



Operating instructions
Variable clamp fitting

GB

E43322
E43349



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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 www.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

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, connection, set-up, operation and maintenance of the product must be carried out by qualified personnel authorised by the machine operator.

3 Intended use

The variable clamp fitting allows dead space-free mounting of binary level sensors according to the table:

Sensor	Accessories
LMT104, LMT03A	E43349
LMT105, LMT04A	E43322

The installation depth of the sensors can be adjusted to suit the particular application [Application examples](#) (→ [6](#)).







The clamp fitting is intended for installation in existing G1/2 hygienic fittings (www.ifm.com).



Maximum tank pressure: 6 bar


4 Installation

-  No changes to the clamp fitting, in particular to the security cable and the fixtures, must be made.
-  Install the security cable according to the instructions. This secures the sensor in applications subjected to pressure and with insufficient adhesive force of the clamp fitting (e.g. with insufficient tightening torque).
-  Maximum tank pressure: 6 bar
-  Before installing and removing the clamp fitting:
Make sure that no pressure is applied to the system and there is no medium in the pipe or tank. Also always take into account the potential dangers related to extreme machine and medium temperatures.

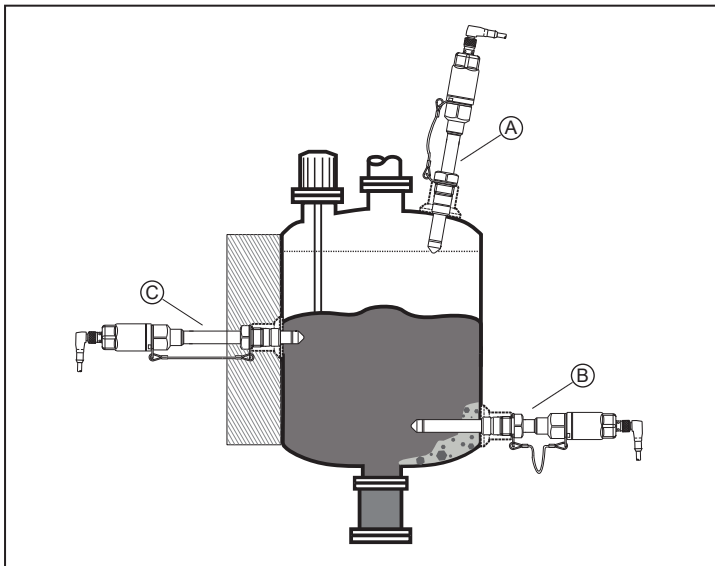
4.1 Preparations

Installation requires a suitable process connection installed on the tank. Otherwise install / weld in a suitable G1/2 adapter.


► Installation instructions adapter.

-  For installing the clamp fitting and 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). The manufacturer recommends the Klüber paste UH184-201 (USDA-H1 approval).

4.2 Application examples



- A: Use as overspill protection, variable setting of the response height.
- B: Use in applications with deposits; deeper positioning in the tank.
- C: Use in insulated tanks, bridging the insulation layer right into the tank.

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

4.3 Installation clamp fitting and sensor

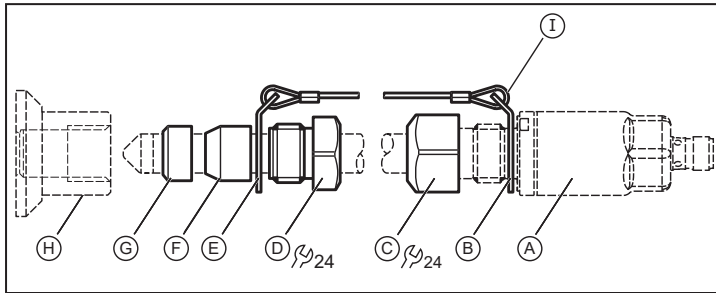


Fig. 1: Installation 1

A:	Sensor	F:	Clamp
B:	Retaining element	G:	Socket
C:	Coupling nut	H:	Adapter
D:	Clamp fitting	I:	Security cable
E:	Retaining element		

- ▶ Slightly grease the contact surfaces and the thread of parts (C) and (D).
- ▶ Slide parts (B) to (G) over the sensor the right way round (→ Fig. Installation 1).
- ▶ The angled eyelets of parts (B) and (E) must be installed as shown in the figure. Avoid damage to the sealing areas.
- ▶ Screw part (C) to the sensor (A). Tightening torque: at least 25 Nm.
- ▶ Slide the complete device (sensor + clamp fitting) into the existing adapter (H).
- ▶ Slide the parts (G), (F) and (E) one after the other without tilting in the order shown into the adapter (H).

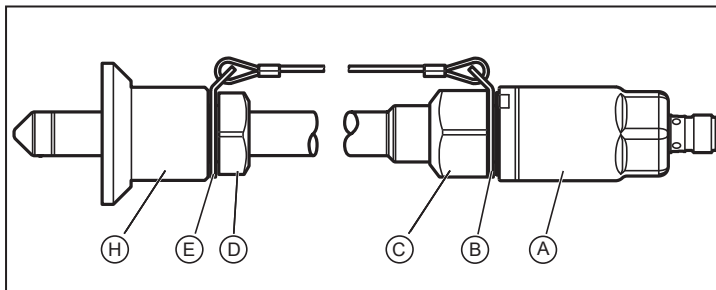


Fig. 2: Installation 2

A:	Sensor	D:	Clamp fitting
B:	Retaining element	E:	Retaining element
C:	Coupling nut	F:	Adapter

- ▶ Set the required immersion depth and screw part (D) in the adapter (H) until the sensor is positioned hand tight (→ Fig. Installation 2).



In case of high mechanical stress (e.g. plant vibration) it may be necessary to secure the screw connections (part C and part D), e.g. by a screw retaining compound. In this case, do not use any grease paste.



Use the screw retaining compound sparingly. Do not wet any parts in contact with the medium. Substances such as screw retaining compounds may migrate into the medium. Make sure that they are harmless!

- ▶ If the clamp fitting can only be screwed into the thread with great resistance: do not rework the thread, remove the adapter and install / weld in a new adapter!



Too much torque may impair the seal.

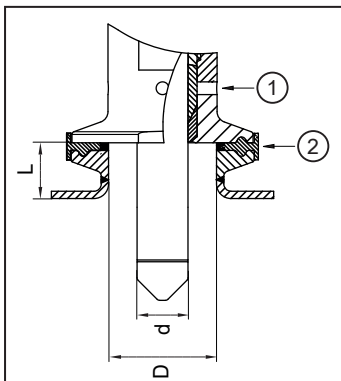
- ▶ Tighten the clamp fitting using a spanner. Tightening torque: 27 Nm
- ▶ After installation check the tank for ingress resistance.

4.4 Notes on the use according to EHEDG



The device is suited for CIP (cleaning in process) when installed correctly.

- ▶ Observe the application limits (temperature and material resistance) according to the data sheet.
- ▶ Ensure that the installation of the device in the system complies with EHEDG guidelines.
- ▶ Use self-draining installation.
- ▶ Only use process adapters permitted according to EHEDG with special seals required by the EHEDG position paper.
- ▶ When mounted in a tank, the installation must be flush mount. If not possible then direct water jet cleaning must be possible. Dead spaces must be detected.
- ▶ Leakage ports must be clearly visible and must be installed facing downwards for vertical pipes.



- ▶ To avoid dead space adhere to the dimensions: $L < (D - d)$.

- 1: Leakage port
2: Seal

5 Maintenance, repair and disposal

- ▶ Add the test for correct, tight fitting and for damage to the components (screw connections, safety cable, fixings) to the maintenance plan of the plant.

- ▶ Replace complete fitting if damaged.

In case screw connections loosen:

- ▶ Secure screw connection, e.g. with screw retaining compound.

It is not possible to repair the variable clamp fitting.

- ▶ In case of return shipment, ensure that the product is free from soiling, especially from dangerous and toxic substances.
- ▶ For transport only use appropriate packaging to avoid damage of the product.
- ▶ After use dispose of the product in an environmentally friendly way in accordance with the applicable national regulations.