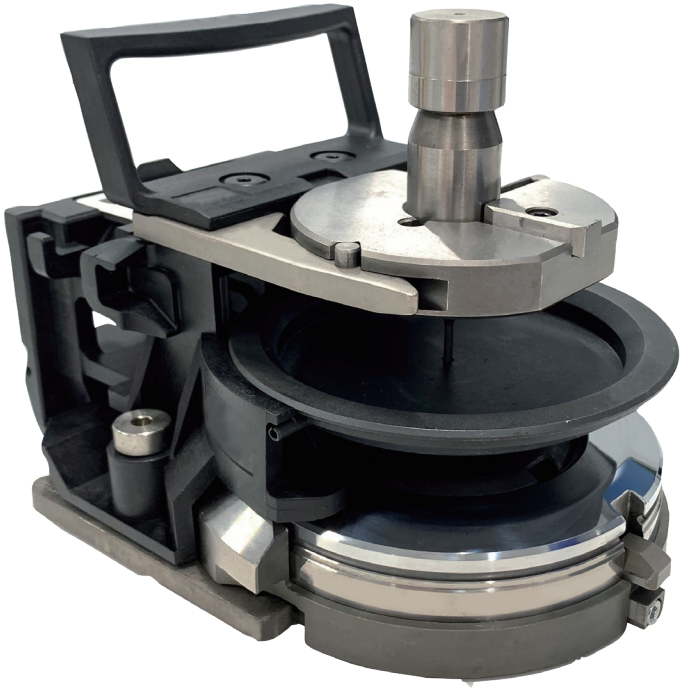
NC PUNCH PRESS
HIGH PERFORMANCE TOOLING

High Quality & Technology For The Future

CONIC

Since 1976

TRUMPF TYPE TOOLING



JAPAN QUALITY

CONIC

COMPANY GUIDANCE

ABOUT US

Conic has been produced quality punch tools since 1976 in Okayama Japan.

Our tools are used worldwide in the sheetmetal market and that quality is really satisfied from various production customers.

Our policy is that we make a high quality tools in timely, in reasonable price to helping customers manufacture sheet metal parts in high productivity and reliability.

We have done a lot of development of new products such as Super Dry Punch(SDP), Conic Long life Punch(CLP), Conic Hard Punch(CHP) for last long tools.

We recently introduced PROTECH series tool to the market and market reflect strong praise.

Conic would like to be your punch press tool partner.

We look forward to serving you.

QUALITY


Certificate

CONIC CO., LTD. Okayama Factory

JIS Q 9001:2015 (ISO 9001:2015)

Okayama factory :

ISO 9001:2015 provide superior Quality Management System in 1998 Conic Corp, received ISO9001 authorization, and it has been recognized as a very reliable company, both on the international front and Japan.

COMPANY HISTORY

1976 Established.

1979 Tokyo Sales Office opened.

1985 Okayama Factory opened.

1990 "International Sheet Metal Symposium" held by the company.

1992 Tool information and order receiving office was opened.

1993 Osaka Branch opened in Higashi-Osaka city.

1993 Head Office moved into Okayama Factory.

1998 Okayama factory was registered under required operation of international quality management system "ISO-9001".

1999 "Super Dry Punch" newly developed and launched.

2000 Internet order and quote receiving system was opened.

2002 "Conic Hard Punch" newly developed and launched.

2009 PROTECH series tooling newly developed and launched.

2012 Thailand Factory opened.

2013 "Conic Long life Punch" newly developed and launched.

2018 The Representative office in Vietnam opened.

SPECIFICATION OF CONIC TOOLING

■Various Shapes

STANDARD SHAPES

■ROUND (RO)

■SQUARE (SQ)

■RECTANGLE (RE)

■OBROUND (OB)

■SINGLE D (SD)

■DOUBLE D (DD)

WITH RADIUS CORNERS

■SQUARE WITH RADIUS CORNERS

■RECTANGLE WITH RADIUS CORNERS

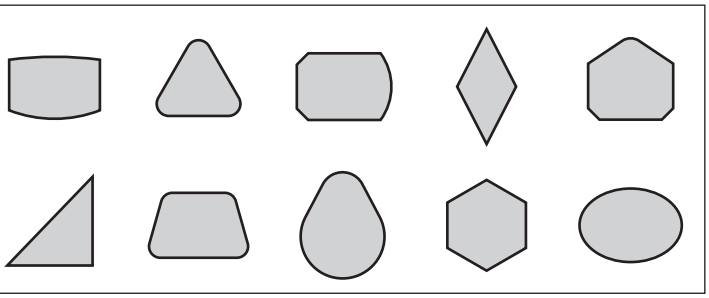
CORNER ROUNDING

■CN-42

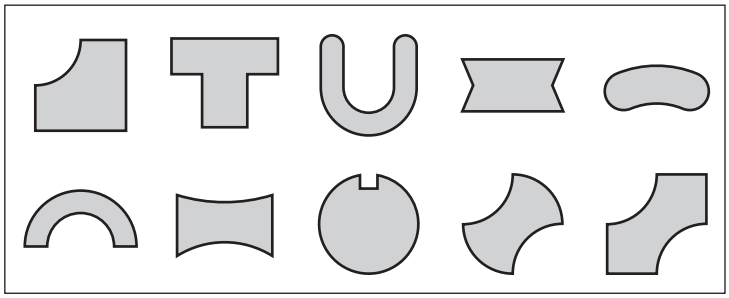
■CN-41

Note : Square and Rectangle punch corner has small radius (R0.2) for prevent crack of punch tip.
If it is not necessary, please inform us.

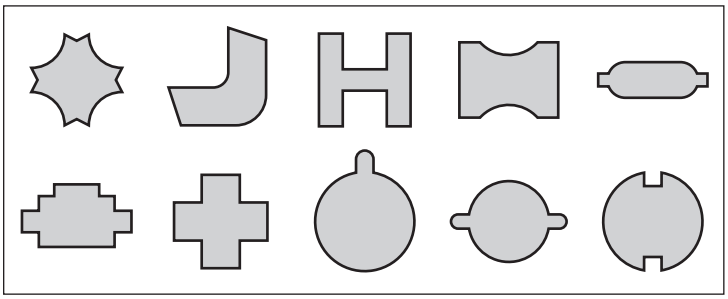
SPECIAL SHAPES (CLASS-1)



SPECIAL SHAPES (CLASS-2)



SPECIAL SHAPES (CLASS-3)



SPECIAL SHAPES (CLASS-4)

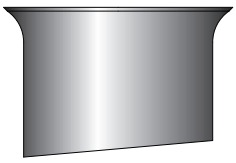
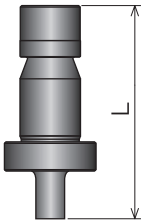
More complicated figure

When make order, please inform to us the center position of the tool.

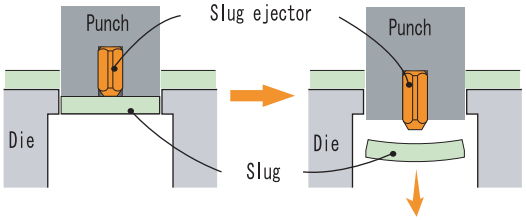
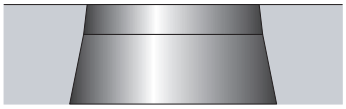
CONIC is possible to produce other than this form list,
please contact us.

SPECIFICATION OF CONIC TOOLING

■Shear Angle Type For Punch

●FLAT (Standard)	●WHISPER	
	 ※Additional charge	 ※When ordering punches, please inform us of the flat punch length. ※We can produce not only flat punch. Please contact us for the detail.

■Prevent Slug Pulling

PUNCH	Slug Ejector Slug ejector push down the slug. It will be installed to over ϕ4 for round and over 6 mm width shape tool as our standard. Please contact us, when punch thick material sheet or hard material with small punch diameter.	
DIE	Double taper Die Standerd shapes and special shapes have this function as standerd.	

SPECIFICATION OF CONIC TOOLING

■Conic Original Coating

Perfect tool for stainless steel !

Super Dry Punch (SDP)

This is our best tool. Incredible durability and defeated the common sense that "Stainless is hard to process".
This tool is suitable for night time unattended operation and dry (no oil lubrication on the sheet metal) condition punching.
Super Dry Punch (SDP) is available with only the following shapes.

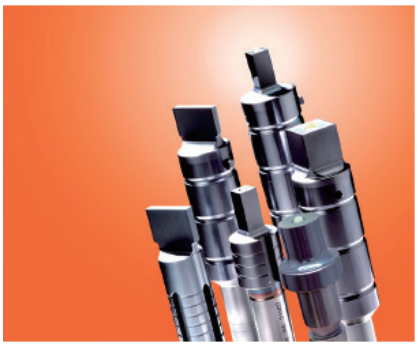
■ROUND (RO) ■SQUARE (SQ) ■RECTANGLE (RE) ■OBROUND (OB) ■SQUARE with R RECTANGLE with R

(Less than R10)

Perfect tool for thick material!

Heavy Duty Punch (HDP)

High performance for all purpose, especially for thick material.
Coating with excellent heat resistance.
The coating is difficult to peel of even with heat generated continuously.
Special shapes are also available for this treatment.



Most efficient in long life and cost !

Conic Long life Punch (CLP)

High performance for all purpose, especially for mild steel, ga lvanized steel with high corrosion resistance !
Special shapes are also available for this treatment.

Ultra cost performance tool for reasonable price !

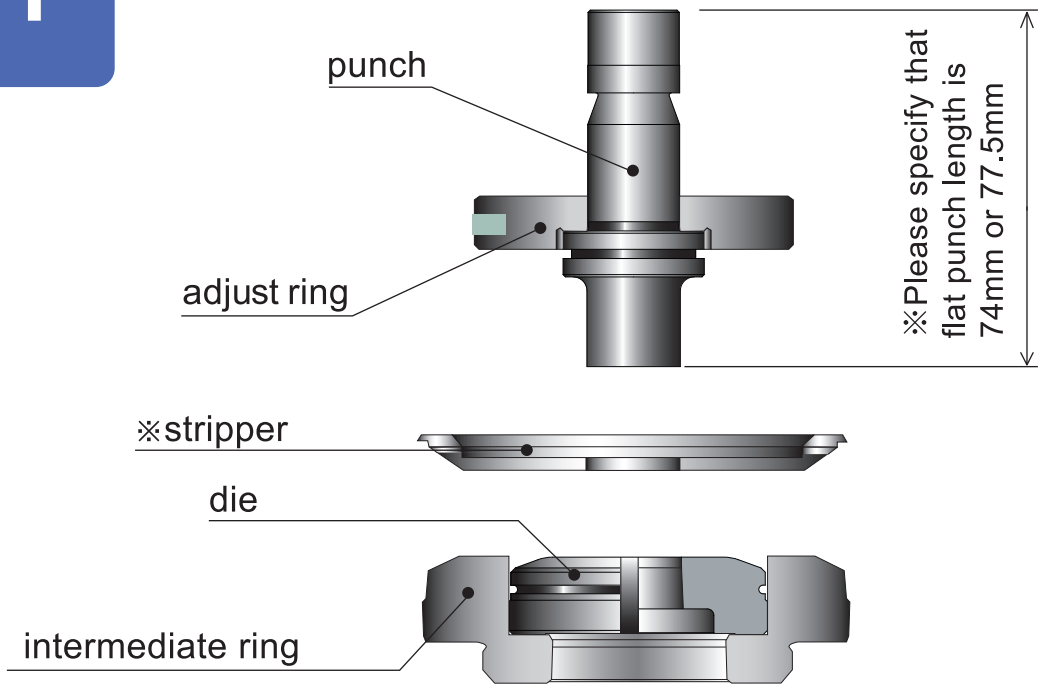
Conic Hard Punch (CHP)

Reasonable price and suitable for all purpose.
CHP shows high performance reducing adhesion and galling which is more likely to be caused by processing Aluminum and Coated steel sheet.

Total Performance	Punch type	Aptitude			
		Stainless steel (SUS)	Mild steel (SPCC)	Aluminum	Galvanized
High Performance	Super Dry Punch (SDP)	★★★★★★	★★★★★	★★★	★★★
	Heavy Duty Punch (HDP)	★★★★★	★★★★★★	★★★★★★	★★★★★★
	Conic Long life Punch (CLP)	★★★★	★★★★★	★★★★★★	★★★★★★
	Conic Hard Punch (CHP)	★★★	★★★★	★★★★½	★★★★
	HSS	★★	★★★	★★★	★★★
Cost Performance	D2	★	★	★★	★

TRUMPF TYPE 1

1

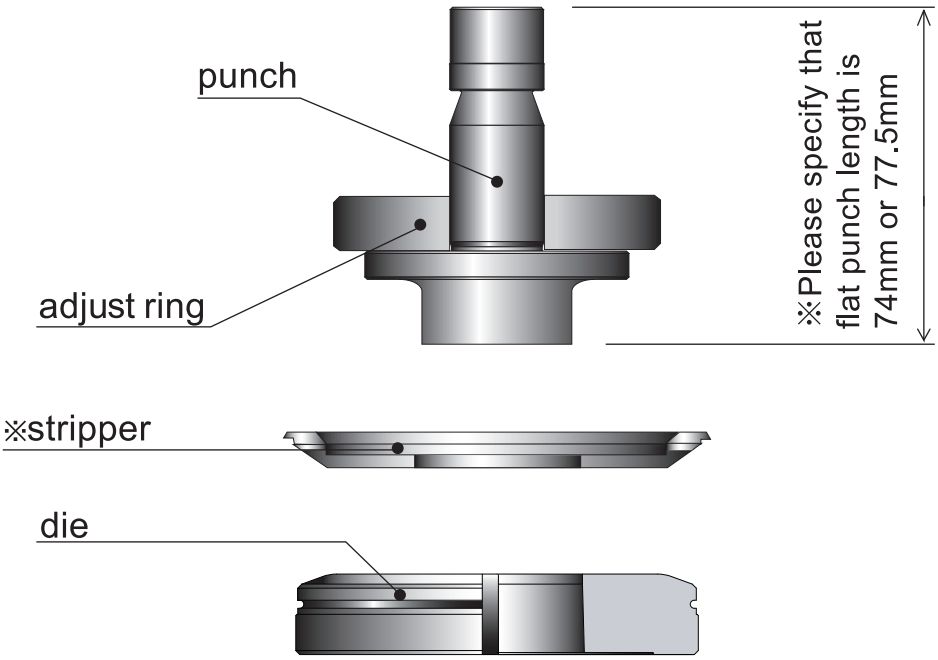


	Shape	Dimension(mm)	
Punch (HSS)	ROUND	cutting edge diameter	Φ1 or more – Φ2 or less
		cutting edge diameter	more than Φ2 – Φ30 or less
	SQUARE	one side length	Φ1 or more – Φ20 or less
	RECTANGLE OBROUND SD WD	diagonal dimension	Φ1 or more – Φ30 or less
Die (D2)	ROUND	cutting edge diameter	Φ1 or more – Φ32 or less
	SQUARE	one side length	Φ1 or more – Φ22 or less
	RECTANGLE OBROUND SD WD	diagonal dimension	Φ1.8 or more – Φ32 or less
※Stripper	ROUND	based on the punch	
	SQUARE		
	RECTANGLE OBROUND SD WD		

※Extra small taper is applied to standard strippers in order to prevent marks.
If you do not need the extra small taper, please order flat stripper.

TRUMPF TYPE 2

2

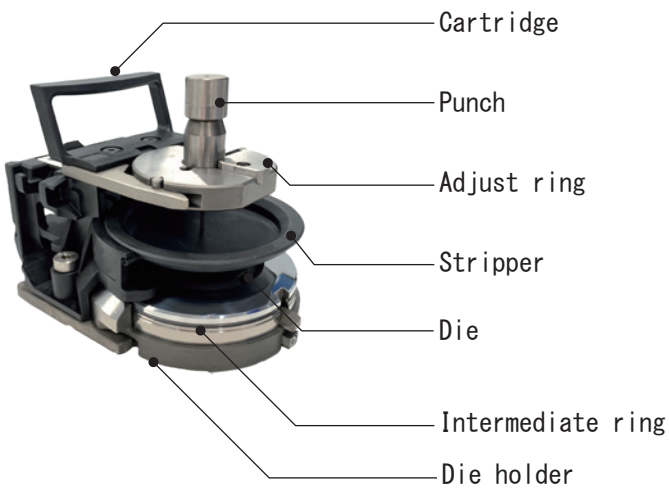


	Shape	Dimension(mm)	
Punch (HSS)	ROUND	cutting edge diameter	more than Φ30 – Φ76.2 or less
	SQUARE	one side length	Φ1 or more – Φ50.8 or less
	RECTANGLE OBROUND SD WD	diagonal dimension	Φ1 or more – Φ72 or less
Die (D2)	ROUND	cutting edge diameter	Φ1 or more than Φ32 – Φ77 or less
	SQUARE	one side length	Φ1 or more than Φ22 – Φ52 or less
	RECTANGLE OBROUND SD WD	diagonal dimension	Φ1.8 or more than Φ32 – Φ72 or less
※Stripper	ROUND	based on the punch	
	SQUARE		
	RECTANGLE OBROUND SD WD		

※Extra small taper is applied to standard strippers in order to prevent marks.
If you do not need the extra small taper, please order flat stripper.

INSTRUCTION MANUAL

PARTS NAME

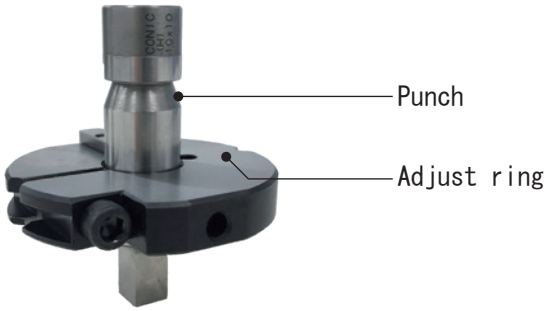


CHECK POINTS

- Please follow the machine instruction manual before use punching tools.
- Please check there are no cracks or seizes. If you find such abnormal conditions, do not use the tools.
- Machine, Cartridge should be kept clean. (ex: Slugs in die holders can cause a serious damage on the tools)
- Cutting edge of the tooling must be sharpened when it is dull.

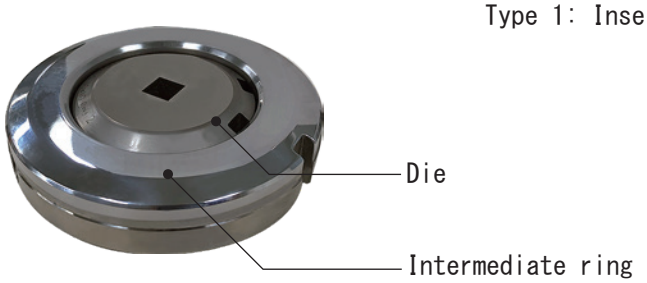
PUNCH

Insert Adjust ring to the punch.



DIE

Type 1: Insert the Die to Intermediate ring.



CARTRIDGE

Insert Punch and Die and Stripper to cartridge.

Widest variety special forming tools in advanced technology.

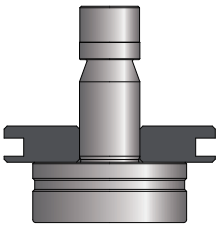
Conic Special tools

Conic offers the best performance special tools to the customer.
Conic engineers always try to find the best solution of productive tools
to the customer which uses the most advanced tooling technologies.

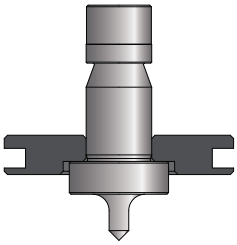
FORMING TOOLS

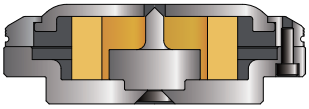
CENTER POINT

FORMING UP



FORMING DOWN





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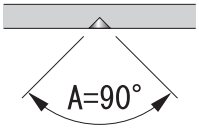

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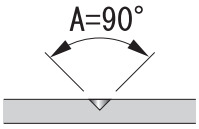
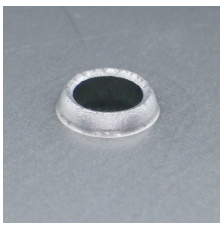


Forming process of making conical recess (center point).
Used for locator, landmark and so on.

BURRING FOR THREAD FORM

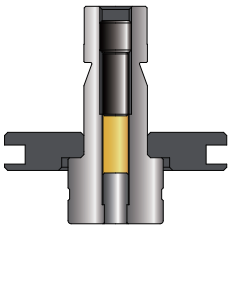
FORMING UP

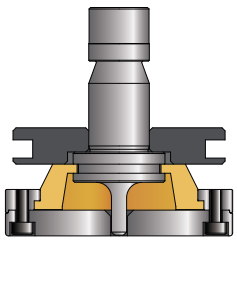
(Forming after pre-piercing)

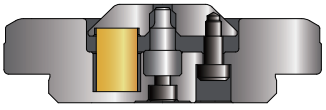


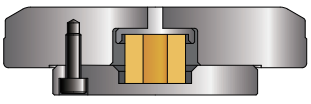
FORMING DOWN

(Forming after pre-piercing)

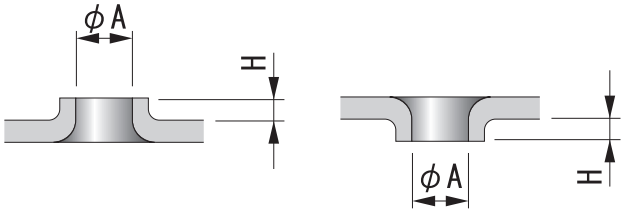








Screw size	Diameter (A)	Pre-hole
M2.5	φ2.1	φ1.2
M3	φ2.6	φ1.5
M4	φ3.4	φ2.0
M5	φ4.3	φ2.4
M6	φ5.1	φ2.8

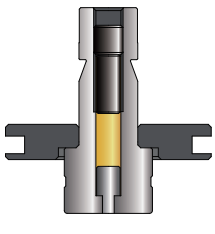


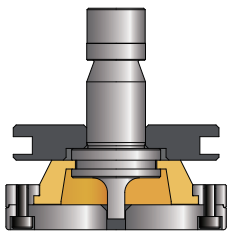
Forming process for making tubes of threading for screw.
Threading for screws and increased bearing area for tubes.

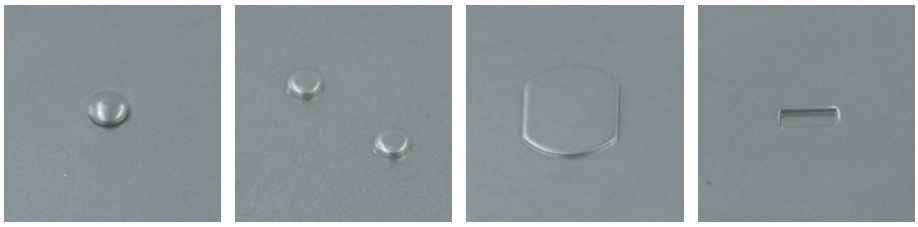
FORMING TOOLS

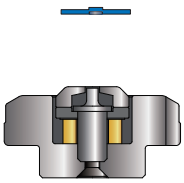
HALF SHEAR

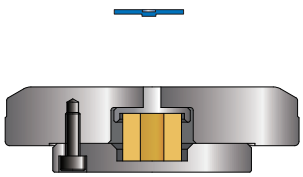
FORMING UP　　FORMING DOWN











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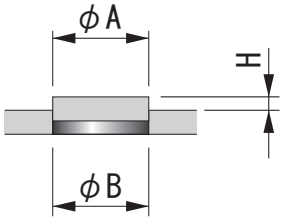
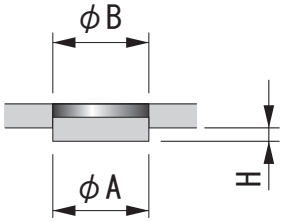


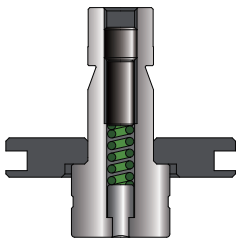
FORMING DOWN

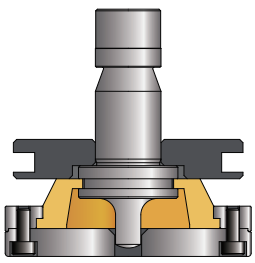


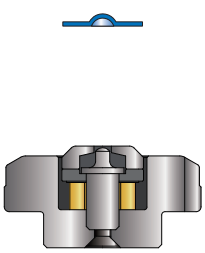
Forming process of pierce half of material thickness.
Used for locator or stopper.

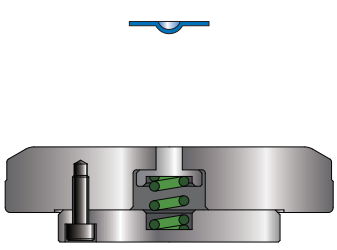
EMBOSS (DIMPLE)

FORMING UP　　FORMING DOWN









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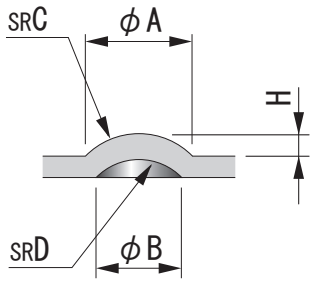

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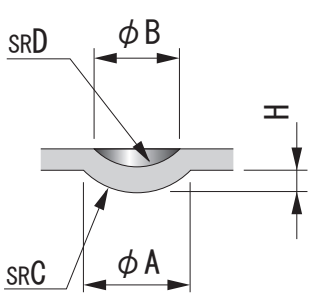
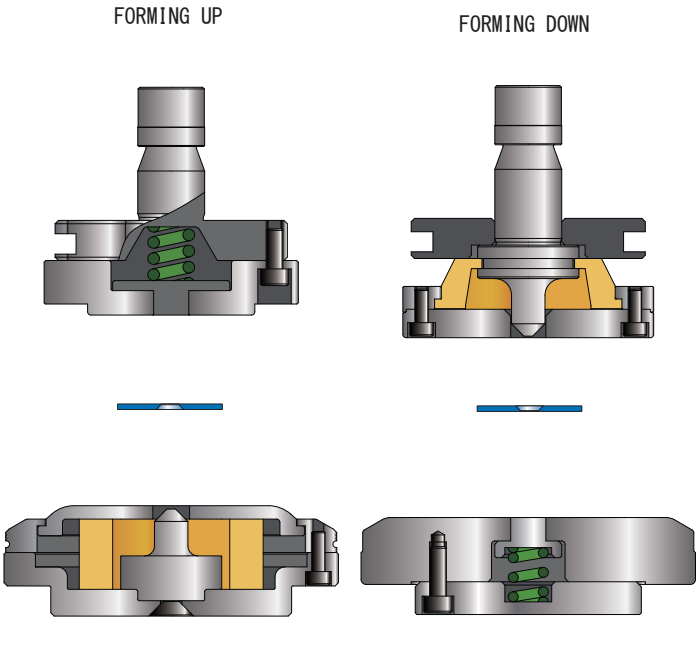
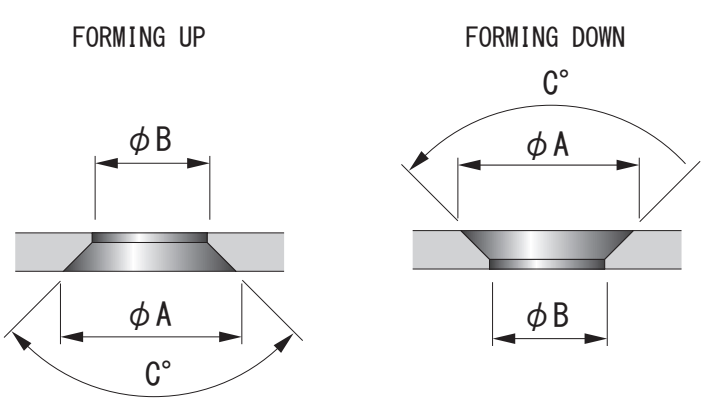


Forming process of embossing material like dimple.
Used for locator or decorative pattern of the material.

FORMING TOOLS

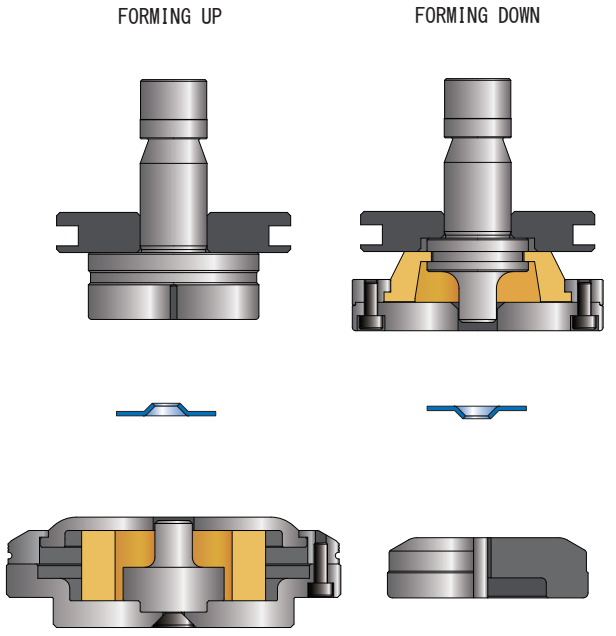
COUNTERSINK FOR COUNTERSUNK SCREW (CHAMFERING)

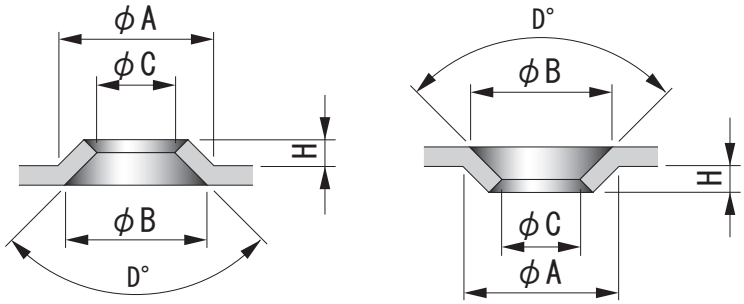




Forming process of making a chamfer to material.
Used for sink a countersunk screw head, make chamfer to a corner after punching, guide of tapping.

COUNTERSINK



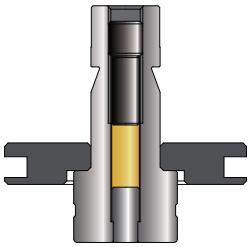


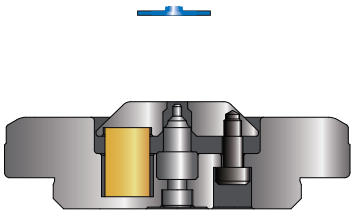
Forming process of embossing work, such as dish-shaped.
Used for sink a countersunk screw head, or used for nonslip.

FORMING TOOLS

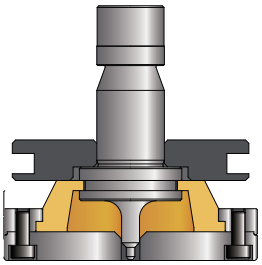
COUNTERSINK BURRING

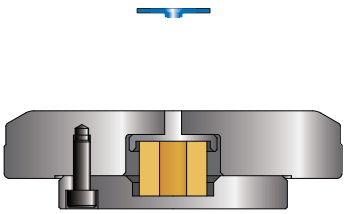
FORMING UP



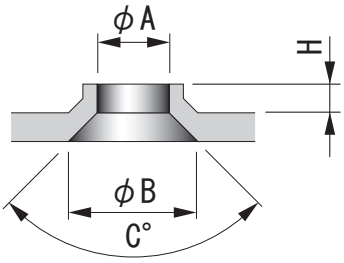


FORMING DOWN

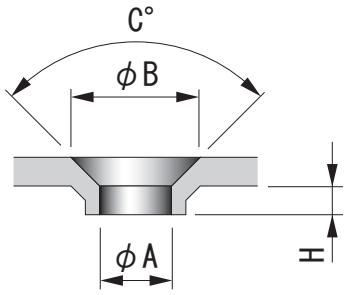




FORMING UP



FORMING DOWN

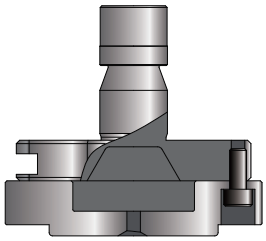


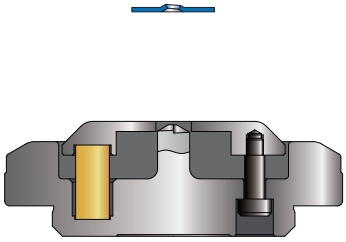
Forming process for making tube of threading for screw, and at the same time make a chamfer in the entrance part.

Used for threading for screw. Used to guide at the time of tapping.

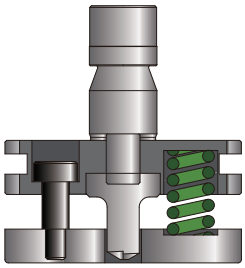
ONE PITCH THREAD FORM

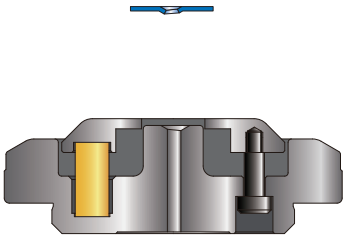
FORMING UP





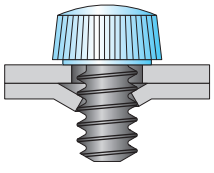
FORMING DOWN





FORMING UP

FORMING DOWN

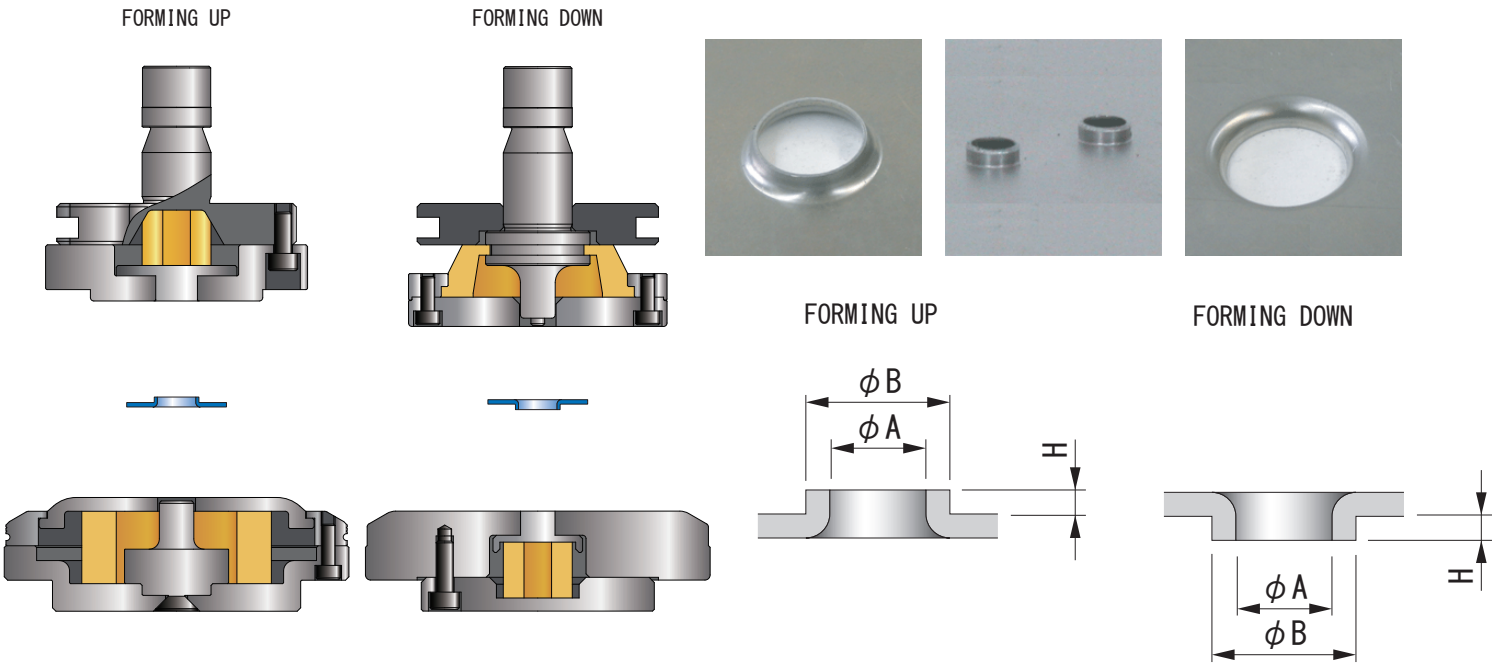


Forming process of making the one pitch thread form.

Used to screw in place that does not require a heavy strength.

FORMING TOOLS

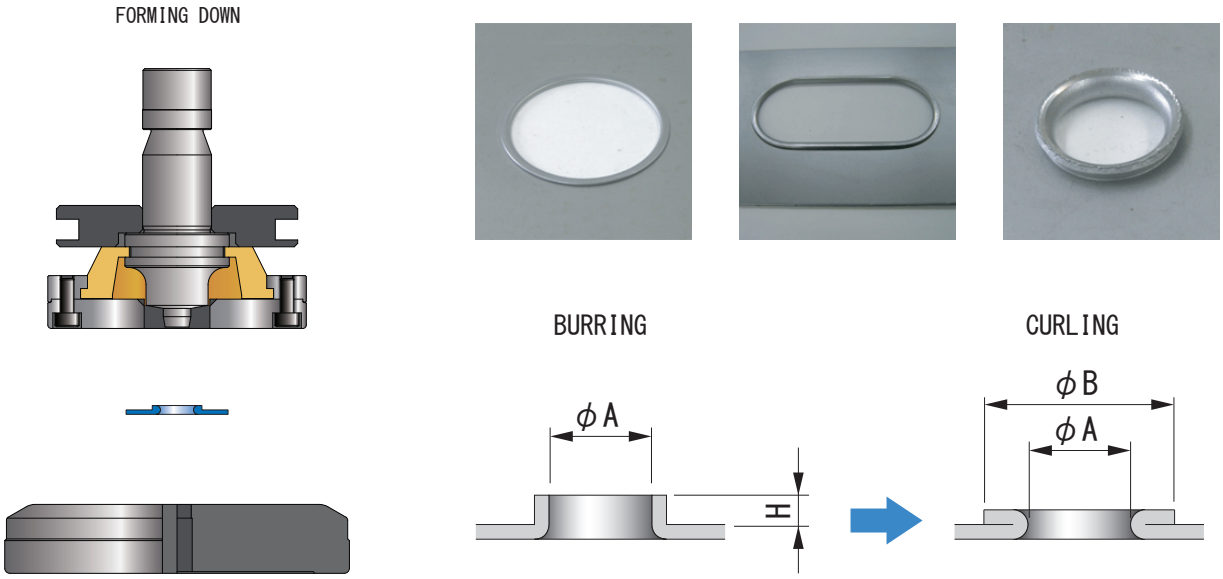
COUNTERSINK BURRING



Forming process for making tubes.

Used to guide or protect the code and pipe.

CURLING



Forming process to bend the material after forming of burring.

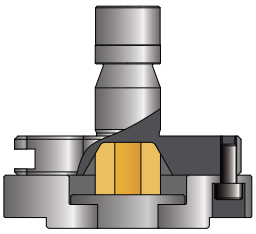
Used to guide or protect the code and pipe.

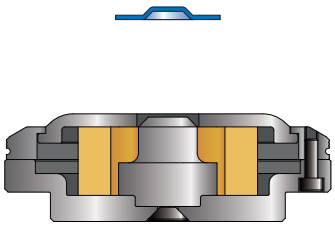
The order of processing is Pre-hole ⇒ Burring ⇒ Curling.

FORMING TOOLS

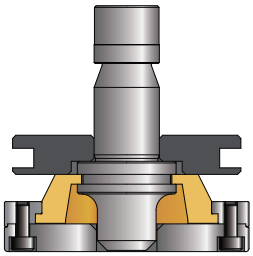
EMBOSS

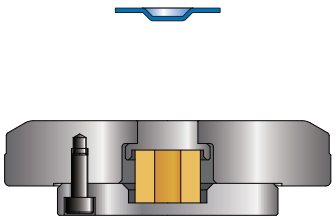
FORMING UP

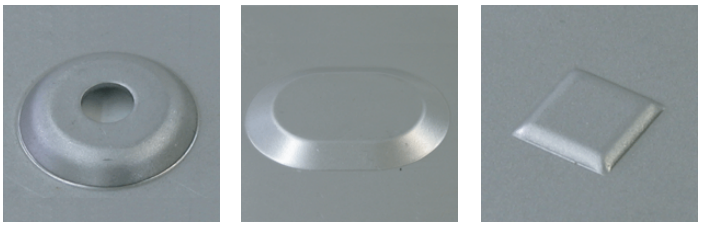




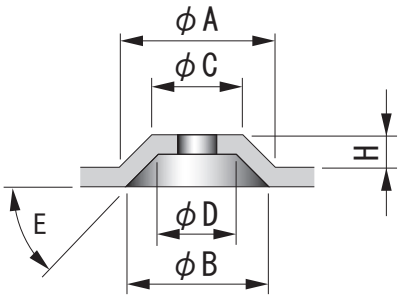
FORMING DOWN



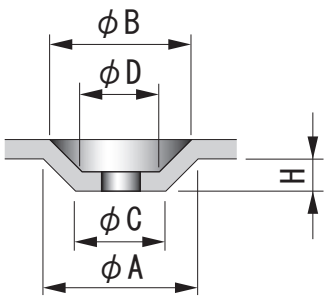




FORMING UP



FORMING DOWN

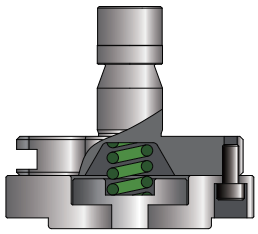


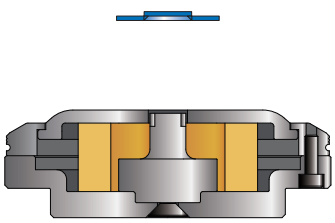
Forming process to produce raised or sunken shape.

Used for sinking a head of bolts or nuts.
Used for the seat of the product.

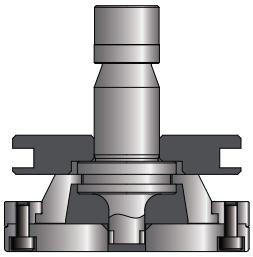
KNOCKOUT

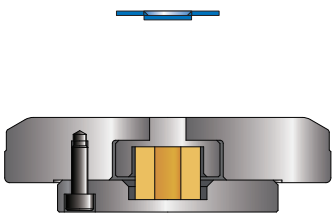
FORMING UP



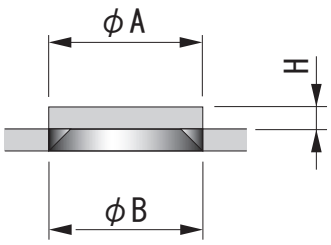


FORMING DOWN

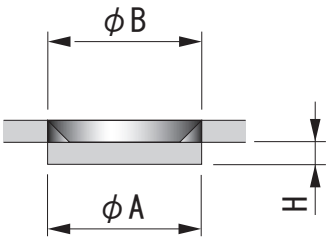




FORMING UP



FORMING DOWN

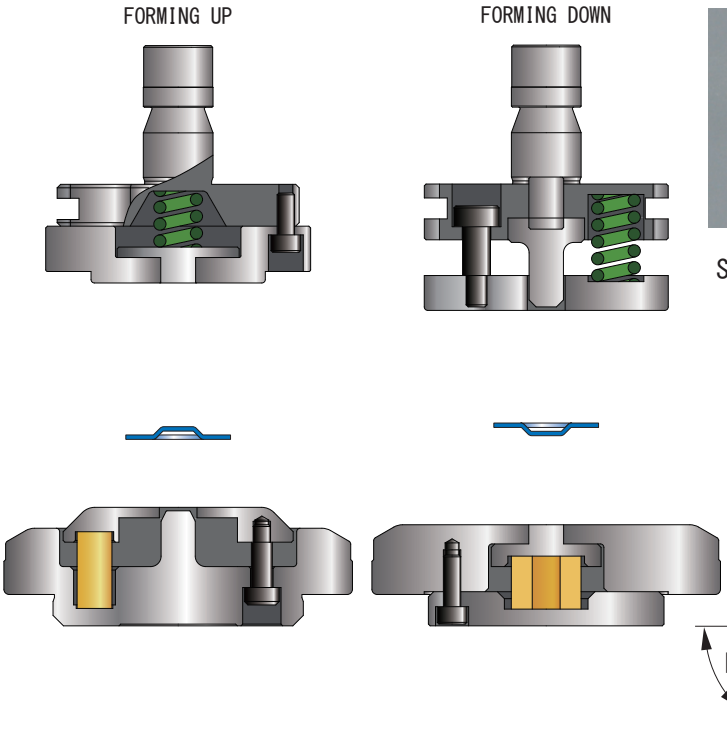


Forming process of piercing a hole and keep the slug on the sheet metal by tabs.

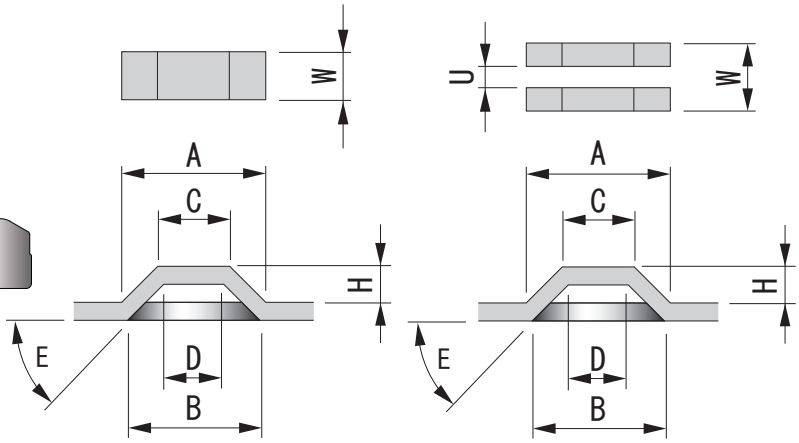
When using a hole, remove the slug using a screwdriver.

FORMING TOOLS

BRIDGE , DOUBLE BRIDGE

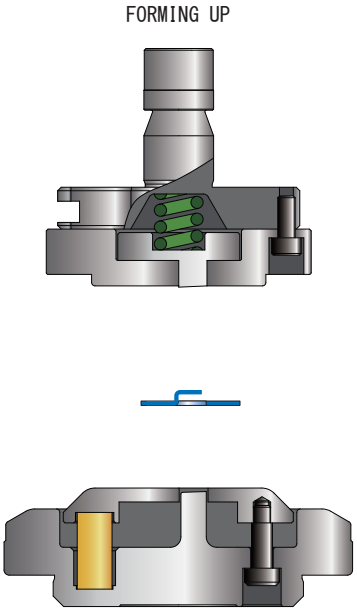


SINGLE BRIDGE(FORMING UP)　　DOUBLE BRIDGE(FORMING UP)

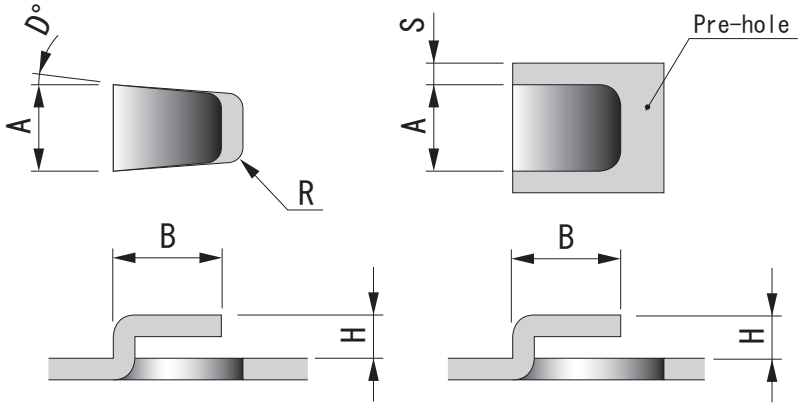


Forming process of lance like a bridge.

LANCE (Z-BENDING)



Forming without pre-hole　　Forming after pre-hole



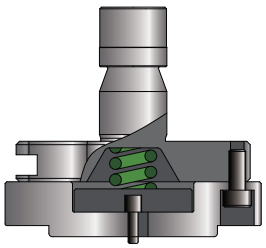
Forming process of lance like Z figure.

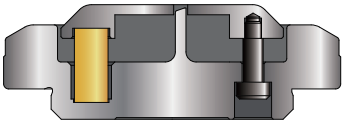
Used for hook, locator and stopper.

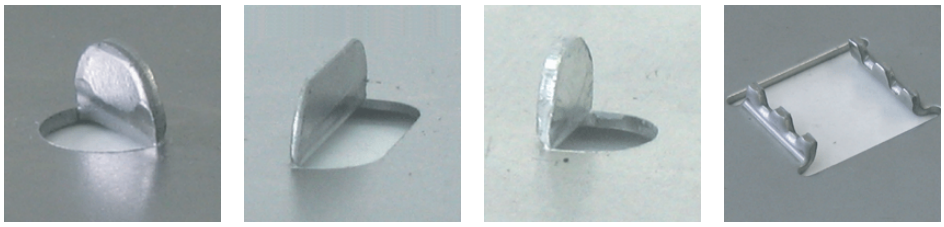
FORMING TOOLS

LANCE (L-BENDING)

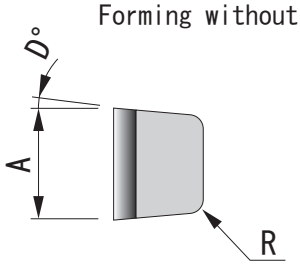
FORMING UP



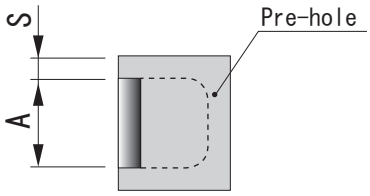




Forming without pre-hole



Forming after pre-hole

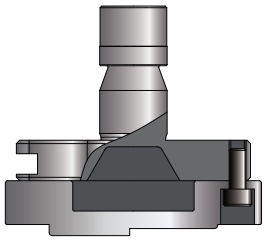


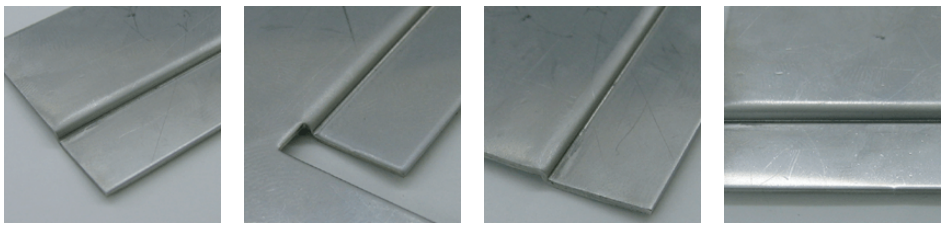
Forming process of lance like L figure.

Used for hook, locator and stopper.

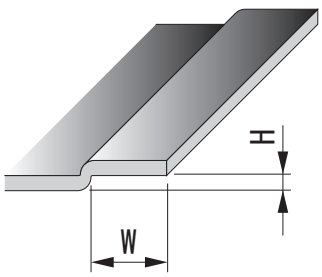
BENDING (OFFSET TOOL)

FORMING UP

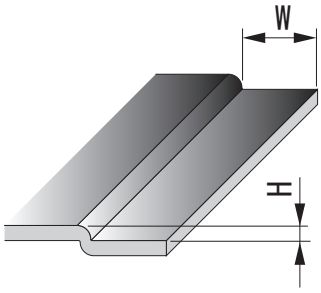




FORMING UP



FORMING DOWN



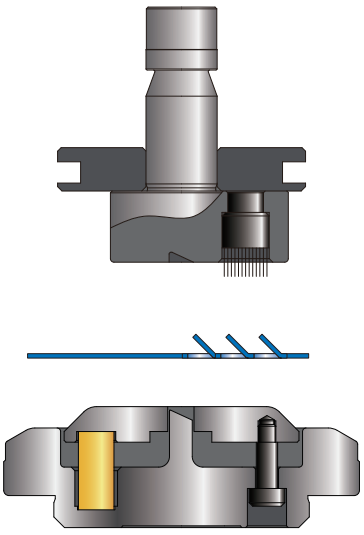
Forming process of bending that can hit continuously along the sheet.

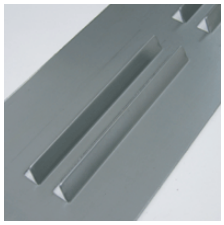
Used for the overlaying the sheet.

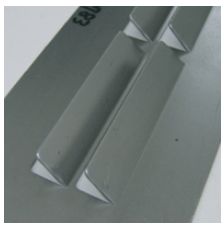
FORMING TOOLS

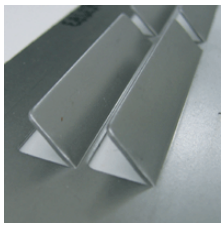
LANCE FOR AIR FLOW

FORMING UP

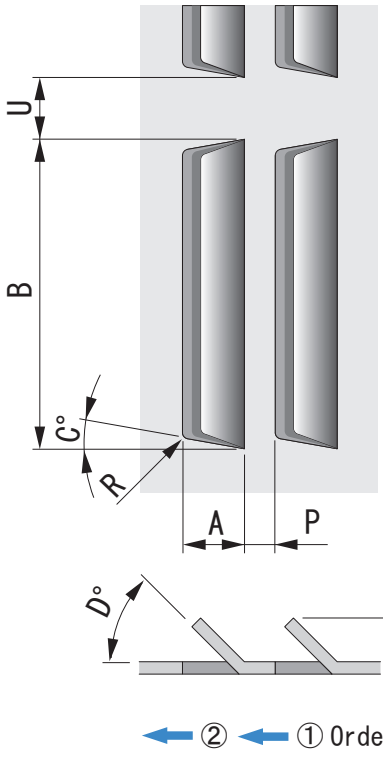








FORMING UP

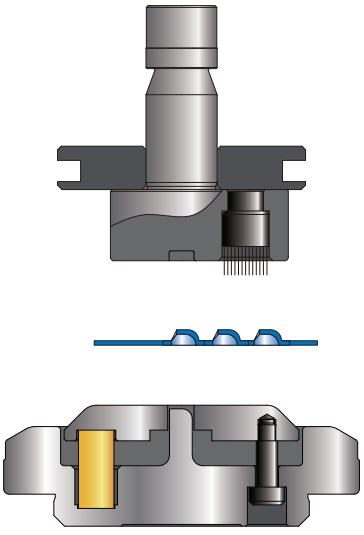


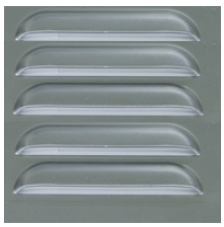
Forming process of lance to create an opening.

Used to provide air flow or ventilation.

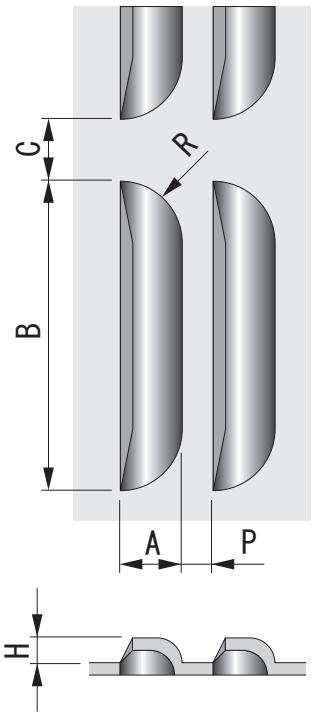
LOUVER FOR AIR FLOW

FORMING UP





FORMING UP

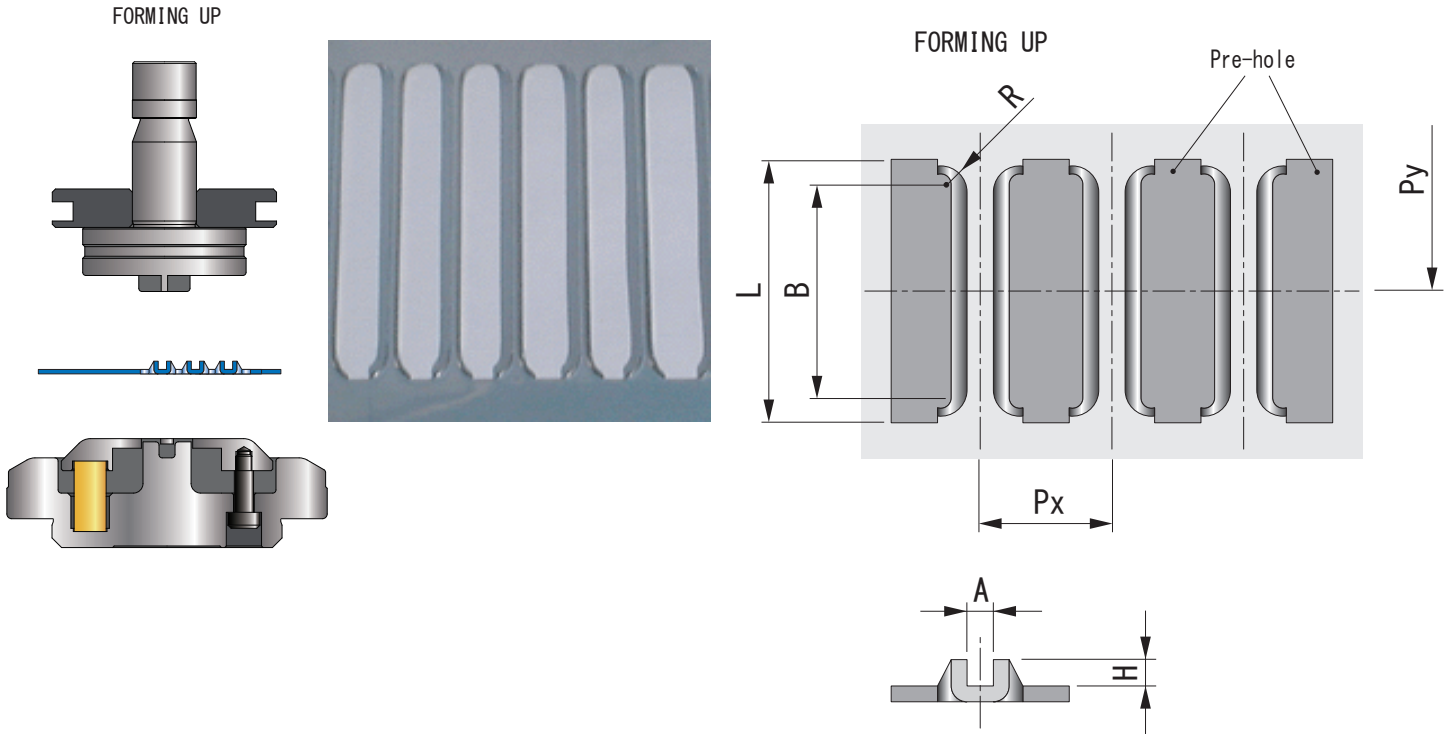


Forming process of louver to create an opening.

Used to provide air flow or ventilation.

FORMING TOOLS

CARD GUIDE



Forming process to form U-groove for a printed circuit board.

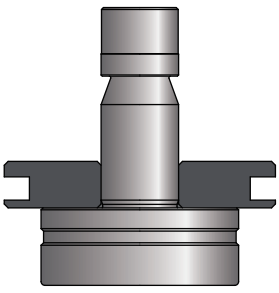
BEADING

Forming process of embossing that can hit continuously along the sheet.
Used for strengthening, nonslip or decoration.

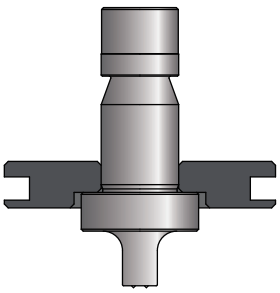
FORMING TOOLS

MARKING (STAMPING)

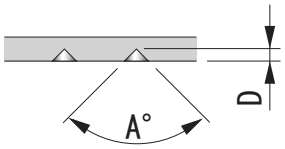
FORMING UP



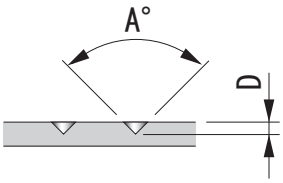
FORMING DOWN

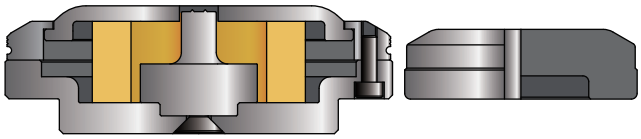


FORMING UP



FORMING DOWN

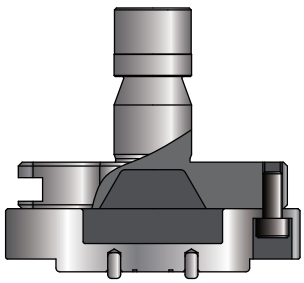




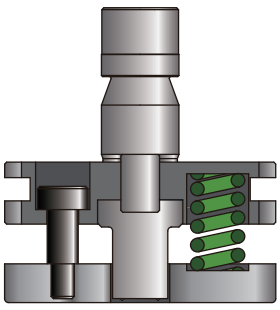
Forming process of stamping the character or logo etc.

MARKING (EMBOSS)

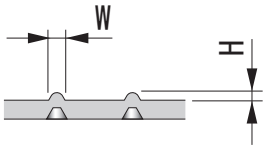
FORMING UP



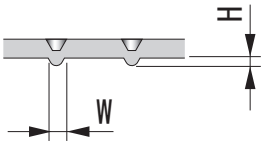
FORMING DOWN

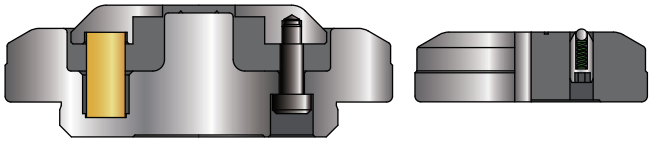


FORMING UP



FORMING DOWN





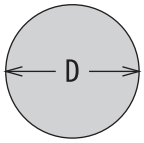
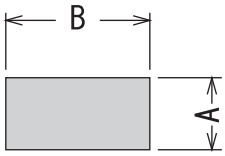
Forming process of embossing the character or logo etc.

CALCULATE PUNCHING FORCE (TONNAGE)

Tonnage capacity is different depending on machines.
Use the calculation formula below to prevent from over tonnage.

$$\text{Tonnage (ton)} = \frac{\text{Circumference (mm)} \times \text{Material thickness (mm)} \times \text{Shear resistance (kg/mm}^2\text{)}}{1000}$$

Circumference

Round	Shaped
Diameter x 3.14	(Length dimension + Width dimension) x 2
	
Circumference = D x 3.14	Circumference = (A + B) x 2

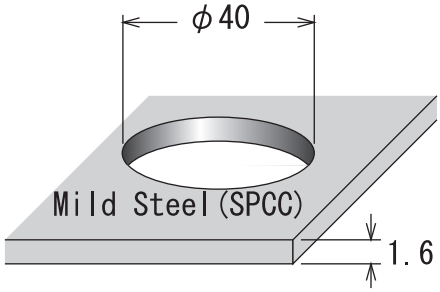
Shear resistance by material

Material	Shear resistance (kg/mm^2)
Mild Steel	26～35
SS400	33～42
Stainless Steel	52～56
Aluminum	7～16
Copper	18～30
Brass	22～40

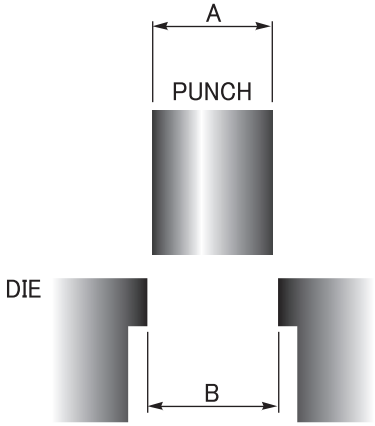
<Calculation example>

The tonnage when piercing Φ40 to Mild Steel T=1.6mm.

$$\frac{\underset{\text{Circumference}}{40 \times 3.14} \times \underset{\text{Material thickness}}{1.6} \times \underset{\text{Shear resistance}}{35}}{1000} = 7 \text{ (ton)}$$



DIE CLEARANCE



■ DIE CLERANCE IS ・・・

Die clearance is difference between punch diameter and die diameter.

Die clearance = B − A

■ RECOMMENDED DIE CLERANCE

Die clearance = Material thickness x Clearance Ratio

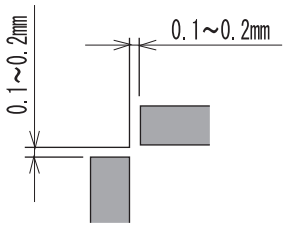
Material	Clearance Ratio	Material thickness							
		0.5	0.8	1.0	1.2	1.5	2.0	2.3	3.2
Mild steel	0.15	0.07	0.1	0.15	0.2	0.25	0.3	0.4	0.5
Stainless steel	0.2	0.1	0.15	0.2	0.25	0.3	0.4	0.5	0.6
Aluminum	0.1	0.07	0.1	0.1	0.15	0.15	0.2	0.25	0.35
Copper	0.1	0.07	0.1	0.1	0.15	0.15	0.2	0.25	0.35

※Minimum Clearance is 0.07 for TRUMPF Punching machine.

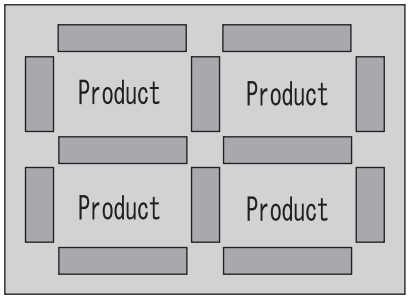
TECHNICAL INFORMATION

JOINT METHOD

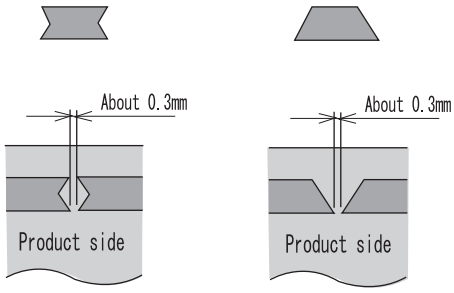
CORNER JOINT



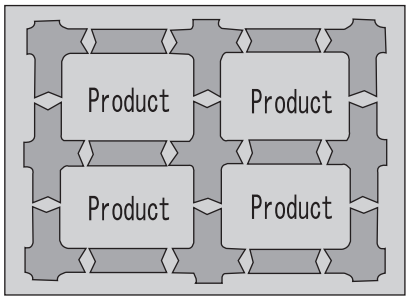
Joint of corner part



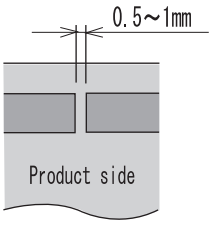
MICRO JOINT



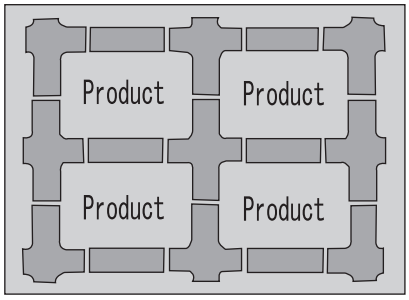
Joint of straight part



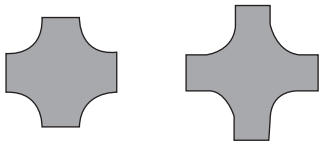
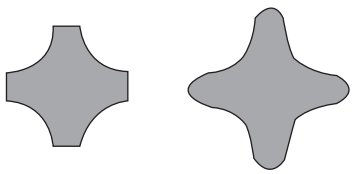
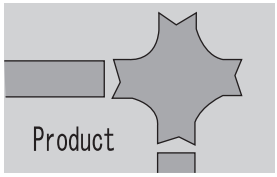
WIRE JOINT



Joint of straight part



CORNER ROUNDING

Standard Corner rounding tool	Corner rounding tool with tangent line	Corner rounding tool with joint
		

CONIC HIGH PERFORMANCE TOOLING

- Amada type turret tooling
- Murata type turret tooling

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Dealer

Feb. 2025