

# Differential pressure gauge

## Models 732.14, 762.14, universal version, with diaphragm element

### High working pressures PN 40, 100, 250 or 400

WIKA data sheet PM 07.13



#### Applications

- For measuring locations 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, optionally up to 40, 100, 250 or 400 bar
- Hydraulic cushioning protection against rapid pressure changes
- Compatible with switch contacts
- Model 762.14: Monel version



Differential pressure gauge model 732.14

#### Description

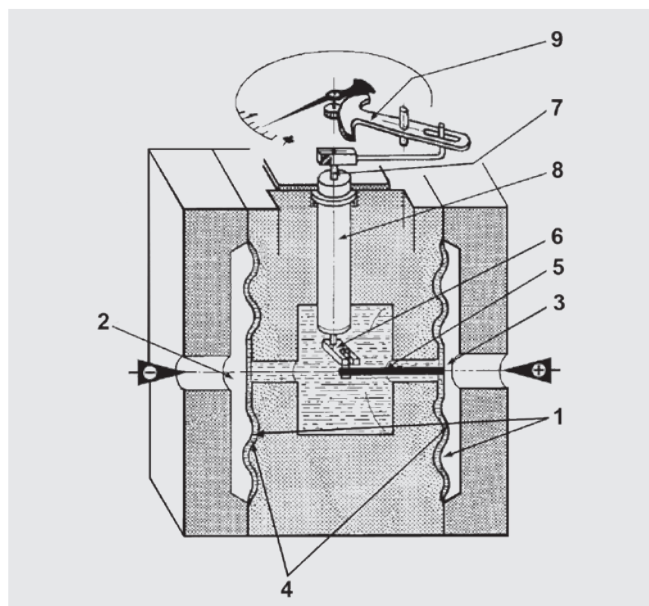
These differential pressure gauges are made of highly corrosion-resistant stainless steel. A high overpressure safety is achieved by the all-metal construction and the close-fitting design of the pressure measuring diaphragm.

With its high-grade stainless steel construction and robust design this pressure gauge is geared to chemical and process 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.

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

## Illustration of the principle



## Design and operating principle

- Process pressures  $p_1$  and  $p_2$  are applied to the media chambers  $\ominus$  (2) and  $\oplus$  (3).
- Measuring cell (4) is filled with transmission liquid.
- Differential pressure across  $\oplus$  and  $\ominus$  pressure sides deflects the diaphragm (1) and displaces the transmission fluid.
- The deflection 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 from the measuring cell.
- Overpressure protection in both directions up to the max. total pressure applied is provided by contoured metal bolsters.

Mounting according to affixed symbols  
 $\oplus$  high pressure and  $\ominus$  low pressure

## Specifications

### Design

Highest overpressure safety either side, pressure ratings PN 40, 100, 250 oder 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 (measuring cell DN 140)  
0 ... 0.4 bar to 0 ... 40 bar (measuring cell DN 80)  
With 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

### Overpressure safety and max. working pressure (static pressure)

Either side max. 40, 100, 250 or 400 bar

### 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.  $\pm 0.5\%$ /10 K of full scale value

### Ingress protection

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

## Standard version

### Measuring flanges (wetted)

Model 732.14: Stainless steel 316L

Model 762.14: Monel 2.4360

### Flange connecting screws

PN 40 / 100: Stainless steel

PN 250 / 400: Steel, corrosion-protected

### Process connections

2 x G ½ female (EN 837), lower mount (LM)

### Pressure elements (wetted)

Model 732.14: Stainless steel 316L / NiCrCo-alloy  
(Duratherm)

Model 762.14: Monel 2.4375

### Sealings (wetted)

FPM/FKM

### Venting of the media chambers (wetted)

Model 732.14: Stainless steel 316L

Model 762.14: Monel 2.4360

Standard for scale ranges  $\leq 0.25$  bar

(option for scale ranges  $\geq 0.4$  bar!)

### Measuring cell

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 switch contact)

### Case / Bayonet ring

Stainless steel

### Window

Laminated safety glass

### Measuring cell filling

Silicone oil

### Mounting by means of:

- Rigid measuring lines
- Drilled mounting holes at the back of the measuring cell
- Panel mounting flange (option)
- Mounting bracket for wall or pipe mounting (option)

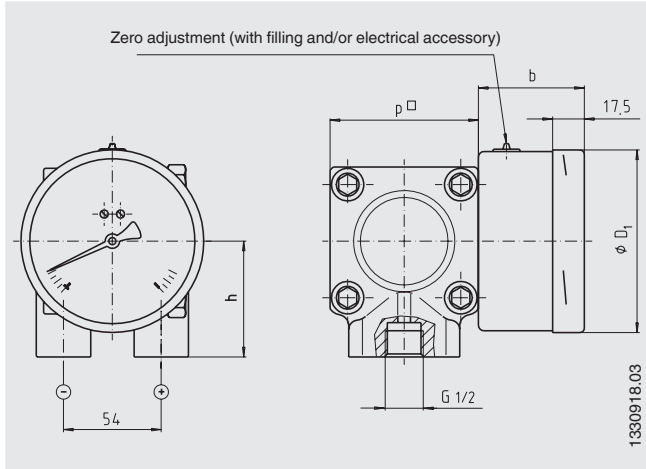
## Options

- Liquid filling (model 733.14 / 763.14)
- Venting of the pressure chambers (wetted) for scale ranges  $\geq 0.4$  bar
- Measuring cell filling with special medium, e.g. for use in oxygen applications (static pressure max. 100 bar)
- Combined differential pressure and working pressure readout
- Wetted parts made of special material
- Differential process connection per DIN EN 61518
- Other process connections, e.g. male thread 2 x G ½ B or 2 x ½ NPT
- Back mount connection or connection at 12 o'clock
- Medium temperature  $> 100$  °C
- Admissible ambient temperature  $-40 \dots +60$  °C (silicone oil filling)
- Panel mounting flange
- Mounting bracket for wall or pipe mounting, lacquered steel or stainless steel
- Version per ATEX Ex II 2 GD c TX
- Pressure equalising valve (data sheet AC 09.11)
- Pressure gauge with switch contacts, see model DPGS43HP.100/160, data sheet PV 27.13
- Pressure gauge with electrical output signal, see model DPGT43HP.100/160, data sheet PV 17.13
- DVGW conformity certificate for building services and systems engineering

## Dimensions in mm

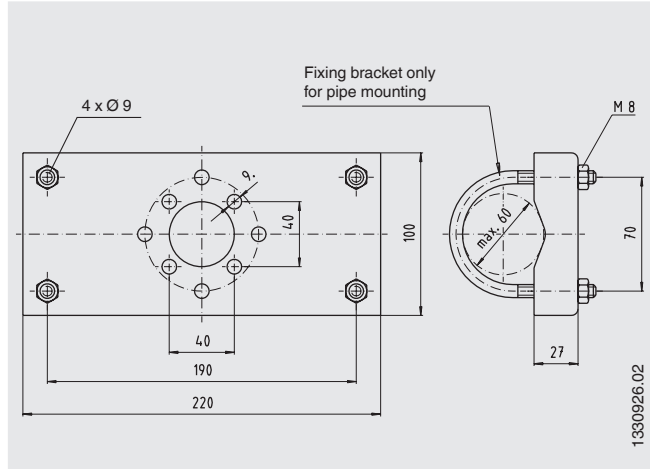
### Standard version

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



### Option

Mounting bracket for wall or pipe mounting



NS	Scale range	Dimensions in mm					Weight in kg			
		b	D1	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

Model / Nominal size / Scale range / Scale layout (linear pressure or square root incrementation) / Max. working pressure (static pressure) / Overpressure safety (one-sided or both-sided) up to ... bar / Medium (liquid or gas, density ρ ...) / Medium temperature (constant ... °C, fluctuating from ... °C to ... °C) / Connection location / Connection size / Options

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