Supplementary instructions

Mounting bracket KV 31

For tubes with ø 200 … 400 mm

Horizontal sensor mounting

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Contents

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1 Product description

The KV 31 is a mounting bracket for the radiation-based measuring system MINITRAC. It is suitable for pipes irradiated at right angles.

For horizontal sensor mounting

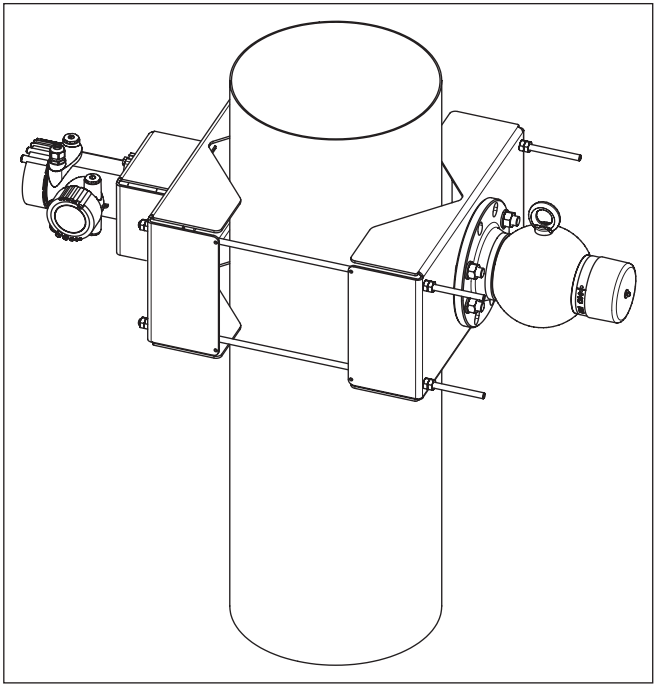

Fig. 1: Mounting bracket with horizontally mounted sensor

Scope of delivery

The following parts belong to the scope of delivery of KV 31.

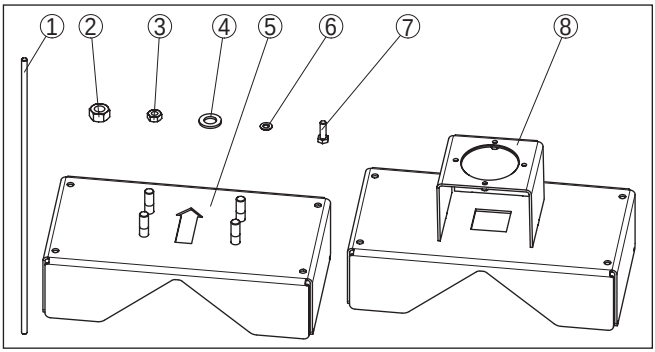

Fig. 2: Mounting bracket for pipes irradiated at right angles KV 31 - horizontal sensor mounting

1 Threaded rod M10 x 620 mm (M10 x 24.41 in), (4 pieces)
2 Hexagon nut M16 (4 pieces)
3 Hexagon nut M10 (16 pieces)
4 Washer for M16 (4 pieces)
5 Clamp - Source holder side (1 Stück)
6 Washer for M10 (8 pieces)
7 Hexagon screw M8 (2 pieces)
8 Clamp - Sensor side (MINITRAC), (1 piece)

1.2 High temperatures

To protect the sensor against high temperatures, the mounting bracket can be equipped optionally with a heat protection kit.

The surface temperature of the tube can be up to max. +100 °C (212 °F) with heat protection kit with insulating boards.

Check the local conditions (surface temperature).

Contact our specialists, if you are not sure.

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2 Mounting

Operating instructions

Take note of the operating instructions of the corresponding sensor MINITRAC and the source holder.

Mounting brackets for horizontal mounting

Take note of the following mounting instructions:

- Mount the bracket first, then the sensor and the source holder
- The arrow cutouts in the clamp (source container side) and in the transport lug of the source holder must point in the same direction (A) after mounting
- Make sure that the two clamps (5 and 8) of the bracket are in parallel. Do this by measuring the lateral distances between the clamps
- To avoid injuries, shorten the threaded rods (1) of the brackets to a suitable length after mounting

Horizontal sensor mounting

Mount the bracket according to the following assembly drawing:

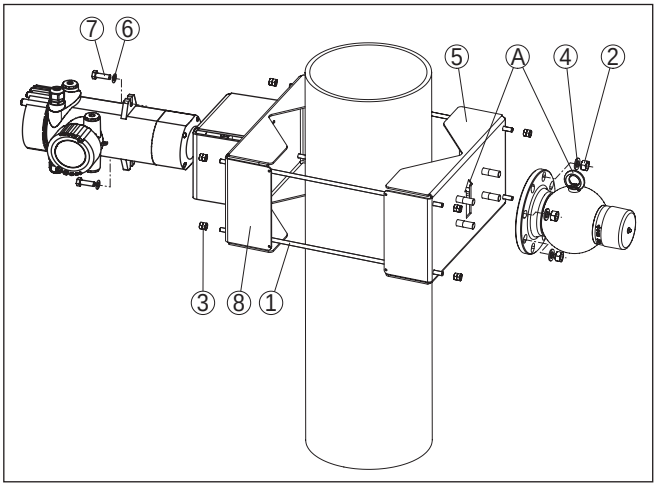

Fig. 3: Mounting bracket with horizontally mounted sensor

1 Threaded rod M10 x 620 mm (M10 x 24.41 in), (4 pieces)
2 Hexagon nut M16 (4 pieces)
3 Hexagon nut M10 (16 pieces)
4 Washer for M16 (4 pieces)
5 Clamp - Source holder side (1 Stück)
6 Washer for M10 (8 pieces)
7 Hexagon screw M8 (2 pieces)
8 Clamp - Sensor side (MINITRAC), (1 piece)
A Arrow cutouts of the clamp and eyebolt point in the same direction

1. Make sure that the two clamps of the bracket are parallel to each other. Do this by measuring the lateral distances between the clamps.
2. Tighten the nuts of the threaded rod evenly. Keep the tube diameter and the stability of the tube material in mind. Avoid deformation of the tube through an overtightening of the mounting bracket.

If you have the impression that the tube cannot permanently carry the weight of the mounting bracket, sensor and source container, mount a suitable support below the mounting bracket.

3. Shorten the threaded rods after mounting to avoid injuries.

Install a protective grid

If there are gaps or intervening spaces around the installation, provide protective fences or grids to keep hands away from the dangerous area. Such areas must be marked accordingly.

Install a protective grid on both sides of the mounting bracket. A sheet metal cover or a correspondingly shaped plastic sheet can also be used.

Corresponding holes for screws of size M5 are provided on the mounting bracket.

Mount the protective grid according to the following assembly drawing:

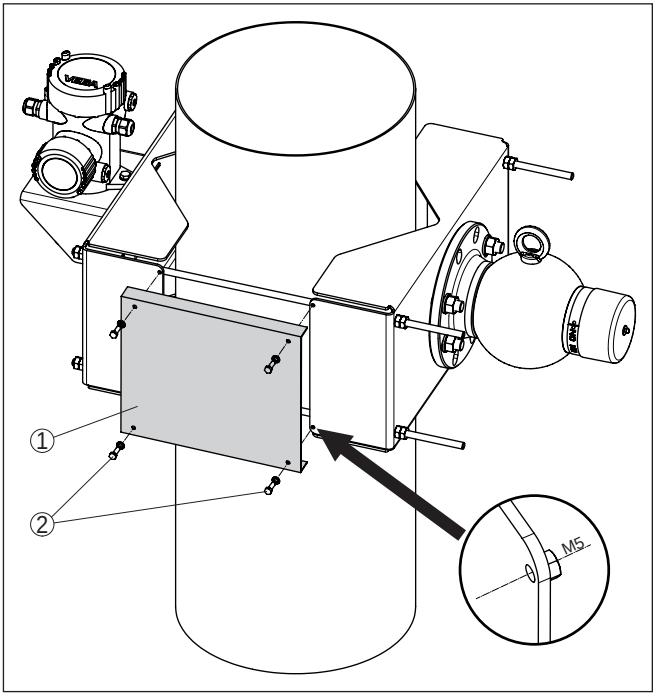

Fig. 4: Install the protective grid on both sides of the mounting bracket

1 Protective grid
2 Screws M5 (4 pieces)

2.2 Heat protection kit

Optional heat protection kit

Tubes or vessels with hot products lead to high temperatures on the sensor due to heat radiation.

A heat protection kit with several insulating boards can be used on the mounting bracket as an option to protection against radiation heat.

The heat protection kit protects the sensor reliably against heat up to a surface temperature of the tube of 100 °C (212 °F).

For the sensor side a special bracket must be used for this purpose. Hence the heat protection kit must be also taken into account while ordering. A retrofitting is not possible.

→ Mount the heat protection kit according to the following illustrations:

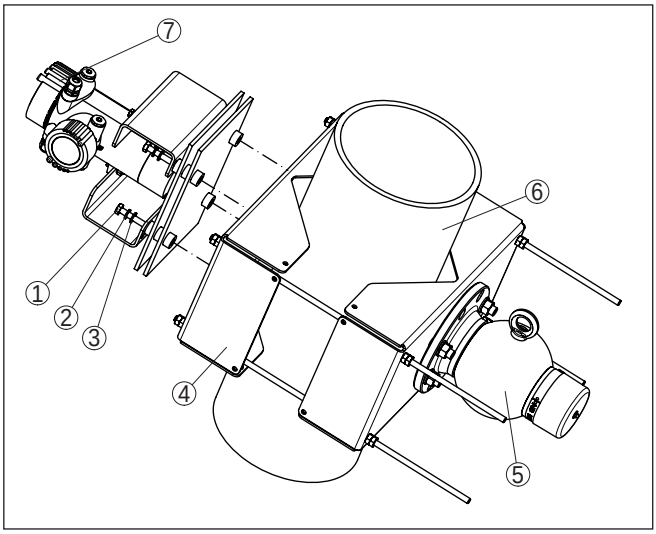

Fig. 5: Mounting bracket with heat protection kit

1 *Screw M10 x 90 (4 pcs.)*
2 *Spring ring M10 (4 pieces)*
3 *Washer M10 (4 pieces)*
4 *Bracket - sensor side (MINITRAC)*
5 *Source holder*
6 *Tube*
7 *Level sensor MINITRAC*

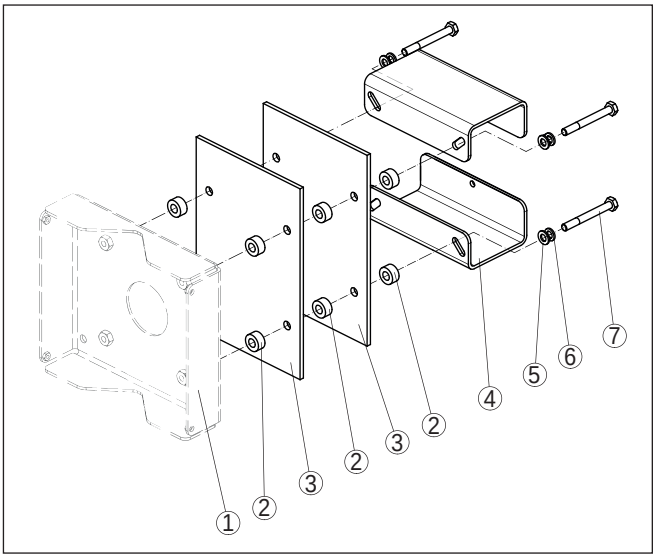

Fig. 6: Mounting of the heat protection plates

1 *Bracket - sensor side (MINITRAC)*
2 *Plastic washer M10 (12 pcs.)*
3 *Plastic washer 305 x 305 (2 pcs.)*
4 *Clamp - U-shape (2 pcs.)*
5 *Washer M10 (4 pieces)*
6 *Spring ring M10 (4 pieces)*
7 *Screw M10 x 90 (4 pcs.)*

3 Supplement

3.1 Technical data

General data

Take note of the information in the operating instructions manual of the installed MINITRAC level sensor and the source holder

Material 316L corresponds to 1.4404 or 1.4435

Materials

– Mounting bracket	316L
– Threaded rods	316L
Weight (without sensor and source holder)	21 kg (46.3 lbs)

Torques

– Screws - Sensor mounting (M8)	15 Nm (11.06 lbf ft)
– Nuts (M16)	20 Nm (14.75 lbf ft)
– Threaded rods (M10)	Dependent on the tube material

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3.2 Dimensions

KV 31 - for horizontal sensor mounting

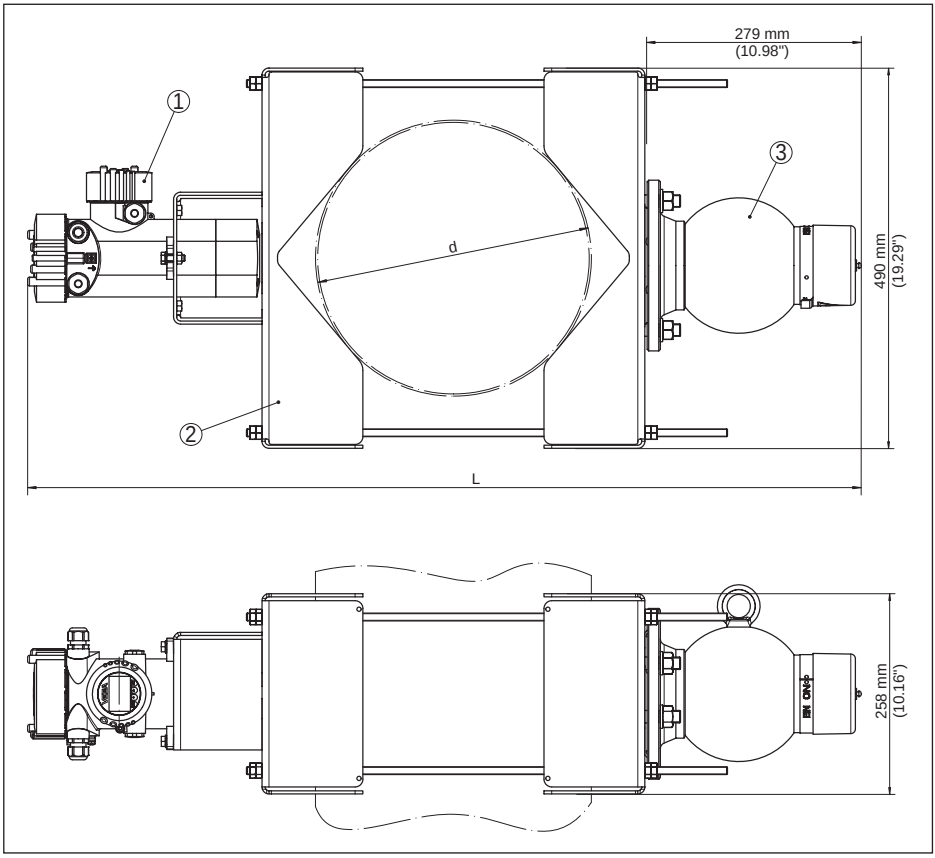

Fig. 7: Mounting bracket with horizontally mounted sensor

1 Level sensor MINITRAC
2 Mounting bracket - KV 31
3 Source holder
L = total length of the measuring system (see following table)
d = tube diameter (see following table)

Tube DN (in)	Tube diameter (d)	Total length (L)
DN 200 mm (8 in)	ø 219.1 mm (8.63 in)	896 mm (35.28 in)
DN 250 mm (10 in)	ø 273 mm (10.75 in)	967 mm (38.07 in)
DN 300 mm (12 in)	ø 323.8 mm (12.75 in)	1033 mm (40.67 in)
DN 350 mm (14 in)	ø 355.6 mm (14 in)	1075 mm (42.32 in)
DN 400 mm (16 in)	ø 406.4 mm (16 in)	1141 mm (44.92 in)

KV 31, horizontal sensor mounting - with heat protection kit

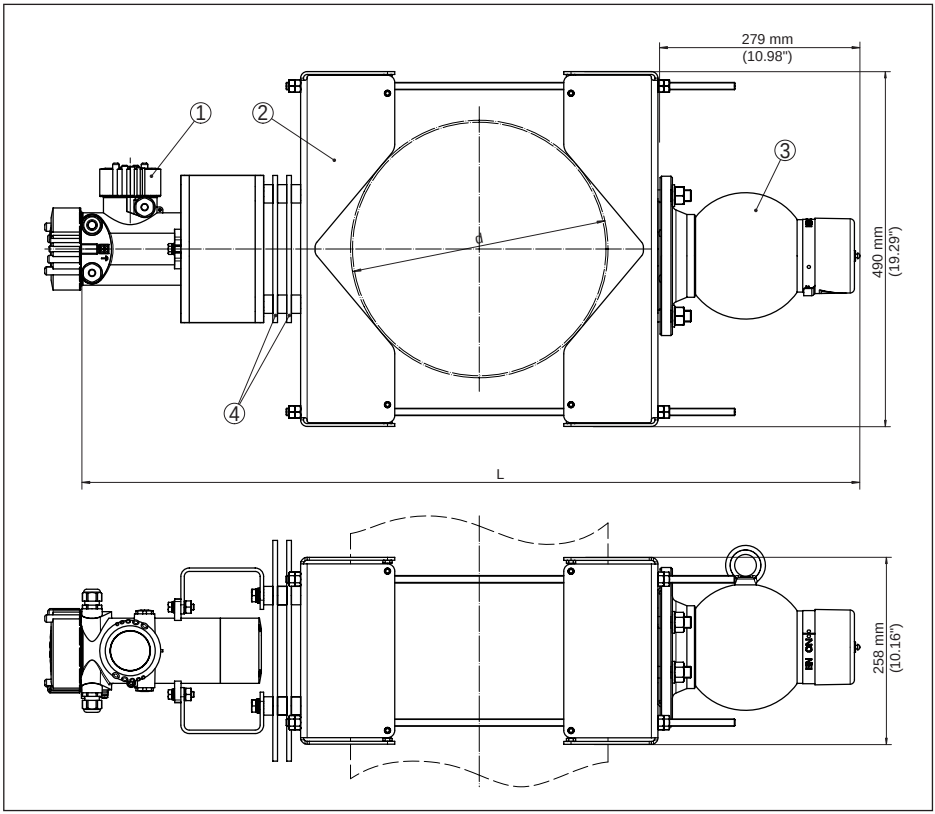

Fig. 8: Mounting bracket with horizontally mounted sensor and heat protection kit

1 Level sensor MINITRAC
2 Mounting bracket - KV 31
3 Source holder
4 Heat protection kit
L = total length of the measuring system (see following table)
d = tube diameter (see following table)

Tube DN (in)	Tube diameter (d)	Total length (L)
DN 200 mm (8 in)	ø 219.1 mm (8.63 in)	948 mm (37.7 in)
DN 250 mm (10 in)	ø 273 mm (10.75 in)	1018 mm (40.1 in)
DN 300 mm (12 in)	ø 323.8 mm (12.75 in)	1084 mm (42.7 in)
DN 350 mm (14 in)	ø 355.6 mm (14 in)	1126 mm (44.3 in)
DN 400 mm (16 in)	ø 406.4 mm (16 in)	1192 mm (46.9 in)

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