Mounting instructions

Rinsing connection

for VEGAPULS WL 61, 61, 64, 67 and 69

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Contents

Safety instructions for Ex areas

Please note the Ex-specific safety information for installation and operation in Ex areas. These safety instructions are part of the operating instructions and come with the Ex-approved instruments.

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1 For your safety

1.1 Authorised personnel

All operations described in this operating instructions manual must be carried out only by trained qualified personnel authorised by the plant operator.

During work on and with the device, the required personal protective equipment must always be worn.

1.2 Appropriate use

The rinsing connection is an accessory part for VEGAPULS WL 61, 61, 64, 67 and 69 radar sensors.

You can find detailed information about the area of application in chapter " *Product description*".

1.3 Warning about incorrect use

Inappropriate or incorrect use of the instrument can give rise to application-specific hazards, e.g. vessel overfill or damage to system components through incorrect mounting or adjustment.

1.4 General safety instructions

The safety information in the operating instructions manual of the respective sensor must be noted.

2 Product description

2.1 Configuration

Scope of delivery

The scope of delivery encompasses:

- Rinsing connection
- Reflux valve (optional)
- Mounting screws (version for adapter flange)
- Documentation
  – These mounting instructions

Versions

The rinsing connection is available in two versions:

- For devices with compression flange or adapter flange 3"
- For devices with adapter flange from 4"/DN 100

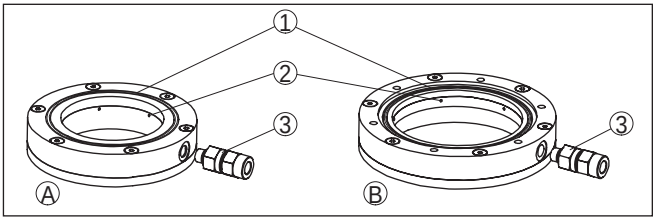

Fig. 1: Configuration and versions, rinsing connection

A For compression flange or adapter flange 3"
B For adapter flange from 4"/DN 100
1 O-ring seal
2 Air nozzles
3 Reflux valve

2.2 Principle of operation

Area of application

The rinsing connection is suitable for VEGAPULS WL 61, 61, 67 and 69 radar sensors with the following process fittings:

- Combi compression flange DN 80, ASME 3", JIS DN 80 10K as well as adapter flange ASME 3"
- Adapter flange from DN 100, ASME 4", JIS DN 100 10K

Note:
The instrument flange must be of material PP-GF 30 (colour black).

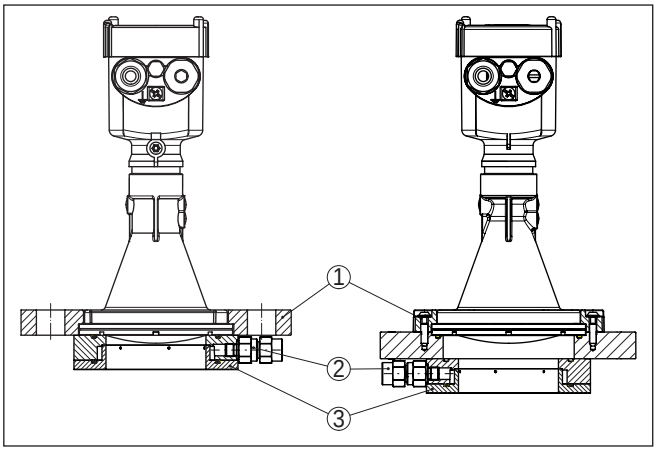

Fig. 2: Rinsing connection with radar sensor with compression flange or adapter flange ASME 3"

1 Compression flange or adapter flange ASME 3"
2 Reflux valve
3 Rinsing connection

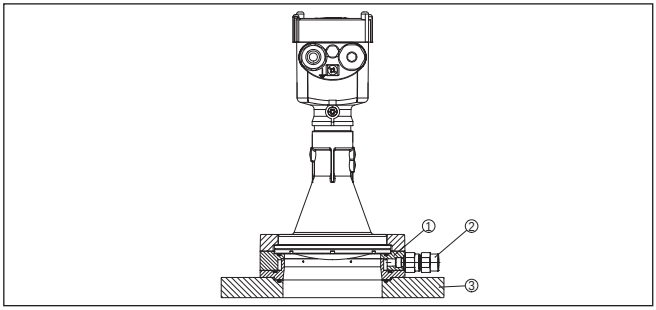

Fig. 3: Rinsing connection with radar sensor with adapter flange in other sizes

1 Rinsing connection
2 Reflux valve
3 Adapter flange

Functional principle

Bulk solids applications

The rinsing connection is used to blow compressed air into the antenna area of the radar sensor. This protects the surfaces of the antenna system against dust or condensation. You can find detailed specifications on the air volume/pressure in chapter " *Technical data*".

Liquid applications

The rinsing connection is used for cyclic injection of clean water or some other suitable cleaning fluid into the antenna area of the radar sensor. This protects the surface of the antenna system against buildup or deposits. Continuous injection of fluid is not recommended.

Reflux valve

The optional reflux valve keeps process air out of the system.

In Ex applications, the reflux valve is absolutely required.

Mounting

Sensor with compression flange
The rinsing connection is installed between sensor and vessel flange.

The sealing to the sensor is carried out with the supplied O-ring sealing, to the vessel flange through the flat sealing from customer side.

Sensor with adapter flange
The rinsing connection is installed between adapter ring and flange.

The sealing each to the sensor and sensor flange is carried out via a supplied O-ring sealing. The sealing of the adapter flange to the vessel flange is carried out through the flat sealing from customer side.

3 Mounting

3.1 Mounting preparations

Tool

Required tools:

- Torx wrench, size T25

3.2 Mounting steps compression flange, adapter flange ASME 3"

Proceed as follows:

1. Apply flat seal (provided by the customer) to the process flange
2. Place rinsing connection (with the smooth lower surface) onto the process flange

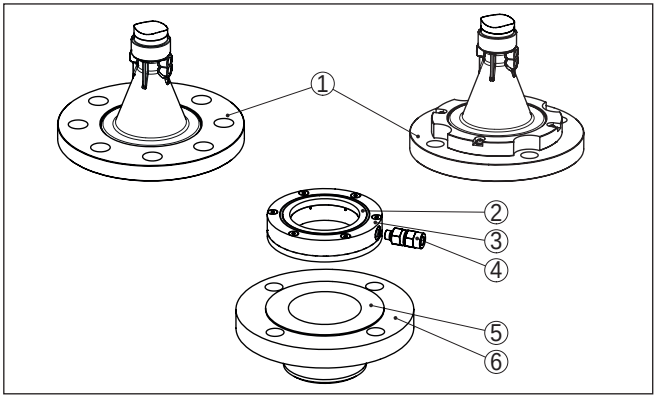

Fig. 4: Mounting of the rinsing connection with compression flange and adapter flange ASME 3"

1 Compression or adapter flange ASME 3"
2 O-ring seal
3 Rinsing connection
4 Reflux valve
5 Process seal (provided by customer)
6 Process flange

3. Insert O-ring seal into the groove on the upper side of the rinsing connection
4. Screw reflux valve (optional) into the rinsing connection
5. Set sensor with compression or adapter flange ASME 3" to rinsing connection
6. Tighten flange screws evenly, e.g. crosswise in two or three passes. Tightening torque, see chapter " *Technical data*".

3.3 Mounting stepps adapter flanges from 4"/ DN 100

Proceed as follows:

1. Loosen mounting screws of the adapter ring, detach adapter ring

2. Place rinsing connection with its smooth lower surface onto the adapter flange, making sure that the O-ring seal is not displaced.

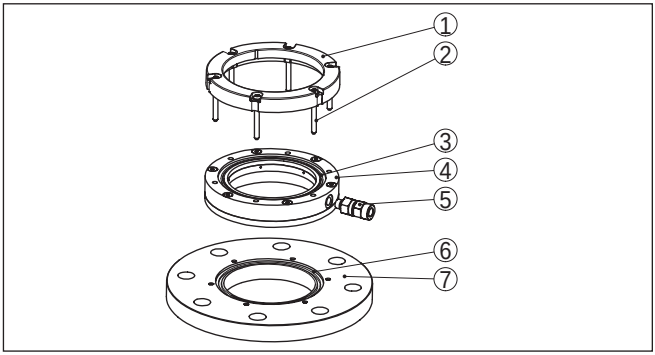

Fig. 5: Mounting of the rinsing connection with adapter flange

1 Adapter ring
2 Mounting screws
3 O-ring seal
4 Rinsing connection
5 Reflux valve
6 O-ring seal
7 Adapter flange

3. Insert O-ring seal into the groove on the upper side of the rinsing connection
4. Screw reflux valve (optional) into the rinsing connection
5. Insert the supplied (longer) mounting screws into the adapter ring
6. Tighten mounting screws evenly, e.g. crosswise in two or three passes. Tightening torque, see chapter " *Technical data*".

4 Supplement

4.1 Technical data

Materials, weights, torque

Materials

- Rinsing connection — PP GFK
- O-ring seal — FKM, (SHS FPM 70C3 GLT), EPDM (COG AP310)
- Reflux valve — 316Ti
- Sealing, reflux valve — FKM, (SHS FPM 70C3 GLT), EPDM (COG AP310)

Weights, rinsing connection

- For compression flange — approx. 300 g (0.661 lbs)
- For adapter flange — approx. 350 g (0.772 lbs)

Torques

- Flange screws, compression flange DN 80 — 5 Nm (3.689 lbf ft)
- Mounting screws, adapter ring — 2.5 Nm (1.844 lbf ft)
- Flange screws, adapter flange DN 100 — 7 Nm (5.163 lbf ft)

Data on rinsing air connection

Max. permissible pressure — 6 bar (87.02 psig)

Air volume, depending on pressure (recommended range)

Pressure	Air volume	
	Without reflux valve	With reflux valve
0.2 bar (2.9 psig)	3.3 m³/h	-
0.4 bar (5.8 psig)	5 m³/h	-
0.6 bar (8.7 psig)	6 m³/h	1 m³/h
0.8 bar (11.6 psig)	-	2.1 m³/h
1 bar (14.5 psig)	-	3 m³/h
1.2 bar (17.4 psig)	-	3.5 m³/h
1.4 bar (20.3 psig)	-	4.2 m³/h
1.6 bar (23.2 psig)	-	4.4 m³/h
1.8 bar (20.3 psig)	-	4.8 m³/h
2 bar (23.2 psig)	-	5.1 m³/h

Thread — G⅛

Reflux valve - unmounted (as option with non-Ex version, included in the scope of delivery with Ex version)

- Thread — G⅛
- For connection — G⅛
- Opening pressure — 0.5 bar (7.25 psig)

Process conditions	
Vessel pressure	-0.1 … 2 bar (-1.45 … 29.00 psig)/-10 … 200 kPa
Process temperature	-40 … 80 °C (-40 … 176 °F)

4.2 Dimensions

Rinsing connection

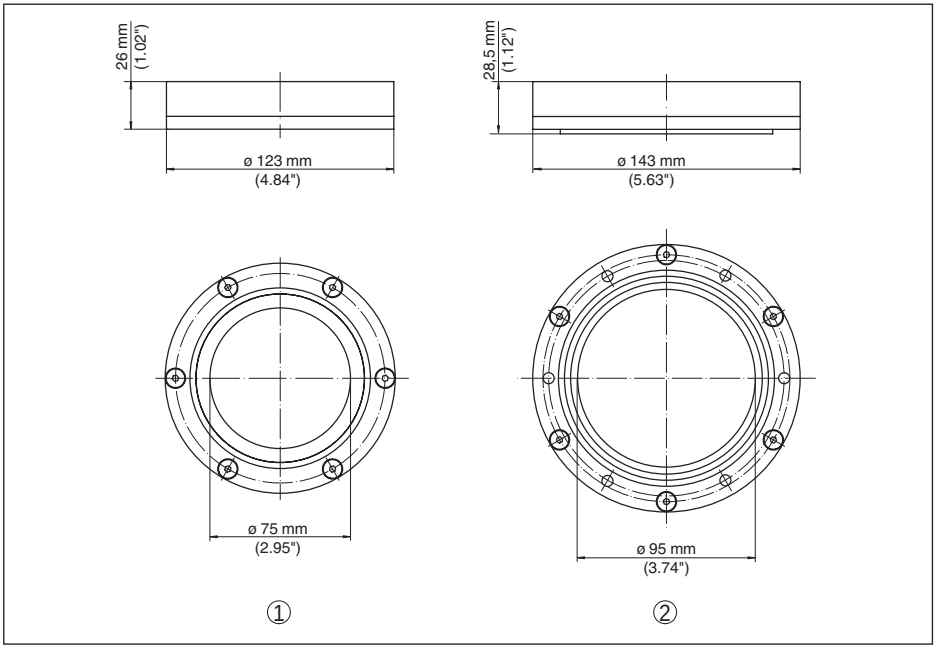

Fig. 6: Dimensions, rinsing connection

1 For compression flange, adapter flange ASME 3"
2 For adapter flanges from 4"/DN 100

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