020



Size 2 Die Shim Pack
2x 0.004(0.1) Thickness
1x 0.012(0.30) Thickness
1x 0.024(0.61) Thickness
MST2020



Size 1 Die Shims
0.004(0.1) Thickness MST1004 (6 minimum)
0.012(0.30) Thickness MST1012 (6 minimum)
0.024(0.61) Thickness MST1020 (6 minimum)

Size 2 Die Shims
0.004(0.1) Thickness MST2004 (6 minimum)
0.012(0.30) Thickness MST2012 (6 minimum)
0.024(0.61) Thickness MST2020 (6 minimum)

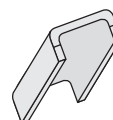
Size 3 Keyed Stripper Adapter
SKT3H000



Size 3 Keyed Stripper Adapter
SNT3H000



Die Slot Plug
MKPT000



Stripper Pins
MIS60003

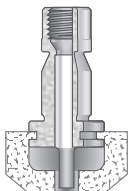

Soft Face Urethane Stripper Pads
T00200SF

[Dimensions in Inches (mm)]

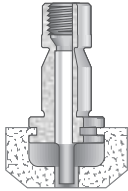



MINIMATIC TOOLING SYSTEM

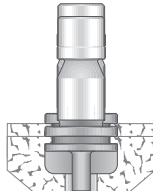
MINIMATIC HSS PUNCHES - PUNCH CHUCKS

Size 0-A	Part Number	Price
	VINSSS	
Size 0-A Punch Chuck	VINTS010	
	PATA0A	
	PATA1A	
	PATA2A	
	PATA3A	

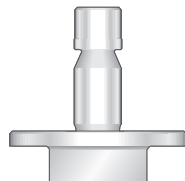
Optional Push-On Stripper, .250(6.35) I.D. TP0A00US

Size 0-B	Part Number	Price
	VINSSS	
Size 0-B Punch Chuck	VINTS020	
	PATB0A	
	PATB1A	
	PATB2A	
	PATB3A	

Optional Push-On Stripper, .430(10.92) I.D. TP0B00US

Size 1	Part Number	Price
	PATD0A	
	PATD1A	
	PATD2A	
	PATD3A	

Optional Push-On Stripper, .590(14.98) I.D. TP0106US
 Optional Push-On Stripper, .890(22.60) I.D. TP0109US
 Optional Push-On Stripper, 1.065(27.05) I.D. TP0112US

Size 1-X	Part Number	Price
	PATX0A	
	PATX1A	
	PATX2A	
	PATX3A	

TRUMPF MACHINES THAT USE MINIMATIC STYLE TOOLS


AUTOMATIC TOOL CHANGE

TRUMATIC
100
100M
120
160

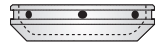
KEYED

TRUMATIC
100
100M
120
160


MINIMATIC STRIPPERS

Size 1	Part Number	Price
1.181 + .060(30.00 + 1.52) maximum	SKTX0A	
	SKTX1A	
	SKTX2A	
	SKTX3A	


Size 1-X

1.500 + .060(38.10 + 1.52) maximum	SKTX0A	
	SKTX1A	
	SKTX2A	
	SKTX3A	


MINIMATIC DIES

Size 1	Part Number	Price
1.181 + .079(30.00 + 2.00) Maximum Actual Die Opening	DOT100	
	DOT110	
	DOT120	
	DOT130	

Size 1-X

1.500 + .039(38.10 + 1.00) Maximum Actual Die Opening	DOTX00	
	DOTX10	
	DOTX20	
	DOTX30	

MINIMATIC ALIGNMENT RINGS

Size 1	Part Number	Price
(0-3) d, .030 - 1.181 (0.77 - 30.00)	VANTM	
		

Size 1-X

(0-3) d, 1.182 - 1.500 (30.01 - 38.10)	VAPTM	
		

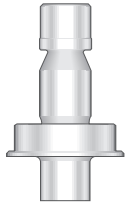


[Dimensions in Inches (mm)]

HEAVY DUTY HSS PUNCHES*

HEAVY DUTY DIES

Size 1 Part Number Price



- PHTD0A
- PHTD1A
- PHTD2A
- PHTD3A

*Punch width/diameter less than .250(6.35) NOT available in heavy duty style tooling

Size 1 Part Number Price

.984 + .059(24.99 + 1.49)
Maximum Actual Die Opening

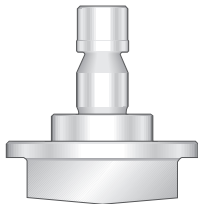


- D4T100
- D4T110
- D4T120
- D4T130

"Without shear" and "Rooftop" are valid shear options for Size 1 Punches less than or equal to 1.81(30.00).

"Without shear" and "Whisper" are valid shear options for Size 1 Punch inserts greater than 1.81(30.00).

Size 2-A



- PHTE0A
- PHTE1A
- PHTE2A
- PHTE3A

Size 2

2.047 + .079(52.00 + 2.00)
Maximum Actual Die Opening



- D4T200
- D4T210
- D4T220
- D4T230

"Without Shear" and "Whisper" are valid shear options for Size 2 punch inserts.

Size 3

4.134 + .079(105.00 + 2.00)
Maximum Actual Die Opening



- D0T300
- D0T310
- D0T320
- D0T330

Size 3 Dies specify 0°, 90°, or special angle setting

**STANDARD STRIPPERS ARE USED WITH
THE HEAVY DUTY TOOLING SYSTEM,
SEE PAGES 8-11 OF THIS CATALOG**

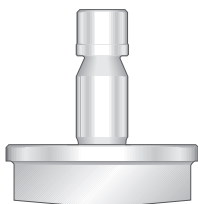
HEAVY DUTY ALIGNMENT RING

SIZE 1-3 PART NUMBER Price



VANTF

SIZE 3



- PHTJ0A
- PHTJ1A
- PHTJ2A
- PHTJ3A

TRUMPF MACHINE GROUPS BY ALIGNMENT RING STYLE

TRUMATIC	180W	235	300W
150K	180WD	240	400K
150W	185	260	400W
180K	200R	300K	500R
180LK	202K	300LW	600L
180LW	202W	300PK	2000R
180PK	225	300PW	5000

**AUTOMATIC TOOL
CHANGE**



KEY FOR HEAVY DUTY ALIGNMENT RING - ALL Sizes



(Not interchangeable with OEM) VKETF000

*Minimum width/diameter in heavy duty is 0.250(6.35)

DISCOUNTS ON ALL MATE TRUMPF STYLE TOOLING

10% discount on orders between \$500 and \$1499

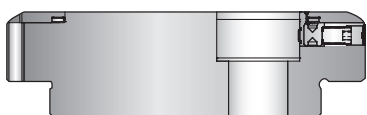
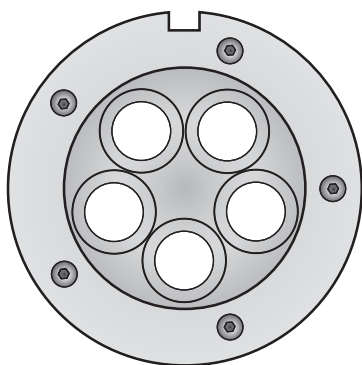
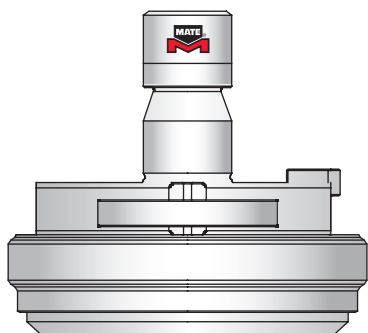
15% discount on orders \$1500 and over

[Dimensions in Inches (mm)]

5-STATION MULTI TOOL SYSTEM

Punch Holder	MATE00559
Stripper	MATE00560
Die Holder	MATE00561

All sizes Multi Tool punches and dies made from Premium M4PM™ Steel, See Page 35 for information



ROUND

Punch	0.030(0.76) to 0.630(16.00) Maxima™ Coating	PATV0A Add
Die	0.630(16.00) +0.024(0.60) Maximum Die Opening	DATV00

RECTANGLE

Punch	0.030(0.76) to 0.630(16.00) Maxima™ Coating	PATV1A Add
Die	0.630(16.00) +0.024(0.60) Maximum Die Opening	DATV10

SHAPED

Punch	0.030(0.76) to 0.630(16.00) Maxima™ Coating	PATV_A Add
Die	0.630(16.00) +0.024(0.60) Maximum Die Opening	DATV_0

SQUARE

Punch	0.030(0.76) to 0.630(16.00) Maxima™ Coating	PATV3A Add
Die	0.630(16.00) +0.024(0.60) Maximum Die Opening	DATV30

DIE SHIMS

Shims	0.004(0.10mm) Thick, 10 PCS	MTST501
Shims	0.012(0.30mm) Thick, 5 PCS	MTST502
Shims	0.020(0.51mm) Thick, 5 PCS	MTST503

Punches

- Premium particle metallurgy tool steel for exceptional interval between regrinds and maximum machine up time.
- 1/4 degree back taper and near polished punch flanks to reduce friction and extend tool life.
- Maxima™ coating available for extreme applications.

Dies

- High Speed Steel for extended life between regrinds.
- Uniform corner clearance radii for increased die strength and improved piece part quality.

Note: 5 and 10 Station Multi Tools are not compatible with 260A machines.



[Dimensions in Inches (mm)]

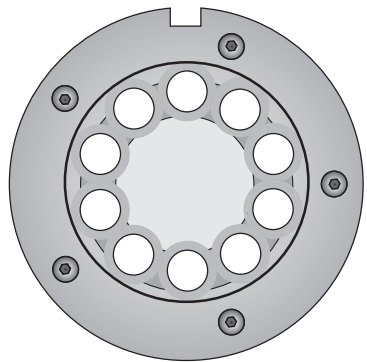
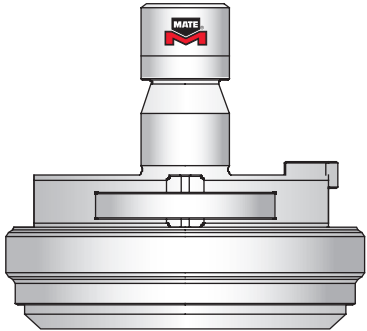
10-STATION MULTI TOOL SYSTEM

Punch Holder	MATE00555
Stripper	MATE00556
Die Holder	MATE00550

All sizes Multi Tool punches and dies made from Premium M4PM™ Steel, See Page 35 for information

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10-STATION MULTI TOOL



ROUND

Punch	0.030(0.76) to 0.413(10.49) Maxima™ Coating	PATT0A Add
Die	0.413(10.50) +0.024(0.60) Maximum Die Opening	DATT00

RECTANGLE

Punch	0.030(0.76) to 0.413(10.49) Maxima™ Coating	PATT1A Add
Die	0.413(10.50) +0.024(0.60) Maximum Die Opening	DATT10

SHAPED

Punch	0.030(0.76) to 0.413(10.49) Maxima™ Coating	PATT_A Add
Die	0.413(10.50) +0.024(0.60) Maximum Die Opening	DATT_0

SQUARE

Punch	0.030(0.76) to 0.413(10.49) Maxima™ Coating	PATT3A Add
Die	0.413(10.50) +0.024(0.60) Maximum Die Opening	DATT30

DIE SHIMS

Shims	0.004(0.10mm) Thick, 20 PCS	MTST1001
Shims	0.012(0.30mm) Thick, 10 PCS	MTST1002
Shims	0.020(0.51mm) Thick, 10 PCS	MTST1003

Punches

- M4PM™ particle metallurgy High Speed Steel with excellent edge-wear resistance for exceptional interval between regrinds.
- 1/4 degree back taper and near polished punch flanks to reduce friction and extend tool life.
- Maxima™ coating available for extreme applications.

Dies

- High Speed Steel for maximum life between regrinds.
- Uniform corner clearance radii for increased die strength and improved piece part quality.

Note: 5 and 10 Station Multi Tools are not compatible with 260A machines.

DISCOUNTS ON ALL MATE TRUMPF STYLE TOOLING
10% discount on orders between \$500 and \$1499
15% discount on orders \$1500 and over

[Dimensions in Inches (mm)]



4-STATION MULTI TOOL TOOLING

1-PIECE PUNCH STYLE

**ROUND**

Punch	0.030(0.76) to 0.630(16.00) Maxima™ Coating	PAT50A Add
Die	0.630(16.00) +0.024(0.60) Maximum Die Opening	D0T400

RECTANGLE

Punch	0.030(0.76) to 0.630(16.00) Maxima™ Coating	PAT51A Add
Die	0.630(16.00) +0.024(0.60) Maximum Die Opening	D0T410

SHAPED - SEE STANDARD SHAPES

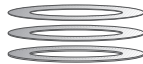
Punch	0.030(0.76) to 0.630(16.00) Maxima™ Coating	PAT5_A Add
Die	0.630(16.00) +0.024(0.60) Maximum Die Opening	D0T4_0

SQUARE

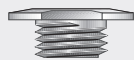
Punch	0.030(0.76) to 0.630(16.00) Maxima™ Coating	PAT53A Add
Die	0.630(16.00) +0.024(0.60) Maximum Die Opening	D0T430

SHIM PACKAGE

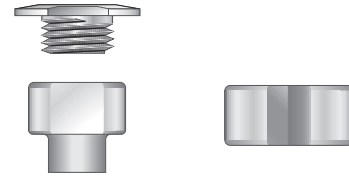
Die	Shim Assortment 8x 0.004(0.10) 8x 0.012(0.03) 8x 0.024(0.60)	MST4
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Punch Cap
PAT4CAP



2-PIECE PUNCH STYLE

**ROUND**

Punch	0.030(0.76) to 0.630(16.00) Maxima™ Coating	PAT40A Add
Die	0.630(16.00) +0.024(0.60) Maximum Die Opening	D0T400

RECTANGLE

Punch	0.030(0.76) to 0.630(16.00) Maxima™ Coating	PAT41A Add
Die	0.630(16.00) +0.024(0.60) Maximum Die Opening	D0T410

SHAPED - SEE STANDARD SHAPES

Punch	0.030(0.76) to 0.630(16.00) Maxima™ Coating	PAT4_A Add
Die	0.630(16.00) +0.024(0.60) Maximum Die Opening	D0T4_0

SQUARE

Punch	0.030(0.76) to 0.630(16.00) Maxima™ Coating	PAT43A Add
Die	0.630(16.00) +0.024(0.60) Maximum Die Opening	D0T430

SHIM PACKAGE

Punch	Shim Assortment 6x 0.004(0.10) 6x 0.012(0.03) 6x 0.024(0.60) 6x 0.040(1.00)	VTST
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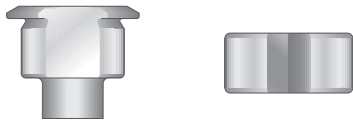
Die	Shim Assortment 8x 0.004(0.10) 8x 0.012(0.03) 8x 0.024(0.60)	MST4
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[Dimensions in Inches (mm)]

6-STATION MULTI TOOL TOOLING

1-PIECE PUNCH STYLE

**ROUND**

Punch	0.030(0.76) to 0.413(10.49) Maxima™ Coating	PAT70A Add
Die	0.413(10.50) +0.024(0.60) Maximum Die Opening	D0T600

RECTANGLE

Punch	0.030(0.76) to 0.413(10.49) Maxima™ Coating	PAT71A Add
Die	0.413(10.50) +0.024(0.60) Maximum Die Opening	D0T610


SHAPED

Punch	0.030(0.76) to 0.413(10.49) Maxima™ Coating	PAT7_A Add
Die	0.413(10.50) +0.024(0.60) Maximum Die Opening	D0T6_0

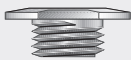
SQUARE

Punch	0.030(0.76) to 0.413(10.49) Maxima™ Coating	PAT73A Add
Die	0.413(10.50) +0.024(0.60) Maximum Die Opening	D0T630

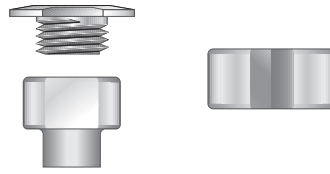
SHIM PACKAGE

Die	Shim Assortment 8x 0.004(0.10) 8x 0.012(0.03) 8x 0.024(0.60)	MST6 
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Punch Cap
PAT6CAP



2-PIECE PUNCH STYLE

**ROUND**

Punch	0.030(0.76) to 0.413(10.49) Maxima™ Coating	PAT60A Add
Die	0.413(10.50) +0.024(0.60) Maximum Die Opening	D0T600

RECTANGLE

Punch	0.030(0.76) to 0.413(10.49) Maxima™ Coating	PAT61A Add
Die	0.413(10.50) +0.024(0.60) Maximum Die Opening	D0T610



SHAPED

Punch	0.030(0.76) to 0.413(10.49) Maxima™ Coating	PAT6_A Add
Die	0.413(10.50) +0.024(0.60) Maximum Die Opening	D0T6_0

SQUARE

Punch	0.030(0.76) to 0.413(10.49) Maxima™ Coating	PAT63A Add
Die	0.413(10.50) +0.024(0.60) Maximum Die Opening	D0T630

SHIM PACKAGE

Punch	Shim Assortment 6x 0.004(0.10) 6x 0.012(0.03) 6x 0.024(0.60) 6x 0.040(1.00)	VTST 
Die	Shim Assortment 8x 0.004(0.10) 8x 0.012(0.03) 8x 0.024(0.60)	MST6 

DISCOUNTS ON ALL MATE TRUMPF STYLE TOOLING

10% discount on orders between \$500 and \$1499

15% discount on orders \$1500 and over

[Dimensions in Inches (mm)]



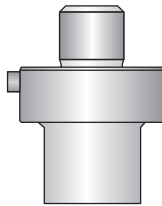
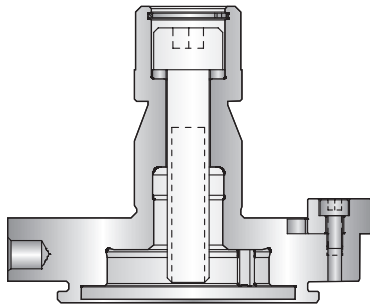
MATE NEXT™ INSERT TOOLING SYSTEM

The new NEXT™ Insert Tooling System for Trumpf style presses, is designed to dramatically increase tool life and reduce punching costs.

The NEXT™ Insert Tooling System includes:

- Interchangeable, abrasion-resistant, punch inserts.
- Two sizes of insert punch holders with precision orientation features.
- Precision ground punch shim returns the NEXT™ punch assembly to the original length after 0.118(3.00) has been removed during routine grinding.

SIZE 40



Insert Punch Holder

Available in two sizes.

Size 40 0.030-1.575(0.76-40.01)

Size 76 1.576-3.0063(40.03-76.36)

Precision Ground Shim

NEXT™ Punch Inserts

M4PM™ from 0.031(0.80) to 1.181(30.00)

M4PM™ from 1.182(30.01) to 3.000(76.20)

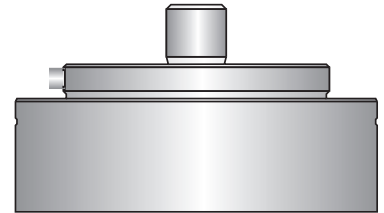
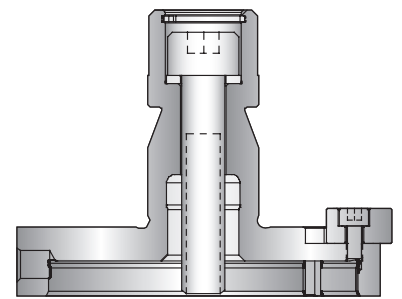
Push-on Urethane Stripper

The NEXT™ Insert Tooling System is fully compatible with existing strippers and dies.

High strength steel strippers for reliable operation.

High wear resistant steel dies for exceptional tool life.

SIZE 76



[Dimensions in Inches (mm)]

MATE NEXT™ INSERT TOOLING SYSTEM

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MATE NEXT™ TOOLING

The NEXT™ Insert Tooling System holders, with integral precision alignment features and captive draw bolt, accept interchangeable punch inserts for faster and more accurate machine set-ups.

Size 40 0.030(0.76) to 1.575(40.01)

Size 76 1.576(40.03) to 3.0063(76.36)

M4 HSS from 0.031(0.80) to 1.181(30.00)

M2 HSS from 1.182(30.01) to 3.000(76.20)

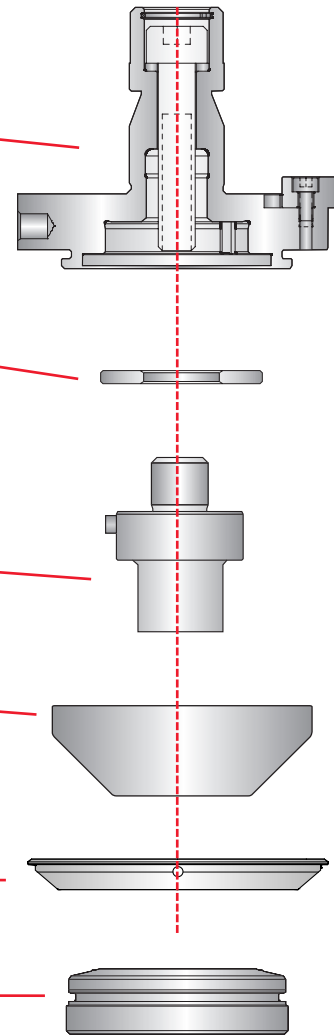
High Speed Steel (HSS) NEXT™ punch inserts provide superior abrasion resistance to extend the interval between regrinds.

Precision ground punch shim returns the NEXT™ punch assembly to the original length after 0.118(3.00) has been removed during routine grinding.

Push-on urethane stripper for Size 40 punch insert holders provide positive on-the-die stripping without sheet marking. Ideal when punching soft or decorative materials.

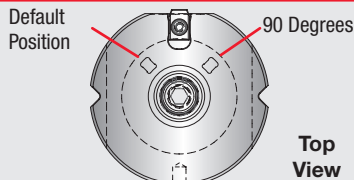
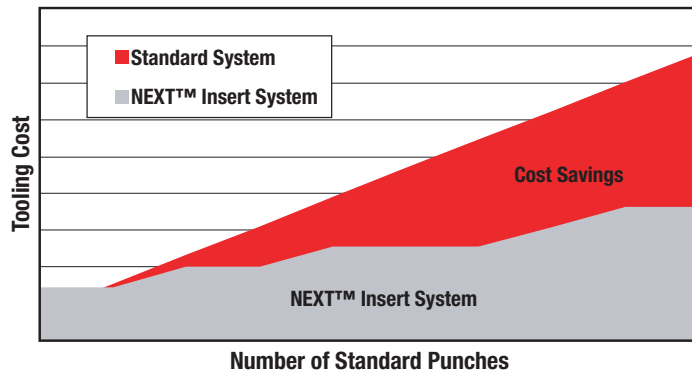
High strength steel stripper for reliable operation.

High wear resistant steel die for exceptional tool life. Optional Slug Free® die geometry available.



Mate NEXT™ Insert System Delivers Value!

The High Speed Steel punch inserts deliver exceptional edge wear resistance. The M4PM™ HSS Insert in sizes up to 0.031-1.181(0.80-30.00) delivers the longest possible interval between regrinds. In addition, by installing the shim after 0.118(3.00) has been removed from the punch during regrinding, the punch assembly is returned to its original length instead of being replaced. The result is that a single punch insert would last the same as multiple standard punches. The chart at right demonstrates the real value delivered by the NEXT™ Insert Tooling System from Mate.



[Dimensions in Inches (mm)]

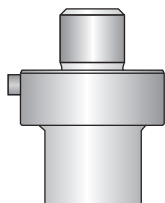


MATE NEXT™ TOOLING SYSTEM

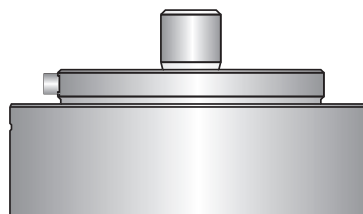
ROUND SIZE 40 AND SIZE 76

All NEXT™ Size 40 and size 76 punches made from Premium M4PM™ Steel, See Page 35 for information

SIZE 40



SIZE 76



ROUND PUNCHES

Size	Range	Part Number	Without Shear	Whisper Shear	Maxima™ Coating – Add
Size 40	0.030 (0.76) to 1.181 (30.00)	PBTDOA			
Size 40	1.182 (30.02) to 1.575 (40.01)	PBTEOA			
Size 76	1.576 (40.03) to 2.205 (56.01)	PBTFOA			
Size 76	2.206 (56.03) to 2.599 (66.01)	PBTGOA			
Size 76	2.600 (66.04) to 3.0063 (76.36)	PBTHOA			

ROUND MACHINE STRIPPERS

Size	Keyed	Rotational	Price
Size 1	SKT10A	SRT10A	
Size 2	SKT20A	SRT20A	

Type (Group)



Keyed (E & F)



Rotational (H & I)

PUSH-ON URETHANE STRIPPERS*

Size	Inside Diameter	Part Number	Price
Size 40	0.984 (25.00)	MATE00374	
Size 40	1.181 (30.00)	MATE00375	
Size 40	1.378 (35.00)	MATE00376	
Size 40	1.575 (40.00)	MATE00377	

For Long (77mm) and Extended Length (77.5mm) punches

Size 40	0.984 (25.00)	MATE02135
Size 40	1.181 (30.00)	MATE02136
Size 40	1.378 (35.00)	MATE02137
Size 40	1.575 (40.00)	MATE02138

ROUND DIES

Size	Range	Part Number	Price
Size 1	1.181(30.00) +0.079(2.00) Opening	DOT100	
Size 2	3.000(76.20) +0.079(2.00) Opening	DOT200	

PUNCH HOLDER AND SHIM

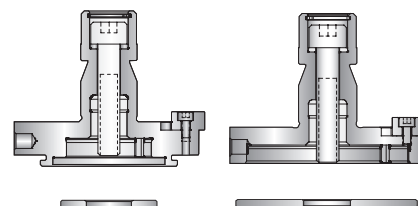
Size 40	Punch Holder with Shim	MATE00371
Size 40	Shim	MATE00364
Size 76	Punch Holder with Shim	MATE00372
Size 76	Shim	MATE00365
	Draw Bolt	SHC12191
	Snap Ring	SRI00001



Size 1



Size 2



See Page 54 for critical tool dimensions



[Dimensions in Inches (mm)]

MATE NEXT™ TOOLING SYSTEM

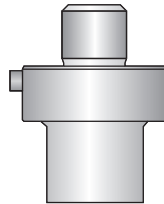
RECTANGLE SIZE 40 AND SIZE 76

All NEXT™ Size 40 and size 76 punches made from Premium M4PM™ Steel, See Page 35 for information

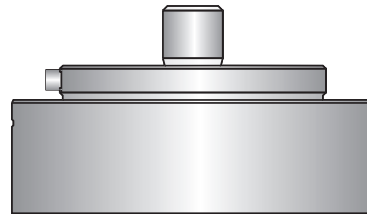
23

MATE NEXT™ TOOLING

SIZE 40



SIZE 76



RECTANGLE PUNCHES

Size	Range	Part Number	Without Shear	Whisper Shear	Maxima™ Coating – Add
Size 40	0.030 (0.76) to 1.181 (30.00)	PBTD1A			
Size 40	1.182 (30.02) to 1.575 (40.01)	PBTE1A			
Size 76	1.576 (40.03) to 2.205 (56.01)	PBTF1A			
Size 76	2.206 (56.03) to 2.599 (66.01)	PBTG1A			
Size 76	2.600 (66.04) to 3.0063 (76.36)	PBTH1A			

RECTANGLE MACHINE STRIPPERS

Size	Keyed	Rotational	Price
Size 1	SKT11A	SRT11A	
Size 2	SKT21A	SRT21A	

Type (Group)



Keyed (E & F)



Rotational (H & I)

PUSH-ON URETHANE STRIPPERS*

Size	Inside Diameter	Part Number	Price
Size 40	0.984 (25.00)	MATE00374	
Size 40	1.181 (30.00)	MATE00375	
Size 40	1.378 (35.00)	MATE00376	
Size 40	1.575 (40.00)	MATE00377	

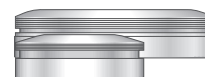


RECTANGLE DIES

Size	Range	Part Number	Price
Size 1	1.181(30.00) +0.079(2.00) Opening	DOT110	
Size 2	3.000(76.20) +0.079(2.00) Opening	DOT210	



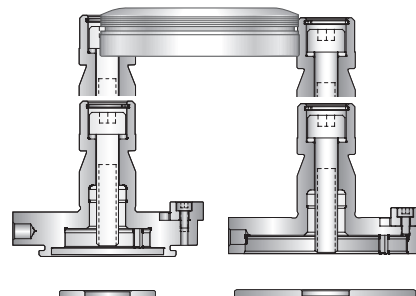
Size 1



Size 2

PUNCH HOLDER AND SHIM

Size 40	Punch Holder with Shim	MATE00371
Size 40	Shim	MATE00364
Size 76	Punch Holder with Shim	MATE00372
Size 76	Shim	MATE00365
	Draw Bolt	SHC12191
	Snap Ring	SRI00001



DISCOUNTS ON ALL MATE TRUMPF STYLE TOOLING
10% discount on orders between \$500 and \$1499
15% discount on orders \$1500 and over

[Dimensions in Inches (mm)]

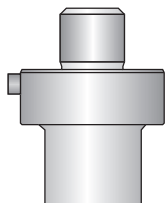


MATE NEXT™ TOOLING SYSTEM

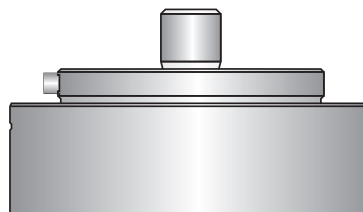
STANDARD SHAPE SIZE 40 AND SIZE 76

All NEXT™ Size 40 and size 76 punches made from Premium M4PM™ Steel, See Page 35 for information

SIZE 40



SIZE 76



PUNCH

Size	Range	Part Number	Without Shear	Whisper Shear	Maxima™ Coating – Add
Size 40	0.030(0.76) to 1.181(30.00)	PBTD_A			
Size 40	1.182(30.02) to 1.575(40.01)	PBTE_A			
Size 76	1.576(40.03) to 2.205(56.01)	PBTF_A			
Size 76	2.206(56.03) to 2.599(66.01)	PBTG_A			
Size 76	2.600(66.04) to 3.0063(76.36)	PBTH_A			

STRIPPER

Size	Keyed	Rotational	Price
Size 1	SKT1_A	SRT1_A	
Size 2	SKT2_A	SRT2_A	

PUSH-ON URETHANE STRIPPERS*

Size	Inside Diameter	Part Number	Price
Size 40	0.984(25.00)	MATE00374	
Size 40	1.181(30.00)	MATE00375	
Size 40	1.378(35.00)	MATE00376	
Size 40	1.575(40.00)	MATE00377	

Type (Group)



Keyed (E & F)



Rotational (H & I)

SHAPED DIES

Size	Range	Part Number	Price
Size 1	1.181(30.00) +0.079(2.00) Opening	DOT1_0	
Size 2	3.000(76.20) +0.079(2.00) Opening	DOT2_0	

PUNCH HOLDER AND SHIM

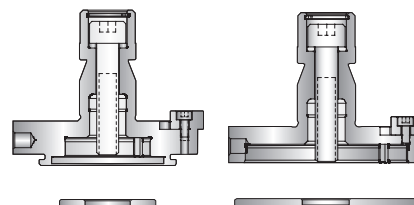
Size 40	Punch Holder with Shim	MATE00371
Size 40	Shim	MATE00364
Size 76	Punch Holder with Shim	MATE00372
Size 76	Shim	MATE00365
	Draw Bolt	SHC12191
	Snap Ring	SRI00001



Size 1



Size 2



**STANDARD SHAPES



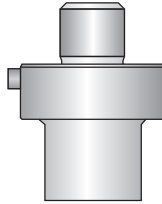
[Dimensions in Inches (mm)]

MATE NEXT™ TOOLING SYSTEM

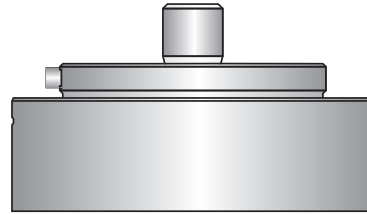
SQUARE SIZE 40 AND SIZE 76

All NEXT™ Size 40 and size 76 punches made from Premium M4PM™ Steel, See Page 35 for information

SIZE 40



SIZE 76



PUNCH

Size	Range	Part Number	Without Shear	Whisper Shear	Maxima™ Coating – Add
Size 40	0.030(0.76) to 1.181(30.00)	PBTD3A			
Size 40	1.182(30.02) to 1.575(40.01)	PBTE3A			
Size 76	1.576(40.03) to 2.205(56.01)	PBTF3A			
Size 76	2.206(56.03) to 2.599(66.01)	PBTG3A			
Size 76	2.600(66.04) to 3.0063(76.36)	PBTH3A			

STRIPPER

Size	Keyed	Rotational	Price
Size 1	SKT13A	SRT13A	
Size 2	SKT23A	SRT23A	

Type (Group)



Keyed (E & F)



Rotational (H & I)

PUSH-ON URETHANE STRIPPERS*

Size	Inside Diameter	Part Number	Price
Size 40	0.984(25.00)	MATE00374	
Size 40	1.181(30.00)	MATE00375	
Size 40	1.378(35.00)	MATE00376	
Size 40	1.575(40.00)	MATE00377	

SHAPED DIES

Size	Range	Part Number	Price
Size 1	1.181(30.00) +0.079(2.00) Opening	DOT130	
Size 2	3.000(76.20) +0.079(2.00) Opening	DOT230	

PUNCH HOLDER AND SHIM

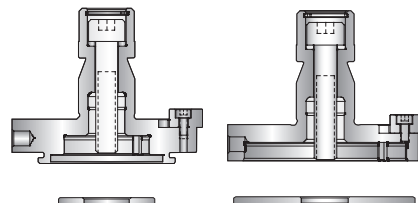
Size 40	Punch Holder with Shim	MATE00371
Size 40	Shim	MATE00364
Size 76	Punch Holder with Shim	MATE00372
Size 76	Shim	MATE00365
	Draw Bolt	SHC12191
	Snap Ring	SRI00001



Size 1



Size 2



DISCOUNTS ON ALL MATE TRUMPF STYLE TOOLING

10% discount on orders between \$500 and \$1499

15% discount on orders \$1500 and over

[Dimensions in Inches (mm)]



MATE QUICKLOCK™ TOOLING SYSTEM

Introducing Mate QuickLock™ Tooling System

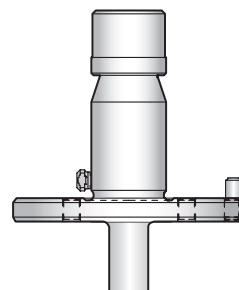
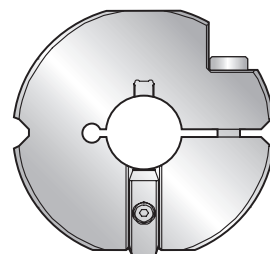
Mate QuickLock™ is a new tooling system for Trumpf style presses that combines the economy of conventional Trumpf style tooling with the convenience of alignment via a keyed alignment ring. The hardened and ground key (located in the shank or shoulder, depending on punch point size) engages the keyway in the alignment ring for fast and consistent alignment without a dedicated alignment fixture.

Mate QuickLock™ Tooling System Features:

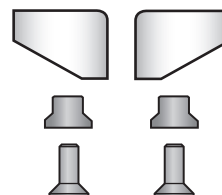
- High-speed steel punches for extended interval between sharpening.
- Punches include an alignment key for use with the Mate QuickLock™ alignment ring.
- Alignment ring with a keyway that engages the key on both Mate QuickLock™ size 1 and size 2 punches for quick and consistent tool alignment of both.
- Urethane strippers, in an extended size range, for quieter operation and improved piece part quality.
- Highly wear-resistant punches and dies for maximum productivity.

Mate QuickLock™ Universal Alignment Ring

- Precision machined keyway to accept the hardened punch key for accurate alignment, relative to the die aperture, without the need for a fixture.
- Precision ground upper and lower surfaces for positive contact with the punch shoulder for reduced tool stress and maximum service life.
- Elimination of the possibility of punch rotation, with a solid contact between the punch key and the alignment ring keyway.
- Shock resistant tool steel to eliminate cracking, for longer service life.
- Compatible with conventional Trumpf style size 2 punches.
- Universal for both Mate QuickLock™ size 1 and size 2 punches.



Mate QuickLock™ Push-On Urethane Stripper



Mate QuickLock™ Screw-On Urethane Stripper. Supplied in pairs. Fixed to the punch shoulder with a retainer and flat head screw.



[Dimensions in Inches (mm)]

Mate QuickLock™ Punches

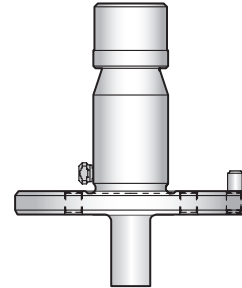
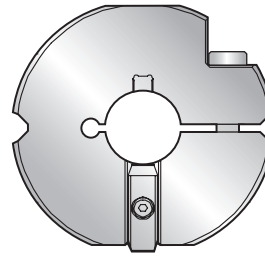
- High speed steel, for extended intervals between sharpening.
- Hardened and ground key for quick and consistent punch alignment.
 - For punches with a diagonal dimension up to 2.000(50.80) the alignment pin is located on the shank.
 - For punches with a diagonal dimension greater than 2.000(50.80) the alignment pin is located on the shoulder.
- 1/4-degree back taper and near polished punch flanks to reduce friction, eliminate galling, and extend punch grind life.
- Maxima™ coating or Nitride treatment available for extreme punching applications.
- Optional extended length punch available, with 3.057(77.60) overall length.

Mate QuickLock™ Urethane Strippers

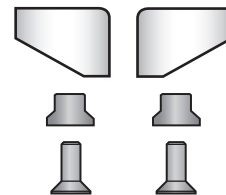
- Positive, on-the-die stripping to eliminate sheet rattle and reduce punching noise.
- Two types available (dependent on punch point size).
 - Push-On Urethane Stripper
 - Locks securely onto punch and alignment ring for reliable operation.
 - Available for all extended length punches with a diagonal dimension up to 2.000(50.80).
 - Screw-On Urethane Stripper
 - Available in two sizes: for shaped punches with width up to 0.394(10.00) and length up to 2.362(60.00), or length up to 3.000(76.20).
 - Supplied in pairs, and fixed to the punch shoulder with a flat head screw.
 - Punch must have rooftop shear, and length over 2.000(5.08).

Mate Dies

- Highly wear-resistant tool steel with optimized heat treatment for perfect balance of wear and toughness for maximum interval between regrinds. Up to 0.059(1.50) grind life.
- Double-cut die opening for improved accuracy.
- Uniform clearance radii in die corners for improved component edge quality.
- Improved die strength with domed relief to evenly distribute punching forces.
- Superior roundness and flatness for improved piece part quality.



Mate QuickLock™ Push-On Urethane Stripper



Mate QuickLock™ Screw-On Urethane Stripper. Supplied in pairs. Fixed to the punch shoulder with a retainer and flat head screw.

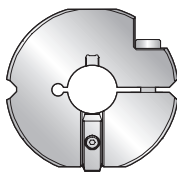


[Dimensions in Inches (mm)]

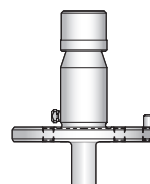
MATE QUICKLOCK™ TOOLING SYSTEM

ROUND SIZE 1 AND SIZE 2

QuickLock™ size 1 punches
made from Premium M4PM™ Steel,
See Page 35 for information



Mate QuickLock™ Universal Alignment Ring.
The integral keyway allows for fast and consistent alignment of the Mate QuickLock™ punch for faster machine set-up without a dedicated alignment fixture. Also compatible with conventional size 2 punches.



Mate QuickLock™
Punch with Alignment Pin.
The hardened and ground key (located in the shank or shoulder, depending on punch point size) engages the keyway in the alignment ring for fast and consistent alignment without a dedicated alignment fixture.

QUICKLOCK™ UNIVERSAL ALIGNMENT RING

Size 1 and 2 Universal Alignment Ring MATE00480

ROUND QUICKLOCK™ PUNCHES

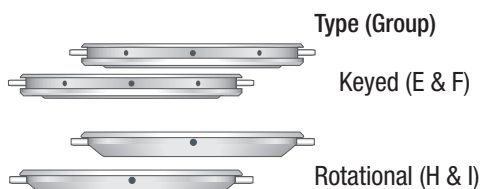
Size	Range	Part Number	Without Shear	Whisper Shear	Maxima™ Coating – Add
Size 1	0.030 (0.76) to 1.181 (30.00)	PDTD0A			
Size 2	1.182 (30.02) to 1.575 (40.01)	PDTE0A			
Size 2	1.576 (40.03) to 2.000 (50.80)	PDTF0A			
Size 2	2.001 (50.83) to 2.362 (60.00)	PDTG0A			
Size 2	2.363 (60.00) to 3.0063 (76.36)	PDTH0A			

ROUND MACHINE STRIPPERS

Size	Keyed	Rotational	Price
Size 1	SKT10A	SRT10A	
Size 2	SKT20A	SRT20A	

QUICKLOCK™ PUSH-ON URETHANE STRIPPERS*

Inside Diameter	Part Number	Price
0.590(15.00)	MATE00532	
0.787(20.00)	MATE00533	
1.181(30.00)	MATE00534	
1.378(35.00)	MATE00548	
1.574(40.00)	MATE00535	
2.047(52.00)	MATE00536	



ROUND DIES

Size	Range	Part Number	Price
Size 1	1.181(30.00) +0.079(2.00) Opening	DOT100	
Size 2	3.000(76.20) +0.079(2.00) Opening	DOT200	



Size 1



Size 2

*Standard length QuickLock™ punches use standard push-on urethane strippers.
Extended length QuickLock punches use QuickLock™ urethane strippers.

See Page 54 for critical tool dimensions

DISCOUNTS ON ALL MATE TRUMPF STYLE TOOLING
10% discount on orders between \$500 and \$1499
15% discount on orders \$1500 and over



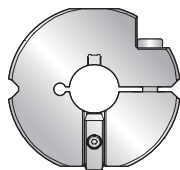
[Dimensions in Inches (mm)]

MATE QUICKLOCK™ TOOLING SYSTEM

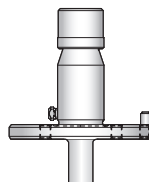
RECTANGLE SIZE 1 AND 2

QuickLock™ size 1 punches made from Premium M4PM™ Steel, See Page 35 for information

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Mate QuickLock™ Universal Alignment Ring. The integral keyway allows for fast and consistent alignment of the Mate QuickLock™ punch for faster machine set-up without a dedicated alignment fixture. Also compatible with conventional size 2 punches.



Mate QuickLock™ Punch with Alignment Pin. The hardened and ground key (located in the shank or shoulder, depending on punch point size) engages the keyway in the alignment ring for fast and consistent alignment without a dedicated alignment fixture.

QUICKLOCK™ UNIVERSAL ALIGNMENT RING

Size 1 and 2 Universal Alignment Ring MATE00480

RECTANGLE PUNCHES

Size	Range	Part Number	Without Shear	Whisper Shear	Maxima™ Coating – Add
Size 1	0.030(0.76) to 1.181(30.00)	PDTD1A			
Size 2	1.182(30.02) to 1.575(40.01)	PDTE1A			
Size 2	1.576(40.03) to 2.000(50.80)	PDTF1A			
Size 2	2.001(50.83) to 2.362(60.00)	PDTG1A			
Size 2	2.363(60.00) to 3.0063(76.36)	PDTH1A			

RECTANGLE MACHINE STRIPPERS

Size	Keyed	Rotational	Price
Size 1	SKT1_A	SRT1_A	
Size 2	SKT2_A	SRT2_A	
		Type (Group)	
		Keyed (E & F)	
		Rotational (H & I)	



QUICKLOCK™ PUSH-ON URETHANE STRIPPERS*

Inside Diameter	Part Number	Price
0.590(15.00)	MATE00532	
0.787(20.00)	MATE00533	
1.181(30.00)	MATE00534	
1.378(35.00)	MATE00548	
1.574(40.00)	MATE00535	
2.047(52.00)	MATE00536	



RECTANGLE DIES

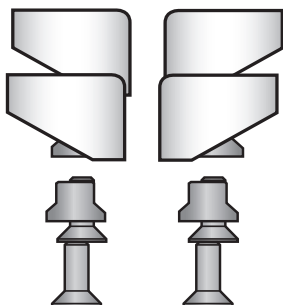
Size	Range	Part Number	Price
Size 1	1.181(30.00) +0.079(2.00) Opening	D0T1_0	
Size 2	3.000(76.20) +0.079(2.00) Opening	D0T2_0	



Size 1



Size 2



MATE QUICKLOCK™ Screw-On Urethane Stripper

For use with shaped Mate QuickLock™ Punches with optional rooftop shear and width up to 0.394(10.00). Two sizes available.

G-Station with punch length 2.001(5.08) – 2.362 (60.00)	MATE00538
H-Station with punch length up to 3.000(76.20)	MATE00539
Retainer – pair	MATE00578
Screw – pair	MATE00579

*Standard length QuickLock™ punches use standard push-on urethane strippers. Extended length QuickLock punches use QuickLock™ urethane strippers.

MATE QUICKLOCK™ TOOLING

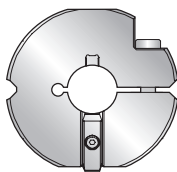


[Dimensions in Inches (mm)]

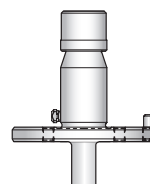
MATE QUICKLOCK™ TOOLING SYSTEM

STANDARD SHAPE SIZE 1 AND SIZE 2

QuickLock™ size 1 punches made from Premium M4PM™ Steel, See Page 35 for information



Mate QuickLock™ Universal Alignment Ring. The integral keyway allows for fast and consistent alignment of the Mate QuickLock™ punch for faster machine set-up without a dedicated alignment fixture. Also compatible with conventional size 2 punches.



Mate QuickLock™ Punch with Alignment Pin. The hardened and ground key (located in the shank or shoulder, depending on punch point size) engages the keyway in the alignment ring for fast and consistent alignment without a dedicated alignment fixture.

QUICKLOCK™ UNIVERSAL ALIGNMENT RING

Size 1 and 2 Universal Alignment Ring MATE00480

PUNCH

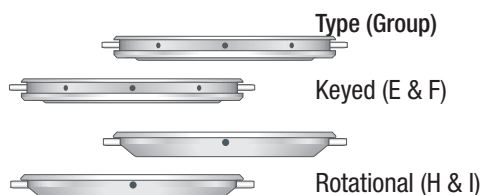
Size	Range	Part Number	Without Shear	Whisper Shear	Maxima™ Coating – Add
Size 1	0.030(0.76) to 1.181(30.00)	PDTD_A			
Size 2	1.182(30.02) to 1.575(40.01)	PDTE_A			
Size 2	1.576(40.03) to 2.000(50.80)	PDTF_A			
Size 2	2.001(50.83) to 2.362(60.00)	PDTG_A			
Size 2	2.363(60.00) to 3.0063(76.36)	PDTH_A			

STRIPPER

Size	Keyed	Rotational	Price
Size 1	SKT1_A	SRT1_A	
Size 2	SKT2_A	SRT2_A	

QUICKLOCK™ PUSH-ON URETHANE STRIPPERS*

Inside Diameter	Part Number	Price
0.590(15.00)	MATE00532	
0.787(20.00)	MATE00533	
1.181(30.00)	MATE00534	
1.378(35.00)	MATE00548	
1.574(40.00)	MATE00535	
2.047(52.00)	MATE00536	



SHAPED DIES

Size	Range	Part Number	Price
Size 1	1.181(30.00) +0.079(2.00) Opening	DOT1_0	
Size 2	3.000(76.20) +0.079(2.00) Opening	DOT2_0	

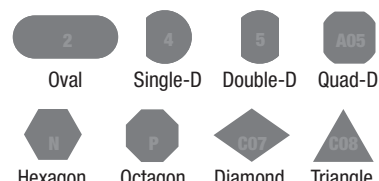


Size 1



Size 2

**STANDARD SHAPES



*Standard length QuickLock™ punches use standard push-on urethane strippers. Extended length QuickLock punches use QuickLock™ urethane strippers.

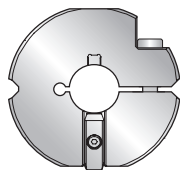


[Dimensions in Inches (mm)]

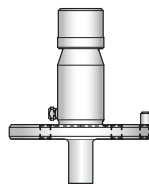
MATE QUICKLOCK™ TOOLING SYSTEM

SQUARE SIZE 1 AND SIZE 2

QuickLock™ size 1 punches made from Premium M4PM™ Steel, See Page 35 for information



Mate QuickLock™ Universal Alignment Ring. The integral keyway allows for fast and consistent alignment of the Mate QuickLock™ punch for faster machine set-up without a dedicated alignment fixture. Also compatible with conventional size 2 punches.



Mate QuickLock™ Punch with Alignment Pin. The hardened and ground key (located in the shank or shoulder, depending on punch point size) engages the keyway in the alignment ring for fast and consistent alignment without a dedicated alignment fixture.

QUICKLOCK™ UNIVERSAL ALIGNMENT RING

Size 1 and 2 Universal Alignment Ring MATE00480

SQUARE QUICKLOCK™ PUNCHES

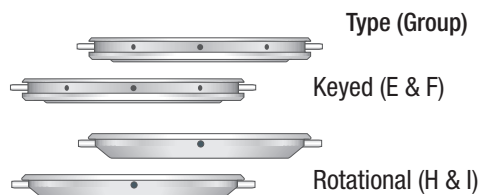
Size	Range	Part Number	Without Shear	Whisper Shear	Maxima™ Coating – Add
Size 1	0.030(0.76) to 1.181(30.00)	PDTD3A			
Size 2	1.182(30.02) to 1.575(40.01)	PDTE3A			
Size 2	1.576(40.03) to 2.000(50.80)	PDTF3A			
Size 2	2.001(50.83) to 2.362(60.00)	PDTG3A			
Size 2	2.363(60.00) to 3.0063(76.36)	PDTH3A			

SQUARE MACHINE STRIPPERS

Size	Keyed	Rotational	Price
Size 1	SKT13A	SRT13A	
Size 2	SKT23A	SRT23A	

QUICKLOCK™ PUSH-ON URETHANE STRIPPERS*

Inside Diameter	Part Number	Price
0.590(15.00)	MATE00532	
0.787(20.00)	MATE00533	
1.181(30.00)	MATE00534	
1.378(35.00)	MATE00548	
1.574(40.00)	MATE00535	
2.047(52.00)	MATE00536	



SQUARE DIES

Size	Range	Part Number	Price
Size 1	1.181(30.00) +0.079(2.00) Opening	DOT130	
Size 2	3.000(76.20) +0.079(2.00) Opening	DOT230	



Size 1



Size 2

*Standard length QuickLock™ punches use standard push-on urethane strippers. Extended length QuickLock punches use QuickLock™ urethane strippers.

See Page 54 for critical tool dimensions

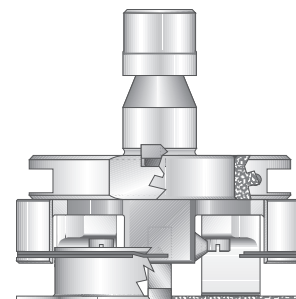
DISCOUNTS ON ALL MATE TRUMPF STYLE TOOLING
10% discount on orders between \$500 and \$1499
15% discount on orders \$1500 and over

[Dimensions in Inches (mm)]

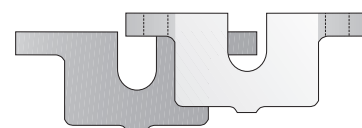


EUROSTYLE™ TOOLING SYSTEM**0.200 x 2.000****PUNCH ASSEMBLY**

RECTANGLE	XPT2170200X2000
RECTANGLE, WITH MAXIMA® COATING	XPT21M0200X2000
OVAL	XPT2270200X2000
OVAL, WITH MAXIMA® COATING	XPT22M0200X2000

**URETHANE SPRINGS**

UTS1

**REPLACEMENT PUNCH INSERT**

RECTANGLE	PATS1A0200X2000
RECTANGLE, WITH MAXIMA® COATING	PATS1M0200X2000
OVAL	PATS2A0200X2000
OVAL, WITH MAXIMA® COATING	PATS2M0200X2000

**REPLACEMENT STRIPPER**

MATE00461

NOT FOR TC500 AND NEWER MACHINES

[Dimensions in Inches (mm)]

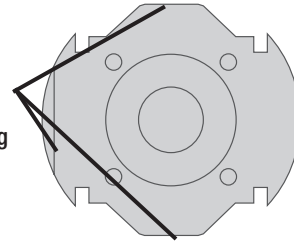
Precision and rigidity of the guided shearing assembly extend punch and die life *up to three times* more than non-guided assemblies...

A guided, spring-loaded stripper with on-the-die performance is built into the punching assembly. The stripper is guided by the inside surface of the retainer and by the sides of the punch insert. The punch point is guided by the stripper as it enters the material. This protects slitting punches against deflection at the point of impact so they last much longer. Spring pressure yields positive stripping action and clamps material against the die for clean, accurate punching, and flatter piece parts.

Three Alignment Flats...

- Three alignment flats on the punch holder allow immediate 0° or 90° alignment without disassembly.
- The guided stripper allows for on-die stripping which is essential for material control with minimal slippage. The greater accuracy eliminates secondary finishing, while the punching operation can be accomplished in fewer hits.

External alignment flats allow for simple 0 and 90 degree alignment ring setting without disassembly.

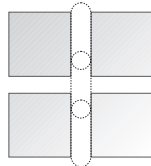


Slitting Options...



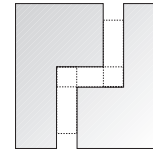
Standard with radius corners for smooth blending of successive cuts in slitting operations.

The oval punch is used for a smooth transition between punch hits. No "pips" or edge irregularities.



Shake-and-break (See D06 on Page 36) with Square corners for precise gaps needed for holding corner tabs.

The rectangular punch is used for precision corner cutting.



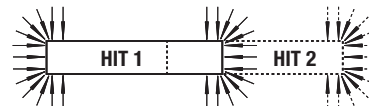
Smooth Slitting Tip...

To reduce edge irregularities left by square ended tools, it is common practice to order oval punches and rectangular dies with 0.060(1.50) radius corners as sets.

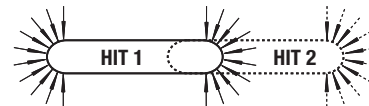
Slitting with a rectangular punch and die can result in small "pips" which are visually undesirable. This is the result of natural forces that take place when performing this operation.

The sharp corners of a rectangular punch and die force an abrupt change in the direction that the material flows prior to the fracture of the slug from the sheet. This abrupt change in the direction of flow can be decreased by placing a radius on the corners of the rectangle. As the radius increases in size, a more uniform flow of material is achieved.

When the size of the radius is increased to 1/2 the width of the rectangle, the shape becomes an oval. This oval shaped punch and die will result in an improved edge appearance when slitting.

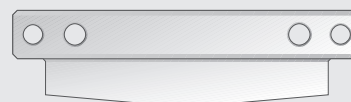


Abrupt change in material flow occurs at the sharp corners of the rectangle



Material flows uniformly at the ends of the oval

Punch insert can be removed from tool without disassembly to facilitate sharpening and punch replacement.



[Dimensions in Inches (mm)]



LONGLIFE™ SLITTING TOOL SYSTEM



Mate's LongLife™ slitting tool system for Trumpf style punch presses is designed to deliver exceptional value combining premium tool steel punch and die inserts with robust punch and die holders. Fully OEM compatible, Mate LongLife provides you with the most cost-effective slitting tool solution.

PUNCH INSERT*

- LongLife™ Premium M4PM™ high speed steel provides maximum interval between regrinds and improves piece part quality
- Available in four standard shapes: rectangle, oval, dovetail and trapezoid
- Metric and inch sizes: Size 56 0.787(19.98) to 2.205(55.88)
Size 76 2.206(56.01) to 3.000(76.08)
- Widths up to 0.250(6.35)
- Optional Maxima™ coating available
- Compatible with Trumpf style

PUNCH HOLDER

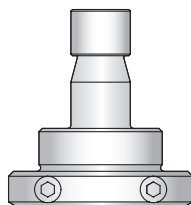
- LongLife™ tool system offers two styles of punch holders:
 - Integral alignment ring for fast, precise tool set up
 - Separate heavy duty alignment ring (additional) to allow manual angle setting flexibility
- Works with conventional machine strippers

DIE INSERT*

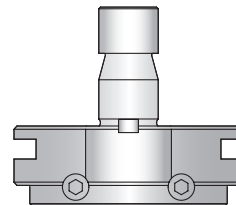
- Premium M4PM™ high speed steel for high wear resistance and exceptional die strength
- Metric and inch sizes:
 - Size 56 0.787(19.98) to 2.205(55.88)
1-piece or 2-piece insert
 - Size 76 0.787(19.98) to 3.000(76.08)
1-piece or 2-piece insert
- Widths up to 0.250(6.35)
- 11 standard discrete die clearances 0.004(0.10) to 0.024(0.60) in 0.002(0.05) increments
- Compatible with Trumpf style

DIE HOLDER ASSEMBLY

- Includes full shim set with two thicknesses
- Two sizes:
 - Size 56 for up to .250 x 2.000(6.35 x 55.88)
 - Size 76 for up to .250 x 3.000(6.35 x 76.08)



DESCRIPTION Part Number Price
SLITTING PUNCH HOLDER PPD2HA

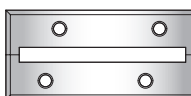


DESCRIPTION Part Number Price
SLITTING PUNCH HOLDER WITH INTEGRATED ALIGNMENT RING PPD2HAVANTF

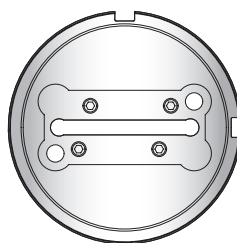
5.00 X 55.88 mm



DESCRIPTION Part Number Price
PUNCH INSERT PPDE_A



DESCRIPTION Part Number Price
ONE-PIECE INSERT DSDE_A
TWO-PIECE INSERT DTDE_A

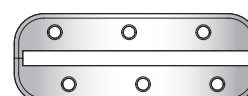


DESCRIPTION Part Number Price
DIE BASE ASSEMBLY DPD2H056

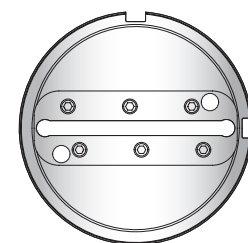
5.00 X 76.08 mm



DESCRIPTION Part Number Price
PUNCH INSERT PPDF_A



DESCRIPTION Part Number Price
ONE-PIECE INSERT DSDF_A
TWO-PIECE INSERT DTDF_A



DESCRIPTION Part Number Price
DIE BASE ASSEMBLY DPD2H076

Die Shims

5.00 x 56.00(0.30mm thickness)	MATE1326
5.00 x 56.00(0.51mm thickness)	MATE1327
5.00 x 76.20(0.30mm thickness)	MATE1328
5.00 x 76.20(0.51mm thickness)	MATE1329

Available Shapes:



*SPECIAL NOTE WHEN REPLACING TRUMPF-MANUFACTURED INSERTS:

Please take caution and inform your Mate representative if you are replacing Trumpf-manufactured inserts for this tooling system. Trumpf etches the length of the inserts as either "56.00" or "76.20"; the actual lengths are 0.12mm shorter (55.88mm or 76.08mm). Damage is possible if you order replacements for Trumpf-manufactured inserts at the etched length.

**Solid size 2 die, Rectangle or Oval only

DOT2_0

[Dimensions in Inches (mm)]



MATE M4PM™ TOOL STEEL

35

M4PM™ STEEL

Mate has long offered the most comprehensive range of tooling for Trumpf-style punch presses: the economy of conventional Trumpf-Style tooling, the convenience of QuickLock™ with its keyed alignment ring and the high performance NEXT™ insert tooling system.

Mate's Trumpf-style tooling is even better with the **superior performance and longevity of Mate's M4PM™ tool steel**, now standard on the following products:

- All conventional Trumpf-style Size 0 and Size 1 punches
- All QuickLock™ Size 1 punches
- All NEXT™ Size 40 and 76 punches
- All Trumpf-style Size 5 and Size 10 Multi Tool punches
- All Trumpf-style Size 5 and Size 10 Multi Tool dies
- All LongLife™ slitting punch and die inserts

M4PM™ Steel

Designed for use in high performance tooling systems, M4PM is a high speed, particle metallurgy steel that combines the chemical composition of M4, particle metallurgy manufacturing and a triple temper heat treatment process.

M4PM offers superior resistance to adhesive and abrasive-wear to maximize the interval between regrinds. The increased alloy content results in higher effective hardness for better wear resistance. A more uniform distribution of smaller carbides results in significantly reduced tool breakage and edge chipping.

Longer Lasting Tooling

Combining the clear advantage of M4PM steel with Mate's superior accuracy and precision, you have a winning combination: reliable, consistent, long-lasting tooling. Compared to conventional high speed steel used by other manufacturers, Mate's Trumpf-style tooling with M4PM has at least 50% or greater wear resistance.

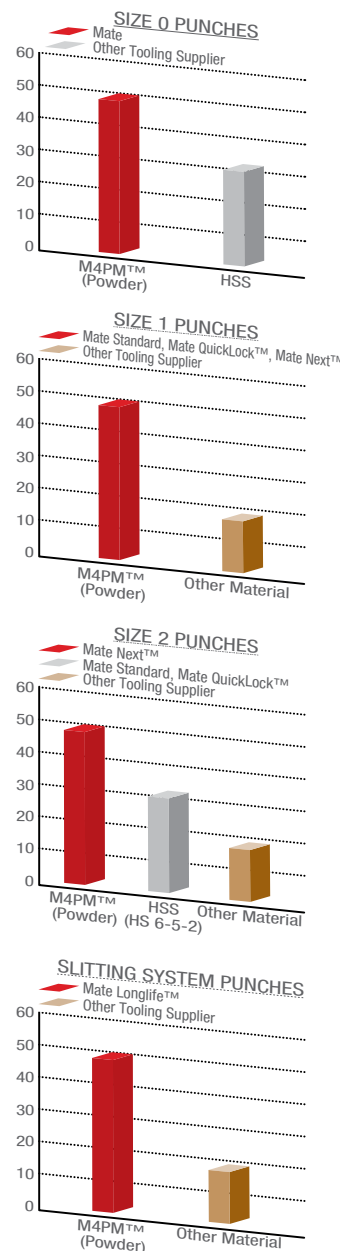
What does long-lasting tooling mean to you?

- Increased machine uptime.
- Improved sheet metal products.
- Reduced overall tooling costs.
- Lower overall production costs.

Put Mate Trumpf-Style Tooling to the Test

Like all Mate products, Mate Trumpf-style tooling is backed by our 100% customer satisfaction guarantee. You have nothing to lose. If you are not satisfied, we'll take the tooling back...no questions asked.

WEAR RESISTANCE INDEX COMPARISONS

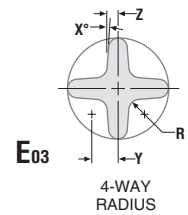
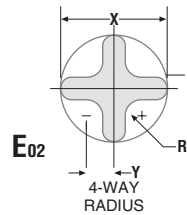
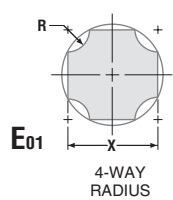
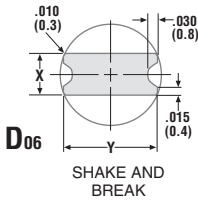
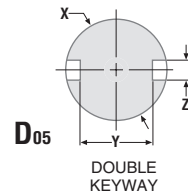
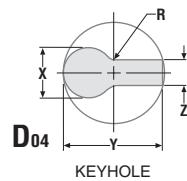
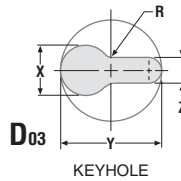
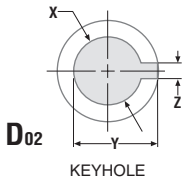
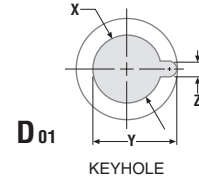
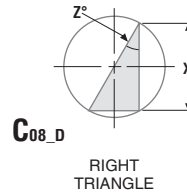
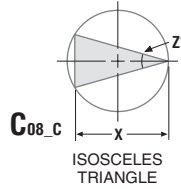
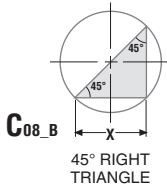
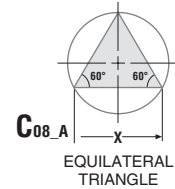
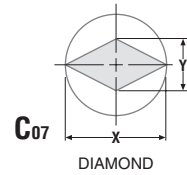
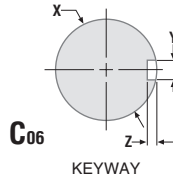
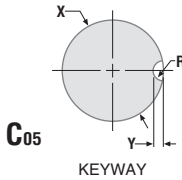
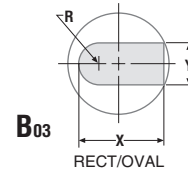
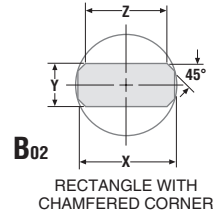
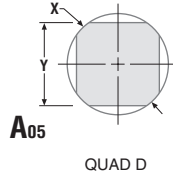
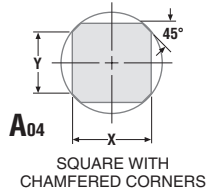


**Wear Resistance index values were developed by an independent metallurgical expert, evaluating both adhesive and abrasive wear characteristics of tool steels at typical levels of hardening.*

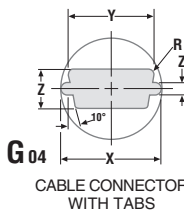
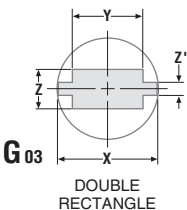
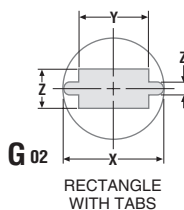
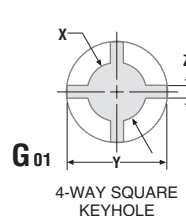
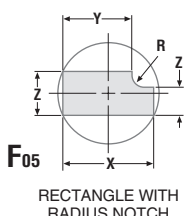
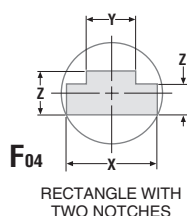
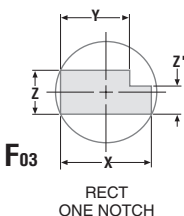
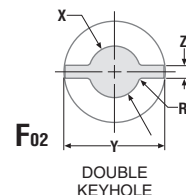
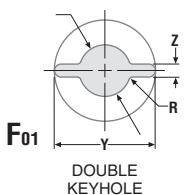
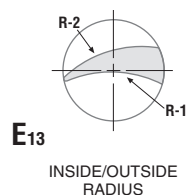
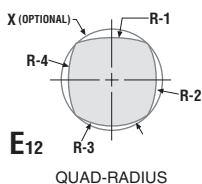
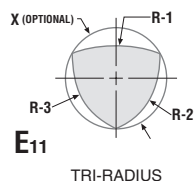
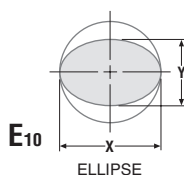
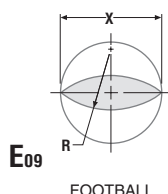
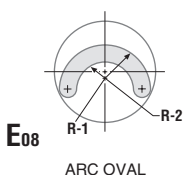
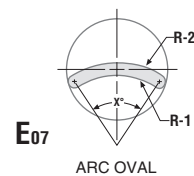
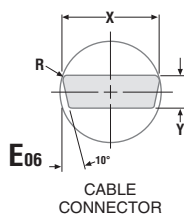
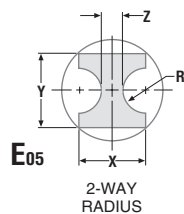
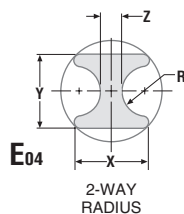
[Dimensions in Inches (mm)]



SPECIAL SHAPES



[Dimensions in Inches (mm)]



ADD-ONS

General

Radius Corner	Add	to Punch and Die
Non-Standard Straight Before Radius (SBR) Dimension	Add	to Punch
Extra Back Taper (1 degree per side)	Add	to Punch
Special Angle Settings	Add	to Die
Optional shear (Limited Options)		no charge
Shock Steel - for Rectangles and Squares when total clearance is greater than 0.024(0.60)	Add	to Die
Optional 77,00mm (long) or 77,50mm (extended) lengths -		
Flat shear only; Size 1, Size 2, Size 40 and Size 76		no charge
Optional MPM82 tool steel for Size 2 Dies only	Add	to Die

Small Diameter Round Tools

Diameter 0.031(0.79) to 0.061(1.55)	Add	to Punch and Die
Diameter 0.062(1.56) to 0.092(2.34)	Add	to Punch and Die

Narrow Width Shaped Tools

Widths under 0.125 (3.18)	Add	to Punch, Stripper, and Die
---------------------------	-----	-----------------------------

Maxima™ Coating or Nitride Treatment

Trumpf Style Tooling		
Size 0-A and Size 0-B	Add	to Punch
Size 1 and Size 1-X	Add	to Punch
Size 2	Add	to Punch
Size 3	Add	to Punch
Slitting Insert	Add	to Punch
Multi Tool: 4, 5, 6, and 10 station	Add	to Punch

Mate QuickLock™

Size 1	Add	to Punch
Size 2	Add	to Punch

Mate NEXT™

Size 40	Add	to Punch
Size 76	Add	to Punch

Non-Standard Design Features:

Call for Quote



[Dimensions in Inches (mm)]

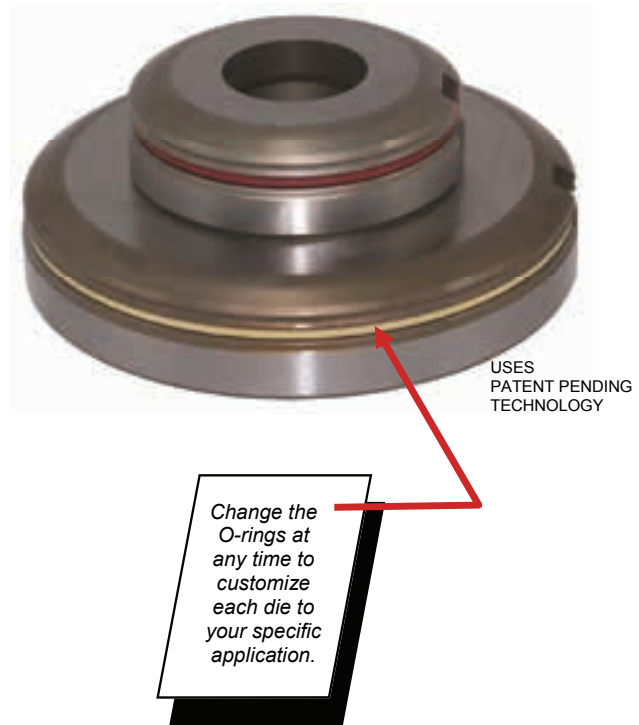
Introducing Lean Visual Management Capability for size 1 and size 2 Trumpf style dies. Mate's patent pending EasyView™ technology uses a colored O-ring for clear and instant identification.

- **Fully compatible with existing Trumpf die inventories**
- **No die key interference**
- **O-rings manufactured from oil resistant butyl rubber for years of service life**
- **Available in five distinct colors for optimum differentiation**

Use the simple removable O-ring to identify a specific feature of the die making it faster and easier for the user to make the correct decision every time. Eliminate wasted time looking for the correct tool.

Order Trumpf EasyView™ today!

Examples of Use	Criteria	Color
Material Type	Mild Steel	Black
	Aluminum	Red
	Stainless Steel	Yellow
Material Thickness	0.040(1.00)	Green
	0.059(1.50)	Yellow
	0.078(2.00)	White
Die Clearance	0.008(0.20)	Red
	0.012(0.30)	Yellow
	0.016(0.40)	Green
Machine Location	Machine #1	Red
	Machine #2	White
	Machine #3	Black
Shift	Days	White
	Nights	Black
Status	OK to use	Green
	To be Sharpened	Red



Ordering Information

		BLACK	RED	GREEN	YELLOW	WHITE
TRUMPF SIZE 1 O-RING	PACK OF 5	MATE01349	MATE01350	MATE01351	MATE01352	MATE01353
TRUMPF SIZE 2 O-RING	PACK OF 5	MATE01354	MATE01355	MATE01356	MATE01357	MATE01358

Size 1 packs Size 2 packs
Not available for Minimatic dies.

[Dimensions in Inches (mm)]



TRUMPF STYLE SPECIAL APPLICATIONS AVAILABLE FROM STOCK!

Mate now has a huge inventory of Special Applications in stock for immediate delivery! Mate special applications from stock enable you to produce your parts sooner, more efficiently, and more profitably. Order yours today!

Tapping Extrusion

Station	Inside Diameter	Material Thickness	Stock Part Number
Size 2	M4 - 0.131(3.32) +/-0.001(0.02)	0.056(1.42) to 0.062(1.57)	XTT2D0D100-0005
Size 2	M4 - 0.131(3.32) +/-0.001(0.02)	0.035(0.89) to 0.039(0.99)	XTT2D0D100-0006
Size 2	M5 - 0.166(4.22) +/-0.001(0.02)	0.056(1.42) to 0.062(1.57)	XTT2D0D100-0003
Size 2	M5 - 0.166(4.22) +/-0.001(0.02)	0.035(0.89) to 0.039(0.99)	XTT2D0D100-0004
Size 2	M6 - 0.197(5.00) +/-0.001(0.02)	0.056(1.42) to 0.062(1.57)	XTT2D0D100-0001
Size 2	M6 - 0.197(5.00) +/-0.001(0.02)	0.035(0.89) to 0.039(0.99)	XTT2D0D100-0002

Shearbutton

Station	Inside Diameter	Material Thickness	Stock Part Number
Size 2	0.197(5.00)	0.188(4.77) Max	XTT2D0S100-0001
Size 2	0.200(5.08)	0.188(4.77) Max	XTT2D0S100-0002

Centerpoint

Station	Inside Diameter	Material Thickness	Stock Part Number
Size 1	Down	0.250(6.35) Max	XTT1D0P200-0001

Universal Countersink

Station	Inside Diameter	Material Thickness	Stock Part Number
Size 1	82 deg	0.250(6.35) Max	XTT1D0B201-0001
Size 1	90 deg	0.250(6.35) Max	XTT1D0B201-0002
Size 1	120 deg	0.250(6.35) Max	XTT1D0B201-0003

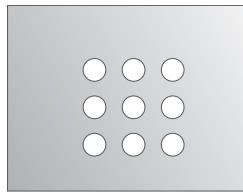
Custom Applications

Station	Inside Diameter	Material Thickness	Stock Part Number
Size 2	Mate Rollerball®		XTT2D0RB99
Size 2	Mate Sheetmarker®		XTT2D0SM99
Size 2	Mate Rollerball® Deburr		XTT2D0RD99

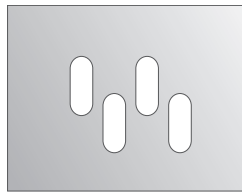
*Stock Ground Symbol Stamp is not compatible with newer Trumpf machines.
Contact Mate Customer Service for more information.



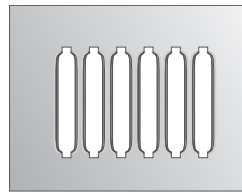
Dimensions in inches (millimeters)



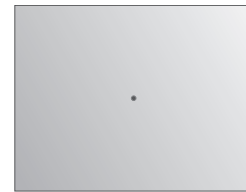
Cluster – Round



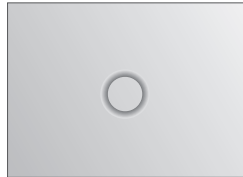
Cluster – Shape



Card Guide



Centerpoint



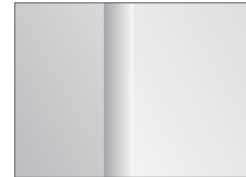
Countersink – Round



Countersink – Shape



Emboss – Beading



Emboss – Edgeform



**Emboss – Formed
(Round and Shaped)**



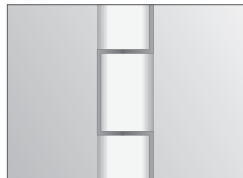
Emboss – Cold Forged



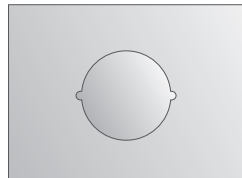
Extrusion – Tapping



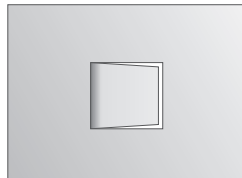
Extrusion – Flanged Hole



Hinge Tool



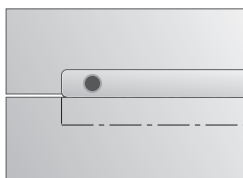
Knockout



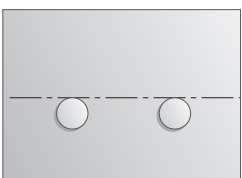
Lance And Form



Louver



Scissortool™



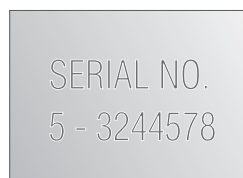
**Shearbutton
(Round and Shaped)**



Rollerball™



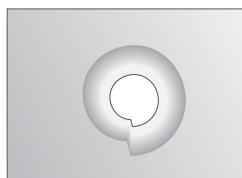
Sheetmarker™



Stamping – Alpha Numeric



Stamping – V-line



Threadform



See **MATE Forming Tool Order Guide** for forming tool ordering specifications...

Ask for Part-Number
LIT00002

[Dimensions in Inches (mm)]



SPECIAL APPLICATIONS

Cluster

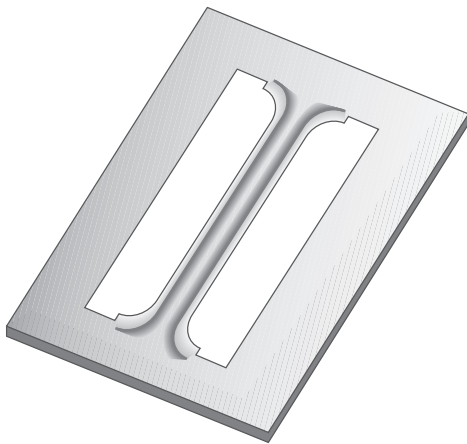
Produce multiple holes with minimal hits.

Typical Application:

- Material thickness from 0.020(0.50) to 0.157(4.00).
- Other restraints dependent upon station size, punch size and shape and press tonnage.

Comments:

- For greater hole uniformity and flatter sheets, spread the punches to avoid punching adjacent holes in the same hit.
- Do not re-punch through previously punched holes to complete a pattern. A single hit tool may be necessary.



Card Guide

A retainer for printed circuit boards.

Typical Application:

- Material thickness from 0.040(1.00) to 0.078(2.00).
- Maximum recommended top-of-sheet to top-of-form height is 0.125(3.20).

Comments:

- Length of the card guide is dependent upon station size and machine tonnage.
- Also available as a continuous form to increase productivity and flexibility.



[Dimensions in Inches (mm)]

Countersink—Dedicated

Allows screw and rivet head to sit flush or below the surface of the material.

Typical Application:

- Material thickness from 0.048(1.22) to 0.250(6.35), dependent upon press tonnage capacity.

Comments:

- The shoulder (dedicated) style is generally ordered for one material thickness and screw size.
- The shoulder style coins the surrounding area, producing a clean flat countersink with minimal burring.



Emboss—Beading

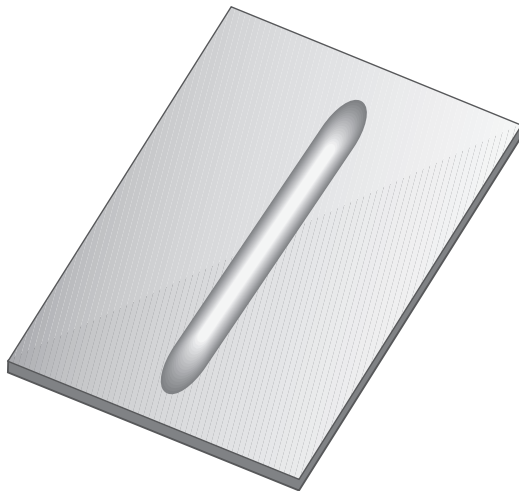
A stiffener to add rigidity to sheet metal panels.

Typical Application:

- Material thickness from 0.027(0.70) to 0.250(6.35), dependent upon press tonnage capacity.

Comments:

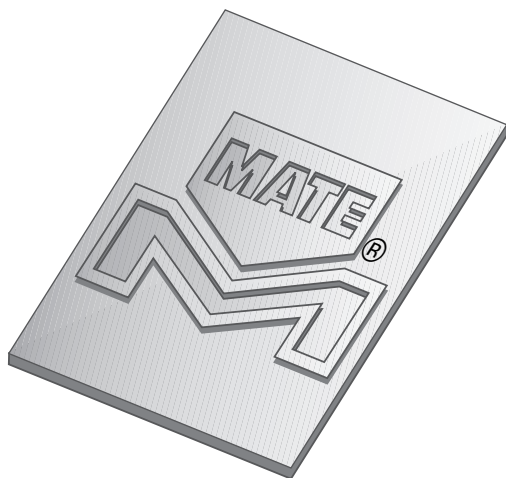
- The increment between hits is determined by the cosmetic requirements for the finished part. Smaller increments result in improved appearance.
- The form height should be as low as possible to minimize sheet distortion.



[Dimensions in Inches (mm)]



SPECIAL APPLICATIONS



Emboss—Cold Forged

Produce a logo or design on a part.

Typical Application:

- Material thickness from 0.018(0.46) to 0.118(3.00).
- Best results in material thickness from 0.040(1.00) to 0.078(2.00).
- Maximum size dependent on the tooling style, station size, and press tonnage capacity.

Comments:

- An exact drawing, CAD file, or artwork of logo is required to produce this type of assembly.

Emboss—Formed

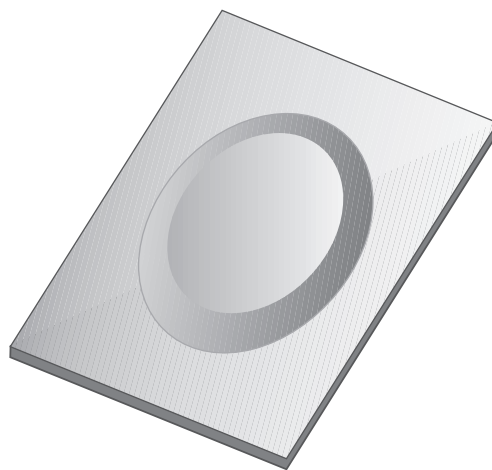
Provide a recess or a protrusion.

Typical Application:

- Material thickness from 0.027(0.70) to 0.250(6.35), dependent upon press tonnage capacity.

Comments:

- Best results are attained when the side wall angle is 45° or less.
- Optimum form height is 3 x the material thickness or less.



[Dimensions in Inches (mm)]

Extrusion—Tapping

Threading for screws and increased bearing area for tubes, etc.

Typical Application:

- Material thickness from 0.031(0.80) to 0.106(2.70).
- Overall Height – 2x to 2.5x material thickness.
- Diameter – 0.374(9.50) (M10 screw thread).

Comments:

- Additional inverted dies are required to accommodate alternate material thickness.



Hinge

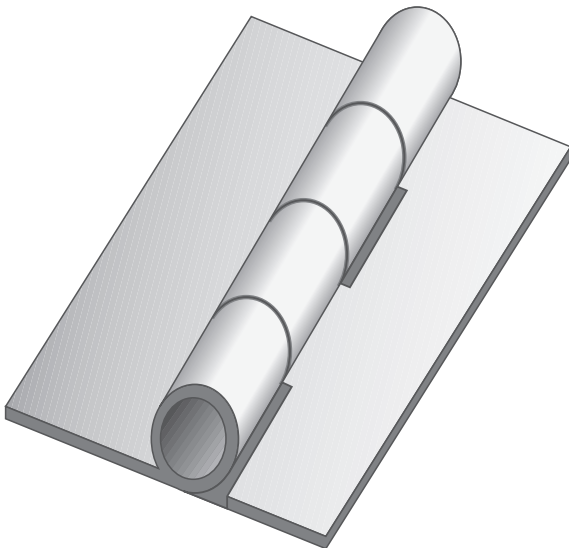
Creates hinge knuckles as integral elements on sheet metal components.

Typical Application:

- The range in inches(mm) of this application is dependent on a combination of the material thickness, pin diameter and feed gap of the press.

Comments:

- An integral hinge knuckle on a component will eliminate the costly process of purchasing and assembling separate hinges.



[Dimensions in Inches (mm)]



SPECIAL APPLICATIONS

Knockout

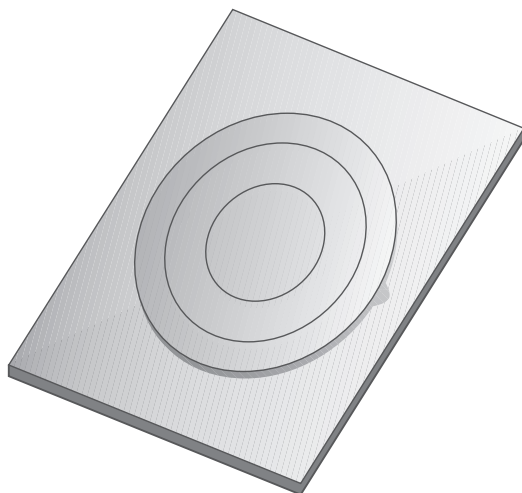
Allows optional pathway for electrical cable.

Typical Application:

- Material thickness from 0.024(0.60) to 0.118(3.00).
- Maximum size dependent upon material, thickness, and press tonnage capacity.

Comments:

- The tool can normally be used with other material thickness within a range in inches(mm) of + or - 0.016(0.41) from design thickness.
- Maintain 0.236(6.00) difference between diameters used for knockout.



Lance And Form

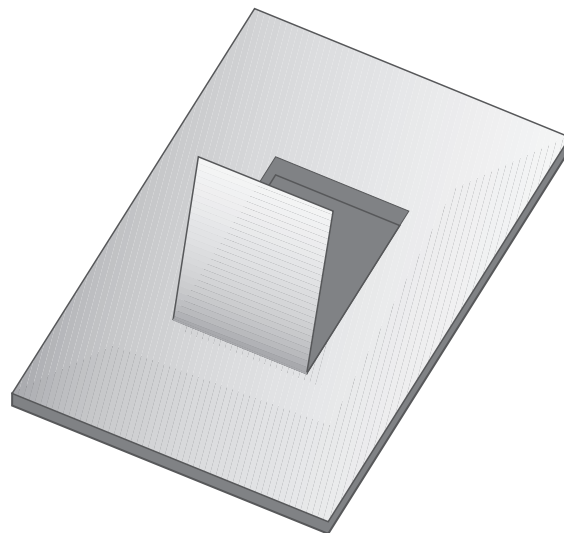
For air flow, decoration, as card guides, location markers, shear tabs, wire harnesses, or clip attachments.

Typical Application:

- Material thickness from 0.020(0.50) to 0.118(3.00).
- Maximum recommended top-of-sheet to top-of-form height is 0.250(6.40).
- Other limitations include material, station size, and press tonnage capacity.

Comments:

- The inclusion of a 5° draft angle is recommended to assure reliable operation of open ground forms.



[Dimensions in Inches (mm)]



See **MATE** Forming Order Tool Guide for forming tool ordering specifications...

Ask for Part-Number
LIT00002

Louver

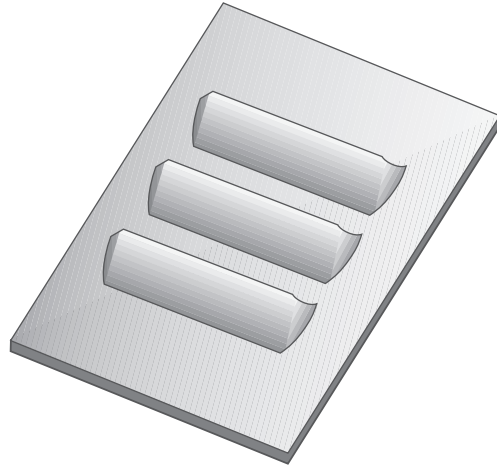
Provides air flow or ventilation.

Typical Application:

- Material thickness from 0.028(0.70) to 0.106(2.70).
- Maximum recommended top-to-top height is 0.255(6.50).

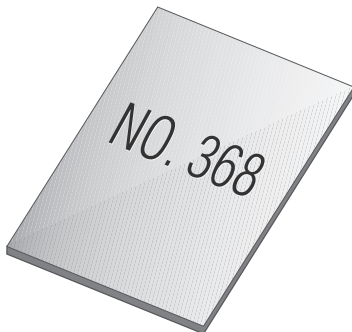
Comments:

- One tool cuts the sheet and produces the form in the same operation.
- The tool is designed for a specific material thickness.



Insert Sizes Available

Fractional	Decimal	Metric
3/32	0.094	2.40
1/8	0.125	3.12
3/16	0.188	4.50
1/4	0.250	6.34



Stamp—Alpha Numeric

Provides indelible marking of alpha-numeric characters on the top or bottom of a sheet.

Typical Application:

- Material thickness 0.032(0.80) up to machine capacity.
- Characters available in 4 popular sizes. See table.

Comments:

- Individual characters can be easily changed.



See **MATE** Forming Order Tool Guide for forming tool ordering specifications...

Ask for Part-Number
LIT00002

[Dimensions in Inches (mm)]



SPECIAL APPLICATIONS

Threadform

Provides a form to accept a sheet metal screw.

Typical Application:

- Material thickness 0.020(0.50) to 0.048(1.20).
- Size is dependent upon screw size selected.
- Thicker material requires a countersink operation or thinning prior to threadforming.



V-Line Stamping

Produce logos, messages, or symbols.

Typical Application:

- Material thickness from 0.032(0.80) up to machine capacity.
- Maximum Size is dependent on station size, size of symbols and characters, and press tonnage capacity.

Comments:

- V-Line Stamping -- renders the image with a sharp line stamped into the surface.
- An exact drawing, CAD file, or artwork of logo is required in order to produce this of assembly.



[Dimensions in Inches (mm)]

Mate EasySnap™

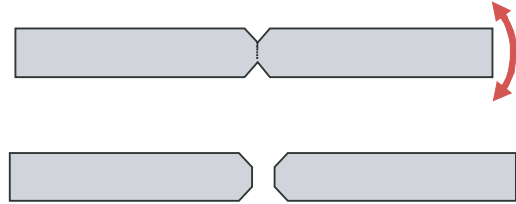
Scrapless retention system to allow fabricator to snap punched parts out of sheet metal.

Typical Application:

- Material thickness from 0.020(0.50) up to 0.078(2.00) for mild steel and aluminium, and 0.020(0.50) up to 0.059(1.50) for stainless steel.
- Maximum length of form is 36.00(914.40).

Comments:

- Reduces the need for slitting and micro joints for part retention.
- Material and thickness must be specified at time of order.



Mate HexLock™

Provides a reliable and secure method of retaining common threaded fasteners in sheet metal.

Typical Application:

- Material thickness from 0.020(0.50) up to 0.118(3.00)
- Other limitations include material, station size, and press tonnage capacity.

Comments:

- Suitable for hexagon nuts and hexagon headed bolts that conform to DIN933 or DIN934.



[Dimensions in Inches (mm)]



SPECIAL APPLICATIONS

Rollerball™

The Rollerball is an exciting concept designed by Mate Precision Tooling to take advantage of the extended programming capabilities of hydraulic and other punch presses capable of operating in the x and y axis with the ram down. The Rollerball is capable of making forms not possible with single hit forming tools.

Typical Application:

- Maximum workable material thickness is 0.105(2.70) mild steel.

Comments:

- The press must be capable of holding the ram down while the sheet is moved in the x and/or y.

Patent Numbers (Rollerball and Rollerball Deburr):

US: 6,131,430

EP: 0 995 510 B1

CA 2,314,987 A1

JP 4406898

SG 74237

MX 222040



Rollerball Deburr™

Punching processes frequently cause burrs on sheet metal parts. They are unavoidable. Removing them requires secondary deburring operations that are either performed manually or use specialized equipment. Now Mate helps you eliminate these costly secondary operations with the new Rollerball Deburr™ tool!

Typical Application:

- Materials of any thickness in mild steel, stainless steel and aluminum.

Comments:

- The Mate Rollerball Deburr tool takes advantage of Mate's Rollerball™ technology by using the extended programming capabilities of punch presses that can operate in the x and y axis with the ram down.

- Rollerball Deburr pushes the burr away and creates a radius on the side of the part. Sold as a set, Rollerball Deburr comes complete with everything you need.



XTT2D0RD00



[Dimensions in Inches (mm)]

Sheetmarker™



For markings or etchings on the surface of sheet metal. The tool uses a diamond pointed insert in a spring loaded holder to create the marking.

Typical Application:

- The Sheetmarker Tool can be used on all materials and thicknesses.

Comments:

- A wide variety of results can be produced, ranging from very light etching to fairly deep grooves in the sheet.
- Variations are achieved with a combination of three spring pressures and two insert point angles.
- The press must be capable of holding the ram down while the sheet is moved in the x and/or y.

Patent Numbers: US 7,168,364 B2.
Europe 1 099 509. Singapore: 88336



Mate SnapLock™

Use:

For joining materials, thus eliminating secondary operations such as spot welding, riveting, or fastening with threaded hardware.

Typical Application:

- Material thickness from 0.020(0.50) up to 0.118(3.00).
- Other limitations include material, station size, and press tonnage capacity.

Comments:

- Suitable for joining materials of dissimilar and/or thickness.
- Positive locking and locating feature for fast and accurate assembly.

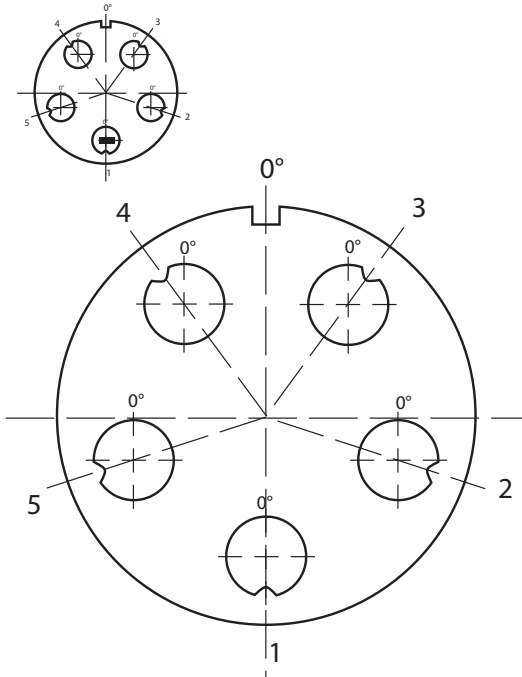


[Dimensions in Inches (mm)]

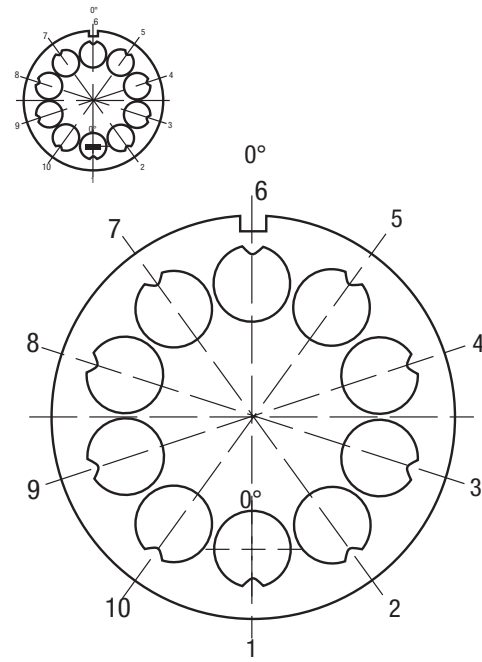


MULTI TOOL ANGLE SETTING

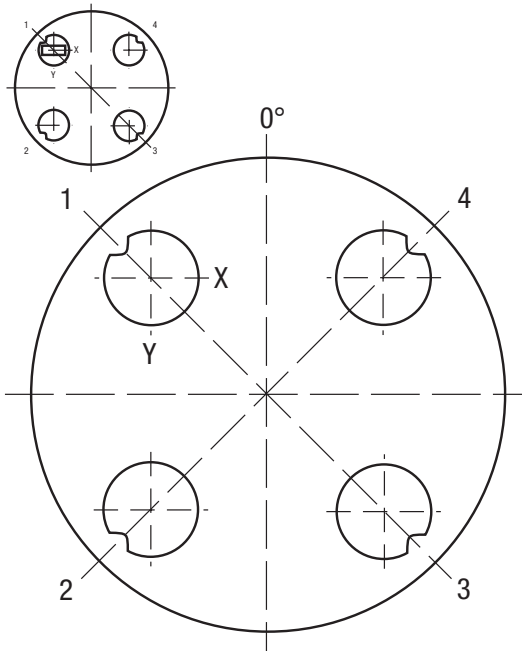
5-Station



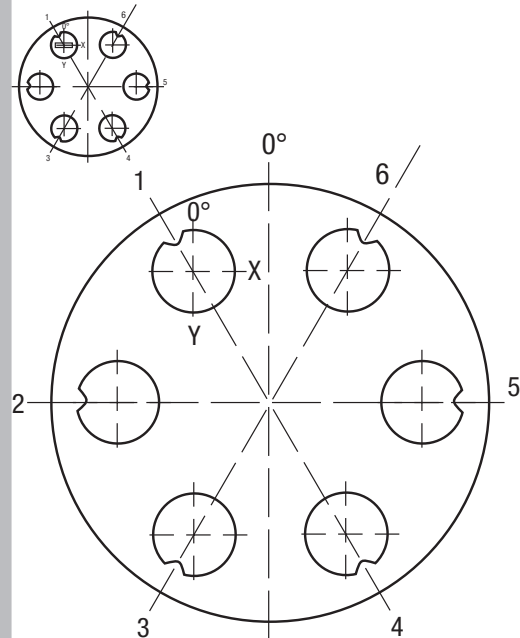
10-Station



4-Station



6-Station



Custom angle settings

Custom angle settings are achievable. Contact your customer service representative to discuss your specific needs.



[Dimensions in Inches (mm)]

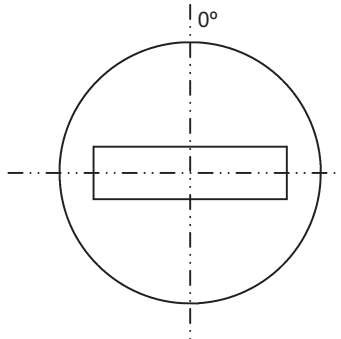
STANDARD SHAPE ANGLE SETTING

53

ANGLE SETTINGS

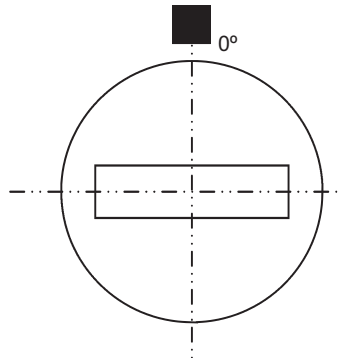
This page shows the location of the primary or (zero degree) orientation feature for punches, strippers, and dies. The orientation feature of a punch is a pin which engages with the alignment ring (Quicklock™) or punch holder (NEXT™). The orientation of a die is via a keyway, and strippers are oriented by a pair of pins.

Standard Punch



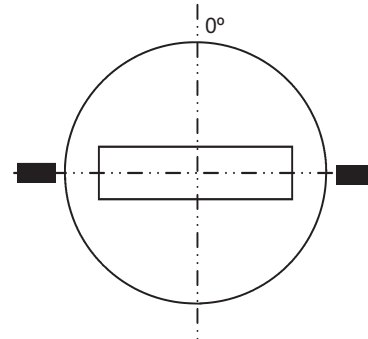
The standard punch is aligned with the alignment ring, and thus does not require an orientation feature.

Size 1 or 2 Die



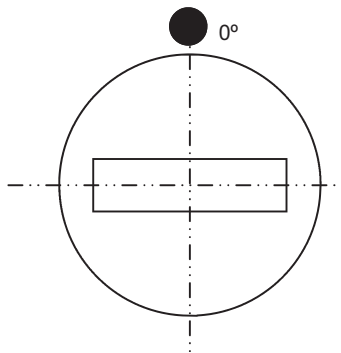
Additional keyways are provided dependant on shape symmetry, with the zero degree position on the longest flat edge, which is at the top. Examples: Rectangle has two keyways and the single-D has four keyways. The default angle setting is 90 degrees, as shown.

Size 1 or 2 Stripper



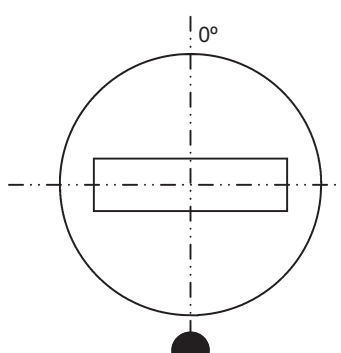
Additional pin locations are provided dependant on shape symmetry. The default angle setting is 90 degrees, as shown.

QuickLock™ Punch



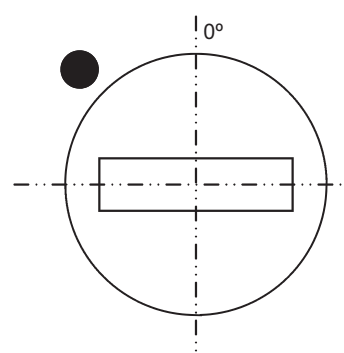
Where punch point diagonal is <2.000(50.80) the pin is positioned on the shank of the punch. The default angle setting is 90 degrees, as shown.

QuickLock™ Punch



Where punch point diagonal is >2.000(50.80) this pin is positioned on the shoulder of the punch. The default angle setting is 90 degrees, as shown.

NEXT™ Punch



The orientation pin is positioned on the shoulder of the punch. The default angle setting is 90 degrees, as shown. The holder has keyways at + and - 45 degrees, to allow setting the shape at 0 or 90 degrees.

[Dimensions in Inches (mm)]



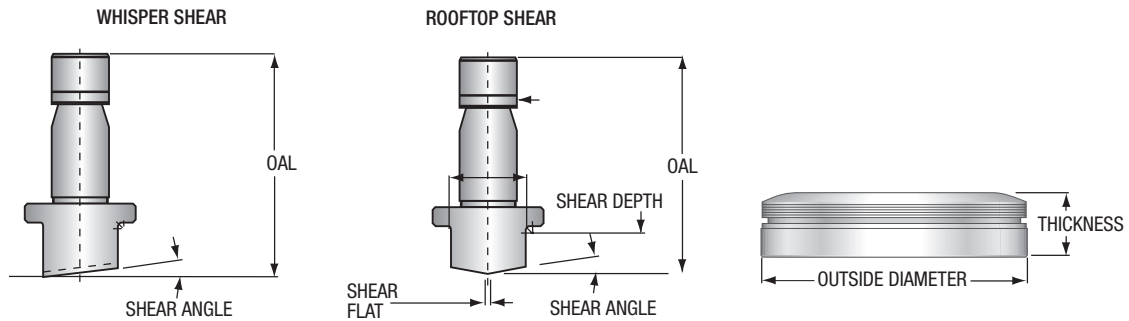
CRITICAL TOOL DIMENSIONS

			Flat (without shear)			Whisper		Rooftop	
Overall Punch Length Inch			2.910	3.030	3.050	3.030	3.050	3.030	3.050
Overall Punch Length Millimeters			74.00	77.00	77.50	77.00	77.50	77.00	77.50
Trumpf Style	Size 0-A	PATA_A*	●	○	-	-	-	-	-
	Size 0-B	PATB_A*	●	○	-	-	-	-	-
	Size 1	PATD_A	●	○	○	○	-	○	-
	Size 1-X	PATX_A	●	-	-	-	-	-	-
	Size 2	PATE_A	○	○	○	●	-	○	-
	Size 2	PATF_A	○	○	○	●	-	○	-
	Size 3	PATJ_A	-	-	-	-	-	●	-
QuickLock™	Size 1	PCTD_A	●	○	○	○	○	○	○
	Size 2	PCTE_A	○	○	○	●	○	○	○
	Size 2	PCTF_A	○	○	○	●	○	○	○
	Size 2	PCTG_A	○	○	○	●	○	○	○
	Size 2	PCTH_A	○	○	○	●	○	○	○
NEXT™	Size 40	PBTD_A**	●	○	○	○	-	○	-
	Size 40	PBTE_A**	●	○	○	○	-	○	-
	Size 76	PBTF_A**	○	○	○	●	-	○	-
	Size 76	PBTG_A**	○	○	○	●	-	○	-
	Size 76	PBTH_A**	○	○	○	●	-	○	-

● Standard ○ No Charge Option - Option not available.

* Overall length when assembled into punch chuck

** Overall length when assembled into NEXT™ punch holder



		Maximum Punch Point Diagonal	Whisper Shear Depth/Angle	Rooftop Shear Depth/Angle	Shear Flat	Die Dimensions	
Station						Outside Diameter	Thickness
Trumpf Style	Size 1	0.591(15.01)	5 degrees	10 degrees	0.050(1.27)	2.362(60.00)	0.709(18.00)
	Size 1	1.181(30.00)	5 degrees	5 degrees	0.050(1.27)	2.362(60.00)	0.709(18.00)
	Size 2	3.0063(76.36)	0.110(2.79)	0.110(2.79)	0.100(2.54)	3.937(100.00)	0.789(20.00)
	Size 3	4.134(105.00)	0.110(2.79)	0.110(2.79)	0.100(2.54)	5.905(150.00)	
QuickLock™	Size 1	0.643(16.33)	5 degrees	10 degrees	0.050(1.27)	2.362(60.00)	0.709(18.00)
	Size 1	1.181(30.00)	5 degrees	5 degrees	0.050(1.27)	2.362(60.00)	0.709(18.00)
	Size 2	3.000(76.20)	0.110(2.79)	0.110(2.79)	0.100(2.54)	3.937(100.00)	0.789(20.00)
NEXT™	Size 40	0.643(16.33)	5 degrees	10 degrees	0.050(1.27)	See size 1	
	Size 40	1.181(30.00)	5 degrees	5 degrees	0.050(1.27)	See size 2	
	Size 40	1.575(40.01)	0.110(2.79)	0.110(2.79)	0.100(2.54)	See size 2	
	Size 76	3.0063(76.36)	0.110(2.79)	0.110(2.79)	0.100(2.54)	See size 2	

Torque Settings (Pre-set torque wrench recommended)

6mm NEXT™ Holder Draw Bolt – 288 in-lbs (22Nm)

6mm Alignment Ring Bolt – 132 in-lbs (15Nm)

Punch Chuck Set Screw – 240 in-lbs (27Nm)



[Dimensions in Inches (mm)]



[Dimensions in Inches (mm)]



visit **mate.com**

MATE PRECISION TOOLING

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