

# 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<sup>1)</sup>
- 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

<sup>1)</sup> 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<sup>1)</sup>

Medium: +200 °C maximum without liquid filling

+100 °C maximum with liquid filling<sup>1)</sup>

### 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)

## 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 Mone<sup>®</sup> (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
- 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>EU declaration of conformity</b> <ul style="list-style-type: none"> <li>Pressure equipment directive<br/>PS &gt; 200 bar, module A, pressure accessory</li> <li>ATEX directive (option)<br/>Ignition protection type "c" - constructive safety</li> </ul> | European Union              |
|    | <b>EAC (option)</b> <ul style="list-style-type: none"> <li>EMC directive</li> <li>Pressure equipment directive</li> <li>Low voltage directive</li> </ul>   | Eurasian Economic Community |
|    | <b>GOST (option)</b><br>Metrology, measurement technology  | Russia                      |
|    | <b>KazInMetr (option)</b><br>Metrology, measurement technology   | Kazakhstan                  |
| -   | <b>MTSCHS (option)</b><br>Permission for commissioning   | Kazakhstan                  |
|    | <b>BelGIM (option)</b><br>Metrology, measurement technology  | Belarus                     |
|    | <b>UkrSEPRO (option)</b><br>Metrology, measurement technology  | Ukraine                     |
|    | <b>Uzstandard (option)</b><br>Metrology, measurement technology  | Uzbekistan                  |
| -   | <b>CPA (option)</b><br>Metrology, measurement technology   | China                       |
|  | <b>KCs KOSHA (option)</b><br>Hazardous areas   | South Korea                 |
|  | <b>GL (option)</b><br>Ships, shipbuilding (e.g. offshore)  | International               |
| -   | <b>CRN</b><br>Safety (e.g. electr. safety, overpressure, ...)  | Canada                      |

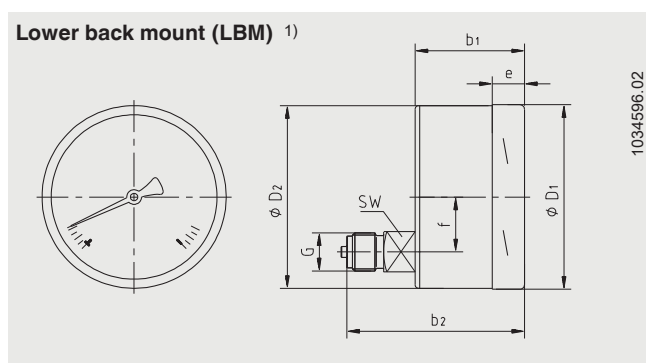
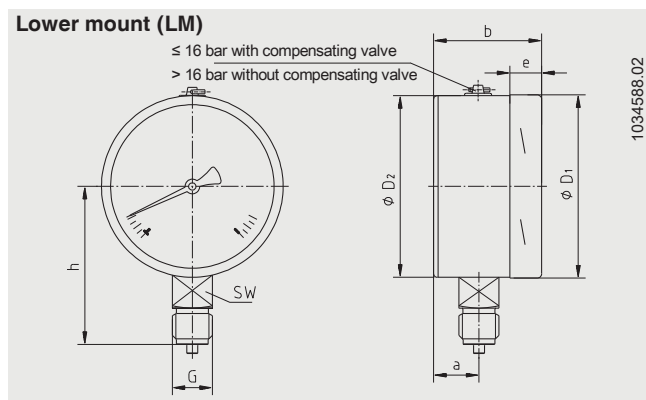
## Certificates (option)

- 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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