

HOW TO DRAW AND READ DRAWINGS

When working on machining, you always have to use the drawings. Proper viewing and drawing of drawings is important for conveying information accurately. This time, we summarized how to draw and read the drawings.

DESCRIPTION AND NAMES OF THE DRAWING LINES

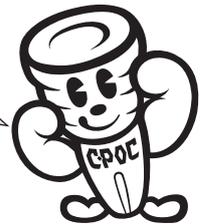
◆ There are the following four types of lines depending on the shape.

- Solid line  Continuous line
- Dashed line  A line in which short lines are repeated at regular intervals.
- Chain line  A line in which two long and short lines are alternately repeated.
- Chain double-dashed line  A line in which two types of length are repeated in the order of long, short, short, long, short, short.

◆ There are three types of lines depending on the thickness.

- Narrow line 
- Thick line 
- Extra thick line 

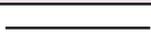
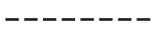
In the same drawing, make the line thickness uniform for each line type.



The ratio of the thickness of the thin line, thick line, and extra-thick line is 1: 2: 4.

THE USERS OF LINE

Use different types of lines depending on the purpose. The main uses according to the type of line are as follows.

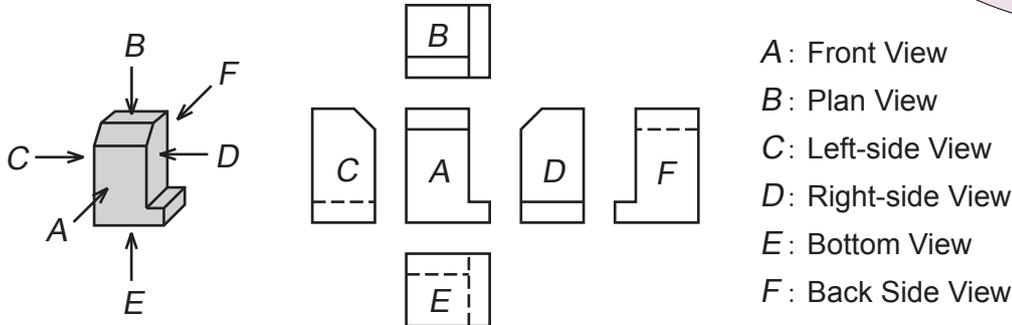
Line Style	Name by Use	The Uses of Line
Thick solid line 	Outline	It is used for represent the shape of the visible part of the object.
Thin solid line 	Dimension line Extension line Leader line	It is used for writing dimensions. It is used to draw from a figure to fill in dimensions. It is used for drawing out descriptions and symbols.
Thin dashed line  Or Thick dashed line 	Hidden Outline	It is used for represent the shape of the invisible part of the object.
Thin Chain line 	Center line Reference line Pitch line	It is used for represent the center of the figure. In particular, it is used to clearly indicate the basis of position determination. A reference line that takes the pitch of repeated figures.
Thin Chain double-dashed line 	Imaginary line	It is used to display information that is not actually there for reference.
Thin wave line 	Break line	A line representing the boundary when a part of an object is temporarily removed.
Thin chain line with the part which changes of direction 	Cutting line	When drawing a sectional view, it is used to show the cutting position in the corresponding figure.
Thin solid line with Draw regularly 	Hatching	It is used to distinguish a specific part of a figure from other parts. For example, the cut end of a sectional view is shown.

HOW TO DRAW AND READ DRAWING (BASIC)

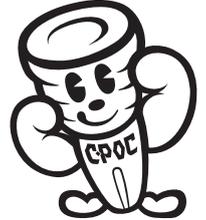
TRIGONOMETRY

In general, mechanical drawings are drawn by trigonometry.

Based on the front view
View from right side draws on the right
View from left side draws on the left
View from the top draws above
View from the bottom draws below
This is the basic!



Correct placement drawn with trigonometry



SYMBOL FOR DIMENSIONING USED IN DRAWING

In drafting, use a dimension symbol to clarify the meaning of the dimension by adding it to the numerical value representing the dimension.

The main dimension auxiliary symbols are as follows.

Description of numerical value	Symbol	Purpose of use
Diameter	φ	Put it before diameter dimension
Radius	R	Put it before radius dimension
Diameter of Sphere	$S\varphi$	Put it before diameter of sphere dimension
Radius of Sphere	SR	Put it before radius of sphere dimension
Sides of Square	\square	Put it before dimension of a side of square
Thickness of Material	t	Put it before thickness of material dimension
45 degs Chamfering	C	Put it before 45 degs chamfering dimension

Symbol for dimensioning represent the shape.



Example of use

Diameter	Radius	Diameter of Sphere	Radius of Sphere	Sides of Square	Thickness of material	45 degs chamfering

This time we explained the terminology, but next time, we will summarize the points to note when actually drawing and points to draw easy-to-view drawings.

For More information, please contact CONIC tool sales desk.

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