

**Mechanical
pressure measurement**

**Bourdon tube pressure gauge
 Stainless steel, safety version
 Models 232.30, 233.30**

WIKA data sheet PM 02.04



Applications

- Increased safety requirements
- With liquid-filled case for applications with high dynamic pressure loads or vibrations ¹⁾
- For gaseous and liquid aggressive media that are not highly viscous or crystallising, also in aggressive ambience
- Process industry: Chemical/petro-chemical, power stations, mining, on- and offshore, environmental technology, machine building and general plant construction

Special features

- Safety pressure gauge with solid baffle wall designed in compliance with operational safety requirements of EN 837-1
- Excellent load-cycle stability and shock resistance
- All stainless steel construction
- Scale ranges up to 0 ... 1,600 bar



Bourdon tube pressure gauge model 232.30

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

¹⁾ Model 233.30

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 without liquid filling
 -20 ... +60 °C gauges with glycerine filling ¹⁾
 Medium: +200 °C maximum without liquid filling
 +100 °C maximum with liquid filling ¹⁾

Temperature effect

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

Ingress protection

IP65 per IEC/EN 60529
 (gauges with back mount: IP55)

Data sheets showing similar products:
 Stainless steel version; model 232.50; see data sheet PM 02.02
 High pressure version; model 222.30; see data sheet PM 02.09
 For UHP applications, safety pressure gauges; model 232.35; see data sheet PM 02.11



Standard version

Process connection

Stainless steel 316L (NS 63: 1.4571), lower mount (LM) or lower back mount (LBM)¹⁾
NS 63: G ¼ B (male), 14 mm flats
NS 100, 160: G ½ B (male), 22 mm flats (NS 160 only lower mount)

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, case with solid baffle wall 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)

Bezel ring

Cam ring (bayonet type), stainless steel

Filling liquid (for model 233.30)

Glycerine 99.7 %
(Glycerine 86.5 % for scale range $\leq 0 \dots 2.5$ bar)

¹⁾ Connection location back mount only for gauges NS 63 and 100 without liquid filling

Options

- Other process connection
- Sealings (model 910.17, see data sheet AC 09.08)
- Assembly on diaphragm seals see product review DS
- 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 $-40 \text{ }^\circ\text{C}$: Silicone oil filling
- Ingress protection IP66, IP67
- 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
- Pressure gauge with electrical output signal, see model PGT23.1x0, data sheet PV 12.04

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) <ul style="list-style-type: none"> ■ EMC directive ■ Pressure equipment directive ■ Low voltage directive 	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
	KCs KOSHA (option) Hazardous areas	South Korea
	GL (option) Ships, shipbuilding (e.g. offshore)	International
-	CRN Safety (e.g. electr. safety, overpressure, ...)	Canada

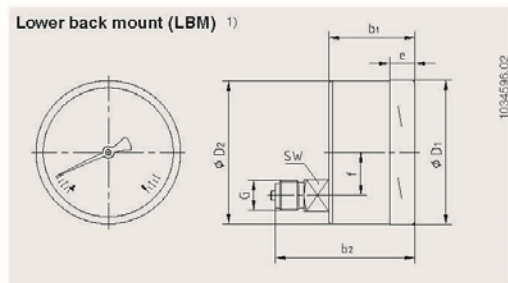
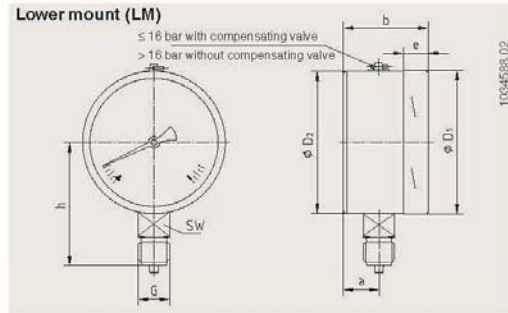
Certificates (option)

- 2.2 test report
- 3.1 inspection certificate

Approvals and certificates, see website

Dimensions in mm

Standard version



1) Connection location back mount only for gauges NS 63 and 100 without liquid filling

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 / Connection size / Connection location / Options

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Art. No.	Type No.
102376	4909
102377	4911
102378	4912
102379	4913
102380	4914
102381	4915
102382	4916
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102384	4918
102385	4919
102386	4920
102387	4921
102388	5009
102389	5009/2
102390	5009/3
102391	5009/4
102392	5009/5
102393	5010/2
102394	5011
102395	5012
102396	5013
102397	5014
102398	5015
102399	5016
102400	5017
102401	5018
102402	5019
102403	5020
102404	5021
102405	5022

Art. No.	Type No.
102450	5050
102451	5053
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