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

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 … 1600 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 ... 1000 bar
NS 100: 0 ... 0.6 to 0 ... 1000 bar
NS 160: 0 ... 0.6 to 0 ... 1600 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 529
(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) 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
< 100 bar: C-type
≥ 100 bar: 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: Polcarbonate)

Bezel ring
Cam ring (bayonet type), stainless steel

Filling liquid (for model 233.30)
Glycerine 99.7 %

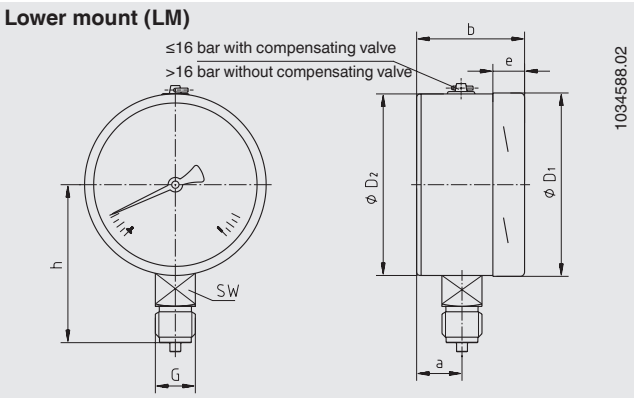
1) Connection location back mount only for gauges NS 63 and 100 without liquid filling

Options

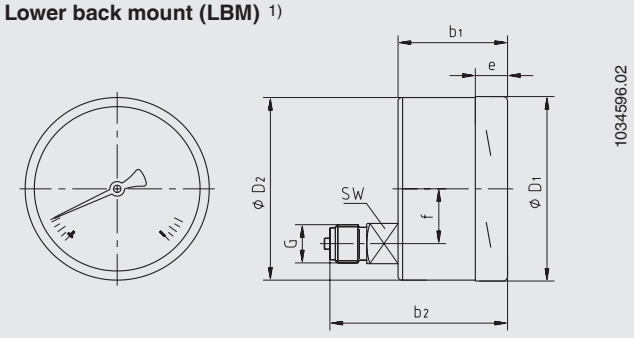
- Other process connection
- Assembly on diaphragm seals see product review DS
- Measuring system Monel (model 262.30)
- Measuring system stainless steel 1.4571
- Panel mounting flange, stainl. steel or polished stainl. steel
- Surface mounting lugs on the back, stainless steel
- Ambient temperatures -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 PGT23.100/160, data sheet PV 12.04
- Version per ATEX Ex II 2 GD c TX
- DVGW conformity certificate for building services and systems engineering

Standard version

Lower mount (LM)



Lower back mount (LBM) 1)



Dimensions in mm

NS	Dimensions in mm											Weight in kg	
	a	b	b1	b_2	D1	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 2)	65 3)	-	-	161	159	17.5	-	G ½ B	118	22	1.30	2.34

Process connection per EN 837-1 / 7.3

2) With scale ranges ≥ 100 bar: 41.5 mm
3) With scale ranges ≥ 100 bar: 79 mm

Ordering information
Model / Nominal size / Scale range / Connection size / Connection location / Options

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