

TECHNICAL DRAWING

# Chapter VI : Dimensioning

Lines – Leader Lines – Methods – Holes & Arcs

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ENP

May 20, 2026

- 1 Introduction
- 2 Dimensioning Components
- 3 Dimensioning Methods

Section 1

# Introduction

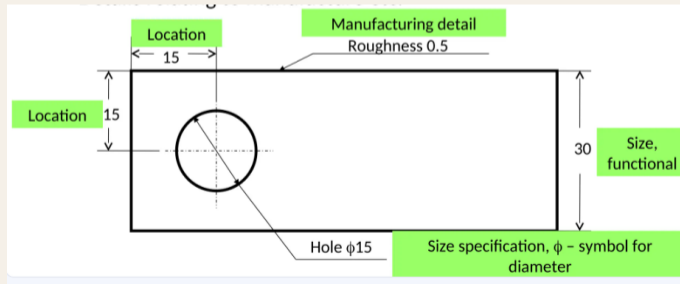
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- 1
- 2 Dimensioning Components
- 3 Dimensioning Methods

1

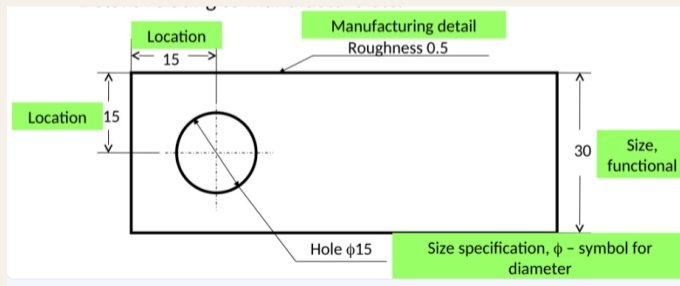
Dimensioning provides information about

- ▶ Distances — size functional dimensions.



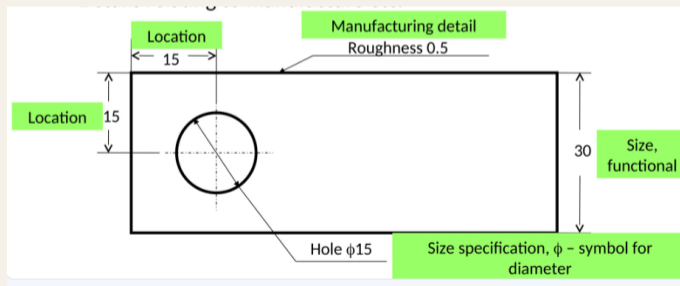
Dimensioning provides information about

- ▶ Distances — **size functional dimensions**.
- ▶ Sizes and positions of holes, grooves and other features — **location or datum dimensions**.



### Dimensioning provides information about

- ▶ Distances — **size functional dimensions**.
- ▶ Sizes and positions of holes, grooves and other features — **location or datum dimensions**.
- ▶ Details relating to manufacture and other specifications.



Section 2

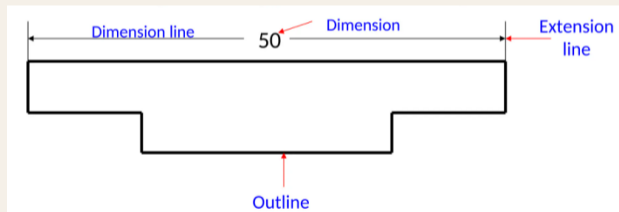
# Dimensioning Components

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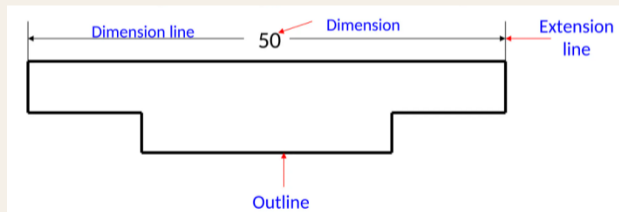
- ① Introduction
- ②
- ③ Dimensioning Methods

2

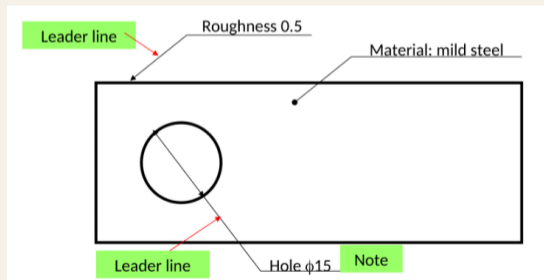
- **Dimension lines** indicate the length of the dimension.



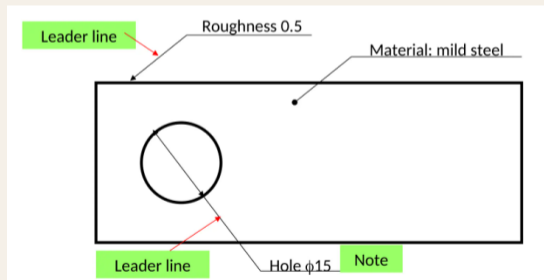
- ▶ **Dimension lines** indicate the length of the dimension.
- ▶ **Extension lines** are thin lines used to establish the extent of a dimension.



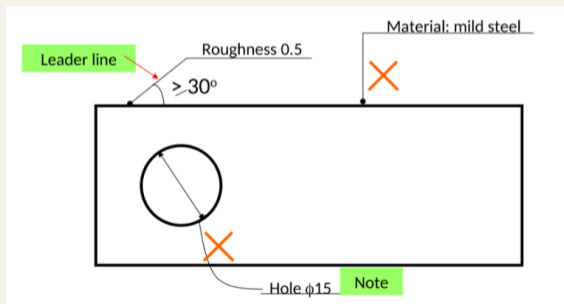
- ▶ A **leader line** is a thin line used to connect a specific note to a feature on the drawing.



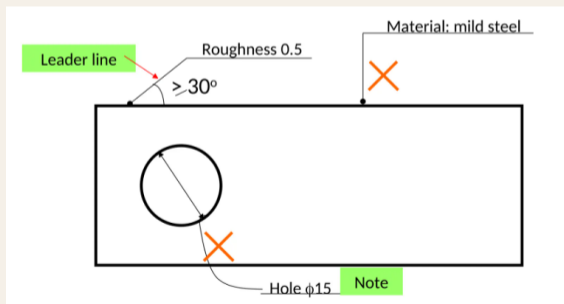
- ▶ A **leader line** is a thin line used to connect a specific note to a feature on the drawing.
- ▶ The **arrowhead** touches the outline, while the dot is placed within the object or on the outline.



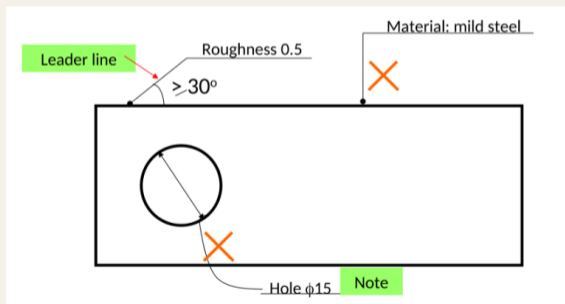
- ▶ A leader line is **never** drawn horizontal, vertical or curved.



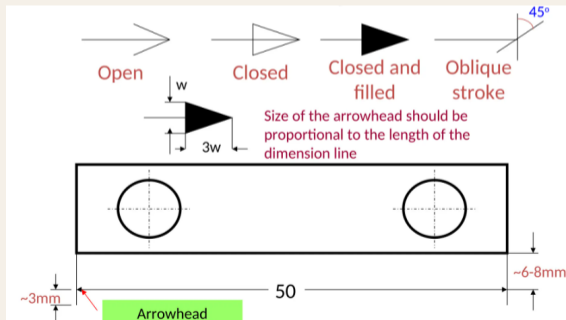
- ▶ A leader line is **never** drawn horizontal, vertical or curved.
- ▶ It is drawn at an angle of not less than  $30^\circ$  to the line that it touches.



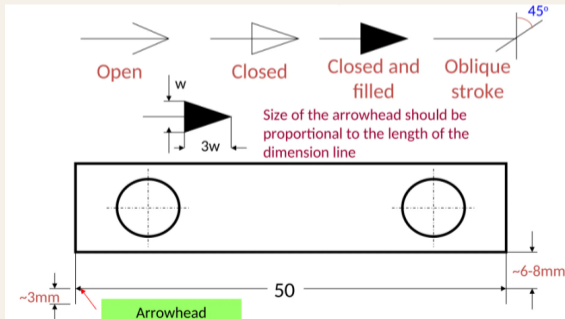
- ▶ A leader line is **never** drawn horizontal, vertical or curved.
- ▶ It is drawn at an angle of not less than  $30^\circ$  to the line that it touches.
- ▶ When pointing to a circle or arc, it is drawn **radially**.



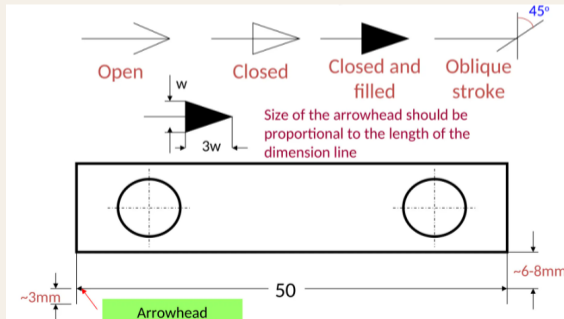
- ▶ A dimension line is placed at least **6–8 mm** away from an outline and from each other.



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- ▶ An extension line extends **3 mm** beyond a dimension line.

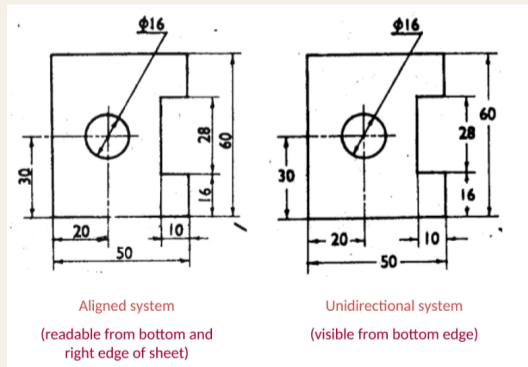


- ▶ A dimension line is placed at least **6–8 mm** away from an outline and from each other.
- ▶ An extension line extends **3 mm** beyond a dimension line.
- ▶ An **arrowhead** is placed at each end of a dimension line; its pointed end touches an outline, extension line, or centerline. It is also placed at the end of a leader line.



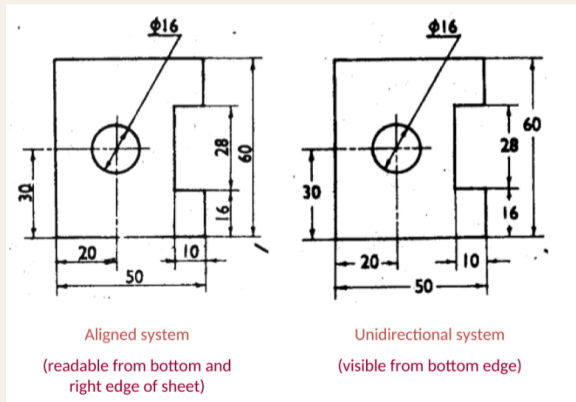
### Aligned Dimensioning

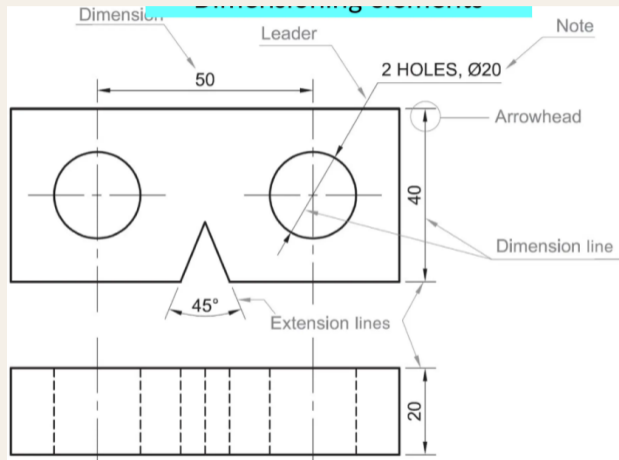
All numerals, figures, and notes are **aligned with the dimension lines**: read from the **bottom** for horizontal dimensions and from the **right side** for vertical dimensions. Commonly used in architectural and structural drafting.

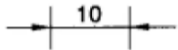
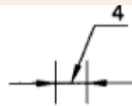


### Unidirectional Dimensioning

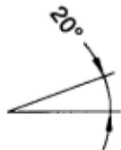
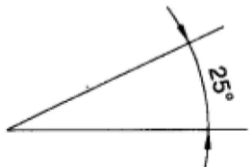
All numerals, figures, and notes are lettered **horizontally** and read from the **bottom** of the drawing sheet. Commonly used in **mechanical drafting** for manufacturing.





Within extension  
linesOutside extension  
lines

With leader



Section 3

# Dimensioning Methods

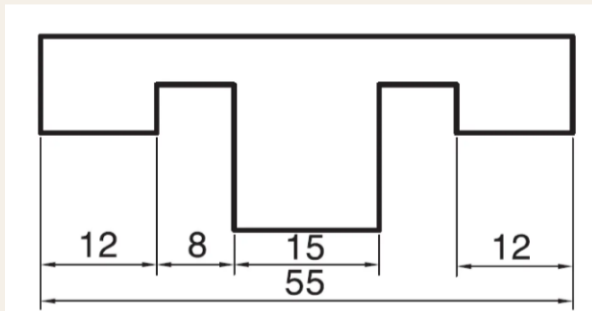
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- 1 Introduction
- 2 Dimensioning Components
- 3

3

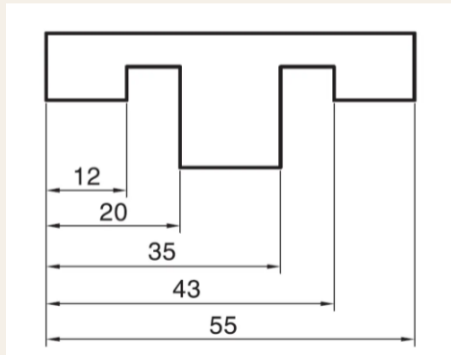
**Chain Dimensioning**

Also known as **point-to-point dimensioning** — dimensions are given from one feature to the next. Each dimension is **dependent** on the previous dimension(s).



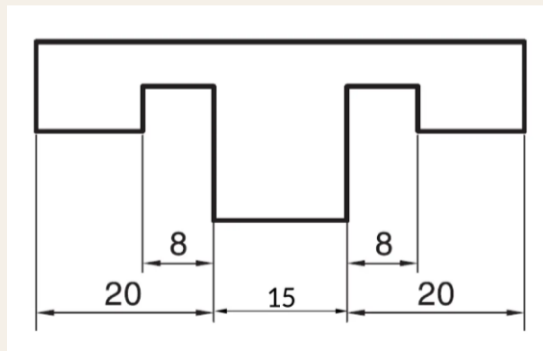
**Baseline Dimensioning**

Each feature dimension originates from a **common surface, axis, or center plane**. Each dimension is **independent**. Commonly used for machine parts.

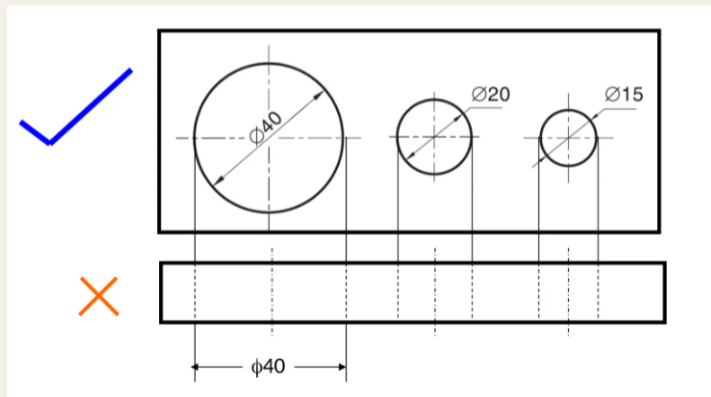


**Combined Dimensioning**

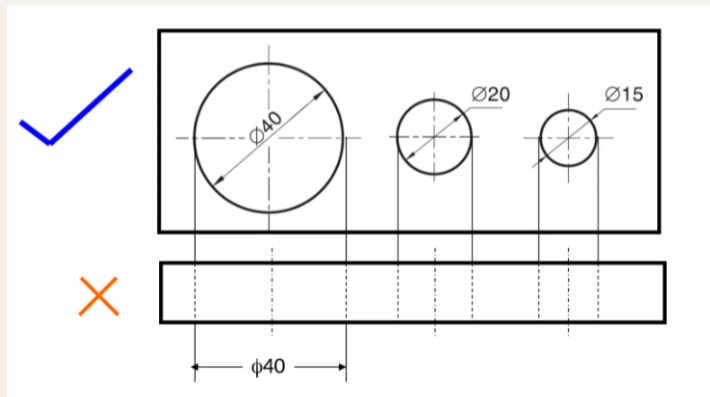
When both **chain** and **baseline** methods are used on the same drawing, the result is called **combined dimensioning**.



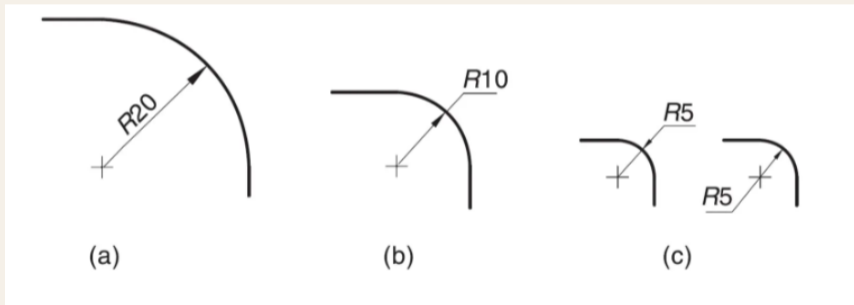
- ▶ A hole is dimensioned by giving its **diameter**, not its radius. The diameter symbol  $\phi$  precedes the dimension value.

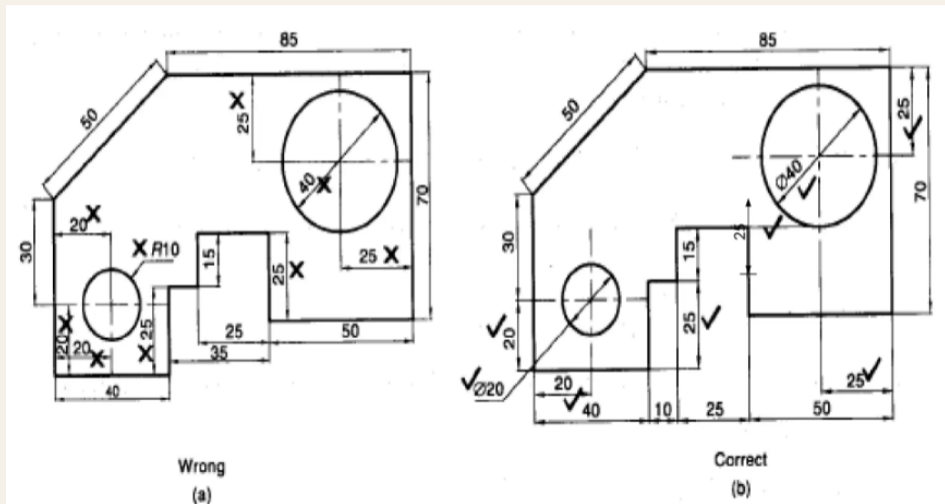


- ▶ A hole is dimensioned by giving its **diameter**, not its radius. The diameter symbol  $\phi$  precedes the dimension value.
- ▶ Holes should be dimensioned in the view where they appear as **circles**.



An arc is dimensioned by giving its **radius**. The radius symbol  $R$  precedes the dimension value.





Wrong  
(a)

Correct  
(b)

**Thank you for your attention.**

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