

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**

IP 65 per EN 60529 / IEC 60529  
(gauges with back mount: IP 55)

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)<sup>1)</sup>  
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 ≤ 0 ... 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 %  
(Glyzerine 86.5 % for scale range ≤ 0 ... 2.5 bar)

<sup>1)</sup> 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 °C: Silicone oil filling
- Ingress protection IP 66, IP 67
- 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
 	<b>EC declaration of conformity</b> <ul style="list-style-type: none"> <li>■ Pressure equipment directive 97/23/EC</li> <li>PS &gt; 200 bar, module A, pressure accessory</li> <li>■ ATEX directive 94/9/EC (option)</li> <li>Ignition protection type "c" - constructive safety</li> </ul>	European Community
	<b>EAC (option)</b> <ul style="list-style-type: none"> <li>■ Pressure equipment directive</li> <li>■ Hazardous areas</li> </ul>	Eurasian Economic Community
	<b>GOST</b> Metrology, measurement technology	Russia
	<b>KazInMetr</b> Metrology, measurement technology	Kazakhstan
-	<b>MTSCHS</b> Permission for commissioning	Kazakhstan
	<b>BelGIM</b> Metrology, measurement technology	Belarus
	<b>Uzstandard</b> Metrology, measurement technology	Uzbekistan
-	<b>CPA</b> Metrology, measurement technology	China
	<b>KOSHA (option)</b> Hazardous areas	South Korea
	<b>GL (option)</b> Ships, shipbuilding (e.g. offshore)	International
-	<b>CRN</b> Safety (e.g. electr. safety, overpressure, ...)	Canada

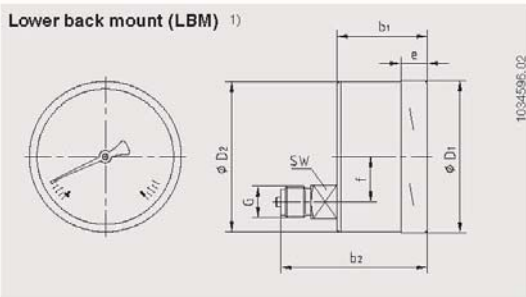
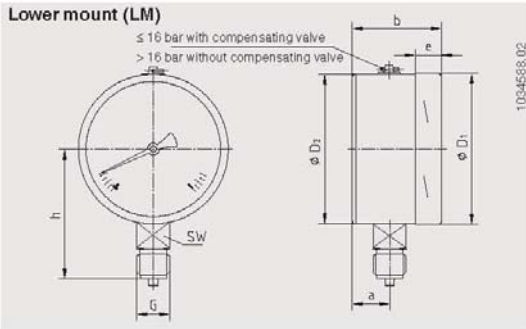
### Certificates (option)

- 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 <sub>1</sub>	b <sub>2</sub>	D <sub>1</sub>	D <sub>2</sub>	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 <sup>3)</sup>	65 <sup>4)</sup>	-	-	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.	Ident No.
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