

# 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



for further approvals  
see page 3

#### 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

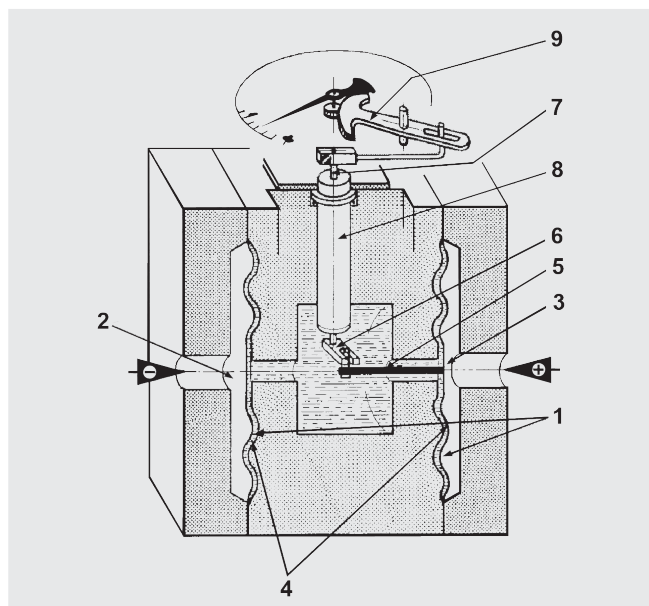
These differential pressure gauges are made of highly corrosion-resistant stainless steel. A high overpressure safety is achieved by the all-metal construction and the close-fitting design of the pressure measuring diaphragm.

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



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

## 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.

## Specifications

### Design

Highest overpressure safety either side, pressure ratings 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

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

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

### Scale ranges

Gauges with PN 40 and 100:

0 ... 60 mbar to 0 ... 160 mbar (measuring cell □ 140)  
0 ... 0.25 bar to 0 ... 40 bar (measuring cell □ 82)

Gauges with PN 250:

0 ... 60 mbar to 0 ... 250 mbar (measuring cell □ 140)  
0 ... 0.4 bar to 0 ... 40 bar (measuring cell □ 82)

Gauges with PN 400:

0 ... 0.4 bar to 0 ... 40 bar (measuring cell □ 86)

### Pressure limitation

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

### 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 60529  
(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 / NiCr-alloy (Inconel)

Model 762.14: Monel 2.4375

(Hastelloy C276 for version per NACE  
MR 0175/ISO 15156-T3)

### Sealings (wetted)

FPM/FKM

### Venting of the media chambers (wetted)

Model 732.14, PN 40 and 100: Stainless steel 316L

Standard for scale ranges ≤ 0.16 bar

(option for scale ranges ≥ 0.25 bar!)

Model 732.14, PN 250 and 400: Stainless steel 316L

Standard for scale ranges ≤ 0.25 bar

(option for scale ranges ≥ 0.4 bar!)

Model 762.14: Monel 2.4360

Standard for scale ranges ≤ 0.25 bar

(option for scale ranges ≥ 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

Exception: Glycerine

### 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 for scale ranges  
≥ 0.25 bar or ≥ 0.4 bar
- Measuring cell filling with special medium, e.g. for use in  
oxygen applications
- 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 ... +60 °C (silicone oil  
filling)
- Panel mounting flange
- Mounting bracket for wall or pipe mounting, lacquered  
steel or stainless steel
- 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

## CE conformity

### ATEX directive <sup>1)</sup>

94/9/EC, II 2 GD c TX

## Approvals

- **EAC**, import certificate, customs union Russia/Belarus/  
Kazakhstan
- **GOST**, metrology/measurement technology, Russia
- **CRN**, safety (e.g. electr. safety, overpressure, ...), Canada

## Certificates <sup>1)</sup>

- 2.2 test report per EN 10204 (e.g. state-of-the-art  
manufacturing, material proof, indication accuracy)
- 3.1 inspection certificate per EN 10204 (e.g. material proof  
wetted parts metal component, indication accuracy)

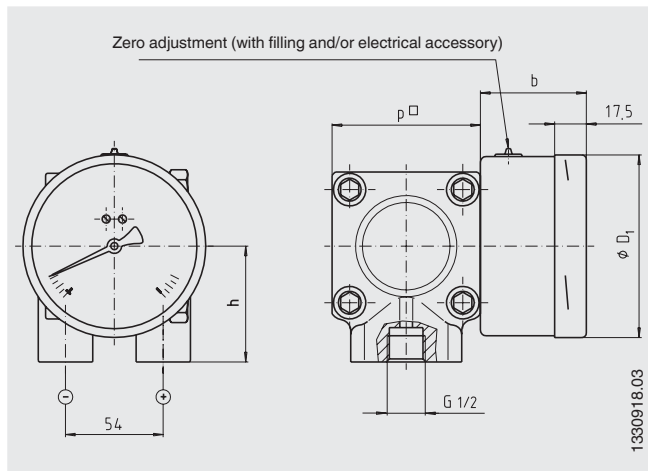
<sup>1)</sup> Option

Approvals and certificates, see website

## Dimensions in mm

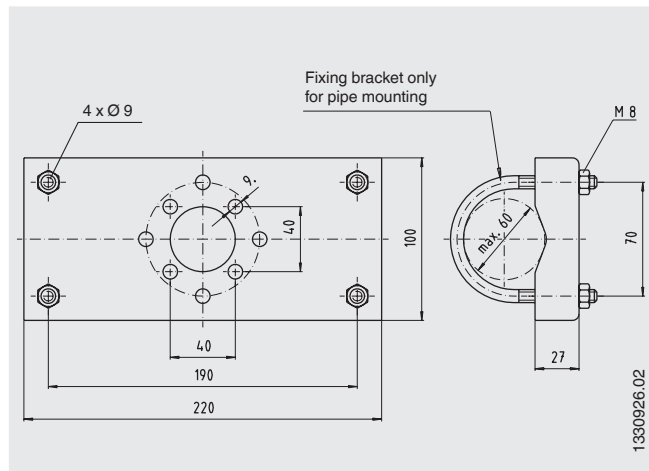
### Standard version

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



### Option

Mounting bracket for wall or pipe mounting



### Gauges with PN 40 and 100

NS	Scale range	Dimensions in mm			p□		Weight in kg	
		b	D <sub>1</sub>	h ±1	PN 40	PN 100	PN 40	PN 100
100	≤ 0.16 bar	58.5	101	86	140	140	12.1	12.1
100	≥ 0.25 bar	58.5	101	64	82	82	3.6	3.6
160	≤ 0.16 bar	65.5	161	86	140	140	12.5	12.5
160	≥ 0.25 bar	65.5	161	64	82	82	4.0	4.0

### Gauges with PN 250 and 400

NS	Scale range	Dimensions in mm			p□		Weight in kg	
		b	D <sub>1</sub>	h ±1	PN 250	PN 400	PN 250	PN 400
100	≤ 0.25 bar	58.5	101	86	140	-	13.1	-
100	≥ 0.4 bar	58.5	101	64	82	86	3.9	4.5
160	≤ 0.25 bar	65.5	161	86	140	-	13.5	-
160	≥ 0.4 bar	65.5	161	64	82	86	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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