Mounting instructions

Variable seal

for VEGAPULS 64, 67 and 69

Document ID: 33797

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 manual and come with the Ex-approved instruments.

Editing status: 2018-12-20

33797-EN-181220

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 variable seal is an accessory part for mounting VEGAPULS 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.

33797-EN-181220

2 Product description

2.1 Features

Scope of delivery

The scope of delivery encompasses:

- Variable seal
- Documentation
  – These mounting instructions

Configuration

The variable seal consists of two parts. They are joined together with a form-locking tongue and groove joint.

2.2 Principle of operation

Area of application

The variable seal is mounted between sensor flange and vessel flange. It is used to direct the sensor antenna to the bulk solids surface and hence optimise the measurement.

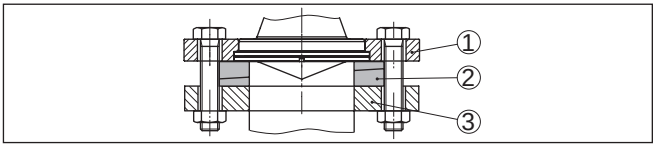


Fig. 1: Use of the variable seal

1 Sensor flange
2 Variable seal
3 Vessel flange

The variable seal is suitable for VEGAPULS 64, 67 and 69 radar sensors.

Functional principle

The two wedge-shaped parts of the seal can be turned against each other without tools up to an angle of 8°. After installation, they are joined together in a media-tight manner.

Fig. 2: Parts of the variable seal

33797-EN-181220

3 Mounting

3.1 Mounting preparations

Overview

The following table shows combination possibilities of variable seal and sensor or vessel flange.

Variable seal	Sensor flange	Vessel flange acc. to DIN	Vessel flange acc. to ASME	Screw dimension
DN 80 PN10-40	DN 80/ ASME 3"	●	●	M12 x 100
DN 100 PN10-16	DN 100	●	-	M14 x 100
DN 125 PN10-16	DN 125	●	-	
DN 150 PN10-16	DN 150	●	-	M18 x 100
DN 200 PN10-16	DN 200	●	-	
3" Class 150	ASME 3"	-	●	M14 x 100
4" Class 150	ASME 4"	-	●	
6" Class 150	ASME 6"	-	●	M14 x 110
8" Class 150	ASME 8"	-	●	M14 x 130

Mounting instructions

Take note of the following before mounting:

- Flanges should be metallically clean
- Do not use separating or sealing agents containing grease or oil
- Never use variable seal more than once

Note:
Products containing grease or oil have a negative influence on the safety of the entire flange connection.

The multiple use of seals is to be rejected for safety reasons.

3.2 Installation procedure

Mounting

Proceed as follows:

1. Turn parts of the seal in such a way that the requested orientation angle is reached
2. Insert the seal between sensor flange and vessel flange, orientate and centre
3. Grease the screws and tighten them evenly, e.g. crosswise in two or three passes. Tightening torque, see chapter "*Technical data*"
4. Check function of the measurement; correct orientation angle if necessary

Retightening is not necessary in most cases.

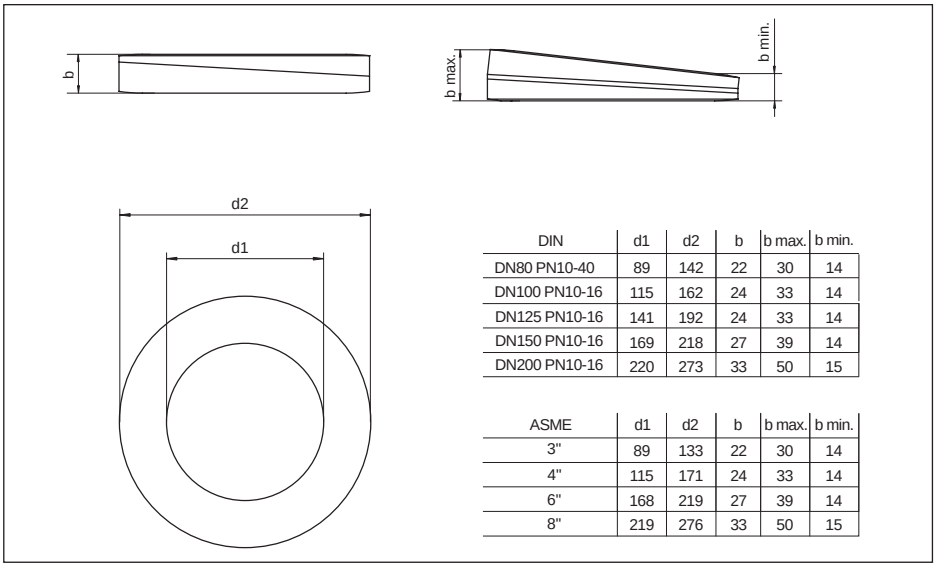
4 Supplement

4.1 Technical data

General data	
Material	EPDM
Torque M flange screws	5 Nm < M < 10 Nm
Weight	
– DN 80	approx. 350 g (0.772 lbs)
– DN 100	approx. 400 g (0.882 lbs)
– DN 125	approx. 500 g (1.102 lbs)
– DN 150	approx. 600 g (1.322 lbs)
– DN 200	approx. 900 g (1.984 lbs)
– 3"	approx. 200 g (0.441 lbs)
– 4"	approx. 300 g (0.661 lbs)
– 6"	approx. 500 g (1.102 lbs)
– 8"	approx. 750 g (1.653 lbs)
Adjustment range, max.	8°

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

4.2 Dimensions



DIN	d1	d2	b	b max.	b min.
DN80 PN10-40	89	142	22	30	14
DN100 PN10-16	115	162	24	33	14
DN125 PN10-16	141	192	24	33	14
DN150 PN10-16	169	218	27	39	14
DN200 PN10-16	220	273	33	50	15

ASME	d1	d2	b	b max.	b min.
3"	89	133	22	30	14
4"	115	171	24	33	14
6"	168	219	27	39	14
8"	219	276	33	50	15

Fig. 3: Dimensions variable seal according to DIN EN 1514-1

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.

Printing date:

33797-EN-181220

VEGA Grieshaber KG
Am Hohenstein 113
77761 Schiltach
Germany

Phone +49 7836 50-0
Fax +49 7836 50-201
E-mail: info.de@vega.com
www.vega.com