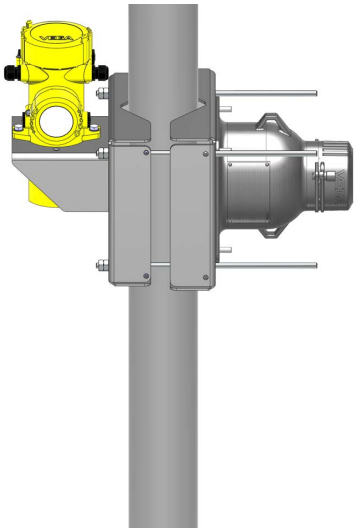
Supplementary instructions

Mounting bracket KV 31

For tubes with ø 50 … 220 mm

Vertical sensor mounting



Document ID: 38482

Contents

38482-EN-240814

Editing status: 2024-08-13

1 Product description

1.1 With source holder VEGASOURCE 31, 35

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

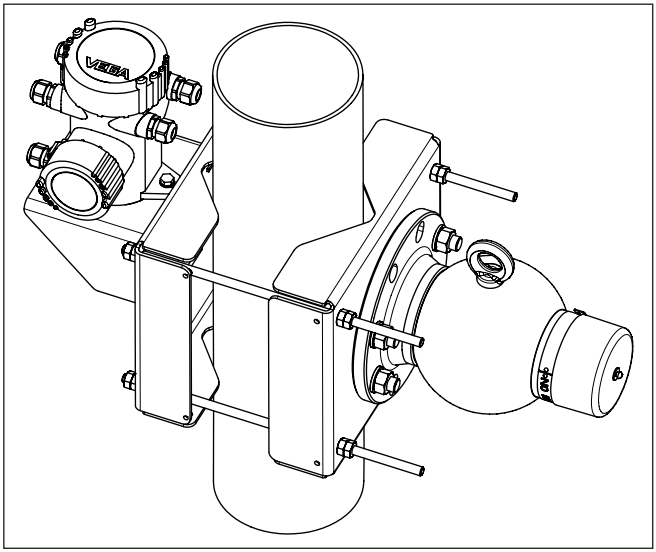


Fig. 1: Mounting bracket with vertically mounted sensor

Scope of delivery

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

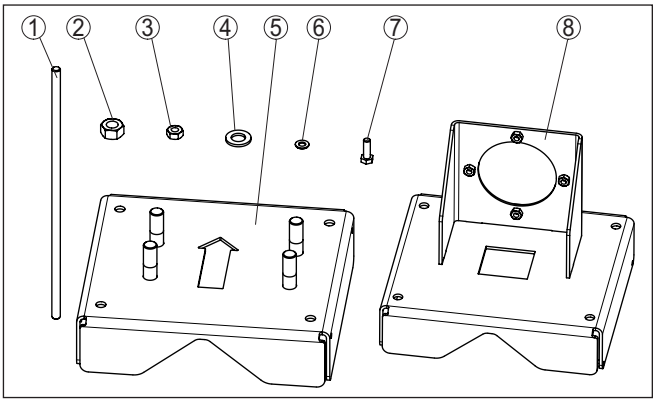


Fig. 2: Mounting bracket for pipes irradiated at right angles KV 31, vertical sensor mounting

1 Threaded rod M10 x 360 mm (M10 x 14.17 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 piece)
6 Washer for M10 (8 pieces)
7 Hexagon screw M8 (2 pieces)
8 Clamp, Sensor side (MINITRAC), (1 piece)

1.2 With source holder VEGASOURCE 81, 82

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

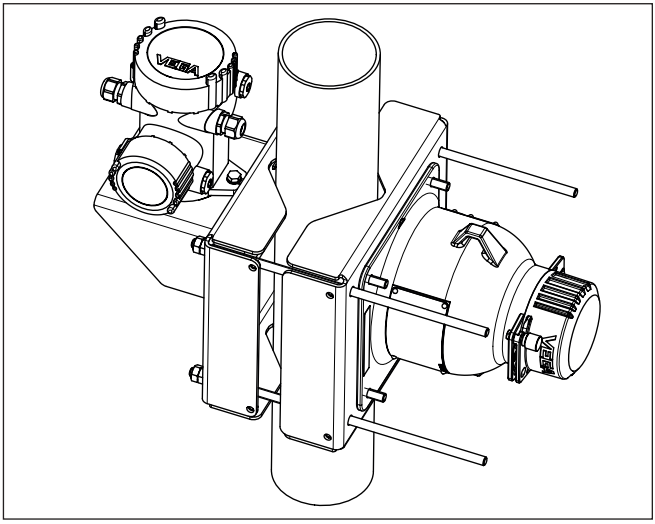


Fig. 3: Mounting bracket with vertically mounted sensor

38482-EN-240814

Scope of delivery

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

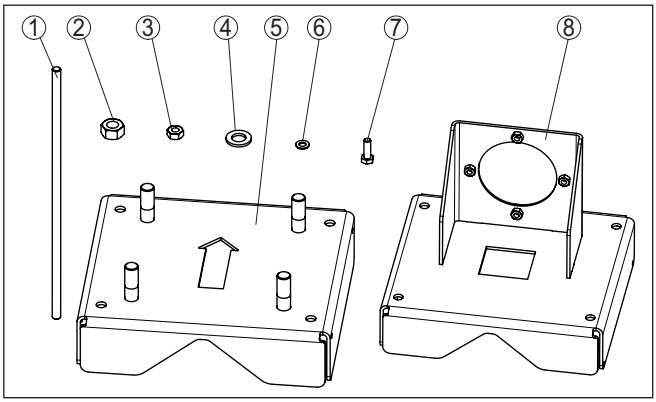


Fig. 4: Mounting bracket for pipes irradiated at right angles KV 31, vertical sensor mounting

1 *Threaded rod M10 x 360 mm (M10 x 14.17 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 piece)*
6 *Washer for M10 (8 pieces)*
7 *Hexagon screw M8 (2 pieces)*
8 *Clamp, Sensor side (MINITRAC), (1 piece)*

1.3 High temperatures

To protect the sensor from high temperatures caused by direct sunlight, the mounting bracket can optionally be equipped with a passive sun protection.

Check the local conditions (surface or ambient temperature).

Contact our specialists, if you are not sure.

2 Mounting with source container VEGASOURCE 31, 35

Operating instructions

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

Mounting brackets for vertical 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 parallel to each other. Do this by measuring the distances between the clamps
- To avoid injuries, shorten the threaded rods (1) of the brackets to a suitable length after mounting

Vertical sensor mounting

Mount the bracket according to the following assembly drawing:

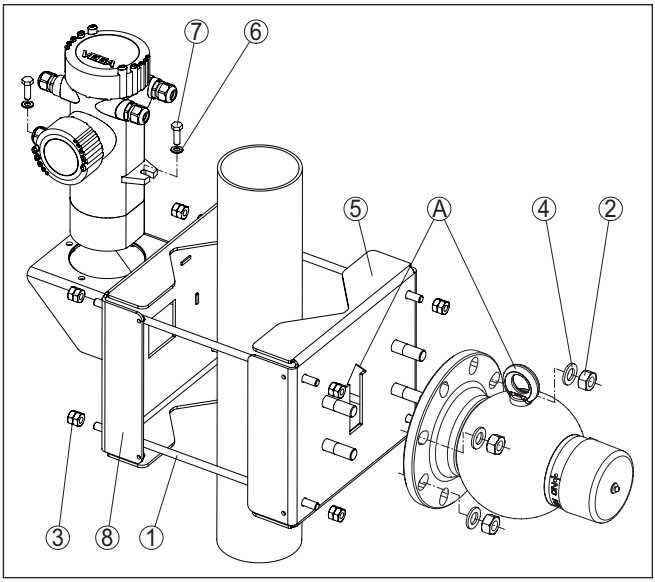


Fig. 5: Mounting bracket with vertically mounted sensor (with VEGASOURCE 31, 35)

1 Threaded rod M10 x 360 mm (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 piece)
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

38482-EN-240814

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 empty 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:

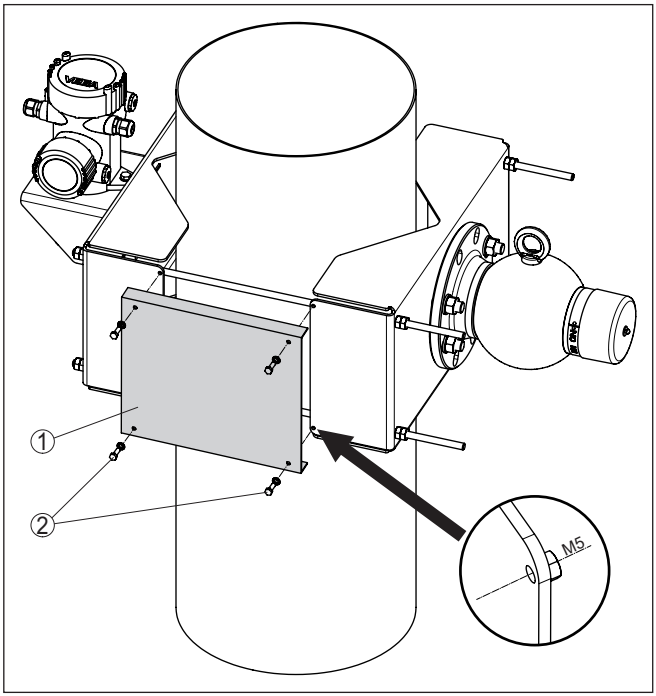


Fig. 6: Install the protective grid on both sides of the mounting bracket

1 Protective grid
2 Screws M5 (pieces)

3 Mounting with source container VEGASOURCE 81, 82

Operating instructions

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

Mounting brackets for vertical 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 parallel to each other. Do this by measuring the distances between the clamps
- To avoid injuries, shorten the threaded rods (1) of the brackets to a suitable length after mounting

Vertical sensor mounting

Mount the bracket according to the following assembly drawing:

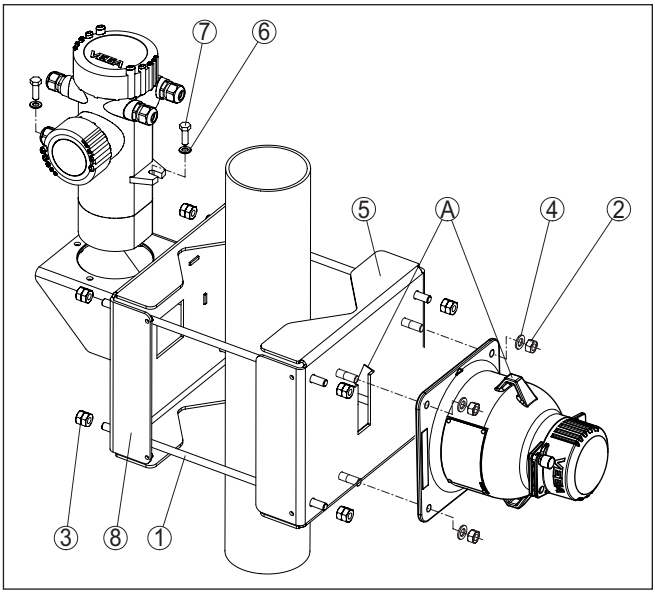


Fig. 7: Mounting bracket with vertically mounted sensor (with VEGASOURCE 81, 82)

1 Threaded rod M10 x 360 mm (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 piece)
6 Washer for M10 (8 pieces)
7 Hexagon screw M8 (2 pieces)
8 Clamp, Sensor side (MINITRAC), (1 piece)
A Arrow cutout of the clamp and the lug 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 empty 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:

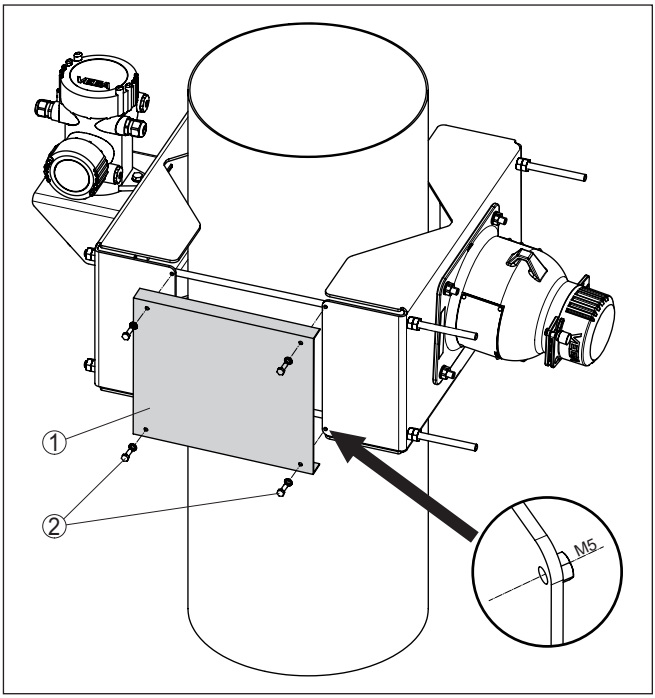


Fig. 8: Install the protective grid on both sides of the mounting bracket

1 Protective grid
2 Screws M5 (pieces)

3.2 Passive sun shade

When radiometric sensors are permanently or temporarily subjected to direct sunlight, the sensor can heat up to impermissible temperatures. In direct sunlight the temperature on the sensor can increase by 20 K. Faulty measurements and, in the worst case, permanent damage to the sensor can result.

The best way to avoid the additional temperature increase through sunlight is to cover the sensor with a suitable roof structure. In cases where this is not possible or too expensive, the passive sun shade is a good solution. It reduces the increased sensor temperature due to sunlight by 10 K.

The passive sun shade is suitable for radiometric sensors type FIBERTRAC, SOLITRAC, MINITRAC and POINTRAC.

The housing sun shade protects the sensor housing with the electronics against direct solar radiation and prevents the electronics from overheating.

The passive sun shade for the sensor types FIBERTRAC and SOLITRAC consists of two modules, the housing sun shade and sun protection hose.

The additional housing protection hose is a reflective, aluminium coated hose to protect the scintillator against sun radiation or radiation heat.

→ For mounting follow the supplementary instructions "*Sun protection - PROTRAC*".

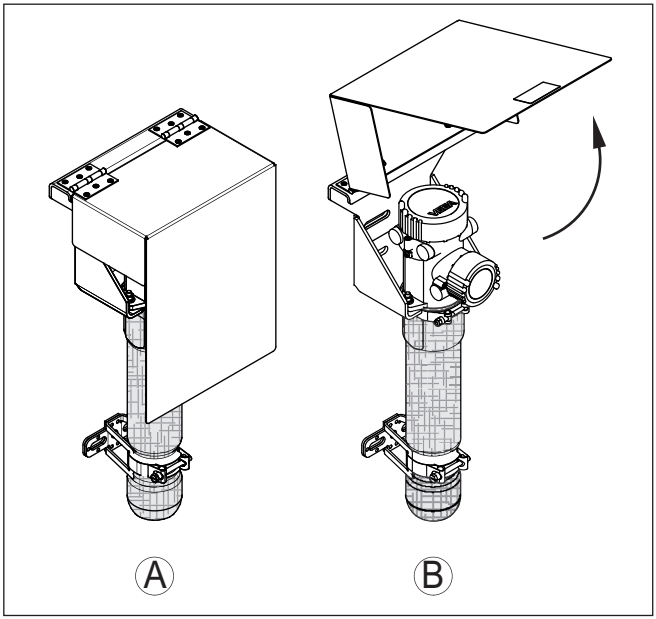


Fig. 9: Housing sun shade, closed/open

A Housing sun shade, closed
B Housing sun shade, open

4 Supplement

4.1 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	12.2 kg (26.9 lbs)
Torques	
– Screws, Sensor mounting (M8)	15 Nm (11.06 lbf ft)
– Screws, Cooling options (M10)	15 Nm (11.06 lbf ft)
– Nuts (M16)	20 Nm (14.75 lbf ft)
– Threaded rods (M10)	Dependent on the tube material and the thickness of the tube

38482-EN-240814

4.2 Dimensions

4.2.1 Dimensions with source container VEGASOURCE 31, 35

KV 31, vertical sensor mounting

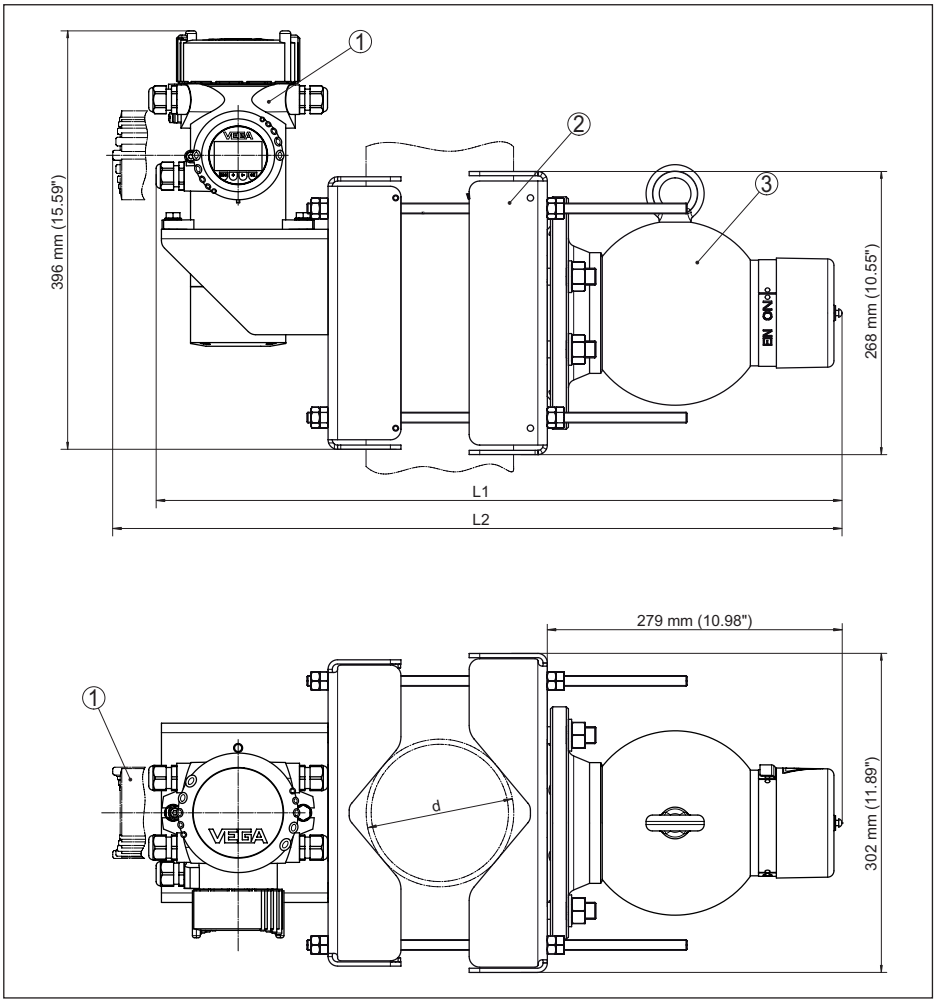


Fig. 10: Mounting bracket with vertically mounted sensor (with VEGASOURCE 31, 35)

1 Level sensor MINITRAC
2 Mounting bracket KV 31
3 Source holder
L1 Total length of the measuring system (see following table)
L2 Total length of the measuring system, 90° rotated (see following table)
d Tube diameter (see following table)

Tube DN (in)	Tube diameter (d)	Total length (L1)	Total length (L2)
ø 50 mm (2 in)	ø 60.3 mm (2.37 in)	540 mm (21.26 in)	574 mm (22.60 in)
ø 100 mm (4 in)	ø 114.3 mm (4.5 in)	605 mm (23.82 in)	639 mm (25.16 in)
ø 125 mm (5 in)	ø 139.7 mm (5.5 in)	637 mm (25.08 in)	671 mm (26.42 in)
ø 150 mm (6 in)	ø 168.3 mm (6.63 in)	670 mm (26.38 in)	704 mm (27.72 in)
ø 175 mm (7 in)	ø 193.7 mm (7.63 in)	702 mm (27.64 in)	736 mm (28.98 in)
ø 200 mm (8 in)	ø 219.1 mm (8.63 in)	735 mm (28.94 in)	769 mm (30.28 in)

4.2.2 Dimensions with source container VEGASOURCE 81, 82

Note:
When calculating the length, also take into account optional attachment parts such as the pneumatic changeover, cooling devices, etc.

Depending on the version of the source container, the dimension "L" is extended.

For dimensional information on the versions, please refer to the operating instructions of the source container.

KV 31, vertical sensor mounting

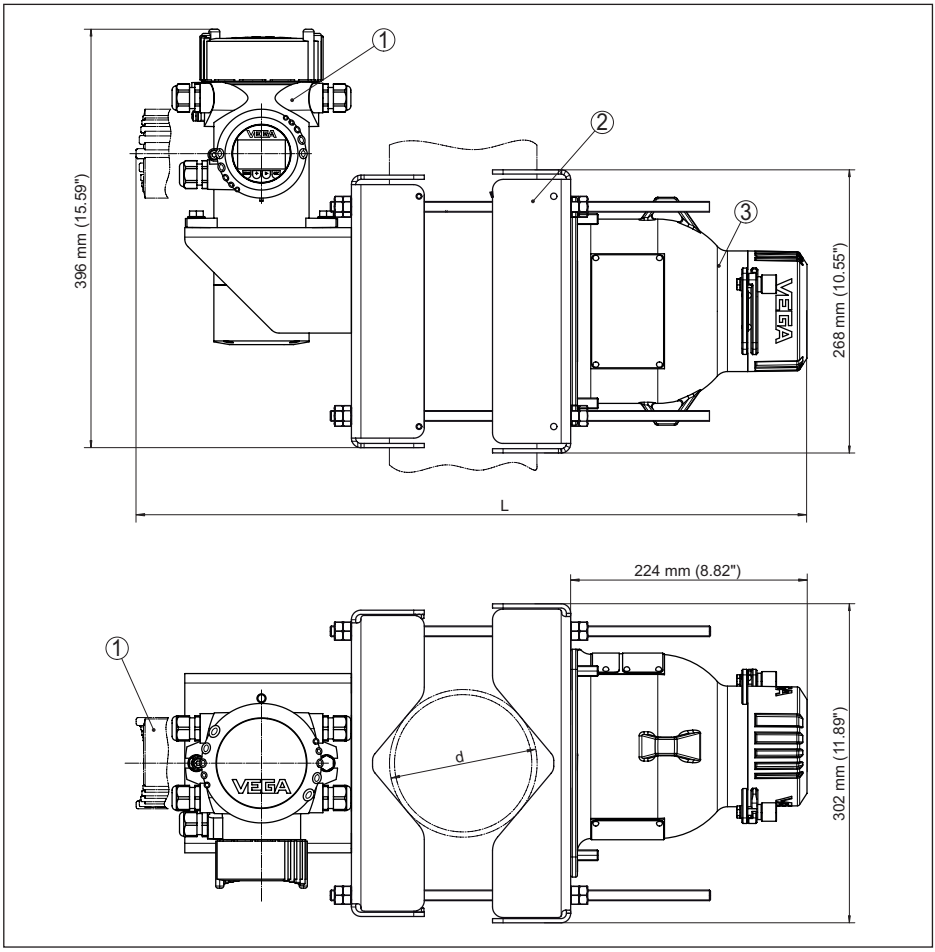


Fig. 11: Mounting bracket with vertically mounted sensor (with VEGASOURCE 81, 82)

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)
ø 50 mm (2 in)	ø 60.3 mm (2.37 in)	519 mm (20.43 in)
ø 100 mm (4 in)	ø 114.3 mm (4.5 in)	584 mm (22.99 in)
ø 125 mm (5 in)	ø 139.7 mm (5.5 in)	616 mm (24.25 in)
ø 150 mm (6 in)	ø 168.3 mm (6.63 in)	649 mm (25.55 in)
ø 175 mm (7 in)	ø 193.7 mm (7.63 in)	681 mm (26.81 in)

Tube DN (in)	Tube diameter (d)	Total length (L)
ø 200 mm (8 in)	ø 219.1 mm (8.63 in)	714 mm (28.11 in)

4.3 Industrial property rights

VEGA product lines are global protected by industrial property rights. Further information see www.vega.com.

VEGA Produktfamilien sind weltweit geschützt durch gewerbliche Schutzrechte.

Nähere Informationen unter www.vega.com.

Les lignes de produits VEGA sont globalement protégées par des droits de propriété intellectuelle. Pour plus d'informations, on pourra se référer au site www.vega.com.

VEGA lineas de productos están protegidas por los derechos en el campo de la propiedad industrial. Para mayor información revise la pagina web www.vega.com.

Линии продукции фирмы ВЕГА защищаются по всему миру правами на интеллектуальную собственность. Дальнейшую информацию смотрите на сайте www.vega.com.

VEGA系列产品在全球享有知识产权保护。

进一步信息请参见网站<www.vega.com。

4.4 Trademark

All the brands as well as trade and company names used are property of their lawful proprietor/ originator.

38482-EN-240814

38482-EN-240814

Printing date:

38482-EN-240814

VEGA Grieshaber KG
Am Hohenstein 113
77761 Schiltach
Germany

Phone +49 7836 50-0
E-mail: info.de@vega.com
www.vega.com