

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

Certificates (option)

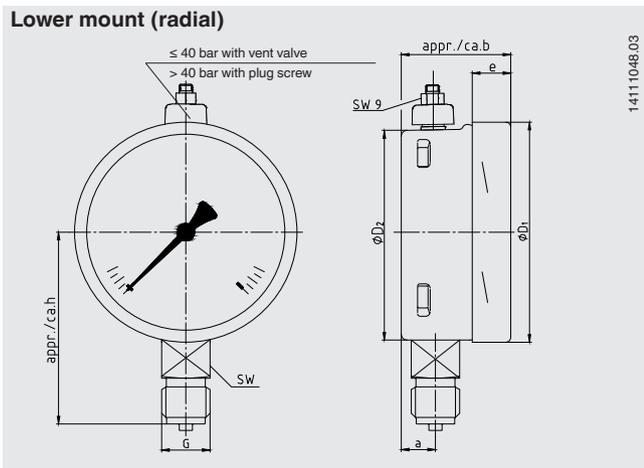
- 2.2 test report per EN 10204
“Confirmation of operational capability at ambient temperatures down to -70 °C [-94 °F]”
- 2.2 test report per EN 10204
e.g. state-of-the-art manufacturing, material proof, indication accuracy
- 3.1 inspection certificate per EN 10204
e.g. material proof for wetted metal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

Approvals and certificates, see website

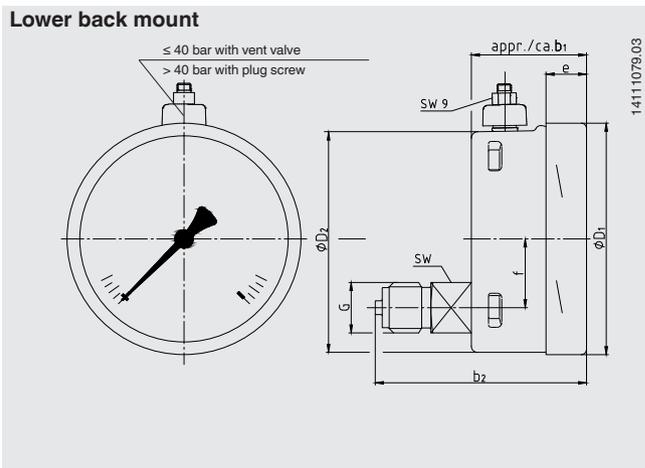
Dimensions in mm [in]

Standard version

Lower mount (radial)



Lower back mount

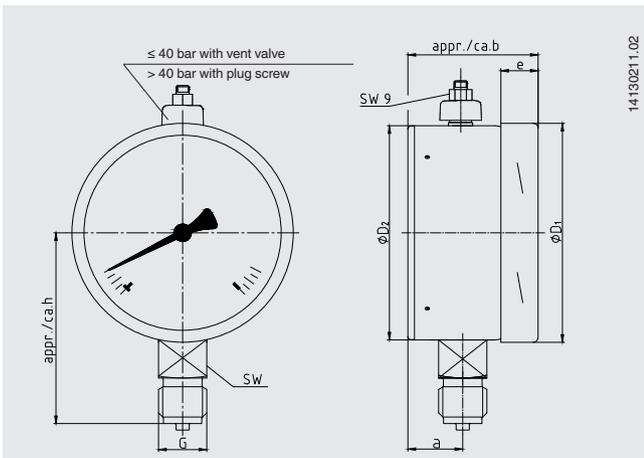


NS	Dimensions in mm [in]											Weight in kg [lbs]
	a	b	b ₁	b ₂	D ₁	D ₂	e	f	G	h ±1	SW	
63 [2 ½"]	9.5 [0.374]	33 [1.299]	33 [1.299]	57 [2.244]	63 [2.48]	62 [2.441]	12.6 [0.496]	-	G ¼ B	54 [2.126]	14 [0.55]	0.2 [0.44]
100 [4"]	15.5 [0.61]	49.5 [1.949]	49.5 [1.949]	83 [3.268]	101 [3.976]	99 [3.898]	17.5 [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 ¹⁾ [1.949]	83 ¹⁾ [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 ₁	D ₂	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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