

Differential pressure gauge

For the process industry

Models 732.14, 762.14, high overload safety up to 40, 100 or 400 bar

WIKA data sheet PM 07.13



for further approvals
see page 4

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 overload 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

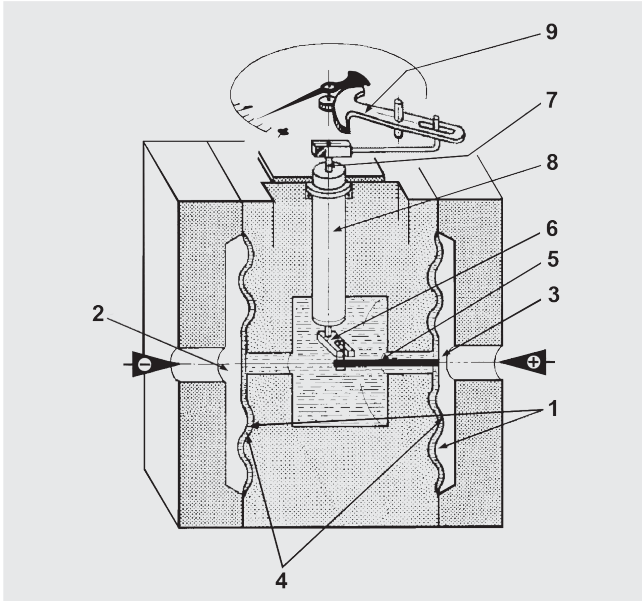
These differential pressure gauges are made of highly corrosion-resistant stainless steel. A high overpressure safety is achieved by the all-metal construction and the close-fitting design of the pressure measuring diaphragm.

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 instruments are available also in special materials such as Monel or Hastelloy.

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

DIN 16003
 Highest overload 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

Overload safety and max. working pressure (static pressure)

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

Influence of static pressure

Gauges with PN	Influence of static pressure
40	±0,04 %/1 bar
100	±0,02 %/1 bar
250	±0,007 %/1 bar
400	±0,004 %/1 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. ±0.5 %/10 K of full scale value

Ingress protection

IP54 IEC/EN 60529 (with liquid filling IP65)

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, lower mount (LM)

Pressure elements (wetted)

Typ 732.14: ■ Stainless steel 316L
for scale ranges ≤ 0,25 bar

- Stainless steel 316L / Inconel
for scale ranges > 0,25 bar

Typ 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
- 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
- Valve manifolds (models IV3x, IV5x, see data sheet AC 09.23)
- Differential pressure gauge with switch contacts, see model DPGS43HP.100/160, data sheet PV 27.13
- Differential pressure gauge with electrical output signal, see model DPGT43HP.100/160, data sheet PV 17.13

Approvals

Logo	Description	Country
 	EU declaration of conformity <ul style="list-style-type: none"> ■ Pressure equipment directive ■ ATEX directive (option) Ignition protection type "c" - constructive safety	European Union
	EAC (option) <ul style="list-style-type: none"> ■ Pressure equipment directive ■ Hazardous areas 	Eurasian Economic Community
	GOST (option) Metrology, measurement technology	Russia
	KazInMetr (option) Metrology, measurement technology	Kazakhstan
-	MTSCHS (option) Permission for commissioning	Kazakhstan
	BelGIM (option) Metrology, measurement technology	Belarus
	UkrSEPRO (option) Metrology, measurement technology	Ukraine
-	CPA (option) Metrology, measurement technology	China
-	CRN Safety (e.g. electr. safety, overpressure, ...)	Canada

Certificates (option)

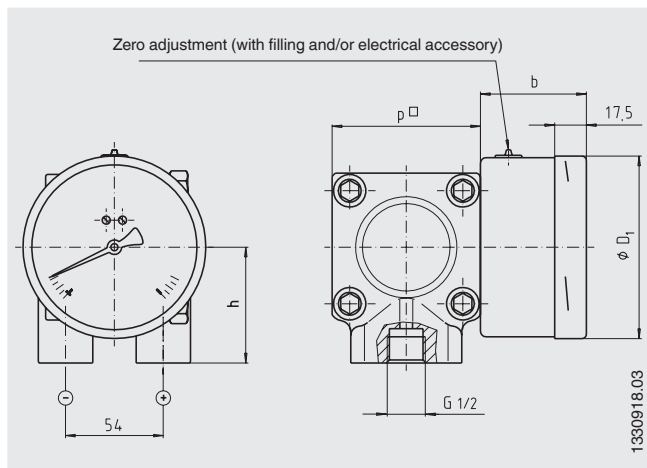
- 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, material proof, indication accuracy)
- 3.1 inspection certificate per EN 10204 (e.g. material proof wetted parts metal component, indication accuracy)

Approvals and certificates, see website

Dimensions in mm

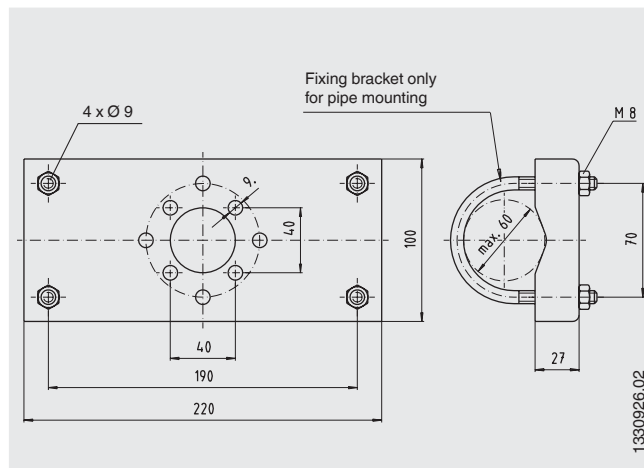
Standard version

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					Weight in kg	
		b	D1	h ±1	p□ PN 40	p□ 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					Weight in kg	
		b	D1	h ±1	p□ PN 250	p□ 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 DIN 16003

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 / Process connection / Options

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