



Installation instructions
T piece for sensors with G $\frac{1}{2}$ hygienic fitting

E43316

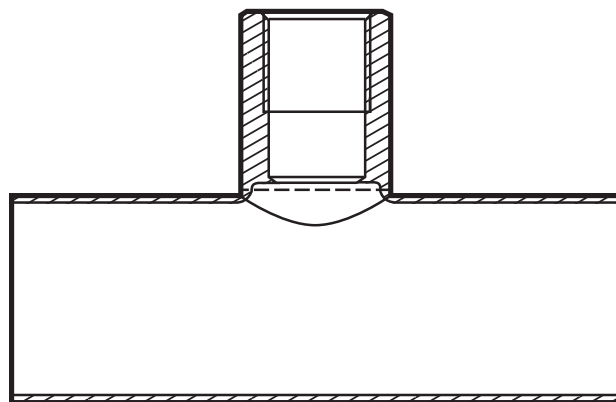
E43317

E43318

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1 Preliminary note

1.1 Symbols used

- ▶ Instruction
- > Reaction, result
- [...] Designation of keys, buttons or indications
- Cross-reference



Important note

Non-compliance may result in malfunction or interference.



Information

Supplementary note



CAUTION

Warning of personal injury.

> Slight reversible injuries may result.

2 Safety instructions

- The device described is a subcomponent for integration into a system.
 - The manufacturer is responsible for the safety of the system.
 - The system manufacturer undertakes to perform a risk assessment and to create a documentation in accordance with legal and normative requirements to be provided to the operator and user of the system. This documentation must contain all necessary information and safety instructions for the operator, the user and, if applicable, for any service personnel authorised by the manufacturer of the system.
- Read this document before setting up the product and keep it during the entire service life.
- The product must be suitable for the corresponding applications and environmental conditions without any restrictions.
- Only use the product for its intended purpose (→ Functions and features).
- Only use the product for permissible media (→ Technical data).
- If the operating instructions or the technical data are not adhered to, personal injury and/or damage to property may occur.
- The manufacturer assumes no liability or warranty for any consequences caused by tampering with the product or incorrect use by the operator.
- Installation, set-up and maintenance of the product must be carried out by personnel qualified and authorised for the respective activity.
- Protect units against damage.

3 Functions and features

The T piece simplifies the installation of sensors with a G $\frac{1}{2}$ hygienic fitting in existing pipe systems. Using it ensures a hygienic integration of the corresponding sensor. At the same time the required welding operation is reduced to orbital welding at the two pipe ends.



To avoid malfunction and damage of the corresponding sensor: The probe length must be much smaller than the pipe diameter! Also note:

- The available pipe cross-section is restricted by the probe of the installed sensor.
- Minimum distances (see operating instructions of the installed unit).



Pressure Equipment Directive (PED): The T pieces comply with the Pressure Equipment Directive and are designed and manufactured for group 2 fluids in accordance with the sound engineering practice.

3.1 Basic notes



For use in hygienic areas: Adhere to the applicable EHEDG guideline and the documentation of the respective sensor.



The T pieces are approved to the Pressure Equipment Directive (PED) for the following maximum operating pressures:

- DN25 (order no. E43316): max. 40 bar
- DN40 (order no. E43317): max. 25 bar
- DN50 (order no. E43318): max. 20 bar



- The welding operation must be carried out by authorised personnel.
- It must be carried out carefully and according to state-of-the-art technology.
- During welding and the following cooling phase the sensor must not be in place.
- The surfaces must be free from any soiling.
- Welding materials must be suitable for the adapter and wall material.

4 Installation



CAUTION!

During the welding operation, the adapter can increase in temperature to over 65 °C (149 °F).

- > Risk of burns.
- ▶ Let the adapter cool down.

4.1 Preparations



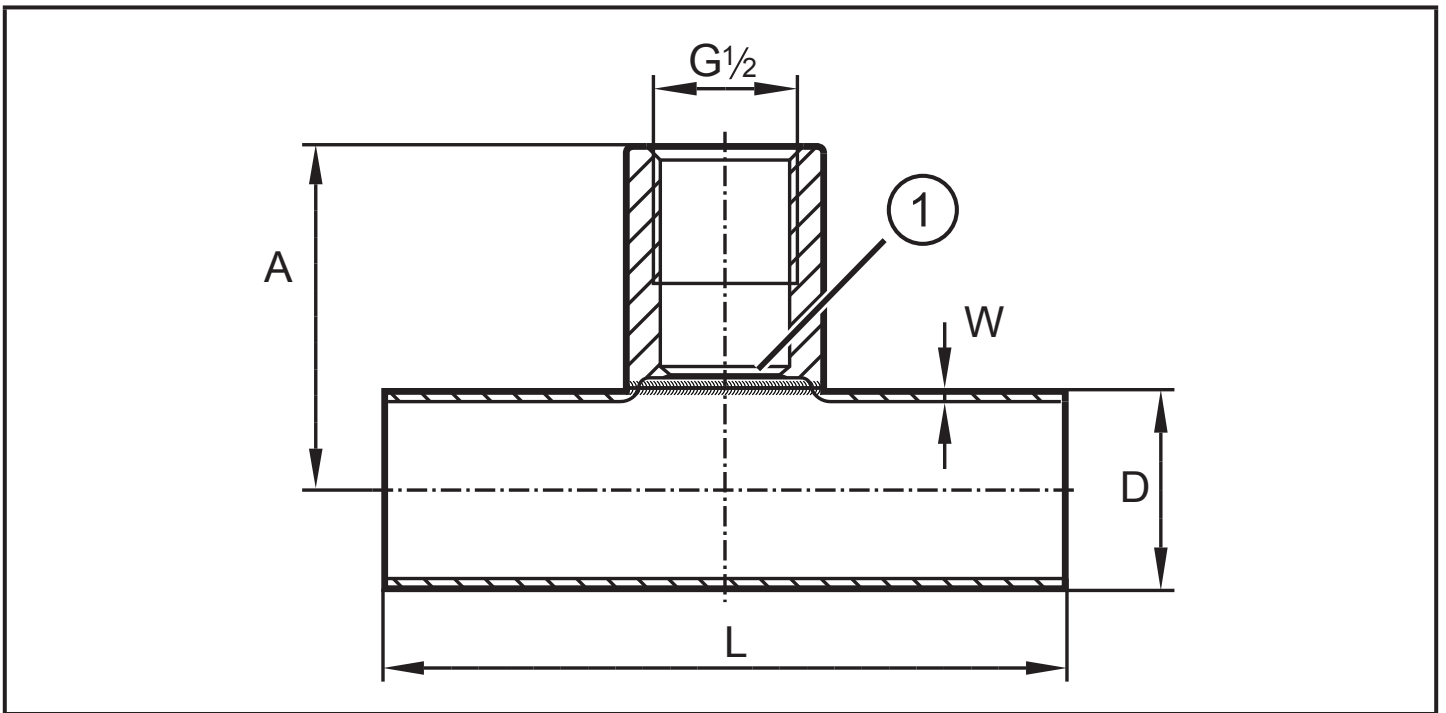
The pipe ends are prepared for orbital welding.

- ▶ Remove protective covers.
- ▶ Check for rectangularity, freedom from burrs and chamfers.
- ▶ The T piece must be free from any soiling and damage.
- ▶ In case of hygienic requirements take the appropriate measures to obtain a hygienic weld seam such as exact alignment of the pipe ends
- ▶ If possible, screw a welding mandrel (order no. E43314) into the adapter which provides optimum heat dissipation and protection of the sealing edge.

4.2 Welding operation



- The power of the welding device must be adapted to the thickness of the wall.
- In case of hygienic requirements take the appropriate measures to obtain a hygienic weld seam, in particular:
 - choice of the suitable welding method,
 - selection of the suitable welding parameters, etc.
- The sealing edge of the adapter (see position number 1 in the drawing below) must not be damaged by weld spatter or similar.



1: sealing edge

DN	A	L	D	W
25	52.5 (± 0.6)	100 (± 0.5)	29 (± 0.12)	1.5 (± 0.1)
40	59.5 (± 0.6)	120 (± 0.5)	41 (± 0.15)	1.5 (± 0.1)
50	66.5 (± 0.6)	140 (± 0.5)	53 (± 0.25)	1.5 (± 0.1)



All dimensions in the drawing above in mm, tolerance indications in brackets.

4.3 After welding

- ▶ Let the adapter cool down.
- ▶ For hygienic applications: Check the quality of the weld seam. It must meet the applicable requirements for a hygienic weld seam, in particular:
 - full weld penetration
 - no annealing colours / gaps / cracks / porosities
 - no increased surface roughness
 - no protruding outwards
 - no sagging inwards
 - no inclusions
- ▶ If used: remove the welding mandrel.
- ▶ The thread and sealing edge must be free from welding slag.



If the sealing edge of the adapter is damaged, the adapter can no longer be used. In this case:

- ▶ Remove the adapter and weld in a new one.

4.4 Installation of a sensor



For fitting the sensor a lubricating paste is needed. It must be suitable for the given application, approved and compatible with the elastomers used (e.g. seal).

- ▶ Observe the notes on installation in the operating instructions of the sensor.
- ▶ Installation must be carried out by qualified staff.
- ▶ Ensure cleanliness of the sealing areas.
- ▶ Remove protective packaging only just before mounting.

- ▶ Screw the unit into the adapter until it is hand-tight.
Avoid damage to the sealing areas.



If the unit can only be screwed into the thread with great resistance, do not force but:

- ▶ Remove the adapter and weld in a new one.
- ▶ Tighten the unit using a spanner.

On the tightening torque → operating instructions of the unit screwed in.



Too much torque may impair the seal.

4.5 Orientation of the cable entry for angular connectors

The marking (arrow) on the adapter indicates the position at which the cable entry of the screwed sensor is.



Also applies to sensors with PEEK tip or PEEK seal on delivery (→ operating instructions of the sensor).

If the PEEK seal is removed to seal against a metal surface (→ operating instructions of the sensor), the sensor continues to rotate by approx. 90° until the end stop has been reached.

5 Operation

Before set-up:

- ▶ Check the tank or pipe for ingress resistance.
- ▶ Set-up of the sensor: → Operating instructions of the sensor.

More information at www.ifm.com

