POLARgauge®

Mechanical gauges for extreme low temperatures

WIKA

Smart in sensing

Ambient temperatures down to -70 °C [-95 °F]

In particularly cold regions, the challenge for measuring instruments is very high. Through extreme temperatures and temperature fluctuations, condensation can form in the case. If this freezes, the function of the moving parts of the instrument can be restricted and a correct display of the measured value is no longer possible.

As a rule, mechanical measuring instruments reach their limits at around -40 °C. The POLARgauge® series from WIKA has been specifically developed for use at extremely low ambient temperatures down to -70 °C, where other instruments have long-since been unable to withstand the ambient conditions. Even under these extreme conditions, they reliably fulfil their task: measurement of operating pressure, differential pressure or temperature.

Applications

Oil & gas

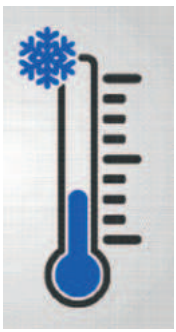
- Oil and gas extraction
- Gas processing
- Pipelines and compressor stations
- LNG liquefaction and regasification plants
- Refineries
- Offshore platforms

Basic materials

- Mining/ore processing
- Pumping stations and pipelines
- Drainage pipelines

Chemical and petrochemical industries

- Ethylene production plant
- Methanol production plant
- Ammonia production plant



Special features of the POLARgauge® series

Your benefits

Special liquid filling in the case

With the POLARgauges, a specific case fill fluid is used, which remains fully functional and does not freeze, even at -70 °C. It thus prevents the window from frosting, so that the measured value can still be read safely. The heart of the measuring instrument, the movement, remains ice-free and thus retains its function.

Special materials for sealings

Elastomers are always problematic at extremely low ambient temperatures, as they eventually lose their sealing properties. For this reason, elastomers have largely been dispensed with here. In the few places where this has not been technically possible, special materials have been used that provide permanent sealing, even at these temperatures.

POLARgauge®

Tested assemblies – Instrument hook-up solutions

The valves are mostly used in assemblies with measuring instruments. The design of the valves includes special thermoplastic seals and lubricants that withstand very low temperatures and high pressures and guarantee a long service life.

Full functionality is guaranteed over the entire temperature range, as the valves have undergone performance tests to ensure smooth operation of the handles and perfect sealing without readjustment.

Mechanical pressure measuring instruments

PG23LT

Bourdon tube pressure gauge

Scale range:
0 ... 0.6 to 0 ... 1,000 bar
(0 ... 10 to 0 ... 15,000 psi)
Data sheet: PM 02.22

733.51

Differential pressure gauge

Scale range:
0 ... 16 mbar to 0 ... 40 bar
(0 ... 0.23 to 0 ... 580 psi)
Data sheet: PM 07.05

IV30, IV31, IV50, IV51

Valve manifold

Nominal pressure:
To PN 420 (6,000 psi)
Option: To PN 680 (10,000 psi)
Data sheet: AC 09.23

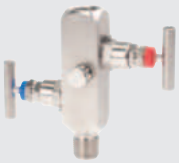
IV10, IV11

Needle valve

Nominal pressure:
To PN 420 (6,000 psi)
Option: To PN 680 (10,000 psi)
Data sheet: AC 09.22

IV20, IV21

Block-and-bleed valve



Nominal pressure:
To PN 420 (6,000 psi)
Option: To PN 680 (10,000 psi)
Data sheet: AC 09.19

IVM

Monoflange

Nominal pressure:
To PN 420 (6,000 psi)
Data sheet: AC 09.17

Mechanical temperature measuring instruments

55

Bimetal thermometer

Scale range: -70 ... +120 °C
(-300 ... +1,000 °F)
Data sheet: TM 55.01

73

Gas-actuated thermometer

Scale range: -200 ... +700 °C
(-328 ... 1,292 °F)
Data sheet: TM 73.01

TW10

Thermowell with flange

Data sheet: TW 95.10

TW15

Threaded thermowell

Data sheet: TW 95.15

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