Differential pressure gauge
Model 732.51, stainless steel version, with diaphragm element
All welded construction

Applications

- For gaseous and liquid aggressive media that are not highly viscous or crystallising, also in aggressive ambience
- Monitoring and control of pumps
- Filter monitoring
- Level measurement in closed tanks

Special features

- Differential pressure measuring ranges from 0 … 16 mbar
- High working pressure (static pressure) up to 40 bar
- High overpressure safety up to 40 bar
- All welded media chamber

Differential pressure gauge model 732.51

Description

These differential pressure gauges are made of highly corrosion-resistant stainless steel and feature an all-metal, all-welded media chamber to ensure long-term leak tightness (no elastomer sealing elements).

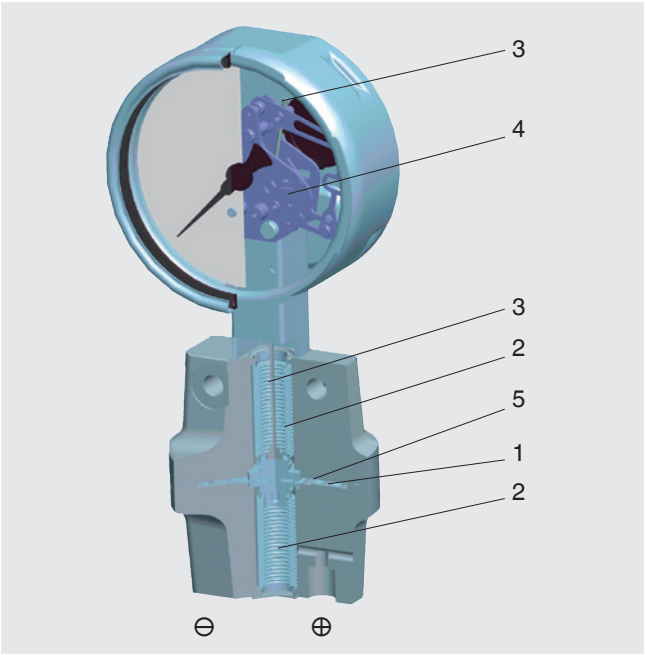
A high overpressure safety is achieved by the all-metal construction and the close-fitting design of the pressure measuring diaphragm.

With its high-grade stainless steel construction and robust design this pressure gauge is geared to chemical and process engineering applications. It is suitable for gaseous or liquid media, also in aggressive ambience.

The scale ranges of 0 ... 16 mbar to 0 ... 25 bar are available to meet the requirements of a wide variety of applications.

Data sheets showing similar products:
Differential pressure gauge with switch contacts; model DPGS43.1x0; see data sheet PV 27.05
Differential pressure gauge, universal version; model 732.14; see data sheet PM 07.13

Illustration of the principle



Mounting according to affixed symbols
⊕ high pressure and ⊖ low pressure

Design and operating principle

- Positive and negative media chambers are separated by the diaphragm element (1)
- Metal bellows (2) isolate the pressure chambers from atmosphere
- The pressure differential between the positive and negative media chambers leads to an axial deflection of the pressure element
- The deflection is transmitted to the movement (4) via the connecting rod (3)
- The movement converts the axial deflection into an angular deflection at the pointer
- Overpressure safety is ensured by the all-metal construction and the close-fitting all-metal design (5)

Specifications

Design
Lower mount pressure connections,
highly corrosion-resistant all-metal construction,
measuring cell secured against unauthorised intervention,
pressure connection location adjustable to mounting conditions,
WIKA trade pattern DT - GM 86 08 176

Nominal size in mm
100, 160

Accuracy class
1.6

Scale ranges
0 ... 16 mbar to 0 ... 25 bar
Scale range 0 ... 16 mbar: Scale length approx. 180 ∢ °
or all other equivalent vacuum or combined pressure and vacuum ranges

Pressure limitation
Steady: full scale value
Fluctuating: 0.9 x full scale value

Overpressure safety
see table on page 3

Max. working pressure (static pressure)
see table on page 3

Permissible temperature
Ambient: -20 ... +60 °C
Medium: +100 °C maximum

Temperature effect
When the temperature of the measuring system deviates from the reference temperature (+20 °C):
max. ±0.5 %/10 K of full scale value

Ingress protection
IP 54 per EN 60529 / IEC 529 (with liquid filling IP 65)

Standard version

Measuring chamber with process connection (wetted)
Stainless steel 1.4571,
lower mount (LM),
2 x G ¼ female

Pressure elements (wetted)
≤ 0.25 bar: Stainless steel 1.4571
> 0.25 bar: NiCrCo-alloy (Duratherm)

Sealing bellows (wetted)
Stainless steel 1.4571

Venting of the media chambers (wetted)
Stainless steel 1.4571 for scale ranges ≤ 0.25 bar
(optional for scale ranges ≥ 0.4 bar!)

Movement
Stainless steel

Dial
Aluminium, white, black lettering

Pointer
Model 732.51: Adjustable pointer, aluminium, black
Model 733.51: Standard pointer, aluminium, black

Case
Stainless steel, with pressure relief

Window
Laminated safety glass

Bezel ring
Cam ring (bayonet type), stainless steel

Mounting
according to affixed symbols
⊕ high pressure,
⊖ low pressure

Mounting by means of:
- Rigid tailpipes
- Mounting holes in measuring flange
- Panel mounting flange (option)
- Mounting bracket for wall or pipe mounting (option)

Options

- Liquid filling (model 733.51)
- Safety version (model 73X.31)
- Higher max. working pressure (static pressure) and higher overpressure safety (see table)
- Indication accuracy better than class 1.6
- Venting of the media chambers (wetted) for scale ranges ≥ 0.4 bar
- Zero adjustment appliance
- Lateral connection location (right, left, front or back)
- Other threaded pressure connections, female or male
- Combined differential pressure and working pressure readout
- Medium temperature > 100 °C
- Admissible ambient temperature -40 ... +60 °C (silicone oil filling)
- Mounting bracket for wall or pipe mounting
- Panel mounting flange
- Version per ATEX Ex II 2 GD c TX
- Pressure equalising valve (data sheet AC 09.11)
- Pressure gauge with switch contacts, see model DPGS43.1x0, data sheet PV 27.05
- Pressure gauge with electrical output signal, see model DPGT43.100/160, data sheet PV 17.05

Max. working pressure / Overpressure safety

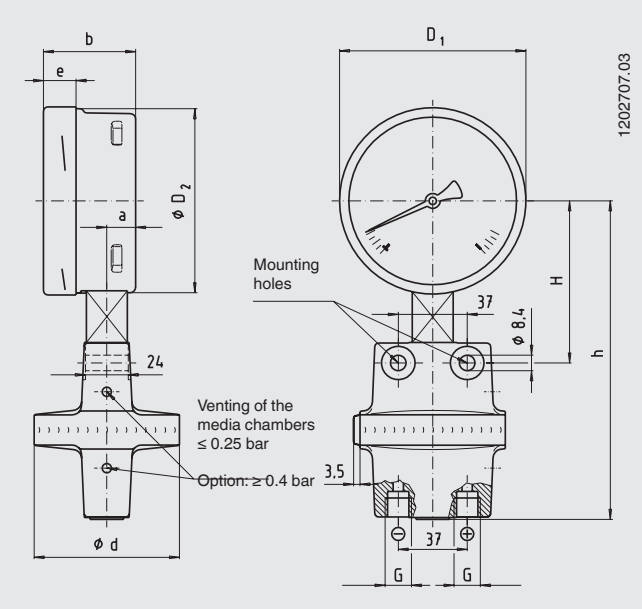
Scale ranges	Max. working pressure in bar (static pressure)		Overpressure safety in bar either side max.	
	Standard	Option	Standard	Option
0 ... 16 to 0 ... 40 mbar	2.5	6 [1)]	2.5	-
0 ... 60 to 0 ... 250 mbar	6	10	2.5	6
0 ... 400 mbar	25	40	4	40
0 ... 0.6 bar	25	40	6	40
0 ... 1 bar	25	40	10	40
0 ... 1.6 bar	25	40	16	40
0 ... 2.5 to 0 ... 25 bar	25	40	25	40

1) Accuracy class 2.5

Dimensions in mm

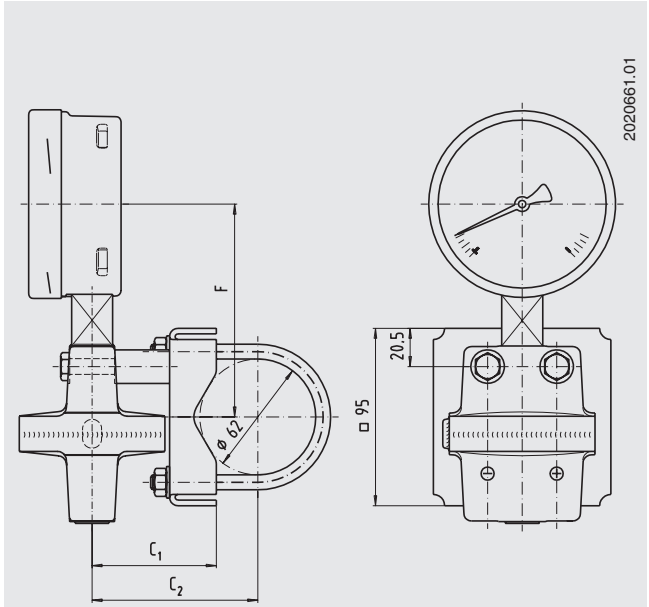
Standard version

Connection 2 x G ½ female, lower mount (LM)



Option

Mounting bracket for wall or pipe mounting



NS	Scale range	Dimensions in mm												Weight
		a	b	D_1	D_2	d	e	G	h ± 1	H	F	C_1	C_2	in kg
100	≤ 0.25 bar	15.5	49.5	101	99	140	17.5	G ¼	171	90	114	96	118	2.70
100	> 0.25 bar	15.5	49.5	101	99	78	17.5	G ¼	171	87	114	66	88	1.90
160	≤ 0.25 bar	15.5	49.5	161	159	140	17.5	G ¼	201	120	144	96	118	3.40
160	> 0.25 bar	15.5	49.5	161	159	78	17.5	G ¼	201	117	144	66	88	2.40

Process connection per EN 837-1 / 7.3

Ordering information

Model / Nominal size / Scale range / Scale layout (linear pressure or square root incrementation) / Max. working pressure (static pressure) ... bar / Connection size / Connection location / Options

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