

Bourdon tube pressure gauge

For extremely low ambient temperatures down to $-70\text{ }^{\circ}\text{C}$

Model PG23LT

WIKA data sheet PM 02.22



Applications

- For outdoor use with ambient temperatures down to $-70\text{ }^{\circ}\text{C}$ ($-94\text{ }^{\circ}\text{F}$)
- For gaseous and liquid aggressive media that are not highly viscous or crystallising, also in aggressive ambience
- Oil & gas, chemical and petrochemical industries

Special features

- Special instrument design for extremely low ambient temperatures down to $-70\text{ }^{\circ}\text{C}$ ($-94\text{ }^{\circ}\text{F}$)
- Ingress protection IP 66 and IP 67
- All stainless steel construction
- Measuring ranges from 0 ... 0.6 to 0 ... 1,000 bar
- Optionally as safety version "S3" per EN 837-1

Description

The model PG23LT high-quality pressure gauge has been designed specifically for extremely low ambient temperatures down to $-70\text{ }^{\circ}\text{C}$ ($-94\text{ }^{\circ}\text{F}$). The stainless steel Bourdon tube pressure gauge finds applications in particularly cold regions such as Russia, Canada, Scandinavia or China.

The PG23LT is used primarily in the oil and gas industries and in the petrochemical industry. The typical measuring points are located on pipelines or in pumping stations for oil and gas transportation.



Bourdon tube pressure gauge, model PG23LT

As a result of the special low-temperature design of the instrument, the use of special seals and the case filling, the model PG23LT is suitable for outdoor applications down to an ambient temperature of $-70\text{ }^{\circ}\text{C}$ ($-94\text{ }^{\circ}\text{F}$). The same instrument design fulfils the requirements for both IP 66 and IP 67 ingress protection for pressure ranges greater than 0 ... 16 bar.

Tested and qualified in our own laboratory, the suitability of the instrument for ambient temperatures down to $-70\text{ }^{\circ}\text{C}$ ($-94\text{ }^{\circ}\text{F}$) is confirmed as standard with each order by a 2.2 test report.

Standard version

Nominal size in mm

100, 160

Accuracy class

1.0

Scale ranges

0 ... 0.6 to 0 ... 1,000 bar

or all other equivalent vacuum or combined pressure and vacuum ranges

Pressure limitation

Steady: Full scale value
Fluctuating: 0.9 x full scale value
Short time: 1.3 x full scale value

Permissible temperature

Ambient: -70 ... +60 °C
Medium: +100 °C maximum

Temperature effect

When the temperature of the measuring system deviates from the reference temperature (+20 °C):

≤ ±0.4 %/10 K of full scale value

Ingress protection

Scale range > 0 ... 16 bar:
IP 66 / IP 67 per EN 60529 / IEC 60529

Scale range ≤ 0 ... 16 bar:
IP 54 per EN 60529 / IEC 60529

Process connection

Stainless steel 316L, lower mount (LM) or lower back mount (LBM)

G ½ B (male), 22 mm flats

½ NPT (male), 22 mm flats

M20 x 1.5 (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

Pointer

Aluminium, black

Case

Stainless steel, scale reneges ≤ 0 ... 16 bar can be vented and resealed for internal pressure compensation

Window

Laminated safety glass

Ring

Bayonet ring, stainless steel

Filling liquid

Silicone oil

Options

- Sealings for the process connection (model 910.17, see data sheet AC 09.08, sealing material stainless steel recommended)
- Safety version with solid baffle wall and blow-out back per EN-837-1, for lower mount (LM)
- Panel mounting flange, stainless steel
- Surface mounting flange, stainless steel
- Red mark printed on the dial
- Mark pointer on bayonet ring adjustable from the outside with nominal size 100

CE conformity

Pressure equipment directive

97/23/EC, PS > 200 bar, module A, pressure accessory

ATEX directive (Option)

Ex II 2GD c TX

Ignition protection type „c“, constructive safety

Approvals (Option)

- **EAC**, import certificate, customs union Russia/Belarus/Kazakhstan
- **EAC-Ex**, hazardous areas

Certificates

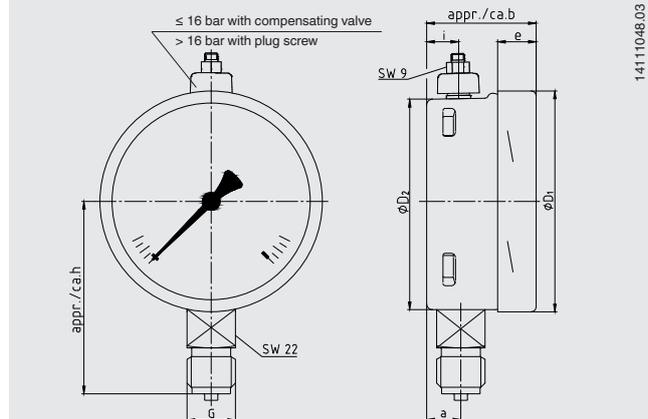
- 2.2 test report per EN 10204
“Confirmation of operational capability at ambient temperatures down to -70°C”
- 2.2 test report per EN 10204 (Option)
e.g. state-of-the-art manufacturing, material proof, indication accuracy
- 3.1 inspection certificate per EN 10204 (Option)
e.g. material proof for wetted metallic parts, indication accuracy

Approvals and certificates, see website

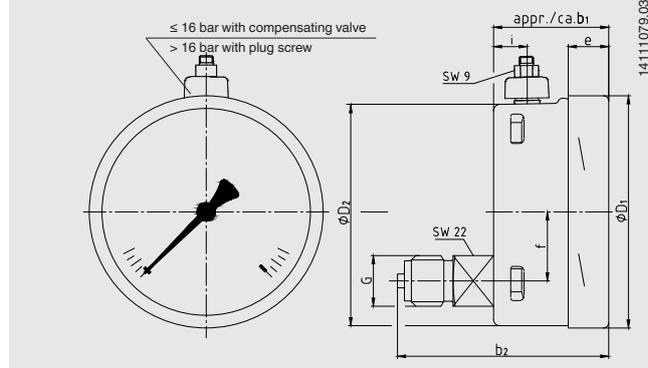
Dimensions in mm

Standard version

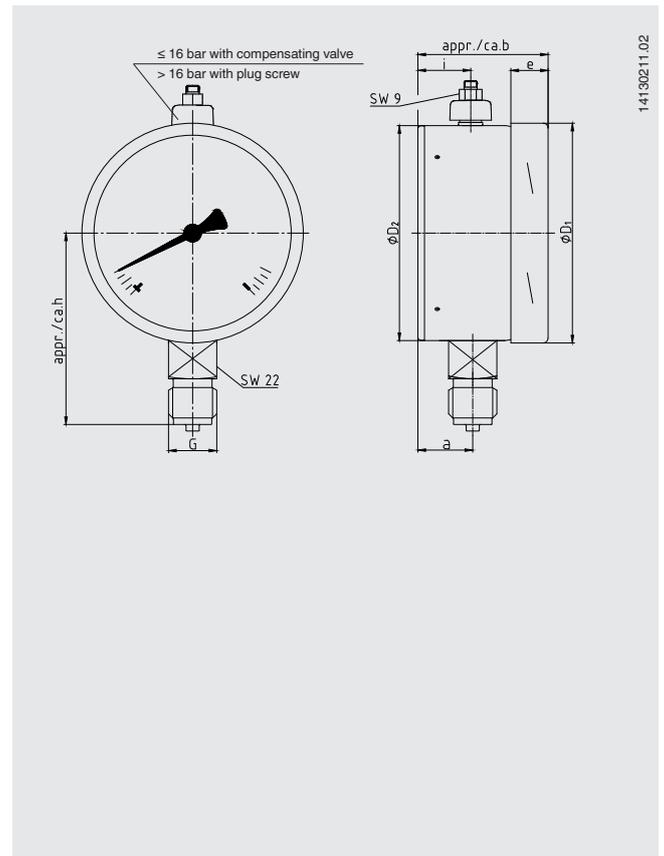
Lower mount (LM)



Lower back mount



Safety version "S3"



Standard version

| NS | Dimensions in mm | | | | | | | | | | | Weight in kg | |
|-----|------------------|------|--------------------|------------------|----------------|----------------|------|----|-------|-------|------|--------------|--------|
| | a | b | b ₁ | b ₂ | D ₁ | D ₂ | e | f | G | h ± 1 | i | unfilled | filled |
| 100 | 15.5 | 49.5 | 49.5 | 83 | 101 | 99 | 17.5 | 30 | G ½ B | 87 | 14.5 | 0.60 | 0.90 |
| 160 | 15.5 | 49.5 | 49.5 ¹⁾ | 83 ¹⁾ | 161 | 159 | 17.5 | 50 | G ½ B | 118 | 14.5 | 1.10 | 2.00 |

Process connection per EN 837-1 / 7.3
 1) Plus 16 mm with scale range ≥ 100 bar

Safety version

| NS | Dimensions in mm | | | | | | | | | Weight in kg | |
|-----|------------------|----|----------------|----------------|------|-------|-------|----|----------|--------------|--|
| | a | b | D ₁ | D ₂ | e | G | h ± 1 | i | unfilled | filled | |
| 100 | 25 | 59 | 101 | 99 | 17 | G ½ B | 87 | 24 | 0.65 | 1.08 | |
| 160 | 27 | 65 | 161 | 159 | 17.5 | G ½ B | 118 | 26 | 1.30 | 2.34 | |

Ordering information

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

© 2015 WIKA Alexander Wiegand SE & Co. KG, all rights reserved.
 The specifications given in this document represent the state of engineering at the time of publishing.
 We reserve the right to make modifications to the specifications and materials.



WIKAL
WIKAL Alexander Wiegand SE & Co. KG
 Alexander-Wiegand-Straße 30
 63911 Klingenberg/Germany
 Tel. +49 9372 132-0
 Fax +49 9372 132-406
 info@wika.de
 www.wika.de