

Mechanical Pressure Measurement

Bourdon Tube Pressure Gauges
Stainless Steel Series Model GBT,
without/with Liquid Filling



Applications

- With liquid-filled case for applications with high dynamic pressure pulsations or vibrations
- For gaseous and liquid aggressive media that are not highly viscous or crystallising, also in aggressive ambience
- Process industries: chemical/petrochemical, power stations, mining, on and offshore, environmental technology, machine building and plant construction

Special Features

- Excellent load-cycle stability and shock resistance
- All stainless steel construction
- German Lloyd, Gosstandart and DVGW approval
- Scale ranges up to 0 ... 1600 bar

Description

Design

EN 837-1

Nominal size in mm

63, 100, 160

Accuracy class

NG 63: 1.6

NG 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



Bourdon Tube Pressure
Gauge Model GBT



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 |

Operating temperature

| | |
|----------|---|
| Ambient: | -40 ... +60°C without liquid filling |
| | -20 ... +60°C gauges with glycerine filling |
| Medium: | +200°C maximum without liquid filling |
| | +100°C maximum with liquid filling |

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

IP 65 per EN 60 529/IEC 529



ENGINEERING YOUR SUCCESS.

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

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, with pressure relief in case top (NS 63) or
in case back (NS 100 and 160), ranges ≤ 0 ... 16 bar with
compensating valve to vent case

Window:

Laminated safety glass (NS 63: Polycarbonate)

Bezel ring:

Cam ring (bayonet type), stainless steel

Liquid filling (for Model GBT):

Glycerine 99.7 %

Special versions

Gauges for ammonia plants (NS 100 and 160)

With temperature scale for refrigerant R 717 (NH₃) in °C,
scale ranges: -1 ... 0 ... 15 bar or
-1 ... 0 ... 26 bar

Dimensions in mm

| NS | Dimensions in mm | | | | Weight in kg | | | | | | | | |
|-----|------------------|--------------------|--------------------|------------------|----------------|----------------|------|-----|-------|-------|----|--------------|--------------|
| | a | b | b ₁ | b ₂ | D ₁ | D ₂ | e | f | G | h ± 1 | SW | Model 232.50 | Model 233.50 |
| 63 | 9.5 | 33 | 33 | 57 | 63 | 62 | 11.5 | -1) | G ¼ B | 54 | 14 | 0.16 | 0.20 |
| 100 | 15.5 | 49.5 | 49.5 | 83 | 101 | 99 | 17.5 | 30 | G ½ B | 87 | 22 | 0.60 | 0.90 |
| 160 | 15.5 | 49.5 ³⁾ | 49.5 ²⁾ | 83 ²⁾ | 161 | 159 | 17.5 | 50 | G ½ B | 118 | 22 | 1.10 | 2.00 |

Process connection per EN 837-1 / 7.3

1) NS 63: Centre back pressure entry (CBM)

2) Plus 16 mm with pressure ranges ≥ 100 bar

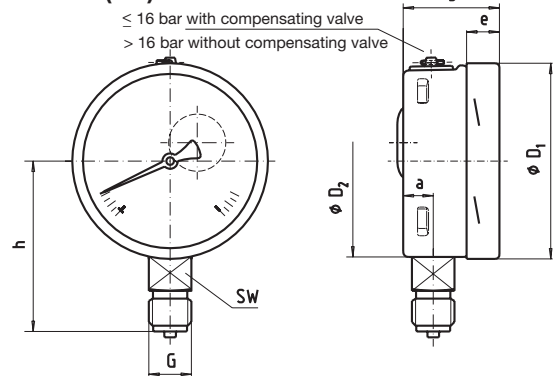
3) Plus 16 mm with pressure range 1600 bar

Options

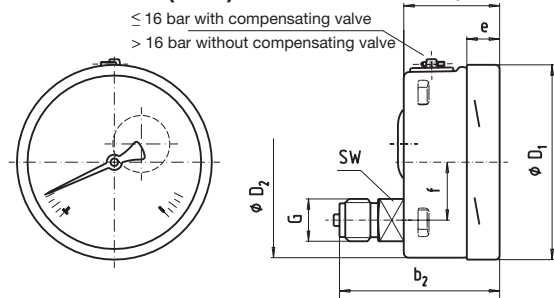
- Other process connection
- Assembly on diaphragm seals see product review DS
- Monel® pressure system (model 26X.50, not with NS 160 back connection)
- Pressure system stainless steel 1.4571
- Surface or panel mounting flange, stainless steel
- Panel mounting flange, stainless steel, polished
- Triangular bezel, stainless steel, polished, with clamp
- Ambient temperature -40 °C: silicon oil filling
- Switch contacts (see data sheet AC 08.01)
- Pressure gauge with electrical output signal, see Model PGT23.100/160, data sheet PV 12.04
- Version per ATEX Ex II 2 GD c

Standard version

Lower mount (LM)



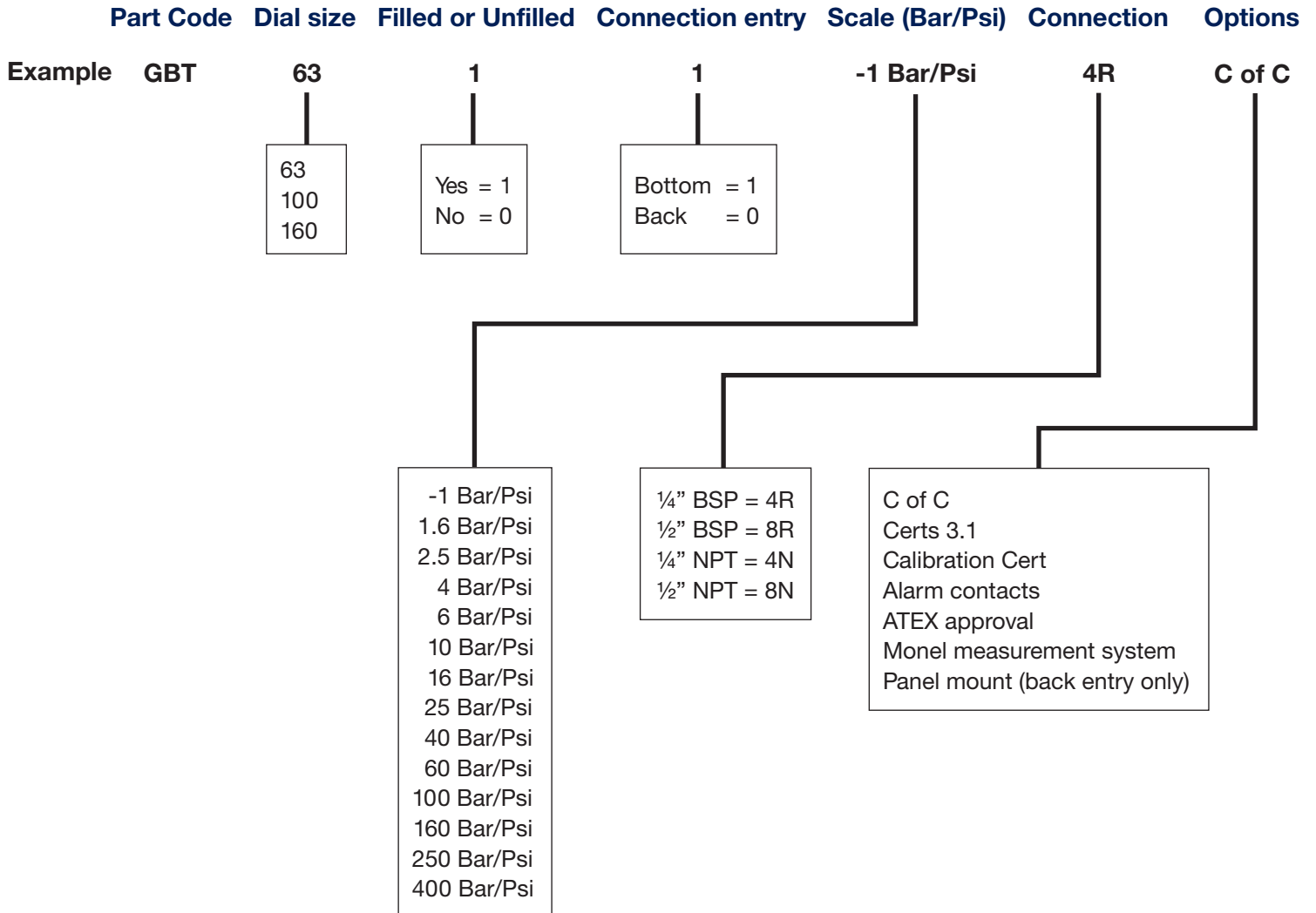
Lower back mount (LBM) 1)



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Ordering information - Part Number Configurator



Modifications may take place and materials specified may be replaced by others without prior notice.
 Specifications and dimensions given in this leaflet represent the state of engineering at the time of printing.

