



## Process pressure

196 Overview Process pressure

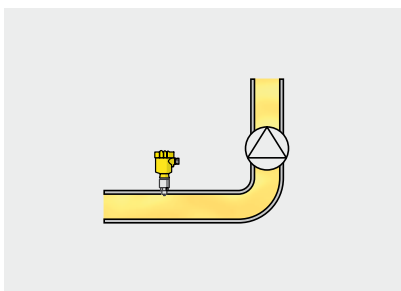
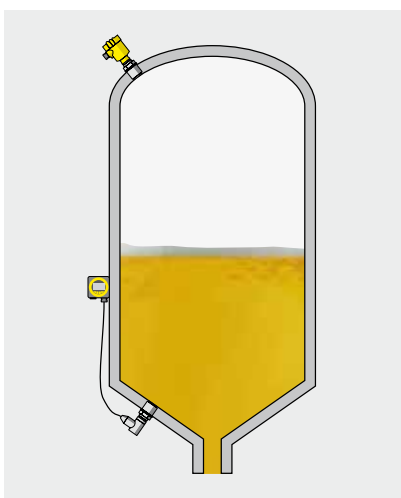
200 VEGABAR 14, 17

204 VEGABAR 81, 82, 83

210 Valves, measuring instrument holder, siphon, mounting boss



## Overview Process pressure



### Area of application



The process pressure gauges of the VEGABAR series measure the pressures and levels of liquids, gases and vapours. They are designed for use in chemically aggressive liquids as well as in hazardous or hygienic areas. These process pressure transmitters are ideal for detecting relative or absolute pressure in applications with condensation or rapid temperature changes. They can also measure the temperature of the medium. Their versatility and precision allow them to be used for hydrostatic level measurement as well, e.g. in liquids or slurries. All instruments of the VEGABAR series can be used to create an electronic differential pressure system.




### Measuring principle

The pressure of the measured medium acts on a pressure measuring cell, which converts it into an electronic signal. Ceramic-capacitive CERTEC® and MINI-CERTEC® pressure measuring cells as well as metallic METEC®, piezoelectric and strain gauge measuring cells find application in the VEGABAR instruments.

### Advantages

These instruments cover a particularly large measuring range, from vacuum to extremely high pressures. Their integrated self-monitoring function guarantees high operational reliability. An especially high degree of safety and dependability is guaranteed by the process pressure transmitters that use dry, ceramic-capacitive measuring cells. They are characterized by their high overload resistance, long-term stability and thermal shock compensation.

	VEGABAR 14	VEGABAR 17
		
Application	Liquids and gases	Liquids and gases also with high pressures
Deviation	0.3 %	0.5 %
Measuring cell	CERTEC®	Piezoresistive/thin film strain gauge
Process fitting	Thread from G½, ½ NPT of 316L, PVDF	Thread from G½, ½ NPT of 316Ti
Process temperature	-40 ... +100 °C	-40 ... +150 °C
Measuring range	-1 ... +60 bar (-100 ... +6000 kPa)	-1 ... +1000 bar (-100 ... +100000 kPa)
Overload resistance	up to 150-fold measuring range	up to 6-fold measuring range
Signal output	4 ... 20 mA	4 ... 20 mA
Approvals	ATEX, GOST, Ship	ATEX, GOST, Ship

	VEGABAR 81	VEGABAR 82	VEGABAR 83
			
Application	Liquids and gases with high temperatures	Liquids and gases	Liquids and gases also with high pressures
Deviation	0.2 %	0.2 %; 0.1 %; 0.05 %	0.2 %; 0.1 %; 0.075 %
Measuring cell	Chemical seal system	CERTEC® MINI-CERTEC®	Piezoresistive/thin film strain gauge/METEC®
Process fitting	Thread from G½, ½ NPT, flanges from DN 25, 1", hygienic fittings of 316L, Alloy 400, Tantalum, Gold	Flanges from DN 15, 1½", hygienic fittings, thread from G½ of 316L, Duplex, PVDF, Alloy	Thread from G½, ½ NPT, flanges from DN 25, hygienic fittings of 316L, Alloy
Process temperature	-90 ... +400 °C	-40 ... +150 °C	-40 ... +200 °C
Measuring range	-1 ... +1000 bar (-100 ... +100000 kPa)	-1 ... +100 bar (-100 ... +10000 kPa)	-1 ... +1000 bar (-100 ... +100000 kPa)
Overload resistance	Depending on chemical seal system	up to 200-fold measuring range	up to 150-fold measuring range
Signal output	4 ... 20 mA, 4 ... 20 mA/HART, Profibus PA, Foundation Fieldbus	4 ... 20 mA, 4 ... 20 mA/HART, Profibus PA, Foundation Fieldbus	4 ... 20 mA, 4 ... 20 mA/HART, Profibus PA, Foundation Fieldbus
Display/Adjustment	PLICSCOM, PACTware, VEGADIS 81, VEGADIS 82	PLICSCOM, PACTware, VEGADIS 81, VEGADIS 82	PLICSCOM, PACTware, VEGADIS 81, VEGADIS 82
Approvals	ATEX, IEC, FM, CSA, GOST, Overfill protection, Ship, SIL2	ATEX, IEC, FM, CSA, GOST, Overfill protection, Ship, SIL2	ATEX, IEC, FM, CSA, GOST, Overfill protection, Ship, SIL2



# VEGABAR 14

## Process pressure transmitter with ceramic measuring cell

### Application area

The VEGABAR 14 pressure transmitter can be used universally for measurement of gases, vapours and liquids. The small pressure transmitter offers maximum reliability and operational safety. The VEGABAR 14 is an economical solution for a number of applications in all industries.

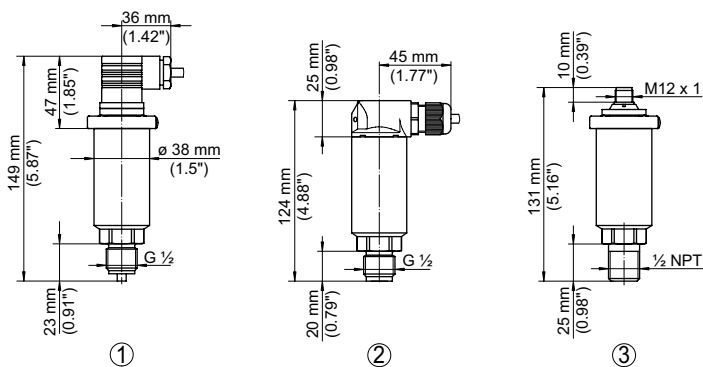
### Your benefit

- High plant availability through maximum overload and vacuum resistance of the ceramic measuring cell
- Price-favourable version with small mounting dimensions
- Low costs for maintenance through wear-free ceramic measuring cell

### Technical data

Measuring cell:	CERTEC®
Measuring range:	-1 ... +60 bar (-100 ... +6000 kPa)
Process fitting:	thread from G½, ½ NPT
Process temperature:	-40 ... +100 °C
Accuracy class:	0.3 %
Output signal:	two-wire 4 ... 20 mA

Delivery time:  **SPEED**



- ① Threaded version G½, manometer connection EN 837 with plug connection ISO 4400
- ② Threaded version G½, inner G¼ with direct cable outlet
- ③ Threaded version ½ NPT, inner ¼ NPT with plug connection M12 x 1

Instrument documentation and drawings:

[www.vega.com/downloads](http://www.vega.com/downloads)

Mounting accessories, welded sockets and housing overview:

**Chapter Accessory**

**Approval**

- X** without .....
- M** Ship approval .....
- Z** ATEX II 3G nA II T4...T1 X .....

**Pressure / Measuring range**

- 1S** rel. / 0...+0.1 bar (0...+10 kPa) .....
- 1T** rel. / 0...+0.25 bar (0...+25 kPa) .....
- 1U** rel. / 0...+0.4 bar (0...+40 kPa) .....
- 1V** rel. / 0...+0.6 bar (0...+60 kPa) .....
- 1A** rel. / 0...+1 bar (0...+100 kPa) .....
- 1B** rel. / 0...+1.6 bar (0...+160 kPa) .....
- 1C** rel. / 0...+2.5 bar (0...+250 kPa) .....
- 1D** rel. / 0...+4 bar (0...+400 kPa) .....
- 1E** rel. / 0...+6 bar (0...+600 kPa) .....
- 1F** rel. / 0...+10 bar (0...+1000 kPa) .....
- 1G** rel. / 0...+16 bar (0...+1600 kPa) .....
- 1H** rel. / 0...+25 bar (0...+2500 kPa) .....
- 1I** rel. / 0...+40 bar (0...+4000 kPa) .....
- 1J** rel. / 0...+60 bar (0...+6000 kPa) .....
- 1K** rel. / -0.05...+0.05 bar (-5...+5kPa) .....
- 3T** rel. / -0.1...+0.1 bar (-10...+10 kPa) .....
- 3U** rel. / -0.2...+0.2 bar (-20...+20 kPa) .....
- 3A** rel. / -0.5...+0.5 bar (-50...+50 kPa) .....
- 3B** rel. / -1...+0.6 bar (-100...+60 kPa) .....
- 3W** rel. / -1...+1 bar (-100...+100 kPa) .....
- 3C** rel. / -1...+1.5 bar (-100...+150 kPa) .....
- 3D** rel. / -1...+3 bar (-100...+300 kPa) .....
- 3E** rel. / -1...+5 bar (-100...+500 kPa) .....
- 3F** rel. / -1...+9 bar (-100...+900 kPa) .....
- 3G** rel. / -1...+15 bar (-100...+1500 kPa) .....
- 3H** rel. / -1...+25 bar (-100...+2500 kPa) .....
- 3I** rel. / -1...+40 bar (-100...+4000 kPa) .....
- 3J** rel. / -1...+60 bar (-100...+6000 kPa) .....
- 2A** abs. / 0...+1 bar (0...+100 kPa) .....
- 2B** abs. / 0...+1.6 bar (0...+160 kPa) .....
- 2C** abs. / 0...+2.5 bar (0...+250 kPa) .....
- 2D** abs. / 0...+4 bar (0...+400 kPa) .....
- 2E** abs. / 0...+6 bar (0...+600 kPa) .....
- 2F** abs. / 0...+10 bar (0...+1000 kPa) .....
- 2G** abs. / 0...+16 bar (0...+1600 kPa) .....
- 2H** abs. / 0...+25 bar (0...+2500 kPa) .....
- 2I** abs. / 0...+40 bar (0...+4000 kPa) .....
- 2J** abs. / 0...+60 bar (0...+6000 kPa) .....

**Electrical connection / Protection**

- A1** 4-pole plug connection ISO4400, PG9 / IP65 .....
- A2** 4-pole plug connection ISO4400, with hinged lid / IP65 .....
- C1** Direct cable outlet 5 m cable / IP 67 .....
- M1** M12x1 / IP65 .....
- M2** M12x1 with 5 m connection cable / IP65 .....
- M4** M12x1 with connection cable / IP68 (0.2 bar) .....

**Process fitting / Material**

- GV** Thread G½ PN60, EN837; manometer connection / 316L .....
- GP** Thread G½, inside G¼ PN60, ISO228-1 / 316L .....
- GS** Thread G½, inside G¼ PN10, ISO228-1 / PVDF .....
- G2** G½A hole inside (11.4mm) PN160 / Duplex (1.4462) .....
- GN** Thread ½NPT, inside ¼NPT PN60, ASME B1.20.1 / 316L .....
- TA** Varivent N50-40 PN25 / 316L .....
- G1** Inside thread G1 PN60, ISO228 / 316L .....
- GT** Thread G1 ISO228-1; inside (22 mm) / Duplex (1.4462) .....
- GG** Thread G1½ PN60, DIN3852-A / 316L .....
- GW** Thread G1½ PN10, DIN3852-A-B / PVDF .....
- GF** Thread 1½NPT PN60, ASME B1.20.1 / 316L .....
- GB** Thread M20x1.5 PN60, EN837; manometer connection / 316L .....

**Sealing concept / Wetted seal / Process temperature**

- 1** Single / FKM (VP2/A) / -20...+100°C .....
- 3** Single / EPDM (A+P 75.5/KW75F) / -40...+100°C .....
- P** Single / FFKM (Perlast G75S) / -15...+100°C .....
- N** Double / FFKM (Perlast G75B) / -15...+100°C .....

**Customer-specific adjustment**

- No .....
- A** in bar .....

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# VEGABAR 17

## Process pressure transmitter with metallic measuring cell

### Application area

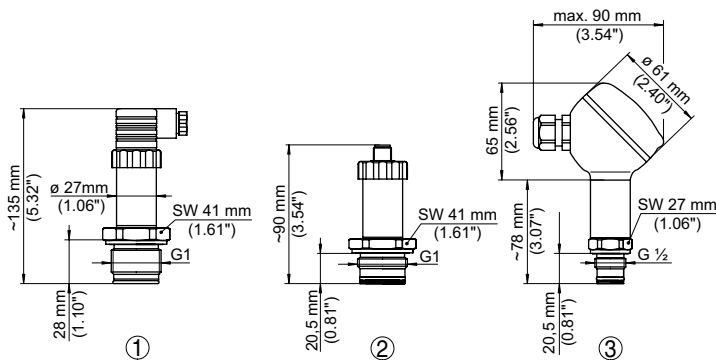
The VEGABAR 17 is a universal pressure transmitter for measurement of gases, vapours and liquids. The VEGABAR 17 is an economical solution for a number of applications in all industries.

### Your benefit

- Price-favourable version with smallest mounting dimensions
- Universal use through completely welded measuring cell
- High chemical resistance through high quality diaphragm materials

### Technical data

Measuring cell:	piezoresistive/thin film strain gauge
Measuring range:	-1 ... +1000 bar (-100 ... +100000 kPa)
Process fitting:	thread from G½, ½ NPT
Process temperature:	-40 ... +150 °C
Accuracy class:	0.5 %
Output signal:	two-wire 4 ... 20 mA



- ① Threaded version G1, hygienic with angle plug connection DIN 43650
- ② Threaded version G1, front-flush with plug connection M12 x 1
- ③ Threaded version G½, front-flush with terminal housing

The options shown represent only a limited selection. Additional instrument options and possible restrictions.

[www.vega.com/configurator](http://www.vega.com/configurator)

Instrument documentation and drawings:

[www.vega.com/downloads](http://www.vega.com/downloads)

Mounting accessories, welded sockets and housing overview:

**Chapter Accessory**



**Approval**

- Z without .....
- A ATEX II 1/2G, 2G Ex ia IIC T6 .....
- D ATEX II 1/2G, 2G Ex ia IIC T6 + ATEX II 1/2D IP6X T\* + M1 .....
- S ATEX II 1/2G Ex ia IIC T6 + Ship approval .....

**Process fitting / Material**

- 85L Thread G1B, frontflush / 316Ti with O-ring, <=1.6bar / FKM .....
- 85B Thread G1B, frontflush / 316Ti with O-ring, up to 1.6bar / EPDM .....
- 86L Thread G½B, front flush / 316Ti with O-ring, >1.6bar / FKM .....
- 86B Thread G½B, frontflush / 316Ti with O-ring, >1.6 bar / EPDM .....
- GDx Thread G½B, manometer connection / 316Ti .....
- TBx Thread G½A, inside G¼A / 316Ti .....
- NBx Thread ¼NPT / 316Ti .....
- NDx Thread ¼NPT / 316Ti .....

**Pressure**

- B Relative pressure .....
- S Absolute pressure .....

**Measuring range**

- CA -1...0 bar (-100...0 kPa) .....
- AL 0...+0.1 bar (0...+10 kPa) .....
- BB 0...+0.4 bar (0...+40 kPa) .....
- BD 0...+1 bar (0...+100 kPa) .....
- BF 0...+2.5 bar (0...+250 kPa) .....
- BI 0...+10 bar (0...+1000 kPa) .....
- BL 0...+25 bar (0...+2500 kPa) .....
- BM 0...+40 bar (0...+4000 kPa) .....
- BN 0...+60 bar (0...+6000 kPa) .....
- BO 0...+100 bar (0...+10000 kPa) .....
- BP 0...+160 bar (0...+16000 kPa) .....
- BQ 0...+250 bar (0...+25000 kPa) .....
- BT 0...+600 bar (0...+60000 kPa) .....
- BU 0...+1000 bar (0...+100000 kPa) .....

**Electrical connection / Protection**

- A4 Angle plug connector DIN43650 / IP65 .....
- M4 Circular plug connector, 4-pole with screwed plug M12x1 / IP65 .....
- EM Cable outlet PUR / IP 68 (0.5 bar) .....
- FW Terminal housing 316L with plastic threaded fitting / IP67 .....

**Cable length**

- Z without .....
- C 1.5m .....
- G 5m .....

**Features / Cleaning procedure**

- Z without .....
- A Oil and grease-free for oxygen applications .....
- G Fill fluid and materials suitable for foodstuffs .....

**Temperature range**

- A -30...+100°C (standard product temperature) .....
- C -20...+150°C (product temperature, with cooling element) .....
- U -20...+80°C (ambient temperature with Ex ia) .....

**Certificate / Standard**

- Z no .....
- 1 3.1-Inspection certificate for material (EN 10204) .....

<b>BR17.</b>																			
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# VEGABAR 81

## Pressure transmitter with chemical seal

### Application area

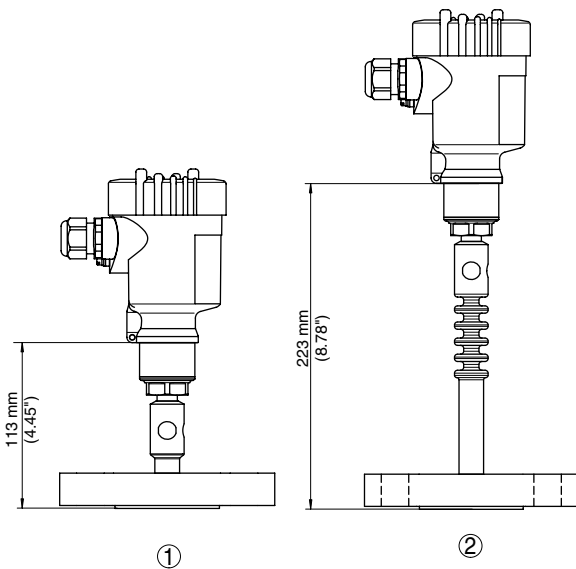
The VEGABAR 81 is a pressure transmitter with chemical seal for pressure and level measurement. The chemical seal systems of VEGABAR 81 adapted to the process, ensure a reliable measurement even with highly corrosive and hot products. The transmitter can be used in all industries. The simple connection of VEGABAR series 80 sensors as electronic differential pressure opens new possibilities for the measurement of differential pressures.

### Your benefit

- Simple adaptation thanks to various configuration options
- Reliable measurement with temperatures up to 400 °C
- Reliable measurement independent of foam generation or tank installations

### Technical data

Measuring cell:	chemical seal system
Measuring range:	-1 ... +1000 bar (-100 ... +100000 kPa)
Process fitting:	thread from G½, ½ NPT flanges from DN 25, 1" hygienic fittings
Process temperature:	-90 ... +400 °C
Accuracy class:	0.2 %



- ① Flange version +150 °C  
② Flange version with cooling element +300 °C

The options shown represent only a limited selection. Additional instrument options and possible restrictions.

[www.vega.com/configurator](http://www.vega.com/configurator)

Instrument documentation and drawings:

[www.vega.com/downloads](http://www.vega.com/downloads)

Mounting accessories, welded sockets and housing overview:

**Chapter Accessory**



# VEGABAR 82

## Pressure transmitter with ceramic measuring cell

### Application area

The VEGABAR 82 pressure transmitter can be used universally for the measurement of gases, vapours and liquids. Substances such as sand can be handled easily thanks to the abrasion-resistant ceramic measuring cell. The VEGABAR 82 offers maximum reliability. The transmitter can be used in all industries. The simple connection of VEGABAR series 80 sensors as electronic differential pressure opens new possibilities for the measurement of differential pressures.

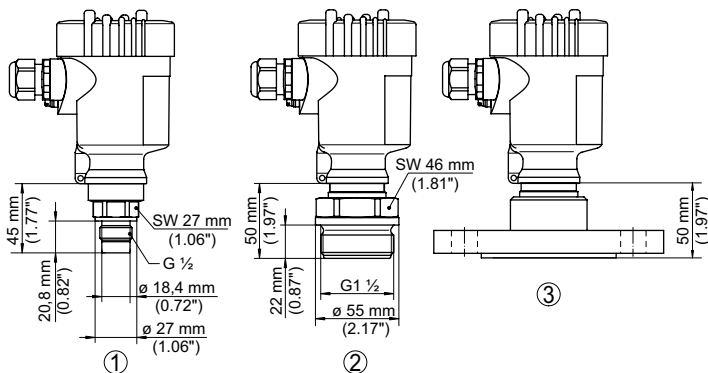
### Your benefit

- High plant availability through maximum overload and vacuum resistance of the ceramic measuring cell
- Measurement down to the last drop through smallest measuring ranges with high accuracy
- Low maintenance costs thanks to wear-free ceramic measuring cell

### Technical data

Measuring cell:	CERTEC®, MINI-CERTEC®
Measuring range:	-1 ... +100 bar (-100 ... +10000 kPa)
Process fitting:	thread from G½, ½ NPT flanges from DN 15, 1½" hygienic fittings
Process temperature:	-40 ... +150 °C
Accuracy class:	0.2 %; 0.1 %; 0.05 %

Delivery time:  **SPEED**



- ① Threaded version G½ front-flush
- ② Threaded version G1½
- ③ Flange version DN 50

The options shown represent only a limited selection. Additional instrument options and possible restrictions.

[www.vega.com/configurator](http://www.vega.com/configurator)

Instrument documentation and drawings:

[www.vega.com/downloads](http://www.vega.com/downloads)

Mounting accessories, welded sockets and housing overview:

**Chapter Accessory**



# VEGABAR 83

## Pressure transmitter with metallic measuring cell

### Application area

The VEGABAR 83 is a pressure transmitter for pressure measurement of gases, vapours and liquids in all industries. The VEGABAR 83 offers special advantages in applications with high pressures. The transmitter can be used in all industries. The simple connection of VEGABAR series 80 sensors as electronic differential pressure opens new possibilities for the measurement of differential pressures.

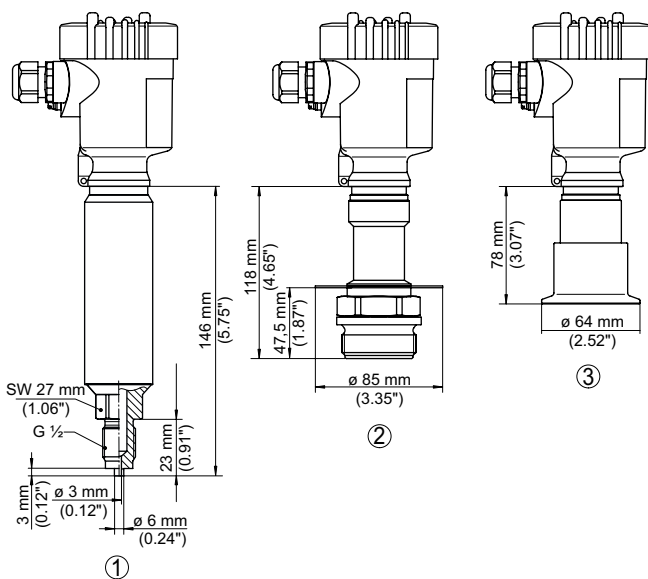
### Your benefit

- Universal use due to welded measuring cell
- High reliability through vacuum resistant version
- Maximum dependability and safety through proven technology

### Technical data

Measuring cell:	piezoresistive/thin film strain gauge/METEC®
Meas. range:	-1 ... +1000 bar (-100 ... +100000 kPa)
Process fitting:	thread from G½, ½ NPT flanges from DN 25 hygienic fittings
Process temperature:	-40 ... +200 °C
Accuracy class:	0.2 %; 0.1 %; 0.075 %

Delivery time:  **SPEED**



- ① Threaded version G½, manometer connection EN 837
- ② Threaded version front-flush with shroud (-12 ... +200 °C)
- ③ Clamp version 2"

The options shown represent only a limited selection. Additional instrument options and possible restrictions.

[www.vega.com/configurator](http://www.vega.com/configurator)

Instrument documentation and drawings:

[www.vega.com/downloads](http://www.vega.com/downloads)

Mounting accessories, welded sockets and housing overview:

**Chapter Accessory**



# Valve

## Application area

The use of a valve allows the simple installation and setup of the pressure transmitter.

The valve has a ventilation possibility to ensure a reliable setup.

## Your benefit

- Simple mounting and dismounting of the pressure transmitter
- Ensures the simple sensor calibration without process interruption

Delivery time:  **SPEED**



## Version / Input / Output

- E** 1-fold / G $\frac{1}{2}$  manometer connection and pin / G $\frac{1}{2}$  socket .....
- G** 1-fold /  $\frac{1}{2}$ NPT adapter end /  $\frac{1}{2}$ NPT socket .....
- F** 2-fold /  $\frac{1}{2}$ NPT adapter end /  $\frac{1}{2}$ NPT socket .....
- D** 2-fold / G $\frac{1}{2}$  manometer and plug DIN16272 Form A .....
- M** 2-fold / M20x1.5 manometer and pin DIN16272 Form .....
- H** 2-fold / pin  $\frac{1}{2}$  NPT on both sides / 316L .....

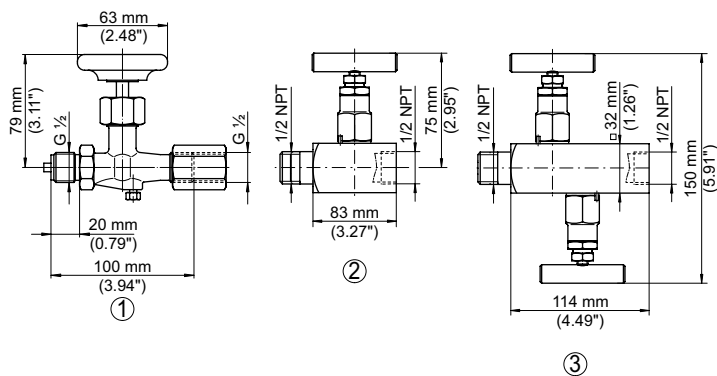
## Material

- V** Stainless steel .....
- S** Steel .....

## Certificate / Standard

- X** without .....
- B** (C) 3.1-Inspection certificate for material (EN 10204) .....

BARVALVE.



- ① 1-fold / G $\frac{1}{2}$  manometer / G $\frac{1}{2}$  socket
- ② 1-fold /  $\frac{1}{2}$  NPT adapter end /  $\frac{1}{2}$  NPT socket
- ③ 2-fold /  $\frac{1}{2}$  NPT adapter end /  $\frac{1}{2}$  NPT socket



## Measuring instrument holder for wall/tube mounting

### For mounting of pressure transmitters

The measuring instrument holder is used for mounting of pressure transmitters of VEGABAR series 50/80 as well as submersible pressure transmitters VEGAWELL 52.

The adaptation to different instrument diameters is enabled via an attached reduction piece.

The materials used are 316L and 304.

Delivery time:  **SPEED**

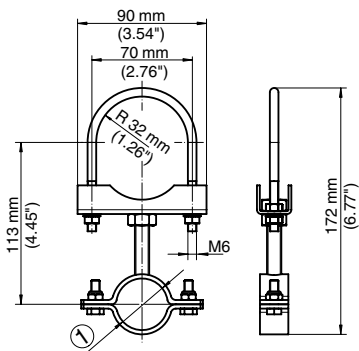


#### Version

**D** for VEGABAR series 50/80; VEGAWELL ø22, 32, 38...40 mm .....

**E** for VEGABAR series 50/80; VEGAWELL ø33, 36, 44 mm .....

**BARMONT.**



① Adaptable diameter from 22 ... 44 mm

# Siphon

## Application area

Siphons are used to decouple pressure transmitters from process temperatures above the specification.

## Technical data

Material: 316Ti with nominal pressure PN 100  
 1.0345 with nominal pressure PN 100 up to 150 °C from 250 °C PN 50

Standard: DIN 16282

Delivery time: 

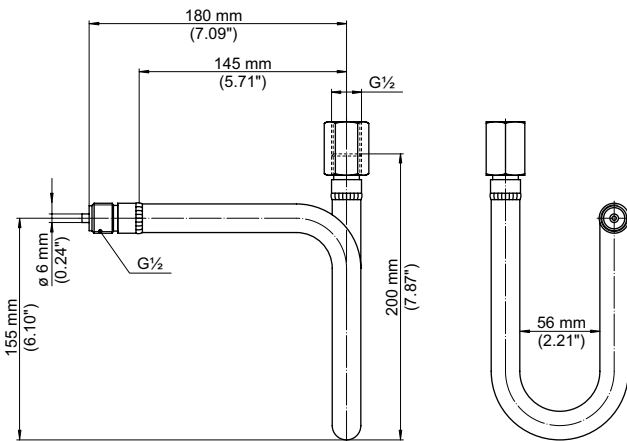


## Version / Material

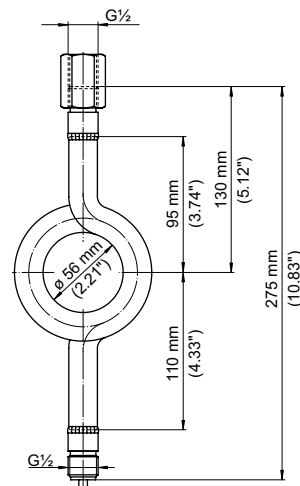
- 40127 U-form, thread G½ Form A, DIN16282 / 1.0345 .....
- 40129 U-form, thread G½ Form A, DIN16282 / 316Ti .....
- 41534 U-form, thread ½NPT / 1.0345 .....
- 41535 U-form, thread ½NPT / 316Ti .....
- 40128 Circular form, thread G½ Form D, DIN16282 / 1.0345 .....
- 40130 Circular form, thread G½ Form D, DIN16282 / 316Ti .....
- 41536 Circular form, thread ½NPT / 1.0345 .....
- 41537 Circular form, thread ½NPT / 316Ti .....

2.

Siphon in U-form



Siphon in circular form



## Welded socket VEGABAR 14

### For process fitting

- GV** Thread G½ PN60, EN837; manometer connection / 316L .....
- GB** Thread M20x1.5 PN60 / 316L .....
- GP** Thread G½ PN60, inside G¼, ISO228-1 / 316L .....

### Outer dimensions

- B** 30x34mm .....
- W** 59x34mm .....
- T** 65x39.5mm .....
- V** 70x40mm .....
- S** 79 x 102 mm .....

### Certificate / Standard

- X** without .....
- B** (C) 3.1-Inspection certificate for material (EN 10204) .....

### Seal

- X** without .....

### Material

- V** 316L .....

ESMBR14.

## Welded socket VEGABAR 17

### For process fitting

- 84L** Thread G1B, aseptic .....
- 84B** Thread G1B, aseptic .....
- 851** Thread G1B, front-flush .....
- 85L** Thread G1B, front-flush .....
- 85B** Thread G1B, front-flush .....
- 861** Thread G½B, front-flush .....
- 86L** Thread G½B, front-flush .....
- 86B** Thread G½B, front-flush .....
- GDX** G½B manometer connection .....
- TBX** G½A, inner G¼A .....

### Outer dimensions

- A** 30x21mm .....
- B** 30x34mm .....
- I** 50x21mm .....
- J** 50x25.5mm .....
- W** 59x34mm .....
- T** 65x39.5mm .....
- V** 70x40mm .....
- S** 79 x 102 mm .....

### Seal

- X** without .....

### Material

- V** 316L .....

### Certificate / Standard

- X** without .....
- B** (C) 3.1-Inspection certificate for material (EN 10204) .....

ESMBR17.

## Welded socket with accessory VEGABAR series 80

### Process fitting / Material

**DU** Thread G½, EN837; manometer connection / 316L .....

**C3** Thread G½, ISO228-1; front-flush / 316L .....

**DA** Thread G1½, DIN3852-A / 316L .....

**AV** Clamp 1" PN16 (ø50.5mm) DIN32676, ISO2852 / 316L .....

### Welded socket

**X** without .....

**M** with .....

### Welding dummy / Material

**X** without welding dummy .....

**M** with welding dummy / brass .....

### Process seal

**1** without .....

**A** FKM .....

**D** EPDM .....

### Blind plug / Material

**X** without .....

**M** with blind plug / 316L .....

**H** with blind plug / Alloy .....

### Certificate

**X** no .....

**M** yes (e.g. FDA; test certificates NACE) further add. prices possible .....

WDSB80.							
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You will find further welded sleeves and welded sockets in chapter "Accessory".