

# Differential Pressure Gauges

With Diaphragm Element. Multi Purpose, PN 40, 100, 250 or 400

Model 732.14

Model 722.14

## Pressure Gauges

### Service intended

Differential pressure measurement at points with a high differential pressure overload and/or a high static process pressure. Suitable for corrosive environments, and contaminated and viscous, gaseous or liquid media.

Model 732.14: for corrosive media

Model 722.14: for neutral media

### Design

For a maximum total static pressure of 40, 100, 250 or 400 bar. Very highly overpressure safe for one-sided or reciprocal pressures. Hydraulic cushioning protection against rapid pressure changes.

### Nominal size

100 and 160 mm

### Accuracy class per EN 837

1.6

### Scale ranges per EN 837

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

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

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

### Working pressure

Steady: full scale value

Fluctuating: 0.9 x full scale value

### Overpressure safety

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

### Operating temperature

Ambient: -20 ... +60 °C

Medium: +100 °C maximum

### Temperature error

Additional error when temperature of the pressure element deviates from +20 °C

Rising temperature: +0.6%/10 K of true scale value

Falling temperature: -0.6%/10 K of true scale value

### Degree of protection

IP 54 per EN 60 529 / IEC 529

### Standard features

#### Flange (exposed to pressure medium)

Model 732.14: stainless steel 1.4571

Model 722.14: steel 1.0501, zinc galvanized

#### Pressure connection

2 x G ½ female, per EN 837. Radial entry, alternately back entry

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

Material: stainless steel 1.4571 / NiCrCo alloy (Duratherm)

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

Model 732.14: FPM (Viton)

Model 722.14: NBR (Buna rubber)

#### Venting of the pressure chambers (exposed to pressure medium)

Stainless steel 1.4571 for scale ranges £ 0.25 bar

(for scale ranges <sup>3</sup> 0.4 bar optional !)

#### Gauge head

Chrome steel



### Movement

Model 732.14: stainless steel 1.4571, Model 722.14: Cu alloy

### Dial

White aluminium with black lettering

### Pointer

Black aluminium adjustable pointer

### Zero adjustment

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

### Case / Bayonet ring

Natural finish stainless steel

### Window

Model 732.14: laminated safety glass

Model 722.14: instrument glass

### Hydraulic diaphragm cushion

Silicon oil

### Gauge mounting

Pressure entries identified ⊕ and ⊖

⊕ high pressure, ⊖ low pressure

Mounting by means of rigid tailpipes, drilled mounting holes, or device for surface or pipe mounting (optional extra)

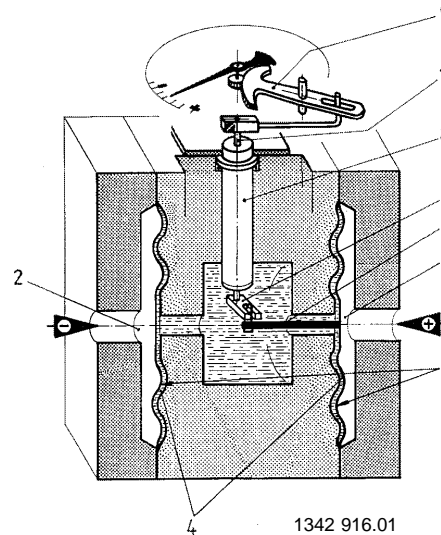
### Optional extras

- Liquid filling (**models 733.14 / 723.14**)
- Venting of the pressure chambers (exposed to pressure medium) for scale ranges <sup>3</sup> 0.4 bar
- Hydraulic cushion of special liquid, e.g. for use in oxygen (static pressure max. 100 bar)
- Overpress. safety 400 bar, scale ranges £ 250 mbar possible (73X.12)
- Combined readout of differential pressure and process pressure
- Components exposed to press. medium made of special materials
- Pressure connection per DIN 19 213
- Mounting device for surface or pipe mounting
- Chemical seal
- Pressure equalizing valve (see data sheet AM 09.11)
- Alarm contacts (see data sheet AE 08.01)
- 160 mm only: transmitters (see data sheet AE 08.02)

## Design and operating principle

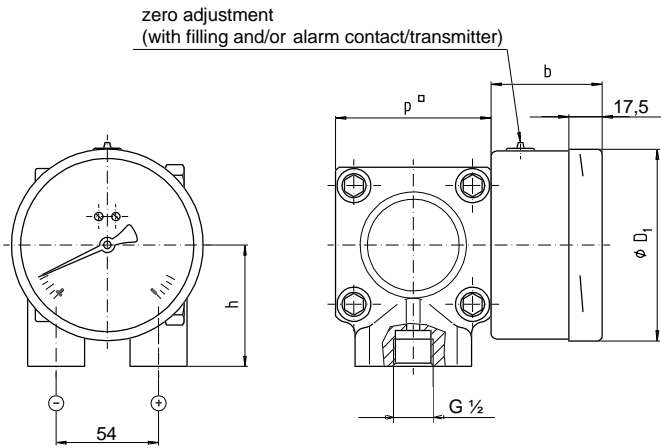
- Process pressures  $p_1$  and  $p_2$  are applied to the chambers  $\ominus$  (2) and  $\oplus$  (3).
- Gauge head (4) is filled with liquid.
- Differential pressure across  $\oplus$  and  $\ominus$  pressure sides deflects the diaphragm (1) and displaces the liquid.
- The displacement of the connection 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.

## Illustration of operation principle



## Dimensions

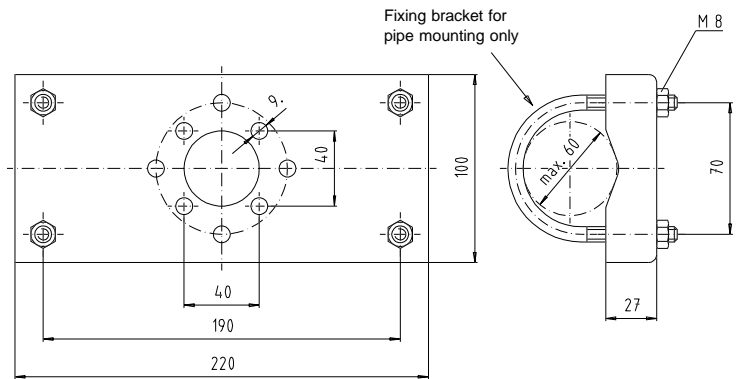
### Standard version



1330 918.03

### Optional version

Mounting device for surface or pipe mounting



1330 926.01

Nominal size	Scale range [bar]	Dimensions [mm]					Weight [kg]		
		b	D <sub>1</sub>	h ± 1	p □		PN 40/100	PN 250	PN 400
					PN 40/100/250	PN 400			
100	£ 0.25	58.5	101	86	140	-	12.1	13.1	-
	> 0.25	58.5	101	64	82	86	3.6	3.9	4.5
160	£ 0.25	65.5	161	86	140	-	12.5	13.5	-
	> 0.25	65.5	161	64	82	86	4.0	4.3	4.9

Pressure connection per EN 837

## Ordering information

State:

Model / Nominal size / Scale range / Scale layout, e.g. direct pressure reading or square root incrementation / Static pressure rating / Overpressure rating (one-sided or both-sided) ... bar / Pressure medium (liquid or gas) density  $\rho$  ... / Temperature of pressure medium, either constant ... °C or fluctuating from ... °C to ... °C / Connection position / Connection size / 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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