



Operating instructions

Welding adapter Aseptoflex Vario with collar for necks

GB

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1 Preliminary note

You will find instructions, technical data, approvals and further information using the QR code on the unit / packaging or at documentation.ifm.com.

1.1 Symbols used

- ✓ Requirement
- Instructions
- ▷ Reaction, result
- [...] Designation of keys, buttons or indications
- Cross-reference
-  Important note
Non-compliance may result in malfunction or interference.
-  Information
Supplementary note

1.2 Warnings

Warnings indicate the possibility of personal injury and damage to property. This enables safe product handling. Warnings are graded as follows:



WARNING

Warning of serious personal injury

- ▷ If the warning is not observed, fatal and serious injuries are possible.



CAUTION

Warning of minor to moderate personal injury

- ▷ If the warning is not observed, minor to moderate injuries are possible.

ATTENTION

Warning of damage to property

- ▷ If the warning is not observed, damage to property is possible.

2 Safety instructions

- The unit described is a subcomponent for integration into a system.
 - The system architect is responsible for the safety of the system.
 - The system architect undertakes to perform a risk assessment and to create 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 architect 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 (→ Intended use).
- 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, operation and maintenance of the product must be carried out by qualified personnel authorised by the machine operator.
- The welding operation must be carried out by authorised personnel.
- The welding operation must be carried out carefully and according to state-of-the-art technology.
- During the welding process, ensure sufficient fume extraction.
- When using water cooling in a welding process, make sure that the coolant does not come to a standstill to prevent it from overheating.
- The cooling must not lead to the formation of condensate on the surface of the welding adapter, otherwise the welding process will be impeded.
- When using a cooling adapter during the welding process, make sure that the coolant does not overheat.
- Protect the product against damage.
- Store the product in its original packaging.

3 Intended use

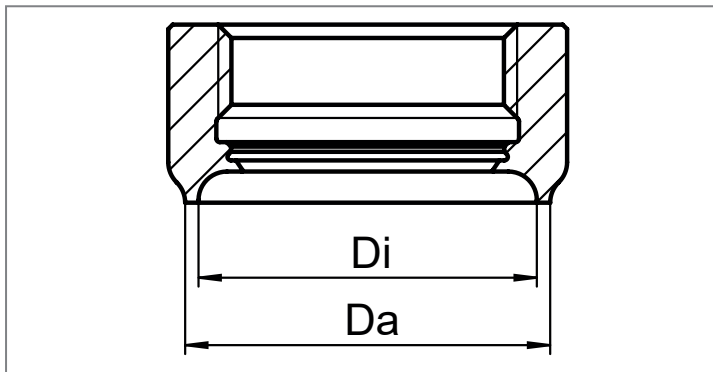


Fig. 1: Welding adapter

Di: Diameter internal

Da: Diameter external

Use on a T-piece:

The welding adapter with collar is suitable for a welded connection with an equally dimensioned pull-out on T-pieces (→ data sheet).



The internal diameter of the main line D_H must be at least the internal diameter D_i of the welding adapter.

The internal diameter D_H can also be larger if the pull-out remains the same size as the welding adapter.

Due to the transition to the sealing edge, the adapter is very easily accessible for cleaning despite the small recess to the inner wall of the pipe in the T-piece.

The distance between the surface (1) of the sensor and the inner wall of the main pipe should not exceed the diameter (2) of the pull-out in order to ensure cleaning in accordance with the applicable hygiene principles.

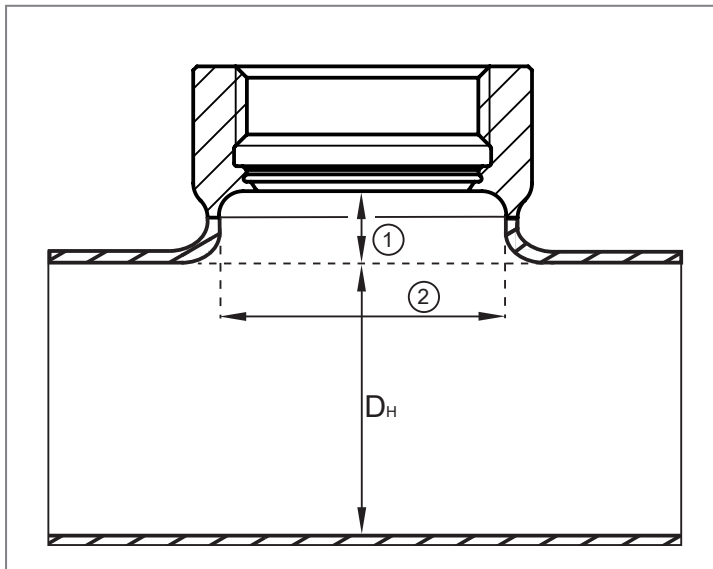


Fig. 2: Welding adapter on a T-piece

1: Distance between sensor and inner wall of main pipe

2: Internal diameter of pull-out T-piece

D_H : Internal diameter of the main pipe

3.1 Basic notes



The installation position of the welding adapter must be selected in such a way that the draining of the medium (drainage) due to gravity is ensured.



The welding operation must be carried out by authorised personnel.

The welding operation 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.

A welding aid or cooling adapter must be used during welding.

The surfaces must be free from any contamination.

Welding materials must be suitable for the adapter and wall material.

- ▶ The requirements in the specifications, of common practice, in regulations, norms, of intended use and the application must be applied.
- ▷ They determine the welding procedure, the welding material, the connection category and connection type, including chamfer, welding penetration depth or possible or required weld penetration and demands on the surface.



Use in hygienic areas according to 3A®:

Adhere to the applicable 3A® guidelines.

Assure 3A®-compliant integration of the adapter in the plant (observe the respective notes in the operating instructions of the sensor to be used).



Use in hygienic areas to EHEDG:

Adhere to the applicable EHEDG guidelines.

Assure EHEDG-compliant integration of the adapter in the plant (observe the respective notes in the operating instructions of the sensor to be used).

The food contact surface must be smooth (surface roughness $R_a < 0.8 \mu\text{m}$) and the welding has to be done according to EHEDG guidelines 9 and 35.

A self-draining installation must be used.

4 Installation



Observe and adhere to state-of-the-art technology and applicable regulations during the welding process.



Carefully read and apply the operating instructions of all components used.

ATTENTION

Dangers to the plant and the environment during welding operations and rework.

► Consider possible dangers and adhere to applicable regulations and guidelines.



CAUTION

During the welding process, the adapter, the surrounding material and the welding aid can increase in temperature to over 65 °C (149 °F).

▷ Risk of burns.

► Allow all components to cool down.



WARNING

Danger to persons during welding processes and rework.

► Consider possible dangers and adhere to applicable regulations and guidelines.

4.1 Preparation welding adapter and wall



Be careful when working on the adapter.

► Exclude any damage to the sealing contour on the adapter.



These specifications are only recommendations, unless product specifications and / or welding specifications from welding engineers are available.

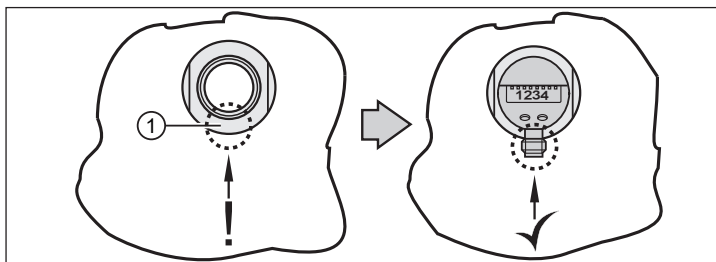
► Depending on the welding applications, chamfers are to be applied to the sheet and / or the welding adapter if required.



The sealing contour must remain undamaged.

4.2 Alignment of adapter / leakage port

Align the marking 1 (marking may vary) of the adapter to the position provided for the display (if any) or the cable entry of the screwed-in sensor.



Adapter with leakage port according to EHEDG and 3A®:

- For reliable draining: Align the adapter with only one leakage port so that the drill hole is at the lowest point, but the display of the device is still visible and an angled socket can be installed for the electrical connection.

4.3 Welding aid E30452

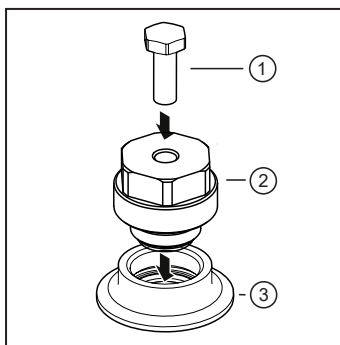
The welding aid absorbs the thermal energy and helps to stabilise the adapter.



The counter plate and the through bolt in the E30452 set are intended for tank applications and are not used in this application.

These accessories may only be replaced by more effective measures such as internally cooled mandrels with the same geometry, provided that the sealing edge is protected but not negatively influenced by the accessories themselves and their mounting forces.

- Further information on the welding aid E30452 → Operating Instructions.



- 1: Screw (cap for the forming gas)
- 2: Welding aid with M12 internal thread
- 3: Adapter to be welded in (model may vary)

- Screw the welding aid (2) hand-tight into the adapter (3) to be welded in.
- Screw the screw (1) into the screwed-in welding aid (2) and tighten it. Max. tightening torque 20 Nm.
- Carry out the welding process.
- After completion, remove all components from the welding adapter.

4.4 Cooling

During the welding process, depending on the welding method, higher amounts of energy are introduced into the adapter in the area of the weld seam, which can only dissipate this energy into the welding aid to a limited extent.

To avoid overheating of the adapter:

- Ensure sufficient cooling times.
- Any specifications of a responsible welding specialist on targeted cooling devices must be applied.
- For cooling, water pockets can be introduced in a modified welding mandrel in such a way that the adapter is permanently cooled from the inside.

4.4.1 Cooling adapter E30532

The cooling adapter for Aseptoflex Vario welding adapters absorbs the thermal energy during the welding process via the flowing coolant and dissipates it.



The coolant must not cool the adapter to such an extent that condensation forms at the welding point, e.g. when welding is interrupted.

- ▷ The quality of the welded joint will otherwise be significantly impaired.



The coolant must not overheat during the welding process. The medium must be available and circulating in sufficient quantities at the start of the welding process.



The coolant must not get into the area of the weld seam.

► The quality of the welded joint will otherwise be significantly impaired.

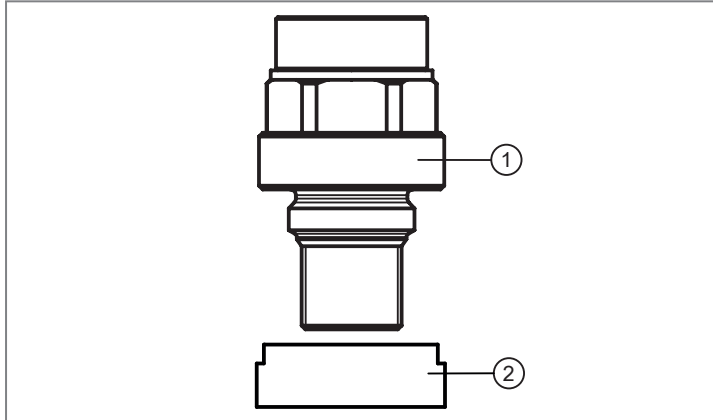


The locknut in the E30452 set is intended for tank applications and is not used in this application.



The connections and flexible hose lines are not included.

► Further information on the cooling adapter E30532 → Operating instructions.



1: Cooling adapter (supplied completely assembled as one unit).

2: Adapter to be welded in (model may vary)

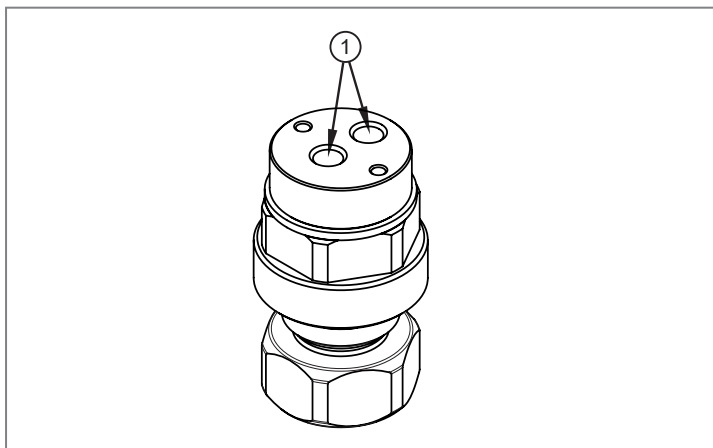


Fig. 3: Cooling adapter shown with locknut, as this is included in the delivery.

1: Internal thread G $\frac{1}{8}$ for flexible hose connections

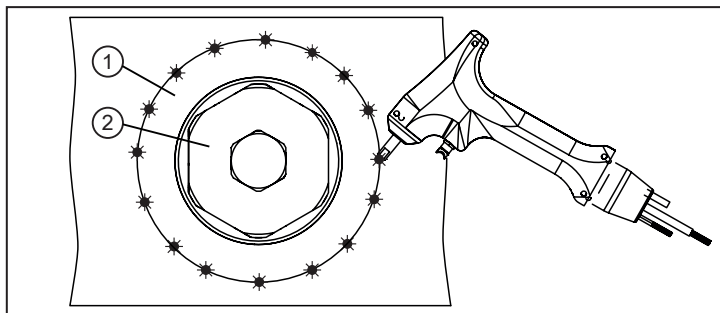
- Screw the cooling adapter into the welding adapter.
- Attach the welding adapter.
- Supply forming gas.
- Attach the connections and hoses to the internal threads of the cooling mandrel.
- Activate cooling.
- Carry out the welding process.
- After completion, remove all components from the welding adapter.

4.5 Welding operation



The basic notes and guidelines must be adhered to:

- The welding method must be suitable for the welding task and the power of the welding equipment must be adapted to the material thickness.
- During welding, avoid overheating of the adapter and observe sufficient cooling phases.
- The sealing area of the adapter must not be damaged by weld spatter or similar. The sealing area should be sufficiently protected before starting the welding process.
- Use the welding aid E30452 or the cooling adapter E30532 to dissipate heat, stabilise and protect the sealing area.
- For an optimum welding result, apply a sufficient number of fixing points crosswise, if necessary.



- 1: Welding adapter
2: Welding aid E30452 or cooling adapter E30532

- For an optimum welding result, apply the welding segments crosswise in the back-step method, if necessary.
- Ensure sufficient intervals between the individual sections to avoid overheating of the adapter.

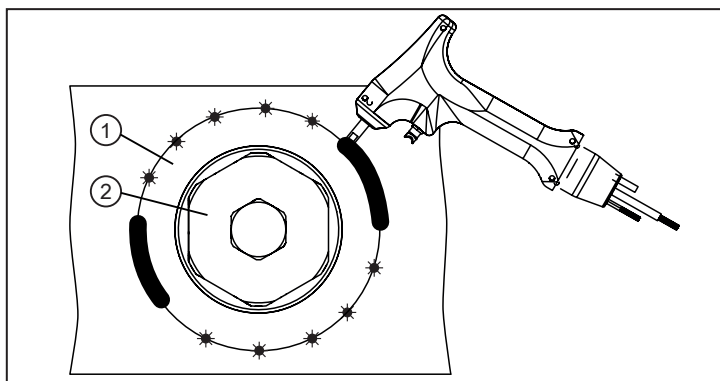


Fig. 4: Top view

- 1: Welding adapter
2: Welding aid E30452 or cooling adapter E30532

- After each welding operation, including the cooling phase, if required, check the thread of the welding adapter for ease of movement and tighten the welding aid with the correct torque. For this purpose, briefly unscrew the welding aid and then tighten it again.
- After completion, remove all components from the welding adapter.
- Remove any residue from the thread of the adapter without damaging the sealing edge.
- Screw in the sensor by hand in order to check for functionality of the thread. If the tightening torque is too high during screwing in, do not use any tools, but check the thread and replace the adapter, if necessary.



Carry out a leak check after the welding process.

4.6 Processing the weld seam



Prevent any damage to the sealing edge on the welding adapter if subsequent surface post-processing (e.g. grinding / polishing of the weld seam) is necessary.

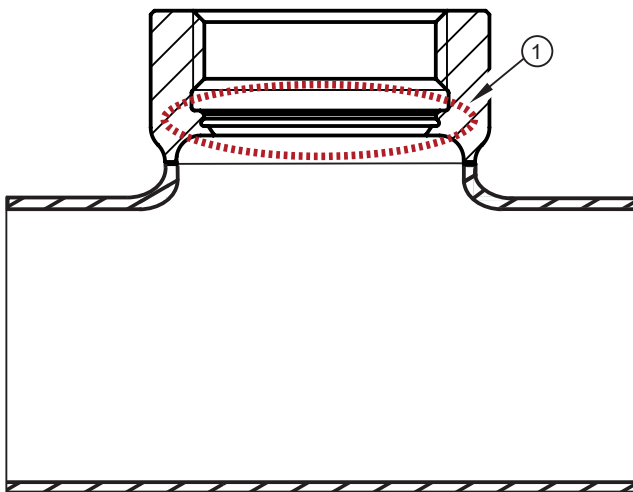
- ▶ Carefully remove the material around the sealing edge in case of post-processing (e.g. grinding / polishing).
- ▶ The sealing edge for the sensor sealing on the welding adapter must remain unaffected.



Use protective devices and equipment according to the product specifications, installation conditions and ambient conditions.



Read and apply the operating instructions and safety instructions for the tools used.



1: Do not damage the sealing edge

5 Installing the sensor with an Aseptoflex Vario adaption



General information for sensor installation: → Operating instructions of the sensor.



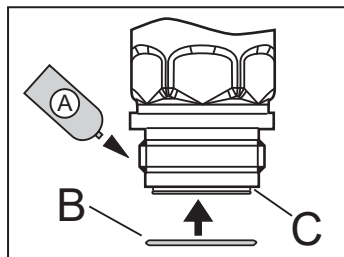
A lubricating paste is required to install the sensor. It must be suitable and approved for the given application and compatible with the elastomers used (e.g. seal).



The adapter is supplied with an EPDM O-ring = order no. E30054.
More sealing rings are available as accessories: FKM O-ring = order no. E30123.

► Remove the protective packaging only just before mounting.

► Ensure cleanliness of the sealing areas.



► Place the sealing ring (B) in the groove (C) of the sensor.

► Use the lubricating paste (A) sparingly and apply it to threaded parts.

► Screw the sensor into the adapter.

► Tighten the sensor using a spanner until you can feel the end stop (this corresponds to a maximum tightening torque of approx. 35 Nm).



Too much torque may impair the seal.



If the sealing area is damaged:

► Replace the adapter.

6 Set-up

- ▶ Before setting up the system: Check all components for ingress resistance.
- ▶ Setting up the sensor: → Operating instructions of the sensor.

7 Disposal and return

- ▶ After use, dispose of the unit in an environmentally friendly way in accordance with the applicable national regulations.
- ▶ In case of return shipment, ensure that the unit is free from soiling, especially from dangerous and toxic substances.