

# OPTIFLUX 6000 Quick Start

Electromagnetic flow sensor for hygienic and sanitary applications

The documentation is only complete when used in combination with the relevant documentation for the signal converter.



| 1 Safety instructions                                  | 3  |
|--|----|
| 2 Installation   | 4  |
|  |    |
| 2.1 Scope of delivery                                  |    |
| 2.2 Device description                                 | 5  |
| 2.3 Nameplates   | 6  |
| 2.4 Storage  | 6  |
| 2.5 Transport  | 7  |
| 2.6 Pre-installation requirements                      |    |
| 2.7 General requirements                               |    |
| 2.7.1 Vibration  |    |
| 2.7.2 Magnetic field                                   | 8  |
| 2.8 Installation conditions                            | 9  |
| 2.8.1 Inlet and outlet                                 | 9  |
| 2.8.2 Bends in 2 or 3 dimensions                       | 9  |
| 2.8.3 T-section  | 10 |
| 2.8.4 Bends  | 10 |
| 2.8.5 Open discharge                                   |    |
| 2.8.6 Control valve                                    |    |
| 2.8.7 Pump   |    |
| 2.8.8 Air venting and vacuum forces                    |    |
| 2.8.9 Mounting requirements for self-draining          |    |
| 2.8.10 Flange deviation                                |    |
| 2.8.11 Mounting position                               |    |
| 2.9 Mounting   |    |
| 2.9.1 Torques and pressures                            |    |
| 2.9.3 Temperatures                                     |    |
| 2.7.3 Temperatures                                     | 17 |
| 3 Electrical connections                               | 18 |
|  |    |
| 3.1 Safety instructions                                | 18 |
| 3.2 Grounding  | 18 |
| 3.3 Virtual reference for IFC 300 (C, W and F version) | 19 |
| 3.4 Connection diagrams                                |    |
| 4 Technical data                                       | 20 |
| 4 Technical data                                       | 20 |
| 4.1 Dimensions and weights                             | 20 |
| 4.1 Difficitions and weights                           | 20 |
| 5 Notes  | 34 |

#### Warnings and symbols used



#### DANGER!

This information refers to the immediate danger when working with electricity.



#### DANGER!

These warnings must be observed without fail. Even partial disregard of this warning can lead to serious health problems and even death. There is also the risk of seriously damaging the device or parts of the operator's plant.



#### WARNING!

Disregarding this safety warning, even if only in part, poses the risk of serious health problems. There is also the risk of damaging the device or parts of the operator's plant.



#### CAUTION!

Disregarding these instructions can result in damage to the device or to parts of the operator's plant.



#### INFORMATION!

These instructions contain important information for the handling of the device.



#### **HANDLING**

• This symbol designates all instructions for actions to be carried out by the operator in the specified sequence.

#### RESULT

This symbol refers to all important consequences of the previous actions.

#### Safety instructions for the operator



#### CAUTION

Installation, assembly, start-up and maintenance may only be performed by appropriately trained personnel. The regional occupational health and safety directives must always be observed.



#### LEGAL NOTICE!

The responsibility as to the suitability and intended use of this device rests solely with the user. The supplier assumes no responsibility in the event of improper use by the customer. Improper installation and operation may lead to loss of warranty. In addition, the "Terms and Conditions of Sale" apply which form the basis of the purchase contract.



#### INFORMATION!

- Further information can be found on the supplied CD-ROM in the manual, on the data sheet, in special manuals, certificates and on the manufacturer's website.
- If you need to return the device to the manufacturer or supplier, please fill out the form contained on the CD-ROM and send it with the device. Unfortunately, the manufacturer cannot repair or inspect the device without the completed form.

## 2.1 Scope of delivery



#### INFORMATION!

Inspect the packaging carefully for damages or signs of rough handling. Report damage to the carrier and to the local office of the manufacturer.



#### INFORMATION!

Do a check of the packing list to make sure that you have all the elements given in the order.

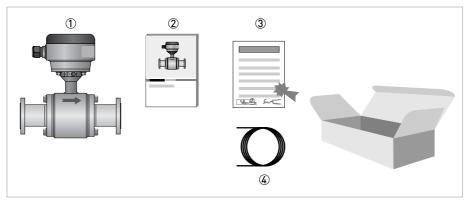


Figure 2-1: Scope of delivery

- ① Ordered flowmeter
- 2 Product documentation
- 3 Factory calibration report
- Signal cable (remote version only)

## 2.2 Device description

Your measuring device is supplied ready for operation. The factory settings for the operating data have been made in accordance with your order specifications.



#### INFORMATION!

Product specific information and extensive product specification is available using PICK, the Product Information Center KROHNE web-tool.

PICK can be found via the service menu button on the KROHNE.com website.



### The following versions are available:

- Compact version (the signal converter is installed directly on the measuring sensor)
- Remote version (electrical connection to the signal converter via field current and signal cable)



#### INFORMATION!

This flow sensor can be used as a remote version or as a compact version. All versions are covered by this document, although you will see the remote version in most pictures.

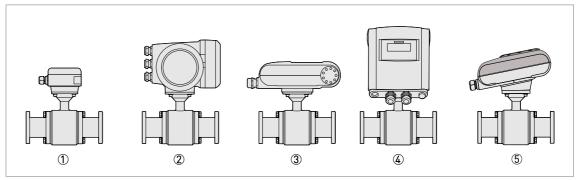


Figure 2-2: Available versions

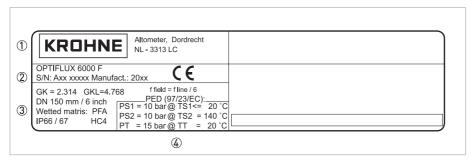
- ① Remote version
- ② Compact version with IFC 300 signal converter
- 3 Compact version with IFC 100 (0°) signal converter
- 4 Compact version with IFC 100 (45°) signal converter
- (5) Compact version with IFC 050 (10°) signal converter

## 2.3 Nameplates



#### INFORMATION!

Look at the device nameplate to ensure that the device is delivered according to your order. Check for the correct supply voltage printed on the nameplate.



- ① Name and address of the manufacturer
- ② Type designation of the flowmeter and CE sign with number(s) of notified body / bodies
- 3 Calibration data
- PED data

# 2.4 Storage

- Store the device in a dry and dust-free location.
- Avoid lasting direct exposure to the sun.
- Store the device in its original packaging.
- Storage temperature: -50...+70°C / -58...+158°F

## 2.5 Transport

### Signal converter

• No special requirements.

### **Compact version**

- Do not lift the device by the signal converter housing.
- Do not use lifting chains.
- To transport flange devices, use lifting straps. Wrap these around both process connections.

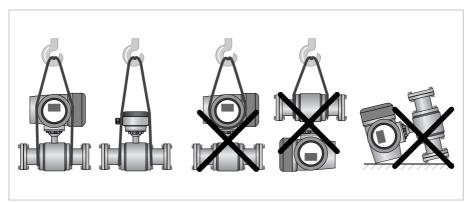


Figure 2-3: Transport

## 2.6 Pre-installation requirements

## Make sure that you have all necessary tools available:

- Allen key (4 mm)
- Small screwdriver
- Wrench for cable glands
- Wrench for wall mounting bracket (remote version only)
- Torque wrench for installing flowmeter in pipeline

## 2.7 General requirements



#### INFORMATION!

The following precautions must be taken to ensure reliable installation.

- Make sure that there is adequate space to the sides.
- Protect the signal converter from direct sunlight and install a sun shade if necessary.
- Signal converters installed in control cabinets require adequate cooling, e.g. by fan or heat exchanger.
- Do not expose the signal converter to intense vibration. The flowmeters are tested for a vibration level in accordance with IEC 68-2-64.

#### 2.7.1 Vibration

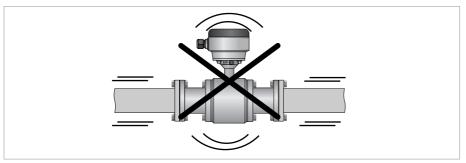


Figure 2-4: Avoid vibrations

### 2.7.2 Magnetic field

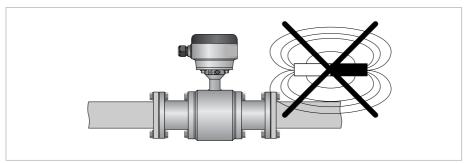


Figure 2-5: Avoid magnetic fields

### 2.8 Installation conditions

### 2.8.1 Inlet and outlet

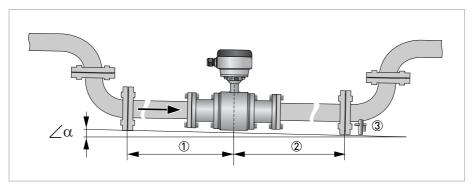


Figure 2-6: Recommended inlet and outlet

- ① Refer to chapter "Bends in 2 or 3 dimensions"
- ② ≥ 2 DN
- 3 Drain valve (to empty pipeline)

 $\angle \alpha$ ; >2°

### 2.8.2 Bends in 2 or 3 dimensions

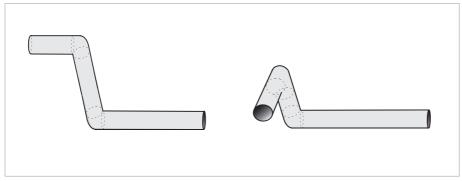


Figure 2-7: Inlet when using 2 and/or 3 dimensional bends in front of the flowmeter

Inlet length: using bends in 2 dimensions:  $\geq$  5 DN; when having bends in 3 dimensions:  $\geq$  10 DN

## 2.8.3 T-section

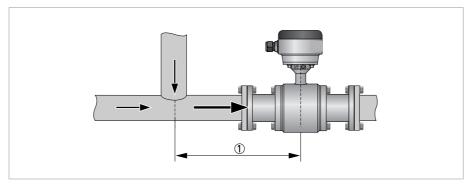


Figure 2-8: Distance behind a T-section

① ≥ 10 DN

### 2.8.4 Bends

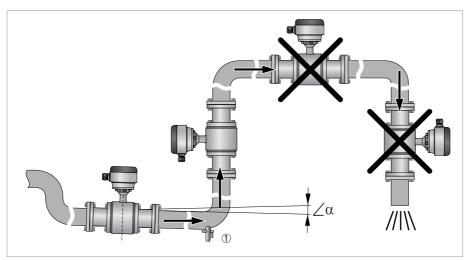


Figure 2-9: Installation in bending pipes

 $\angle \alpha$ ; >2°

① Drain valve (to empty pipeline)

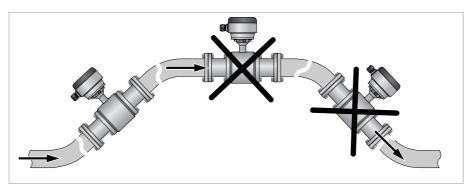


Figure 2-10: Installation in bending pipes

## 2.8.5 Open discharge

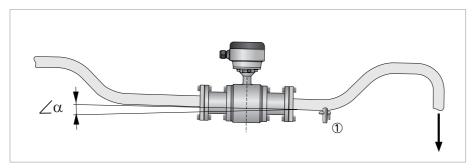


Figure 2-11: Installation in front of an open discharge

 $\angle \alpha$ ; >2°

① Drain valve (to empty pipeline)

### 2.8.6 Control valve

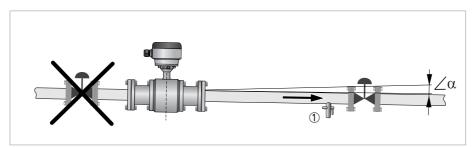


Figure 2-12: Installation in front of a control valve

 $\angle \alpha$ ; >2°

① Drain valve (to empty pipeline)

## 2.8.7 Pump

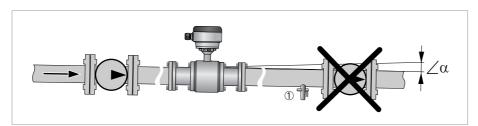


Figure 2-13: Installation behind a pump

## 2.8.8 Air venting and vacuum forces

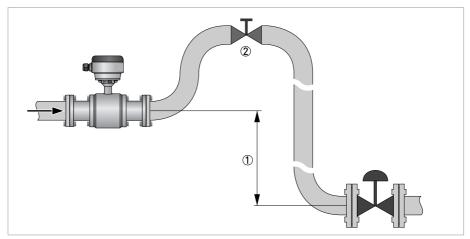


Figure 2-14: Air venting

- $\bigcirc$   $\geq$  5 m
- ② Air ventilation point

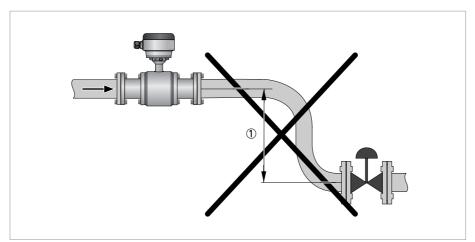


Figure 2-15: Vacuum

 $\bigcirc$   $\geq 5 \text{ m}$ 

## 2.8.9 Mounting requirements for self-draining



#### INFORMATION!

Applicable for 3A marked installations: install flow sensor in vertical pipelines or in pipelines with a minimum slope as indicated!

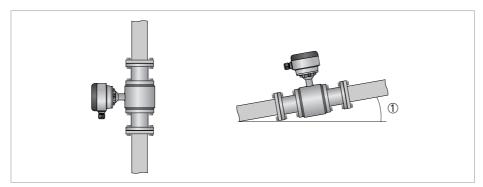


Figure 2-16: Installation note for 3A marked installations

1 Minimum slope

### Minimum slope

| Nominal<br>diameter | DIN<br>11850 | ISO<br>2037 | DIN<br>11864 2A | ISO<br>2852 | DIN<br>32676 | Tri<br>Clamp |
|---------------------|--------------|-------------|-----------------|-------------|--------------|--------------|
| 2.56                | 10°          | 10°         | -               | -           | -            | -            |
| 10                  | 3°           | 3°          | -               | -           | -            | -            |
| 15                  | 10°          | 10°         | -               | 1           | -            | -            |
| 25                  | 10°          | 3°          | 10°             | 3°          | 10°          | 3°           |
| 4050                | 5°           | 3°          | 5°              | 3°          | 5°           | 3°           |
| 6580                | 10°          | 3°          | 10°             | 3°          | 10°          | 3°           |
| 100                 | 5°           | 3°          | 5°              | 3°          | 5°           | 3°           |
| 125150              | 10°          | 3°          | 10°             | 3°          | 1            | 1            |

① on request

## 2.8.10 Flange deviation



#### **CAUTION!**

Max. permissible deviation of pipe flange faces:  $L_{max}$  -  $L_{min} \le 0.5$  mm / 0.02"

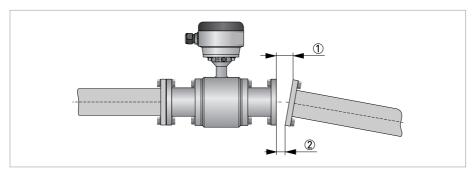


Figure 2-17: Flange deviation

- $\textcircled{1} \ L_{max}$
- $\ \ \, \textbf{2} \ \, \textbf{L}_{min}$

## 2.8.11 Mounting position

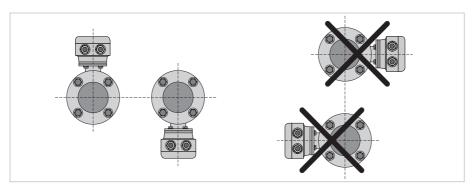


Figure 2-18: Mounting position

- Install flow sensor in line with the pipe axis.
- Pipe flange faces must be parallel to each other.

## 2.9 Mounting

## 2.9.1 Torques and pressures

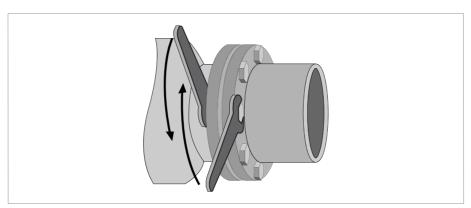


Figure 2-19: Tightening of bolts



#### **CAUTION!**

The max. allowable torque depends on the gasket material, see datasheet for detailed information.

Bolts to be used from material SS, class 70-A2.



## Tightening of bolts

- Always tighten the bolts uniformly and in diagonally opposite sequence.
- Do not exceed the maximum torque value.
- Step 1: Apply approx. 50% of max. torque given in table.
- Step 2: Apply approx. 80% of max. torque given in table.
- Step 3: Apply 100% of max. torque given in table.

#### Maximum torque for 11864-2A flange version

| Nominal diameter<br>[mm] | Pressure rating | Bolts  | Max. torque<br>[Nm] |
|--------------------------|-----------------|--------|---------------------|
| 25                       | PN 40           | 4x M6  | 7                   |
| 40                       | PN 40           | 4x M8  | 16                  |
| 50                       | PN 25           | 4x M8  | 16                  |
| 80                       | PN 25           | 6x M8  | 16                  |
| 100                      | PN 25           | 6x M8  | 16                  |
| 125                      | PN 10           | 6x M10 | 32                  |
| 150                      | PN 10           | 6x M10 | 32                  |

| Type of connection           | Size of connect  | ion   | Max. operating | pressure |
|------------------------------|------------------|-------|----------------|----------|
|                              | mm               | inch  | bar            | psig     |
| Aseptic weld on for pipes to | DN1040           | -     | 40             | 580      |
| DIN 11850                    | DN5080           | -     | 25             | 360      |
|                              | DN100            | -     | 16             | 230      |
|                              | DN125150         | -     | 10             | 145      |
| Aseptic weld on for pipes to | 1238             | -     | 40             | 580      |
| ISO 2037                     | 5176.1           | -     | 25             | 360      |
|                              | 101.6            | -     | 16             | 230      |
|                              | 114.3139.7       | -     | 10             | 145      |
| Dairy screw to DIN 11851 ①   | DN1040           | -     | 40             | 580      |
|                              | DN5080           | -     | 25             | 360      |
|                              | DN100            | -     | 16             | 230      |
|                              | DN125150         | -     | 10             | 145      |
| Screwed to SMS 1145 ①        | 2.5100           | -     | 6              | 90       |
| Flanges to DIN 11864-2A      | DN2540           | -     | 40             | 580      |
|                              | DN5080           | -     | 25             | 360      |
|                              | DN100            | -     | 16             | 230      |
|                              | DN125150         | -     | 10             | 145      |
| Clamp joint to ISO 2852      | 1251             | -     | 16             | 230      |
|                              | 63.576.1         | -     | 10             | 145      |
|                              | 100              | -     | 8              | 115      |
|                              | 114.3139.7       | -     | 5              | 72       |
| Clamp joint to DIN 32676     | DN2550           | -     | 16             | 230      |
|                              | DN65150          | -     | 10             | 145      |
| Clamp joint to Tri Clamp     | -                | 1/23  | 20.5           | 295      |
|                              | -                | 4     | 13.8           | 200      |
|                              | -                | 56    | 2              | 2        |
| Vacuum load                  | all versions and | sizes | 0 mbar abs.    | 0 psia   |

① Without 3A mark

#### 2.9.2 Installation of weld-on versions

For mounting sensors with weld-on connections, please follow the procedure as follows:



- Mount the sensor completely in the pipeline and spot the weld-on connections to the pipe. This is necessary to align the mounting bores of the flange.
- Remove the sensor body and the gaskets from the adapters by loosen the screws.
- Weld the adapters completely to the pipe.
- When the pipe is cold again, reinstall the gasket and mount the sensor.

② on request

## 2.9.3 Temperatures



#### **CAUTION!**

Protect the device from direct sunlight.

### Ambient temperature

|   | °C   |      | °F   |      |  |
|---|------|------|------|------|--|
|   | min. | max. | min. | max. |  |
| Separate flow sensor<br>Compact version with;<br>IFC 050 , IFC100 & IFC 300 | -40  | 65   | -40  | 149  |  |

### Maximum process temperature

| Type of connection                     | Separate flow sensor |     | Compact +<br>& IFC100 | · IFC 050 | Compact + IFC 300 |     |
|--|----------------------|-----|-----------------------|-----------|-------------------|-----|
|  | °C                   | °F  | °C                    | °F        | °C                | °F  |
| Aseptic weld on for pipes to DIN 11850 | 140                  | 284 | 120 ①                 | 248 ②     | 140               | 284 |
| Aseptic weld on for pipes to ISO 2037  | 140                  | 284 | 120 ①                 | 248 ②     | 140               | 284 |
| Dairy screw to DIN 11851 ③             | 140                  | 284 | 120 ①                 | 248 ②     | 140               | 284 |
| Screwed to SMS 1145 ③                  | 140                  | 284 | 120 ①                 | 248 ②     | 140               | 284 |
| Flanges to DIN 11864-2A                | 140                  | 284 | 120 ①                 | 248 ②     | 140               | 284 |
| Clamp joint to ISO 2852                | 120                  | 248 | 120                   | 248       | 120               | 248 |
| Clamp joint to DIN 32676               | 140                  | 284 | 120 ①                 | 248 ②     | 140               | 284 |
| Clamp joint to Tri Clamp               | 120                  | 248 | 120                   | 248       | 120               | 248 |

① 140°C if ambient temperature  $\leq$  40°C

② 284°F if ambient temperature ≤ 104°F

③ Without 3A mark

## 3.1 Safety instructions



#### DANGER!

All work on the electrical connections may only be carried out with the power disconnected. Take note of the voltage data on the nameplate!



#### DANGER!

Observe the national regulations for electrical installations!



#### WARNING!

Observe without fail the local occupational health and safety regulations. Any work done on the electrical components of the measuring device may only be carried out by properly trained specialists.



#### INFORMATION!

Look at the device nameplate to ensure that the device is delivered according to your order. Check for the correct supply voltage printed on the nameplate.

## 3.2 Grounding



#### DANGER!

The device must be grounded in accordance with regulations in order to protect personnel against electric shocks.

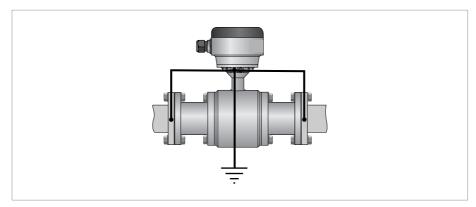


Figure 3-1: Grounding

## 3.3 Virtual reference for IFC 300 (C, W and F version)

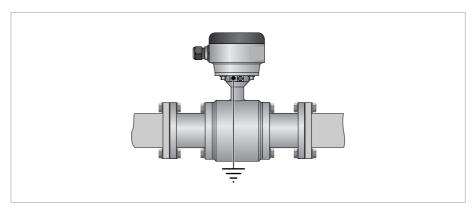


Figure 3-2: Virtual reference

#### Minimum requirements:

• Size: ≥ DN10

• Electrical conductivity:  $\geq 200 \,\mu\text{S/cm}$ 

• Electrode cable: max. 50 m / 164 ft, type DS

## 3.4 Connection diagrams

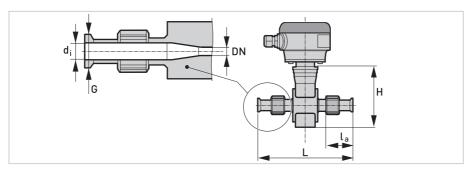


#### INFORMATION!

For the connection diagrams please refer to the documentation of the applicable signal converter.

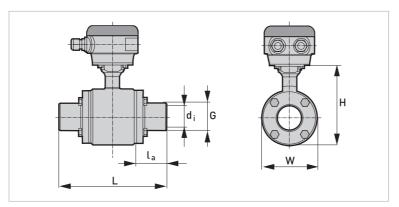
# 4.1 Dimensions and weights

### DIN 11850 (row 2 or DIN 11866 row A)



DN2.5...10 screwed adapter with DN10 process connections / DN15 screwed adapter

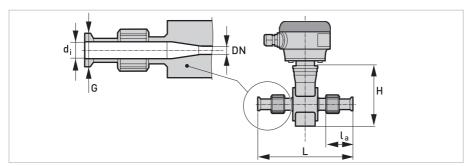
| Nomir | Nominal size Dimensions [mm] |    |         |                |           |     |      | Approx.<br>weight |
|-------|------------------------------|----|---------|----------------|-----------|-----|------|-------------------|
|       |                              |    | Adapter |                | Flowmeter |     |      | weight            |
| DN    | PN                           | di | G       | l <sub>a</sub> | L H W     |     | [kg] |                   |
| 2.510 | 40                           | 10 | 13      | 32             | 180       | 120 | 44   | 1.5               |
| 15    | 40                           | 16 | 19      | 32             | 180       | 120 | 44   | 1.5               |



DN25...150 bolted adapter

| Nomir | nal size |                | Dimensions [mm] |                |       |           |     |      |  |  |
|-------|----------|----------------|-----------------|----------------|-------|-----------|-----|------|--|--|
|       |          |                | Adapter         |                |       | Flowmeter |     |      |  |  |
| DN    | PN       | d <sub>i</sub> | G               | l <sub>a</sub> | L     | Н         | W   | [kg] |  |  |
| 25    | 40       | 26             | 29              | 20.6           | 132.6 | 128       | 89  | 3    |  |  |
| 40    | 40       | 38             | 41              | 61.3           | 220   | 153       | 114 | 5.3  |  |  |
| 50    | 25       | 50             | 53              | 61.3           | 220   | 153       | 114 | 6.8  |  |  |
| 65    | 25       | 66             | 70              | 41.8           | 220   | 180       | 141 | 10.9 |  |  |
| 80    | 25       | 81             | 85              | 66.8           | 280   | 191       | 152 | 11.2 |  |  |
| 100   | 16       | 100            | 104             | 59.3           | 280   | 242       | 203 | 18.4 |  |  |
| 125   | 10       | 125            | 129             | 66.3           | 319   | 258       | 219 | 29.5 |  |  |
| 150   | 10       | 150            | 154             | 64.3           | 325   | 293       | 254 | 44.3 |  |  |

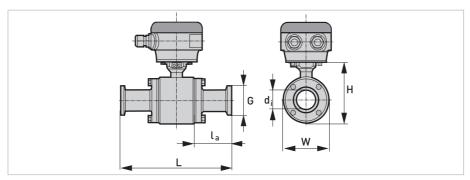
### **DIN 11851**



 ${\tt DN2.5...10~screwed~adapter~with~DN10~process~connections~/~DN15~screwed~adapter}$ 

| Nomir | nal size |                | Dimensions [mm] |                |           |     |    | Approx.<br>weight |
|-------|----------|----------------|-----------------|----------------|-----------|-----|----|-------------------|
|       |          |                | Adapter         |                | Flowmeter |     |    | weight            |
| DN    | PN       | d <sub>i</sub> | G               | l <sub>a</sub> | L         | Н   | W  | [kg]              |
| 2.510 | 40       | 10             | Rd 28 x 1/8"    | 53.1           | 214       | 142 | 44 | 1.5               |
| 15    | 40       | 16             | Rd 34 x 1/8"    | 53.1           | 214       | 142 | 44 | 1.5               |

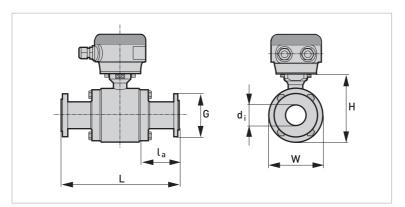
### **DIN 11851**



DN25...150 bolted adapter

| Nomir | nal size |                | Dimensions [mm] |       |     |        |     |      |  |  |
|-------|----------|----------------|-----------------|-------|-----|--------|-----|------|--|--|
|       | Adapter  |                |                 |       |     | weight |     |      |  |  |
| DN    | PN       | d <sub>i</sub> | G               | la    | L   | Н      | W   | [kg] |  |  |
| 25    | 40       | 26             | Rd 52 x 1/6"    | 49.3  | 190 | 128    | 89  | 3.2  |  |  |
| 40    | 40       | 38             | Rd 65 x 1/6"    | 91.3  | 280 | 153    | 114 | 5.5  |  |  |
| 50    | 25       | 50             | Rd 78 x 1/6"    | 93.3  | 284 | 153    | 114 | 5.3  |  |  |
| 65    | 25       | 66             | Rd 95 x 1/6"    | 77.8  | 292 | 180    | 141 | 10   |  |  |
| 80    | 25       | 81             | Rd 110 x 1/4"   | 107.8 | 362 | 191    | 152 | 12.5 |  |  |
| 100   | 16       | 100            | Rd 130 x 1/4"   | 109.3 | 380 | 242    | 203 | 21.8 |  |  |
| 125   | 10       | On reques      | On request      |       |     |        |     |      |  |  |
| 150   | 10       |                |                 |       |     |        |     |      |  |  |

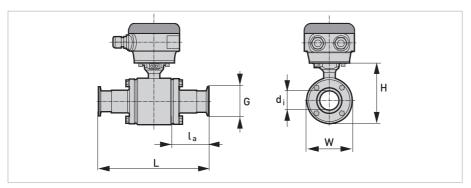
### DIN 11864-2A



DN25...150 bolted adapter

| Nomir | nal size |                |         | Dimensions [mm] |     |           |     |      |
|-------|----------|----------------|---------|-----------------|-----|-----------|-----|------|
|       |          |                | Adapter |                 |     | Flowmeter |     |      |
| DN    | PN       | d <sub>i</sub> | G       | l <sub>a</sub>  | L   | Н         | W   | [kg] |
| 25    | 40       | 26             | 70      | 45.8            | 183 | 128       | 89  | 4.4  |
| 40    | 25       | 38             | 82      | 83.3            | 264 | 153       | 114 | 7.5  |
| 50    | 25       | 50             | 94      | 83.3            | 264 | 153       | 114 | 9    |
| 65    | 25       | 66             | 113     | 63.8            | 264 | 180       | 141 | 14.5 |
| 80    | 25       | 81             | 133     | 122.8           | 392 | 191       | 152 | 18.6 |
| 100   | 16       | 100            | 159     | 115.3           | 392 | 242       | 203 | 28.2 |
| 125   | 10       | 125            | 183     | 121             | 429 | 259       | 219 | 35   |
| 150   | 10       | 150            | 213     | 127             | 450 | 294       | 254 | 52   |

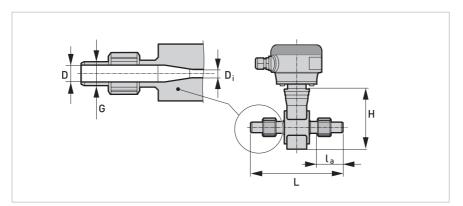
### **DIN 32676**



DN25...150 bolted adapter

| Nomir | nal size | Dimensions [mm] |         |                |     |           |     | Approx.<br>weight |
|-------|----------|-----------------|---------|----------------|-----|-----------|-----|-------------------|
|       |          |                 | Adapter |                |     | Flowmeter |     |                   |
| DN    | PN       | d <sub>i</sub>  | G       | l <sub>a</sub> | L   | Н         | W   | [kg]              |
| 25    | 16       | 26              | 50.5    | 41.8           | 175 | 128       | 89  | 3.2               |
| 40    | 16       | 38              | 50.5    | 80.8           | 259 | 153       | 114 | 5.5               |
| 50    | 16       | 50              | 64      | 80.8           | 259 | 153       | 114 | 5.3               |
| 65    | 16       | 66              | 91      | 67.8           | 272 | 180       | 141 | 10                |
| 80    | 16       | 81              | 106     | 92.8           | 332 | 191       | 152 | 12.5              |
| 100   | 16       | 100             | 119     | 85.3           | 332 | 242       | 203 | 21.8              |
| 125   | 16       | 125             | 155     | 90             | 366 | 259       | 219 | 30                |
| 150   | 16       | 150             | 213     | 127            | 450 | 294       | 254 | 45                |

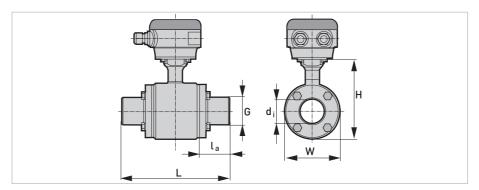
### ISO 2037



DN2.5...10 screwed adapter with DN10 process connections / DN17.2 screwed adapter

| Nomir | nal size |                |         | Dimensi        | ons [mm]  | Approx.<br>weights |    |         |
|-------|----------|----------------|---------|----------------|-----------|--------------------|----|---------|
|       |          |                | Adapter |                | Flowmeter |                    |    | weights |
| DN    | PN       | d <sub>i</sub> | G       | l <sub>a</sub> | L H W     |                    |    | [kg]    |
| 2.512 | 40       | 10             | 15      | 32             | 180       | 142                | 44 | 1.5     |
| 17.2  | 40       | 16             | 21      | 32             | 180       | 142                | 44 | 1.5     |

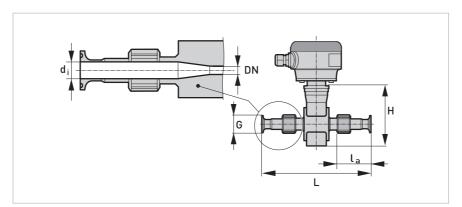
### ISO 2037



DN25...150 bolted adapter

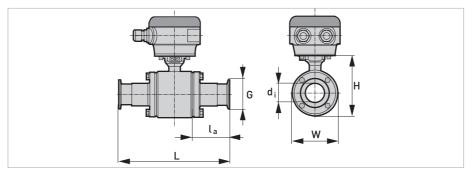
| Nomir | nal size | Dimensions [mm] |         |                |       |           |     | Approx.<br>weights |  |
|-------|----------|-----------------|---------|----------------|-------|-----------|-----|--------------------|--|
|       |          |                 | Adapter |                |       | Flowmeter |     |                    |  |
| DN    | PN       | d <sub>i</sub>  | G       | l <sub>a</sub> | L     | Н         | W   | [kg]               |  |
| 25    | 40       | 22.6            | 31      | 20.6           | 132.6 | 128       | 89  | 3                  |  |
| 38    | 40       | 38              | 43      | 61.3           | 220   | 153       | 114 | 5.3                |  |
| 51    | 25       | 49              | 55      | 61.3           | 220   | 153       | 114 | 5                  |  |
| 63.5  | 25       | 60.3            | 71      | 41.8           | 220   | 180       | 141 | 9                  |  |
| 76.1  | 25       | 72.9            | 86      | 66.8           | 280   | 191       | 152 | 10.8               |  |
| 101.6 | 16       | 97.6            | 105     | 59.3           | 280   | 242       | 203 | 18.4               |  |
| 114.3 | 10       | 110.3           | 130     | 66.3           | 319   | 258       | 219 | 29.5               |  |
| 139.7 | 10       | 135.7           | 156     | 64.3           | 325   | 293       | 254 | 44.3               |  |

### ISO 2852



DN2.5...10 screwed adapter with DN10 process connections / DN17.2 screwed adapter

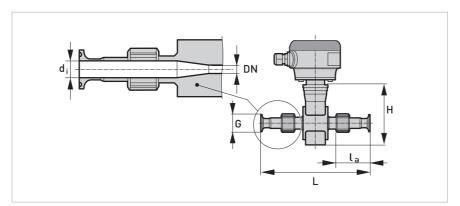
| 1     | Nominal size | <b>!</b> | Dimensions [mm] |         |                |           |     |    | Approx.<br>weight |
|-------|--------------|----------|-----------------|---------|----------------|-----------|-----|----|-------------------|
|       |              |          |                 | Adapter |                | Flowmeter |     |    | weight            |
| DN    | [Inch]       | PN       | d <sub>i</sub>  | G       | l <sub>a</sub> | L         | Н   | W  | [kg]              |
| 2.510 | 1/10"3/8"    | 16       | 10              | 34      | 51.6           | 219       | 142 | 44 | 1.8               |
| 17.2  | 1/2"         | 16       | 16              | 34      | 51.6           | 219       | 142 | 44 | 1.8               |



DN25...150 bolted adapter

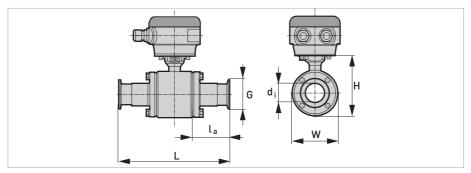
| N     | lominal s | ize | Dimensions [mm] |      |                |     |        |     | Approx. |
|-------|-----------|-----|-----------------|------|----------------|-----|--------|-----|---------|
|       |           |     | Adapter         |      |                |     | weight |     |         |
| DN    | [Inch]    | PN  | d <sub>i</sub>  | G    | l <sub>a</sub> | L   | Н      | W   | [kg]    |
| 25    | 1"        | 16  | 22.6            | 50,5 | 41.8           | 175 | 128    | 89  | 3.3     |
| 38    | 1.5"      | 16  | 35.6            | 50,5 | 87.8           | 273 | 153    | 114 | 5.4     |
| 50    | 2"        | 16  | 48.6            | 64   | 87.8           | 273 | 153    | 114 | 5.2     |
| 63.5  | 2.5"      | 10  | 60.3            | 77.5 | 68.3           | 273 | 180    | 141 | 9.5     |
| 76.1  | 3"        | 10  | 72.9            | 91   | 93.3           | 333 | 191    | 152 | 11.2    |
| 101.6 | 4"        | 8   | 97.6            | 119  | 85.8           | 333 | 242    | 203 | 19.1    |
| 114.3 | 5"        | 5   | 110.3           | 211  | 90             | 366 | 259    | 219 | 30      |
| 139.7 | 6"        | 5   | 135.7           | 246  | 90             | 376 | 294    | 254 | 45      |

## Tri Clamp



DN1/10...1/2" screwed adapter

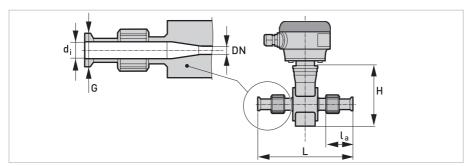
| Nominal size Dimensions [inch] |    |                |         |                |     | Approx. |      |      |
|--------------------------------|----|----------------|---------|----------------|-----|---------|------|------|
|                                |    |                | Adapter |                |     | weight  |      |      |
| DN                             | PN | d <sub>i</sub> | G       | l <sub>a</sub> | L   | Н       | W    | [kg] |
| 1/10"3/8"                      | 20 | 0.37           | 0.98    | 1.97           | 8.5 | 5.59    | 1.73 | 1.5  |
| 1/2"                           | 20 | 0.62           | 0.98    | 1.97           | 8.5 | 5.59    | 1.73 | 1.5  |



DN1...6" bolted adapter

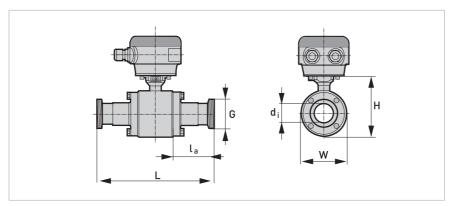
| Nomir | Nominal size Dimensions [inch] |                |         |                |       |           | Approx.<br>weight |      |  |
|-------|--------------------------------|----------------|---------|----------------|-------|-----------|-------------------|------|--|
|       |                                |                | Adapter |                |       | Flowmeter |                   |      |  |
| DN    | PN                             | d <sub>i</sub> | G       | l <sub>a</sub> | L     | Н         | W                 | [kg] |  |
| 1"    | 20                             | 0.85           | 1.98    | 1.02           | 5.64  | 5.04      | 3.5               | 3.2  |  |
| 1½"   | 20                             | 1.35           | 1.98    | 3.46           | 10.75 | 6.02      | 4.49              | 5.5  |  |
| 2"    | 20                             | 1.85           | 2.52    | 3.46           | 10.75 | 6.02      | 4.49              | 5.3  |  |
| 2½"   | 20                             | 2.35           | 3.05    | 2.69           | 11.5  | 7.09      | 5.55              | 10   |  |
| 3"    | 20                             | 2.85           | 3.54    | 3.68           | 14.25 | 7.52      | 5.98              | 12.5 |  |
| 4"    | 12                             | 3.83           | 4.68    | 3.38           | 14.96 | 9.53      | 7.99              | 21.8 |  |
| 5"    | '-                             | 4.78           | 5.69    | 3.54           | 14.43 | 10.20     | 8.62              | 30   |  |
| 6"    | '-                             | 5.78           | 6.57    | 3.62           | 14.98 | 11.57     | 10.00             | 45   |  |

### SMS 1145 Adapter



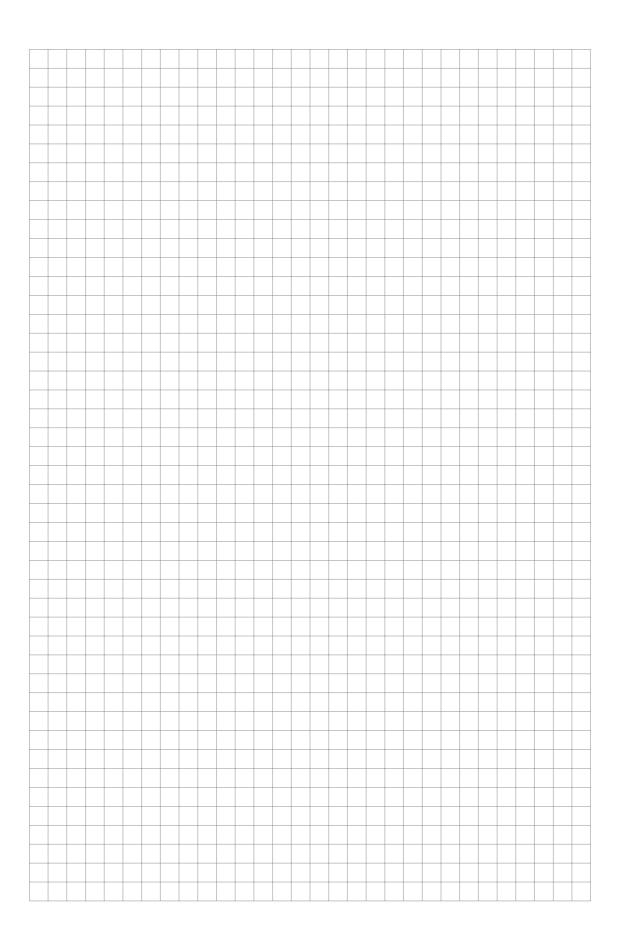
 ${\tt DN2.5...10~screwed~adapter~with~DN10~process~connections~/~DN15~screwed~adapter}$ 

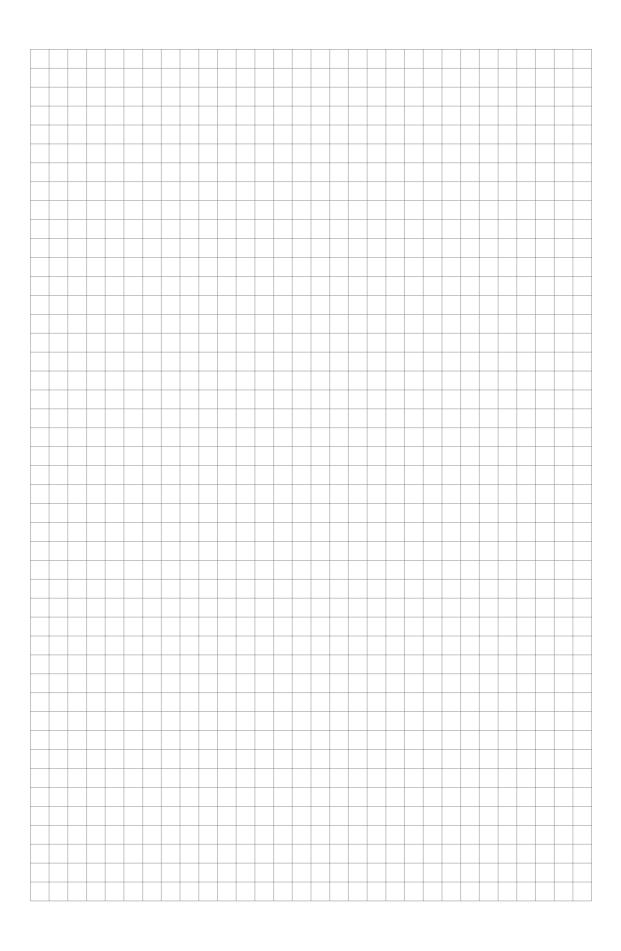
| Nomir | nal size |                |         | Dimensi        | ons [mm] | Approx.<br>weight |    |      |  |
|-------|----------|----------------|---------|----------------|----------|-------------------|----|------|--|
|       |          |                | Adapter | Adapter        |          | Flowmeter         |    |      |  |
| DN    | PN       | d <sub>i</sub> | G       | l <sub>a</sub> | L        | Н                 | W  | [kg] |  |
| 2.5   | 39       | 10             | Rd 40-6 | 53             | 226      | 128               | 44 | 2    |  |
| 4     | 39       | 10             | Rd 40-6 | 53             | 226      | 128               | 44 | 2    |  |
| 6     | 39       | 10             | Rd 40-6 | 53             | 226      | 128               | 44 | 2    |  |
| 10    | 6        | 10             | Rd 40-6 | 53             | 226      | 128               | 44 | 2    |  |
| 15    | 6        | 10             | Rd 40-6 | 53             | 226      | 128               | 44 | 2    |  |



DN25...100 bolted adapter

| Nomir | nal size |      | Dimensions [mm] |                |           |     |     |        |
|-------|----------|------|-----------------|----------------|-----------|-----|-----|--------|
|       |          |      | Adapter         |                | Flowmeter |     |     | weight |
| DN    | PN       | di   | G               | l <sub>a</sub> | L         | Н   | W   | [kg]   |
| 25    | 6        | 22.6 | Rd 40-6         | 28.1           | 147.6     | 128 | 89  | 3.2    |
| 38    | 6        | 35.5 | Rd 60-6         | 54             | 262       | 153 | 114 | 5.7    |
| 51    | 6        | 48.6 | Rd 70-6         | 84.3           | 266       | 153 | 114 | 5.4    |
| 63.5  | 6        | 60.3 | Rd 85-6         | 69.8           | 276       | 180 | 141 | 9.9    |
| 76    | 6        | 72.9 | Rd 98-6         | 99.8           | 346       | 191 | 152 | 12.1   |
| 100   | 6        | 97.6 | Rd 132-6        | 44             | 336       | 242 | 203 | 21.9   |







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