

Differential pressure gauge, copper alloy or stainless steel

Scale ranges from 0.6 ... 1,000 bar

Models 711.12, 713.12, 731.12 and 733.02

WIKA data sheet PM 07.02



For further approvals
see page 3

Applications

- Heating, ventilation and air-conditioning
- For gaseous and liquid media that are not highly viscous or crystallising
- Models 731.12 and 733.02 also for aggressive media
- Models 713.12 and 733.02 with liquid-filled case are suitable for high dynamic pressure loads and vibrations

Special features

- Scale ranges from 0 ... 0.6 bar to 0 ... 1,000 bar
- Two process connections and two independent pointers
- Differential pressure display with moving dial
- Cost-effective and reliable



Differential pressure gauge model 711.12

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Description

The differential pressure gauge is based on two independently operating Bourdon tube measuring systems. The instrument is therefore able to show the pressure from two measuring points and the resulting differential pressure on one display.

Differential pressure display

The standard version is designed with two pointers and a gauge pressure scale. The pointer for the minus connection is connected to an additional moving dial. On the scale of the moving dial, the differential pressure ($\pm 50\%$ of the main scale's full scale value) can be read directly. Alternatively, in the version without additional moving dial, the differential pressure is not indicated.

In the version with a subtracting movement, the differential pressure is indicated with only one pointer (the individual pressures of plus and minus connection are not displayed). The variance of scale versions ensures an optimal readability of all operating parameters.

The models 731.12 and 733.02, with wetted parts from stainless steel, have been specifically designed for the requirements in the process industry.

For harsh operating conditions (e.g. vibration), the instruments are also available with a liquid filling.

Standard version

Version

Two independent measuring systems, process connections in line

Nominal size in mm

100, 160

Accuracy class

1.6

Scale ranges

0 ... 0.6 to 0 ... 1,000 bar

Scale range must be selected in relation to the maximum total pressure applied!

In heating systems with circulating pumps, the total pressure applied is usually defined as equal to the hydrostatic pressure plus the pump pressure.

In order to ensure a good readability, the differential pressure should not drop below 1/6 of the full scale value.

When ordering specify both pressures:

a) maximum total pressure applied, b) differential pressure

Pressure limitation

Steady: Full scale value

Fluctuating: 0.9 x full scale value

Short time: 1.3 x full scale value

Permissible temperature

Ambient: -20 ... +60 °C

Medium: Model 711.12: +60 °C maximum (soft soldered)
+100 °C maximum (brazed)

Model 731.12: +200 °C maximum

Temperature effect

When the temperature of the measuring system deviates from the reference temperature (+20 °C): max. $\pm 0.4 \text{ } \%/10 \text{ K}$ of full scale value

Ingress protection per EN/IEC 60529

IP33

Process connection

Model 711.12: Copper alloy

Model 731.12: Stainless steel

Lower mount, 2 x G 1/2 B (male), SW 22

Plus connection at back, minus connection at front (identified with $\oplus$ and $\ominus$)

Pressure elements

Model 711.12:

< 100 bar: Copper alloy, C-type, soft soldered

$\geq$ 100 bar: Stainless steel, helical type, brazed

Model 731.12:

Stainless steel, all pressure ranges, welded

Movement

Copper alloy, wear parts argantan

Dial

Aluminium, white, black lettering

Pointer

$\oplus$ side: 1 standard pointer at front, aluminium, black

$\ominus$ side: 1 scale pointer at back, aluminium, red, with 50 % of the scale range, respectively, as $\oplus$ and $\ominus$ differential pressure display

Case

Stainless steel, black painted

Window

Instrument glass

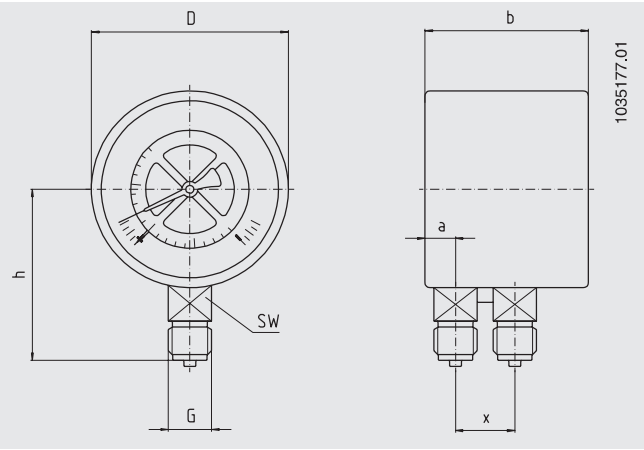
Ring

Slip-on bezel, steel, black

Options

- Other process connection
- Case and ring from stainless steel
- Design with duplex display ("duplex pressure gauge")
- NS 100: Liquid filling (model 713.12)
- NS 100: Measuring system, case, ring from stainless steel and liquid filling (model 733.02), medium temperature resistant up to max. 100 °C
- Subtracting movement (one pointer for differential pressure display), location of reversed pressure connection: $\oplus$ connection at front, $\ominus$ connection at back, copper alloy or stainless steel
- Panel or surface mounting flange
- Electrical switch contacts (data sheet AC 08.01), subtracting movement

Dimensions in mm



NS	Dimensions in mm							Weight in kg
	a	b	D	G	h ±1	X	SW	
100	15.5	82	100	G ½ B	87	32	22	1.00
160	15.5	86.5	160	G ½ B	118	32	22	1.60

Process connection per EN 837-1 / 7.3

Approvals

Logo	Description	Region
	EU declaration of conformity	European Union
	Pressure Equipment Directive	

Optional approvals

Logo	Description	Region
	PAC Kazakhstan Metrology, measurement technology	Kazakhstan
-	PAC Ukraine Metrology, measurement technology	Ukraine
	PAC Uzbekistan Metrology, measurement technology	Uzbekistan
-	PAC China Metrology, measurement technology	China
-	CRN Safety (e.g. electr. safety, overpressure, ...)	Canada

Certificates

Description	
Certificates	2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, indication accuracy) 3.1 inspection certificate per EN 10204 (e.g. material proof for wetted metal parts, indication accuracy, calibration certificate)
Recommended calibration interval	1 year (dependent on conditions of use)

Ordering information

Model / Nominal size / Scale range / Version of differential pressure display / Process connection / Max. total pressure applied / Size of differential pressure / Options

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WIKA Alexander Wiegand SE & Co. KG
Alexander-Wiegand-Straße 30
63911 Klingenberg/Germany
Tel. +49 9372 132-0
info@wika.de
www.wika.de