

How to Read Drawings [For Beginners]

Drawings should be understood as the **finished product**, not just as **numbers**!

The first step to **prevent mistakes** is confirming the drawings.

1 Check the drawing number and part name

- Check the drawing number
- Check the latest version

Why?

To avoid making or asking about the wrong part

Drawing No.
ABC-12345

Part Name
Chamber ASSY
(Assembly)

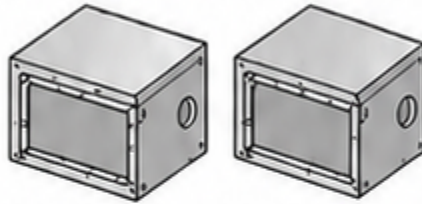
2 Check materials and quantities

- Check that the material is as specified
- Check that the quantity is correct

Why?

To avoid making or asking about the wrong material or quantity

Material	Quantity
SUS304	2 pcs

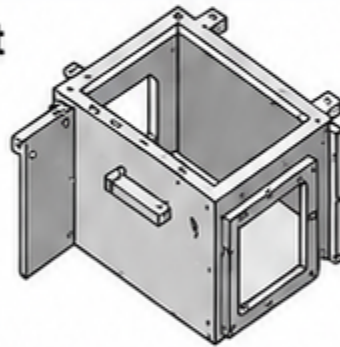


3 Visualize the finished product

- Picture the overall shape
- Check mounting positions and orientations

Why?

If you cannot picture the shape, you cannot make or assemble it.



4 Check the overall dimensions and weight

- Check overall dimensions
- Check weight

Why?

To plan handling, crane use, and shipping methods



Overall (L)	1200
Overall (W)	800
Overall (H)	900
Weight	250kg

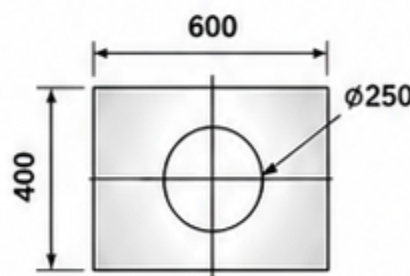


5 Check each dimension

- Do not overlook important dimensions
- Understand from reference dimensions as well

Why?

Missing dimensions can lead to rework or delays.



11 Mark completed items on the checklist

- Check each item
- Double-check with the checklist

Why?

Prevents mistakes and omissions.



12 Drawing Inspection Checklist (Do a double-check)

- | | | |
|--|---|--|
| ☐ Drawing No. & Part Name | ☐ Each Dimension | ☐ Surface Finish & Processing |
| ☐ Material & Quantity | ☐ Tolerances | ☐ Special Notes & Precautions |
| ☐ Finished Shape (Image) | ☐ Welding Instructions | ☐ Check Complete |
| ☐ Overall Dimensions & Weight | ☐ Thickness | |

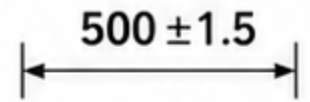
6 Check dimensional tolerances

Example: Tolerance notation

- Check the tolerance range
- Do not ignore $\pm$ values

Why?

If you exceed the tolerance, the part may not function.



Types of Tolerances

	Types of Tolerances
$\pm$	Bilateral tolerance
+	Unilateral tolerance (plus side)
-	Unilateral tolerance (minus side)

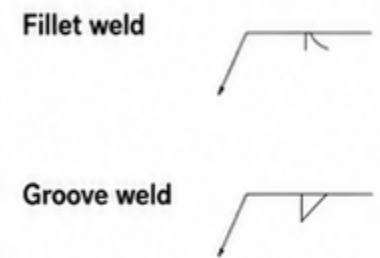
7 Check welding instructions

Example: Welding symbol

- Welding method (TIG, MIG, etc.)
- Weld size, pitch, and length
- Weld all around / one side only

Why?

Incorrect welding can cause strength issues or welding defects.



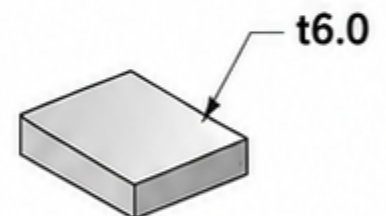
8 Check material thickness

Example: Thickness notation

- Check the thickness notation
- Thickness may vary by part

Why?

The wrong thickness can cause strength problems or welding defects.



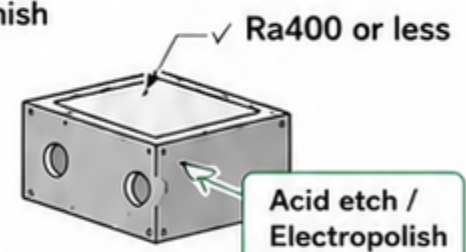
9 Check surface treatment and finish

Example: Surface finish notation

- Check surface treatment and finish
- Check holes, threads, etc.

Why?

If finishing is missed, it can cause quality issues.



10 Check special notes and precautions

Example: Note notation

- Follow notes and additional instructions
- Understand key points to avoid mistakes

Why?

Ignoring notes can cause issues on site or rework.

Chamfers are C2 on all four corners.



Points to remember

- First, picture the completed shape.
- Next, check the numbers.
- Then, confirm the process and cautions.
- Confirming in this order reduces mistakes and rework!



Be sure to check if you're not sure!

Don't guess or assume.
Ask before proceeding to prevent problems!

