

Mechanical Pressure Measurement

Differential Pressure Gauges
Model GDP, Universal Version,
with Diaphragm Element High Overpressure
Safety PN 40, 100, 250 or 400



Applications

- Differential pressure measurement at points with a high differential pressure overload and/or high working pressures (static pressures), also in aggressive ambience
- For gaseous, liquid, particulates-containing, viscous and aggressive media
- Monitoring and control of pumps
- Filter monitoring
- Level measurement in closed tanks

Special Features

- Differential pressure measuring ranges from 0 ... 60 mbar
- High working pressure (static pressure) and high overpressure safety up to 40, 100, 250 or 400 bar
- Hydraulic cushioning protection against rapid pressure changes
- Compatible with alarm contacts
- Model GDP: Monel® version

Description

These differential pressure gauges are made of highly corrosion-resistant stainless steel. 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



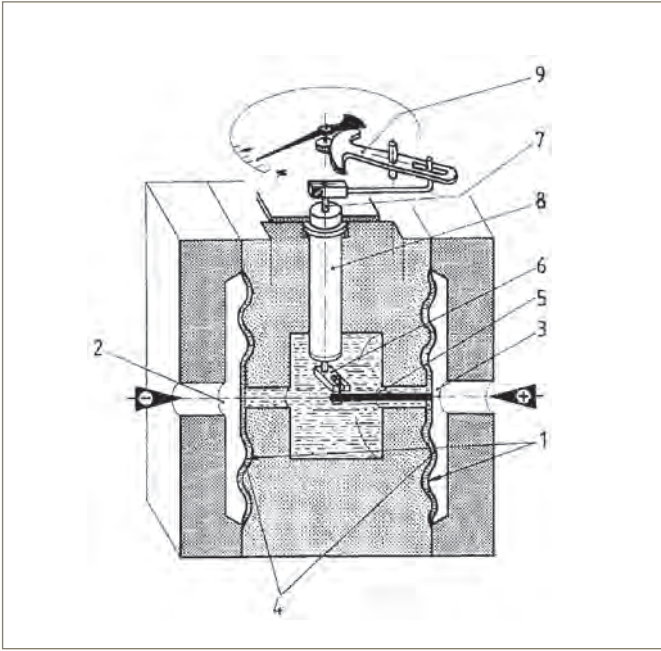
Differential Pressure Gauge Model GDP

engineering applications. It is suitable for gaseous or liquid media, also in aggressive ambience.

The wetted parts for these differential pressure gauges are available also in special materials such as Monel®, Hastelloy® or PTFE.

Scale ranges from 0 ... 60 mbar to 0 ... 40 bar are available to meet the requirements of a wide variety of applications.

Illustration of operating principle



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

Specifications

Design

Very highly overpressure safe for one-sided or reciprocal pressures, pressure rating PN 40, 100, 250 or 400, hydraulic cushioning protection against rapid pressure changes

Nominal size in mm

100, 160

Accuracy class

Model 732.14: 1.6

Model 762.14: 2.5

Scale ranges

0 ... 60 mbar to 0 ... 250 mbar (gauge head DN 140)

0 ... 0.4 bar to 0 ... 40 bar (gauge head DN 80)

Overpressure safety 400 bar: 0 ... 0.4 bar to 0 ... 40 bar or all other equivalent vacuum or combined pressure and vacuum ranges

Pressure limitation

Steady: full scale value

Fluctuating: 0.9 x full scale value

Design and operating principle Industrietechnik GmbH

- Process pressures p_1 and p_2 are applied to the media chambers ⊖(2) and ⊕(3).
- Gauge head (4) is filled with transmission liquid.
- Differential pressure across ⊕ and ⊖ pressure sides deflects the diaphragm (1) and displaces the liquid.
- The displacement of the connection rod (5) is converted through the use of a transmitting lever (6) into rotation, which is transferred over an axial shaft (7) to the movement (9).
- The torque pipe (8) seals, assuring a frictionless path.
- Overpressure protection in both directions up to the max. static pressure rating is provided by contoured metal bolsters.

Overpressure safety and max. working pressure (static pressure)

Either side to max. static pressure 40, 100, 250 or 400 bar

Operating 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 true scale value

Ingress protection

IP 54 per EN 60 529 / IEC 529
 (with liquid filling IP 65)

Standard version**Measuring flanges (wetted)**

Model 732.14: stainless steel 1.4571

Model 762.14: monel® 2.4360

Process connection

2 x G ½ female (EN 837),

lower mount (LM)

Pressure elements (wetted)

Model 732.14: stainless steel 1.4571/NiCrCo-alloy (Duratherm)

Model 762.14: monel® 2.4375

Sealings (wetted)

FPM/FKM

Venting of the media chambers (wetted)

Model 732.14: stainless steel 1.4571

Model 762.14: monel® 2.4360

Standard for scale ranges ≤ 0.25 bar
(optional for scale ranges ≥ 0.4 bar!)

Gauge head

Chrome steel

Movement

Stainless steel

Dial

Aluminium, white, black lettering

Pointer

Adjustable pointer, aluminium, black

Zero adjustment

By means of adjustable pointer (adjustment appliance with gauges with liquid filling and/or alarm contacts)

Case / Bayonet ring

Stainless steel

Window

Laminated safety glass

Gauge head filling

Silicone oil

Mounting by means of

- Rigid tailpipes
- Drilled mounting holes at the back of the gauge head
- Panel mounting flange (option)
- Mounting bracket for wall or pipe mounting (option)

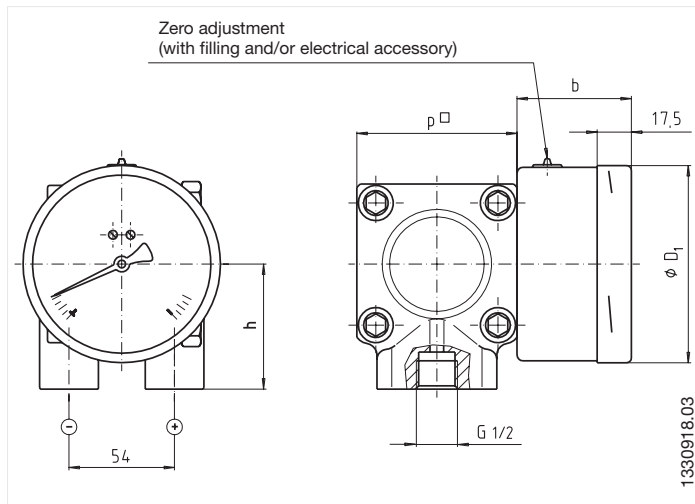
Options

- Liquid filling (model 733.14 / 763.14)
- Venting of the pressure chambers (wetted) for scale ranges ≥ 0.4 bar
- Gauge head filling with special medium, e.g. for use in oxygen applications (static pressure max. 100 bar)
- Combined differential pressure and working pressure readout
- Wetted components made of special material
- Differential process connection per DIN EN 61 518
- Other threaded process connection, for example male 2 x G ½ B or 2 x ½ NPT
- Back mount process connection or connection at 12 o'clock
- Medium temperature > 100 °C
- Panel mounting flange
- Mounting bracket for wall or pipe mounting, lacquered steel or stainless steel
- Version per ATEX Ex II 2 GD c
- Pressure equalising valve (data sheet AC 09.11)
- Alarm contacts (data sheet AC 08.01)
- Pressure gauge with electrical output signal, see model DPGT43HP.100/160, data sheet PV 17.13

Dimensions in mm

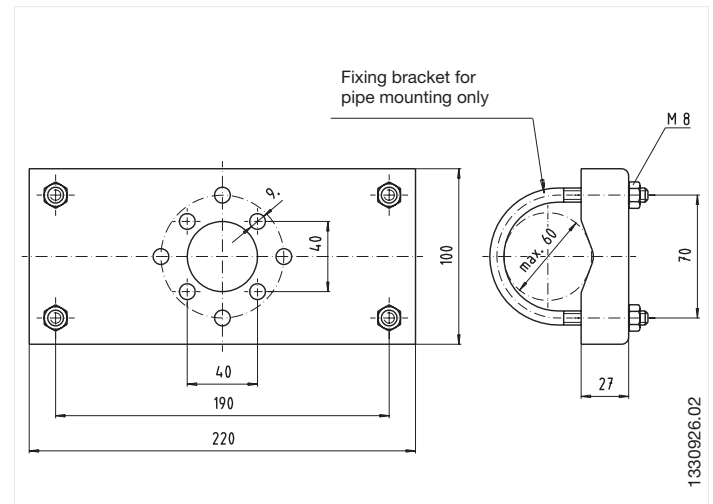
Standard version

Connection 2 x G 1/2 female, lower mount (LM)



Optional version

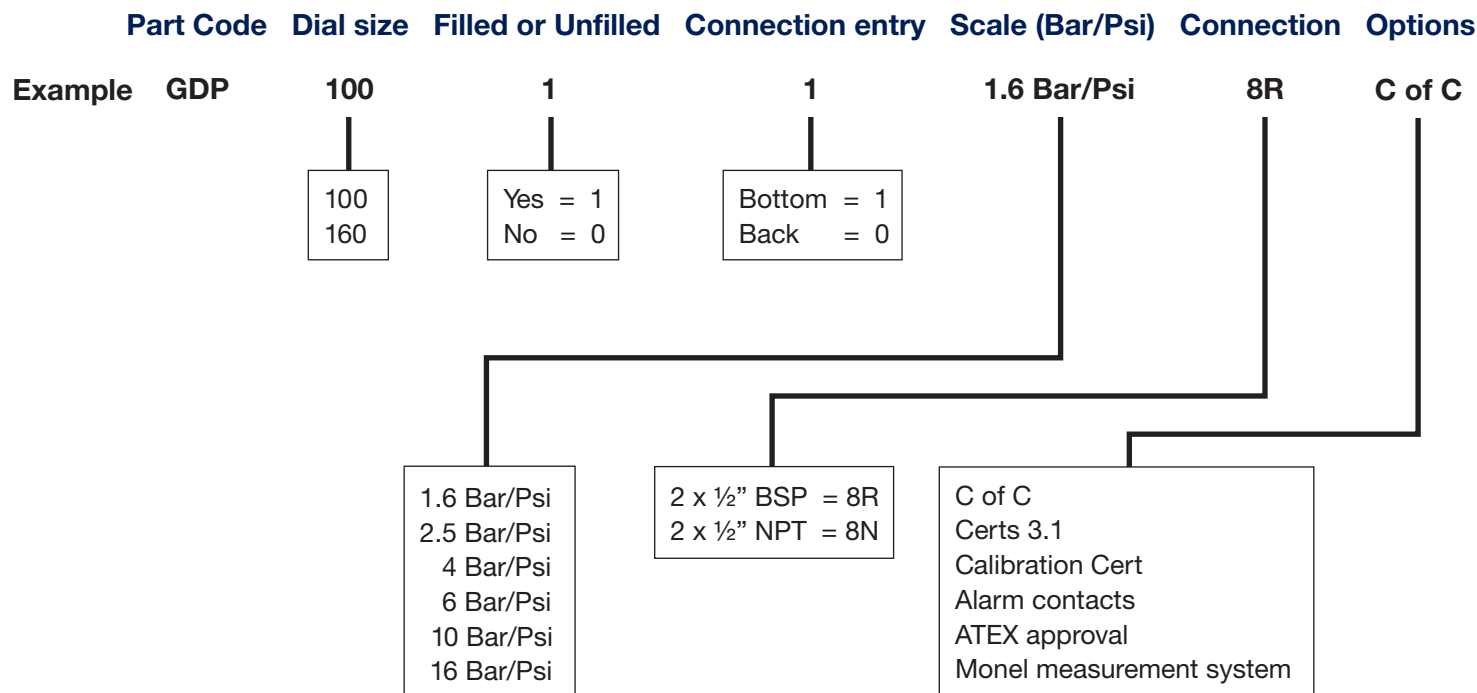
Mounting bracket for wall or pipe mounting



NS	Pressure range	Dimensions in mm					Weight in kg		
		b	D ₁	h ± 1	p□ (PN 40/100/250)	p□ (PN 400)	PN 40/100	PN 250	PN 400
100	≤ 0.25 bar	58.5	101	86	140	-	12.1	13.1	-
100	> 0.25 bar	58.5	101	64	82	86	3.6	3.9	4.5
160	≤ 0.25 bar	65.5	161	86	140	-	12.5	13.5	-
160	> 0.25 bar	65.5	161	64	82	86	4.0	4.3	4.9

Process connection per EN 837

Ordering information - Part Number Configurator



Modifications may take place and materials specified may be replaced by others without prior notice.
 Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.

