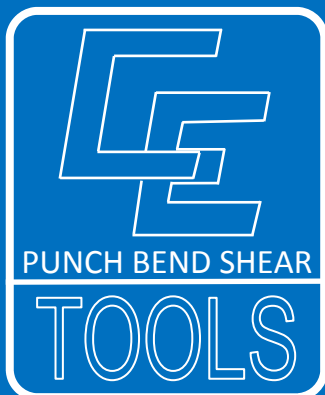




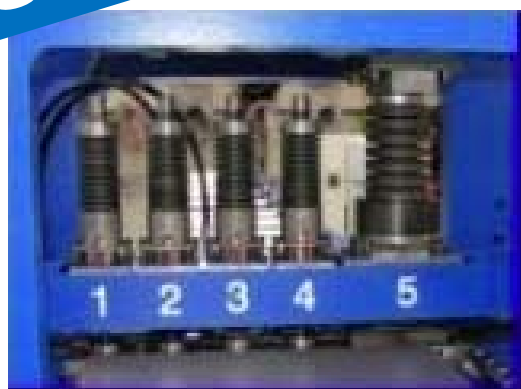
CE TOOLING

Section
Tooling Booklet

9.7



See Section 1 For Technical Information



BOSCHERT

(AT/TR/MT) TOOLING



CE TOOLING

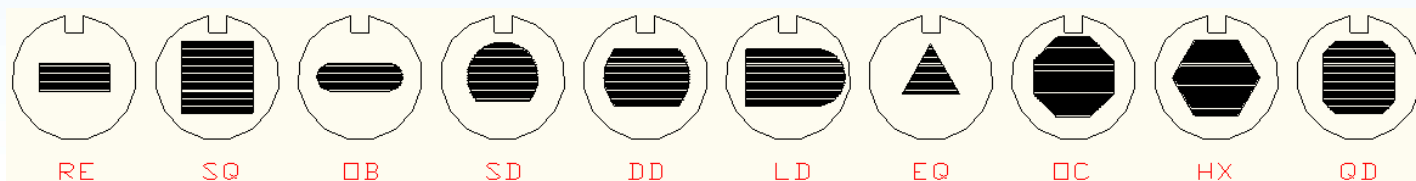
CETooling, started out in 1966 in Chicago as a tool & die shop. In the late 70's we directed our energies exclusively to the manufacturing of tooling for turret, and duplicator presses. Through our use of the highest steel grades, combined with manufacturing processes and procedures developed from over 50 years of producing punches and dies, our quality and value is unbeatable!

Currently CET is supplying all Fabrication: PUNCH, BEND & SHEAR tooling. This is done through

STANDARD KEYING DIE SIZES I & II

10 Standard Shapes plus Rounds. RT Rectangles • SQ=Square • OB=Obround • SD=Single-D • DD=Double-D
LD=Long-D • EQ=Equilateral • OC=Octagon • HX=Hexagon • QD-Quad-D Add \$10 per set to standard price for LD & EQ

Dies only have 1 key. Shapes shown with Key at 0° + 90° or 45° for 15.00



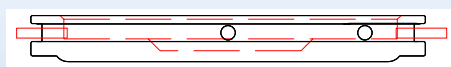
DIES KEYED ON ANGLES OTHER THAN 0° INCREMENTS

STATION	Of 15° increments	Other Than 15°
I SMALL	\$20.00	\$25.00
II MEDIUM	\$30.00	\$35.00
III LARGE	\$50.00	\$65.00

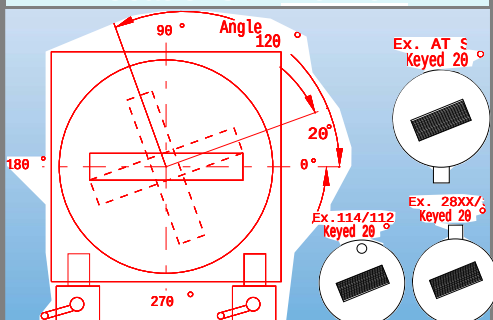
EXTRA KEY WAY ON DIES

Please Fax a Print Showing Location of Extra Key(s) in Relationship to Shape

STATION	Of 15° increments	Other Than 15°
I SMALL	\$35.00	\$50.00
II MEDIUM	\$40.00	\$60.00
III LARGE	Not Available	Not Available



Shapes on Angles or Extra Key Locations. Die View



Visualize location key positioned as tool would load into turret. Start with length of shape horizontal. (Length points to 0°)
Next Rotate shape, not location key.

A sketch accompanying your order ensures keying as required! Note: Other Manufacturers ordering diagrams may differ from C.E.'s!

10 STANDARD SHAPES

1 - 6 work day delivery.

RECTANGLE • SQUARE • OBOURD • Single-D
Double-D • QUAD-D • HEXAGON • OCTAGON
+ \$10 PER SET FOR: LONG-D & EQUILATERAL

Guaranteed Expediting Services

FDS=Firm Delivery Service • Order by 3pm,

1FDS Same or Next day guaranteed

6FDS Guaranteed to ship in 2 days

Tool Styles: TRUMPF Standards:

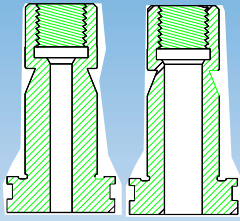
1 day 1FDS=25% 2 day 6FDS=15%



TRUMPF PUNCH

PUNCH CHUCKS

0a (TR0aPC)
0b (TR0aPC) \$50.00

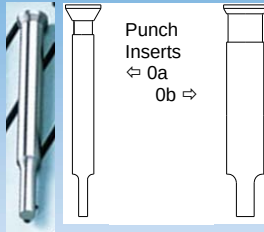


SIZE 0a

.031-.236
(.8-6,mm)

SIZE 0b

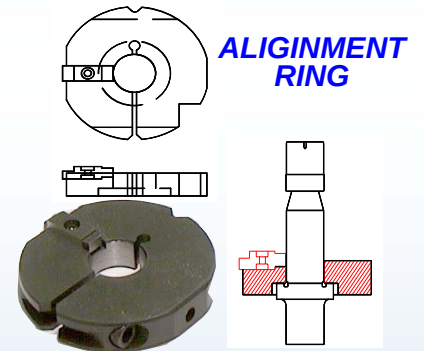
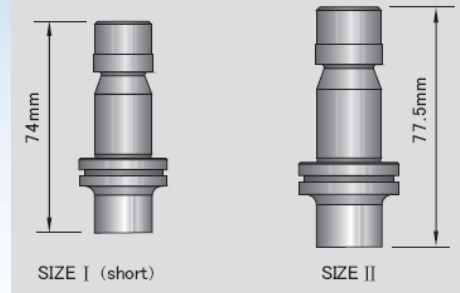
.236-.413
(6,-10,5mm)



Station	RANGE DIAGONALLY Pricing for Tip Sizes of .093(2,3mm) &>	ROUND Part #	Price	SHAPE Part #	Price Station 2&3 OB
0a	.031-.236 / ,8-6.0mm	TR0aPr		TR0aPs	
0b	.237 -.413 / 6,0-10,5mm	TR0bPr		TR0bPs	
I 74mm length	.031-.590 / ,8-15,mm	TR1Pr		TR1Ps	
	.591-1.181 / ,8-30,mm				
II 77mm length	1.182-1.575" / 30,-40,0mm	TR2aPrW		TR2aPsW	
	1.182-2" / 30,-50,8mm	TR2bPrW		TR2bPsW	
	2.001-2.362" / 50,8-60,0mm	TR2cPrW		TR2cPsW	
	2.363-3" / 60,1-76,2mm	TR2dPrW		TR2dPsW	
III 77mm	3.001-3.5" / 76,2-88,9mm	TR3aPrR		TR3PsR	
	3.501-4" / 88,9-101,6mm	TR3bPrR		TR3PsR	

TiC Titanium Nitride Coating:Gold

TiCN Titanium Carbo-nitride:Grey/Blue



COATING	STA.	SIZE 0	SIZE I	Size IIa&b	Size IIc&d	Size III
TiN Best for Alum.						
TiCN or Alpha						

SIZE & TYPE	Part #	PRICE
SIZE 0 & 1 ATC	TRAR-0/2	
SIZE 2 & 3 ATC	TRAR-1/2	
Heavy Duty I & II	TRAR-1/4	



TRUMPF DIE

SIZE 0 & I DIE

SIZE II DIE



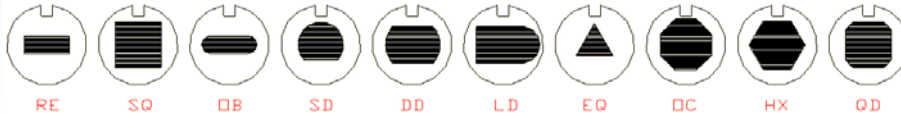
DIE ADAPTER

Converts	PART #	PRICE
1 TO 2	TRDA1-2	



Station	Size Range - DIAGONALLY	Part# Round	Price	Part# Shaped	Price
I	.093-1.260 2,4-32,mm	TR1-D-r		TR1-D-s	
	.093-1.528* 2,4-38.8mm*				
	* For Group S Mini-Matic				
II	1.261-3.032 32,-77,mm	TR2-D-r		TR2-D-s	
III ATC	2.8"-4.134 71,-105,mm	TR3-Datc-r		TR3-Datc-S	
III MTC	“ “	TR3-Dmtc-R		TR3-Dmtc-S	
Euromach	“ “	TR3-Deb-r		TR3-Deb-S	
OMES	“ “	TR3Dom-r		TR3Dom-S	

I & II Dies have only 1 key. Shapes shown with Key at 0°
+ 90° or 45° for 15.00

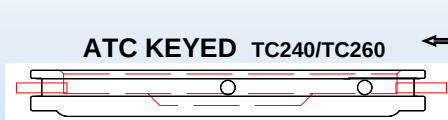


Size III DIE For ATC dies only 1 key. Specify radial or Tangent Setting
MTC Keyed 0, 90 & 45 except ATC only 1 key

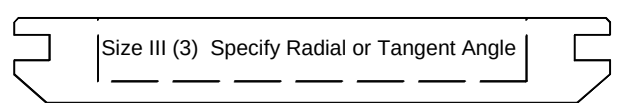
DIE SHIM	Qt per	SIZE 1		SIZE 2	
		Code	Price	Code	Price
.1mm	3	P.DP-T1XD01		P.DP-T2XD01	
.3mm	3	P.DP-T1XD03		P.DP-T2XD03	
.5mm	3	P.DP-T1XD05		P.DP-T2XD05	
3-Ea.	9	P.DP.T1XD		P.DP.T2XD	

STRIPPER PLATES

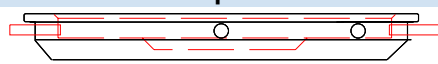
Order Strippers by Punch size + Clearance: If Clearance is not specified .06"/1.5mm will be used. When punching materials >16gage .06"/1.5mm, .2" 1.5mm is a good clearance. NOTE: .4"10,mm should be the minimum actual width or diameter ordered to prevent punch flange from bottoming out on stripper. This is because punch tips lengths are stubbed for sizes <.4



Keyed 0, 90, & 45°. No
additional Key Options Available.
+ \$35 for Shapes on angles



Rotational Group H & I TC500 & Newer



Mini-matic Grp S



0, I, & II	Up to 3.032 77,mm	ATC:KEYED	TR1-Sa-*	Round	Shaped
		MTC:Non-Keyed	TR1-Sm-*		
		Rotation Grp H&I	TR1-S5-*		
	Up to 1.528" / 38,8mm	Mini-matic Grp. S	TRMMS-*		
Size III	2.8-4.134" 71-105mm	All Size III are ATC:KEYED	TR3-Sa-r		TR3-Sa-s*



Urethane Stripper Sta. 0 & 1 74mm	ID Hole .25"/6.4mm	ID Hole .43"/10.9mm	ID Hole .59"/10.9mm	ID Hole .89"/22.6mm	ID Hole .1.07"/27.1mm
Part#					
Price	ATP0A00US	ATP0B00US	ATP0106US	ATP0109US	ATP01112US

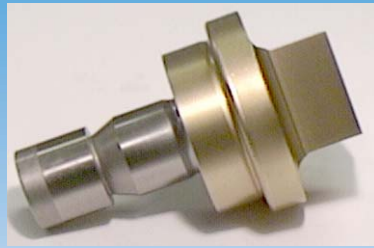
URETHANE
Custom molded
available for
most sizes



HEAVY DUTY TOOLING

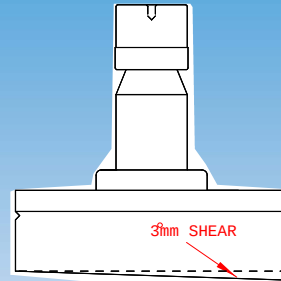
SIZE I

.407-1.181 10,3-30mm

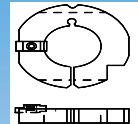


SIZE II

1.182-3.0 30,01-76,2mm



Alignment Ring for Heavy Duty Punch



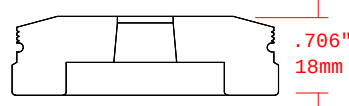
Size & Type	Part#	Price
HEAVY	TRAR-1/4	

PUNCH

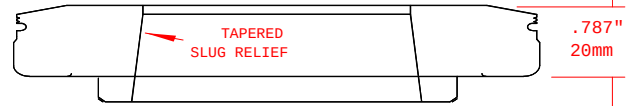
STATION	RANGE /DIAGONALLY	ROUND	PRICE	SHAPED	PRICE
I	.407-1.181 (10,3-30,mm)	TR1-Phd-r-RD		TR1-Phd-s	
II	1.182-2" (30,-50,8mm)	TR2a-Phd-r-RD		TR2a-Phd-sW	
	2.001-3" (50,8-76,2mm)	TR2b-Phd-r-RD		TR2b-Phd-Sr	

SIZE I DIE

Maximum Opening .984+.059 .25, +1,5mm



SIZE II DIE Maximum Opening 2.126+.059 54mm + 1,5mm



DIE

0 & I	.Max. .984 +.059	TR1-D-r-RD	34.25	TR1-D-s*	72.80
II	Max. 2.125 +.125	TR2-Dhd-r-RD	107.00	TR2-Dhd-s*	165.85

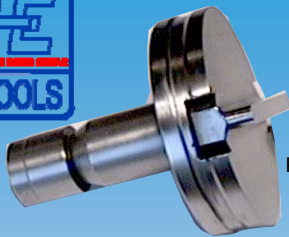
Group	TRUMPF TRUMATIC MACHINE MODELS	MAXIMUM	TOOL CHANGER ATC -AUTOMATIC	SPECIAL TOOLING
A 700•701•900• 901 • A 901E • 902 • 500 B	CS75	SIZE II	MTC: Non-Keyed Stripper ATC: Keyed Stripper	Some of these machines can also except std: Size 1 punches & Dies.
C CN1200S/A•CS15•CS20•CS20A•MP25/p•MP25•MP25CNC D 20 • 20A•202MTC20TC20A • TC202M		SIZE III	MTC: Non-Keyed Stripper ATC: Keyed Stripper	
E 150K•151K•152K•TC180K•180LK•180PK•202K•225•300PK•235•300K•300PK•400K		SIZE II	ATC: Keyed Stripper	
F 150W•152W•180W•180LW•180WD•180ELX•180swift•185•240•250•260		SIZE II	ATC: Keyed Stripper	
TC- 20aW•202W•300W•300PW•300top•300lw•350W•400W		SIZE III	Size 0-II=Non-Keyed Size III=Keyed Stripper	Size 0-II Strippers are MTC: Non-Keyed. Size III Strippers are ATC: Keyed
H 190R•200R•500R•600L		Size II	Keyed Rotational Group H & I	This is a new stripper for H Group Mach.
I 1000•2010R•2020R•6000L • 3000•3000L		Size II		
S 100•TC120R•600•TC160R Mini-Matic		Size I	Spec.MiniMatic Stripper & Alignment Rings: Punches 0-38mm Max. Flange 40,6mm Flat Faced unless spec. Die Size 1 available for up to 38mm Diagonal.	
HACO –OMES MODELS				
Model 1 or 2,Omatic 130 DTR, Omatic 212 RH		SIZE II	ATC: Keyed Stripper	Max. Punch Height =74mm and then 73 with 1mm shear As for Stripper Plates up to Size
Model 3... Millennium 3015		SIZE III		
Boschert				
All Machine Models with out Rotation		Size II	MTC: Non-Keyed Stripper	Alignment Rings MTC or ATC can be used
		Size III	MTC: Die & Stripper	
All Machine Models with Rotation		Size II	ATC	
Durma		Size II		



REPLACEMENT INSERT BLADE PUNCH

Reduce costs of common used slotting punches

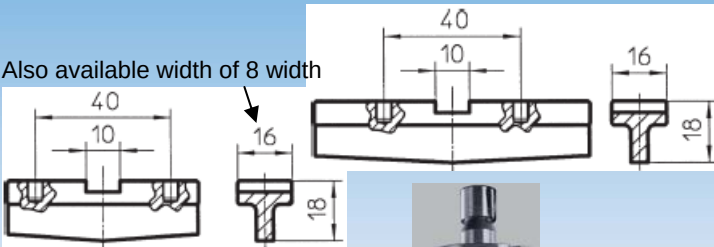
Size Range Width .125 (3,mm) - .3158 (8,mm) Length 1.5(38,mm) -3.000(76,2mm)



Holder
Part# TR2IH \$160.50

Use with **Stripper Plate** of Actual Size .4"+ X punch length, 2.2"/55,9mm
Holder is relieved to this size to allow extended punch grind life.

Also available width of 8 width



Industry Standard



LENGTH	OBOUND		RECTANGLE	
	Part#	PRICE	Part#	
1.500 - 2.000" 38,1 - 57,1mm	TR2IBa-OB	117.70	TR2IBa-RT	
2.001-3.000" 57,1,-76,2mm	TR2IBb-OB	130.55	TR2IBb-RT	

	Part#	PRICE
PUNCH HOLDER	TRTOQ500	
KEY	TRTOQ510	
Screw for Punch Blade	TRTOQ520	
Punch Blade 5 X 30 or .200 X 1.181	TRTOQ530	
Punch Blade 5 x 56mm or .200 X	TRTOQ540	
Punch Blade 5 X 76.2mm or .200 X	TRTOQ550	

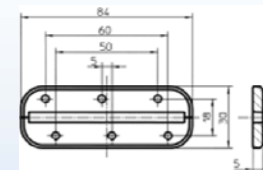
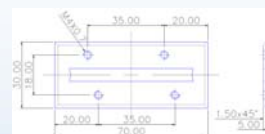


SP-50 Micro Joint
+25 to Punch or Die Blades

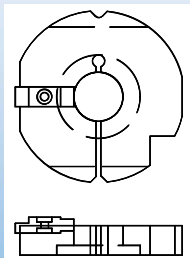
	Part#	PRICE
DIE HOLDER 1 No brush for RE blade	TRTOQ620	
DIE HOLDER 2 with brush for RE blade	TRTOQ630	
DIE HOLDER 3 No brush for OB blade	TRTOQ640	
DIE HOLDER 4 with brush for OB blade	TRTOQ650	

Note: For thickness below 3.0mm; 1.0mm grind life for blade

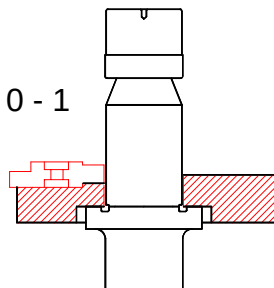
	DIE BLADE	Part#	PRICE
RE =Rectangle	5 x 30mm or .200 X Solid	TRTOQ560	
	5 X 30mm or .200 X Assembly	TRTOQ570	
	5 x 56mm or .200 X Solid	TRTOQ580	
	5 X 56mm or .200 X Assembly	TRTOQ590	
OB = Obound	5 x 76.2mm or .200 X Solid	TRTOQ600	
	5 X 76.2mm or .200 X Assembly	TRTOQ610	



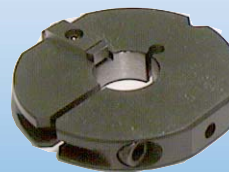
**Alignment
Rings**



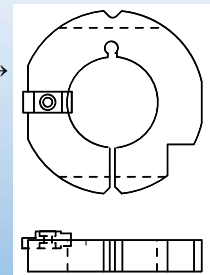
Size 0 - 1



Size 2



Heavy
Duty →

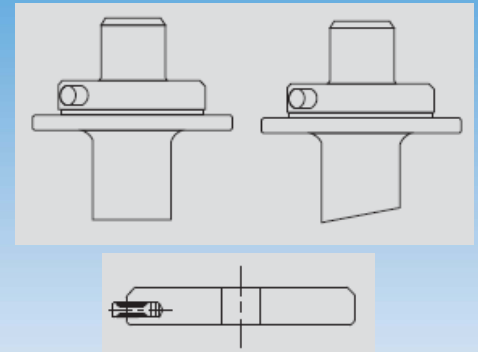
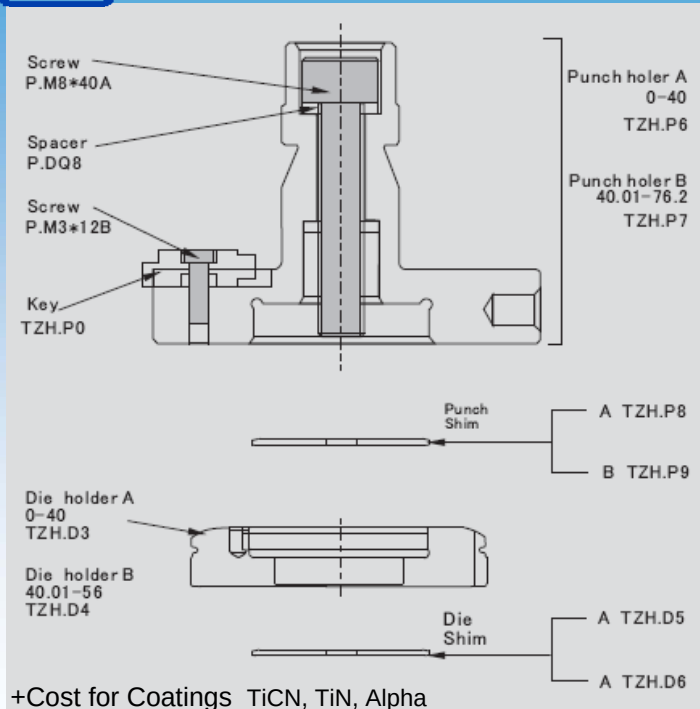


SIZE & TYPE	Trumpf	Cat. Code	PRICE
SIZE 0 & 1 ATC	7336-OJS/02	TRAR-0/2	
SIZE 2 & 3 ATC	7336-1JS/02	TRAR-1/2	
Heavy Duty I & II	7336-1JS/04	TRAR-1/4	
Special -Bolt On		TRAR-SPEC	



RP: 2•4•1™/ Next™ Style Tools

2•4•1 is registered trade mark of Wilson Tool International Next is registered trade mark of Mate Precision Tooling



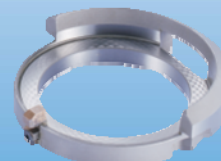
Description	Part#	Round	Shape
Punch Holder 0-40mm	TR4aPH		
Punch Shim 1-40mm	TZH.P8		
Punch Holder 40.1-56mm	TR4bPH		
Punch Shim 40.1-56mm	TZH.P9		
Die Holder 0-40mm	TR4aDH		
Die Shim 0-40mm	TZH.D5		
Die Holder 40.1-56mm	TR4bDH		
Die Shim -56mm	TZH.D6		
Punch Insert 2.36-30	TR4aPI-*		
Punch Insert -40mm	TR4bPI-*		
Punch Insert -56mm	TR4cPI-*		
Punch Insert -66mm	TR4dPI-*		
Punch Insert -76.2mm	TR4ePI-*		
Die Insert -40mm	TR4aDI		
Die Insert -56mm	TR4bDI		



CARTRIDGE & ACCESSORIES



DIE PLATE



Description	Part Code	Price
Cartridge	TR-CART1	
Die Plate	TR-DP	



BOSCHERT-REVO MULTI-TOOL (MT)

4 Station

CE style N

Range.030-.984" ,8-25,mm

PUNCH Grind Life: .060"/1,5mm

Minimum length 2.795/71mm

DIE Grind Life: .06"/1,5MM

Minimum length=.728/18,5mm

6 Station

CE style O

Range.030-0.787" 8-20,mm

PUNCH Grind Life: .060"/1,5mm

Minimum length 2.795/71mm

DIE Grind Life: .06"/1,5MM

Minimum length=.7282/18,5mm

7 or 8 Station

CE style P

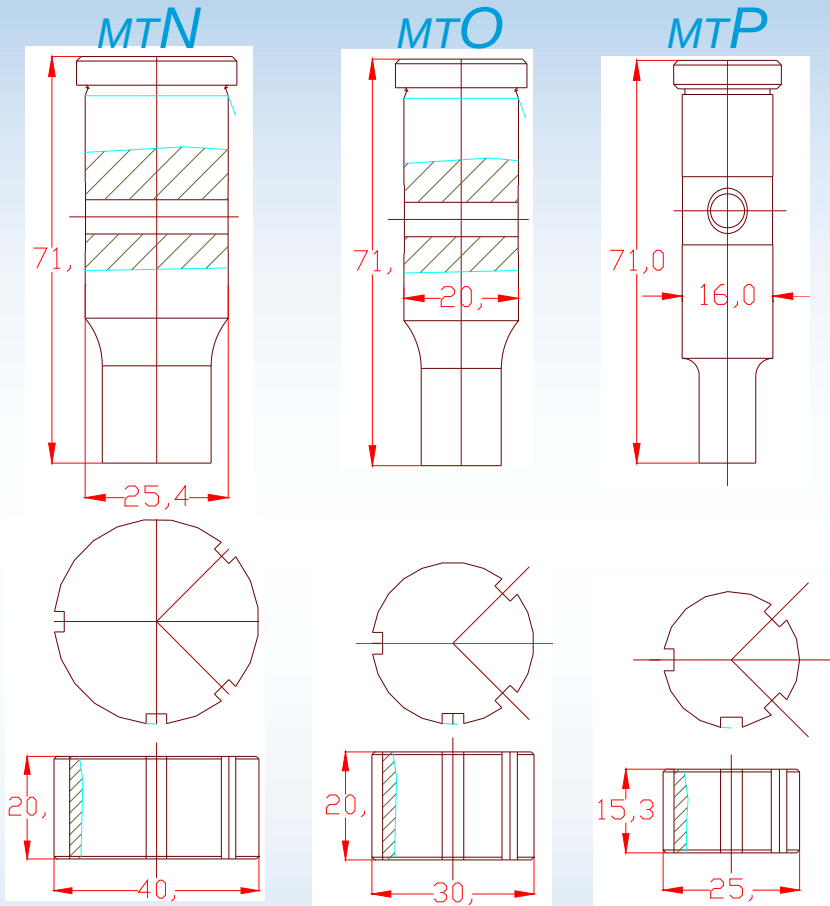
Range.030-.629 ,8-16,mm

PUNCH Grind Life: .060"/1,5mm

Minimum length 2.795/71mm

DIE Grind Life: .06"/1,5MM

Minimum length=.602/15,3mm

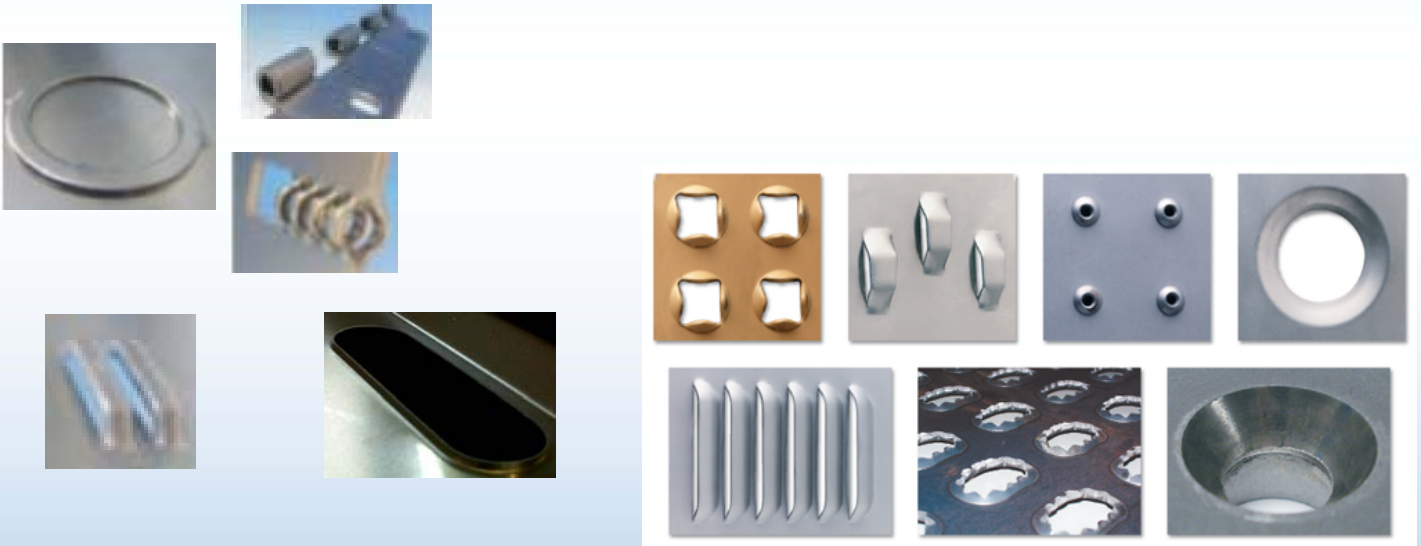
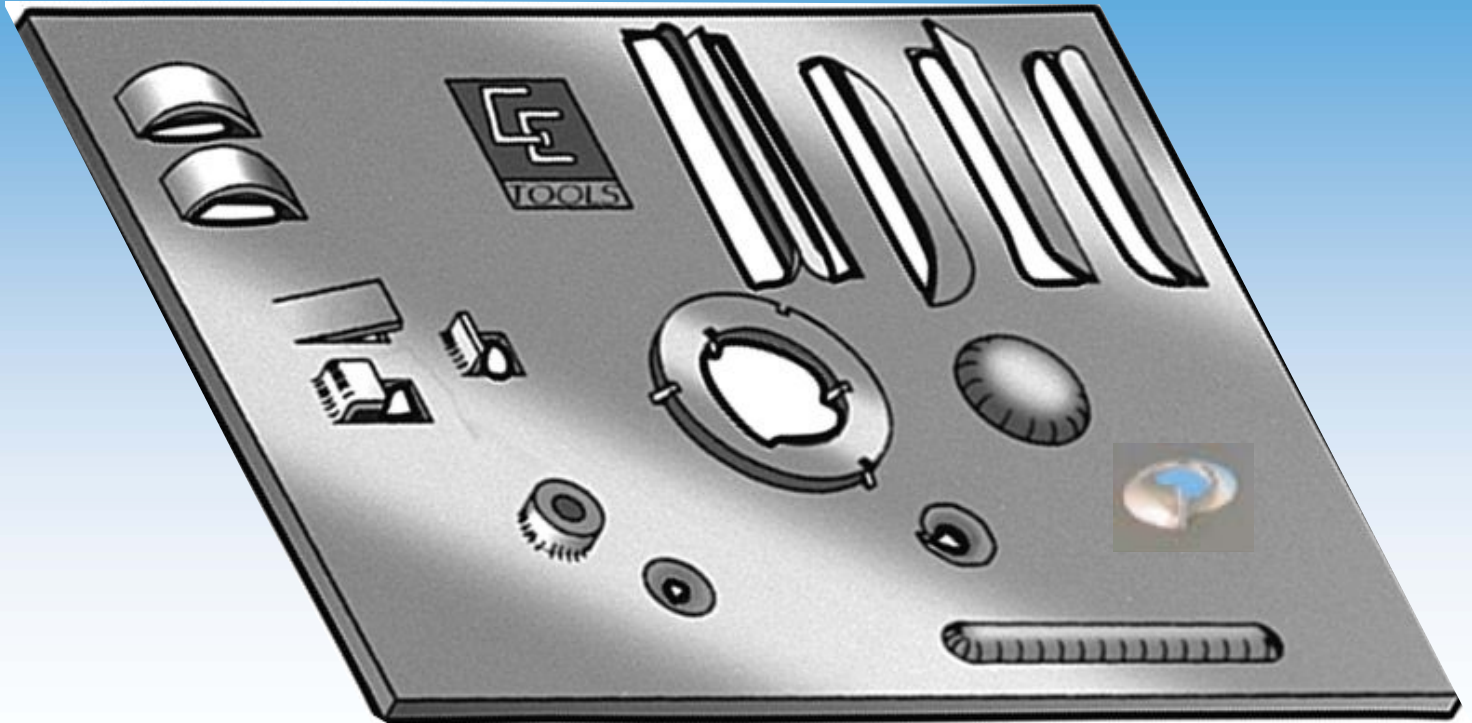


STYLE	Shape	Punch M2 Steel CATALOG CODE	PRICE Dia. or Width >.093/2,3mm	Die A2 Steel Slug Trap™ CATALOG CODE	PRICE Dia. or Width >.093/2,3mm
N 4 Sta.	Round	MTNP-r		MTND-r	
	Shape	MTNP-s		MTND-s	
O 6 Sta.	Round	MTOP-r		MTOD-r	
	Shape	MTOP-s		MTOD-s	
P 7 or 8 Sta.	Round	MTPP-r		MTPD-r	
	Shape	MTPP-s		MTPD-s	

Shaped Dies have two (2) key slots keyed 0, 90 or for Squares 0 & 45 For shapes on other angles \$18 to Punch and \$18 to Die

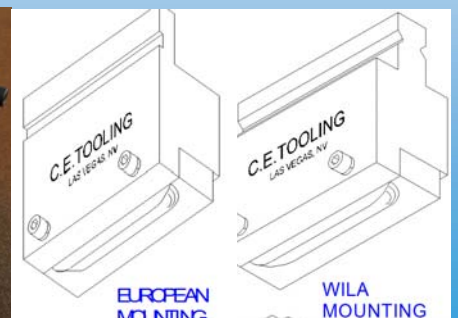


CE TOOLING SPECIAL APPLICATION FORMING TOOLS HIGHER PRODUCTIVITY THROUGH SUPERIOR ENGINEERING



PRESS BRAKE LOUVERS

American, European, Trumpf/Willa 9 Stocked Sizes



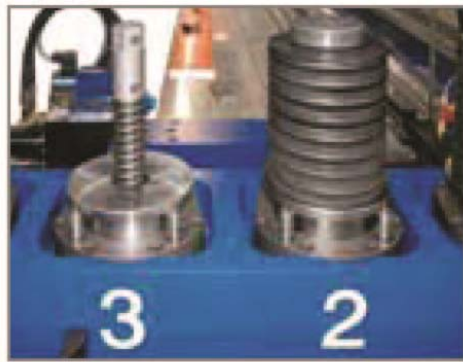


Copper Buss Bar Punching Machine

AT LONG TOOLS CU Profi & WK II



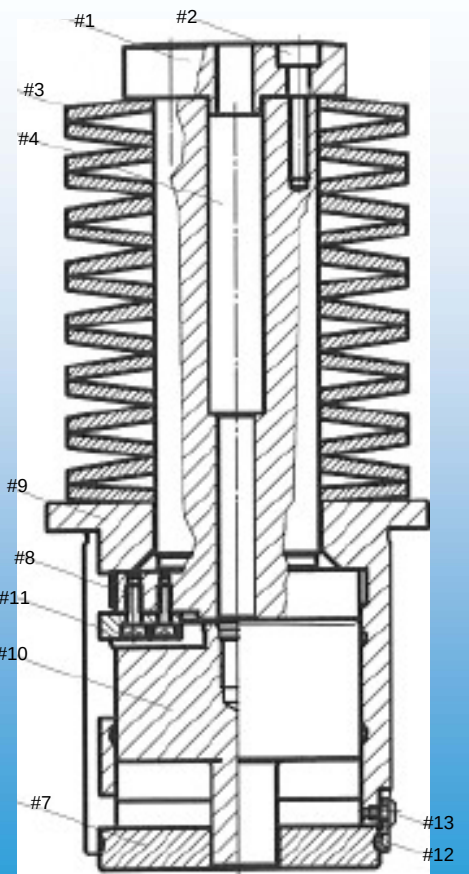
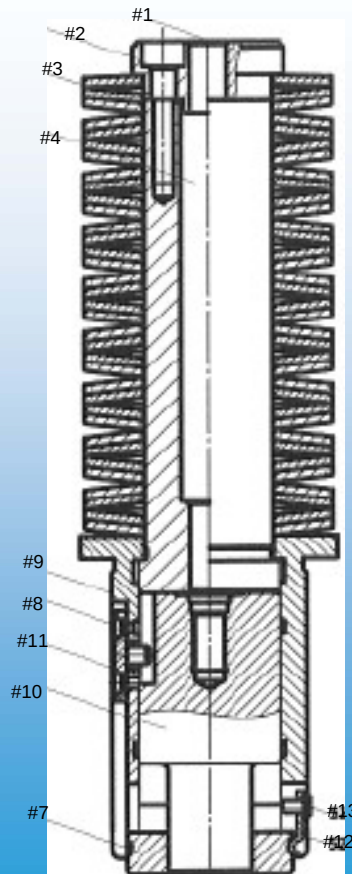
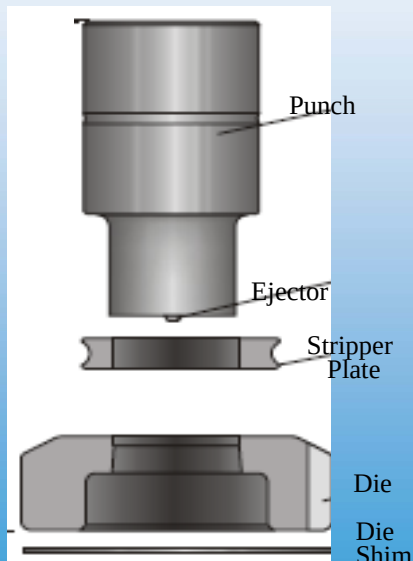
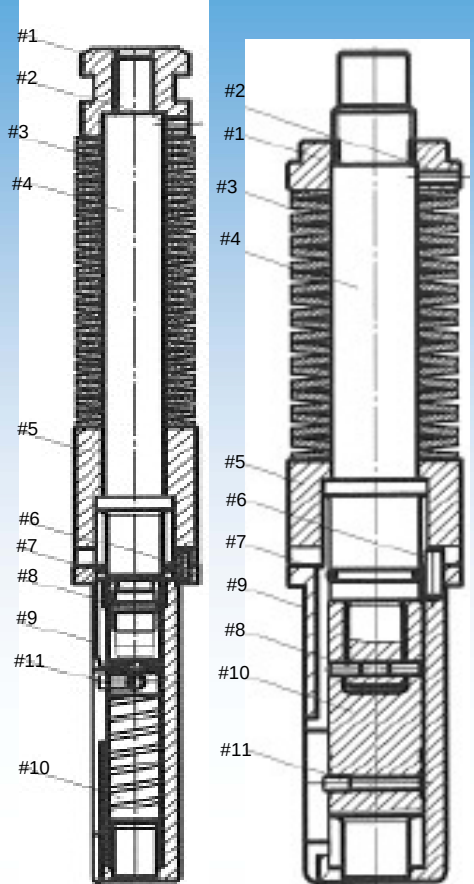
4 - or 6 - way Multitool



Maximum tool size of
9 mm diameter



Easy tool change

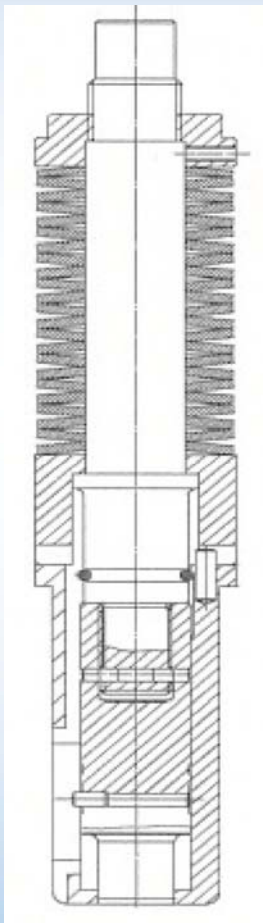




Copper Buss Bar Punching Ma- AT LONG TOOLS CU Profi & WK II



AT-Long Tooling Punches are M2 High Speed Steel with $\frac{1}{2}^\circ$ back taper



Ite. # Pos	DESCRIPTION	Part No.	STATION			
		-r=Round -s=Shaped	-.500 -12,7	-1.250" -31,7m	-2.00" -50,8	-3.50" -88,9
		Part#	A	B	C	D
10	PUNCH M2, HD $\frac{1}{2}^\circ$ back taper	AT_-PA-Ig-u-r				
		AT_-PA-Ig-u-s				
		AT_-Pu-hd-r				
		AT_-Pu-hd-s				
		Coating TiN +				
23	DIE W/SLUG Z-HUGGER S/O	AT_-D-so-r				
		AT_-D-so-s				
9	Guide Only Keyed 0&90 or 0&45	AT_-Gmb-s				
7	STRIPPER PLATE	AT_-Sam-r	n/a	n/a		
		AT_-Sam-s	n/a	n/a		
1	Punch HEAD	AT_-PH				
2	Screw 4pc	ATCDE-8X25	n/a	n/a		
3	Disc Spring a=__,b=__,c=35,d=16	AT_-SD				
4	Connector / Punch Driver	AT_PD				
5	Spacer	AT_-SPACER			n/a	n/a
6	Pin	AT_CU-Pin			n/a	n/a
7	O-RinG	AT_CU-Oring			n/a	n/a
8	Safe Pin or Key Screw	AT-CU-#8			n/a	n/a
11	Pin or Guide Key-w/screws	ATD_-K				
12	STRIPPER CLIPS	ATCDE-SC	n/a	n/a		
13	Screws Only for Stripper Clip Ea.	*A-BHCS-M4X	n/a	n/a		
18	Punch SHIM	*A-AT_P-Shim	n/a	n/a		
19	Die SHIM	*A-AT_D-Shim				
21	Punch EJECTOR #=hole Ø *A-EJ-C# #=3, 6,					



SHEARING STATION TOOLS Rectangle

Standard Sizes 4, 6 or 8 X 60mm

22	SHEARING PUNCH	ATboschPrt	
23	SHEARING DIE	ATboschDrt	
24	SHEARING STRIPPER	ATboschSrt	

**FABRICATING TOOLS
and Accessories for most
Punching, Bending and
Shearing Equipment**



www.cetooling.com

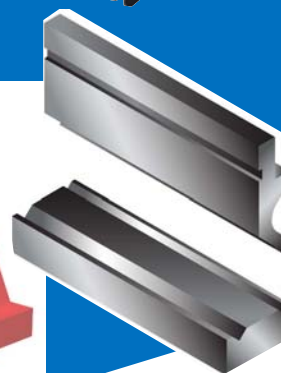
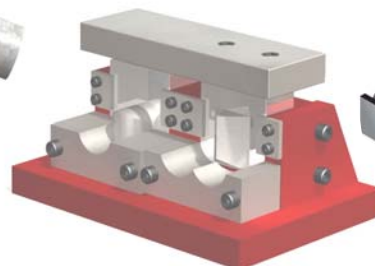
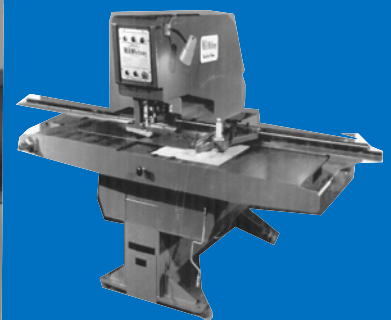
C.E. TOOLING, INC.



C.E. TOOLING, INC.

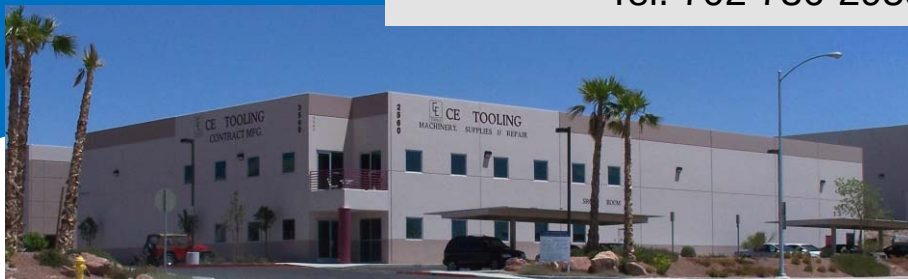
**FORMING AROUND
THE WORLD**

**MANUFACTURING TURRET PRESS
TOOLING SINCE 1966**



CE TOOLING FACTORY
2560 W. Brooks Ave.
N. Las Vegas NV 89032

sales@CEtooling.com **www.CEtooling.com**
ventas@CEtooling.com skype **cetooling** or **cetooling-espanol**
Tel. 702 736-2958 Fax 702 736-3038



AGENT