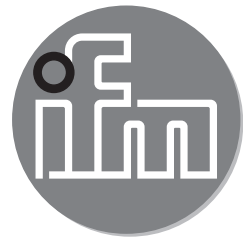


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Installation instructions  
Welding adapters for units with  
G $\frac{1}{2}$  hygienic fitting



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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

## 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.

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## 3 Functions and features

The welding adapter allows the hygienic installation of sensors with G $\frac{1}{2}$  hygienic fitting in tanks or piping systems.



When mounted in restricted spaces: Adhere to the minimum distances as indicated in the operating instructions of the sensor to avoid malfunction and damage to the sensor.

### 3.1 Basic notes



When used in hygienic areas to EHEDG and 3A:

- ▶ Adhere to the applicable EHEDG and 3A directives.
- ▶ Assure EHEDG-compliant or 3A-compliant integration of the adapter in the plant (therefore observe the respective notes in the operating instructions of the sensor to be used).



Tanks are often treated after adapters have been welded in (e.g. grinding, pickling, sand-blasting, glass bead blasting or applying procedures such as powder coating, painting etc.). If during this process the adapter thread or the sealing edge is also post-treated, this will lead to damage and therefore leakage of the adapter:

- ▶ Therefore make sure that the interior and the sealing edge of the adapter are not post-treated or damaged. Appropriate measures: Use of the welding mandrel (→ 4.1) or masking of the zone to be protected.



- 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 contamination.
- Welding tools 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

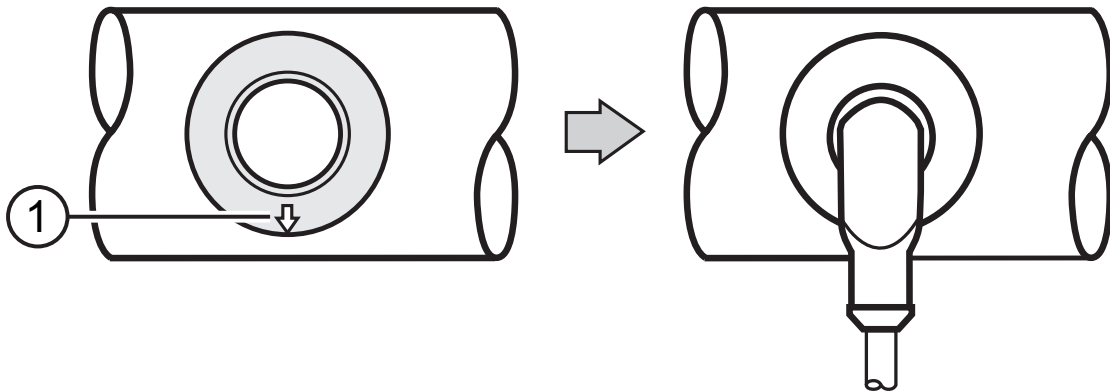
- ▶ Bore a hole in the pipe or housing wall with the outside diameter of the adapter (max. welding gap: 0.2 mm).
- ▶ If possible, screw a welding mandrel (for optimum heat dissipation and protection of the sealing edge) into the adapter, order no. E43314.

## 4.2 Welding operation



- The welding method must be selected according to the welding task, the performance of the welding device must be adapted to the material thickness.
- The adapter must not warp.
- Avoid overheating of the adapter during welding and adhere to appropriate cooling periods.
- The sealing edge of the adapter must not be damaged by weld spatter or similar. Protect the sealing edge sufficiently before starting the welding process (→ 3.1).

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Adapter with defined initial thread position:

- ▶ Turn the marking (1) to the position provided for the cable outlet (angular connector) of the screwed sensor.

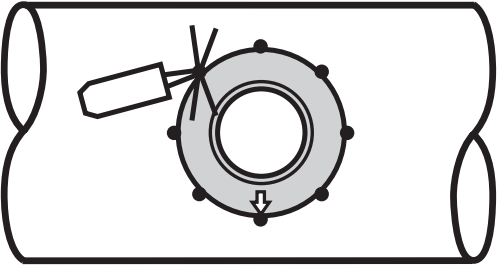
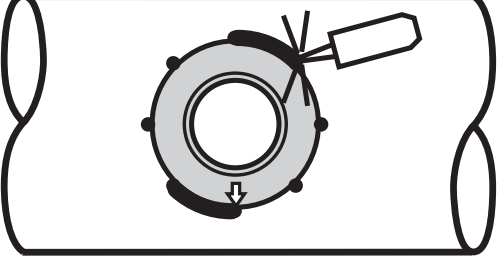


This also applies to sensors with PEEK tip or PEEK seal on delivery → Operating instructions of the sensor.

If the PEEK seal is removed for a metal-to-metal seal ( → Operating instructions of the sensor), the sensors turns another 90° until the end stop has been reached. In this case, the second mark (visible as a "point") is decisive for alignment.

Adapter with leakage ports according to 3A:

- ▶ For reliable draining, align the adapter with only 1 leakage port so that the leakage port is located at the lowest possible point.

	<p>► Fix the adapter in several spots with a sufficient adhesive force; apply the fixing points at equal distance opposite each other.</p>
	<p>► Apply the welding seams between the fixing points opposite each other. Ensure sufficient intervals between the individual sections (cooling phases to avoid glowing through / warping of the adapter due to overheating).</p>

### 4.3 After welding

- Let the adapter cool down.
- The thread and sealing edge must be free from welding slag.
- If used: remove the welding mandrel.



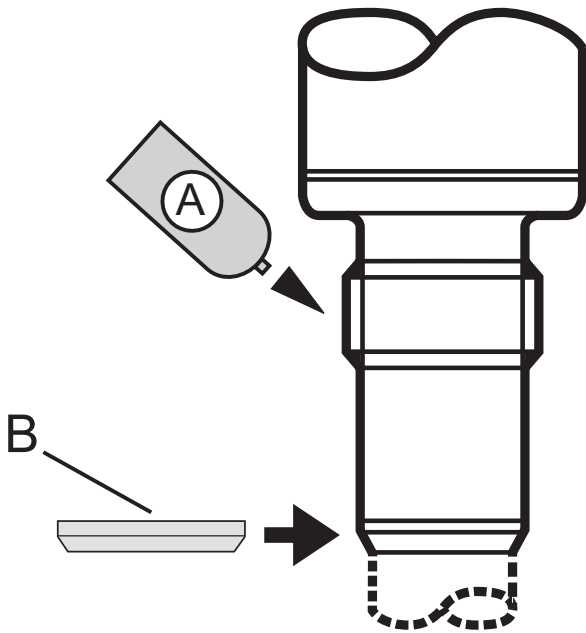
If the sealing edge of the adapter is damaged, the adapter can no longer be used (remove the adapter and weld in a new one).

### 4.4 Installation of a sensor



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

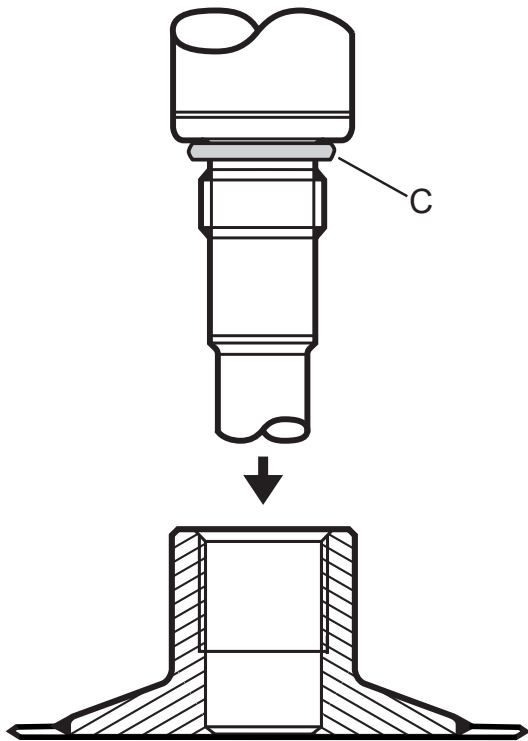
- Observe the notes on installation in the operating instructions of the sensor.
- Installation must be carried out by qualified staff.
- Ensure cleanliness of the sealing areas.
- Remove protective packaging only just before mounting.
- If the sealing areas are damaged: replace the adapter.



- ▶ Lightly grease the thread of the sensor using a lubricating paste (A).

For requirements to 3A/EHEDG

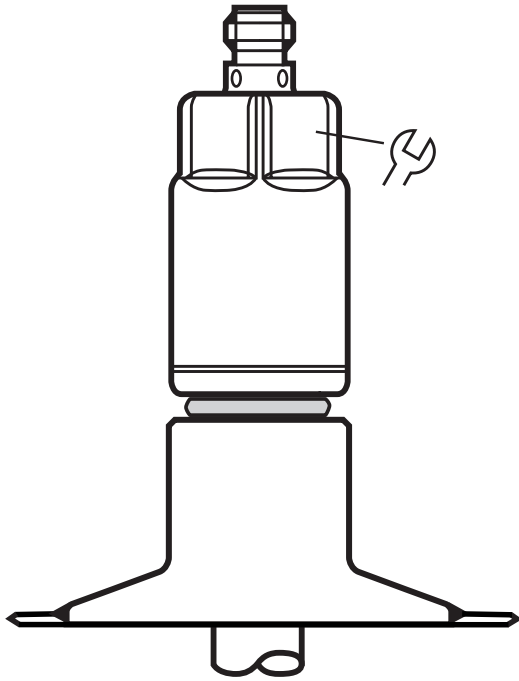
- ▶ Use appropriate process seals (B), if required. → Operating instructions of the sensor.



- ▶ The sealing between the housing and the process connection (C) is not suited for applications subjected to pressure.

When pressure is applied:

- ▶ Use suitable seals → Operating instructions of the sensor.
- ▶ Screw the sensor into the adapter until it is hand-tight.
- ▶ Neither damage the seals nor the sealing areas.



- ▶ Tighten the sensor using a spanner (tightening torque: → Operating instructions of the sensor).

## 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](http://www.ifm.com)