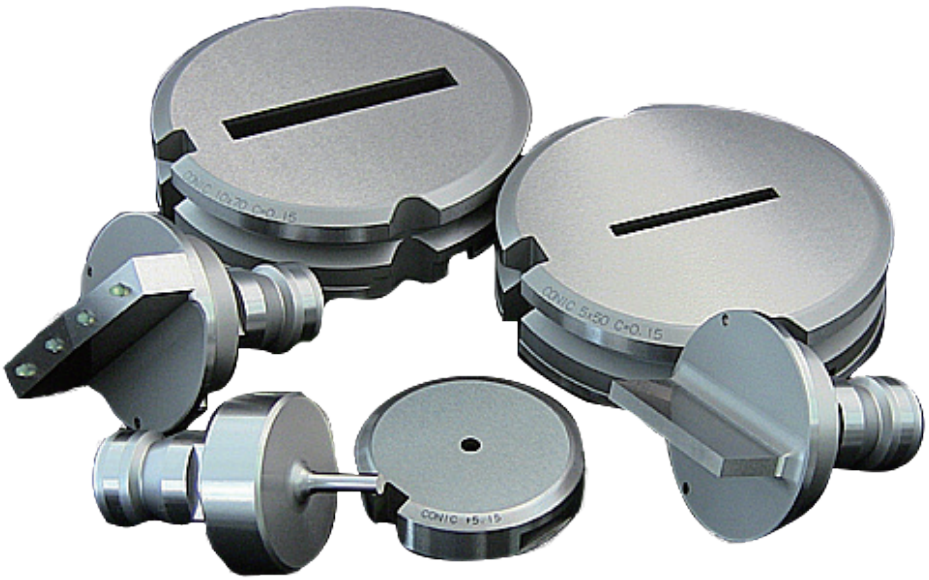
NC PUNCH PRESS
HIGH PERFORMANCE TOOLING

High Quality & Technology For The Future
CONIC
Since 1976

KOMATSU 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)

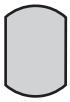
■SQUARE (SQ)

■RECTANGLE (RE)

■OBROUND (OB)

■SINGLE D (SD)

■DOUBLE D (DD)



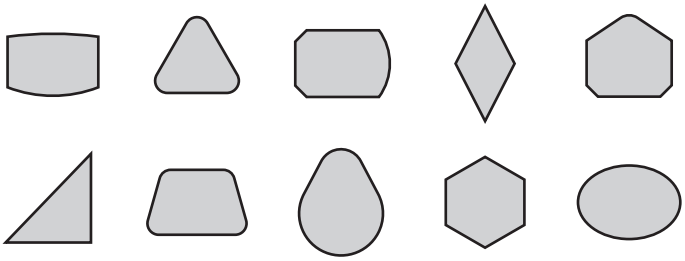
WITH RADIUS CORNERS

■SQUARE WITH RADIUS CORNERS

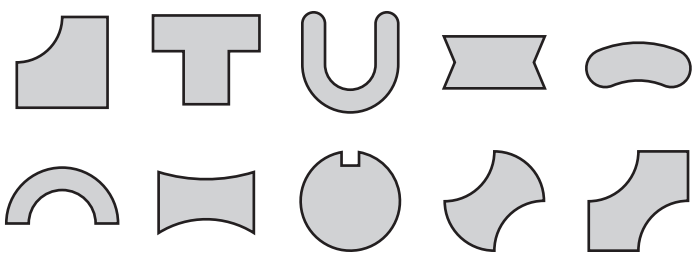
■RECTANGLE WITH RADIUS CORNERS

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.

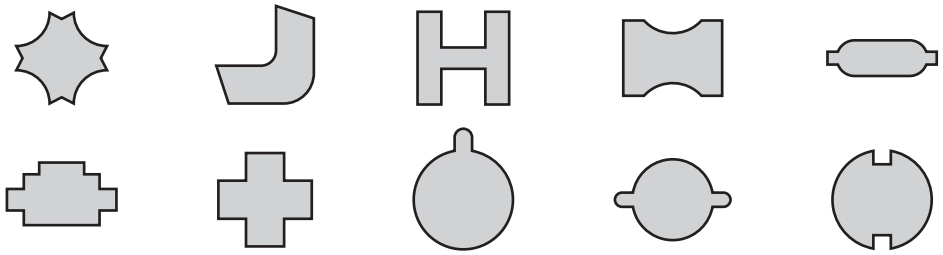
SPECIAL SHAPES (CLASS-1)



SPECIAL SHAPES (CLASS-2)



SPECIAL SHAPES (CLASS-3)



CORNER ROUNDING

■CN-42

■CN-41

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.

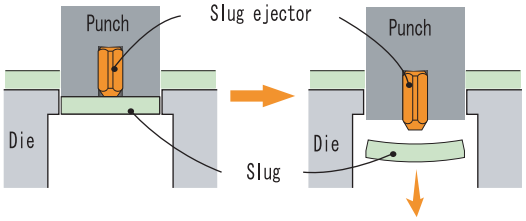
SPECIFICATION OF CONIC TOOLING

■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.



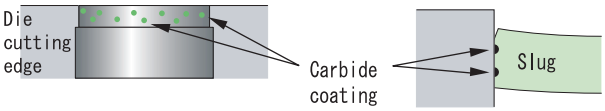
DIE

Straight with taper Die

Use this specification standard on Blank tool, less than 2mm width die
for blank will be parts, punch with heel die clearance is less than 0.1mm

Depositron Process

Put electrical super hard spot onto inside of die hole
Except clearance 0.1mm
Standard on die diameter ϕ2～ϕ4.5



SPECIFICATION OF CONIC TOOLING

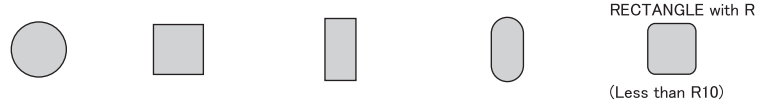
■Conic Original Coating

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

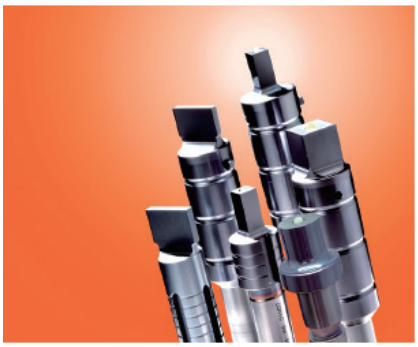


(Less than R10)

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 !

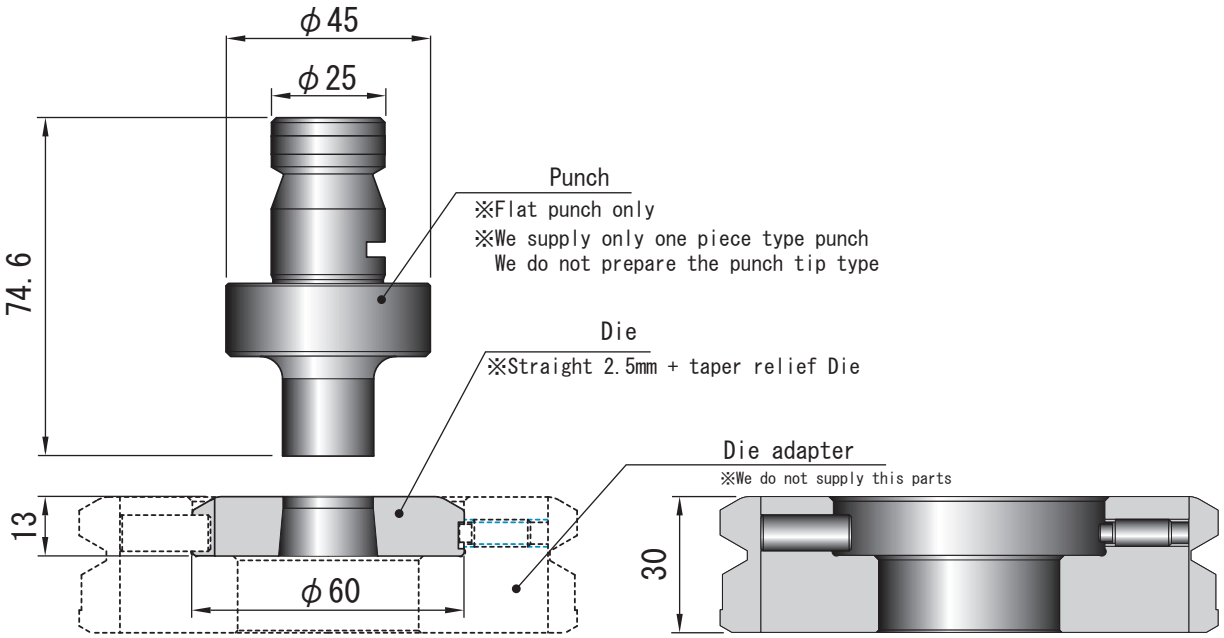
Conic Hard Punch (CHP)

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.

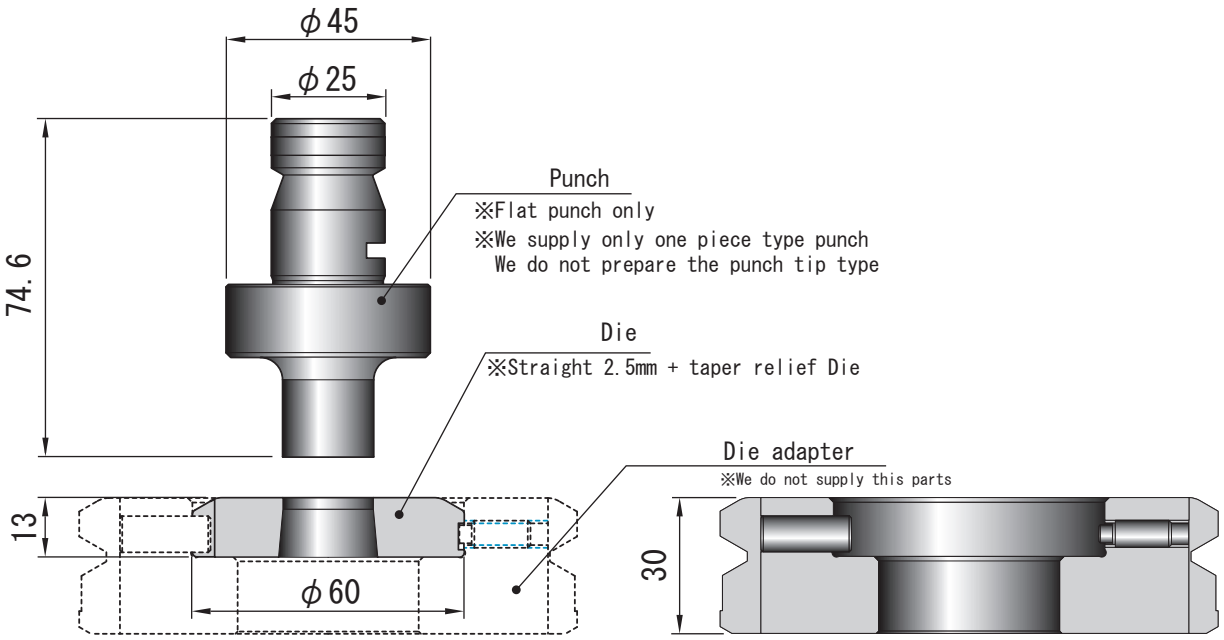
Total Performance	Punch type	Aptitude			
		Stainless steel (SUS)	Mild steel (SPCC)	Aluminum	Galvanized
High Performance	Super Dry Punch (SDP)	★★★★★★	★★★★★	★★★	★★★
	Heavy Duty Punch (HDP)	★★★★★	★★★★★★	★★★★★★	★★★★★★
	Conic Long life Punch (CLP)	★★★★	★★★★★	★★★★★★	★★★★★★
	Conic Hard Punch (CHP)	★★★	★★★★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

KOMATSU TYPE 1/8" & 1/4"

1/8in



1/4in

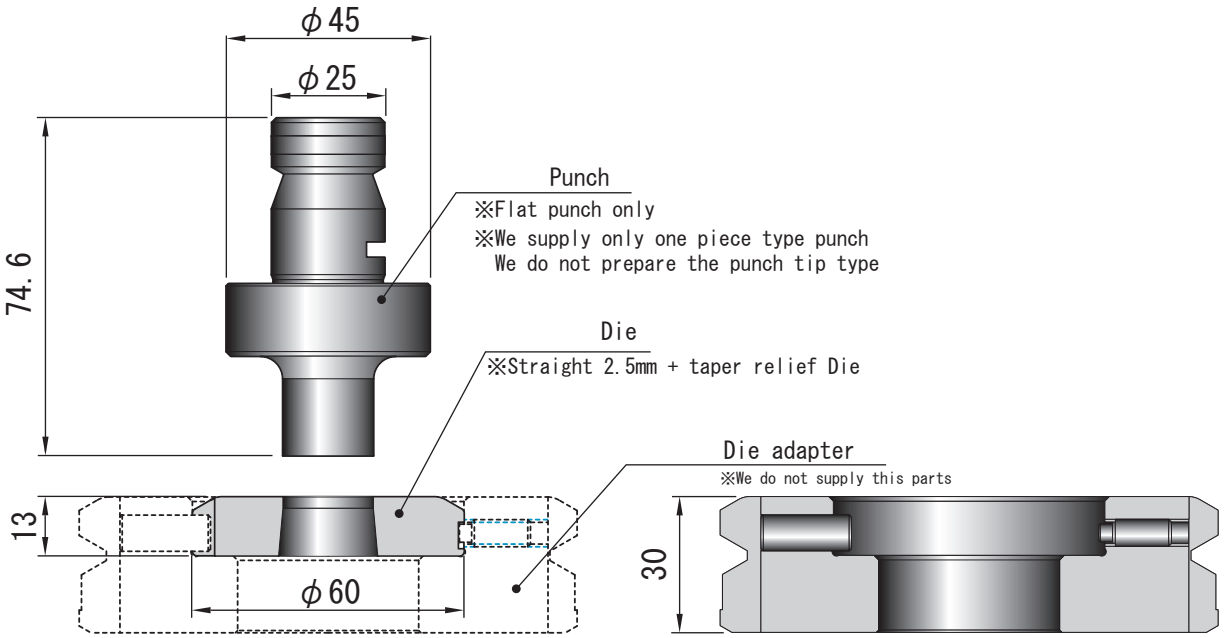


	Parts	Shape	Dimension(mm)
1/8″	Punch (HSS)	ROUND	cutting edge diameter ϕ1 or more - ϕ2.59 or less
		SHAPE	diagonal dimension 1 or more - 2.59 or less
	Die (D2)	ROUND	cutting edge diameter ϕ1 or more - ϕ2.59 or less
		SHAPE	diagonal dimension 1 or more - 2.59 or less
1/4″	Punch (HSS)	ROUND	cutting edge diameter ϕ2.6 or more - ϕ5.99 or less
		SHAPE	diagonal dimension 2.6 or more - 5.99 or less
	Die (D2)	ROUND	cutting edge diameter ϕ2.6 or more - ϕ5.99 or less
		SHAPE	diagonal dimension 2.6 or more - 5.99 or less

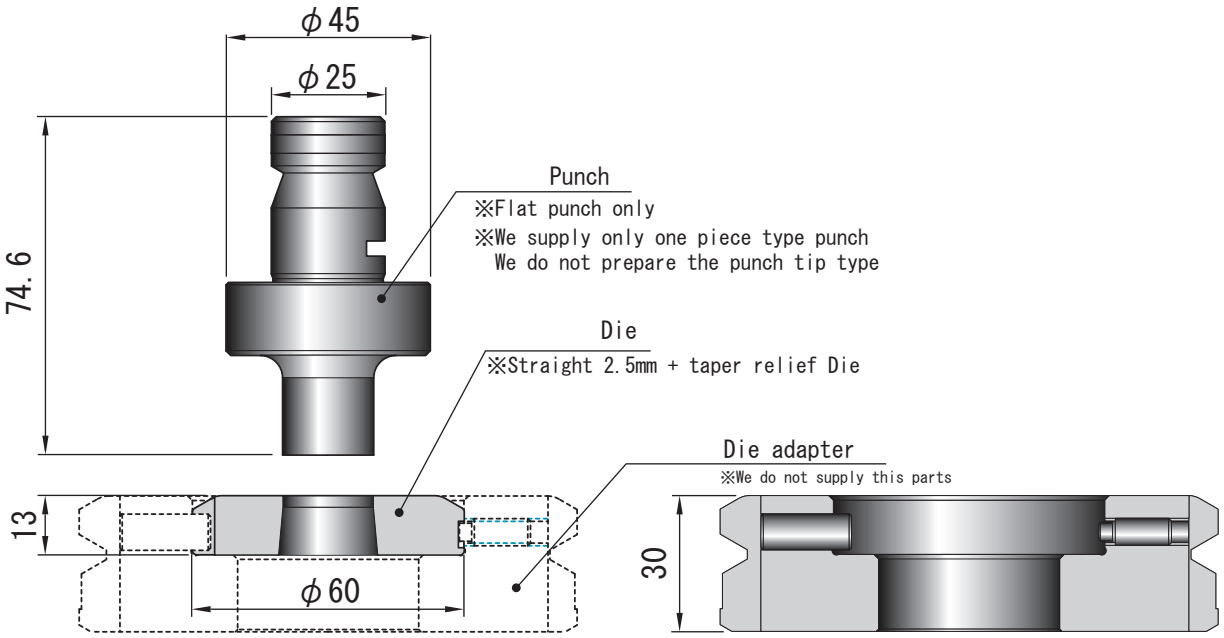
※1 We do not supply stripper plate and punch ring. We supply punch and die.
※2 We do not supply barcode.

KOMATSU TYPE 1/2" & 1-1/4"

1/2in



1-1/4in

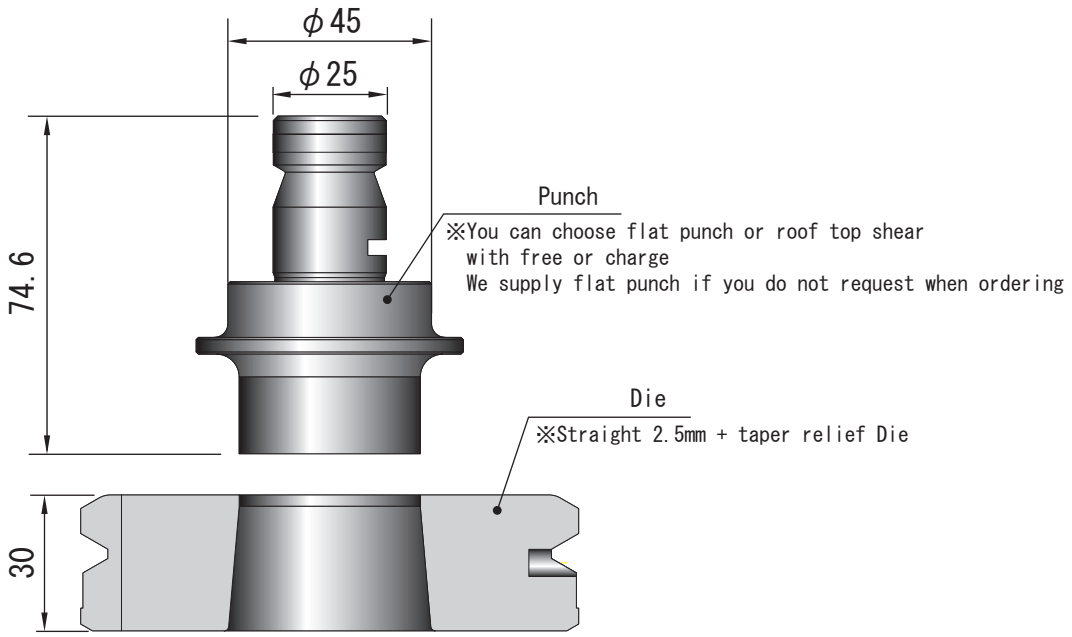


	Parts	Shape	Dimension (mm)
1/2"	Punch (HSS)	ROUND	cutting edge diameter ϕ6 or more - ϕ12.7 or less
		SHAPE	diagonal dimension 6 or more - ϕ12.7 or less
	Die (D2)	ROUND	cutting edge diameter ϕ6 or more - ϕ12.7 or less
		SHAPE	diagonal dimension 6 or more - 12.7 or less
1-1/4"	Punch (HSS)	ROUND	cutting edge diameter ϕ12.71 or more - ϕ31.7 or less
		SHAPE	diagonal dimension 12.71 or more - 31.7 or less
	Die (D2)	ROUND	cutting edge diameter ϕ12.71 or more - ϕ31.7 or less
		SHAPE	diagonal dimension 12.71 or more - 31.7 or less

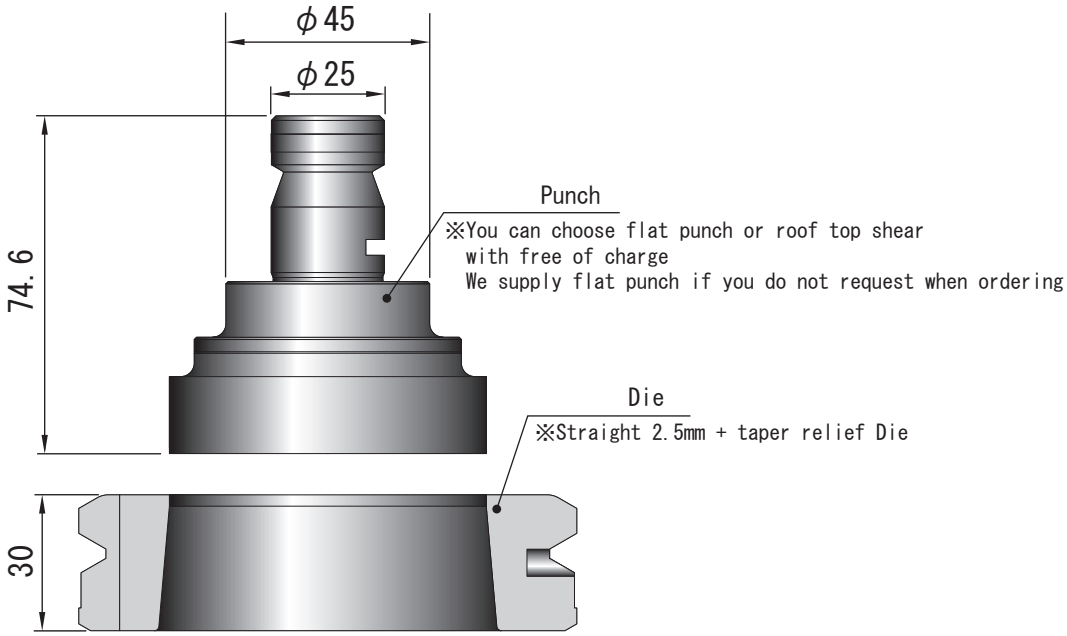
※1 We do not supply stripper plate and punch ring. We supply punch and die.
※2 We do not supply barcode.

KOMATSU TYPE 2" & 3"

2in



3in



	Parts	Shape	Dimension(mm)
2″	Punch (HSS)	ROUND	cutting edge diameter ϕ31.71 or more - ϕ50.8 or less
		SHAPE	diagonal dimension 31.71 or more - 50.8 or less
	Die (D2)	ROUND	cutting edge diameter ϕ31.71 or more - ϕ50.8 or less
		SHAPE	diagonal dimension 31.71 or more - 50.8 or less
3″	Punch (HSS)	ROUND	cutting edge diameter ϕ50.81 or more - ϕ76 or less
		SHAPE	diagonal dimension 50.81 or more - 76 or less
	Die (D2)	ROUND	cutting edge diameter ϕ50.81 or more - ϕ76 or less
		SHAPE	diagonal dimension 50.81 or more - 76 or less

※1 We do not supply stripper plate and punch ring. We supply punch and die.
※2 We do not supply barcode.

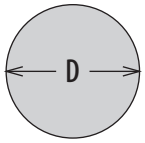
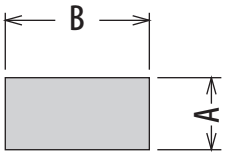
TECHNICAL INFORMATION

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

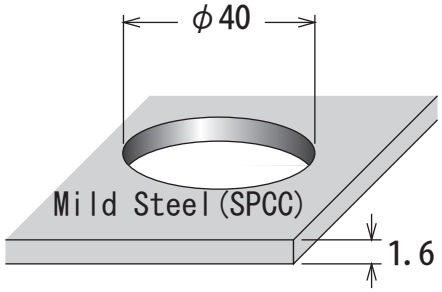
Shear resistance by material

Material	Shear resistance (kg/mm²)
Mild Steel	26～35
SS400	33～42
Stainless Steel	52～56
Aluminum	7～16
Copper	18～30
Brass	22～40

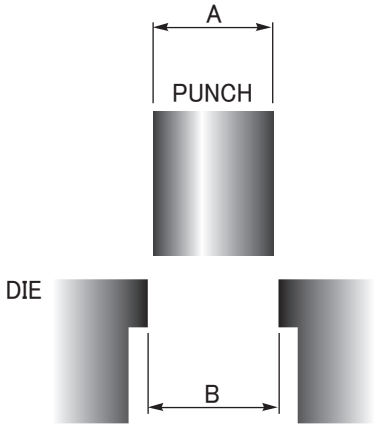
<Calculation example>

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

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



DIE CLEARANCE



■ DIE CLERANCE IS ・・・

Die clearance is difference between punch diameter and die diameter.

Die clearance = B − A

■ RECOMMENDED DIE CLERANCE

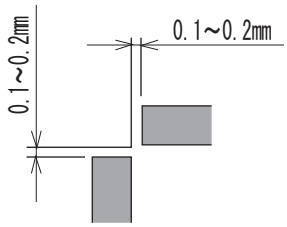
Die clearance = Material thickness x Clearance Ratio

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

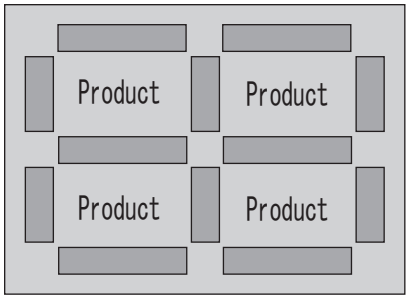
TECHNICAL INFORMATION

JOINT METHOD

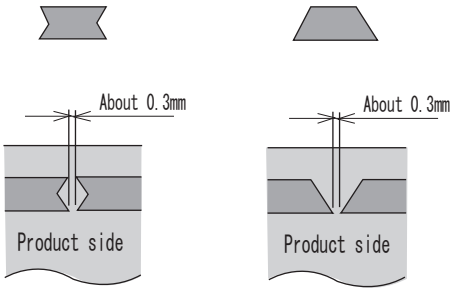
CORNER JOINT



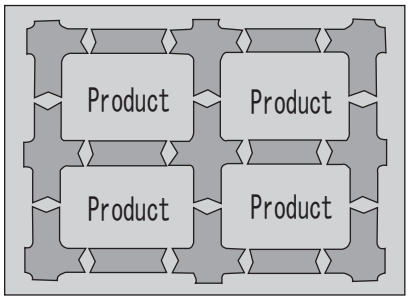
Joint of corner part



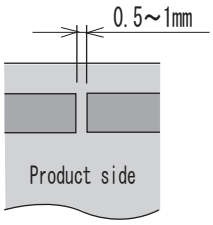
MICRO JOINT



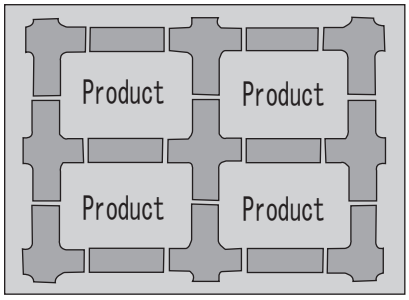
Joint of straight part



WIRE JOINT



Joint of straight part



CORNER ROUNDING

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