71588330

Brief Operating Instructions
Liquitrend QMW43

Conductive and capacitive measurement of conductivity and thickness of buildup

These Instructions are Brief Operating Instructions; they are not a substitute for the Operating Instructions pertaining to the device.

Detailed information about the device can be found in the Operating Instructions and the other documentation:
Available for all device versions via:
- Internet: www.endress.com/deviceviewer
- Smart phone/tablet: *Endress+Hauser Operations App*

Basic safety instructions

Requirements for the personnel

The personnel must fulfill the following requirements to carry out the necessary tasks, e. g., commissioning and maintenance:
- ▶ Trained, qualified specialists must have a relevant qualification for the specific function and task
- ▶ Are authorized by the plant owner/operator
- ▶ Are familiar with federal/national regulations
- ▶ Must have read and understood the instructions in the manual and supplementary documentation
- ▶ Follow instructions and comply with conditions

Intended use

The device is used for the continuous measurement of the thickness of buildup and the conductivity of media in the food and beverages industry. The device is intended for use in storage, mixing and process vessels with or without an agitator, pipes and system periphery.

Improper use can pose hazards
- ▶ Ensure that the measuring device is free of defects while it is in operation
- ▶ Use the measuring device only for media to which the process-wetted materials have an adequate level of resistance
- ▶ Do not overshoot or undershoot the relevant limit values of the measuring device

Workplace safety

When working on and with the device:
- ▶ Wear the required personal protective equipment according to federal/ national regulations.

For welding work on the piping:
- ▶ Do not ground the welding unit via the device.

If working on and with the device with wet hands:
- ▶ Due to the increased risk of electric shock, gloves must be worn.

Operational safety

- ▶ Operate the device only if it is in proper technical condition, free from errors and faults.
- ▶ The operator is responsible for the interference-free operation of the device.

Hazardous area

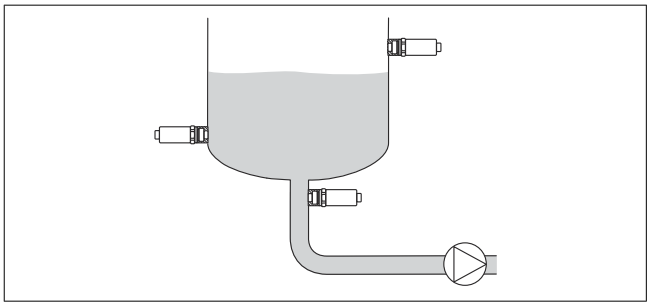
To eliminate danger to persons or the facility when the device is used in the hazardous area (e.g. safety instrumented systems):
- ▶ Based on the technical data on the nameplate, check whether the ordered device is permitted for the intended use in the hazardous area.

Mounting

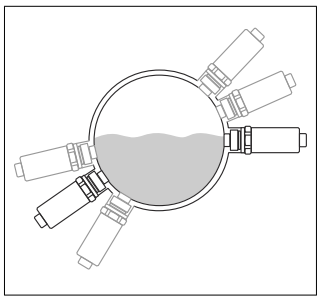
Mounting requirements

- Installation is possible in any position in a vessel, pipe or tank.
- For measuring points that are difficult to access, use a socket wrench.

The socket wrench 32 AF can be ordered as an optional extra.

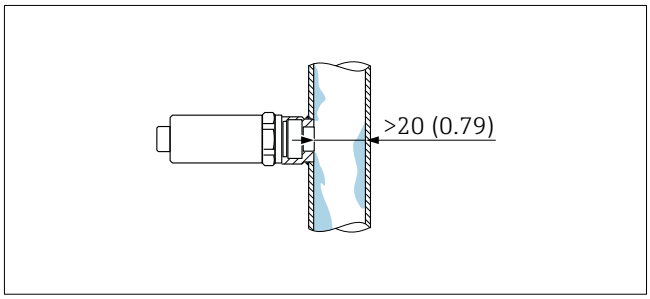


1 *Installation examples: vessel*



2 *Installation examples: pipe - horizontal orientation → preferred orientation*

The possibility of buildup or bubbles forming on the sensor when installed vertically must be taken into account. If the sensor is partially covered, or if encrustations or air bubbles have formed on the sensor, this will be reflected in the measured value.



3 *Flush-mount installation, dimensions in mm (inch).*

Vertical installation:

If the sensor is not completely covered by the medium or if there are air bubbles on the sensor, this may interfere with the measurement.

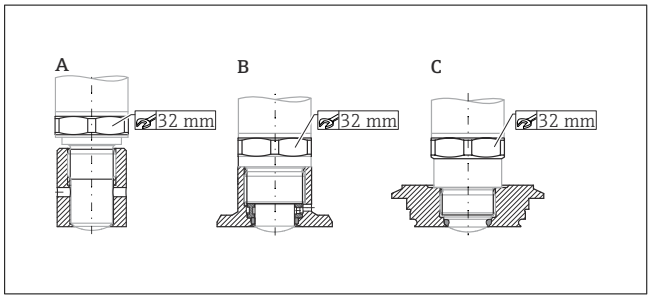
Mounting the device

Required tools:
- Open-ended wrench or socket wrench 32 AF
- Hexagon socket wrench for measuring points that are difficult to access

- When installing the plug, do not allow moisture to enter the plug or socket area
- Protect housing against impact

Installation

- When screwing in, turn by the hex bolt only.
- Torque: 15 to 30 Nm (11 to 22 lbf ft)



A Thread G ½"
B Thread G ¾"
C Thread M24x1.5

Electrical connection

WARNING

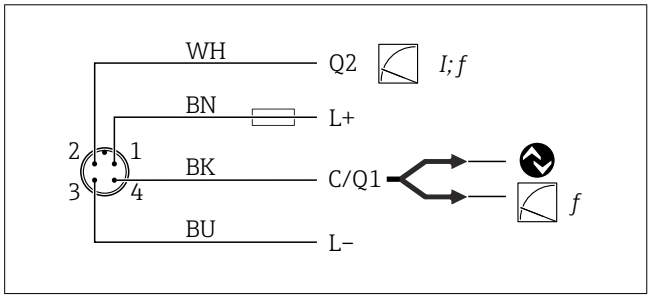
Risk of injury from the uncontrolled activation of processes!
- ▶ Switch off the supply voltage before connecting the device.
- ▶ Make sure that downstream processes are not started unintentionally.

WARNING

Electrical safety is compromised by an incorrect connection!
- ▶ In accordance with IEC/EN61010 a suitable circuit breaker must be provided for the device .
- ▶ Voltage source: Non-hazardous contact voltage or Class 2 circuit (North America).
- ▶ The device must be operated with a fine-wire fuse 500 mA (slow-blow).

Connecting the device

Protective circuits against reverse polarity are integrated.



4 *Connection*

Pin 1 Supply voltage +
Pin 2 Current output 4 to 20 mA or frequency 300 to 3 000 Hz
Pin 3 Supply voltage -
Pin 4 IO-Link communication or frequency 300 to 3 000 Hz

For information on commissioning, see the Operating Instructions.