

Differential pressure



Overview

VEGADIF 65

Chemical seal

Accessory

Page 200

Page 202

Page 204

Page 208

VEGADIF

For differential pressure, level and flow measurements

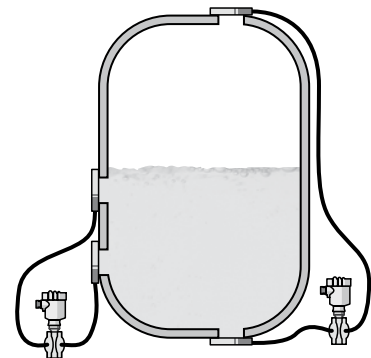
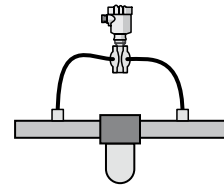
Measuring principle

The sensor diaphragms are deflected by the existing pressures. The filling oil transmits this pressure to a semiconductor measuring bridge. The output signal depending on the differential pressure is measured and further processed.




The advantages of this sensor are the high system pressure up to 420 bar, the excellent long-term stability and the very high unilateral overload resistance.

VEGADIF 65

VEGADIF 65 differential pressure transmitters can be used for manifold applications and are ideal for flow measurements in conjunction with effective pressure transmitters in gases, vapours and liquids. Level measurements in liquids, in pressurized vessels and pressure monitorings on filters and pumps are also typical applications. By connecting CSS and CSB chemical seals the application spectrum can be extended. For example, also interface and density measurements can be realized with connected chemical seals CSB.



Overview

Instrument type		Overload	Process fitting	Process temperature	Measuring range
VEGADIF 65 Flow, differential pressure		up to 420 bar	¼-18 NPT, RC ¼	-40 ... +120 °C	from -10 ... +10 mbar (-1 ... +1 kPa) up to -40 ... +40 bar (-4000 ... +4000 kPa)
Chemical seal CSB Level, density, interface, flow		up to 420 bar	Wide chemical seal program, asymmetric connection possible	-40 ... +400 °C	from -100 ... +100 mbar (-10 ... +10 kPa) up to -40 ... +40 bar (-4000 ... +4000 kPa)
Chemical seal CSS Level, pressure		up to 420 bar	Wide chemical seal program	-40 ... +400 °C	from -100 ... +100 mbar (-10 ... +10 kPa) up to -40 ... +40 bar (-4000 ... +4000 kPa)

VEGADIF 65



Differential pressure transmitter with metal measuring diaphragm

Application area

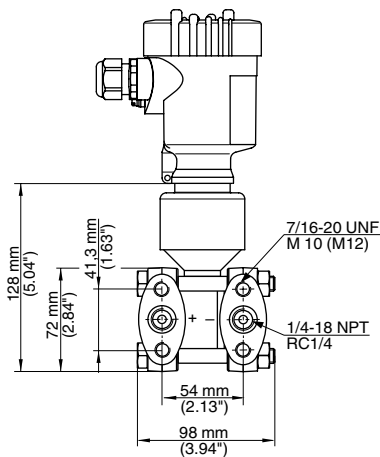
The differential pressure transmitter VEGADIF 65 can be used universally for the measurement of liquids, gases and vapours. Typical applications are level measurements in pressurized vessels as well as flow measurements in combination with DP flow elements. Further applications are pressure monitorings on filters as well as density and interface measurements.

Your benefit

- Measurement of very low differential pressures through high precision measured value detection
- High reliability through integrated overload diaphragm
- Versatile use through a variety of measuring ranges and process fittings

Technical data

Measuring cell:	metallic
Measuring range:	from -10 ... +10 mbar (-1 ... +1 kPa) to -40 ... +40 bar (-4000 ... +4000 kPa)
Process fitting:	¼ - 18 NPT, RC ¼
Process temperature:	-40 ... +120 °C with chemical seal assembly -40 ... +400 °C
Deviation in characteristics:	0.15 %; 0.075 %



You will find further process fittings and options under www.vega.com/configurator.

You will find further drawings and tables under www.vega.com/downloads.

You will find mounting accessory, welded sockets and housing overviews in chapter "Accessory".

Approval

- XX without
- AX ATEX II 3G Ex nA
- CX ATEX II 1G, 1/2G, 2G Ex ia IIC T6
- CK ATEX II 1G, 1/2G, 2G Ex ia IIC T6 + 1D, 1/2D, 2D Ex tD IP66 T*
- DX ATEX II 1/2G, 2G Ex d ia IIC T6
- GX ATEX II 1D, 1/2D, 2D Ex tD IP66 T*
- CX IEC Ex ia IIC T6
- DX IEC Ex d ia IIC T6
- GX IEC Ex tD A20, A20/A21, A21 IP66 T*
- CX CSA (IS) CL I, II, III, DIV1, GP ABCDEFG
- DX CSA (XP-IS) CL I, II, III, DIV1, GP ABCDEFG

Process fitting / Material / Lateral ventilation

- B NPT1/4-18, IEC61518, UNF7/16-20 / Steel C22.8 (1.0460) / without
- C NPT1/4-18, IEC61518, UNF7/16-20 / Steel C22.8 (1.0460) / with
- D NPT1/4-18, IEC61518, UNF7/16-20 / 316L / without
- E NPT1/4-18, IEC61518, UNF7/16-20 / 316L / with
- F NPT1/4-18, IEC61518, UNF7/16-20 / Alloy C276 (2.4819) / without
- 1 NPT1/4-18, PN160=M10, PN420=M12 / Steel C22.8 (1.0460) / without
- 2 NPT1/4-18, PN160=M10, PN420=M12 / 316L / without
- W Prepared for chemical seal assembly / 316L

Material diaphragm

- 1 316L
- 2 Alloy C276 (2.4819)
- 3 Alloy 400 (2.4360)
- 5 Tantalum

Seal

- A FKM
- C PTFE
- F NBR
- K Copper seal ring, oxygen application
- H Copper seal ring

Measuring range / PN:

- 7B 10mbar (1kPa) / 160bar (16000kPa)
- 7C 30mbar (3kPa) / 160bar (16000kPa)
- 7D 100mbar (10kPa) / 160bar (16000kPa)
- 7F 500mbar (50kPa) / 160bar (16000kPa)
- 7H 3bar (300kPa) / 160bar (16000kPa)
- 7L 16bar (1600kPa) / 160bar (16000kPa)
- 7M 40bar (4000kPa) / 160bar (16000kPa)
- 8F 500mbar (50kPa) / 420bar (42000kPa)
- 8H 3bar (300kPa) / 420bar (42000kPa)
- 8L ~16bar (1600kPa) / 42
- 8M 40bar (4000kPa) / 420bar(42000kPa)

Electronics

- Z Two-wire 4 ... 20mA
- H Two-wire 4...20mA/HART®
- P Two-wire Profibus PA
- F Two-wire Foundation Fieldbus

Housing / Protection

- K Plastic single chamber / IP66/IP67
- A Aluminium single chamber / IP66/IP67
- D Aluminium double chamber / IP66/IP67
- 8 Stainless steel single chamber (electropolished) / IP66/IP67
- P Axial cable outlet IP 68 (PUR) with external plastic single chamber housing / IP65
- W StSt double chamber / IP66/IP67
- R Plastic double chamber / IP66/IP67

Cable entry / Cable gland / Plug connection

- M M20x1.5 / with / without
- N 1/2 NPT / without / without

Display/adjustment module (PLICSCOM)

- X Without
- A Mounted

Additional equipment

- X without

Accuracy class

- 7 0.075 %
- F 0.150 %

DF65.

Cable length

per 100 mm cable of PUR

Chemical seal CSB

Chemical seal both side assembly for VEGADIF 65

Application area

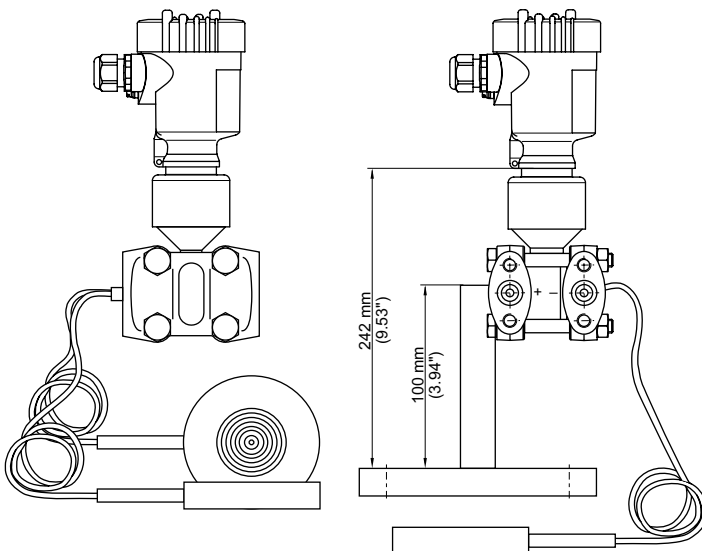
The VEGADIF 65 with chemical seal CSB (both side assembly) is suitable for level, interface, density, differential pressure and flow measurement. Through the assembly of the chemical seal CSB, applications in corrosive, high viscosity and hot products can be realized.

Your benefit

- High chemical resistance through adapted diaphragm materials
- Versatile solutions through individual configuration

Technical data

Measuring range:	from -100 ... +100 mbar (-10 ... +10 kPa) to -40 ... +40 bar (-4000 ... +4000 kPa)
Process fitting:	flanges from DN 50, 2"
Process temperature:	-40 ... +400 °C



You will find further process fittings and options under www.vega.com/configurator.

You will find further drawings and tables under www.vega.com/downloads.

You will find mounting accessory, welded sockets and housing overviews in chapter "Accessory".

Connection high pressure side

- B** Rigid horizontal (100 mm)
- E** Capillaries 1m
- F** Capillaries special lengths

Process fitting / Material high pressure side

- FC** Flange DN50 PN40 Form D, DIN2501 / 316L
- FD** Flange DN50 PN40; with extension (ø48.5x50mm) / 316L
- FH** Flange DN80 PN40 Form D, DIN2501 / 316L
- FJ** Flange DN80 PN40; with extension (ø76x50mm) / 316L
- F5** Flange 2" 150lb RF, ASME B16.5 / 316L
- F7** Flange 2" 150lb RF, ASME; with extension (ø1.9x2") / 316L
- FS** Flange 3" 150lb RF, ASME B16.5 / 316L
- FQ** Flange 3" 150lb RF, ASME; with extension (ø2.9x6") / 316L
- FT** Flange 3" 300lb RF, ASME B16.5 / 316L
- HN** Flange 3" 600lb RF, ASME B16.5 / 316, 316L
- HP** Flange 3" 900lb RJF, ASME B16.5 / 316, 316L
- RW** Slotted nut, nut DN50 PN25, DIN11851 / 316L
- RX** Slotted nut, nut DN80 PN25, DIN11851 / 316L
- AA** Cell DN50 PN16-400 / 316L
- AK** Cell DN80 PN16-400 / 316L
- AR** Cell DN100 PN16-400 / 316L
- CA** Cell 2" 150-2500 / 316L
- CK** Cell 3" 150-2500 / 316L

Diaphragm material

- 1** 316L
- B** 316L coated with 0.1 µm rhodium on 4 µm gold
- 2** Alloy C276 (2.4819)
- 3** Tantalum

Isolating liquid / Temperature

- C** Silicone oil KN2.2 / -40...+200°C (Pabs<1bar -40...+150°C)
- G** High temperature oil KN32 / -10...+300°C (Pabs<1bar -10...+200°C)
- H** High temperature oil KN32 / -10...+400°C (Pabs<1bar -10...+200°C)
- I** Halocarbon oil KN21 / -40...+150°C (Pabs<1bar -40...+80°C)
- R** Medical white oil KN92 (FDA) / -10...+250°C (Pabs<1bar -10...+160°C)

Connection low pressure side

- F** Capillaries special lengths

Process fitting / Material low pressure side

- FC** Flange DN50 PN40 Form D, DIN2501 / 316L
- FD** Flange DN50 PN40; with extension (ø48.5x50mm) / 316L
- FH** Flange DN80 PN40 Form D, DIN2501 / 316L
- FJ** Flange DN80 PN40; with extension (ø76x50mm) / 316L
- F5** Flange 2" 150lb RF, ASME B16.5 / 316L
- F7** Flange 2" 150lb RF, ASME; with extension (ø1.9x2") / 316L
- FS** Flange 3" 150lb RF, ASME B16.5 / 316L
- FQ** Flange 3" 150lb RF, ASME; with extension (ø2.9x6") / 316L
- FT** Flange 3" 300lb RF, ASME B16.5 / 316L
- HN** Flange 3" 600lb RF, ASME B16.5 / 316, 316L
- HP** Flange 3" 900lb RJF, ASME B16.5 / 316, 316L
- RW** Slotted nut, nut DN50 PN25, DIN11851 / 316L
- RX** Slotted nut, nut DN80 PN25, DIN11851 / 316L
- AA** Cell DN50 PN16-400 / 316L
- AK** Cell DN80 PN16-400 / 316L
- AR** Cell DN100 PN16-400 / 316L
- CA** Cell 2" 150-2500 / 316L
- CK** Cell 3" 150-2500 / 316L

Vacuum service

- J** yes (with measuring ranges < 0.5bar abs)
- N** No

Material certificate

- X** without
- D** Inspection certif. EN10204-3.1B, NACE MR0175(wetted)

CSB.										
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Capillaries high pressure side in m
(500-12000 mm) per 100 mm

Capillaries low pressure side in m
(500-12000 mm) per 100 mm



Chemical seal CSS

Chemical seal single side assembly for VEGADIF 65

Application area

The VEGADIF 65 with chemical seal CSS (single side assembly) is suitable for level and differential pressure measurement. Through the assembly of the chemical seal CSS, applications in corrosive, high viscosity and hot products can be realized.

Your benefit

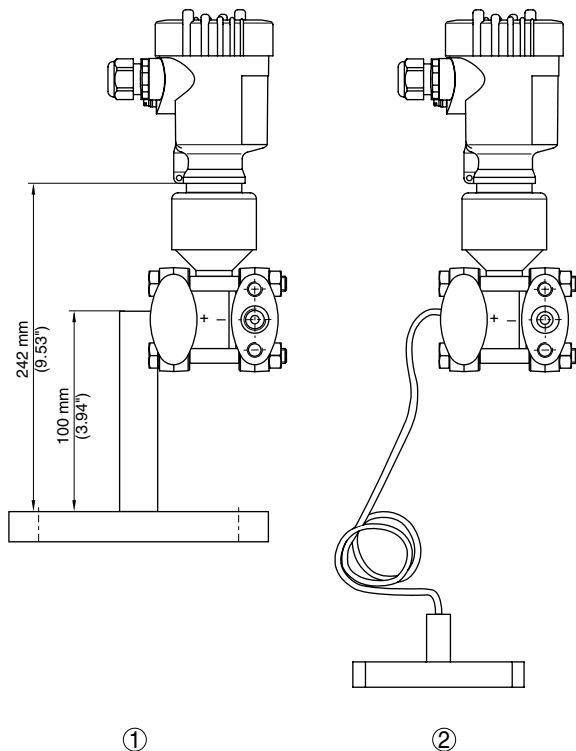
- High chemical resistance through adapted diaphragm materials
- Versatile solutions through individual configuration

Technical data

Measuring range: from -100 ... +100 mbar (-10 ... +10 kPa)
to -40 ... +40 bar (-4000 ... +4000 kPa)

Process fitting: flanges from DN 50, 2"

Process temperature: -40 ... +400 °C



- 1 Version: rigid vertically (100 mm)
- 2 Version: with capillaries (100 mm)

You will find further process fittings and options under www.vega.com/configurator.
You will find further drawings and tables under www.vega.com/downloads.
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Connection high pressure side

- A Rigid vertical (100 mm)
- B Rigid horizontal (100 mm)
- C Rigid with cooling distance vertical (150 mm)
- D Rigid with cooling distance horizontal (150 mm)
- E Capillaries 1m
- F Capillaries special lengths

Process fitting / Material

- FC Flange DN50 PN40 Form D, DIN2501 / 316L
- FD Flange DN50 PN40; with extension (ø48.5x50mm) / 316L
- FH Flange DN80 PN40 Form D, DIN2501 / 316L
- FJ Flange DN80 PN40; with extension (ø76x50mm) / 316L
- DF Flange DN100 PN40; with extension (ø94x50mm) / 316L
- F5 Flange 2" 150lb RF, ASME B16.5 / 316L
- F7 Flange 2" 150lb RF, ASME; with extension (ø1.9x2") / 316L
- HW Flange 2" 150lb SG, ASME B16.5 / 316L
- FS Flange 3" 150lb RF, ASME B16.5 / 316L
- FQ Flange 3" 150lb RF, ASME; with extension (ø2.9x6") / 316L
- HP Flange 3" 150lb FF, ASME B16.5 / 316L
- FT Flange 3" 300lb RF, ASME B16.5 / 316L

Diaphragm material

- 1 316L
- 2 Alloy C276 (2.4819)
- 3 Tantalum

Isolating liquid / Temperature

- C Silicone oil KN2.2 / -40...+200°C (Pabs<1bar -40...+150°C)
- G High temperature oil KN3.2 / -10...+300°C (Pabs<1bar -10...+200°C)
- H High temperature oil KN3.2 / -10...+400°C (Pabs<1bar -10...+200°C)
- I Halocarbon oil / -40...+150°C (Pabs<1bar -40...+80°C)
- R Medical white oil KN92 / -10...+250°C (Pabs<1bar -10...+160°C)

Connection low pressure side

- 1 7/16-20 UNF

Material

- 1 316L

Seal

- Y Kalrez 6375

Vacuum service

- J yes (with measuring ranges <0.5bar abs)
- N no

Material certificate

- X without
- D Inspection certif. EN10204-3.1B, NACE MR0175(wetted)

CSS.												
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Capillaries high pressure side in m
(500-8000 mm) per 100 mm

Oval flange adapter

Oval flange adapter for VEGADIF

The oval flange adapter enables the connection of a ½ NPT tube to a VEGADIF 65 or a valve block. Through the selection of the suitable material, the oval flange adapter can be adapted to all processes.



Version / Material

- A Basic version / 316L
- Screws / Material / Nominal pressure**
- H 7/16 UNF / steel 8.8 galvanized / PN420
- I 7/16 UNF / 304 / PN160
- Seal / Temperature range**
- 1 FKM (Vi 399) / -15...+200°C
- 2 EPDM / -40...+150°C
- 3 PTFE / -200...+260°C

DIFOVAL.

Ventilation valve

Ventilation valve for VEGADIF

2 pcs.



Version / Material

- 17724 ¼ NPT / 316L

2.

Closing screw

Closing screw for VEGADIF

2 pcs.



Version / Material

- 17725 ¼ NPT / 316L

2.

Mounting angle for VEGADIF



Mounting angle for VEGADIF

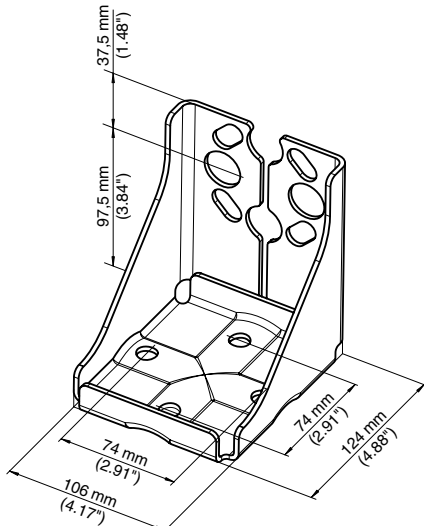
for wall or tube mounting
with strap for tube mounting
with fixing screws 7/16 UNF, M10



Version / Material

A Universal angle / 304

DIFMW.



Compression type mechanical joint VEGADIF

Compression type mechanical joint
for VEGADIF and oval flange adapter



Version

40439 1/2" compression type fitting for tube diameter 12mm / 316L

41594 1/4" compression type fitting for tube diameter 12mm / 316L

2.

Valve block

For direct connection to the differential pressure transmitter VEGADIF 65

Application area

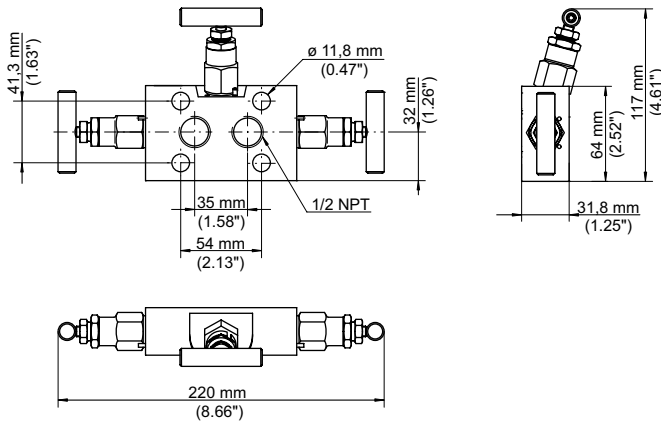
The use of the valve block with inlet and outlet valves ensures the simple installation and setup of the differential pressure transmitter.

Your benefit

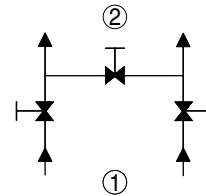
- Proven technology because suitable for connections according to IEC 61518
- Simple mounting and dismantling of the differential pressure transmitter
- Individual adaptation to the respective process



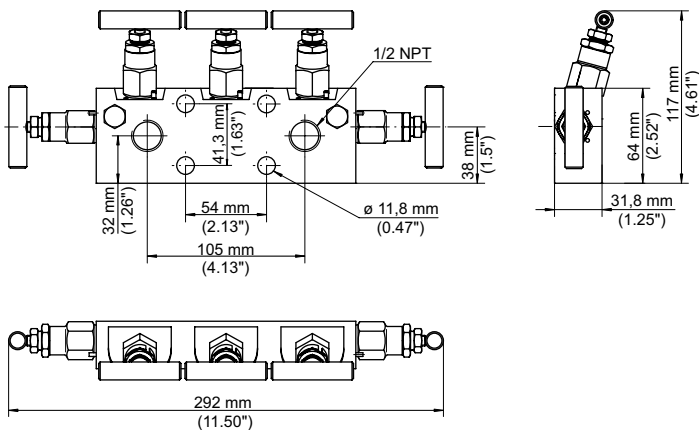
Three-fold valve block acc. to DIN 19213



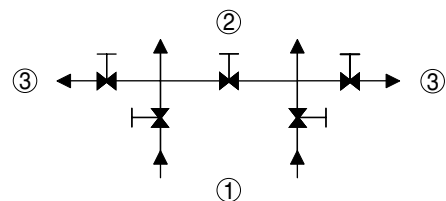
1 To the process
2 To the measuring instrument



Five-fold valve block acc. to DIN 19213



1 To the process
2 To the measuring instrument
3 Check/Ventilate



Version

- C 3-fold DN5 PN420
- D 5-fold DN5 PN420
- E 3-fold DN5 PN420 flanging on both sides
- L 3-fold DN5 PN160
- M 5-fold DN5 PN160
- N 3-fold DN5 PN160 flanging on both sides

Material block / Material valve seal

- V 316L (1.4404) / PTFE

Input

- N Threaded socket 1/2NPT
- M Cutting ring connection for 12 mm (DIN2353)
- I according to IEC 61518
- J Oval flange adapter IEC 61518 - Thread 1/2NPT

Output

- A Form A, IEC61518

Fixing screws / Material process seal

- X without
- 1 7/16 UNF 304, length: 1 3/4" / PTFE
- 4 7/16 UNF galvanized steel, length: 1 3/4" / PTFE
- 5 7/16 UNF 304, length: 7/8" / PTFE
- 6 7/16 UNF galvanized steel, length: 7/8" / PTFE
- T M10 304, length: 45mm / PTFE
- U M10 galvanize steel, length: 45mm / PTFE

Certificate / Standard

- B (C)Certificate 3.1 (mat.) / EN10204
- X without

DIFVALVE.									
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