

Pressure measurement

Process pressure

**VEGABAR 14**  
**VEGABAR 17**



## Product Information



**VEGA**

## Contents

1	Description of the measuring principle	3
2	Type overview	4
3	Mounting instructions	5
4	Electrical connection	6
5	Operation	8
6	Technical data	9
7	Dimensions	13
8	Product code	14

### Take note of safety instructions for Ex applications



Please note the Ex specific safety information which you can find on our homepage [www.vega.com/services/downloads](http://www.vega.com/services/downloads) and which comes with every instrument. In hazardous areas you should take note of the appropriate regulations, conformity and type approval certificates of the sensors and power supply units. The sensors must only be operated on intrinsically safe circuits. The permissible electrical values are stated in the certificate.

# 1 Description of the measuring principle

## Measuring principle

### VEGABAR 14

The sensor element of VEGABAR 14 is the dry ceramic-capacitive CERTEC® measuring cell. Base element and diaphragm consist of high purity sapphire-ceramic®.

The process pressure causes via the diaphragm a change in an electrical parameter of the measuring cell. This change is converted into an appropriate output signal.

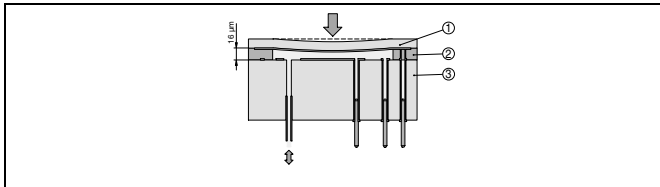


Fig. 1: Configuration of the CERTEC® measuring cell in VEGABAR 14

- 1 Diaphragm
- 2 Soldered glass bond
- 3 Base element

The advantages of the CERTEC® measuring cell are:

- Very high overload resistance
- No hysteresis
- Excellent long-term stability
- Good corrosion resistance

### VEGABAR 17

In VEGABAR 17, a measuring cell with piezoresistive sensor element containing an internal transmission liquid is used for measuring ranges up to 16 bar. The process diaphragm is made of stainless steel.

For measuring ranges above 25 bar, a dry strain gauge (DMS) on the back side of the process diaphragm is implemented.

The process pressure causes via the diaphragm a change in an electrical parameter of the measuring cell. This change is converted into an appropriate output signal.

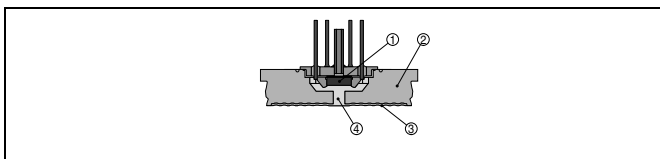


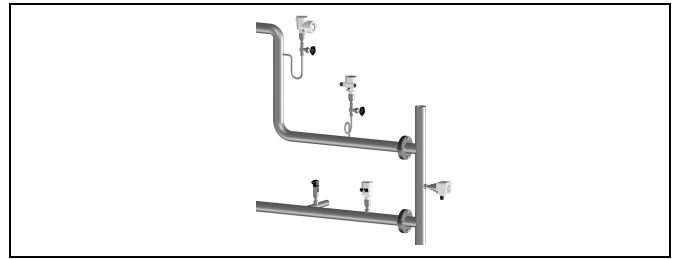
Fig. 2: Configuration of the piezoresistive measuring cell in VEGABAR 17

- 1 Sensor element
- 2 Base element
- 3 Diaphragm
- 4 Silicone oil

The advantages of the piezoresistive measuring cell are:

- Elastomere-free
- Wetted parts of stainless steel
- Small diameter, therefore small process fittings possible
- Small hysteresis

## Wide application range



VEGABAR 14 and 17 pressure transmitters are suitable for process pressure measurement of gases, vapours and liquids. Suitable versions are also available for viscous liquids and corrosive or aggressive products. The main area of application is mechanical engineering and plant construction.

VEGABAR 14 and 17 pressure transmitters are cost-effective instruments with small dimensions for standard applications with 4 ... 20 mA signal output. They offer sufficient accuracy as well as flush process fittings, but have limited adjustment options.



### Information:

Continuative operating instructions manuals:

- 22441 - VEGABAR 14
- 27636 - VEGABAR 17

## 2 Type overview

VEGABAR 14



VEGABAR 17



Measuring cell:	CERTEC®	Piezoresistive/DMS
Diaphragm:	Ceramic	Metal
Media:	Gases, vapours and liquids	gases, vapours and liquids, also viscous products and foodstuffs
Process fitting:	G½ A or M20 x 1,5 according to EN 837, G½ A inner G¼ A, ½ NPT inner ¼ NPT	G1 B or G½ B front flush, G½ B, G¼ B, ½ NPT or ¼ NPT manometer connection
Material:	316L	316Ti
Oil and grease-free/for oxygen applications	--/--	yes/yes
Measuring range:	-1 ... 60 bar (-14.5 ... 870 psig)	-1 ... 1000 bar (-14.5 ... 14500 psig)
Smallest measuring range:	0.1 bar (1.45 psig)	0.1 bar (1.45 psig)
Process temperature:	-40 ... +100 °C (-40 ... +212 °F)	-40 ... +150 °C (-40 ... +312 °F)
Deviation in characteristics:	< 0.5 %	< 0.5 %
Signal output:	4 ... 20 mA	4 ... 20 mA
Connection:	Plug according to DIN 43650, plug M12 x 1, cable outlet	Plug according to DIN 43650-A, plug M12 x 1, cable outlet, terminal housing
Adjustment option:	zero/--	zero/span

### 3 Mounting instructions

#### Mounting position

VEGABAR functions in any installation position. Depending on the measuring system, the installation position can influence the measurement. This can be compensated by a position correction.

The instruments with manometer connection according to EN 837 are mounted according to the directives for manometers (DIN EN 839-2).



#### Information:

We recommend using lock fittings, measuring instrument holders and siphons from the line of VEGA accessories.

## 4 Electrical connection

### 4.1 General requirements

The supply voltage range can differ depending on the instrument version. You can find exact specifications in chapter "Technical data".

The national installation standards as well as the valid safety regulations and accident prevention rules must be observed.



In hazardous areas you should take note of the appropriate regulations, conformity and type approval certificates of the sensors and power supply units.

### 4.2 Power supply

Supply voltage and current signal are carried on the same two-wire cable. The requirements on the power supply are specified in chapter "Technical data".

The VEGA power supply units VEGATRENN 149AEx, VEGASTAB 690, VEGADIS 371 as well as the VEGAMET signal conditioning instruments are suitable for power supply. When one of these instruments is used, a reliable separation of the supply circuit from the mains circuits according to DIN VDE 0106 part 101 as well as the protection class are ensured.

### 4.3 Connection cable

#### General information

The sensors are connected with standard two-wire cable without screen. An outer cable diameter of 5 ... 9 mm ensures the seal effect of the cable entry.

If electromagnetic interference is expected which is above the test values of EN 61326 for industrial areas, screened cable should be used.

#### Ex applications



In Ex applications, the corresponding installation regulations must be noted for the connection cable.

### 4.4 Cable screening and grounding

If screened cable is necessary, the cable screen must be connected on both ends to ground potential. If potential equalisation currents are expected, the connection on the evaluation side must be made via a ceramic capacitor (e.g. 1 nF, 1500 V).

### 4.5 Wiring plan - VEGABAR 14

#### Angle plug connector according to DIN 43650-A

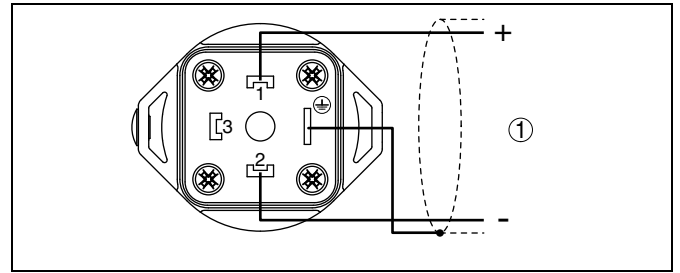


Fig. 3: Wiring plan plug connector according to DIN 43650-A, view to the connection on the instrument side

1 Voltage supply and signal output

#### Round plug connector M12 x 1

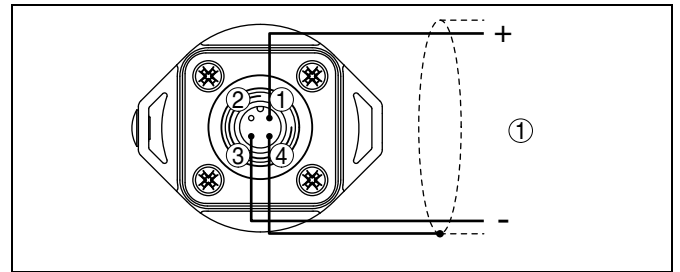


Fig. 4: Wiring plan round plug connector M12 x 1, view to the connection on the instrument side

1 Voltage supply and signal output

#### Direct cable outlet

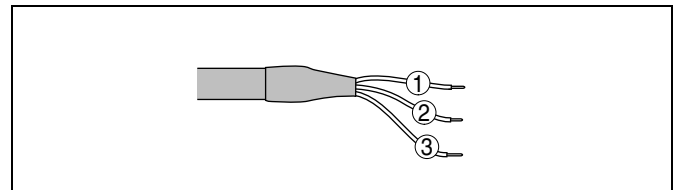


Fig. 5: Wiring plan cable outlet <sup>1)</sup>

- 1 brown (+) power supply and signal output
- 2 blue (-) power supply and signal output
- 3 Cable screen
- 4 Breather capillaries

### 4.6 Wiring plan - VEGABAR 17

#### Angle plug connector according to DIN 43650-A

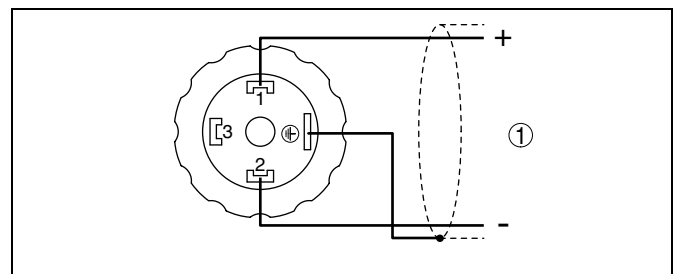


Fig. 7: Wiring plan, angle plug connector according to DIN 43650-A, top view to

<sup>1)</sup> The other cables are not connected.

VEGABAR

1 Voltage supply and signal output

**Round plug connector M12 x 1**

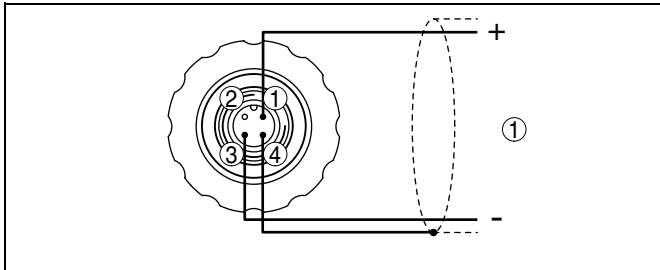


Fig. 9: Wiring plan, round plug connector M12 x 1, top view to VEGABAR

1 Voltage supply and signal output

**Cable outlet**

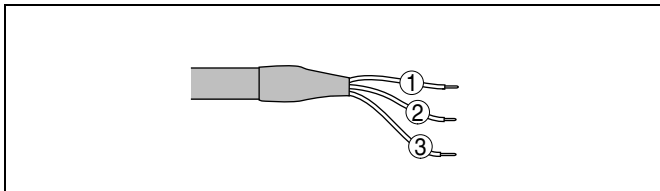


Fig. 11: Wiring plan cable outlet<sup>2)</sup>

- 1 brown (+) power supply and signal output
- 2 green (-) power supply and signal output
- 3 blue = cable screen

**Terminal housing**

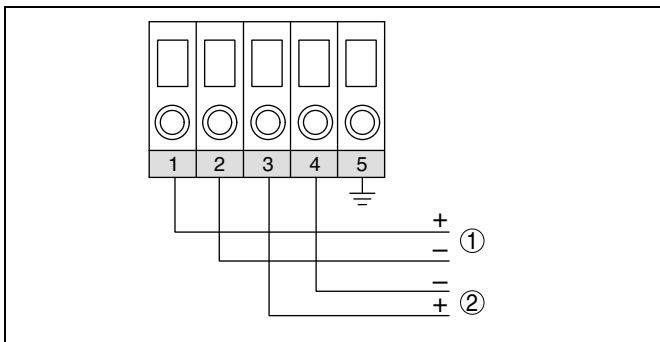


Fig. 13: Wiring plan, terminal housing

- 1 To power supply or the processing system
- 2 Control instrument (4 ... 20 mA measurement)

<sup>2)</sup> The wires in blue, yellow, black, white are not connected.

## 5 Operation

### 5.1 Zero/span adjustment with VEGABAR 17

VEGABAR 17 offers a zero/span adjustment  $\pm 10\%$  via two integrated potentiometers.

#### Angled and round plug connector, cable outlet

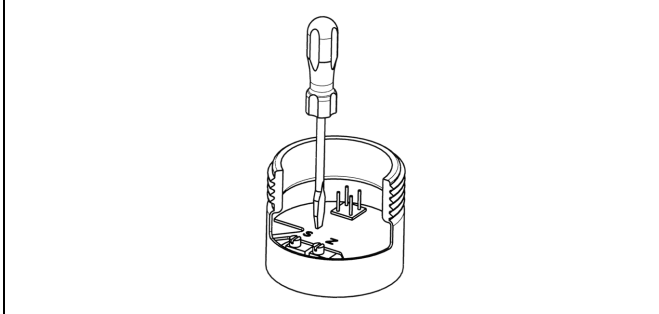


Fig. 14: Adjustment zero and span

S span  
Z zero

#### Terminal housing

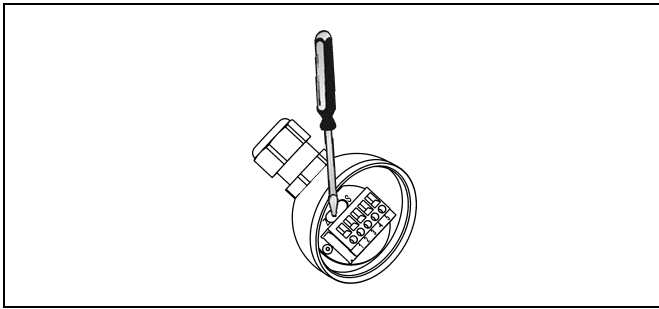


Fig. 15: Adjustment zero and span

Z zero  
S span



## 6 Technical data

### General data

#### VEGABAR 14

Materials, wetted parts	
– Process fitting	316L
– Diaphragm	sapphire ceramic® (99.9 % oxide ceramic)
– Measuring cell seal	FKM (VP2/A), EPDM (A+P 75.5/KW75F)
Materials, non-wetted parts	
– Housing	brass, nickel-plated
Materials, non-wetted parts, plug connector DIN 43650-A	
– Contact, housing plug	PA
– Contact surface	Sn
– Cover screw	StSt
– Plug seal	NBR
Materials, non-wetted parts, plug connector M12 x 1	
– Contact support	PA
– Contact	CuZn, nickel layer and 0.8 µm gold-plated
– Plug seal	FKM
Materials, non-wetted parts, cable outlet	
– Cable gland	PA
– Cable	PE
Weight approx.	0.5 kg (1.102 lbs)

#### VEGABAR 17

Materials, wetted parts	
– Process fitting	316Ti
– Diaphragm	316Ti
– Diaphragm with front flush version	316Ti, Hastelloy C4
– Seal ring, O-ring	FKM, EPDM, NBR
Materials, non-wetted parts	
– Internal transmission liquid	Synthetic oil, Halocarbon oil <sup>3)4)</sup>
– Housing	316Ti
– Terminal housing	316Ti
– Ground terminal	316Ti
– Plug	PA
– Cable gland	PA, 316Ti
– Plug seal	Silicone
– Connection cable	PUR
Weight approx.	
– Version with plug connector, cable outlet	0.2 kg (0.441 lbs)
– Version with terminal housing	0.35 kg (0.772 lbs)

### Output variable

#### VEGABAR 14

Output signal	4 ... 20 mA
Run-up time	2 s
Step response time	20 ms (0 ... 63 %)

#### VEGABAR 17

Output signal	4 ... 20 mA
Zero and span adjustable via potentiometer	±10 %
Step response time	
– Standard	≤ 1 ms
– Product temperature < -30 °C (-22 °F), meas. ranges < 25 bar	≤ 10 ms
– Product temperature < -30 °C (-22 °F), front-flush diaphragm	≤ 10 ms

### Input variable

Measured value	Pressure
Measuring range	see product code

<sup>3)</sup> Synthetic oil for measuring ranges up to 16 bar, FDA listed for the food processing industry. For measuring ranges up to 25 bar dry measuring cell.  
<sup>4)</sup> Halocarbon oil: Generally in oxygen applications, not with vacuum measuring ranges, not with absolute measuring ranges < 1 bar<sub>abs</sub>.

**Reference conditions and actuating variables (similar to DIN EN 60770-1)**

Reference conditions according to DIN EN 61298-1	
– Temperature	+18 ... +30 °C (+64 ... +86 °F)
– Relative humidity	45 ... 75 %
– Air pressure	860 ... 1060 mbar/86 ... 106 kPa (12.5 ... 15.4 psi)
Determination of characteristics	limit point adjustment according to DIN 16086
Characteristics curve	linear
Calibration position	upright, diaphragm points downward

**Deviation**

<b>VEGABAR 14</b>	
Deviation <sup>5)</sup>	< 0.5 %
<b>VEGABAR 17</b>	
Deviation <sup>6)</sup>	≤ 0.5 %

**Influence of the ambient temperature**

<b>VEGABAR 14</b>	
Average temperature coefficient of the zero signal <sup>7)</sup>	< 0.15 %/10 K
<b>VEGABAR 17</b>	
Average temperature coefficient of the zero signal <sup>8)</sup>	
– Standard	< 0.2 %/10 K
– Meas. ranges 0 ... 0.1 and 0 ... 0.16 bar	< 0.4 %/10 K
Average temperature coefficient of the span	< 0.2 %/10 K

**Long-term stability**

Long-term drift of the zero signal <sup>9)10)</sup>	
– VEGABAR 14	< 0.1 %/1 year
– VEGABAR 17	< 0.2 %/year

**Ambient conditions**

<b>VEGABAR 14</b>	
Ambient temperature	
– Version with plug connector	-20 ... +85 °C (-4 ... +185 °F)
– Version with cable outlet	-20 ... +60 °C (-4 ... +140 °F)
Storage and transport temperature	
– Version with plug connector	-40 ... +100 °C (-40 ... +212 °F)
– Version with cable outlet	-40 ... +60 °C (-40 ... +140 °F)
<b>VEGABAR 17</b>	
Ambient temperature	
– Standard	-20 ... +80 °C (-4 ... +176 °F)
Storage and transport temperature	-30 ... +105 °C (-22 ... +221 °F)

**Process conditions**

<b>VEGABAR 14</b>	
Product temperature with measuring cell seal	
– FKM (VP2/A)	-20 ... +100 °C (-40 ... +212 °F)
– EPDM (A+P 75.5/KW75F)	-40 ... +100 °C (-40 ... +212 °F)
Vibration resistance	mechanical vibrations with 4 g and 5 ... 100 Hz <sup>11)</sup>

<sup>5)</sup> Determined according to the limit point method to IEC 60770, referring to the nominal measuring range incl. non-linearity, hysteresis and non-repeatability.  
<sup>6)</sup> Relating to the adjusted span, incl. non-linearity, hysteresis and non-reproducibility.  
<sup>7)</sup> In the compensated temperature range of 0 ... +80 °C (+32 ... +176 °F), reference temperature 20 °C (68 °F).  
<sup>8)</sup> In the compensated temperature range of 0 ... +80 °C (+32 ... +176 °F), reference temperature 20 °C (68 °F).  
<sup>9)</sup> Similar to DIN 16086, DINV 19259-1 and IEC 60770-1.  
<sup>10)</sup> According to IEC 60770-1, relating to the nominal measuring range.  
<sup>11)</sup> Tested according to the regulations of German Lloyd, GL directive 2.

**VEGABAR 17**

Product temperature	
– Standard	-30 ... +100 °C (-22 ... +212 °F)
– additional	-40 ... +125 °C (-40 ... +257 °F)
– with cooling element	-20 ... +150 °C (-4 ... +302 °F)
– Version for oxygen applications	-30 ... +60 °C (-22 ... +140 °F)
Calibration position	upright, diaphragm points downward
Shock resistance	600 g according to IEC 60068-2-27 (mechanical shock)
Vibration resistance	10 g according to IEC 60068-2-6 (vibration at resonance)

**Electromechanical data**

Angled plug connector	
– Version	4-pole according to DIN 43650-A
– Outer cable diameter	6 ... 8 mm
Circular plug connector	
– Version	4-pole M12 x 1
Cable outlet	
– Length (example)	5 m (16.4 ft)
Terminal housing	
– Cable entry	Cable outer diameter 7 ... 13 mm
– Spring-loaded terminals for wire cross-section up to	2.5 mm <sup>2</sup> (AWG 14)

**Power supply**

**VEGABAR 14**

Operating voltage	8 ... 30 V DC
-------------------	---------------

**VEGABAR 17**

Operating voltage	
– Version with plug or cable outlet	10 ... 30 V DC
– Version with terminal housing	11 ... 30 V DC

**Electrical protective measures**

**VEGABAR 14**

Protection (according to EN 60529/IEC 529)	
– with plug connector	IP 65
– with cable outlet	IP 67
Protection class	III
Overvoltage category	III

**VEGABAR 17**

Protection (according to EN 60529/IEC 529)	
– with plug connector	IP 65
– with cable outlet	IP 67, IP 68, 0.5 bar
– with terminal housing	IP 67
Other protective measures	Reverse battery, overvoltage and short-circuit protection
Voltage resistance	0.5 kV DC

**Existing approvals or approvals applied for**

Gas and dust explosion protection	e.g. according to ATEX, FM, CSA, IEC
Ship approval	e.g. according to GL, LRS, ABS, RINA
Hygienic approval	e.g. 3A, EHEDG, FDA

The available approvals can be selected via the configurator on [www.vega.com](http://www.vega.com).

Depending on the version, instruments with approvals can have different technical data. For these instruments, please note the corresponding approval documents. They can be downloaded in the download section on [www.vega.com](http://www.vega.com).

**CE conformity**

**VEGABAR 14**

EMC (2004/108/EG)	Emission EN 61326: 2004 class A, Susceptibility EN 61326: 2004 industrial areas
LVD (2006/95/EG)	EN 61010-1: 2001

**VEGABAR 17**

EMVG (89/336/EWG)

DGRL (97/23/EG)

Emission EN 61326: class A

Supplement I, module A

---

**Environmental instructions**

VEGA environment management system

You can find detailed information under [www.vega.com](http://www.vega.com).

certified according to DIN EN ISO 14001

## 7 Dimensions

### VEGABAR 14

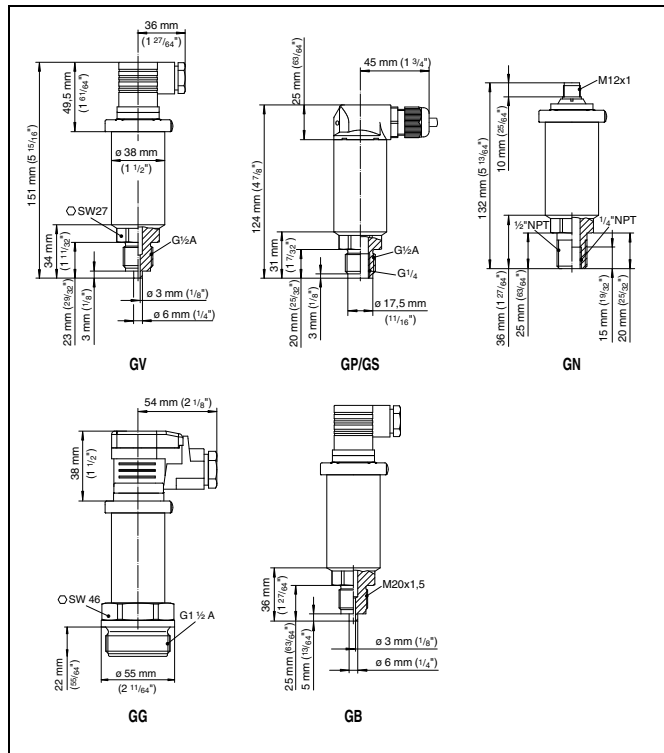


Fig. 16: VEGABAR GV = G $\frac{1}{2}$  A manometer connection EN 837, version with angled plug connector, GP/GS = G $\frac{1}{2}$  A inner G $\frac{1}{4}$  A, version with cable outlet, GN =  $\frac{1}{2}$  NPT, version with round plug connector, GB = M20 x 1.5 manometer connection EN 837, version with angled plug connector, GG = G $\frac{1}{2}$  A, version with angled plug connector

### VEGABAR 17 - standard housing

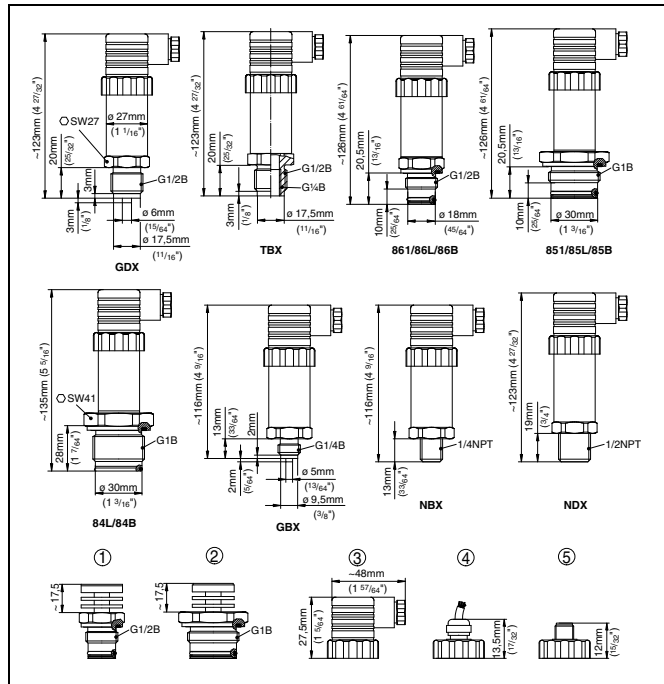


Fig. 18: VEGABAR - dimensions with \* in brackets apply to Ex versions, GDX = G $\frac{1}{2}$  B manometer connection, TBX = G $\frac{1}{2}$  B, inner G $\frac{1}{4}$  B, 84L/84B = G1 B front-flush max. 25 bar, 851/85L/85B = G1 B front-flush with O-ring up to 1.6 bar, 861/86L/86B = G $\frac{1}{2}$  B front-flush max. 25 bar, 861/86L/86B = G $\frac{1}{2}$  B front-flush with O-ring up to 1.6 bar, 861/86L/86B = G $\frac{1}{2}$  B

front-flush with O-ring > 1.6 bar, GBX = G $\frac{1}{4}$  B manometer connection, NBX =  $\frac{1}{4}$  NPT thread, NDX =  $\frac{1}{2}$  NPT thread

- 1 Cooling element G $\frac{1}{2}$  B
- 2 Cooling element G1 B
- 3 Plug according to DIN 43650-A
- 4 Cable outlet
- 5 M12 x 1 plug

### VEGABAR 17 - terminal housing

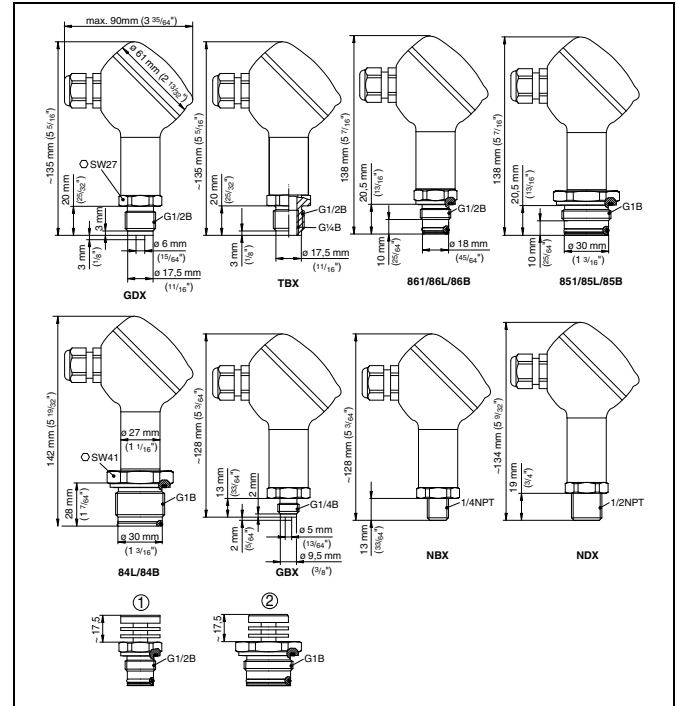


Fig. 20: VEGABAR - terminal housing, GDX = G $\frac{1}{2}$  B manometer connection, TBX = G $\frac{1}{2}$  B, inner G $\frac{1}{4}$  B, 84L/84B = G1 B front-flush max. 25 bar, 851/85L/85B = G1 B front-flush with O-ring up to 1.6 bar, 861/86L/86B = G $\frac{1}{2}$  B front-flush with O-ring > 1.6 bar, GBX = G $\frac{1}{4}$  B manometer connection, NBX =  $\frac{1}{4}$  NPT thread, NDX =  $\frac{1}{2}$  NPT thread

- 1 Cooling element G $\frac{1}{2}$  B
- 2 Cooling element G1 B

## 8 Product code

### VEGABAR 14

**Approval**  
 X without

**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)  
 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)  
 2A abs. / 0...1 bar (0...100kPa)  
 2B abs. / 0...1.6 bar (0...160kPa)  
 2C abs. / 0...2.5 bar (0...250kPa)  
 2D abs. / 0...4 bar (0...400kPa)  
 2E abs. / 0...6 bar (0...600kPa)  
 2F abs. / 0...10 bar (0...1000kPa)  
 2G abs. / 0...16 bar (0...1600kPa)

**Electrical connection / Protection**

A1 4-pole plug connection DIN43650-A PG9 / IP65  
 C1 Direct cable outlet with 5 m cable / IP67  
 M1 Circular plug conn., 4-pole w.screwed plug M12x1 / IP65

**Process fitting / Material**

GV G $\frac{1}{2}$ A, manometer connec. EN837 PN60 / 316L  
 GP G $\frac{1}{2}$ A, inner G $\frac{1}{4}$ A PN60 / 316L  
 GN  $\frac{1}{2}$ NPT inner  $\frac{1}{4}$ NPT PN60 / 316L  
 GB M20x1.5 manometer connection EN837 PN60 / 316L

**Seal measuring cell**

1 FKM (Viton)  
 3 EPDM

BAR14

### VEGABAR 17

**Approval**  
 Z without  
 A ATEX II 1/2G, 2G EEx ia IIC T6  
 D ATEX II 1/2G, 2G EEx ia IIC T6+ATEX II 1/2D IP6X T+M1<sup>1)</sup>  
 S ATEX II 1/2G, EEx ia IIC T6 + Ship approval

**Process fitting / Material**

GDX G $\frac{1}{2}$ B, manometer connection / 316Ti  
 TBX G $\frac{1}{2}$ A inner G $\frac{1}{4}$ A / 1.4571(316Ti)  
 861 Thread G $\frac{1}{2}$ B, flush / 316Ti w. o-ring, >1.6 bar / NBR  
 86L Thread G $\frac{1}{2}$ B, flush / 316Ti w. o-ring, >1.6bar / Viton  
 86B Thread G $\frac{1}{2}$ B, flush / 316Ti w.o-ring, >1.6 bar / EPDM  
 851 Thread G1B, flush / 316Ti w.o-ring, up to 1.6bar / NBR  
 85L Thread G1B, flush/316Ti w.o-ring, up to 1.6bar / Viton  
 85B Thread G1B, flush / 316Ti w.o-ring, up to 1.6bar / EPDM  
 84L Thread G1B, hygienic / 316Ti, max.25 bar / Viton<sup>2)</sup>  
 84B Thread G1B, hygienic / 316Ti, max.25 bar / EPDM<sup>2)</sup>  
 GBX G $\frac{1}{2}$ B manometer connection / 316Ti  
 NBX Thread  $\frac{1}{2}$ NPT / 316Ti  
 NDX Thread  $\frac{1}{2}$ NPT / 316Ti.

**Pressure**

B Gauge pressure  
 S Absolute pressure<sup>3)</sup>

**Measuring range**

LA -0.1...0 bar (-10...0 kPa)  
 KA -0.16...0 bar (-16...0 kPa)  
 GA -0.25...0 bar (-25...0 kPa)  
 FA -0.4...0 bar (-40...0 kPa)  
 DA -0.6...0 bar (-60...0 kPa)  
 CA -1...0 bar (-100...0 kPa)  
 AL 0...0.1 bar (0...10 kPa)  
 AM 0...0.16 bar (0...16 kPa)  
 AN 0...0.25 bar (0...25 kPa)  
 BB 0...0.4 bar (0...40 kPa)  
 BC 0...0.6 bar (0...60 kPa)  
 BD 0...1 bar (0...100 kPa)  
 BE 0...1.6 bar (0...160 kPa)  
 BF 0...2.5 bar (0...250 kPa)  
 BG 0...4 bar (0...400 kPa)  
 BH 0...6 bar (0...600 kPa)  
 BI 0...10 bar (0...1000 kPa)  
 BK 0...16 bar (0...1600 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)  
 BS 0...400 bar (0...40000 kPa)  
 BT 0...600 bar (0...60000 kPa)

**Electrical connection / Protection**

A4 Angle plug connector DIN43650 / IP65  
 M4 Circular plug connector, 4-pole w. screwed plug M12x1  
 DL Cable outlet / IP67  
 EM Cable outlet / IP68 (0.5 bar)  
 FW Terminal housing 316L with plastic threaded fitting / IP67  
 FV Terminal housing 316L with Sisi threaded fitting/IP67

**Cable length**

Z without  
 C 1.5 m  
 E 3 m  
 G 5 m  
 I 10 m

**Features / Cleaning procedure**

Z Without  
 E Oil/grease-free in the medium sect.medihalocarbon oil  
 A Oil and grease-free for oxygen applications<sup>4)</sup>  
 G Fill fluid and materials suitable for foodstuffs  
 F Silicone-free version

**Temperature range**

A -30...100°C (standard product temperature)  
 B -40...125°C (product temperature)  
 C -20...150°C (product temperature, with cooling element)  
 E -20...60°C (product temperature)  
 U -20...80°C (ambient temperature with EEx ia)<sup>5)</sup>

**Certificate / Standard**

Z no  
 1 Inspection certificate 3.1/EN10204 (material)

BR17.

<sup>1)</sup>Electrical connection / Protection only "EM" possible  
<sup>2)</sup>Only with Temperature range "C"  
<sup>3)</sup>Only for Measuring ranges 0...0.25 bar up to 0...16 bar  
<sup>4)</sup>Medium temperature max. 60°C  
<sup>5)</sup>See EC type approval certificate





**VEGA**

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](mailto:info@de.vega.com)  
[www.vega.com](http://www.vega.com)



You can find at [www.vega.com](http://www.vega.com) downloads of the following

- operating instructions manuals
- menu schematics
- software
- certificates
- approvals

and much, much more