

Bourdon tube pressure gauge, stainless steel

For the process industry, safety version, NS 63, 100 and 160

Models 232.30, 233.30

WIKA data sheet PM 02.04



for further approvals
see page 3

Applications

- Increased safety requirements for personal protection
- With liquid-filled case for applications with high dynamic pressure loads or vibrations (model 233.30)
- For gaseous and liquid aggressive media that are not highly viscous or crystallising, also in aggressive environments
- Oil and gas industry, chemical and petrochemical industries, power engineering and also water and wastewater technology

Special features

- Safety version with solid baffle wall designed in compliance with the requirements and test conditions of EN 837-1
- Excellent load-cycle stability and shock resistance
- Completely from stainless steel
- Scale ranges from 0 ... 0.6 to 0 ... 1,600 bar



Bourdon tube pressure gauge, model 232.30

Description

This high-quality Bourdon tube pressure gauge has been designed especially for increased safety requirements within the process industry.

The use of high-quality stainless steel materials and the robust design are geared to applications in the chemical and process engineering industries. Thus the instrument is suitable for liquid and gaseous media, also in aggressive environments.

Scale ranges of 0 ... 0.6 to 0 ... 1,600 bar ensure the measuring ranges required for a wide variety of applications.

WIKA manufactures and qualifies the pressure gauge in accordance with the requirements of the EN 837-1 European standard in the "S3" safety version. The safety version is made up of a non-splintering window, a solid baffle wall between measuring system and dial and a blow-out back. In the event of a failure, the operator is protected at the front side, as media or components can only be ejected via the back of the case.

For harsh operating conditions (e.g. vibrations), all instruments are also available with an optional liquid filling.

Description

Design

EN 837-1

Nominal size in mm

63, 100, 160

Accuracy class

NS 63: 1.6

NS 100, 160: 1.0

Scale ranges

NS 63: 0 ... 1 to 0 ... 1,000 bar

NS 100: 0 ... 0.6 to 0 ... 1,000 bar

NS 160: 0 ... 0.6 to 0 ... 1,600 bar

or all other equivalent vacuum or combined pressure and vacuum ranges

Pressure limitation

NS 63:	Steady:	3/4 x full scale value
	Fluctuating:	2/3 x full scale value
	Short time:	Full scale value
NS 100, 160:	Steady:	Full scale value
	Fluctuating:	0.9 x full scale value
	Short time:	1.3 x full scale value

Permissible temperature

Ambient:	-40 ... +60 °C with unfilled instruments
	-20 ... +60 °C with instruments with glycerine filling ¹⁾
Medium:	+200 °C maximum with unfilled instruments
	+100 °C maximum with filled instruments ¹⁾

Temperature effect

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

Ingress protection per IEC/EN 60529

IP65 (instruments with back mount connection: IP54)

Process connection

Stainless steel 316L (NS 63: 1.4571)

Lower mount (radial) or lower back mount

NS 63: G 1/4 B (male), SW 14

NS 100, 160: G 1/2 B (male), SW 22

Pressure element

Stainless steel 316L

C-type or helical type

Movement

Stainless steel

Dial

Aluminium, white, black lettering

NS 63 with pointer stop pin

Pointer

Aluminium, black

Case

Stainless steel, with solid baffle wall (Solidfront) and blow-out back, scale ranges $\leq 0 \dots 16$ bar (lower mount) with compensating valve to vent case

Window

Laminated safety glass (NS 63: Polycarbonate)

Ring

Bayonet ring, stainless steel

Filling liquid (for model 233.30)

Glycerine

(glycerine-water mixture for scale ranges $\leq 0 \dots 2.5$ bar)

Options

- Other process connection
- Sealings (model 910.17, see data sheet AC 09.08)
- Assembly on diaphragm seals, see product review diaphragm seals
- Measuring system Monel (model 262.30)
- Panel mounting flange, stainless steel or polished stainless steel
- Surface mounting lugs on the back, stainless steel
- Ambient temperatures -40 °C: Silicone oil filling
- Ingress protection IP66, IP67
- Bourdon tube pressure gauge with switch contacts, see model PGS23.1x0, data sheet PV 22.02 or see model 232.30.063, data sheet PV 22.03
- Bourdon tube pressure gauge with electrical output signal, see model PGT23.1x0, data sheet PV 12.04

1) Model 233.30

Approvals

Logo	Description	Country
	EU declaration of conformity <ul style="list-style-type: none"> ■ Pressure equipment directive PS > 200 bar, module A, pressure accessory ■ ATEX directive (option) Ignition protection type "c", constructive safety 	European Union
	EAC (option) 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
	Uzstandard (option) Metrology, measurement technology	Uzbekistan
-	CPA (option) Metrology, measurement technology	China
	GL (option) Ships, shipbuilding (e.g. offshore)	International
-	CRN Safety (e.g. electr. safety, overpressure, ...)	Canada

Certificates (option)

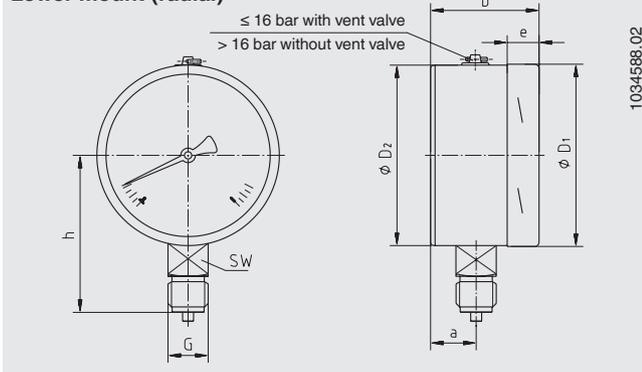
- 2.2 test report per EN 10204
- 3.1 inspection certificate per EN 10204

Approvals and certificates, see website

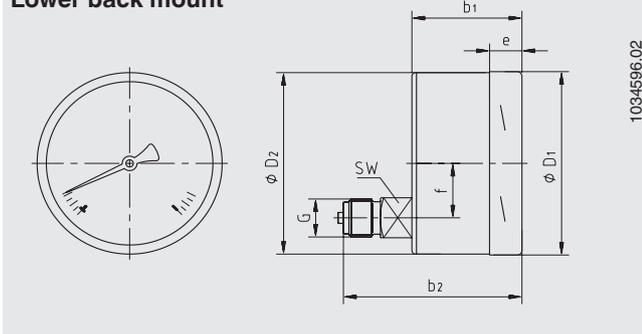
Dimensions in mm

Standard version

Lower mount (radial)



Lower back mount



NS	Dimensions in mm											Weight in kg	
	a	b	b ₁	b ₂	D ₁	D ₂	e	f	G	h ±1	SW	Model 232.30	Model 233.30
63	17.5	42	42	61	63	63	14.5	18.5	G ¼ B	54	14	0.20	0.26
100	25	59.5	59.5	93	101	100	17	30	G ½ B	87	22	0.65	1.08
160	27 ³⁾	65 ⁴⁾	-	-	161	159	17.5	-	G ½ B	118	22	1.30	2.34

Process connection per EN 837-1 / 7.3

3) With scale ranges ≥ 100 bar: 41.5 mm

4) With scale ranges ≥ 100 bar: 79 mm

Ordering information

Model / Nominal size / Scale range / Process connection / Connection location / Options

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