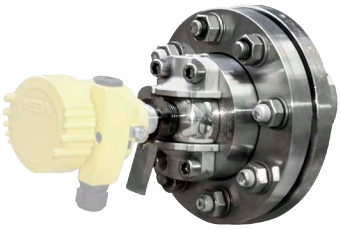
Operating Instructions

Ball valve fitting PASVE

for VEGABAR 82



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Contents

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1 About this document

1.1 Function

This instruction provides all the information you need for mounting, connection and setup as well as important instructions for maintenance, fault rectification, the exchange of parts and the safety of the user. Please read this information before putting the instrument into operation and keep this manual accessible in the immediate vicinity of the device.

1.2 Target group

This operating instructions manual is directed to trained personnel. The contents of this manual must be made available to the qualified personnel and implemented.

1.3 Symbols used

Document ID
This symbol on the front page of this instruction refers to the Document ID. By entering the Document ID on www.vega.com you will reach the document download.

Information, note, tip: This symbol indicates helpful additional information and tips for successful work.

Note: This symbol indicates notes to prevent failures, malfunctions, damage to devices or plants.

Caution: Non-observance of the information marked with this symbol may result in personal injury.

Warning: Non-observance of the information marked with this symbol may result in serious or fatal personal injury.

Danger: Non-observance of the information marked with this symbol results in serious or fatal personal injury.

Ex applications
This symbol indicates special instructions for Ex applications.

- **List**
  The dot set in front indicates a list with no implied sequence.

1 **Sequence of actions**
Numbers set in front indicate successive steps in a procedure.

Battery disposal
This symbol indicates special information about the disposal of batteries and accumulators.

2 For your safety

2.1 Authorised personnel

All operations described in this documentation 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.

2.2 Appropriate use

The ball valve fitting PASVE™ is used for mounting of VEGABAR 82 pressure transmitters with process fitting " *Thread 1" suitable for PASVE*". [1)]

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

Operational reliability is ensured only if the instrument is properly used according to the specifications in the operating instructions manual as well as possible supplementary instructions.

For safety and warranty reasons, any invasive work on the device beyond that described in the operating instructions manual may be carried out only by personnel authorised by the manufacturer. Arbitrary conversions or modifications are explicitly forbidden.

2.3 Warning about incorrect use

Inappropriate or incorrect use of this product can give rise to application-specific hazards, e.g. vessel overfill through incorrect mounting or adjustment. Damage to property and persons or environmental contamination can result. Also, the protective characteristics of the instrument can be impaired.

2.4 General safety instructions

This is a state-of-the-art instrument complying with all prevailing regulations and directives. The instrument must only be operated in a technically flawless and reliable condition. The operator is responsible for the trouble-free operation of the instrument. When measuring aggressive or corrosive media that can cause a dangerous situation if the instrument malfunctions, the operator has to implement suitable measures to make sure the instrument is functioning properly.

The safety instructions in this operating instructions manual, the national installation standards as well as the valid safety regulations and accident prevention rules must be observed by the user.

For safety and warranty reasons, any invasive work on the device beyond that described in the operating instructions manual may be carried out only by personnel authorised by the manufacturer. Arbitrary conversions or modifications are explicitly forbidden. For safety reasons, only the accessory specified by the manufacturer must be used.

[1)] PASVE is a trade name of Satron Instruments Inc.

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To avoid any danger, the safety approval markings and safety tips on the device must also be observed.

2.5 Safety label on the instrument

The safety approval markings and safety tips on the device must be observed.

2.6 Environmental instructions

Protection of the environment is one of our most important duties. That is why we have introduced an environment management system with the goal of continuously improving company environmental protection. The environment management system is certified according to DIN EN ISO 14001.

Please help us fulfil this obligation by observing the environmental instructions in this manual:

- Chapter " *Packaging, transport and storage*"
- Chapter " *Disposal*"

3 Product description

3.1 Configuration

Scope of delivery

The scope of delivery encompasses:

- Ball valve fitting PASVE
- Documentation
  - This operating instructions manual

Constituent parts

Depending on the version, the ball valve fitting PASVE consists of the components:

- Fitting with swivelling and locking lever
- Handle
- With flange versions: compression flange

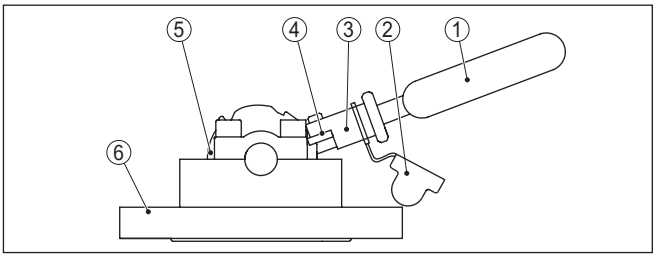

Fig. 1: Ball valve fitting PASVE with compression flange

1 Handle
2 Protective cap
3 Swivelling and locking lever
4 Catch
5 Ball valve
6 Compression flange

Versions

The ball valve fitting PASVE is available in the following versions:

- Standard
- With rinsing air connection
- With rinsing on the process side

Standard
The standard version has a threaded connection for venting/drainage.

Rinsing connection
The basic body of this version is equipped with two rinsing connections. This enables rinsing of the sensor diaphragm in the Service position without removing the sensor.

Process side rinsing
This version assumes that a rinsing connection is available. It additionally enables continuous rinsing of the sensor diaphragm in the Operation position.

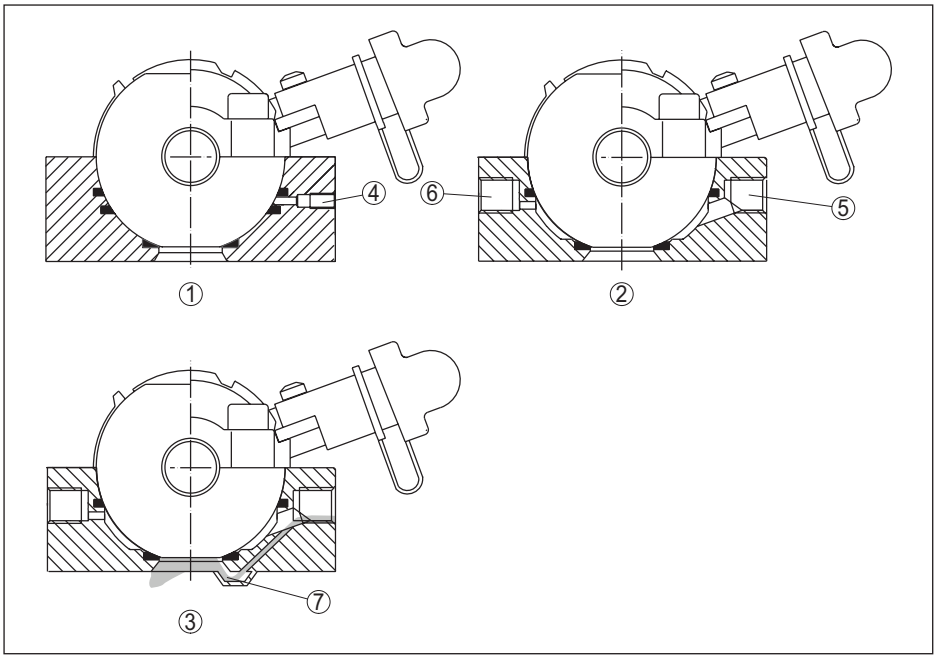

Fig. 2: Versions of the ball valve fitting PASVE

1 *Standard version*
2 *Version with rinsing connection*
3 *Version with process side rinsing*
4 *Ventilation/Dehydration*
5 *Rinsing water input*
6 *Rinsing water output*
7 *Process side rinsing*

3.2 Principle of operation

Application area

The ball valve fitting PASVE enables mounting or dismounting of the VEGABAR 82 pressure transmitter without the vessel having to be emptied or the pipeline depressurized.

Depending on the version, the ball valve fitting PASVE is suitable for:

- Mounting on vessels with nozzle and flange DN 80
- Welding into vessels or pipelines

Functional principle

The ball valve fitting PASVE can be set in three positions by the swivelling and locking lever:

- Operation
- Service
- Cleaning

In the " *Operation*" position, the ball valve is open to the process. The pressure transmitter is in the measuring position.

In the " *Service*" position, the ball valve is closed to the process. The pressure transmitter is separated from the process and can be dismounted.

In the " *Cleaning*" position, the ball valve is closed to the process. The measurement aperture can be cleaned when the pressure transmitter is dismounted.

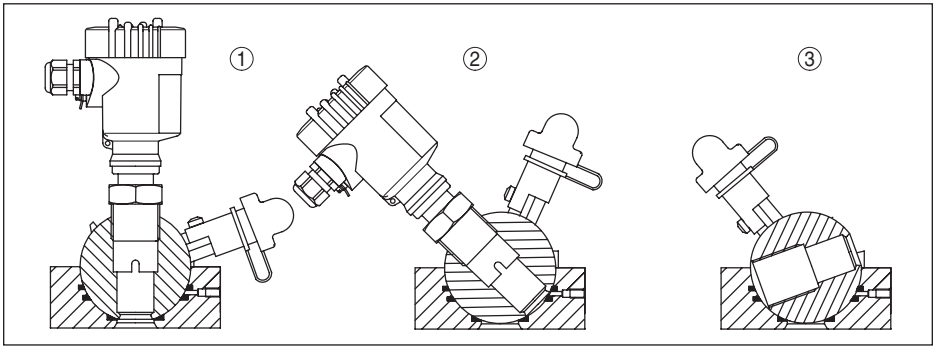

Fig. 3: Positions of the ball valve fitting PASVE

1 Operation
2 Service
3 Cleaning

3.3 Packaging, transport and storage

Packaging

Your instrument was protected by packaging during transport. Its capacity to handle normal loads during transport is assured by a test based on ISO 4180.

The packaging of standard instruments consists of environment-friendly, recyclable cardboard. For special versions, PE foam or PE foil is also used. Dispose of the packaging material via specialised recycling companies.

Transport

Transport must be carried out in due consideration of the notes on the transport packaging. Nonobservance of these instructions can cause damage to the device.

Transport inspection

The delivery must be checked for completeness and possible transit damage immediately at receipt. Ascertained transit damage or concealed defects must be appropriately dealt with.

Storage

Up to the time of installation, the packages must be left closed and stored according to the orientation and storage markings on the outside.

Unless otherwise indicated, the packages must be stored only under the following conditions:

- Not in the open
- Dry and dust free
- Not exposed to corrosive media
- Protected against solar radiation

- Avoiding mechanical shock and vibration

Storage and transport temperature

- Storage and transport temperature see chapter " *Supplement - Technical data - Ambient conditions*"
- Relative humidity 20 … 85 %

Lifting and carrying

With instrument weights of more than 18 kg (39.68 lbs) suitable and approved equipment must be used for lifting and carrying.

4 Mounting

4.1 Safety instructions

Always keep in mind the following safety instructions:

Warning:
The handle is only pushed on. There is a serious risk of injury from a falling fitting when it is carried by the handle.

Therefore, always grip the ball valve fitting firmly with both hands on the basic body for carrying.

Warning:
When mounting or dismounting the fitting on a vessel or pipeline there is a serious risk of injury from medium escaping under process pressure.

Therefore, only mount and dismount the ball valve fitting with an emptied vessel or in depressurized condition.

Warning:
When setting the fitting in the " *Operation*" position with an installed pressure transmitter, there is a serious risk of injury from escaping medium under process pressure.

Therefore, only set the fitting in the " *Operation*" position with an installed pressure transmitter.

4.2 General instructions

Process conditions

Note:
For safety reasons, the instrument must only be operated within the permissible process conditions. You can find detailed information on the process conditions in chapter " *Technical data*" of the operating instructions or on the type label.

Hence make sure before mounting that all parts of the instrument exposed to the process are suitable for the existing process conditions.

These are mainly:

- Active measuring component
- Process fitting
- Process seal

Process conditions in particular are:

- Process pressure
- Process temperature
- Chemical properties of the medium
- Abrasion and mechanical influences

4.3 Mounting instructions

Mounting arrangement

The Standard version is mounted vertically, the ventilation/dehydration points downward. The movement of the swivelling and locking level is also vertical.

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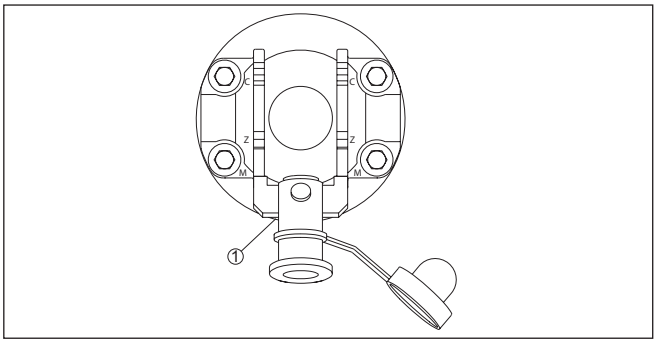


Fig. 4: Mounting arrangement for standard version

1 Ventilation/Dehydration

The version with rinsing air connection is mounted horizontally. The rinsing opening as well as the movement of the swivelling and locking lever are also horizontal.

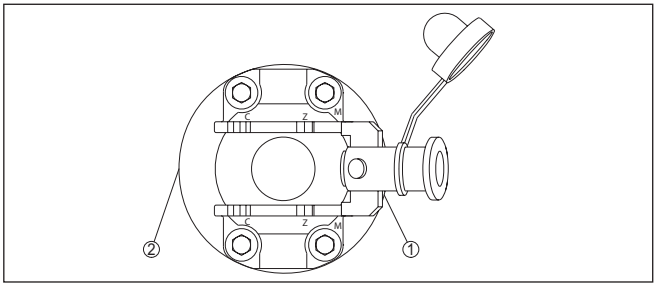


Fig. 5: Mounting configuration for the version with rinsing air connection

1 Rinsing water input
2 Rinsing water output

Welding

Note the following drawing for welding:

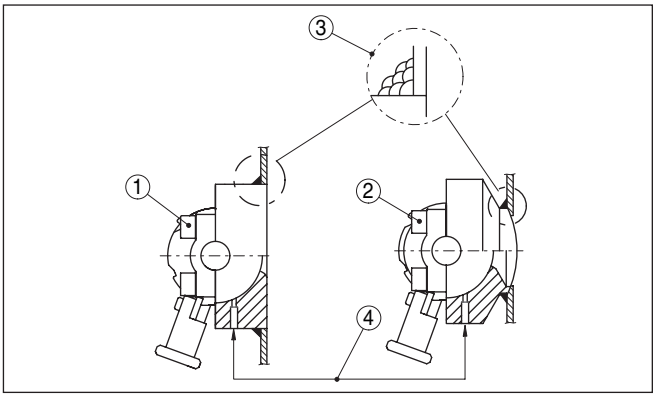


Fig. 6: Ball valve fitting PASVE in welded version

1 for vessels
2 for pipelines
3 Diameter of the weld joint max. 2.25 mm
4 Position of the ventilation/dehydration

4.4 Handling

The swivelling and locking lever is moved with the handle and locked with the catch.

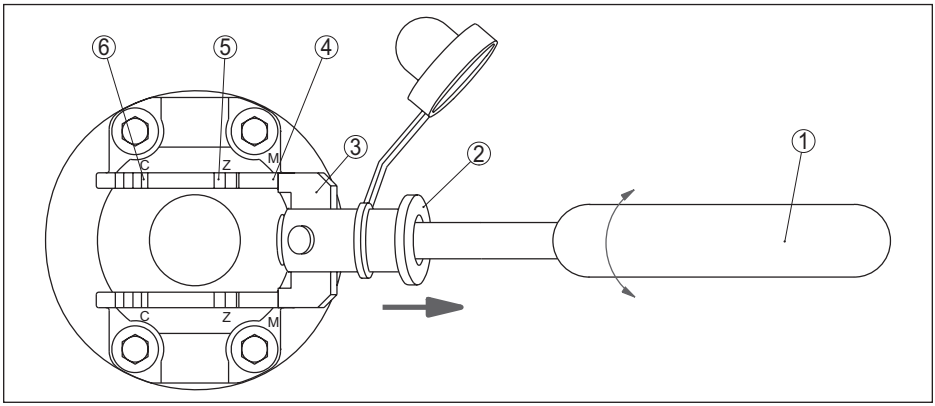


Fig. 7: Handling of the ball valve fitting PASVE

1 Handle
2 Release ring
3 Catch
4 Operation
5 Service
6 Cleaning

4.5 Mount pressure transmitter

Proceed as follows:

1. Remove cover
2. Attach the handle and unlock the catch by 3½ turns to the left
3. Bring ball valve with handle into the " *Service*" position, catch snaps in
4. Screw the pressure transmitter in until it stops, max. torque, see chapter " *Technical data*"
5. Loosen catch by pulling the ring
6. Hold the ring and bring the ball valve with the handle into the " *Operation position*"
7. Turn handle 3½ turns to the right so that the catch is locked again
8. Attach the cover

The installation of the pressure transmitter is finished.

Note:
It is recommended to remove the handle after locking the catch. This protects the ball valve fitting PASVE against unauthorized access.

4.6 Dismount pressure transmitter

Warning:
There is a serious risk of injury from escpaing process medium under operating pressure when dismounting the pressure transmitter.

Therefore, only dismount the pressure transmitter in the " *Service*" position.

Proceed as follows:

1. Remove cover
2. Attach the handle and unlock the catch by 3½ turns to the left
3. Bring ball valve with handle into the " *Service*" position, catch snaps in
4. Unscrew the pressure transmitter
5. Turn handle 3½ turns to the right so that the catch is locked again

Dismounting of the pressure transmitter is finished.

The reinstallation is carried out as described in chapter " *Mouting the pressure transmitter*".

4.7 Cleaning

Proceed as follows:

1. Remove cover
2. Attach the handle and unlock the catch by 3½ turns to the left
3. Bring ball valve with handle into the " *Service*" position, catch snaps in
4. Unscrew the pressure transmitter
5. Bring the ball valve into the " *Cleaning*" position. The measurement aperture on the process side is now visible.
6. Clean the opening with a suitable water jet.

7. Bring the ball valve with handle into the " *Service*" position
8. Screw the pressure transmitter in until it stops, max. torque, see chapter " *Technical data*"
9. Hold the ring and, using the handle, bring the ball valve again into position " **Operation**"
10. Turn handle 3½ turns to the right so that the catch is locked again

Caution:
We recommend you to pull off the handle after locking the catch. This protects the fitting against unauthorised access.

5 Maintenance and fault rectification

5.1 Maintenance

Maintenance

If the device is used properly, no special maintenance is required in normal operation.

Cleaning

The cleaning helps that the type label and markings on the instrument are visible.

Take note of the following:

- Use only cleaning agents which do not corrode the housings, type label and seals
- Use only cleaning methods corresponding to the housing protection rating

5.2 Rectify faults

Reaction when malfunction occurs

The operator of the system is responsible for taking suitable measures to rectify faults.

24 hour service hotline

Should these measures not be successful, please call in urgent cases the VEGA service hotline under the phone no. **+49 1805 858550**.

The hotline is manned 7 days a week round-the-clock. Since we offer this service worldwide, the support is only available in the English language. The service is free, only standard call charges are incurred.

Reaction after fault rectification

Depending on the reason for the fault and the measures taken, the steps described in chapter " *Setup*" must be carried out again or must be checked for plausibility and completeness.

5.3 Exchange seals

The seals can be replaced if required.

Note:
The standard version has 3 seals, the version with rinsing air connection 2.

To exchange the seals, proceed as follows:

1. Empty vessel or depressurize the system, if necessary, clean the measuring site
2. Bring ball valve fitting PASVE in position " **Service**"
3. Dismount pressure transmitter
4. Loosen the hexagon screws on the ball valve with wrench size 10
5. Loosen the catch and remove the bearing seats
6. Remove the ball out of the ball socket
7. Remove old seal from the grooves with a thin screwdriver. The seal will be damaged in the process and cannot be used again.

Caution:
The metal in the ball socket must not be damaged.

8. Clean ball socket and grooves carefully
9. Insert the lower seal (smallest) into the groove, the shorter face on top
10. Use your finger to push the seals as deep as possible into the groove, then press them into the final position by using a soft piece of wood (steadily pressing)

Caution:
The seal must not be damaged

11. Apply the other seals accordingly. Then check the seals visually. They must be placed evenly in their grooves and must not be damaged.
12. Grease the ball socket with Vaseline
13. Screw the pressure transmitter in until it stops, max. torque, see chapter " *Technical data*"
14. Assemble fitting, tighten hexagon screws, max. torque, see chapter " *Technical data*"
15. Check the ball for tight movement. At first, the ball can only be moved with a longer lever in mounted condition or when held in a bench vice.

Only use suitable seal rings (standard: PTFE with carbon and graphite; alternative: PTFE). Make sure that the seal rings are not damaged. Damaged rings will cause leakage.

5.4 How to proceed if a repair is necessary

You can find an instrument return form as well as detailed information about the procedure in the download area of our homepage. By doing this you help us carry out the repair quickly and without having to call back for needed information.

In case of repair, proceed as follows:

- Print and fill out one form per instrument
- Clean the instrument and pack it damage-proof
- Attach the completed form and, if need be, also a safety data sheet outside on the packaging
- Ask the agency serving you to get the address for the return shipment. You can find the agency on our homepage.

6 Dismount

6.1 Dismounting steps

Caution:
Empty the vessel or depressurize the pipeline before dismounting the fitting.

Note chapter " *Mounting*" and carry out the described steps in reverse order.

6.2 Disposal

The instrument consists of materials which can be recycled by specialised recycling companies. Mark the instrument as scrap and dispose it according to the national, legal regulations.

Materials: see chapter " *Technical data*"

If you have no way to dispose of the old instrument properly, please contact us concerning return and disposal.

7 Supplement

7.1 Technical data

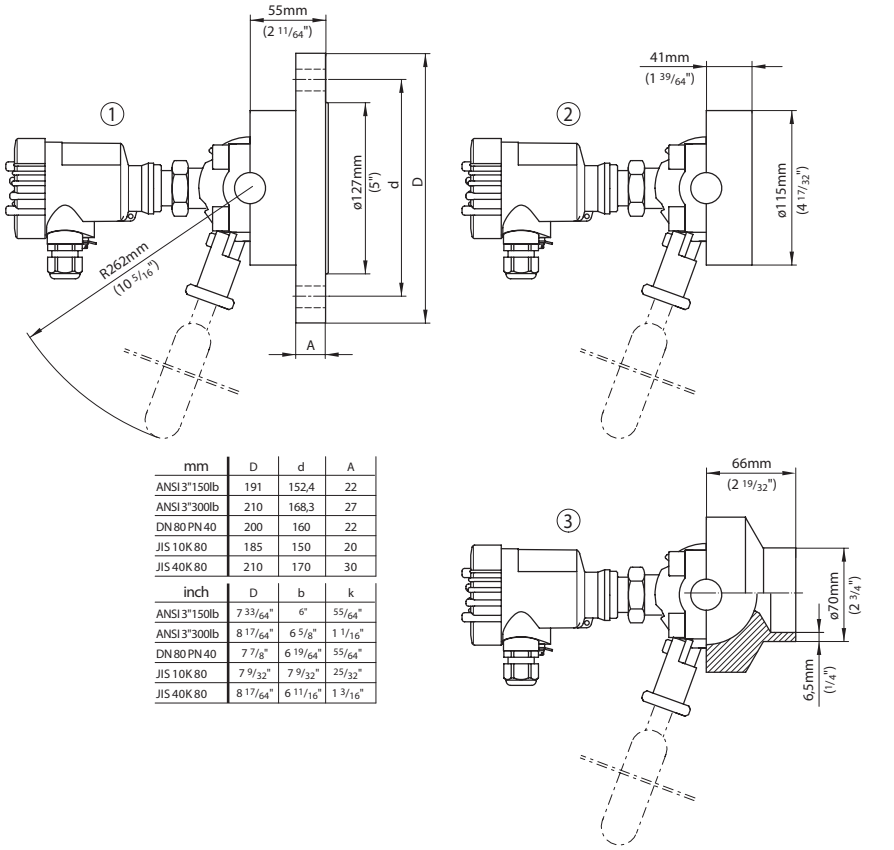
Materials and weights	
Material	
– Fitting	316L
– Standard seal	PTFE with 20 % carbon and 5 % graphite, PTFE
– Seal, rinsing connection	PTFE
Weight	
– Flange version	approx. 8.4 kg (18.52 lbs)
– Welding version, vessel	approx. 4.2 kg (9.259 lbs)
– Welding version, pipeline	approx. 4.3 kg (9.48 lbs)

Torques	
Max. torques	
– Process fitting, pressure transmitter	100 Nm (73.76 lbf ft)
– Hexagon screws on the ball valve fitting	60 Nm (44.25 lbf ft)

Connections	
Ventilation/Dehydration	M 6
Rinsing connection	¼-18 NPSF

Process conditions	
Product temperature	-40 … +250 °C (-40 … +482 °F) Note product temperature of the pressure transmitter. The lowest possible temperature value is valid.
Operating pressure max.	40 bar Note nominal pressure of the pressure transmitter and temperature derating of the flange. The lowest permissible operating pressure is applicable.

7.2 Dimensions



mm	D	d	A
ANSI 3"150lb	191	152,4	22
ANSI 3"300lb	210	168,3	27
DN 80 PN 40	200	160	22
JIS 10K 80	185	150	20
JIS 40K 80	210	170	30

inch	D	b	k
ANSI 3"150lb	7 33/64"	6"	55/64"
ANSI 3"300lb	8 17/64"	6 5/8"	1 1/16"
DN 80 PN 40	7 7/8"	6 19/64"	55/64"
JIS 10K 80	7 9/32"	7 9/32"	25/32"
JIS 40K 80	8 17/64"	6 11/16"	1 3/16"

Fig. 8: Ball valve fitting PASVE

1 With compression flange
2 For welding to vessels
3 For welding to pipelines

Printing date:

All statements concerning scope of delivery, application, practical use and operating conditions of the sensors and processing systems correspond to the information available at the time of printing.
Subject to change without prior notice

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