

# Bourdon tube pressure gauge, stainless steel

## For extremely low ambient temperatures down to $-70\text{ }^{\circ}\text{C}$ [ $-94\text{ }^{\circ}\text{F}$ ]

### Model PG23LT, with case filling, POLARgauge®

WIKA data sheet PM 02.22

for further approvals  
see page 3

POLARgauge®

#### 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 environments
- Oil and gas industry, chemical and petrochemical industries

#### Special features

- POLARgauge® - special instrument design for extremely low ambient temperatures down to  $-70\text{ }^{\circ}\text{C}$  [ $-94\text{ }^{\circ}\text{F}$ ]
- Ingress protection IP66 and IP67
- Completely from stainless steel
- Measuring ranges from 0 ... 0.6 to 0 ... 1,000 bar [0 ... 10 to 0 ... 15,000 psi]
- Case also available in safety level "S3" per EN 837-1

#### Description

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

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

As a result of the specific low-temperature design, the use of special seals and the case filling, the model PG23LT is suitable for outdoor applications down to an ambient temperature of  $-70\text{ }^{\circ}\text{C}$  [ $-94\text{ }^{\circ}\text{F}$ ].



Bourdon tube pressure gauge, model PG23LT

The same instrument design fulfils the requirements for both IP66 and IP67 ingress protection for scale ranges greater than 0 ... 40 bar.

The proof of the instrument's suitability for ambient temperatures down to  $-70\text{ }^{\circ}\text{C}$  [ $-94\text{ }^{\circ}\text{F}$ ] was provided in the in-house laboratory and can optionally be confirmed by a 2.2 test report.

WIKA measuring instruments bearing the registered trademark POLARgauge® are suitable for use in extremely low ambient temperatures down to  $-70\text{ }^{\circ}\text{C}$  [ $-94\text{ }^{\circ}\text{F}$ ].

## Standard version

### Nominal size (NS) in mm [in]

63 [2 ½"], 100 [4"], 160 [6"]

### Accuracy class

NS 63 [2 ½"]: 1.6

NS 100 [4"], 160 [6"]: 1.0

### Scale ranges

0 ... 0.6 to 0 ... 1,000 bar [0 ... 10 to 0 ... 15,000 psi]  
or all other equivalent vacuum or combined pressure and vacuum ranges

### Pressure limitation

NS 63 [2 ½"]

Steady: 3/4 x full scale value

Fluctuating: 2/3 x full scale value

Short time: Full scale value

NS 100 [4"], NS 160 [6"]

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 [-94 ... 140 °F]

Medium: ≤ 100 °C [≤ 212 °F]

### Temperature effect

When the temperature at the measuring system deviates from the reference temperature 20 °C [68 °F]: ≤ ±0.4 %/10 °C [≤ ±0.4 %/18 °F] of full scale value

### Ingress protection per IEC/EN 60529

IP65 for scale ranges ≤ 0 ... 40 bar [≤ 0 ... 580 psi]

IP66/IP67 for scale ranges > 0 ... 40 bar [≤ 0 ... 580 psi]

For further information on the ingress protection, see Technical information IN 00.18.

### Process connection

Stainless steel 316L

Lower mount (radial) or lower back mount

- G ¼ B (male), SW 14 (only NS 63 [2 ½"])
- G ½ B (male), SW 22 (not for NS 63 [2 ½"])
- ½ NPT (male), SW 22 (not for NS 63 [2 ½"])
- M20 x 1.5 (male), SW 22 (not for NS 63 [2 ½"])

### Pressure element

Stainless steel 316L

< 100 bar [≤ 1,450 psi]: C-type

≥ 100 bar [≥ 1,450 psi]: Helical type

### Movement

Stainless steel

### Dial

Aluminium, white, black lettering

### Pointer

Aluminium, black

### Case

Stainless steel, scale ranges ≤ 0 ... 40 bar [≤ 0 ... 580 psi] with compensating valve to vent case

### Window

Laminated safety glass

### Ring

Bayonet ring, stainless steel







### Case filling

Silicone oil

## Options

- Sealings for the process connection (model 910.17, see data sheet AC 09.08, stainless steel recommended as sealing material)
- Safety level "S3" with solid baffle wall and blow-out back per EN-837-1, for lower mount (radial)
- 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 NS 100 [4"]

## Approvals

Logo	Description	Country
	<b>EU declaration of conformity</b> <ul style="list-style-type: none"> <li>■ Pressure equipment directive PS &gt; 200 bar, module A, pressure accessory</li> <li>■ ATEX directive (option) Ignition protection type “c”, constructive safety</li> </ul>	European Union
	<b>EAC (option)</b> Hazardous areas	Eurasian Economic Community
	<b>GOST (option)</b> Metrology, measurement technology	Russia
	<b>KazInMetr (option)</b> Metrology, measurement technology	Kazakhstan
	<b>UkrSEPRO (option)</b> Metrology, measurement technology	Ukraine
	<b>Uzstandard (option)</b> Metrology, measurement technology	Uzbekistan

## Certificates (option)

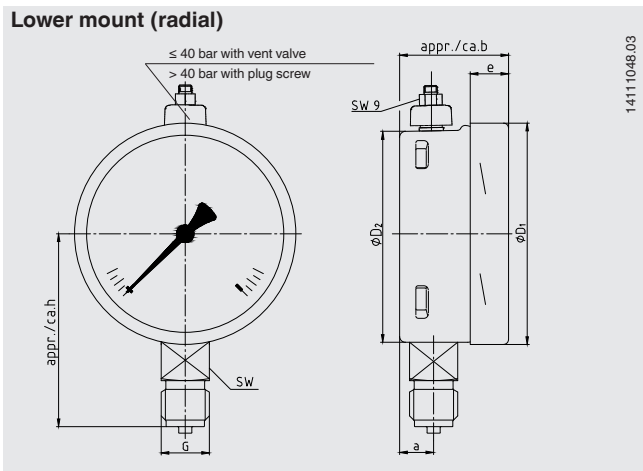
- 2.2 test report per EN 10204  
“Confirmation of operational capability at ambient temperatures down to -70 °C [-94 °F]”
- 2.2 test report per EN 10204  
e.g. state-of-the-art manufacturing, material proof, indication accuracy
- 3.1 inspection certificate per EN 10204  
e.g. material proof for wetted metal parts, indication accuracy

Approvals and certificates, see website

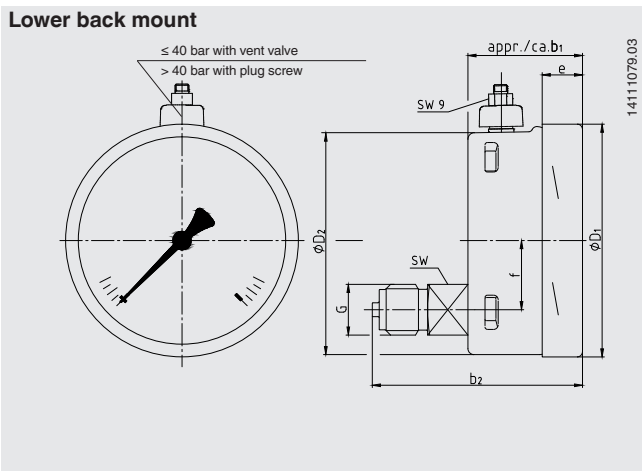
# Dimensions in mm [in]

## Standard version

### Lower mount (radial)



### Lower back mount

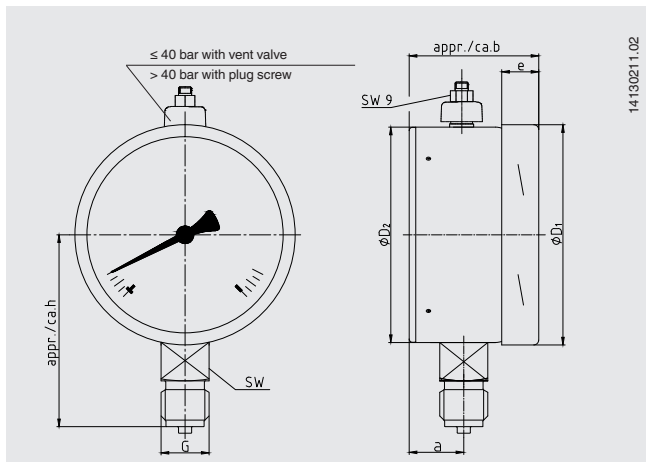


NS	Dimensions in mm [in]											Weight in kg [lbs]
	a	b	b <sub>1</sub>	b <sub>2</sub>	D <sub>1</sub>	D <sub>2</sub>	e	f	G	h ±1	SW	
63 [2 ½"]	9.5 [0.374]	33 [1.299]	33 [1.299]	57 [2.244]	63 [2.48]	62 [2.441]	12.6 [0.496]	-	G ¼ B	54 [2.126]	14 [0.55]	0.2 [0.44]
100 [4"]	15.5 [0.61]	49.5 [1.949]	49.5 [1.949]	83 [3.268]	101 [3.976]	99 [3.898]	17.5 [0.689]	30 [1.181]	G ½ B	87 [3.425]	22 [0.87]	0.9 [1.98]
160 [6"]	15.5 [0.61]	49.5 [1.949]	49.5 <sup>1)</sup> [1.949]	83 <sup>1)</sup> [3.268]	161 [6.339]	159 [6.26]	17.5 [0.689]	50 [1.969]	G ½ B	118 [4.646]	22 [0.87]	2.0 [4.41]

Process connection per EN 837-1 / 7.3

1) Plus 16 mm [0.63 in] with scale ranges ≥ 0 ... 100 bar [≥ 0 ... 1,450 psi]

## Safety version "S3"



## Safety version "S3"

NS	Dimensions in mm [in]								Weight in kg [lbs]
	a	b	D <sub>1</sub>	D <sub>2</sub>	e	G	h ±1	SW	
63 [2 ½"]	17.5 [6.89]	42 [16.535]	63 [24.803]	63 [24.803]	14.5 [5.709]	G ¼ B	54 [2.126]	14 [0.55]	0.26 [0.57]
100 [4"]	25 [9.843]	59 [23.228]	101 [39.764]	99 [38.976]	17 [6.693]	G ½ B	87 [3.425]	22 [0.87]	0.84 [1.85]
160 [6"]	27 [10.63]	65 [25.591]	161 [63.386]	159 [62.598]	17.5 [6.89]	G ½ B	118 [4.646]	22 [0.87]	2.10 [4.63]

## Ordering information

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

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