

# Differential Pressure Gauges

With Diaphragm Element, Standard Series • Model 712.20

## Pressure Gauges

### Service intended

Suitable for noncorrosive and noncrystallizing gaseous and liquid media that are not highly viscous.

### Design

Bottom pressure entry  
Pressure chamber set radially below dial.

### Nominal size

100 and 160 mm

### Accuracy class per EN 837-3 /6

1.6

### Scale ranges per EN 837-3 /5

Scale ranges	mbar						bar								
	0 ... 16	0 ... 25	0 ... 40	0 ... 60	0 ... 100	0 ... 160	0 ... 0.4	0 ... 0.6	0 ... 1	0 ... 1.6	0 ... 2.5	0 ... 4	0 ... 6	0 ... 10	0 ... 16
max. total static pressure	2.5 bar						10 bar						25 bar		
overload limit either side	2.5 bar						bar								
							3	5	8	10	25				

or other equivalent units for pressure or vacuum.  
Scale range 0 ... 16 mbar: full scale length approx. 180 °

### Working pressure

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

### Operating temperature

Ambient: -20 °C ... +60 °C  
Medium: +60 °C maximum

### Temperature effect

When temperature of the pressure element deviates from reference temperature (+20 °C):  
max. ±0.5 %/10 K of true scale value

### Ingress protection

IP 54 per EN 60 529 / IEC 529

### Standard features

#### Pressure chamber and connection (exposed to pressure medium)

Material: Aluminium alloy  
Threaded entry per EN 837-1 /7.3, 2 x G ¼ female

#### Pressure element (exposed to pressure medium)

≤ 0 ... 2.5 bar: stainless steel 1.4571  
≥ 0 ... 4 bar: Duratherm (NiCrCo alloy)

#### Sealing bellows (exposed to pressure medium)

Cu alloy



#### Sealing rings (exposed to pressure medium)

NBR, 1.4301

#### Linkage sealing bellows/pressure chamber (exposed to pressure medium)

Aluminous epoxy resin compound

#### Movement

Material: Cu alloy, wear parts argentan

#### Dial

White aluminium with black lettering

#### Pointer

Black aluminium adjustable pointer

#### Case

Stainless steel with pressure vent

#### Window

Instrument glass

#### Bezel ring

Cam ring (bayonet type), stainless steel

#### Gauge mounting

Pressure entries identified ⊕ and ⊖

⊕ high pressure, ⊖ low pressure

Mounting by means of:

- rigid tailpipes, or
- panel or surface mounting ring (optional extra), or
- pipe or surface mounting bracket (optional extra)

## Optional extras

- Liquid filling (**model 713.20**)
- Zero adjustment provisions
- Pressure connection male
- Accuracy better than class 1.6
- Scale ranges < 0 ... 16 mbar upon check of technical feasibility in application
- Max. total overpressure (static)  $\geq$  table given: on inquiry
- Pipe or surface mounting bracket (see data sheet AM 09.07)
- Panel or surface mounting rings (consider possible conflict with pressure chamber)
- Pressure equalizing valve (exposed to pressure medium) - (see data sheet AC 09.11)
- Alarm contacts (see data sheet AC 08.01)
- Transmitters (see data sheet AE 08.02)

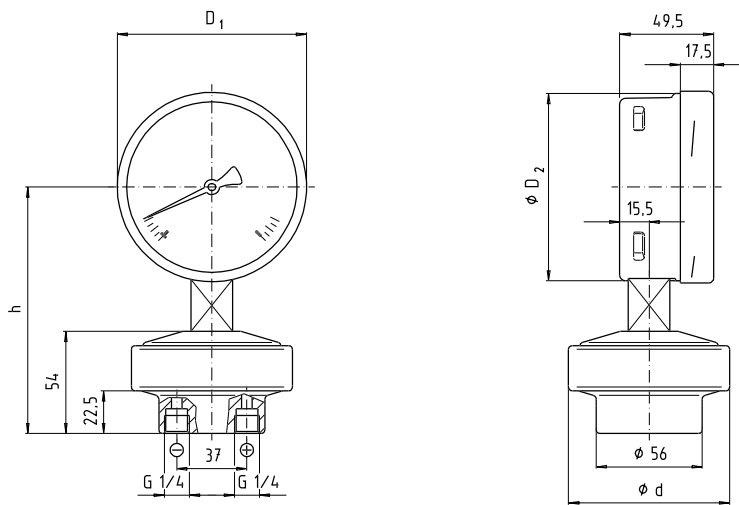
## Design and operating principle

- High  $\oplus$  and low  $\ominus$  process pressures are separated by a diaphragm element.
- Any pressure differential across high pressure and low pressure sides deflects the diaphragm in an axial direction.
- The deflection is transmitted by a connecting rod to the instrument's movement and pointer.
- Metal bellows provide sealing against ambient atmosphere.
- Overpressure protection is provided by metallic supporting surfaces for the diaphragm.

## Dimensions

### Standard version

NS 100, bottom entry 2 x G 1/4 female



1262 912.01

Nominal size	Scale-range [bar]	Dimensions [mm]					Weight [kg]
		D <sub>1</sub>	D <sub>2</sub>	d	G	h ± 1	
100	≤ 0.25	101	99	149	G 1/4	120	1.85
	> 0.25	101	99	85	G 1/4	120	1.0
160	≤ 0.25	161	159	149	G 1/4	150	2.25
	> 0.25	161	159	85	G 1/4	150	1.4

Pressure connection per EN 837-1 /7.3

## Ordering information

Model / Nominal size / Scale range / Scale layout, e.g. linear pressure or square root incrementation / Maximum static pressure rating ... bar / Size and location of connection / Optional extras required

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



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