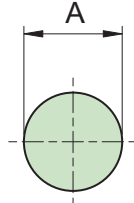
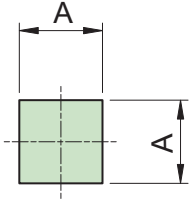
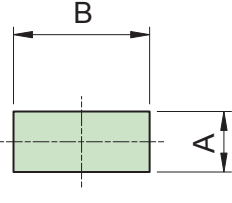
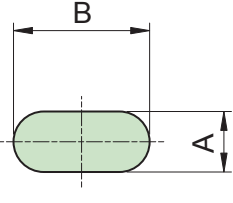


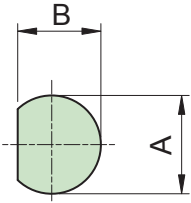
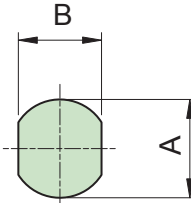
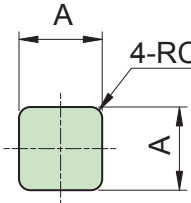
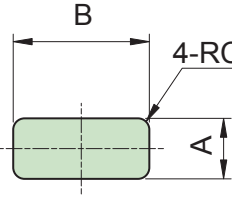
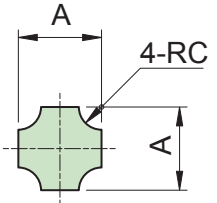
## THE ORDERING GUIDE 1

This time, we summarized the instructions and precautions when ordering tools.

### HOW TO INSTRUCT SHAPE AND DIMENSIONS

Please specify the tool shape and dimensions based on the following punch shape and dimensions table. Also, for shapes other than those shown in the table below, please specify with a drawing attached.

Punch shape	Round (RO)	Square (SQ)	Rectangle (RE)	Obround (OB)
Figure of punch shape				
Way to instruct	$\phi A$	A x A	A x B	A x B
Example	$\phi 10$	10 x 10	5 x 20	5 x 20

SD	WD	Square with radius	Rectangle with radius	CN-42
				
$\phi A \times B$	$\phi A \times B$	A x A R=C	A x B R=C	A x A R=C
$\phi 20 \times 16$	$\phi 20 \times 16$	10 x 10 R=2	6 x 20 R=1.5	10 x 10 R=4

Example instruction for ordering

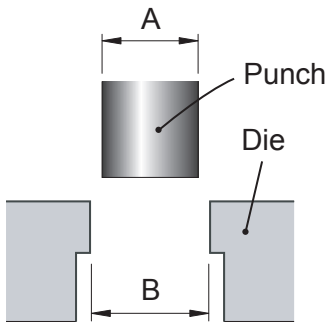
RE with radius  
(Punch shape)

6x20 R=1.5  
(size)



# THE ORDERING GUIDE 1

## HOW TO INSTRUCT THE CLEARANCE



When specifying the clearance of the die, please indicate whether it is a clearance on **both side** or **one side**. Or you can also specify dimensions **with clearance**.

Name of clearance	Detail
Both side	$B - A$
Single side	$(B - A) \div 2$
Clearance included	B dimension

(Notice)

For standard clearances, the nominal dimension is the dimension of the punch, but in the case of the blank type (minus clearance), the nominal dimension is the dimension of the die.

	Dimension description	Punch dimension	Die dimension
Clearance for both side	$\phi 20 \ C=0.3$	$\phi 20$	$\phi 20.3$
Minus clearance	$\phi 20 \ \text{minus } C=0.3$	$\phi 19.7$	$\phi 20$

## [Reference] METHOD FOR MEASURING CLEARANCE

Please calculate the clearance referring to the table below.

Clearance for both side = material thickness x clearance ratio

(Notice)

1. The shear resistance should be about 80% of the tensile strength.
2. For thick plates (exceeding t3.2), use the above calculation result  $\times 1.4$  as a guide.
3. The minimum clearance is determined by the machine specification.
4. Please also refer to Technical Guide Vol.6 "For clearance of the cutting die".

Material	Clearance ratio		Tensile strength (N / mm <sup>2</sup> )
	Serco Press (EM,AE etc)	Mechanical Press (Pega,Coma etc)	
Cold rolled steel	0.2 - 0.25	0.15	Over 270
Hot rolled steel			400 - 510
Structure steel	0.25 - 0.3	0.2	Over 520
Stainless steel (soft)			Over 450
Stainless steel (hard)	0.15 - 0.2	0.1	Over 95
Aluminum (soft)			Over 215
Aluminum (hard)	0.2 - 0.25	0.15	Over 275
Copper (soft)			Over 410
Brass (soft)	0.2 - 0.3	0.2	Over 590
Brass (hard)			Over 590

For More information,  
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