Pressure
Temperature
Level
Flow
Calibration technology

WIKA

Product portfolio

Part of your business

Contents

Fully automatic production of measuring instruments

The modern high-bay warehouse ensures efficient logistics

Ability to meet any challenge

Our knowledge for your success

In the course of the last six decades the name WIKA has become a symbol for sophisticated solutions in the field of pressure and temperature measurement.

Our ever increasing ability is the basis for implementation of innovative technologies in the form of reliable products and efficient system solutions.

We owe our leading position in the world market to the consistent dedication towards premium quality, to which, today, 7,900 employees of the WIKA group of companies are committed. More than 500 experienced sales representatives provide competent and individual advice and support for our customers from the beginning.
Everywhere and anytime.

Certified quality

The WIKA quality assurance management system has been certified in accordance with ISO 9001 since 1994. The quality and safety standards of our company meet the standard systems of several countries.

Made by WIKA

The development and high-tech production in our owned modern production facilities (Germany, Brazil, Canada, China, India, Poland, South Africa, Switzerland and USA) is the best warranty for our flexibility.

Whether SMD automatic insertion machines, CNC automatic machining centres, welding robots, laser welding, sputterers, thermotransfer printing or thin film production - we exploit all possibilities to achieve above-average results. And the end result: More than 50 million quality products are delivered year in, year out, in more than 100 countries. Worldwide, approximately 600 million WIKA measuring instruments are in use.

DKD/DAkkS accredited calibration laboratories for pressure and temperature

WIKA product lines

The WIKA programme covers the following product lines for various fields of application.

Electronic pressure measurement

WIKA offers a complete range of electronic pressure measuring instruments: pressure sensors, pressure switches, pressure transmitters and process transmitters for the measurement of gauge, absolute and differential pressure. Our pressure measuring instruments are available in the measuring ranges 0 ... 0.6 mbar to 0 ... 15,000 bar. These instruments come supplied with standardised current or voltage output signals (also intrinsically safe per ATEX or with flameproof enclosure), interfaces and protocols for various field buses. Whether ceramic thick film, metal thin film or piezo-resistive, WIKA is the leading manufacturer worldwide that develops and produces the full range of today's leading sensor technologies.

Mechatronic pressure measurement

As a result of the almost unlimited options for different combinations of mechanical and electrical connections, an extraordinary range of instrument variants is possible. Various digital and analogue output signals are also available for these measuring instruments.
For our measuring instruments we use latest sensors, tested in automotive applications millions of times over. They work without any kind of mechanical contact, consequently they are wear-resistant, and there's absolutely no influence on the mechanics.

Mechanical pressure measurement

Indicating pressure gauges for gauge, absolute and differential pressure with Bourdon tube, diaphragm or capsule pressure elements have been tested millions of times over. These instruments cover scale ranges from 0 … 0.5 mbar to 0 … 7,000 bar and indication accuracies of up to 0.1 %.

Diaphragm seals

WIKA diaphragm seals, mounted with pressure gauges, pressure transducers, pressure transmitters etc., are recognised and valued internationally for the most difficult of measuring tasks. The measuring instruments can therefore be used at extreme temperatures (-130 ... +400 °C), and with aggressive, corrosive, heterogeneous, abrasive, highly viscous or toxic media. The optimal diaphragm seal designs, materials and filling media are available for each application.

Electrical temperature measurement

Our range of products includes thermocouples, resistance thermometers (also with on-site display), temperature switches as well as analogue and digital temperature transmitters for all industrial applications. Measuring ranges from -200 ... +1,600 °C are covered.

Mechatronic temperature measurement

As a result of the integration of switch contacts and output signals into our mechanical temperature measuring instruments, we can offer a wide variety of combined instruments. With switch contacts the pointer position triggers a change-over. Electrical output signals are realised via an additional, independent sensor circuit (resistance thermometer or thermocouple).

Mechanical temperature measurement

The mechanical temperature measuring instruments work on the bimetal, expansion or gas actuation principle and cover scale ranges from -200 ... +700 °C. All thermometers are suited for operation in a thermowell if necessary.

Level measurement

WIKA has a comprehensive range of level measuring instruments available for temperatures up to 450 °C, specific gravity from 400 kg/m^3 and pressure ranges up to 420 bar. This includes standard instruments and customised products.

Flow measurement

Orifice plates, meter runs, flow nozzles, Venturi tubes and pitot tubes are part of our portfolio of primary flow elements and restriction orifices. The wide range of our products is able to cover the majority of industrial applications. Customised solutions can be developed to meet your special needs.

Calibration technology

WIKA offers a broad product range of calibration instruments for the physical units of measurement for pressure and temperature, and for electrical measurands. Numerous patents ensure unmatched performance from many of our calibration instruments. The range of services covers the calibration of pressure and temperature measuring instruments in our accredited DKD/DAkkS calibration laboratories and a mobile service to calibrate your instruments on site.

For all product lines product reviews are available.

Pressure transmitters for industrial applications

A-10

For common needs

Non-linearity (± % of span): ≤ 0.25 or ≤ 0.5 BFSL	
Measuring range:	■ 0 … 1 to 0 … 600 bar ■ 0 ... 1 to 0 ... 25 bar abs. ■ -1 ... 0 to -1 ... +24 bar
Special feature:	■ Compact design ■ Free test certificate ■ 2 million possible variants
Data sheet:	PE 81.60

S-20

For superior needs

Non-linearity (± % of span): ≤ 0.125, 0.25 or 0.5 % BFSL	
Measuring range:	■ 0 ... 0.4 to 0 ... 1,600 bar ■ 0 ... 0.4 to 0 ... 40 bar abs. ■ -1 ... 0 to -1 ... +59 bar
Special feature:	■ Extreme operating conditions ■ Customer-specific variants ■ Free test certificate
Data sheet:	PE 81.61

O-10

OEM version

Non-linearity (± % of span): ≤ 0.5 BFSL	
Measuring range:	■ 0 ... 6 to 0 ... 600 bar ■ -1 ... +5 to -1 ... +59 bar
Special feature:	■ For OEM volumes ■ Customer-specific variants
Data sheet:	PE 81.65

Pressure transmitters with special features

S-11

For viscous and particulates-containing media

Non-linearity (± % of span): ≤ 0.2 BFSL	
Measuring range:	■ 0 ... 0.1 to 0 ... 600 bar ■ 0 ... 0.25 to 0 ... 16 bar abs. ■ -1 ... 0 to -1 ... +24 bar
Special feature:	■ Flush process connection ■ Medium temperature up to 150 °C ■ Zero point and span adjustable ■ Comprehensive stocks
Data sheet:	PE 81.02

HP-2

For highest pressure applications

Accuracy (± % of span): ≤ 0.25 or 0.5	
Measuring range:	0 … 1,600 to 0 … 15,000 bar
Special feature:	■ Very high long-term stability ■ Excellent load cycle stability ■ Cavitation protection (optional)
Data sheet:	PE 81.53

P-30

With high precision

Accuracy (± % of span): ≤ 0.1 or 0.05	
Measuring range:	■ 0 ... 0.25 to 0 ... 1,000 bar ■ 0 ... 0.25 to 0 ... 25 bar abs. ■ -1 ... 0 to -1 ... +15 bar
Special feature:	■ No additional temperature error in the range 10 ... 60 °C ■ Flush process connection (optional) ■ Analogue, CANopen® or USB
Data sheet:	PE 81.54

D-10

With digital output (RS-232)

Accuracy (± % of span): ≤ 0.1 or ≤ 0.05	
Measuring range:	■ 0 … 0.25 to 0 … 1,000 bar ■ 0 … 0.25 to 0 … 16 bar abs. ■ -0.25 … 0 to -1 … +25 bar
Special feature:	■ No additional temperature error in the range 0 ... 50 °C ■ Free communication software EasyCom ■ Flush process connection (optional)
Data sheet:	PE 81.33

D-10-7

With PROFIBUS® DP interface

Accuracy (± % of span): ≤ 0.1 or ≤ 0.25	
Measuring range:	■ 0 … 0.25 to 0 … 1,000 bar ■ 0 … 0.25 to 0 … 16 bar abs. ■ -0.25 … 0 to -1 … 0 bar
Special feature:	■ No additional temperature error in the range 0 ... 50 °C ■ Intelligent sensors with filter, calibration and diagnostic functions ■ Flush process connection (optional)
Data sheet:	PE 81.30

Further information at www.wika.com

Pressure transmitters with special features

IS-20

Intrinsically safe

Accuracy (% of span):	≤ 0.5
Measuring range:	■ 0 … 0.1 to 0 … 6,000 bar ■ 0 … 0.25 to 0 … 25 bar abs.
Special feature:	■ Further worldwide Ex approvals ■ High-pressure version (optional) ■ Flush process connection (optional) ■ Suitable for SIL 2 per IEC 61508/ IEC 61511
Data sheet:	PE 81.50, PE 81.52 (ship approval) PE 81.51 (high pressure)

N-10

Non-incendive

Accuracy (% of span):	≤ 0.5
Measuring range:	■ 0 … 0.1 to 0 … 1,000 bar ■ 0 … 0.25 to 0 … 25 bar abs.
Special feature:	■ Low-power version ■ Flush process connection (optional)
Data sheet:	PE 81.26

E-10, E-11

With flameproof enclosure

Accuracy (% of span):	≤ 0.5
Measuring range:	■ 0 … 0.4 to 0 … 1,000 bar ■ 0 ... 0.4 to 0 ... 16 bar abs.
Special feature:	■ Low-power version ■ For acid gas applications (NACE) ■ Flush process connection (optional)
Data sheet:	PE 81.27

Pressure transmitters for selected markets

MH-2

For mobile hydraulics

Accuracy (± % of span):	≤ 1
Measuring range:	0 … 40 to 0 … 600 bar
Special feature:	■ Excellent reliability of supply and quality to ISO/TS 16949 and ISO 14001 ■ For extreme operating conditions ■ Compact and robust design
Data sheet:	PE 81.37

MH-1

For mobile hydraulics

Accuracy (± % of span):	≤ 0.5 BFSL
Measuring range:	0 … 60 bar to 0 … 600 bar
Special feature:	■ Extremely shock and vibration resistant ■ Resistant to pressure spikes
Data sheet:	PE 81.21

MHC-1

For mobile hydraulics

Accuracy (% of span):	≤ 1 or 0.5
Measuring range:	0 … 60 bar to 0 … 1,000 bar
Special feature:	■ Tested for harsh environmental conditions ■ Robust instrument design ■ Version with integrated Y-connector ■ CANopen® and J1939 output signals
Data sheet:	PE 81.49

AC-1

For refrigeration and air-conditioning applications

Accuracy (± % of span):	≤ 2
Measuring range:	■ 0 … 6 to 0 … 60 bar ■ -1 ... +7 to -1 ... + 45 bar
Special feature:	■ Special case design for the best possible condensation tightness ■ Resistant against the major refrigerants
Data sheet:	PE 81.46

R-1

For refrigeration and air-conditioning applications

Accuracy (± % of span):	≤ 2
Measuring range:	■ 0 … 6 to 0 … 160 bar ■ -1 ... +7 to -1 ... + 45 bar
Special feature:	■ Special case design for the best possible condensation tightness ■ Resistant to all common refrigerants
Data sheet:	PE 81.45

Further information at www.wika.com

Pressure transmitters for selected markets

MG-1

For medical gases

Accuracy (± % of span): ≤ 2	
Measuring range:	■ 0 … 6 to 0 … 400 bar ■ -1 … +6 bar
Special feature:	Cleaned, packed and labelled for oxygen per international standards
Data sheet:	PE 81.44

SA-11

For hygienic processes

Accuracy (± % of span): ≤ 0.5 or ≤ 0.25	
Measuring range:	■ 0 … 0.25 to 0 … 25 bar ■ 0 … 0.25 to 0 … 16 bar abs. ■ -1 … 0 to -1 … +24 bar
Special feature:	■ Flush diaphragm with a surface roughness of Ra < 0.4 µm ■ All welded
Data sheet:	PE 81.80

C-2

For air compressors

Accuracy (± % of span): ≤ 2 or 1	
Measuring range:	■ 0 … +6 to 0 … +60 bar ■ -1 … +10 to -1 … +45 bar
Special feature:	■ Robust design ■ Compact design ■ Long service life and high reliability
Data sheet:	PE 81.47

Pressure switches

PSD-30, PSD-31

Electronic pressure switch with display

Accuracy (% of span): ≤ 1	
Measuring range:	■ 0 ... 1 to 0 ... 600 bar ■ 0 ... 1 to 0 … 25 bar abs. ■ -1 ... 0 to -1 … +24 bar
Special feature:	■ Easily-readable, robust display ■ Intuitive and fast setup ■ Easy and flexible mounting configurations ■ Flush process connection (optional) ■ For temperature and level switches see www.wika.de/hattrick
Data sheet:	PE 81.67

PSA-31

Electronic pressure switch with display for sanitary applications

Accuracy of analogue signal (% of span): ≤ 1	
Measuring range:	■ 0 ... 1 to 0 ... 25 bar ■ 0 ... 1 to 0 … 25 bar abs. ■ -1 ... 0 to -1 … +24 bar
Special feature:	■ Easily-readable, robust display ■ Intuitive and fast setup ■ Easy and flexible mounting configurations
Data sheet:	PE 81.85

Submersible pressure transmitters

LS-10

Standard version

Accuracy (± % of span): 0.5
Measuring range: 0 … 0.25 to 0 … 10 bar
Data sheet: PE 81.55

IL-10

Intrinsically safe

Accuracy (± % of span): 0.25 or 0.5
Measuring range: 0 … 0.1 to 0 … 25 bar
Special feature:
- Hastelloy design (optional)
- Highly resistive FEP cable (optional)

Data sheet: PE 81.23

LH-20

High performance

Non-linearity (± % of span): ≤ 0.2 or 0.1
Measuring range:
- 0 ... 0.1 to 0 ... 25 bar
- 0 ... 1.6 to 0 ... 25 bar abs.

Special feature:
- Slender design
- Adjustable turndown (optional)
- Resistant against the harshest environmental conditions
- Reliable and secure by double-sealed design
- Titanium case for especially high resistance (optional)

Data sheet: PE 81.56

Digital pressure gauges

DG-10

Digital pressure gauge for general industrial applications

Accuracy: (% of span): ≤ 0.5 ± 1 digit	
Measuring range:	■ 0 … 2 to 0 … 600 bar ■ -1 … +2 to -1 … +10 bar
Special feature:	■ Robust stainless steel case, nominal size 80 mm ■ Multi-functional display ■ Efficient energy management
Data sheet:	PE 81.66

CPG500

Digital pressure gauges

Accuracy (% of span): 0.25 % FS +-1 digit	
Measuring range:	■ 0 ... 60 to 0 ... 1000 bar ■ -1 ... +20 to -1 ... + 40 bar
Special feature:	■ Robust case with protective rubber cap ■ Simple operation using four buttons
Data sheet:	CT 09.01

CPG1000

Digital pressure gauge for precision measurements

Accuracy (± % of span): ≤ ± 0.05	
Measuring range:	■ 0 ... 0.07 to 0 ... 700 bar ■ 0 … 1 to 0 … 20 bar abs.
Special feature:	■ Robust stainless steel case with protection cap ■ Integrated data logger
Data sheet:	CT 10.01

Process transmitters

UT-10, UT-11

Universal pressure transmitter, standard version

Non-linearity (% of span): ≤ 0.1	
Output signal:	4 ... 20 mA
Measuring range:	■ 0 ... 0.4 to 0 ... 4,000 bar ■ 0 ... 0.4 to 0 ... 16 bar abs. ■ -1 ... 0 to -1 ... +15 bar
Special feature:	■ Freely scaleable measuring ranges (turndown to 20 : 1) ■ Case from plastic or aluminium ■ Flush process connection (optional)
Data sheet:	PE 86.01

IUT-10, IUT-11

Universal pressure transmitter, intrinsically safe version

Non-linearity (% of span): ≤ 0.1	
Output signal:	4 ... 20 mA or with HART® protocol (optional)
Measuring range:	■ 0 ... 0.4 to 0 ... 4,000 bar ■ 0 ... 0.4 to 0 ... 16 bar abs. ■ -1 ... 0 to -1 ... +15 bar
Special feature:	■ Freely scaleable measuring ranges (turndown to 20 : 1) ■ Case from plastic or aluminium ■ Flush process connection (optional)
Data sheet:	PE 86.02

IPT-10, IPT-11

Process pressure transmitter, intrinsically safe or with flameproof enclosure

Non-linearity (% of span): ≤ 0.075 ... 0.1	
Output signal:	4 ... 20 mA, HART® protocol (optional), PROFIBUS® PA, FOUNDATION™ fieldbus
Measuring range:	■ 0 ... 0.1 to 0 ... 4,000 bar ■ 0 ... 0.1 to 0 ... 60 bar abs. ■ -1 ... 0 to -1 ... +60 bar
Special feature:	■ Freely scaleable measuring ranges (turndown to 30 : 1) ■ Case from plastic, aluminium or stainless steel ■ Flush process connection (optional) ■ With integrated display and mounting bracket for wall/pipe mounting (optional)
Data sheet:	PE 86.11

DPT-10

Differential pressure transmitter, intrinsically safe or with flameproof enclosure

Non-linearity (% of span): ≤ 0.075 ... 0.15	
Output signal:	4 ... 20 mA, HART® protocol (optional), PROFIBUS® PA, FOUNDATION™ fieldbus
Measuring range:	0 ... 10 mbar to 0 ... 40 bar
Special feature:	■ Freely scaleable measuring ranges (turndown to 30 : 1) ■ Static load 160 bar, optionally 420 bar ■ Case from plastic, aluminium or stainless steel ■ With integrated display and mounting bracket for wall/pipe mounting (optional)
Data sheet:	PE 86.21

Accessories

A-AS-1

LED attachable indicator with switching outputs 38 x 29 mm

Input:	■ 4 ... 20 mA, 2-wire ■ DC 0 ... 5 V, 3-wire ■ DC 0 ... 10 V, 3-wire
Power supply:	■ DC 16 ... 30 V for 4 ... 20 mA ■ DC 15 ... 30 V for 0 ... 10 V ■ DC 10 ... 30 V for 0 ... 5 V
Data sheet:	AC 80.09

WUR-1

LED attachable indicator with switching outputs, ultra high purity 38 x 29 mm

Accuracy (% of span):	≤ 0.5
Measuring range:	0 ... 2 bar to 0 ... 400 bar abs.
Power supply:	■ DC 16 ... 30 V for 4 ... 20 mA ■ DC 15 ... 30 V for 0.1 ... 10.1 V ■ DC 10 ... 30 V for 0.1 ... 5.1 V
Special feature:	■ Top-view or front-view version ■ Up to 2 switching outputs configurable ■ 5 different pressure units adjustable
Data sheet:	PE 87.20

A-AI-1, A-IAI-1

LCD attachable indicator, 50 x 50 mm

Input:	4 ... 20 mA, 2-wire
Power supply:	From the 4 ... 20 mA current loop
Special feature:	Model A-IAI-1 intrinsically safe per ATEX
Data sheet:	AC 80.07

DI10

For panel mounting, current loop display, 96 x 48 mm

Input:	4 ... 20 mA, 2-wire
Alarm output:	2 electronic contacts (optional)
Special feature:	Wall-mounting case (optional)
Power supply:	From the 4 ... 20 mA current loop
Data sheet:	AC 80.06

DI15

For panel mounting, 48 x 24 mm

Input:	Multi-function input for resistance thermometers, thermocouples and standard signals
Alarm output:	2 electronic contacts
Power supply:	DC 9 … 28 V
Data sheet:	AC 80.01

DI25

For panel mounting, 96 x 48 mm

Input:	Multi-function input for resistance thermometers, thermocouples and standard signals
Alarm output:	■ 3 relays
Special feature:	■ Integrated transmitter power supply (optional, replaces one relay) ■ Analogue output signal (optional)
Power supply:	■ AC 100 … 240 V ■ AC/DC 24 V
Data sheet:	AC 08.02

DI30

For panel mounting, 96 x 96 mm

Input:	Standard signals
Alarm output:	2 relays
Special feature:	■ Integrated transmitter power supply ■ Wall-mounting case (optional)
Power supply:	AC 230 V or AC 115 V
Data sheet:	AC 80.05

DI35

For panel mounting, 96 x 48 mm

Input:	■ Multi-function input for resistance thermometers, thermocouples and standard signals ■ Alternatively double input for standard signals with calculation function (+ - x /) for two transmitters
Alarm output:	■ 2 or 4 relays (optional)
Special feature:	■ Integrated transmitter power supply (optional) ■ Analogue output signal (optional)
Power supply:	■ AC 230 V ■ AC 115 V or DC 24 V
Data sheet:	AC 80.03

DIH10

Connection head with digital indicator

Input:	4 ... 20 mA
Power supply:	Power supply from the 4 ... 20 mA current loop

GCS-1

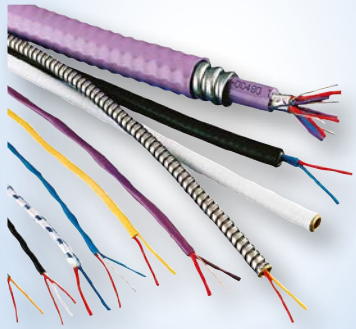
Gas cylinder scale

Accuracy (% of span):	0.1
Dimensions:	9.25 x 9.25 x 1.35" (235 x 235 x 35 mm)
Measuring range:	■ 0…60 lbs (27.22 kg) ■ 0…100 lbs (45.36 kg) ■ 0…300 lbs (136.08 kg)
Special feature:	■ ATEX zone 2 nL approval ■ Meets the highest EMC requirements ■ High ingress protection, IP 65
Data sheet	PE 87.19

Accessories

Adapters and sealings

Cables



Mating connectors

Welding sockets and cooling elements

Software

Power supply units and Ex transmitter supply isolators

The right solution

Top technology directly from the manufacturer - Made in Germany

Metal thin film

Pressure sensors

Accuracy (% of span): ≤ 0.1 ... 0.5
Measuring range: 0 ... 10 to 0 ... 1,000 bar
Special feature:
- Excellent resistance to media
- Very good pressure spike and burst pressure safety

Ceramic thick film

Pressure sensors

Accuracy (% of span): ≤ 0.5 ... 0.75
Measuring range: 0 ... 2 to 0 ... 100 bar
Special feature: Excellent resistance to media

Piezo chip

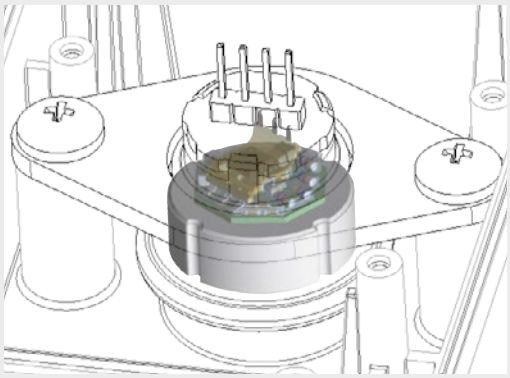
Pressure sensors

Accuracy (% of span): ≤ 0.1 ... 0.5
Measuring range: 0 ... 0.35 to 0 ... 20 bar
Special feature:
- Relative and absolute pressure measurement
- High output signal
- High overpressure safety

Your benefit:
As a leading manufacturer of the three most important sensor technologies, we have the perfect sensor for your individual application. From the idea to series production - everything from one source.

Our know-how for your projects

We see ourselves not only as a provider of top quality measurement technology, but also as a highly competent partner that is able to create individually designed solutions together with you.
We are ready to develop products for you that are tailor made to cater for your individual needs.



Example for an individual solution with ceramic thick-film sensor

With 7,900 employees worldwide we are able to professionally service and fulfill even major projects and complex development tasks. In all WIKA subsidiaries worldwide our customers are optimally supported.

More than 60 years of experience have made us one of the leading companies for pressure and temperature measurement. Experience - from which you can benefit too.

**Create your perfect pressure sensor solution together with us.
Talk to us. Your challenge is our commitment.**

Further information at www.wika.com

Pressure gauges with electrical output signal

The multi-functional intelliGAUGEs present a cost-effective and, at the same time, reliable solution for nearly all pressure measurement applications. They combine the analogue indication of a mechanical pressure gauge, needing no external power, with the electrical output signal of a pressure transmitter. These hybrid instruments are available with all commonly used electrical signals. The sensor works in a non-contact way, without any influence on the measurement signal. Many of the instruments can be delivered in accordance with ATEX Ex II 2 G ia.

Depending on the pressure gauge, the following electrical output signals are possible:

- 0.5 ... 4.5 V ratiometric
- 4 ... 20 mA, 2-wire
- 4 ... 20 mA, 2-wire with Ex approvals
- 0 ... 20 mA, 3-wire
- 0 ... 10 V, 3-wire

For pressure gauges with nominal sizes 100 and 160 mm, the electrical output signals can also be combined with switch contacts.

PGT01 plug

Bourdon tube, standard version

Nominal size:	40 mm
Scale range:	0 ... 1.6 to 0 ... 10 bar
Accuracy class:	2.5
Ingress protection:	IP 40
Data sheet:	PV 11.01

PGT02

Bourdon tube, standard version, for panel mounting

Nominal size:	40 mm
Scale range:	0 ... 1.6 to 0 ... 10 bar
Accuracy class:	2.5
Ingress protection:	IP 40
Data sheet:	PV 11.02

PGT10

Bourdon tube, plastic case

Nominal size:	40, 50 mm
Scale range:	0 ... 1.6 to 0 ... 400 bar
Accuracy class:	2.5
Ingress protection:	IP 41
Data sheet:	PV 11.05

PGT11

Bourdon tube, stainless steel case

Nominal size:	40, 50 mm
Scale range:	0 ... 1.6 to 0 ... 400 bar
Accuracy class:	2.5
Ingress protection:	IP 41
Data sheet:	PV 11.06

intelliGAUGE®

PGT21

Bourdon tube, stainless steel case

Nominal size:	50, 63 mm
Scale range:	0 ... 1.6 to 0 ... 400 bar
Accuracy class:	1.6/2.5
Ingress protection:	IP 65
Data sheet:	PV 11.03

PGT23.1x0

Bourdon tube, stainless steel version

Nominal size:	100, 160 mm
Scale range:	0 ... 0.6 to 0 ... 1,600 bar
Accuracy class:	1.0
Ingress protection:	IP 54, filled IP 65
Data sheet:	PV 12.04

PGT23.063

Bourdon tube, stainless steel version

Nominal size:	63 mm
Scale range:	0 ... 1 to 0 ... 1,000 bar
Accuracy class:	1.6
Ingress protection:	IP 54, filled IP 65
Data sheet:	PV 12.03

Further information at www.wika.com

Pressure gauges with electrical output signal

PGT43.1x0

Diaphragm, stainless steel version

Nominal size:	100, 160 mm
Scale range:	0 ... 16 mbar to 0 ... 25 bar
Accuracy class:	1.6
Ingress protection:	IP 54, filled IP 65
Data sheet:	PV 14.03

PGT43HP.1x0

Diaphragm, stainless steel version, high overpressure safety

Nominal size:	100, 160 mm
Scale range:	0 ... 16 mbar to 0 ... 40 bar
Accuracy class:	1.6
Ingress protection:	IP 54, filled IP 65
Data sheet:	PV 14.07

DPGT43.1x0

Differential pressure, stainless steel version

Nominal size:	100, 160 mm
Scale range:	0 ... 16 mbar to 0 ... 25 bar
Accuracy class:	1.6
Ingress protection:	IP 54, filled IP 65
Data sheet:	PV 17.05

DPGT43HP.1x0

Differential pressure, stainless steel version, high overpressure safety

Nominal size:	100, 160 mm
Scale range:	0 ... 60 mbar to 0 ... 40 bar
Accuracy class:	1.6
Ingress protection:	IP 54, filled IP 65
Data sheet:	PV 17.13

PGT63HP.1x0

Capsule, stainless steel version

Nominal size:	100, 160 mm
Scale range:	2.5 ... 100 mbar
Accuracy class:	1.6
Ingress protection:	IP 54
Data sheet:	PV 16.06

DPGT40

DELTA-trans with integrated differential pressure and working pressure indication

Nominal size:	100 mm
Scale range:	0 ... 0.25 to 0 ... 10 bar
Accuracy class:	2.5 (optional 1.6)
Ingress protection:	IP 54 (optional IP 65)
Data sheet:	PV 17.19

intelliGAUGE®

APGT43.1x0

Absolute pressure, stainless steel version

Nominal size:	100, 160 mm
Scale range:	0 ... 25 mbar to 0 ... 25 bar abs
Accuracy class:	2.5
Ingress protection:	IP 54, filled IP 65
Data sheet:	PV 15.02

732.15.1x0

Cryo gauge, stainless steel version

Nominal size:	100, 160 mm
Scale range:	0 ... 40 to 0 ... 4,000 mbar
Accuracy class:	1.0 ... 2.5
Ingress protection:	IP 65
Data sheet:	PM 07.29

712.15.1x0

Cryo gauge, Cu-alloy

Nominal size:	100, 160 mm
Scale range:	0 ... 40 to 0 ... 4,000 mbar
Accuracy class:	1.0 ... 2.5
Ingress protection:	IP 65
Data sheet:	PM 07.29

Further information at www.wika.com

Pressure gauges with switch contacts

Control systems are gaining more and more importance in industrial applications. Consequently, mere pressure indication on the gauge itself is no longer sufficient, rather the measured value must be transferred to the control system via an electrical signal, e.g. by closing or opening of a circuit. WIKA is focusing on its new mechatronic product line in order to satisfy this trend.
The switchGAUGEs are based on a high-quality mechanical WIKA pressure gauge.

Depending on the model the following contacts are built-in:

- Magnetic snap-action contact, e.g. model 821
- Inductive contact model 831
- Electronic contact model 830 E
- Reed contact model 851
- Micro switch model 850
- Transistor output NPN or PNP

All instruments with inductive contacts are certified in accordance with ATEX Ex II 2 GD c TX.

PGS06

Bourdon tube, plastic case

Nominal size:	40, 50 mm
Scale range:	0 ... 1.6 to 0 ... 400 bar
Accuracy class:	2.5
Ingress protection:	IP 41
Data sheet:	PV 21.05

PGS07

Bourdon tube, stainless steel case

Nominal size:	40, 50 mm
Scale range:	0 ... 1.6 to 0 ... 400 bar
Accuracy class:	2.5
Ingress protection:	IP 41
Special feature:	Version with VdS or LPCP approval possible
Data sheet:	PV 21.06

PGS10

Bourdon tube, plastic case, standard version

Nominal size:	40, 50 mm
Scale range:	0 ... 0.6 to 0 ... 400 bar
Accuracy class:	2.5
Ingress protection:	IP 41
Data sheet:	PV 20.01

PGS11

Bourdon tube, standard version, stainless steel case

Nominal size:	40, 50, 63 mm, NS 40 optionally with VdS approval
Scale range:	0 ... 2.5 to 0 ... 400 bar
Accuracy class:	1.6 or 2.5
Ingress protection:	IP 41
Data sheet:	PV 21.01

switchGAUGE

PGS21

Bourdon tube, stainless steel case, fixed contacts

Nominal size:	40, 50, 63 mm
Scale range:	0 ... 2.5 to 0 ... 400 bar
Accuracy class:	1.6 or 2.5
Ingress protection:	IP 65
Special feature:	Version with VdS or LPCP approval possible
Data sheet:	PV 21.02

PGS25

Bourdon tube, stainless steel case

Nominal size:	50, 63 mm
Scale range:	0 ... 1.6 to 0 ... 400 bar
Accuracy class:	2.5
Ingress protection:	IP 65
Data sheet:	PV 21.04

PGS21.1x0

Bourdon tube, industrial series

Nominal size:	100, 160 mm
Scale range:	0 ... 0.6 to 0 ... 600 bar
Accuracy class:	1.0
Ingress protection:	IP 54
Data sheet:	PV 22.01

Further information at www.wika.com

Pressure gauges with switch contacts

PGS23.1x0

Bourdon tube, stainless steel version

Nominal size:	100, 160 mm
Scale range:	0 ... 0.6 to 0 ... 1,600 bar
Accuracy class:	1.0
Ingress protection:	IP 65
Data sheet:	PV 22.02

PGS23.063

Bourdon tube, stainless steel, safety version

Nominal size:	63 mm
Scale range:	0 ... 4 to 0 ... 400 bar
Accuracy class:	1.6
Ingress protection:	IP 54
Data sheet:	PV 22.03

PGS43.1x0

Diaphragm, stainless steel version

Nominal size:	100, 160 mm
Scale range:	0 ... 25 mbar to 0 ... 25 bar
Accuracy class:	1.6
Ingress protection:	IP 54
Data sheet:	PV 24.03

432.x6.1x0 with 8xx

Diaphragm, stainless steel version, high overpressure safety

Nominal size:	100, 160 mm
Scale range:	0 ... 25 mbar to 0 ... 40 bar
Accuracy class:	1.6
Ingress protection:	IP 54
Data sheet:	PV 24.07

switchGAUGE

532.53 with 8xx

Absolute pressure, stainless steel version

Nominal size:	100, 160 mm
Scale range:	0 ... 25 mbar to 0 ... 25 bar abs
Accuracy class:	1.0
Ingress protection:	IP 54
Data sheet:	PV 25.02

632.51 with 8xx

Capsule, stainless steel version

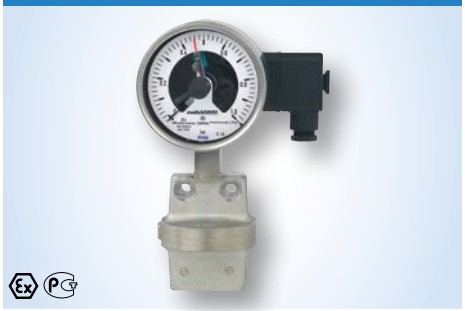
Nominal size:	100, 160 mm
Scale range:	0 ... 2.5 to 0 ... 100 mbar
Accuracy class:	1.6
Ingress protection:	IP 54
Data sheet:	PV 26.06

Further information at www.wika.com

Differential pressure gauges with switch contacts

DPGS43.1x0

Stainless steel version



Nominal size:	100, 160 mm
Scale range:	0 ... 16 mbar to 0 ... 25 bar
Accuracy class:	1.6
Ingress protection:	IP 54, filled IP 65
Data sheet:	PV 27.05

DPGS43HP.1x0

Stainless steel version, high overpressure safety

Nominal size:	100, 160 mm
Scale range:	0 ... 60 mbar to 0 ... 40 bar
Accuracy class:	1.6
Ingress protection:	IP 54, filled IP 65
Data sheet:	PV 27.13

DPGS40

DELTA-comb, with integrated working pressure indication and micro switch

Nominal size:	100 mm
Scale range:	0 ... 250 mbar to 0 ... 10 bar
Accuracy class:	2.5 (optional 1.6)
Ingress protection:	IP 54 (optional IP 65)
Data sheet:	PV 27.20

DPS40

DELTA-switch, differential pressure switch

Nominal size:	100 mm
Scale range:	0 ... 0.25 to 0 ... 10 bar
Switch point reproducibility:	1.6 %
Ingress protection:	IP 54 (optional IP 65)
Data sheet:	PV 27.21

Accessories and types of contacts

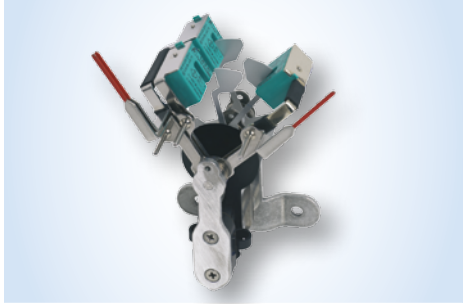
821

Magnetic snap-action contact

- No control unit and no power supply required
- Direct switching up to 250 V, 1 A
- Up to 4 switch contacts per measuring instrument

831

Inductive contact



- Long service life due to non-contact sensor
- Additional model 904.xx control unit required
- With corresponding control unit suitable for use in zone 1/21 (2 GD) hazardous areas
- Insensitive to corrosion
- Up to 3 switch contacts per measuring instrument

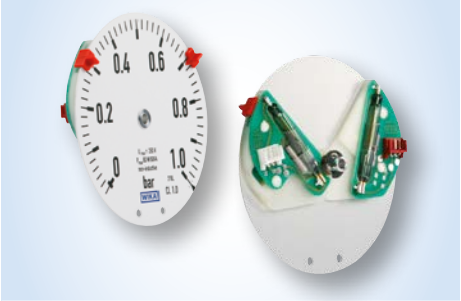
830 E

Electronic contact

- For direct triggering of a programmable logic controller (PLC)
- Long service life due to non-contact sensor
- Insensitive to corrosion
- Up to 3 switch contacts per measuring instrument

851

Reed contact



- No control unit and no power supply required
- Direct switching up to 250 V, 1 A
- Also suitable for direct triggering of a programmable logic controller (PLC)
- Free from wear as without contact
- Up to two change-over contacts per measuring instrument

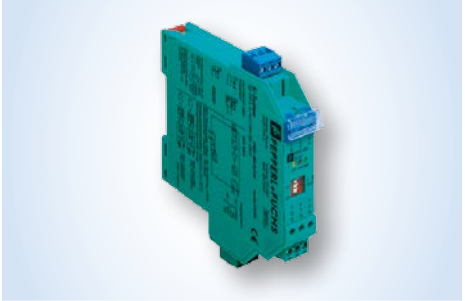
905.1x

Contact protection relay for contacts model 821

Application:	For optimal contact protection and highest switching reliability
Data sheet:	AC 08.01

904.xx

Control unit for inductive contacts model 831



Application:	For operating gauges with inductive switch contacts
Data sheet:	AC 08.01

Further information at www.wika.com

Mechanical pressure switches

Mechanical pressure switches open or close a circuit, depending on whether the pressure is rising or dropping. Since instruments with such a switching function are used in many industries and applications, WIKA offers a wide portfolio of mechanical pressure switches.
WIKA offers mechanical switches both for simple and general industrial applications and particularly for safety-critical applications. Due to the use of high-quality micro switches, the mechanical pressure switches from WIKA are notable for their high precision and long-term stability. Furthermore the direct switching of electrical loads up to 15 A/220 V is enabled.

PSM01

OEM compact pressure switch

Setting range:	0.2 … 2 to 40 … 400 bar
Ingress protection:	Up to IP 67
Switching power:	2 A, AC/DC 48 V
Switching cycles:	1 x 10^6
Special feature:	Socket wrench mounting possible
Data sheet:	PV 34.81

PSM02

OEM compact pressure switch

Setting range:	0.2 … 2 to 40 … 400 bar
Ingress protection:	Up to IP 67
Switching power:	4 A, AC/DC 250 V
Switching cycles:	2 x 10^6
Special feature:	Settable hysteresis
Data sheet:	PV 34.82

PSM03

OEM compact pressure switch

Setting range:	0.2 … 2 to 40 … 400 bar
Ingress protection:	Up to IP 67
Switching power:	6 A, AC/DC 250 V
Switching cycles:	5 x 10^6
Special feature:	Adjustment knob
Data sheet:	PV 34.83

PXS, PXA

Mini pressure switch, stainless steel version

Setting range:	1 … 2.5 to 50 … 400 bar
Ingress protection:	IP 66
Ignition protection type:	Ex-ia or Ex-d
Switching power:	5 A, AC 220 V
Data sheet:	PV 34.36, PV 34.38 (Ex)

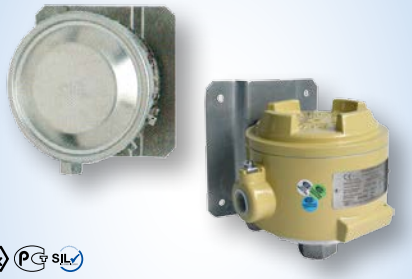
PCS, PCA, PCS-HP, PCA-HP

Compact pressure switch

Setting range:	-1 … -0.2 to 20 … 100 bar 8 … 40 to 100 … 600 bar
Ignition protection type:	Ex-ia or Ex-d
Switch:	1 x SPDT or DPDT
Switching power:	15 A, AC 220 V
Data sheet:	PV 33.30, PV 33.31 (Ex) PV 33.32, PV 33.33 (Ex)

BWX, BAX

Bourdon tube



Measuring range:	-1 … 1.5 to 0 … 600 bar
Ignition protection type:	Ex-ia or Ex-d
Switch:	1 or 2 x SPDT
Switching power:	15 A, AC 220 V
Data sheet:	PV 32.20, PV 32.22

For very low switching power ratings gold-plated contacts can be selected as an option. For use in safety applications WIKA offers switches with SIL 2 certification to IEC 61508. In addition, pressure switches for hazardous areas are available in Ex-ia and Ex-d versions. Optionally WIKA offers factory presetting of the switch points for all pressure switches.

MW1, MA1, MWB, MAB

Diaphragm

Setting range:	-0.2 ... 0 mbar to 0 … 40 bar -100 ... 0 to 0 … 100 mbar
Ignition protection type:	Ex-ia or Ex-d
Switch:	1 or 2 x SPDT
Switching power:	15 A, AC 220 V
Data sheet:	PV 31.10, PV 31.11 (Ex) PV 31.12, PV 31.13 (Ex)

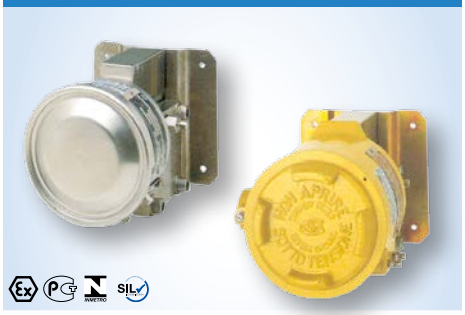
MWH, MAH

Diaphragm piston system, for high pressure ranges

Setting range:	4 … 40 to 30 … 600 bar
Ignition protection type:	Ex-ia or Ex-d
Switch:	1 or 2 x SPDT
Switching power:	15 A, AC 220 V
Data sheet:	PV 31.14, PV 31.15 (Ex)

DW, DA, DW10, DA10

Differential pressure switch



Setting range:	0 … 160 mbar to 0 … 40 bar 0 … 16 to 0 … 60 mbar
Ignition protection type:	Ex-ia or Ex-d
Static pressure:	10, 40, 100 or 160 bar
Switch:	1 or 2 x SPDT
Data sheet:	PV 35.42, PV 35.43 (Ex) PV 35.44, PV 35.45 (Ex)

DC, DE

Differential pressure switch, compact version

Setting range:	0 ... 160 mbar to 0 ... 40 bar
Ignition protection type:	Ex-ia or Ex-d
Static pressure:	40, 100 or 160 bar
Switch:	1 x SPDT or DPDT
Data sheet:	PV 35.40, PV 35.41 (Ex)

APW, APA, APW10, APA10

Absolute pressure switch

Setting range:	0 ... 160 mbar to 0 ... 1 bar 0 ... 25 to 0 ... 60 mbar
Ignition protection type:	Ex-ia or Ex-d
Overpressure safety:	11 bar abs.
Switch:	1 or 2 x SPDT
Data sheet:	SP 08.50, SP 08.51 (Ex) SP 08.52, SP 08.53 (Ex)

Further information at www.wika.com

Pressure gauges for relative pressure

Bourdon tube pressure gauges for general applications

These pressure gauges are suitable for liquid and gaseous media, so long as they are not highly viscous or crystallising and do not attack copper alloy parts. The scale ranges cover pressures from 0.6 ... 1,000 bar.

These instruments are manufactured to EN 837-1 (Bourdon tube pressure gauges; dimensions, metrology, requirements and testing).
For measuring points with high dynamic loads, such as fast load cycles or vibrations, a liquid-filled design should be used.

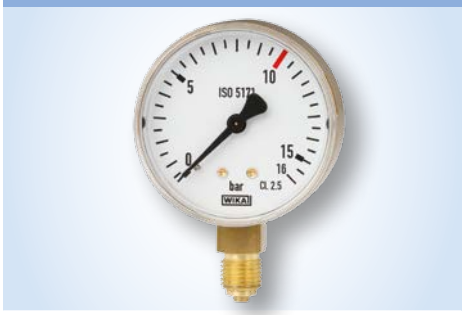
111.10

Standard version

Nominal size:	40, 50, 63, 80, 100, 160 mm
Scale range:	0 ... 0.6 to 0 ... 400 bar (max. 40 bar with 160 mm)
Accuracy class:	2.5
Data sheet:	PM 01.01

111.11

Welding gauge per ISO 5171



Nominal size:	40, 50, 63, 80, 100, 160 mm
Scale range:	0 ... 0.6 to 0 ... 400 bar
Accuracy class:	2.5
Data sheet:	PM 01.03

111.12

Standard version, back mount

Nominal size:	27, 40, 50, 63, 80, 100 mm
Scale range:	0 ... 0.6 to 0 ... 400 bar
Accuracy class:	2.5, 4.0 (NS 27)
Data sheet:	PM 01.09, PM 01.17 (NS 27)

111.16, 111.26

Panel mounting series, with/without spring clips

Nominal size:	40, 50, 63 mm, model 111.26 also 80 mm
Scale range:	0 ... 0.6 to 0 ... 400 bar
Accuracy class:	2.5
Data sheet:	PM 01.10, PM 01.15

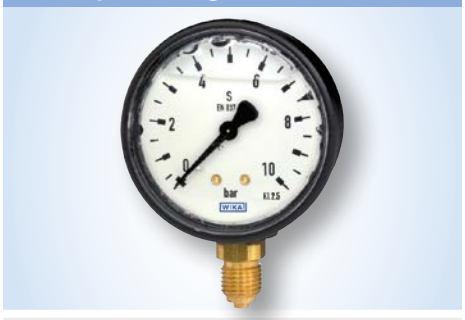
116.15

Direct drive version

Nominal size:	36, 41 mm
Scale range:	0 ... 160 to 0 ... 400 bar
Accuracy class:	2.5
Data sheet:	PM 01.16

113.13

Plastic case, with liquid filling



Nominal size:	40, 50, 63 mm
Scale range:	0 ... 1.0 to 0 ... 400 bar
Accuracy class:	2.5
Ingress protection:	IP 65
Data sheet:	PM 01.04

113.53

Standard version, with liquid filling

Nominal size:	40, 80, 100 mm
Scale range:	0 ... 1.0 to 0 ... 400 bar
Accuracy class:	1.6 (NS 80, 100), 2.5 (NS 40)
Ingress protection:	IP 65
Data sheet:	PM 01.08

212.20

Industrial series

Nominal size:	100, 160 mm
Scale range:	0 ... 0.6 to 0 ... 600 bar
Accuracy class:	1.0
Data sheet:	PM 02.01

213.40

Forged brass case, with liquid filling

Nominal size:	63, 80, 100 mm
Scale range:	0 ... 0.6 to 0 ... 1,000 bar
Accuracy class:	1.0 (NS 100), 1.6 (NS 63 and 80)
Ingress protection:	IP 65
Data sheet:	PM 02.06

213.53

Stainless steel case, with liquid filling

Nominal size:	50, 63, 100 mm
Scale range:	■ NS 50: 0 ... 1 to 0 ... 400 bar ■ NS 63, 100: 0 ... 0.6 to 0 ... 1,000 bar
Accuracy class:	1.0 (NS 100), 1.6 (NS 50, 63)
Ingress protection:	IP 65
Data sheet:	PM 02.12

214.11

Edgewise panel design, for panel mounting

Nominal size:	144 x 72, 144 x 144, 96 x 96, 72 x 72
Scale range:	■ NS 144 x 72, 144 x 144, 96 x 96: 0 ... 0.6 to 0 ... 1,000 bar ■ NS 72 x 72: 0 ... 0.6 to 0 ... 400 bar
Accuracy class:	1.6, 1.0
Ingress protection:	IP 42
Data sheet:	PM 02.07

Further information at www.wika.com

Pressure gauges for relative pressure

Bourdon tube pressure gauges with increased corrosion resistance

The application areas for these gauges, manufactured entirely in stainless steel, are gaseous and liquid aggressive media that are not highly viscous or crystallising, also in aggressive ambience. They are suitable for scale ranges from 0 ... 0.6 to 0 ... 7,000 bar.

Dependant upon the pressure range and the instrument type, overpressure safety of up to a maximum of 5 x full scale value is possible. To this point, the measuring accuracy is maintained. Liquid filling the case ensures a precise instrument display, even with high dynamic pressure loads and vibrations.

131.11

Stainless steel version, standard

Nominal size:	40, 50, 63 mm
Scale range:	0 ... 1 to 0 ... 1,000 bar
Accuracy class:	2.5
Data sheet:	PM 01.05

222.30, 223.20

Safety version, stainless steel, high pressure

Nominal size:	160 mm
Scale range:	0 ... 2,000 to 0 ... 7,000 bar
Accuracy class:	1.0
Data sheet:	PM 02.09

232.30, 233.30

Safety version, stainless steel

Nominal size:	63, 100, 160 mm
Scale range:	■ NS 63: 0 ... 1.0 to 0... 1,000 bar ■ NS 100: 0 ... 0.6 to 0 ... 1,000 bar ■ NS 160: 0 ... 0.6 to 0 ... 1,600 bar
Accuracy class:	1.0 (NS 100, 160), 1.6 (NS 63)
Ingress protection:	IP 65
Data sheet:	PM 02.04

232.50, 233.50

Stainless steel version

Nominal size:	63, 100, 160 mm
Scale range:	■ NS 63: 0 ... 1.0 to 0 ... 1,000 bar ■ NS 100: 0 ... 0.6 to 0 ... 1,000 bar ■ NS 160: 0 ... 0.6 to 0 ... 1,600 bar
Accuracy class:	1.0/1.6 (NS 63)
Ingress protection:	IP 65
Data sheet:	PM 02.02

Precision pressure gauges

These measuring instruments are used whenever there is a high requirement for accuracy in the measurement. Depending upon the instrument model, accuracies of 0.1, 0.25, or 0.6 of full scale value can be measured.

The pressure ranges cover from 0 ... 6 mbar to 0 ... 6,000 bar, and are suitable for calibration tasks. For each of the gauges specified here, a DKD/DAkkS certificate can be provided.

312.20

Test gauge series, Ø 160 mm

Nominal size:	160 mm
Scale range:	0 ... 0.6 to 0 ... 600 bar
Accuracy class:	0.6
Ingress protection:	IP 54
Data sheet:	PM 03.01

332.50, 333.50

Test gauge series Ø 160 mm

Nominal size:	160 mm
Scale range:	0 ... 0.6 to 0 ... 1,600 bar
Accuracy class:	0.6
Ingress protection:	IP 65
Data sheet:	PM 03.06

332.30, 333.30

Test gauge series, safety version

Nominal size:	160 mm
Scale range:	0 ... 0.6 to 0 ... 1,600 bar
Accuracy class:	0.6
Ingress protection:	IP 65
Data sheet:	PM 03.05

342.11

Test gauge series, class 0.1, Ø 250 mm

Nominal size:	250 mm
Scale range:	0 ... 1.0 to 0 ... 1,600 bar
Accuracy class:	0.1
Ingress protection:	IP 54
Data sheet:	PM 03.03

610.20, 630.20

Test gauge series, for low pressures, Ø 160 mm

Nominal size:	160 mm
Scale range:	0 ... 10 to 0 ... 600 mbar
Accuracy class:	0.6
Ingress protection:	IP 54
Data sheet:	PM 06.09

612.11

Test gauge series, for low pressures, Ø 250 mm

Nominal size:	250 mm
Scale range:	0 ... 6 to 0 ... 400 mbar
Accuracy class:	0.1/0.25
Ingress protection:	IP 54
Data sheet:	PM 06.04

Further information at www.wika.com

Pressure gauges for relative pressure

Diaphragm pressure gauges for high overpressure safety

The application areas for these gauges with diaphragm pressure element are gaseous and liquid aggressive media. Instruments with open connecting flanges are even suitable for highly viscous and contaminated media, also in aggressive ambience.
Typical scale ranges are from 0 ... 16 mbar to 0 ... 40 bar.

Dependant upon the pressure range and the instrument model, overpressure safety of 3 x or 5 x full scale value is possible as standard.
For special designs, an overpressure safety of 10, 40, 100 or 400 bar is possible, with the measuring accuracy maintained.
Liquid filling the case ensures a precise instrument display, even with high dynamic pressure loads and vibrations.
Special wetted-parts materials are available as options.

422.12, 423.12

Industrial series, grey cast iron case

Nominal size:	100, 160 mm
Scale range:	0 ... 16 mbar to 0 ... 40 bar
Accuracy class:	1.6
Ingress protection:	IP 54
Data sheet:	PM 04.02

432.50, 433.50

Stainless steel version

Nominal size:	100, 160 mm
Scale range:	0 ... 16 mbar to 0 ... 25 bar
Accuracy class:	1.6
Ingress protection:	IP 54
Data sheet:	PM 04.03

432.36, 432.56

Stainless steel version, high overpressure safety up to max. 400 bar

Nominal size:	100, 160 mm
Scale range:	0 ... 16 mbar to 0 ... 40 bar
Accuracy class:	1.6
Ingress protection:	IP 54
Data sheet:	PM 04.07

Capsule pressure gauges for very low pressures

These gauges are particularly suited to gaseous media. The scale ranges are between 0 … 2.5 mbar and 0 … 1,000 mbar in accuracy classes from 0.1 to 2.5.
Capsule pressure gauges consist of two circular, corrugated diaphragms, joined together around the edge with a pressure-tight seal. Overpressure protection is possible in certain cases.

These pressure measuring instruments are used mainly within medical, vacuum, environmental and laboratory technology for contents measurement and filter monitoring.

611.10

Standard version

Nominal size:	50, 63 mm
Scale range:	0 ... 25 to 0 ... 600 mbar
Accuracy class:	1.6
Ingress protection:	IP 54
Data sheet:	PM 06.01

611.13

swikap, plastic version

Nominal size:	50, 63 mm
Scale range:	0 ... 60 to 0 ... 600 mbar
Accuracy class:	2.5
Ingress protection:	IP 53
Data sheet:	PM 06.12

612.20

Industrial series

Nominal size:	63, 100, 160 mm
Scale range:	0 ... 6 to 0 ... 600 mbar
Accuracy class:	1.6
Ingress protection:	IP 54
Data sheet:	PM 06.02

614.11

Edgewise panel design, for panel mounting

Nominal size:	72 x 72, 96 x 96, 144 x 144, 144 x 72 mm
Scale range:	■ NS 72 x 72: 0 ... 25 to 0 ... 600 mbar ■ NS 96 x 96: 0 ... 10 to 0 ... 600 mbar ■ NS 144 x 144: 0 ... 6 to 0 ... 600 mbar ■ NS 144 x 72: 0 ... 4 to 0 ... 600 mbar
Accuracy class:	1.6
Data sheet:	PM 06.05

632.50

Stainless steel version

Nominal size:	63, 100, 160 mm
Scale range:	■ NS 63: 0 ... 40 to 0 ... 600 mbar ■ NS 100: 0 ... 16 to 0 ... 600 mbar ■ NS 160: 0 ... 2.5 to 0 ... 600 mbar
Accuracy class:	1.6
Ingress protection:	IP 54
Data sheet:	PM 06.03

Further information at www.wika.com

Pressure gauges for differential pressure

Differential pressure gauges work with a wide range of pressure elements. With this variety, measuring ranges from 0 ... 0.5 mbar to 0 ... 1,000 bar and static overlay pressures up to 400 bar are possible.

These differential pressure gauges are used to monitor

- the pollution degree in filter systems
- the level in closed tanks
- the overpressure in clean rooms
- the flow of gaseous and liquid media
- and they control pumping plants

A2G-10

For low pressures in ventilation applications

Nominal size:	110 mm
Scale range:	0 ... 50 to 0 ... 12,500 Pa
Accuracy class:	± 3 %
Ingress protection:	IP 54
Data sheet:	PM 07.40

700.01

Compact design, magnetic piston and compression spring

Nominal size:	80 mm
Scale range:	0 ... 400 mbar to 0 ... 10 bar
Accuracy class:	± 3 % with increasing differential pressure
Ingress protection:	IP 54
Data sheet:	PM 07.14

700.02

Magnetic piston and compression spring with separating diaphragm

Nominal size:	80 mm
Scale range:	0 ... 160 mbar to 0 ... 2.5 bar
Accuracy class:	± 5 % with increasing differential pressure
Ingress protection:	IP 54
Data sheet:	PM 07.14

711.12

Bourdon tube, with parallel entry

Nominal size:	100, 160 mm
Scale range:	0 ... 0.6 to 0 ... 1,000 bar
Accuracy class:	1.6
Ingress protection:	IP 33
Data sheet:	PM 07.02

716.11

Capsule, with parallel entry, for low pressures

Nominal size:	63, 100, 160 mm
Scale range:	■ NS 63: 0 ... 16 to 0 ... 400 mbar ■ NS 100: 0 ... 6 to 0 ... 250 mbar ■ NS 160: 0 ... 4 to 0 ... 250 mbar
Accuracy class:	1.6
Ingress protection:	IP 54
Data sheet:	PM 07.07

DPG40

DELTA-plus, with integrated working pressure indication

Nominal size:	100 mm
Scale range:	0 ... 0.25 to 0 ... 10 bar
Accuracy class:	2.5
Ingress protection:	IP 54 IP 65 (optional)
Data sheet:	PM 07.20

732.14

Stainless steel version, high over-pressure safety up to max. 400 bar

Nominal size:	100, 160 mm
Scale range:	■ 0 ... 60 to 0 ... 250 mbar (measuring cell DN 140) ■ 0 ... 0.25 to 0 ... 40 bar (measuring cell DN 2)
Accuracy class:	1.6
Ingress protection:	IP 54
Data sheet:	PM 07.13

732.51

Stainless steel version, all-metal media chamber

Nominal size:	100, 160 mm
Scale range:	0 ... 16 mbar to 0 ... 25 bar
Accuracy class:	1.6
Ingress protection:	IP 54
Data sheet:	PM 07.05

732.15

Cryo gauge, stainless steel version

Nominal size:	100, 160 mm
Scale range:	0 ... 40 to 0 ... 4,000 mbar
Accuracy class:	1.0 ... 2.5
Ingress protection:	IP 65
Data sheet:	PM 07.29, PM 07.30

712.15

Cryo gauge, Cu-alloy

Nominal size:	100, 160 mm
Scale range:	0 ... 40 to 0 ... 4,000 mbar
Accuracy class:	1.0 ... 2.5
Ingress protection:	IP 65
Data sheet:	PM 07.29, PM 07.30

Further information at www.wika.com

Pressure gauges for absolute pressure

Absolute pressure gauges are used when measured pressures are independent of the natural fluctuations in atmospheric pressure. The pressure of the measured media is determined against a reference pressure, which corresponds to the absolute pressure zero point. For this, the reference chamber is completely evacuated, so that there is a near-perfect vacuum in it.

The scale ranges are between 0 … 25 mbar absolute and 0 … 25 bar absolute, with accuracy classes of 0.6 to 2.5. Applications for these high-precision measuring instruments are, for example, monitoring of vacuum pumps and vacuum packing machines. They are also used in laboratories, in order to monitor condensation pressures or to determine the vapour pressure of liquids.

532.5x

Stainless steel version for gases and liquids

Nominal size:	100, 160 mm
Scale range:	0 ... 25 mbar to 0 ... 25 bar abs high overpressure safety
Accuracy class:	0.6 ... 2.5
Ingress protection:	IP 54
Data sheet:	PM 05.02

Accessories

910.80

Monoflange

Application:	For pressure gauge isolation
Data sheet:	AC 09.17

910.10, 910.11, 910.18

Stopcocks and shut-off valves

Application:	For pressure gauge isolation
Data sheet:	AC 09.01, AC 09.02, AC 09.18

910.25

Pressure compensating valve for differential pressure gauges

Application:	For isolating, pressure compensating as well as purging and venting differential pressure gauges
Data sheet:	AC 09.11

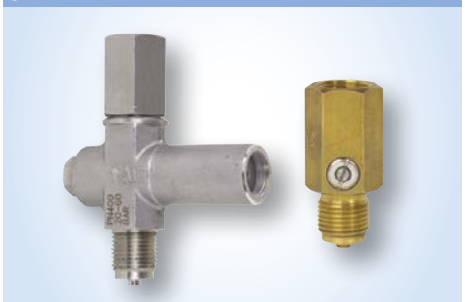
910.15

Syphon

Application:	For the protection of pressure gauges from excessive pulsation and heat
Data sheet:	AC 09.06

910.12, 910.13

Snubbers and overpressure protectors



Application:	For the protection of pressure gauges from pressure surges and pulsations or overpressures
Data sheet:	AC 09.03, AC 09.04

910.14, 910.17

Adapters and sealings

Application:	For mounting pressure gauges and for sealing the connections
Data sheet:	AC 09.05, AC 09.08

910.16

Instrument mounting bracket

Application:	For mounting pressure gauges
Data sheet:	AC 09.07

Further information at www.wika.com

Diaphragm seals with flange connection

For WIKA diaphragm seals with flange connection the corrosion resistant stainless steel 316L is used as standard diaphragm material. Special materials are available on request.

Nominal sizes:	DN 15 to DN 125/DN ½" to DN 5"
Standards:	EN, ASME (former ANSI)
Options:	API, JIS, customer-specific versions on request

990.27

Flush diaphragm

Application:	Process and petrochemical industries with high measuring requirements
PN:	10 ... 250 (400) bar (class 150 ... 2,500)
Data sheet:	DS 99.27

990.28

Cell-type

Application:	Process and petrochemical industries with high measuring requirements
PN:	10 ... 100 (400) bar (class 150 ... 2,500)
Data sheet:	DS 99.28

990.29

Flange-type with extended diaphragm

Application:	Process and petrochemical industries, particularly for thick or insulated tank walls
PN:	10 ... 100 (400) bar (class 150 ... 2,500)
Data sheet:	DS 99.29

990.35

Cell-type with extended diaphragm

Application:	Process and petrochemical industries, particularly for thick or insulated tank walls
PN:	10 ... 40 (100) bar (class 150 ... 600)
Data sheet:	DS 99.30

990.15

Block flange or saddle flange

Application:	In connection with block flange or saddle flange in the chemical engineering and petrochemical industries
PN:	100 or 250 bar
Data sheet:	DS 99.35

990.23

Pulp and paper industry

Application:	For use in the pulp and paper industry
PN:	40 bar
Data sheet:	DS 99.34

Diaphragm seal
With its connection dimensions, the flange-type diaphragm seal is suitable for all currently used standard flanges and is mounted in lieu of a blind flange. The cell-type design is a sub-category, which is used with a blind flange at the tapping flange. Another modification of this model is the diaphragm seal with extended diaphragm, which, among other things, is used at thick and/or insulated product pipelines or tank walls.

In-line diaphragm seal
The in-line diaphragm seal also belongs to the family of flange-type diaphragm seals. With the seal being integrated into the process line, measurements are not affected by any turbulences, corners, dead spaces or other obstructions. This application makes the designing of special measuring point connections unnecessary.

990.26

Internal diaphragm

Application:	Process industry; for small flange connections (≤ DN 25/1")
PN:	10 ... 40 bar (class 150 ... 300)
Data sheet:	DS 99.26

990.12

Internal diaphragm, threaded design

Application:	General applications in the process industry; for small flange connections (≤ DN 25/1") and pressures ≥ 40 bar
PN:	10 ... 250 bar (class 150 ... 2,500)
Data sheet:	DS 99.31

990.41

Large working volume, threaded design

Application:	To combine with capsule or diaphragm pressure gauges and transmitters for low pressures
PN:	10 ... 40 bar (class 150 ... 300)
Data sheet:	DS 99.32

981.10

In-line diaphragm seal, cell-type

Application:	For direct, permanent installation in pipelines; for flowing media; for measuring points free of dead space
PN max:	400 bar
Data sheet:	DS 98.28

981.27

In-line diaphragm seal, flange-type

Application:	For direct, permanent installation in pipelines; for flowing media; for measuring points free of dead space
PN max:	16 or 40 bar
Data sheet:	DS 98.27

Further information at www.wika.com

Diaphragm seals with threaded connection

Diaphragm seals with threaded connection are available with female or male thread in their basic design. Due to the wide variety of available process connections they can be mounted to many different fittings without any problems. Usually the fittings are T-pieces which are integrated into a pipeline, or welding sockets which are welded to a pipeline.

Nominal sizes: G ¼ ... 1½, ¼ ... 1½ NPT male or female
Options: Customer-specific versions on request

990.10

Threaded design

Application:	General applications in the process industry
PN:	25, 100 or 250 bar
Data sheet:	DS 99.01

990.31

Plastic body, threaded design

Application:	Chemical engineering with plastic pipework, electroplating; particularly for wastewater and agricultural fertilisers
PN max:	10 bar
Data sheet:	DS 99.02

990.36

Small diaphragm seal with flush diaphragm

Application:	Particularly for highly viscous and crystallising media
PN max:	600 bar
Data sheet:	DS 99.03

990.34

Welded design

Application:	Machine-building, plant-construction and process-industry applications with high requirements
PN:	160, 400, 600 or 1,000 bar
Data sheet:	DS 99.04

990.38

Welded design, economic design

Application:	Standard applications in the process industry; for aggressive, contaminated or heterogeneous media
PN max:	90 bar
Data sheet:	DS 99.05

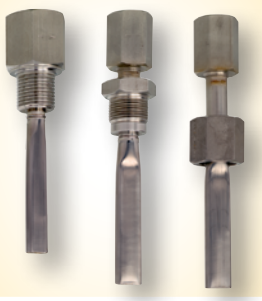
990.40

Large working volume, threaded design

Application:	To combine with capsule or diaphragm pressure gauges and transmitters for low pressures
PN max:	40 bar
Data sheet:	DS 99.06

970.1x

Diaphragm probe seal



Application:	Particularly for flowing, heterogeneous media; at pressures from 100 bar
PN max:	600 bar
Data sheet:	DS 97.01

Diaphragm seals with sterile connection

Due to their construction, many measuring instruments are not suitable for use in sterile processes. In order to meet the requirements for a sterile connection, diaphragm seal systems are used.
Diaphragm seal systems can withstand the cleaning vapour temperatures occurring in the SIP processes and thus ensure a sterile connection between the medium to be measured and the diaphragm seal. Stainless steel 316L (1.4435) is used as standard material, various special materials are also available.

SIP and CIP criteria, which are an essential requirement for sanitary applications, are met by using diaphragm seals. These acronyms stand for the sterilisation and cleaning of the wetted parts in the process.
The combination of pressure measuring instruments with flush diaphragm seals or in-line diaphragm seals meets the stringent demands made on hygienic instrumentation and is suitable for even the most difficult measuring requirements.
Customer-specific versions on request

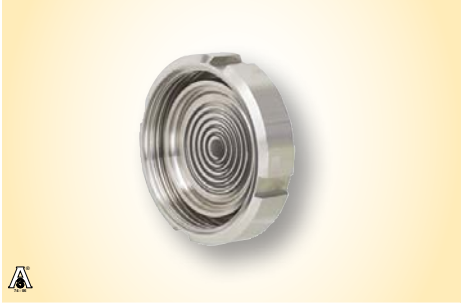
990.17

DRD connection

Process connection:	DRD connection
PN max:	25 bar
Data sheet:	DS 99.39

990.18

Milk thread fitting per DIN 11851



Process connection:	Grooved union nut/threaded coupling
PN max:	40 or 25 bar
Data sheet:	DS 99.40

990.19

Threaded connection SMS standard

Process connection:	Grooved union nut/threaded coupling
PN max:	40 or 25 bar
Data sheet:	DS 99.40

990.20

Threaded connection IDF standard

Process connection:	Thread with grooved union nut
PN max:	40 or 25 bar
Data sheet:	DS 99.40

990.21

Threaded connection APV-RJT standard

Process connection:	Thread with grooved union nut
PN max:	40 or 25 bar
Data sheet:	DS 99.40

990.24

VARIVENT® connection

Process connection:	For installation into the VARINLINE® access unit or connecting flange
PN max:	25 bar
Data sheet:	DS 99.49

VARIVENT® and VARINLINE® are registered trademarks of the company Tuchenhagen

Further information at www.wika.com

Diaphragm seals with sterile connection

990.22

Tri-clamp

Process connection:	Tri-clamp, DIN 32676 or BS4825
PN max:	■ 40 bar (DN 20 ... DN 50) ■ 25 bar (from DN 65)
Data sheet:	DS 99.41

990.52

Clamp per DIN 32676

Process connection:	Clamp
PN max:	■ 40 bar (DN 20 ... DN 50) ■ 25 bar (from DN 65)
Data sheet:	DS 99.41

990.53

Clamp per ISO 2852

Process connection:	Clamp
PN max:	■ 40 bar (DN 20 ... DN 50) ■ 25 bar (from DN 65)
Data sheet:	DS 99.41

990.50

NEUMO BioConnect® connection

Process connection:	NEUMO BioConnect® thread or flange
PN max:	■ 16 bar (thread) ■ 70 bar (flange)
Data sheet:	DS 99.50

990.51

Aseptic connection per DIN 11864

Process connection:	■ DIN 11864-1 threaded connection ■ DIN 11864-2 flange ■ DIN 11864-3 clamp connection
PN:	16 ... 40 bar
Data sheet:	DS 99.51

990.60

NEUMO BioControl®

Process connection:	For installation into the NEUMO BioControl® system
PN max:	■ 16 bar (size 50 ... 80) ■ 70 bar (size 25)
Data sheet:	DS 99.55

990.30

For homogenisers

Application:	For homogeniser machines
PN max:	■ 600 bar ■ 1,000 bar ■ 1,600 bar
Data sheet:	DS 99.60

BioControl® and BioConnect® are registered trademarks of the company NEUMO

981.18

In-line diaphragm seal, milk thread fitting DIN 11851

Process connection:	Thread
PN max:	■ 40 bar (DN 20 ... DN 40) ■ 25 bar (from DN 50)
Data sheet:	DS 98.40

981.22

In-line diaphragm seal, Tri-clamp

Process connection:	Tri-clamp, clamp DIN 32676, ISO 2852
PN max:	■ 40 bar (DN 20 ... DN 40) ■ 25 bar (from DN 50)
Data sheet:	DS 98.52

981.51

In-line diaphragm seal, aseptic connection

Process connection:	■ DIN 11864-1 threaded connection ■ DIN 11864-2 flange ■ DIN 11864-3 clamp connection
PN max:	16 ... 40 bar
Data sheet:	DS 98.51

981.50

In-line diaphragm seal, NEUMO BioConnect®

Process connection:	NEUMO BioConnect® thread or flange
PN max:	■ 16 bar (thread) ■ 70 bar (flange)
Data sheet:	DS 98.50

983.18

In-line diaphragm seal with integrated temperature measurement, milk thread fitting per DIN 11851

Process connection:	DIN 11851 thread
PN max:	■ 40 bar (to DN 50) ■ 25 bar (from DN 65)
Data sheet:	DS 98.46

983.22

In-line diaphragm seal with integrated temperature measurement, clamp

Process connection:	Tri-clamp
PN max:	■ 40 bar (to DN 50) ■ 25 bar (from DN 65)
Data sheet:	DS 98.46

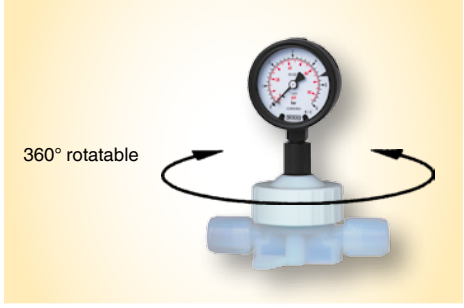
Further information at www.wika.com

HYDRA-line diaphragm seal systems

Our pressure measuring instruments of the HYDRA-line product family have been developed in co-operation with well-known customers in the semiconductor industry.
The complete product concept has been adapted to the special requirements of the process equipment and UHP chemicals distribution system sectors.
The patented HYDRA double diaphragm system enables a safe and reliable separation of the pressure sensor from the process medium.

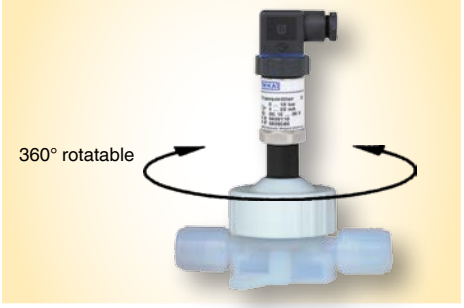
Simultaneously diffusing process media such as HF or HCl vapours are given off to the environment to avoid any falsification of the measuring result or the destruction of the sensor element.
All wetted parts are made of PFA or PTFE UHP grade.

HYDRA-gauge



Process connection:	■ Dead-end or in-line ■ 3/8" ... 1 ¼"-flare ■ ¼ NPT ■ ½ NPT
Measuring range:	0 ... 2.5 to 0 ... 6 bar
Data sheet:	SP 99.20

HYDRA-sensor



Process connection:	■ Dead-end or in-line ■ 3/8" ... 1 ¼"-flare ■ ¼ NPT ■ ½ NPT
Measuring range:	0 ... 2.5 to 0 ... 6 bar
Data sheet:	SP 99.21

HYDRA-dry

Process connection:	■ Dead-end or in-line ■ 3/8" ... 1 ¼"-flare ■ ¼ NPT ■ ½ NPT
Measuring range:	0 ... 1 to 0 ... 6 bar
Data sheet:	SP 99.22

Accessories

910.20

Saddle flange

Process connection:	■ For welding onto the product pipeline ■ DN 65 ... DN 150 ■ DN 2 ½" ... 6"
Perm. temperature:	Max. 300 °C
Data sheet:	AC 91.01

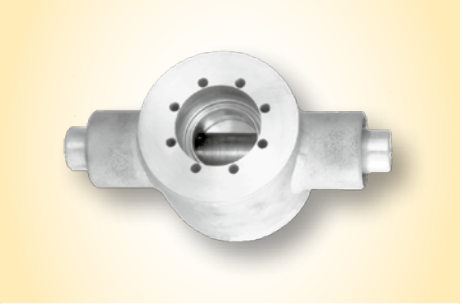
910.19

Block flange

Process connection:	■ For welding into the product pipeline ■ DN 15 ... DN 150
Perm. temperature:	Max. 250 °C
PN max:	195 bar
Data sheet:	AC 91.01

910.23

Block flange for double-jacket pipes



Process connection:	■ For welding into the product pipeline ■ DN 15 ... DN 150
Perm. temperature:	Max. 250 °C
PN max:	240 bar
Data sheet:	AC 91.01

910.27

Flushing ring for flanges per EN 1092-1 and ASME B 16.5

Process connection:	■ DN 50, 80, 100, 125 or PN 16 ... 100 ■ DN 2", 3", 4", 5" or class 150 ... 600
PN max:	PN 600 bar Class 150 ... 600
Data sheet:	AC 91.05

910.60

NEUMO BioControl® housing

Process connection:	NEUMO BioControl®
PN max:	16 bar
Data sheet:	AC 09.14

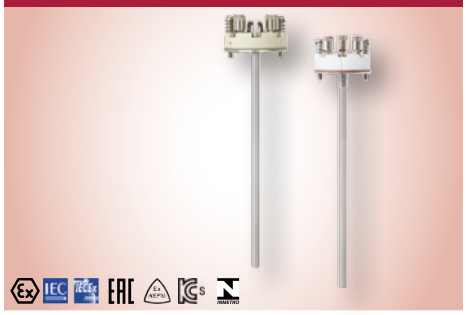
BioControl® and BioConnect® are registered trademarks of the company NEUMO

Further information at www.wika.com

Resistance thermometers

TR10-A

Measuring insert



Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-200 … +600 °C
Connection method:	2-, 3- and 4-wire
Data sheet:	TE 60.01

TR10-B

For additional thermowell

Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-200 … +600 °C
Connection method:	2-, 3- and 4-wire
Data sheet:	TE 60.02

TR10-C

Threaded, with fabricated thermowell

Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-200 … +600 °C
Connection method:	2-, 3- and 4-wire
Process connection:	Mounting thread
Data sheet:	TE 60.03

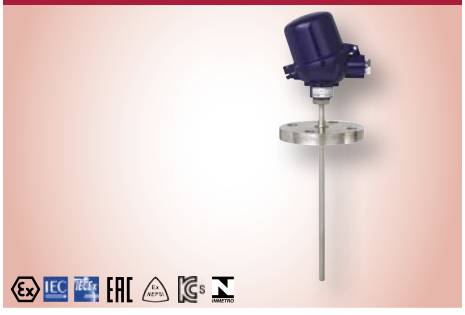
TR10-D

Threaded, miniature design

Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-200 … +500 °C
Connection method:	2-, 3- and 4-wire
Process connection:	Mounting thread
Data sheet:	TE 60.04

TR10-F

Flanged resistance thermometer, with fabricated thermowell



Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-200 … +600 °C
Connection method:	2-, 3- and 4-wire
Process connection:	Flange
Data sheet:	TE 60.06

TR10-H

Without thermowell

Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-200 … +600 °C
Connection method:	2-, 3- and 4-wire
Process connection:	Mounting thread
Data sheet:	TE 60.08

TR10-J

Threaded, with perforated thermowell

Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-200 … +600 °C
Connection method:	2-, 3- and 4-wire
Process connection:	Mounting thread
Data sheet:	TE 60.10

TR10-K

Measuring insert, for installation in TR10-L

Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-200 … +600 °C
Connection method:	2-, 3- and 4-wire
Data sheet:	TE 60.11

TR10-L

Flameproof enclosure, for additional thermowell

Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-200 … +600 °C
Connection method:	2-, 3- and 4-wire
Data sheet:	TE 60.12

TR12-B

Process resistance thermometer, for additional thermowell

Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-200 … +600 °C
Connection method:	2-, 3- and 4-wire
Option:	Ex i, Ex d
Data sheet:	TE 60.17

TR12-M

Process resistance thermometer, basic module

Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-200 … +600 °C
Connection method:	2-, 3- and 4-wire
Option:	Ex i, Ex d
Data sheet:	TE 60.17

TR30

Compact version

Sensor element:	1 x Pt100
Measuring range:	-50 ... +250 °C
Output:	Pt100, 4 ... 20 mA, 0 ... 10 V
Data sheet:	TE 60.30

Further information at www.wika.com

Resistance thermometers

TR31

Miniature design

Sensor element:	1 x Pt100
Measuring range:	-50 ... +250 °C
Output:	Pt100, 4 ... 20 mA
Data sheet:	TE 60.31

TR40

Cable resistance thermometer

Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-200 … +600 °C
Connection method:	2-, 3- and 4-wire
Cable:	PVC, silicone, PTFE
Data sheet:	TE 60.40

TR50

Surface resistance thermometer

Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-50 ... +250 °C
Connection method:	2-, 3- and 4-wire
Process connection:	Surface mounting
Data sheet:	TE 60.50

TR53

Bayonet resistance thermometer

Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-50 ... +400 °C
Connection method:	2-, 3- and 4-wire
Process connection:	Bayonet
Data sheet:	TE 60.53

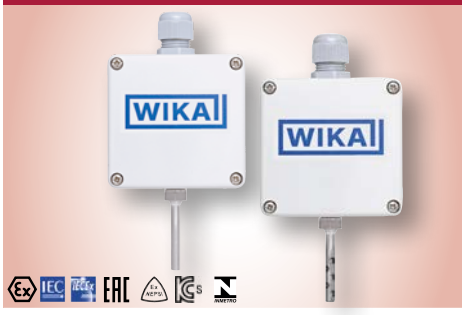
TR55

With spring-loaded tip

Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-50 ... +450 °C
Connection method:	2-, 3- and 4-wire
Process connection:	Compression fitting
Data sheet:	TE 60.55

TR60

Indoor and outdoor resistance thermometer



Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-40 ... +80 °C
Connection method:	2-, 3- and 4-wire
Process connection:	Wall mounting
Data sheet:	TE 60.60

Resistance thermometers, temperature switches

TSD-30

Electronic temperature switch

Sensor element:	Pt1000
Measuring range:	-20 ... +80 °C
Switching output:	1 or 2 (PNP or NPN), analogue output (optional)
Data sheet:	TE 67.03

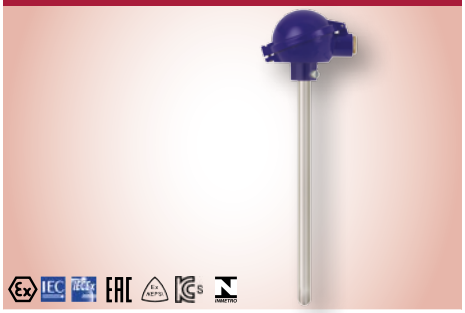
TR75

DiwiTherm® with digital indicator

Measuring range:	■ -50 ... +450 °C ■ -50 ... +199.9 °C
Power supply:	Battery operation
Data sheet:	TE 60.75

TR81

For flue gas temperature measurements



Sensor element:	1 x Pt100, 2 x Pt100
Measuring range:	-200 ... +600 °C
Connection method:	2-, 3- and 4-wire
Thermowell:	Metal
Data sheet:	TE 60.81

TF-LCD

Longlife digital thermometer

Measuring range:	-40 ... +120 °C
Special feature:	■ Resistant to steam diffusion ■ Battery or solar powered ■ Extremely long service life
Data sheet:	TE 85.01

TF35

OEM screw-in thermometer, with plug connection

Measuring range:	-50 ... +300 °C
Measuring element:	Pt100, Pt1000, NTC, KTY, Ni1000
Special feature:	■ Compact design ■ High vibration resistance ■ Plug connector for electrical connection
Data sheet:	TE 67.10

TF44

Strap-on temperature sensor with connecting cable

Measuring range:	-50 ... +200 °C
Measuring element:	Pt100, Pt1000, NTC
Special feature:	■ Connecting lead from PVC, silicone ■ Thermowell from aluminium ■ Mounting on pipe surfaces
Data sheet:	TE 67.14

TF45

OEM insertion thermometer with connecting cable

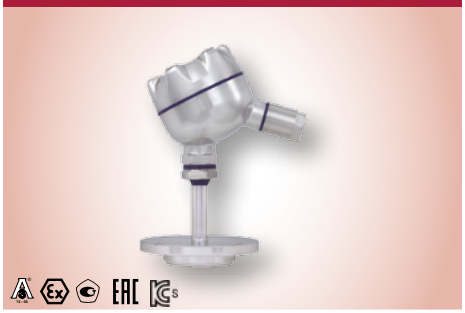
Measuring range:	-50 ... +260 °C
Measuring element:	Pt100, Pt1000, NTC, KTY, Ni1000
Special feature:	■ Connecting lead from PVC, silicone, PTFE ■ With single or dual measuring element ■ Thermowells from stainless steel
Data sheet:	TE 67.15

Further information at www.wika.com

Resistance thermometers for sanitary applications

TR20

Flush



Sensor element:	Pt100
Measuring range:	-50 ... +250 °C
Connection method:	2-, 3- and 4-wire
Data sheet:	TE 60.20

TR21-A

Miniature design with flange connection

Sensor element:	Pt100
Measuring range:	-50 ... +250 °C
Output:	Pt100, 4 ... 20 mA
Connection to thermowell:	Removable G ⅜"
Data sheet:	TE 60.26

TR21-B

Miniature design for orbital welding

Sensor element:	Pt100
Measuring range:	-50 ... +250 °C
Output:	Pt100, 4 ... 20 mA
Connection to thermowell:	Removable G ⅜"
Data sheet:	TE 60.27

TR21-C

Miniature design with welded flange connection

Sensor element:	Pt100
Measuring range:	-50 ... +250 °C
Output:	Pt100, 4 ... 20 mA
Connection to thermowell:	Welded
Data sheet:	TE 60.28

TR22-A

With flange connection

Sensor element:	Pt100
Measuring range:	-50 ... +250 °C
Connection to thermowell:	Removable M24
Data sheet:	TE 60.22

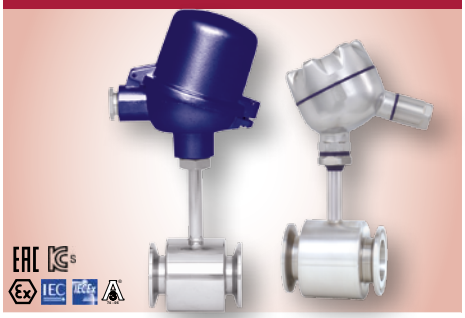
TR22-B

For orbital welding

Sensor element:	Pt100
Measuring range:	-50 ... +250 °C
Connection to thermowell:	Removable M24
Data sheet:	TE 60.23

TR25

In-line resistance thermometer



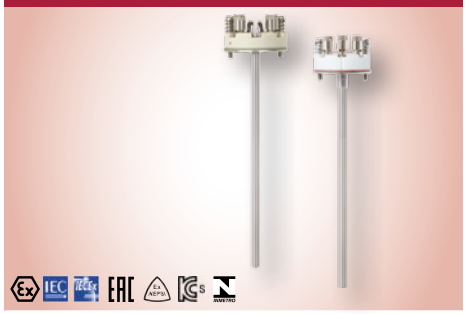
Sensor element:	Pt100
Measuring range:	-50 ... +250 °C
Connection method:	3- or 4-wire
Data sheet:	TE 60.25

Further information at www.wika.com

Thermocouples

TC10-A

Measuring insert



Sensor element:	Type K, J, E, N or T
Measuring range:	-200 … +1,200 °C
Measuring point:	Ungrounded or grounded
Data sheet:	TE 65.01

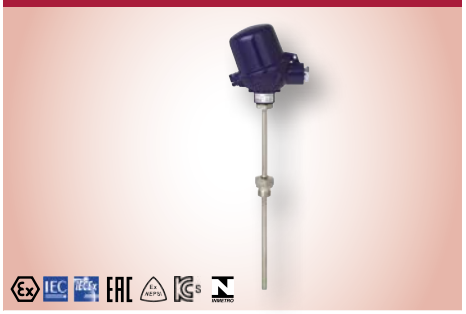
TC10-B

For additional thermowell

Sensor element:	Type K, J, E, N or T
Measuring range:	-200 … +1,200 °C
Measuring point:	Ungrounded or grounded
Data sheet:	TE 65.02

TC10-C

Threaded, with fabricated thermowell



Sensor element:	Type K, J, E, N or T
Measuring range:	-200 … +600 °C
Measuring point:	Ungrounded or grounded
Process connection:	Mounting thread
Data sheet:	TE 65.03

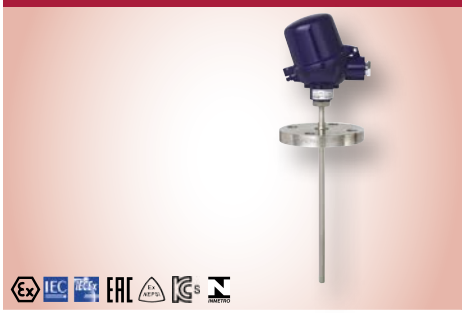
TC10-D

Threaded, miniature design

Sensor element:	Type K, J, E, N or T
Measuring range:	-200 … +600 °C
Measuring point:	Ungrounded or grounded
Process connection:	Mounting thread
Data sheet:	TE 65.04

TC10-F

Flanged thermocouple, with fabricated thermowell



Sensor element:	Type K, J, E, N or T
Measuring range:	-200 … +600 °C
Measuring point:	Ungrounded or grounded
Process connection:	Flange
Data sheet:	TE 65.06

TC10-H

Without thermowell

Sensor element:	Type K, J, E, N or T
Measuring range:	-200 … +1,200 °C
Measuring point:	Ungrounded or grounded
Process connection:	Mounting thread
Data sheet:	TE 65.08

TC10-K

Measuring insert, for installation in TC10-L

Sensor element:	Type K, J, E, N or T
Measuring range:	-200 … +1,200 °C
Measuring point:	Ungrounded or grounded
Data sheet:	TE 65.11

TC10-L

Flameproof enclosure, for additional thermowell

Sensor element:	Type K, J, E, N or T
Measuring range:	-200 … +1,200 °C
Measuring point:	Ungrounded or grounded
Data sheet:	TE 65.12

TC12-B

Process thermocouple, for additional thermowell

Sensor element:	Type K, J, E, N or T
Measuring range:	-200 … +1,200 °C
Measuring point:	Ungrounded or grounded
Option:	Ex i, Ex d
Data sheet:	TE 65.17

TC12-M

Process thermocouple, basic module

Sensor element:	Type K, J, E, N or T
Measuring range:	-200 … +1,200 °C
Measuring point:	Ungrounded or grounded
Option:	Ex i, Ex d
Data sheet:	TE 65.17

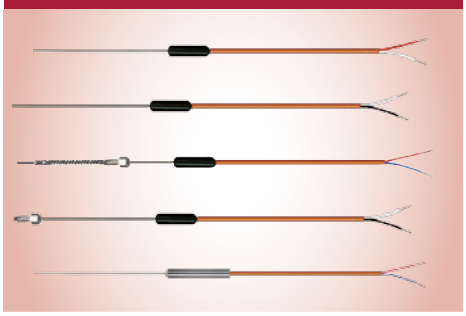
TC40

Cable thermocouple

Sensor element:	Type K, J, E, N or T
Measuring range:	-200 ... +1,260 °C
Measuring point:	Ungrounded or grounded
Cable:	PVC, silicone, PTFE, glass fibre
Data sheet:	TE 65.40

TC46

Hot runner thermocouple



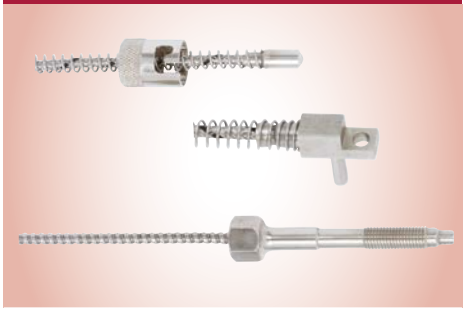
Sensor element:	Type J or K
Measuring range:	-25 … +400 °C
Measuring point:	Ungrounded or grounded
Special feature:	■ Sensor diameter 0.5 ... 3.0 mm ■ Plastic-moulded transition
Data sheet:	TE 65.46

Further information at www.wika.com

Thermocouples

TC47

Plastics machinery thermocouple



Sensor element:	Type J, or K
Measuring range:	-25 … +400 °C
Measuring point:	Ungrounded or grounded
Special feature:	■ Various process connections ■ Connection cable glass fibre, Kapton
Data sheet:	TE 67.20

TC50

Surface thermocouple

Sensor element:	Type K, J, E, N or T
Measuring range:	-200 ... +400 °C
Measuring point:	Ungrounded or grounded
Process connection:	Surface mounting
Data sheet:	TE 65.50

TC53

Bayonet thermocouple

Sensor element:	Type J, K, N or T
Measuring range:	-200 ... +1,200 °C
Measuring point:	Ungrounded or grounded
Special feature:	■ Single and dual thermocouples ■ Explosion-protected version Ex i (optional)

TC59-V

V-PAD pipe surface thermocouple for fuelling plants

Sensor element:	Type K or N
Measuring range:	0 ... +1,200 °C
Measuring point:	Grounded
Process connection:	V-PAD for welding
Data sheet:	TE 65.59

TC80

Straight version per EN 50446

Sensor element:	Type S, R, B, K, N or J
Measuring range:	-200 ... +1,600 °C
Measuring point:	Ungrounded
Process connection:	Stop flange, threaded bushing
Data sheet:	TE 65.80

TC81

For flue gas temperature measurements

Sensor element:	Type K, N or J
Measuring range:	-200 ... +1,200 °C
Measuring point:	Ungrounded or grounded
Process connection:	Stop flange, threaded bushing
Data sheet:	TE 65.81

Temperature transmitters

T32

HART® transmitter

Input:	Resistance thermometers, thermocouples, potentiometers
Accuracy:	< 0.12 %
Output:	4 … 20 mA, HART® protocol
Special feature:	PC configurable
Data sheet:	TE 32.04

T19

Analogue transmitter 2-wire, 4 ... 20 mA

Input:	Pt100
Accuracy:	< 0.50 %
Output:	4 … 20 mA
Special feature:	Excellent price/performance ratio
Data sheet:	TE 19.03

T24

Programmable analogue transmitter

Input:	Pt100
Accuracy:	< 0.20 %
Output:	4 … 20 mA
Special feature:	PC configurable
Data sheet:	TE 24.01

T12

Universally programmable digital transmitter

Input:	Resistance thermometers, thermocouples
Accuracy:	< 0.25 %
Output:	4 … 20 mA
Special feature:	PC configurable
Data sheet:	TE 12.03

T53

FOUNDATION™ Fieldbus and PROFIBUS® PA transmitter

Input:	Resistance thermometers, thermocouples
Accuracy:	< 0.10 %
Special feature:	PC configurable
Data sheet:	TE 53.01

T91

Analogue transmitter 3-wire, 0 ... 10 V

Input:	Resistance thermometers, thermocouples
Accuracy:	< 0.5 or < 1 %
Output:	0 … 10 V, 0 … 5 V
Special feature:	Fixed measuring range
Data sheet:	TE 91.01, TE 91.02

TIF50, TIF52

HART® field temperature transmitter

Input:	Resistance thermometers, thermocouples, potentiometers
Accuracy:	< 0.12 %
Output:	4 … 20 mA, HART® protocol
Special feature:	PC configurable
Data sheet:	TE 62.01

Further information at www.wika.com

Digital indicators

DI15

For panel mounting, 48 x 24 mm

Input:	Multi-function input for resistance thermometers, thermocouples and standard signals
Alarm output:	2 electronic contacts
Power supply:	DC 9 … 28 V
Data sheet:	AC 80.01

DI25

For panel mounting, 96 x 48 mm

Input:	Multi-function input for resistance thermometers, thermocouples and standard signals
Alarm output:	■ 3 relays ■ 2 relays for instruments with integrated transmitter power supply DC 24 V
Power supply:	■ AC 100 … 240 V ■ AC/DC 24 V
Special feature:	Analogue output signal
Data sheet:	AC 08.02

DI35

For panel mounting, 96 x 48 mm

Input:	■ Multi-function input for resistance thermometers, thermocouples and standard signals ■ Alternatively double input for standard signals with calculation function (+ - x /) for two transmitters
Alarm output (optional):	■ 2 relays ■ 4 relays
Power supply:	■ AC 230 V ■ AC 115 V or DC 24 V
Data sheet:	AC 80.03

DIH10

Connection head with digital indicator

Input:	4 ... 20 mA
Power supply:	From the 4 ... 20 mA current loop
Data sheet:	AC 80.11

DIH50

For current loops with HART® communication

Dimensions:	150 x 127 x 127 mm
Case:	Aluminium, stainless steel
Special feature:	■ Adjustment of indication range and unit via HART® communication ■ Additionally, model DIH52-F is suitable for multidrop operation and with local master function
Approval:	■ Intrinsically safe per ATEX ■ Flameproof enclosure
Data sheet:	AC 80.10

Temperature controllers

CS4M, CS4S

For panel mounting, 48 x 24 mm, 48 x 48 mm

Input:	Multi-function input for resistance thermometers, thermocouples and standard signals
Control characteristic:	PID, PI, PD, P, ON/OFF (configurable)
Control output:	Relay or logic level DC 0/12 V for 3-point control to control an electronic switch relay (SSR) or analogue current signal 4 … 20 mA
Power supply:	■ AC 100 … 240 V ■ AC/DC 24 V
Data sheet:	AC 85.06, AC 85.02

CS4H, CS4L

For panel mounting, 48 x 96 mm, 96 x 96 mm

Input:	Multi-function input for resistance thermometers, thermocouples and standard signals
Control characteristic:	PID, PI, PD, P, ON/OFF (configurable)
Control output:	Relay or logic level DC 0/12 V for 3-point control to control an electronic switch relay (SSR) or analogue current signal 4 … 20 mA
Power supply:	■ AC 100 … 240 V ■ AC/DC 24 V
Data sheet:	AC 85.03, AC 85.04

SC58

For panel mounting, 62 x 28 mm

Input:	Pt100 or PTC
Control characteristic:	Simple 2-point controller
Control output:	Relay switching output 12 A, 250 V
Power supply:	■ AC 230 V ■ AC 12 ... 24 V or DC 16 ... 32 V
Data sheet:	AC 85.24

SC64

For panel mounting, 64 mm, round

Input:	Pt100 or PTC
Control characteristic:	Simple 2-point controller
Control output:	Relay switching output 16 A, 250 V
Power supply:	■ AC 230 V ■ AC 12 ... 24 V or DC 16 ... 32 V
Data sheet:	AC 85.25

CS4R

For rail mounting, 22.5 x 75 mm

Input:	Multi-function input for resistance thermometers, thermocouples and standard signals
Control characteristic:	PID, PI, PD, P, ON/OFF (configurable)
Control output:	Relay or logic level DC 0/12 V to control an electronic switch relay (SSR) or analogue current signal 4 … 20 mA
Power supply:	■ AC 100 … 240 V ■ AC/DC 24 V
Data sheet:	AC 85.05

Further information at www.wika.com

Temperature measuring instruments with electrical output signal

54

Twin-Temp bimetal thermometer with Pt100

Nominal size:	63, 80, 100, 160 mm
Scale range:	-30 ... +50 to 0 ... 250 °C
Wetted parts:	Stainless steel
Option:	Liquid damping to max. 250 °C (case and sensor)
Data sheet:	TV 15.01

TGT70

intelliTHERM® Expansion thermometer

Nominal size:	100 mm
Scale range:	-40 ... +60 to 0 ... 250 °C °C
Wetted parts:	Stainless steel
Option:	■ Capillary ■ Output signal 4 ... 20 mA or 0.5 ... 4.5 V ■ Other types of connections
Data sheet:	TV 18.01

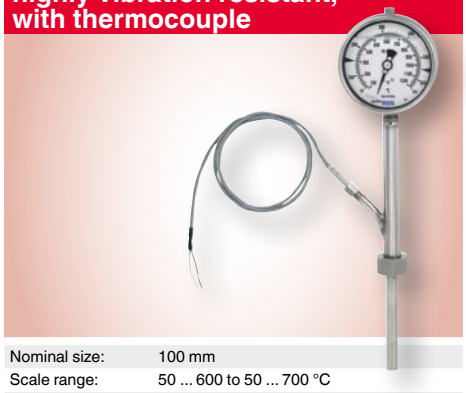
TGT73

intelliTHERM® Gas-actuated thermometer

Nominal size:	100, 160 mm
Scale range:	-200 ... +100 to 0 ... 700 °C
Wetted parts:	Stainless steel
Option:	■ Capillary ■ Liquid damping (case) ■ Output signal 4 ... 20 mA or 0 ... 10 V
Data sheet:	TV 17.10

75

Gas-actuated thermometer, highly vibration resistant, with thermocouple



Nominal size:	100 mm
Scale range:	50 ... 600 to 50 ... 700 °C
Wetted parts:	Stainless steel
Option:	Liquid damping (case)
Data sheet:	TV 17.02

76

Gas-actuated thermometer with Pt100

Nominal size:	100, 160 mm
Scale range:	-80 ... +60 to 0 ... 300 °C
Wetted parts:	Stainless steel
Option:	■ Capillary ■ Liquid damping (case) ■ With switch contacts
Data sheet:	TV 17.01

Temperature measuring instruments with switch contacts

55 with 8xx

Bimetal thermometer, stainless steel version

Nominal size:	100, 160 mm
Scale range:	-70 ... +30 to 0 ... 600 °C
Wetted parts:	Stainless steel
Option:	Liquid damping to max. 250 °C (case and sensor)
Data sheet:	TV 25.01

73 with 8xx

Gas-actuated thermometer, stainless steel version

Nominal size:	100, 160, 144 x 144 mm
Scale range:	-80 ... +60 to 0 ... 700 °C
Wetted parts:	Stainless steel
Option:	■ Capillary ■ Liquid damping (case)
Data sheet:	TV 27.01

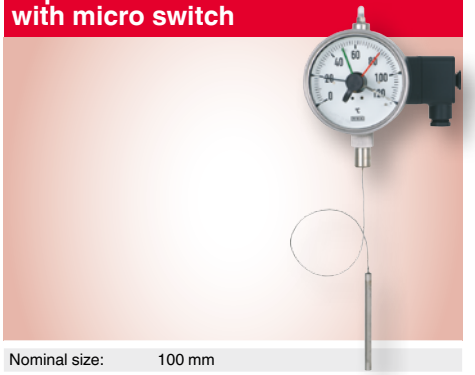
74 with 8xx

Gas-actuated thermometer, for sanitary applications

Nominal size:	100 mm
Scale range:	-30 ... +50 to 0 ... 160 °C
Wetted parts:	Stainless steel 1.4435
Option:	■ Wetted parts with electropolished surface ■ Liquid damping (case)
Data sheet:	TV 27.02

70 with 8xx

Expansion thermometer with micro switch



Nominal size:	100 mm
Scale range:	-60 ... +40 to 0 ... 250 °C
Wetted parts:	Stainless steel
Option:	Various contact versions
Data sheet:	TV 28.01

SC15

Expansion thermometer with micro switch, mechanical temperature regulator

Nominal size:	60, 80, 100 mm
Scale range:	-100 ... +400 °C
Wetted parts:	Copper alloy
Option:	■ Square case version ■ Sheet steel version, various contact versions
Data sheet:	TV 28.02

SW15

Expansion thermometer with micro switch, safety temperature alerter

Nominal size:	60, 80 mm
Scale range:	0 ... 400 °C
Wetted parts:	Copper alloy
Option:	■ Square case version ■ Sheet steel version
Data sheet:	TV 28.04

SB15

Expansion thermometer with micro switch, safety temperature limiter

Nominal size:	60, 80 mm
Scale range:	0 ... 400 °C
Wetted parts:	Copper alloy
Option:	■ Square case version ■ Sheet steel version
Data sheet:	TV 28.03

Further information at www.wika.com

Mechanical temperature switches

These high-quality temperature switches in robust stainless steel design have been developed especially for safety-critical applications. They are SIL-2 approved in accordance with IEC 61508 for use in safety applications (SIS). The switches are resistant even to extreme environmental conditions and can be supplied with optional equipment for special use in Nace, off-shore, tropical or ammonia applications. The electrical ingress protection is at least IP 65; as to the ignition protection type, the variants Ex-ia and Ex-d are available.
In order to ensure an application as easy and flexible as possible, the temperature switches are equipped with micro switches enabling the direct switching of an electrical load of up to 15 A/AC 220 V and thus making auxiliary relays superfluous.
Protective gas filled micro switches with gold-plated contacts can be chosen for lower contact ratings, which are applicable, for example, in case of a direct connection to a PLC (programmable logic controller). The capillary can be executed in lengths from 2 to 10 metres or as direct mounting. It is protected by a spiral protective sleeve made from stainless steel.
All temperature switches have the GOST® approval.

TXS, TXA

Mini temperature switches

Adjustment:	-15 ... +20 to +180 ... +250 °C
Ignition protection type:	Ex-ia or Ex-d
Switch:	1 x SPDT
Contact rating:	5A/AC 220 V - 5A/DC 24 V
Data sheet:	TV 31.70, TV 31.72 (Ex)

TCS, TCA

Compact temperature switches

Adjustment:	-30 … +10 to +160 ... +250 °C
Ignition protection type:	Ex-ia or Ex-d
Switch:	1 x SPDT or 1 x DPDT
Contact rating:	15A/AC 220 V - 2A/DC 24 V
Data sheet:	TV 31.64, TV 31.65 (Ex)

TWG, TAG

Heavy-duty version

Adjustment:	-30 … +70 to 0 ... 600 °C
Ignition protection type:	Ex-ia or Ex-d
Switch:	1 or 2 SPDT
Contact rating:	15A/AC 220 V - 2A/DC 24 V
Data sheet:	TV 31.60, TV 31.61 (Ex)

TFS35

Bimetal temperature switch

Switching temperature:	40 ... 200 °C, fixed
Special feature:	■ Compact design ■ Automatic reset ■ No capillary necessary
Data sheet:	TV 35.01

Accessories

910.1x

Sealings

Application:	For sealing the connections
Data sheet:	AC 09.08

910.16

Instrument mounting bracket

Application:	For mounting measuring instruments
Data sheet:	AC 09.07

905.1x

Contact protection relay for contacts 821

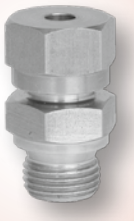
Application:	For optimal contact protection and highest switching safety
Data sheet:	AC 08.01

904.xx

Control unit for inductive contacts

Application:	For operating measuring instruments with inductive contact
Data sheet:	AC 08.01

Compression fittings



Application:	Suitable for thermometers with plain stem (type of connection 1)
Material:	Stainless steel
Operating conditions:	Max. 600 °C

Double nipple version

Application:	Suitable for thermometers with union nut (type of connection 3)
Material:	Stainless steel
Operating conditions:	Max. 600 °C

Neck tubes

Material:	Stainless steel
Operating conditions:	Max. 600 °C

Further information at www.wika.com

Bimetal thermometers

46

Industrial heating

Nominal size:	50, 63, 80, 100 mm
Scale range:	0 ... 120 °C
Permissible operating pressure at thermowell/stem:	Max. 6 bar
Wetted parts:	Copper alloy
Data sheet:	TM 46.02

48

Refrigeration and air conditioning

Nominal size:	63, 80, 100, 160 mm
Scale range:	-30 ... +120 °C
Wetted parts:	Copper alloy
Data sheet:	TM 48.01

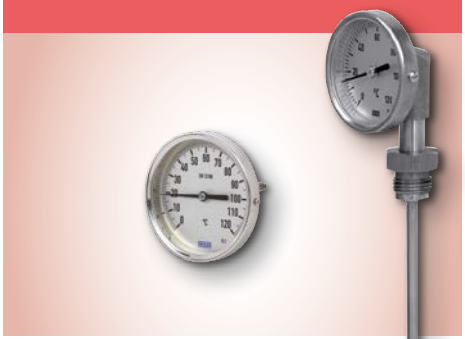
50

Standard version

Nominal size:	63, 80, 100, 160 mm
Scale range:	-30 … +200 °C
Permissible operating pressure at thermowell/stem:	Max. 6 bar
Wetted parts:	Copper alloy
Data sheet:	TM 50.03

52

Industrial series, axial and radial



Nominal size:	25, 33, 40, 50, 63, 80, 100, 160 mm
Scale range:	-30 ... +50 to 0 ... +500 °C
Permissible operating pressure at thermowell/stem:	Max. 25 bar
Wetted parts:	Stainless steel
Data sheet:	TM 52.01

53

Industrial series, axial, adjustable stem dial

Nominal size:	3", 5"
Scale range:	-70 ... +70 to 0 ... +600 °C
Wetted parts:	Stainless steel
Option:	Liquid damping to max. 250 °C (case and sensor)
Data sheet:	TM 53.01

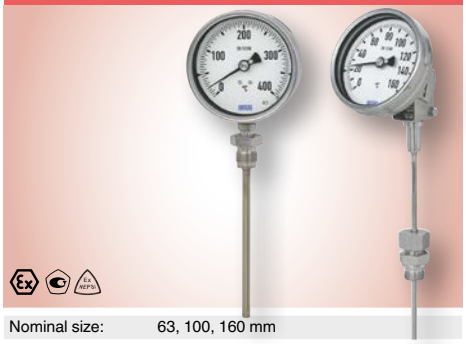
54

Heavy duty series, axial and radial, adjustable stem and dial

Nominal size:	63, 80, 100, 160 mm
Scale range:	-70 ... +70 to 0 ... +600 °C
Wetted parts:	Stainless steel
Option:	Liquid damping to max. 250 °C (case and sensor)
Data sheet:	TM 54.01

55

Stainless steel series, axial and radial, adjustable stem and dial



Nominal size:	63, 100, 160 mm
Scale range:	-70 ... +70 °C to 0 ... +600 °C
Wetted parts:	Stainless steel
Option:	Liquid damping to max. 250 °C (case and sensor)
Data sheet:	TM 55.01

Gas-actuated thermometers

R73, S73, A73

Axial and radial, adjustable stem and dial

Nominal size:	100, 160 mm
Scale range:	-200 ... +50 to 0 ... +700 °C
Wetted parts:	Stainless steel
Option:	■ Liquid damping (case) ■ Contact bulb
Data sheet:	TM 73.01

Q73, F73

With capillary

Nominal size:	100, 160, 144 x 144 mm
Scale range:	-200 ... +50 to 0 ... +700 °C
Wetted parts:	Stainless steel
Option:	■ Armoured or coated capillary (PVC coating) ■ Liquid damping (case) ■ Contact bulb
Data sheet:	TM 73.01

74

For sanitary applications

Nominal size:	100 mm
Scale range:	■ 0 ... 120 or 0 ... 160 °C ■ -20 ... +100 and -30 ... +50 °C
Wetted parts:	Stainless steel 1.4435
Option:	■ Liquid damping (case) ■ Wetted parts with electropolished surface
Data sheet:	TM 74.01

75

Highly vibration resistant

Nominal size:	100 mm
Scale range:	0 ... +700 or -50 ... +650 °C
Wetted parts:	Stainless steel
Option:	Various neck-tube and insertion lengths
Data sheet:	TM 75.01

Expansion thermometers

70

High-quality version

Nominal size:	63, 100, 160 mm
Wetted parts:	Stainless steel
Option:	■ Liquid damping (case) ■ Indication accuracy class 1 ■ With micro switch
Data sheet:	TM 81.01

IFC

Standard version

Nominal size:	60, 80, 100 mm
Wetted parts:	Copper alloy
Option:	■ Square case version ■ Other case materials ■ With micro switch
Data sheet:	TM 80.01

TF58, TF59

Standard version

Nominal size:	58 x 25 mm, 62 x 11 mm
Wetted parts:	Copper alloy
Option:	■ Vertical arrangement ■ Special scales ■ Other case materials
Data sheet:	TM 80.02

Special products, types of connections

32

Machine glass thermometer, V-form

Nominal size:	110, 150, 200 mm
Wetted parts:	Copper alloy
Option:	■ Dual scale °F/°C ■ Other types of connections
Data sheet:	TM 32.02

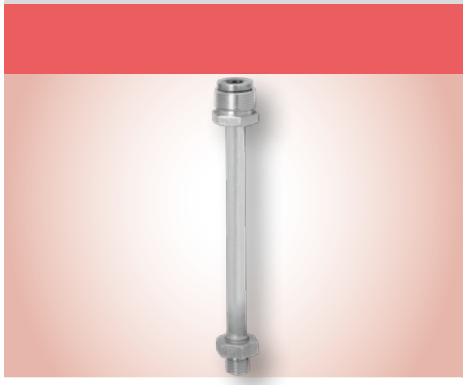
Compression fittings

Application:	Suitable for thermometers with plain stem (design of connection 1)
Material:	Stainless steel
Operating range:	Max. 600 °C

Double nipple version

Application:	Suitable for thermometers with union nut (design of connection 3)
Material:	Stainless steel
Operating range:	Max. 600 °C

Neck tubes



Material:	Stainless steel
Operating range:	Max. 600 °C

Further information at www.wika.com

Thermowells

TW10

Flanged (solid machined)

Thermowell form:	Tapered, straight or stepped
Nominal width:	ASME 1 to 4 inch DIN/EN DN 25 to DN 100
Pressure rating:	ASME to 2,500 psig (DIN/EN to PN 100)
Data sheet:	TW 95.10, TW 95.11, TW 95.12

TW15

Threaded (solid machined)

Thermowell form:	Tapered, straight or stepped
Head version:	Hexagon, round with hexagon, or round with spanner flats
Process connection:	½, ¾ or 1 NPT
Data sheet:	TW 95.15

TW20

Socket weld (solid-machined)

Thermowell form:	Tapered, straight or stepped
Welding diameter:	1.050, 1.315 or 1.900 inch (26.7, 33.4 or 48.3 mm)
Pressure rating:	3,000 or 6,000 psig
Data sheet:	TW 95.20

TW22

Fabricated with flange connection for sanitary applications

Aseptic connection:	■ DIN 11851 ■ DIN 32676 ■ Tri-clamp ■ VARIVENT® ■ BioControl®
Thermowell material:	Stainless steel 1.4435
Data sheet:	TW 95.22

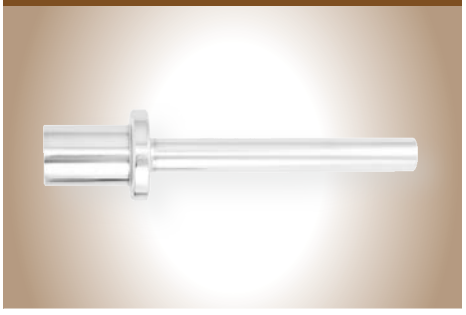
TW25

Weld–in (solid-machined)

Thermowell form:	Tapered, straight or stepped
Head diameter:	Up to 2 inch (50.8 mm)
Data sheet:	TW 95.25

TW30

Vanstone (solid-machined) for lapped flanges



Thermowell form:	Tapered, straight or stepped
Nominal width:	ASME 1, 1½ or 2 inch
Pressure rating:	ASME up to 2,500 psig
Data sheet:	TW 95.30

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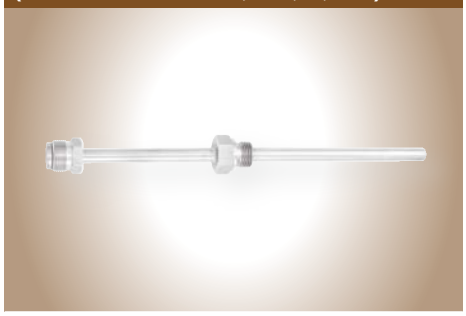
BioControl® is a registered trademark of the company NEUMO

TW35

Threaded (fabricated) (DIN 43772 form 2, 2G, 3, 3G)



Thermowell form:	Form 2, 2G, 3 or 3G
Material:	Stainless steel
Instrument connection:	M24 x 1.5 rotatable
Data sheet:	TW 95.35

TW40

Flanged (fabricated) (DIN 43772 form 2F, 3F)

Thermowell form:	Form 2F or 3F
Nominal width:	DIN/EN DN 25 to DN 50 ASME 1 to 2 inch
Pressure rating:	DIN/EN up to PN 100 (ASME up to 1,500 psig)
Data sheet:	TW 95.40

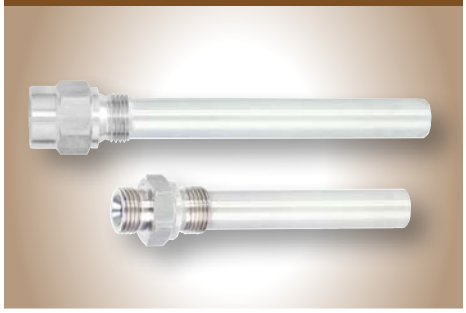
TW45

Threaded (fabricated, DIN 43772 form 5, 8)

Thermowell form:	Form 5 or 8
Material:	Stainless steel or copper alloy
Data sheet:	TW 95.45

TW50

Threaded (solid-machined, DIN 43772 form 6, 7, 9)



Thermowell form:	Form 6, 7 or 9
Data sheet:	TW 95.50

TW55

Solid-machined for weld-in or with flange (DIN 43772 form 4, 4F)

Thermowell form:	Form 4 or 4F
Nominal width:	DIN/EN DN 25 to DN 50 ASME 1 to 2 inch
Pressure rating:	DIN/EN up to PN 100 (ASME up to 2,500 psig)
Data sheet:	TW 95.55

TW61

For orbital welding for sanitary applications

Tube standard:	DIN 11866 series A, B, C
Material:	Stainless steel 1.4435
Data sheet:	TW 95.61

Further information at www.wika.com

Bypass level indicators

Continuous level measurement via visual indication of the level without power supply

Benefits

- Simple and sturdy design
- Level displayed proportional to volume or height
- Pressure- and gas-tight separation between chamber and display/measuring equipment
- Individual design and corrosion resistant materials make the products suitable for a broad range of applications
- Pressure range from vacuum up to 420 bar
- Temperature range up to 450 °C
- S.G. ≥ 400 kg/m^3
- Explosion-proof versions
- Interface measurement and overall level from Δ S.G. ≥ 50 kg/m^3

Options

The following devices can be attached externally to the bypass level indicator to provide additional functionality:

Level sensors

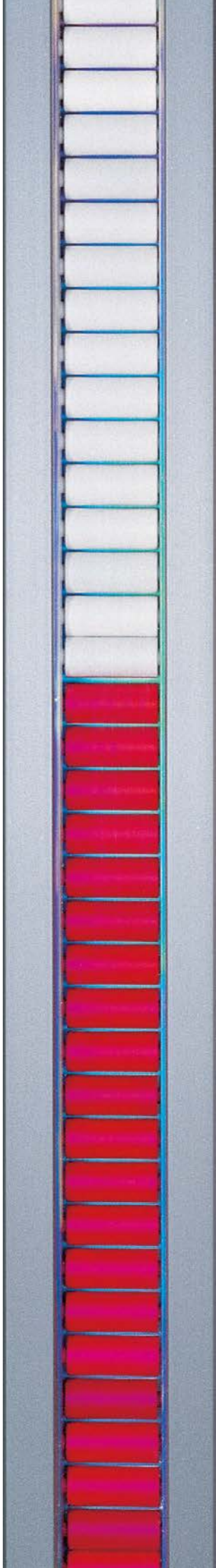
These are used for continuous monitoring and recording of the level in connection with external transmitters. They transform the resistance value of the level sensors into a standardised analogue signal that is proportional to the height of the level. 2-wire head-mounted transmitters are available in the versions programmable 4 ... 20 mA, HART® protocol, PROFIBUS® PA and FOUNDATION™ Fieldbus.

Magnetic switches

They serve to detect the limits of filling levels.
They generate a binary signal which can be which can be fed to down stream signalling or control equipment.

Magnetic roller display with and without scale

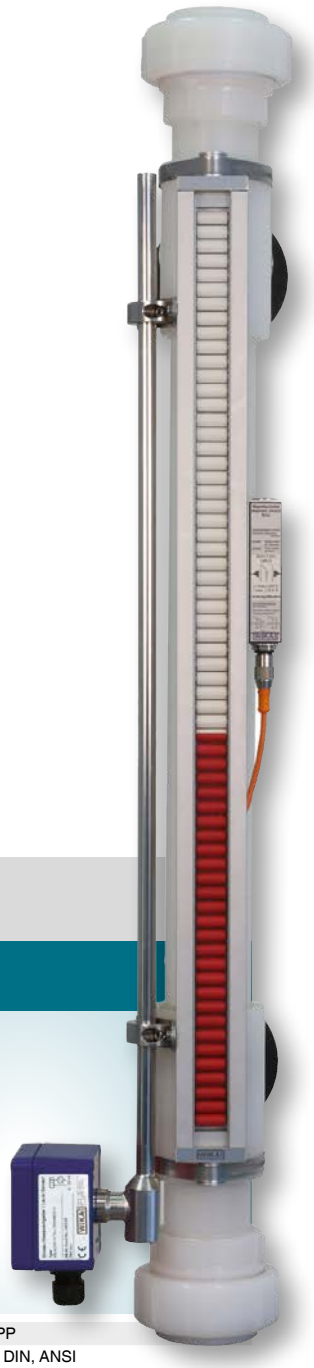
Two-coloured, continuous visual indication of the current level without power supply.



BNA

Stainless steel version

Material:	Austenitic steels, 6Mo, Hastelloy, titanium, Monel, Inconel, Incoloy, Duplex, Super Duplex
Process connection:	■ Flange: DIN, ANSI ■ Thread ■ Weld stub
Temperature:	-160 ... +450 °C
S.G.:	≥ 400 kg/m³
Data sheet:	LM 10.01



BNA

Plastic version

Material:	PVDF, PP
Process connection:	Flange: DIN, ANSI
Pressure:	PVDF 6 bar, PP 4 bar, PVC 4 bar
Temperature:	-25 ... +80 °C
S.G.:	≥ 800 kg/m³
Data sheet:	LM 10.01

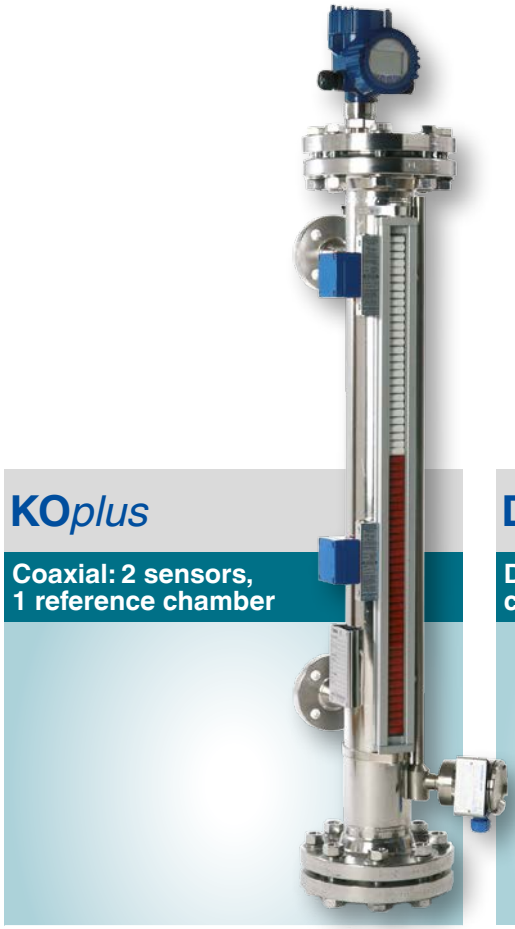
PLUS series

Combines the tried-and-trusted bypass with further independent measuring principles

PLUS
Guided microwave (TDR)
Reed measuring chain
Magnetostrictive
Limit switch (magnetic, tuning fork)
The wide range of combination possibilities offer a very large application spectrum.

Benefits
Compact design
Only 2 process connections required
Absolute measuring redundancy possible
Visual level measurement constantly given
Up to 3 independent measuring principles possible
Customer-specific designs

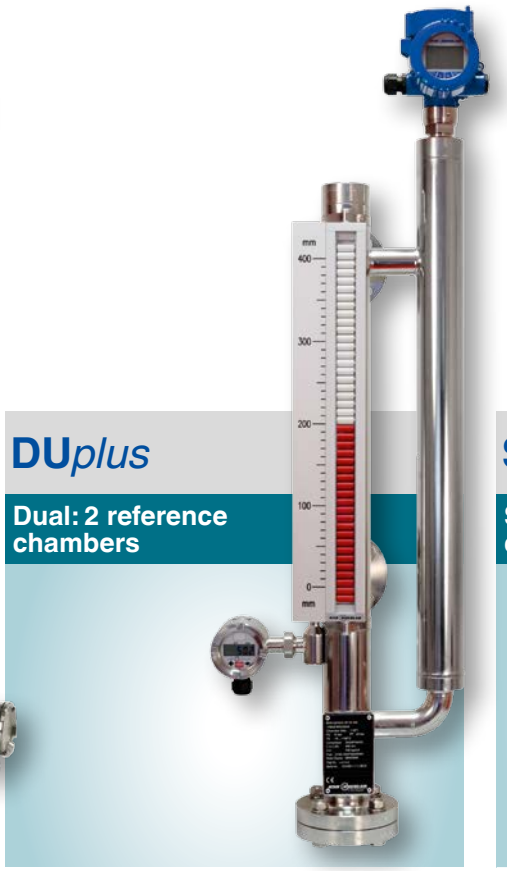
Output signals/communication
2- and 4-wire technology, 4 ... 20 mA, HART®, PROFIBUS® PA, FOUNDATION™ Fieldbus/DTM/FDT (PACTware™)



KO*plus*

Coaxial: 2 sensors, 1 reference chamber

Material:	Stainless steel, 6Mo, Hastelloy, titanium, Monel, Inconel, Incoloy, Duplex, Super Duplex
Pressure:	0 ... 40 bar
Temperature:	-200 ... +400 °C
S.G.:	≥ 400 kg/m³



DU*plus*

Dual: 2 reference chambers

Material:	Stainless steel, 6Mo, Hastelloy, titanium, Monel, Inconel, Incoloy, Duplex, Super Duplex
Pressure:	0 ... 400 bar
Temperature:	-200 ... +400 °C
S.G.:	≥ 400 kg/m³

SI*plus*

Single: 1 reference chamber

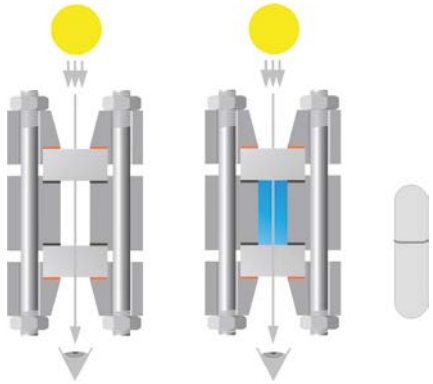
Material:	Stainless steel, 6Mo, Hastelloy, titanium, Monel, Inconel, Incoloy, Duplex, Super Duplex
Pressure:	0 ... 400 bar
Temperature:	-200 ... +400 °C
S.G.:	≥ 400 kg/m³

Sight glass level indicators

For steam generation and the process industry

Transparent sight glass level indicator

With this level indicator design, the liquid is encapsulated between two transparent sight glasses. This allows the liquid to be looked through and thus provides a clear indication of the level. Transparent level indicators are available in double-cover plate design for pressure ranges up to PN 100. They are the most suitable gauges for steam application above 35 bar, where mica shields have to be used to protect the sight glasses from corrosion by the steam boiler water.
They can also be utilised in a great number of other applications, in particular for observing interface layers or liquid colour. A backlight illuminator can be fitted to the rear to improve visibility.

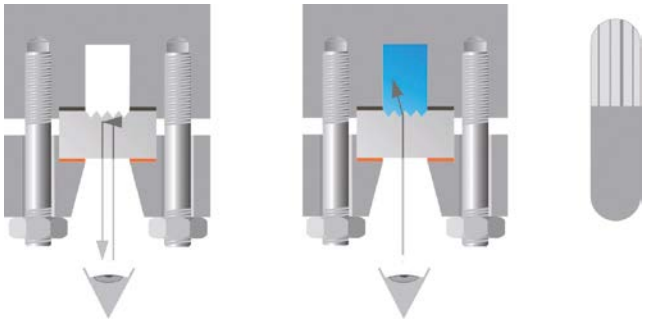


Gas phase (bright), liquid phase (bright), phase boundary (dark)

Operating principle “transparent”

Reflex sight glass level indicator

The principle of the reflex level indicator is based on the reflection of light. In the gas or steam phase, the light is reflected by the prismatic grooves of the sight glass so that bright indication is achieved. In the liquid phase, the light is absorbed, resulting in a dark indication of the level. Reflex level indicators are available in cover box design for pressure ranges up to PN 25 and in cover plate design for pressure ranges up to PN 100. They are the suitable and favourably priced indicators for steam application up to 35 bar and are also suited for numerous applications in the process industry.



Gas phase (bright) Liquid phase (dark)

Operating principle “reflex”

LGG

Material:	Forged steel, high-temperature C-steel, stainless steel, Monel, Hastelloy
Design:	Available as welded, glass tube, reflection, transparent and refraction indicators
Pressure:	0 ... 250 bar
Temperature:	-200 ... +400 °C
Data sheet:	LM 33.01

High-precision level measurement

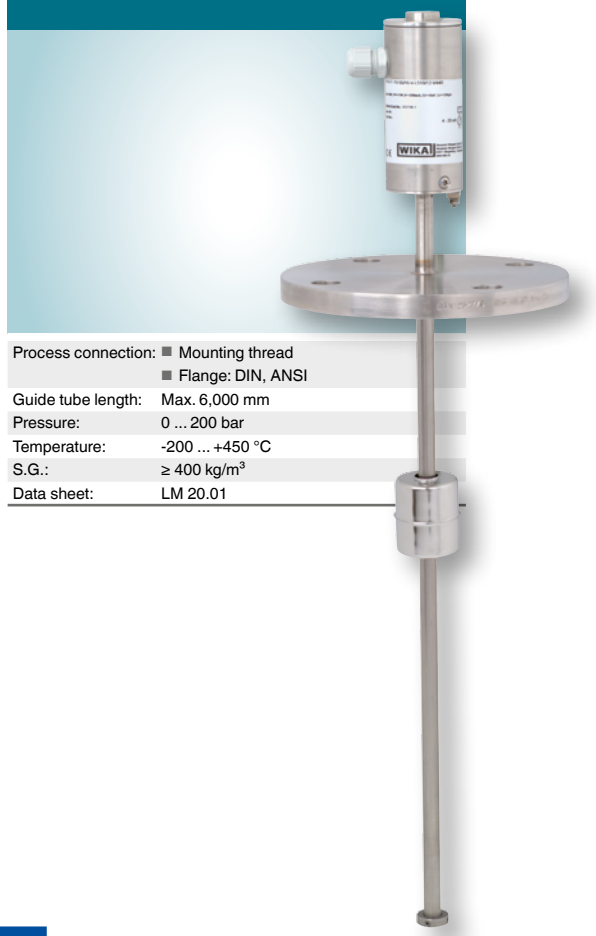
For liquid media, employing the magnetostrictive measuring principle

Benefits

- The simple and effective principle of operation is suitable for a very wide range of applications.
- Continuous measurement of levels, independent of physical and chemical changes of the liquid such as foaming, conductivity, dielectric constant, pressure, vacuum, temperature, vapours, condensation, bubble formation, boiling effects, specific gravity change
- Signal transmission over long distances
- Simple installation and commissioning, onetime calibration only, no recalibration necessary
- Interface measurement and overall level from Δ S.G. ≥ 50 kg/m³
- Explosion-proof versions
- Functional safety IEC 61508/IEC 61511, SIL-2
- Output signal: 4 … 20 mA, HART®
- Measuring accuracy ≤ 1 mm

FFG

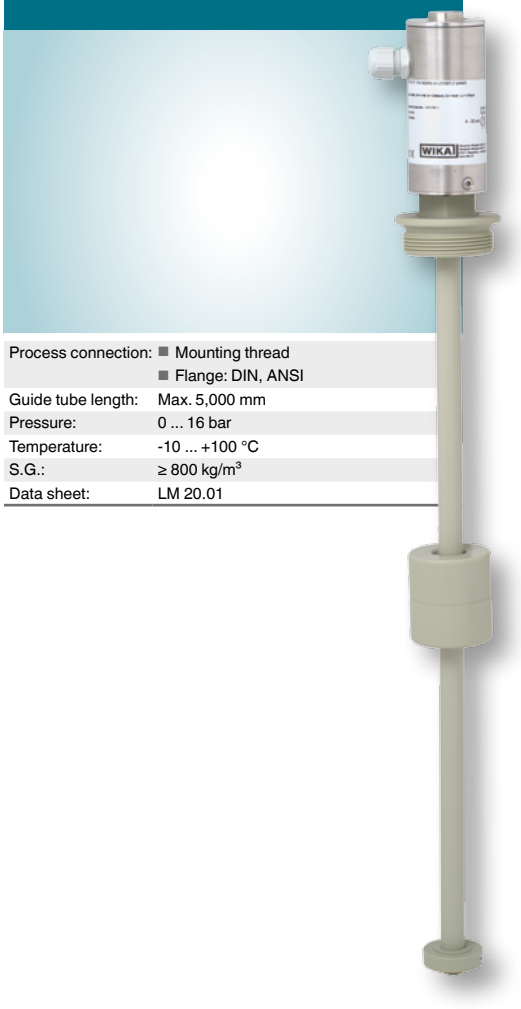
Stainless steel version



Process connection:	■ Mounting thread ■ Flange: DIN, ANSI
Guide tube length:	Max. 6,000 mm
Pressure:	0 ... 200 bar
Temperature:	-200 ... +450 °C
S.G.:	≥ 400 kg/m³
Data sheet:	LM 20.01

FFG

Plastic version



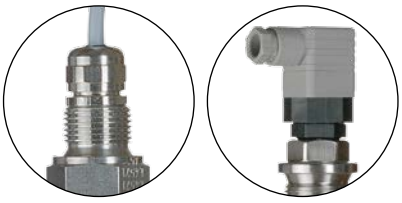
Process connection:	■ Mounting thread ■ Flange: DIN, ANSI
Guide tube length:	Max. 5,000 mm
Pressure:	0 ... 16 bar
Temperature:	-10 ... +100 °C
S.G.:	≥ 800 kg/m³
Data sheet:	LM 20.01

Level sensors

For liquid media, utilising reed measuring chains

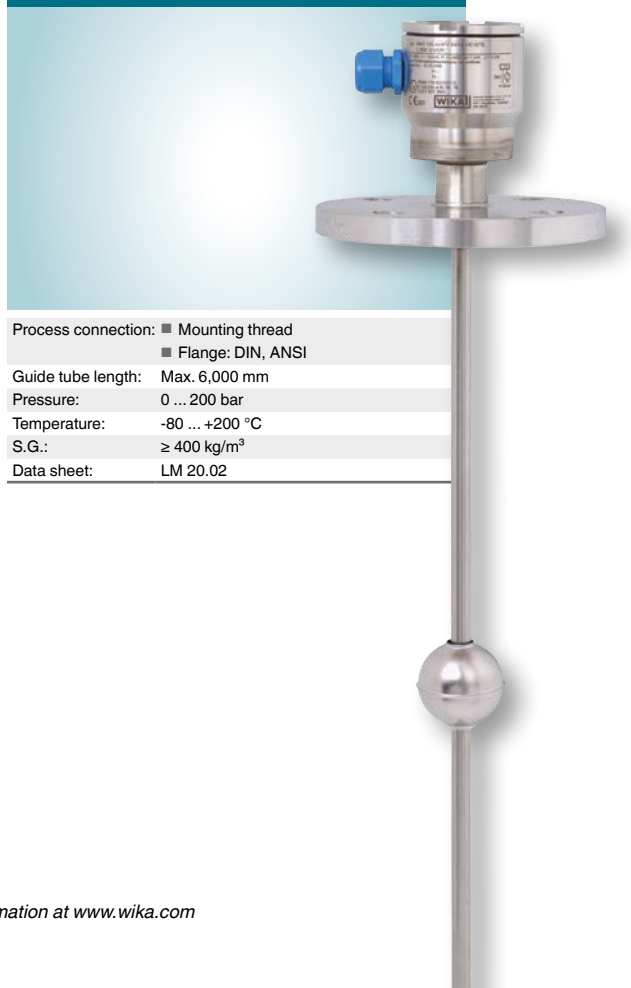
Benefits

- The reliable and proven operation principle is suitable for a very wide range of applications
- Continuous measurement of levels, independent of physical and chemical changes of the liquid such as foaming, conductivity, dielectric constant, pressure, vacuum, temperature, vapours, condensation, bubble formation, boiling effects, specific gravity change
- Signal transmission over long distances
- Simple installation and commissioning, onetime calibration only, no recalibration necessary.
- Interface measurement and overall level from Δ S.G. ≥ 50 kg/m³
- Explosion-proof versions
- Output signal 4 ... 20 mA, HART®, PROFIBUS® PA, FOUNDATION™ Fieldbus
- Resolution ≥ 5 mm
- Level displayed proportional to volume or height
- In combination with limit switches, stepless setting of the limit values possible over the entire measuring range
- High repeatability accuracy of the set points
- Cable and plug versions



RMG

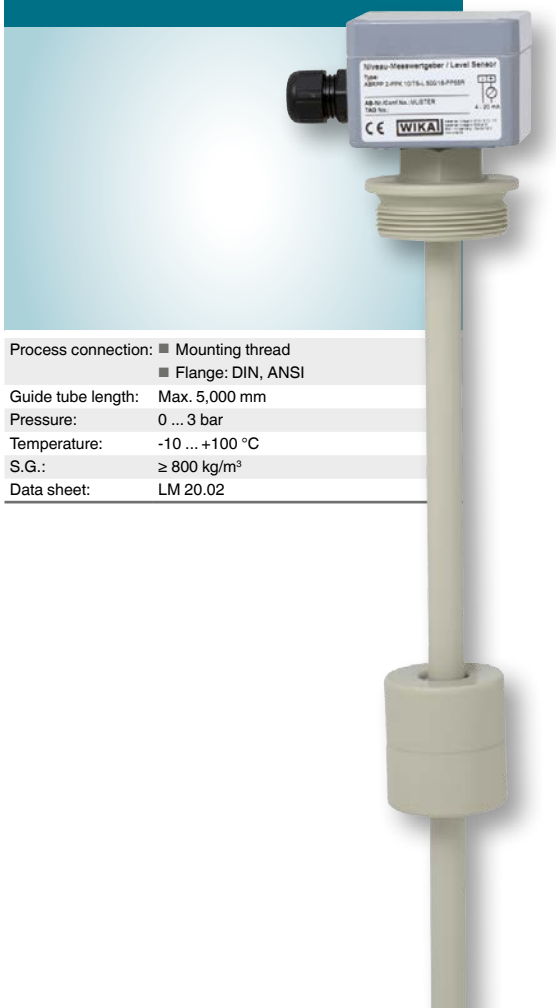
Stainless steel version



Process connection:	■ Mounting thread ■ Flange: DIN, ANSI
Guide tube length:	Max. 6,000 mm
Pressure:	0 ... 200 bar
Temperature:	-80 ... +200 °C
S.G.:	≥ 400 kg/m³
Data sheet:	LM 20.02

RMG

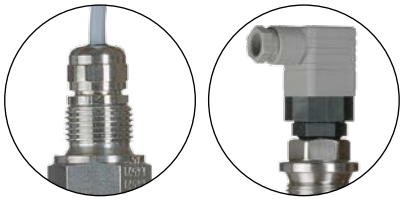
Plastic version, polyester, ABS, PP



Process connection:	■ Mounting thread ■ Flange: DIN, ANSI
Guide tube length:	Max. 5,000 mm
Pressure:	0 ... 3 bar
Temperature:	-10 ... +100 °C
S.G.:	≥ 800 kg/m³
Data sheet:	LM 20.02

Float switches with permanent magnet

Sturdy switches for liquid media



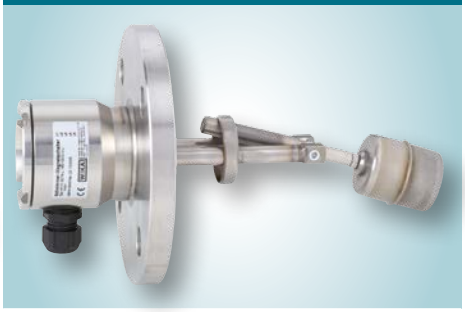
LSD-30

Electronic level switch, with display

Measuring range:	Sensor length 250, 370, 410, 520, 730 mm
S.G.:	> 0.7 g/cm³ (NBR float)
Switching output:	■ 1 or 2 (PNP or NPN) ■ Analogue output (optional)
Process connection:	G ¾ A, ¾ NPT
Data sheet:	LM 40.01

HIF

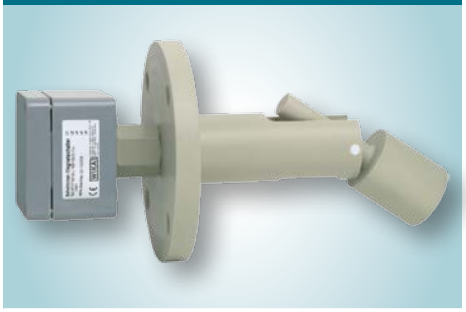
Stainless steel version, for horizontal installation



Process connection:	Flange: DIN, ANSI
Pressure:	0 ... 160 bar
Temperature:	-196 ... +350 °C
S.G.:	≥ 600 kg/m³
Material:	Stainless steel, titanium, Hastelloy
Data sheet:	LM 30.02

HIF

Plastic version, for horizontal installation



Process connection:	Flange: DIN, ANSI
Pressure:	0 ... 3 bar
Temperature:	-10 ... +80 °C
S.G.:	≥ 750 kg/m³
Material:	PP
Data sheet:	LM 30.02

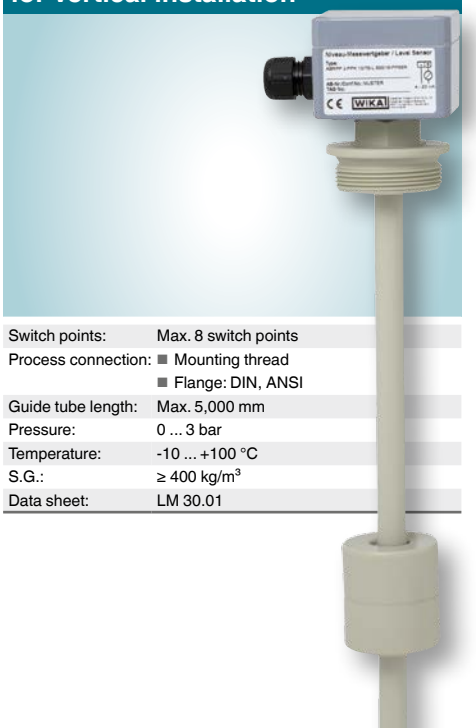
RSM

Stainless steel version, for vertical installation

Switch points:	Max. 8 switch points
Process connection:	■ Mounting thread ■ Flange: DIN, ANSI
Guide tube length:	Max. 6,000 mm
Pressure:	0 ... 200 bar
Temperature:	-196 ... +300 °C
S.G.:	≥ 390 kg/m³
Data sheet:	LM 30.01

RSM

Plastic design, for vertical installation



Switch points:	Max. 8 switch points
Process connection:	■ Mounting thread ■ Flange: DIN, ANSI
Guide tube length:	Max. 5,000 mm
Pressure:	0 ... 3 bar
Temperature:	-10 ... +100 °C
S.G.:	≥ 400 kg/m³
Data sheet:	LM 30.01

RSB

For lateral mounting

Reference chamber:	Aluminium, red bronze, stainless steel
Process connection:	■ Threaded pipe connection GE10-LR galvanised steel ■ Flange: DIN, ANSI ■ Weld stub
Pressure:	Max. 40 bar (in the reference chamber)
Temperature:	-30 ... +300 °C
Data sheet:	LM 30.03

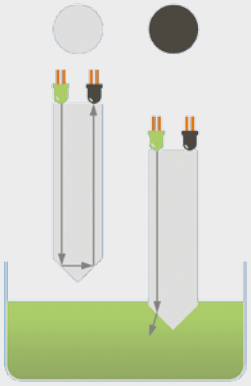
Optoelectronic switches

For applications with limited mounting space

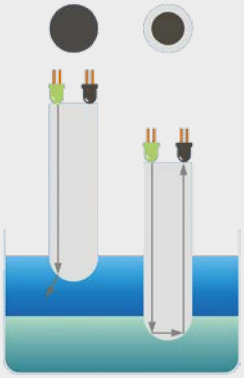
Benefits

- Recording of the level with the cone tip is independent to a large extent of the physical characteristics of the liquids such as specific gravity, dielectric constant, conductivity, colour and refractive index
- Detection of interface layers with rounded tip
- The extremely compact design guarantees minimum space requirements and measurement in very small volumes

Operating principle



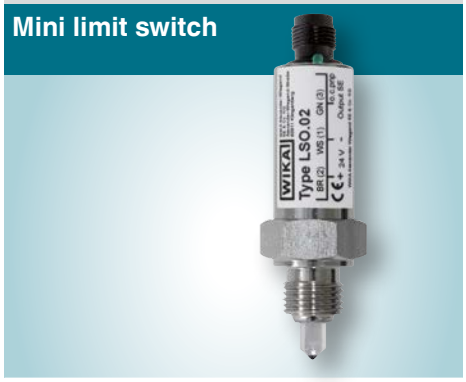
Level



Interface layer

LSO.02

Mini limit switch



Material:	Stainless steel, quartz glass, PTFE
Process connection:	■ M16 x 1.5 ■ G ½ A ■ ½ NPT
Insertion length:	24 mm
Pressure:	0 ... 50 bar
Temperature:	-30 ... +140 °C
Data sheet:	LM 31.01

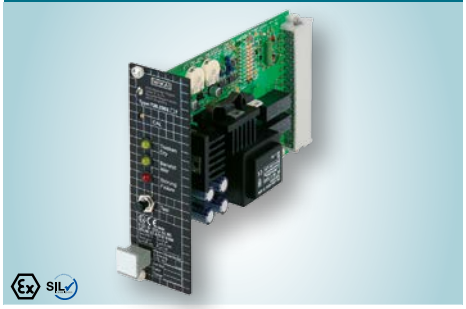
LSO.06

Transducer

Material:	Stainless steel, Hastelloy, KM-glass, quartz glass, sapphire, graphite
Process connection:	■ G ½ A ■ ½ NPT
Pressure:	0 ... 500 bar
Temperature:	-269 ... +400 °C
Approval:	Overflow control per WHG § 19
Data sheet:	LM 31.10

LSO.25

Switching amplifier, for transducer model LSO.06



Output:	1 signal relay, 1 failure relay
Function:	High or low alarm
Time delay:	Up to 8 s
Voltage supply:	AC 24/115/120/230 V DC 24 V
Approval:	Overflow control per WHG § 19
Data sheet:	LM 31.20

Individual requirements demand tailor-made solutions

Whether particularly large or highly precise - level measurement is our passion

WIKA is the world's market leader in pressure, temperature and level measurement. Working together with our customers, we develop comprehensive solutions on the basis of our high-quality measuring instrument components, with the solutions ultimately being integrated in the business processes.

Since 2008, WIKA has had a wide range of level measuring instruments available for temperatures up to 450 °C or pressure ranges up to 400 bar. Most of the developments are the result of individual solutions for a wide range of different applications in the chemical and pharmaceutical industries, offshore and mineral oil industries, ship-building, machine and plant construction, the food industry, water treatment plants and to an ever increasing extent for environmental protection technology.

Our qualified employees are always dedicated to finding the solution to customer-specific problems. The latest production techniques, no-compromise quality management as well as national and international approvals are further pre-requisites for our company's good name.

Accessories

Transmitter

- Compact design
- Simple mounting
- High accuracy (0.05 %)
- EMC resistant
- EEx ia IIC variant available

Limit value signal transmitter

- 1 or 2 limit values act on 2 output relays
- Test jacks for switch point (limit value/actual value)
- High or low alarm can be set
- Hysteresis from 0 ... 60 % of measuring range can be set
- EMC per NAMUR NE21

Transmitter indicator

- Compact design
- Simple mounting
- High accuracy (output 0.2 %, input 0.05 %)
- EMC resistant
- Field case IP 65 available

Contact protection relay

- 2-channel
- 1 potential-free relay output per channel
- Switching state indication (yellow LED)
- Effective direction reversible
- Cable break monitoring (red LED)
- Control circuits Ex ia

Orifice plates and assemblies

Orifice plates represent the most common primary flow elements in the world due to their proven technology and ease of installation and maintenance.

Main characteristics

- Maximum operating temperature up to 800 °C
- Maximum operating pressure up to 400 bar
- Suitable for liquid, gas and steam flow measurement
- Accuracy ≤ ±0.5 % of actual flow rate
- Repeatability of measurement 0.1 %

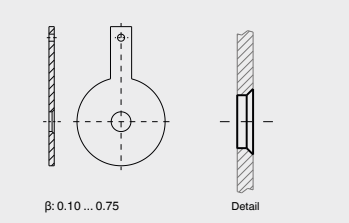
FLC-OP

Orifice plate

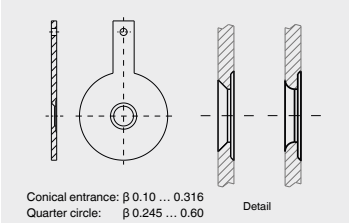
Standards:	■ ISO 5167-2 ■ ASME MFC3M
Pipe size:	■ ≥ 2" ■ ≥ 50 mm
β:	Depending on version
Accuracy:	≤ ±0.5 % of full scale flow rate
Data sheet:	FL 10.01

Designs

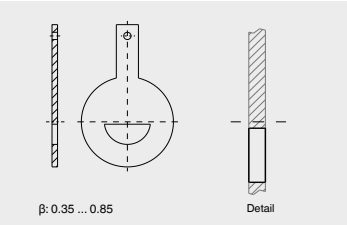
- Square edge orifice plates (standard version)
  This design is intended for general applications in clean liquids and gases.



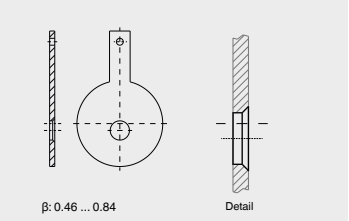
- Quarter circle and conical entrance orifice plates
  The best choice for measurement of liquids with low Reynolds number.



- Segmental orifice plates
  For measurements with two-phase, dirty and particle-laden media.



- Eccentric orifice plates
  The application areas are similar to the segmental version. However, an eccentric orifice plate is the better solution for smaller pipe diameters.



Orifice flanges are intended for use instead of standard pipe flanges when an orifice plate or flow nozzle must be installed. Pairs of pressure tappings are machined into the orifice flange, making separate orifice carriers or tappings in the pipe wall unnecessary.

Main characteristics

- Wide range of materials available
- The number and type of pressure tapping (flange tap or corner tap) can be manufactured to customer requirements
- Special assemblies can be designed on request

Annular chambers are designed to be mounted between standard pipe flanges. Versions are available to suit all common flange standards, including DIN and ANSI B16.5.

Main characteristics

- Standard material is 316/316L stainless steel, but a wide range of alternative materials is available
- Gaskets are included in the scope of delivery (as standard, 4.4 mm thick spiral-wound gasket 316/graphite filler, unless requested otherwise)

FLC-FL

Orifice flanges

Standards:	ISO 5167-2
Pipe size:	■ ≥ 2" ■ ≥ 50 mm
β:	Depending on version
Accuracy:	≤ ±0.5 % of full scale flow rate
Data sheet:	FL 10.01

FLC-AC

Annular chambers

Standards:	ISO 5167-2
Pipe size:	■ ≥ 2" ■ ≥ 50 mm
β:	Depending on version
Accuracy:	≤ ±0.5 % of full scale flow rate
Data sheet:	FL 10.01

Meter runs

To ensure high accuracy in the flow measurement of liquids, gases and steam the primary flow element is supplied as an assembly incorporating the upstream and downstream pipe sections required by ISO5167-1:2003. This assembly is known as a “meter run”.

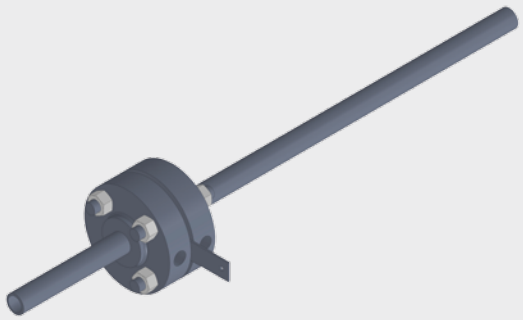
Main characteristics

- Nominal width < 1 ½"
- Nominal pressure rating 300 ... 2,500 (depending on the model)
- Wide range of materials available

A calibration of the instrument can be performed if higher accuracy is required.

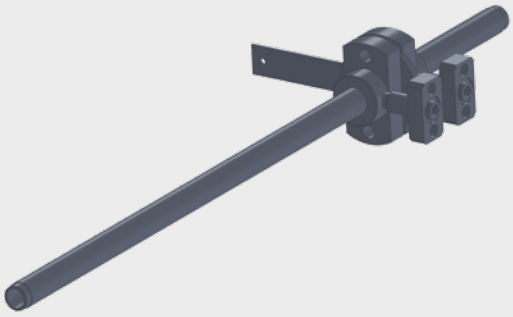
An integral orifice plate is normally selected when the pipe size is 1 ½” or smaller and the medium is clean. An extremely compact installation can be ensured as the pressure transmitter can be mounted directly onto the meter run. Without a calibration, an accuracy of ±1 % can be expected.

Meter run



Two ½" NPT connections

Integral orifice



Two oval flanges for a direct connection of a differential pressure transmitter

FLC-MR

Meter run

Standards:	ISO 5167-2
Pipe size:	■ ½ ... 1½ in ■ 12 ... 40 mm
β:	0.2 ... 0.75
Accuracy:	±1 % of full scale flow rate
Data sheet:	FL10.02

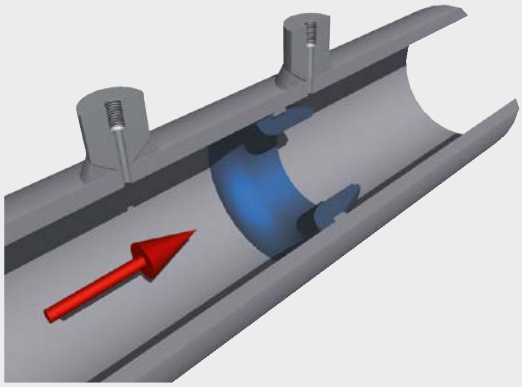
Flow nozzles

A flow nozzle consists of a convergent section with a rounded profile and a cylindrical throat. This design is generally selected for steam flow measurement at high velocity.

To reduce pressure loss an axisymmetric solution, called a Venturi nozzle, can be offered. It combines the standard features of a flow nozzle with a divergent section.

Main characteristics

- Suitable for liquid, gas and steam flow measurement
- Optimum solution for measuring the flow of steam
- Accuracy ≤ ±1 % of actual flow rate
- Repeatability of measurement 0.1 %
- Ensure a lower pressure loss compared to orifice plate family



Flow nozzle for in-pipe installation

Venturi nozzle

FLC-FN-PIP

Flow nozzle for in-pipe installation

Pipe size:	■ ≥ 2 in ■ ≥ 50 mm
β:	0.2 ... 0.8
Accuracy:	≤ ±1 % of full scale flow rate
Data sheet:	FL10.03

FLC-FN-FLN

Flow nozzle for flange assembly

Pipe size:	■ ≥ 2 in ■ ≥ 50 mm
β:	0.3 ... 0.8
Accuracy:	≤ ±1 % of full scale flow rate
Data sheet:	FL 10.03

FLC-VN

Venturi nozzle

Pipe size:	■ ≥ 2 in ■ ≥ 50 mm
β:	0.2 ... 0.8
Accuracy:	≤ ±1 % of full scale flow rate
Data sheet:	FL 10.03

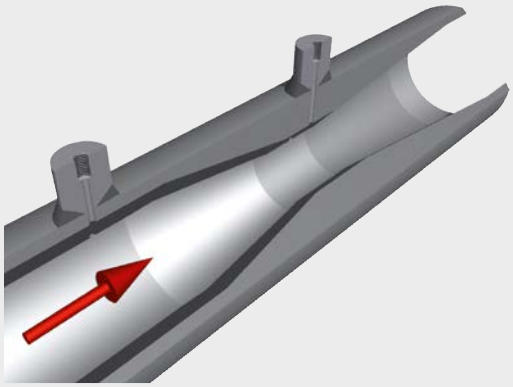
Venturi tubes

A Venturi tube is a reliable and easily-managed and maintained instrument that can measure a wide range of clean liquids and gases.

The main advantage of a Venturi tube over other differential pressure flow measuring instruments is the higher pressure recovery and the lower upstream and downstream straight pipe length requirements.

Main characteristics

- In accordance with ISO 5167-4 & ASME MFC-3M standards
- Fabricated from plate or machined from bar/forgings
- Flanged or weld-in construction
- Wide range of materials available
- Pipe sizes from 50 ... 1,200 mm
- Wide variety of pressure tappings available
- Calibration service available on request
- Ensure a lower pressure loss in the family of differential pressure transmitters.



Venturi tube, bar body

FLC-VT-BAR

Venturi tube, bar body

Pipe size:	■ 2 ... 32 in ■ 50 ... 250 mm
β:	0.4 ... 0.75
Accuracy:	≤ ±0.5 % of full scale flow rate
Data sheet:	FL 10.04

FLC-VT-WS

Venturi tube, welded sheet

Pipe size:	■ ≥ 14 in ■ 200 ... 1,200 mm
β:	0.4 ... 0.7
Accuracy:	≤ ±1.5 % of full scale flow rate
Data sheet:	FL 10.04

FloTec (averaging pitot tubes)

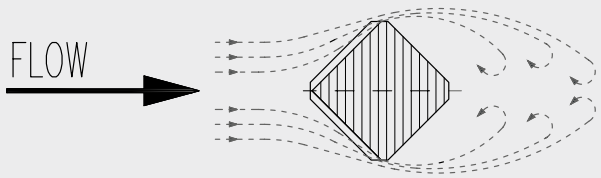
Flotec (a multi-port, averaging pitot flow meter) measures the difference between the static pressure and the dynamic pressure of the media in the pipe. The volumetric flow is calculated from that difference using Bernoulli's principle and taking into account the pipe inner diameter. Using four dynamic ports this instrument is able to evaluate a better velocity profile inside the pipe. This ensures a higher accuracy in the flow measurement.

Main characteristics

- Low installation costs
- Long-term accuracy
- Minimal unrecovered pressure loss
- Fixed and extractable versions available

Vortex shedding frequency

Depending on the inner diameter, the medium characteristics and the Reynolds number, a vortex will be generated around the pitot tube. A support mounted on the opposite side of the pipe can be supplied should the natural frequency of the pitot coincide with the vortex shedding frequency. The necessity test is performed during the design phase.



Vortex generation

FLC-APT-E

FloTec, extractable

Pipe size:	■ ≥ 3 in ■ ≥ 50 ... 1,800 mm
β:	n.a.
Accuracy:	±2 % of full scale flow rate
Data sheet:	FL 10.05

FLC-APT-F

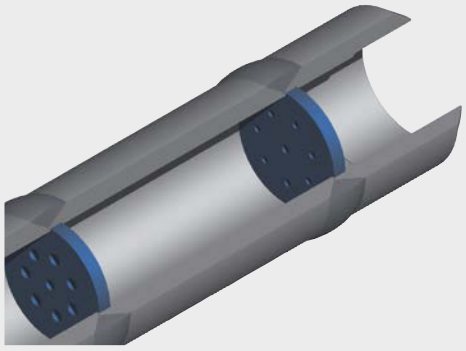
FloTec, fixed

Pipe size:	■ ≥ 3 in ■ ≥ 50 ... 1,800 mm
β:	n.a.
Accuracy:	±2 % of full scale flow rate
Data sheet:	FL 10.05

Restriction orifices

When a reduction of pressure or a limitation of the flow rate is required, a restriction orifice must be inserted into the pipeline. Our technical department will produce the correct design for the restriction orifice, depending on customer requirements and flow conditions.

If high differential pressures, a change in phase or sonic issues can occur, a more-complex design will be required. The solution in these cases is to decrease the differential pressure in several steps, avoiding all the issues created by these factors. This solution is called multi-step restriction orifice.



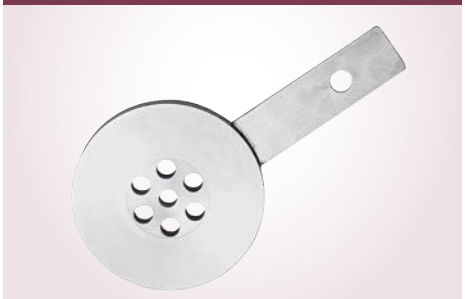
Multi-step restriction orifice

Main characteristics

- Multi-step restriction orifices to reduce the pressure by more than 50 % of the inlet value
- Multi-bore designs to reduce the noise level

FLC-RO-ST

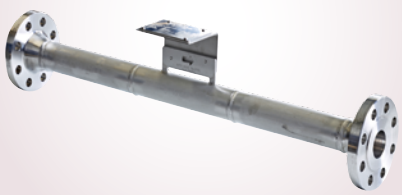
Single-step restriction orifice



Data sheet: FL 20.01

FLC-RO-MS

Multi-step restriction orifice



Data sheet: FL 20.01

Special applications

Not all customer needs can be fulfilled with standard products. Some challenges require an individual approach: As a result of our long experience we are able to cover special requirements such as off-shore and petrochemical installations, high-pressure lines and meter tubes for measurement in gas turbine power plants.

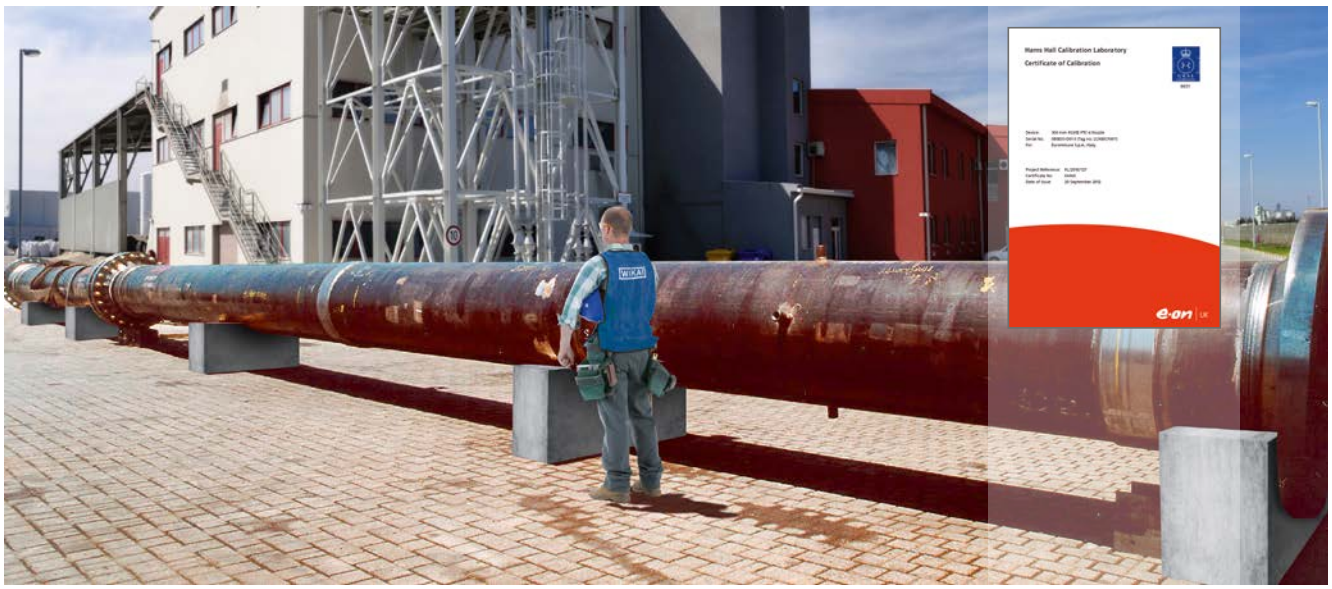
For all of these special applications and many more, we are able to deliver the optimal solution.
Talk to us.

Calibration

The accuracy of the measuring solution is often an important issue for many customers.

Sometimes the end-user needs best-in-class measurement levels, in terms of accuracy, precision and repeatability of the measurement.

We can support you in this challenge through the entire design and manufacturing process - suggesting the best solution for your project, ensuring the highest class manufacturing quality and providing the relevant calibration certificates in accordance with ASME PTC6, ISPESL and IBR standards.



Portable pressure generation

Simple manual pressure generation

Test pumps serve as pressure generators for the testing, adjustment and calibration of mechanical and electronic pressure measuring instruments through comparative measurements.
These pressure tests can take place in the laboratory or workshop, or on site at the measuring point.

CPP7

Pneumatic hand test pump

Measuring range:	-850 mbar ... +7 bar
Medium:	Ambient air
Special feature:	■ Pressure and vacuum generation switchable ■ Low weight ■ Compact dimensions
Data sheet:	CT 91.04

CPP30

Pneumatic hand test pump

Measuring range:	-950 mbar ... +35 bar
Medium:	Ambient air
Special feature:	■ Pressure and vacuum generation switchable ■ Compact dimensions
Data sheet:	CT 91.06

CPP700-H, CPP1000-H

Hydraulic hand test pump

Measuring range:	0 … 700 or 0 … 1,000 bar
Medium:	Oil or water
Special feature:	■ Integrated medium reservoir ■ Ergonomic handling
Data sheet:	CT 91.07

CPP1000-M, CPP1000-L

Hydraulic hand spindle pump

Measuring range:	0 …1,000 bar
Medium:	Oil or water
Special feature:	■ Smooth-running internal precision spindle ■ Compact dimensions
Data sheet:	CT 91.05

CPPxx00-X

Hydraulic comparison test pump

Measuring range:	0 … 1,000 to 0 ... 7,000 bar
Medium:	Oil or water
Special feature:	■ Integrated reservoir and priming pump ■ Robust laboratory version
Data sheet:	CT 91.05 and CT 91.08

Hand-helds, calibrators

Portable calibration instruments for mobile use for the accurate measurement and recording of pressure profiles

For these portable hand-held measuring instruments, exchangeable pressure sensors are available with measuring ranges up to 6,000 bar. Thus they are particularly suitable as test instruments for process technology, machine building, etc. Data recorded in the instrument can be evaluated via PC software.

CPT2500

USB pressure transmitter

Measuring range:	0 … 0.1 to 0 … 1,000 bar
Accuracy:	0.2 %, 0.1 % (optional)
Medium:	Non-corrosive gases, liquids
Special feature:	■ Recording interval adjustable from 1 ms ... 10 s ■ No external voltage supply required ■ Data storage and evaluation directly via PC
Data sheet:	CT 05.01

CPH6200

Hand-held pressure indicator

Measuring range:	0 … 0.1 to 0 … 1,000 bar
Accuracy:	0.2 %, 0.1 % (optional)
Medium:	Non-corrosive gases, liquids
Special feature:	■ Integrated data logger ■ Differential pressure measurement (optional)
Data sheet:	CT 11.01

CPH6300

Hand-held pressure indicator

Measuring range:	0 … 0.1 to 0 … 1,000 bar
Accuracy:	0.2 %, 0.1 % (optional)
Medium:	Non-corrosive gases, liquids
Special feature:	■ Robust and waterproof case with IP 65, IP 67 ■ Integrated data logger ■ Differential pressure measurement (optional)
Data sheet:	CT 12.01

CPH6400

Precision hand-held pressure indicator

Measuring range:	0 … 0.4 to 0 … 6,000 bar
Accuracy:	0.025 %
Medium:	Non-corrosive gases, liquids
Special feature:	■ Integrated data logger ■ Temperature measurement (optional)
Data sheet:	CT 14.01

Complete test and service cases

These cases can be assembled exactly to your requirements.
Thus you will be fully equipped on site!

Further information at www.wika.com

Hand-helds, calibrators

Calibrations can be documented directly in the calibrator and later read on a PC. Optionally, a calibration certificate can be generated through software.

CPH65I0

Hand-held pressure calibrator, intrinsically safe

Measuring range:	0 ... 0.025 to 0 … 700 bar
Accuracy:	Up to 0.025 %
Medium:	Non-corrosive gases, liquids
Special feature:	■ Temperature measurement (optional) ■ Differential pressure measurement (optional)
Data sheet:	CT 14.51

CPH6000

ProcessCalibrator

Measuring range:	0 … 0.25 to 0 … 6,000 bar
Accuracy:	0.025 %
Medium:	Non-corrosive gases, liquids
Special feature:	■ Function of calibration ■ Pressure switch test
Data sheet:	CT 15.01

CPH6600

Hand-held pressure calibrator with integrated pump

Measuring range:	0 … 2 to 0 … 20 bar
Accuracy:	0.025 %
Medium:	Clean, dry, non-corrosive gases
Special feature:	■ Integrated electrical pressure generation ■ Temperature measurement (optional) ■ Pressure switch test
Data sheet:	CT 16.01

CPH7600

Wally Box III

Measuring range:	-0.8 … +20 bar
Accuracy:	0.025 %
Medium:	Clean, dry, non-corrosive gases
Special feature:	■ Integrated electrical pressure generation ■ Pressure supply via external compressed air line ■ Robust case design, IP 67
Data sheet:	CT 17.01

Pascal100

Hand-held multi-function calibrator

Measuring range:	0 ... 1,000 bar
Accuracy:	0.025 %
Medium:	Non-corrosive gases, liquids
Special feature:	■ Integrated pressure generation ■ Large display with touchscreen ■ Measurement and simulation of pressure, temperature, current, voltage, resistance, frequency
Data sheet:	CT 18.01

Precision pressure measuring instruments

Electrical measuring systems which convert pressure into an electrical signal and optionally visualise it

Due to the low, DKD/DAkkS-certified measurement uncertainty of down to 0.008 % of the entire measuring chain, these instruments find their primary application as a factory/working standard for testing and/or calibrating a variety of pressure measuring instruments.

CPG500

Digital pressure gauges

Measuring range:	-1 … +16 to 0 ... 1,000 bar
Accuracy:	0.25 %
Medium:	Non-corrosive gases, liquids
Special feature:	■ Simple operation using 4 buttons ■ Robust case with protective rubber cap, IP 67
Data sheet:	CT 09.01

CPG1000

Precision digital pressure gauge

Measuring range:	0 … 0.07 to 0 ... 700 bar
Accuracy:	0.05 %
Medium:	Non-corrosive gases, liquids
Special feature:	■ Integrated data logger ■ Robust case with protective rubber cap, IP 65
Data sheet:	CT 10.01

CPT61x0

Precision pressure sensor

Measuring range:	0 … 0.025 to 0 ... 400 bar
Accuracy:	0.01 %
Special feature:	■ RS-232 or RS-485 connection ■ Analogue output (optional)
Data sheet:	CT 25.10

CPG2500

Precision pressure indicator, 1- or 2-channel version

Measuring range:	0 … 0.025 to 0 … 700 bar
Accuracy:	0.01 %
Medium:	Non-corrosive gases, > 1 bar liquids
Special feature:	■ Up to 2 sensors ■ Barometric reference (optional)
Data sheet:	CT 25.02

Pressure controllers

Electronic controllers which quickly and automatically provide a pressure based on a supply pressure

Due to the high accuracy and control stability, these types of instruments are especially suitable as references for production lines and laboratories, in order to carry out automatic testing and/or calibration of all types of sensors.

An air data test set is a an electronic controller which, based on a supply pressure, provides a pressure at a variable and adjustable rate

Air data test sets are specifically developed to convert the pressure to be controlled into a height or rate of climb and velocity. As a result of the high accuracy, control stability and ability to simulate altitude and velocity, an air data test set is particularly suitable as a reference for aircraft workshops and also for instrument manufacturers and calibration laboratories in the aviation industry, in order to make calibrations on sensors and displays.

CPC2000

Low-pressure version

Measuring range:	0 … 1 to 0 … 1,000 mbar
Accuracy:	0.1/0.3 % (for 0 ... 1 mbar)
Medium:	Ambient air
Special feature:	Integrated pressure generation
Data sheet:	CT 27.51

CPC3000

High-speed version

Measuring range:	0 … 0.35 to 0 ... 100 bar
Accuracy:	0.025 %
Medium:	Dry clean air or nitrogen
Special feature:	Fast control speed
Data sheet:	CT 27.55

CPA8001

Air data test set

Measuring range:	Up to 3.4 bar abs.
Accuracy:	0.009 %
Medium:	Dry, clean air or nitrogen
Special feature:	■ Excellent control stability, even with rate control ■ Overshoot-free control
Data sheet:	CT 29.01

CPC6000

Standard version

Measuring range:	0 … 0.025 to 0 ... 100 bar
Accuracy:	0.01 %
Medium:	Dry clean air or nitrogen
Special feature:	■ Up to 2 control/measuring channels with 2 sensors each ■ Sensors exchangeable
Data sheet:	CT 27.61

CPC8000

Precision version

Measuring range:	0 … 0.025 to 0 … 400 bar
Accuracy:	0.01 … 0.008 %
Medium:	Dry clean air or nitrogen
Special feature:	■ Excellent control stability ■ Overshoot-free control
Data sheet:	CT 28.01

CPC8000-H

High-pressure version

Measuring range:	0 … 600 to 0 ... 1,600 bar
Accuracy:	0.01 %
Medium:	Hydraulic oil or water
Special feature:	■ High stability, also for large volumes ■ Up to two interchangeable reference sensors
Data sheet:	CT 28.05

Pressure balance, industrial series

Compact and powerful primary standards with excellent operating characteristics, based on the physical principle of Pressure = Force/Area

The direct measurement of the pressure (p = F/A), as well as the use of high-quality materials enable this small measurement uncertainty, in conjunction with an excellent long-term stability (recommended recalibration interval of five years in accordance with the German Calibration Service DKD/DAkkS).

Through the selection of a dual-range piston-cylinder system with automatic measuring range switching, this measurement uncertainty can be ensured, even with a single measuring system, over a large pressure range.

CPB3800

Compact version

Measuring range:	1 ... 120 to 10 ... 1,200 bar
Accuracy:	0.05 ... 0.025 %
Medium:	Special oil
Special feature:	■ Compact dimensions and low weight ■ Instrument base can now also be combined with the CPB5800 piston-cylinder systems
Data sheet:	CT 31.06

CPB5000

Pneumatic version

Measuring range:	-0.03 ... -1 to 0.4 ... 100 bar
Accuracy:	0.015 … 0.008 %
Medium:	Non-corrosive gases
Special feature:	Patented system for fast piston-cylinder exchange
Data sheet:	CT 31.01

CPB5800

Hydraulic version with dual-range piston-cylinder systems

Measuring range:	1 … 120 to 1 ... 1,400 bar
Accuracy:	0.015 … 0.006 %
Medium:	Operating fluid or others on request
Special feature:	■ Dual-range piston-cylinder systems with fully automated changing between ranges ■ Instrument base can now also be combined with the CPS5000 piston-cylinder systems
Data sheet:	CT 31.11

CPB5600DP

Differential pressure version

Measuring range:	0.03 … 2 to 25 ... 1,600 bar
Accuracy:	0.015 … 0.008 %
Medium:	Non-corrosive gases or special oil
Special feature:	Two complete pressure balances within one case for real differential pressure measurements under static pressure
Data sheet:	CT 31.56

CPB5000HP

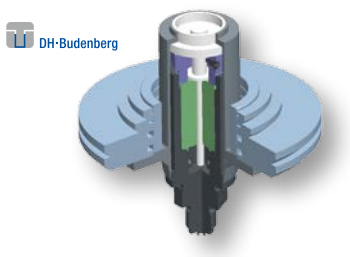
High-pressure version

Measuring range:	25 … 2,500 to 25 … 5,000 bar
Accuracy:	0.025 … 0.02 %
Medium:	Special oil
Special feature:	Robust instrument base with integrated high-pressure generation
Data sheet:	CT 31.51

CPS5000

Hydraulic single-range piston-cylinder systems

Special feature:	■ For the highest demands on accuracy and performance ■ Can be combined with the CPB5800 instrument base
Data sheet:	CT 31.01



Further information at www.wika.com

Pressure balances, high-end version

High-accuracy and powerful primary standards with excellent operating characteristics, based on the physical principle of Pressure = Force/Area

The direct measurement of the pressure (p = F/A), as well as the use of high-quality materials enable this small measurement uncertainty, in conjunction with an excellent long-term stability (recommended recalibration interval of five years in accordance with the German Calibration Service DKD/DAkkS).

Furthermore, an automatic mass handling system and pressure generation ensures fully-automated calibration. The pressure balance has therefore been used for years in factory and calibration laboratories in industry, national institutes and research laboratories, and also in production by sensor and transmitter manufacturers.

CPB6000

Highest-accuracy primary standard

Measuring range:	4 ... 5,000 bar
Accuracy:	0.0035 … 0.0015 %
Medium:	Dry, clean air, nitrogen or special oil
Special feature:	Different instrument variants for the highest demands
Data sheet:	CT 32.01

CPB6000DP

Primary standard for differential pressure

Measuring range:	30 ... 800 bar
Accuracy:	0.005 … 0.002 %
Medium:	Non-corrosive gases
Special feature:	For differential pressure measurements from 10 Pa to 800 bar
Data sheet:	CT 32.02

CPB8000

Automatic primary standard

Measuring range:	■ 500 ... 5,000 bar ■ Others on request
Accuracy:	0.005 … 0.003 %
Medium:	■ Sebacate oil ■ Others on request
Special feature:	Automated calibration of the highest-accuracy pressure sensors, integrated pressure generation
Data sheet:	CT 32.03

CPD8000

Digital pressure balance

Measuring range:	1 ... 500 bar (abs. and rel.)
Accuracy:	0.005 … 0.002 %
Medium:	Non-corrosive, dry gases
Special feature:	unique operating principle, ideal for automatic calibrations, no mass handling needed
Data sheet:	CT 32.04

Calibration software

Easy and fast creation of high-quality calibration certificates

The WIKA-CAL calibration software is used for generating calibration certificates or logger protocols for pressure measuring instruments and is available as a demo version for a cost-free download on the homepage. A template helps the user and guides him through the creation process of a document. Calibration certificates can be created with the Cal-Template and logger protocols can be created with the Log-Template.

WIKA-CAL

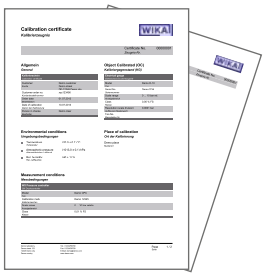
Calibration software

- Creation of calibration certificates for mechanical and electronic pressure measuring instruments
- Fully automatic calibration with pressure controllers
- For the recording of certificate-relevant data in combination with the CalibratorUnits of the CPU6000 series
- Determination of the required mass loads for pressure balances
- Calibration of relative pressure measuring instruments with absolute pressure references and vice versa

Data sheet: CT 95.10

In order to switch from the demo version to a full version of the respective template, a USB key with the template has to be purchased. The pre-installed demo version automatically changes to the selected full version when the USB key is inserted and is available as long as the USB key is connected to the computer.

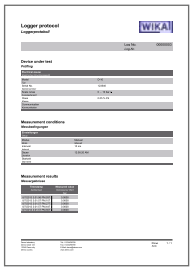
Cal Demo
Generation of calibration certificates limited to 2 measuring points, with automatic initiation of pressures via a pressure controller.



Cal Light
Generation of calibration certificates with no limitations on measuring points, without automatic initiation of pressures via a pressure controller.

Cal
Generation of calibration certificates with no limitations on measuring points, with automatic initiation of pressures via a pressure controller.

Log Demo
Creation of data logger test reports, limited to 5 measured values.



Log
Creation of data logger test reports without limiting the measured values.

Accessories for pressure balances

CPU6000 series

CalibratorUnit

- Determination of the required mass loads or the reference pressure for calibration with pressure balances
- Recording of certificate-relevant data
- Calibration of relative pressure measuring instruments with absolute pressure references and vice versa
- Easy calibration of pressure transmitters through the voltage supply and multimeter function

Data sheet: CT 35.02

WIKA-CAL

Calibration software

- Creation of calibration certificates for mechanical and electronic pressure measuring instruments
- Fully automatic calibration with pressure controllers
- For the recording of certificate-relevant data in combination with the CalibratorUnits of the CPU6000 series
- Determination of the required mass loads for pressure balances
- Calibration of relative pressure measuring instruments with absolute pressure references and vice versa

Data sheet: CT 95.10

Correction of the environmental conditions to achieve the best possible accuracies

WIKA-CAL calibration software
CalibratorUnit CPU6000
iPad app CPB-CAL

Auxiliary device for calibrations of dead weight testers for the highest accuracy

The specified accuracy of pressure balances is valid under reference conditions, i.e. ambient temperature 20 °C, atmospheric pressure 1,013 mbar, relative air humidity 40 % and for a specific installation location with a local gravitational acceleration. For ambient conditions that deviate from these, if required, corrections must be made.

$$p_e = \left[\frac{m \cdot \left(1 - \frac{\rho_l}{\rho_m}\right) \cdot g_l + \sigma \cdot c}{A_0 \cdot \left[1 + (\alpha + \beta) \cdot (t - 20) + \lambda_{p_e}\right]} + (\rho_{Fl} - \rho_l) \cdot g_l \cdot \Delta h \right] \cdot 10^{-5}$$

Description

With the demo version of the WIKA-CAL software and a CPB series pressure balance, the mass discs to be applied and the corresponding reference pressure can be determined. The pressure balance data can be entered into the database manually or imported automatically via an online XML file. With the CPU6000 series instruments, the accuracy can be further increased. With the CPU6000-W, the ambient conditions can be measured, and with the CPU6000-S, the piston temperature can be measured and these can be taken into account in the calculations. As an additional parameter, the local gravity value can be given for location-independent measurements. If a pressure transmitter is being calibrated, this can automatically be read with the CPU6000-M. Thus the CPU6000-M is used as voltage supply and multimeter. Through the simple and user-friendly operation with the CPB-CAL iPad® app, the mass discs to be applied for a given pressure value can be calculated.

Reference thermometers

Conventional contact thermometers

Due to the excellent stability and the geometrical conformance, these standard thermometers are ideally suited for applications in industrial laboratories. Here simple comparative calibrations can be carried out in baths, in tube furnaces and in dry-well calibrators.

The advantage of these reference thermometers is the wide temperature range, and with this, their flexible operation. Furthermore, with their low drift, a long service life is ensured.

CTP1000

Platinum resistance thermometer

Measuring range:	-100 … +670 °C
Stability:	< 40 mK after 100 h at 660 °C
Dimensions:	Ø 6.35 mm, l = 450 mm
Special feature:	■ 4-wire connection ■ Ends stripped and tin-coated
Data sheet:	CT 61.10

CTP2000

Platinum resistance thermometer

Measuring range:	-200 … +450 °C
Stability:	< 50 mK after 100 h at 450 °C
Dimensions:	Ø 4 mm, l = 500 mm
Special feature:	■ 4-wire connection ■ Ends with 4 mm banana plugs
Data sheet:	CT 61.10

CTP5000

Reference thermometer

Measuring range:	-196 … +660 °C
Sensor type:	Pt100, Pt25
Dimensions:	Depending on version
Special feature:	Free cable ends, DIN or SMART connector
Data sheet:	CT 61.20

CTP9000

Thermocouple

Measuring range:	0 … 1,300 °C
Thermocouple:	Type S per IEC 584, class 1
Dimensions:	Ø 7 mm, l = 1,500 mm
Special feature:	■ Cold junction optional ■ 450 mm cable ■ Ends with 4 mm banana plugs
Data sheet:	CT 61.10

Further information at www.wika.com

Hand-helds

Portable measuring and calibration instruments for mobile use

For these portable measuring instruments there are various designs of thermometers available. They are therefore particularly suitable as test instruments for a wide variety of fields such as sterile process technology, machine building, etc.

Furthermore, depending on the version, functions such as a data logger and a serial interface are available, so that immediate on-site measurements can be made and documented, and with this, the data can also be simultaneously archived.

CTR1000

Infrared hand-held thermometer

Measuring range:	-60 … +1,000 °C
Accuracy:	2 K or 2 % of measured value
Special feature:	Thermocouple connection (optional)
Data sheet:	CT 55.21

CTH6300

Hand-held thermometer

Measuring range:	-200 … +1,500 °C
Accuracy:	0.1K ... 1 K
Sensor type:	Pt100, TC
Special feature:	2 channels (optional)
Data sheet:	CT 51.05

CTH6500

Hand-held thermometer

Measuring range:	-200 … +1,500 °C
Accuracy:	0.03 ... 0.2 K
Sensor type:	Pt100, TC
Data sheet:	CT 55.10

CTH7000

Hand-held thermometer

Measuring range:	-200 … +962 °C
Accuracy:	0.015 K
Sensor type:	Pt100, Pt25 and NTC
Special feature:	Integrated data logger
Data sheet:	CT 55.50

Portable temperature calibrators

Electronic controllers which automatically, quickly and dryly supply a temperature

Due to the high reliability, accuracy and simple operation, this type of instrument is particularly suitable as a factory/ working standard for the automatic testing and/or calibration of temperature measuring instruments of all types.

A major advantage is offered by the large sleeve diameters and the fast, stable temperature control, since, as a result of these characteristics, the time for calibration can be used very effectively.

CTI5000

Infrared calibrator

Measuring range:	50 … 500 °C
Accuracy:	1 K, usually 0.8 K
Stability:	0.1 … 0.4 K
Special feature:	Large diameter of measuring surface
Data sheet:	CT 41.42

CTD9100-375

Compact temperature dry-well calibrator

Measuring range:	t_{amb} … 375 °C
Accuracy:	0.5 ... 0.8 K
Stability:	0.05 K
Immersion depth:	100 mm
Data sheet:	CT 41.32

CTD9100

Temperature dry-well calibrator

Measuring range:	-55 … +650 °C
Accuracy:	0.15 … 0.8 K
Stability:	0.01 … 0.05 K
Immersion depth:	150 mm
Data sheet:	CT 41.28

CTM9100-150

Multi-function calibrator

Measuring range:	-35 … +165 °C depending on the application
Accuracy:	0.3 … 1 K depending on the application
Immersion depth:	150 mm
Special feature:	Application as dry-well calibrator, micro calibration bath, infrared calibrator and surface calibrator
Data sheet:	CT 41.40

CTD9300

Temperature dry-well calibrator

Measuring range:	-35 … +650 °C
Accuracy:	0.1 … 0.65 K
Stability:	0.01 … 0.1 K
Immersion depth:	150 mm
Data sheet:	CT 41.38

CTD9100-1100

High-temperature dry-well calibrator

Measuring range:	200 … 1,100 °C
Accuracy:	3 K
Stability:	0.3 K
Immersion depth:	225 mm
Data sheet:	CT 41.29

Further information at www.wika.com

Calibration baths

Electronic controllers which automatically, quickly and with the help of a liquid supply a temperature

Due to the high reliability, accuracy and exceptional homogeneity in the measuring chamber, this type of instrument is particularly suitable as a factory/working standard for the automatic testing and/or calibration of the widest range of temperature sensors - independent of diameter. A special micro calibration bath design enables on-site applications.

CTB9100

Micro calibration bath

Measuring range:	-35 … +255 °C
Accuracy:	0.2 … 0.3 K
Stability:	±0.05 K
Special feature:	■ Short heating and cooling times ■ Easy to use
Data sheet:	CT 46.30

CTB9400

Calibration bath, medium measuring range

Measuring range:	28 ... 300 °C
Stability:	0.02 K
Immersion depth:	200 mm
Medium:	Water, oil or similar media
Data sheet:	CT 46.20

CTB9500

Calibration bath, low measuring range

Measuring range:	-45 … +200 °C
Stability:	0.02 K
Immersion depth:	200 mm
Medium:	Water, oil or similar media
Data sheet:	CT 46.20

Resistance thermometry bridges

Electronic thermometry bridges which measure with high accuracy

By using standard resistors, resistance thermometry bridges measure resistance ratios with high accuracy, which are indicative of the temperature, among other thins. Due to their high accuracy, these instruments are not only used in the field of temperature measurement, but also in electrical laboratories.

CTR2000

Precision thermometer

Measuring range:	-200 ... +850 °C
Accuracy:	0.01 K (4-wire), 0.03 K (3-wire)
Sensor type:	Pt100, Pt25
Special feature:	■ 3-wire measurement (optional) ■ Up to 8 channels integrated in the instrument (optional)
Data sheet:	CT 60.10

CTR5000

Precision thermometer

Measuring range:	-200 ... +962 °C
Accuracy:	0.01 K, optional 0.005 K
Sensor type:	Pt100, Pt25
Special feature:	■ Integrated data logger (optional) ■ Up to 64 channels
Data sheet:	CT 60.20

CTR6000

DC resistance thermometry bridge

Measuring range:	-200 ... +962 °C
Accuracy:	± 3 mK (full range)
Sensor type:	PRT, thermistors or fixed resistors
Special feature:	■ Expendable to up to 60 channels (optional) ■ Internal resistors 25 Ω, 100 Ω, 10 kΩ, 100 kΩ
Data sheet:	CT 60.30

CTR6500

AC resistance thermometry bridge

Measuring range:	-200 ... +962 °C
Accuracy:	0.1 ... 1.25 mK depending on resistance ratio
Sensor type:	SPRT, PRT or fixed resistor
Special feature:	■ Expendable to up to 60 channels (optional) ■ Internal resistors 25 Ω, 100 Ω ■ AC technology
Data sheet:	CT 60.40

CTR9000

Primary-standard resistance thermometry bridge

Measuring range:	0 ... 260 Ω
Accuracy:	0,1 ppm, 20 ppb optional
Sensor type:	SPRT, PRT or fixed resistor
Special feature:	■ Expendable to up to 60 channels (optional) ■ 4 selectable standby currents possible (optional) ■ AC technology
Data sheet:	CT 60.80

Further information at www.wika.com

Standard reference resistors, AC/DC

Electrical comparison standard

Reference resistors with high-accuracy, fixed resistance values, which are used in connection with resistance thermometry bridges. They are also used as standards in accredited electrical laboratories.

CER6000-RR

Reference resistor

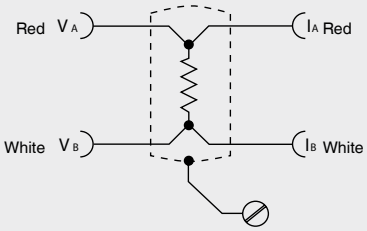
Resistance value:	1, 10, 25, 100, 300, 400, 500, 1,000 and 10,000 Ω
Long-term stability:	< ± 5 ppm per year
Special feature:	■ Low temperature coefficient ■ Rugged stainless steel construction
Data sheet:	CT 70.30

CER6000-RW

Standard reference resistor

Resistance value:	10, 25, 100, 400, 1,000 and 10,000 Ω
Long-term stability:	2 ppm per year (HS version 0.5 ppm per year)
Special feature:	■ Low temperature coefficient ■ Rugged stainless steel construction
Data sheet:	CT 70.30

Connections of the reference resistor, model CER6000-RR



Reference resistor, model CER6000-RR with 100 Ω

Reference resistor, model CER6000-RR with different resistance range

Hand-helds, calibrators

Portable measuring and calibration instruments for mobile use

Due to unparalleled performance characteristics and low measurement uncertainties these instruments are used for calibration in industry (laboratories, production, workshops), in calibration service companies and in quality assurance.

CEP1000

Hand-held loop calibrator

Measuring range:	0 … 24 mA, 0 … 28 V
Accuracy:	0.015 %
Special feature:	Simulates, powers and measures 2-wire transmitters
Data sheet:	CT 81.01

CEP3000

Hand-held temperature calibrator

Measuring range:	■ -10 … +75 mV, 5 … 3,200 Ω ■ -200 … +1,200 °C (type J) ■ -200 … +800 °C (Pt100)
Accuracy:	0.4 °C (type J), 0.33 °C (Pt100)
Special feature:	Measurement and simulation of thermocouples and resistance thermometers
Data sheet:	CT 82.01

CEP6000

Hand-held multi-function calibrator

Measuring range:	■ 0 … 24 mA, 0 ... 30 V, 5 … 4,000 Ω ■ 2 CPM … 10 kHz ■ -210 … +1,200 °C (type J) ■ -200 … +800 °C (Pt100)
Accuracy:	0.015 %
Special feature:	Measurement and simulation of thermocouples, resistance thermometers, resistance, current, voltage, frequency, pulse and pressure
Data sheet:	CT 83.01

CED7000

High-precision process calibrator

Measuring range:	■ 0 … 100 mA, 0 ... 100 V, 5 … 4,000 Ω ■ -210 … +1,200 °C (type J) ■ -200 … +800 °C (Pt100)
Accuracy:	0.003 %
Special feature:	High-precision measurement and simulation of thermocouples and resistance thermometers, resistance, current, voltage and pressure
Data sheet:	CT 85.51

Pascal ET

Hand-held multi-function calibrator

scandura

Measuring range:	■ 0 … 100 mA, 0 ... 80 V, 5 … 10,000 Ω ■ 0 ... 50 kHz ■ -190 … +1,200 °C (type J) ■ -200 … +850 °C (Pt100)
Accuracy:	0.008 %
Special feature:	■ Large display with touchscreen ■ Integrated data logger and calibration function ■ Measurement and simulation of temperature, current, voltage, resistance, frequency, pressure
Data sheet:	CT 18.52

Further information at www.wika.com

Accessories

From single components to complete kits

For pressure as a measurement parameter, we offer from thread adapters, through sensors to complete service kits - all you could need for calibration.
Customer-specific drilled inserts, silicone oil suited for calibration in micro calibration baths and interface cables complete the product portfolio for temperature.

Hardware

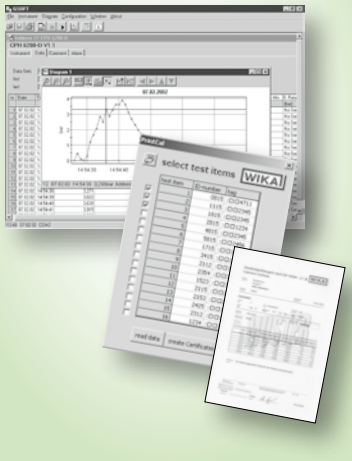
Pressure

Hardware

Temperature

Software

Pressure and temperature



Calibration systems

Turnkey, customer-specific systems and installations with corresponding software

From the extensive product programme an integrated solution can be designed with the required degree of automation. The major advantage with this is the experience with the well-proven application of measuring technology in WIKA's own accredited laboratories and manufacturing plants.

Adjustment and calibration benches

Measuring range:	■ 1 … 400 bar pneumatic ■ 10 … 1,600 bar hydraulic
Accuracy:	Depending on the measuring devices used
Medium:	Compressed air, nitrogen, oil or water
Special feature:	Provision of pressure in workshops and laboratories

Mobile calibration benches

Measuring range:	Customer-specific
Accuracy:	Down to 0.008 %
Medium:	Compressed air, nitrogen, oil or water
Special feature:	Complete turnkey system

Test systems

Measuring range:	Customer-specific
Accuracy:	Down to 0.008 %
Medium:	Compressed air, nitrogen, oil or water
Special feature:	Measurement parameters pressure, temperature and electrical measurement parameters

Automated pressure calibration systems

Measuring range:	Customer-specific
Accuracy:	Down to 0.008 %
Medium:	Compressed air, nitrogen, oil or water
Special feature:	Complete turnkey system

Automated temperature calibration systems

Measuring range:	Customer-specific
Stability:	Up to 0.001 K
Medium:	Water, alcohol, silicone oil or salt
Special feature:	Complete turnkey system

Further information at www.wika.com

Complete solutions

Simple checking or professional calibration

CPH6000, CPP30

Calibration of a process transmitter

- Pressure generation with the pneumatic hand test pump CPP30
- Reading of the electrical signal of the process transmitter via the electrical input of the CPH6000
- Recording of the calibration in the CPH6000 and later evaluation on a PC in conjunction with the EasyCal software

CPH6600

Calibration of a process transmitter

- Pressure generation with the integrated electrical pump of the CPH6600
- Reading of the electrical signal of the process transmitter via the electrical input of the CPH6600

CPH6400, CPP5000-X

High-pressure calibration

- Pressure generation with the hydraulic high-pressure pump CPP5000-X
- Reading of the electrical signal of the calibration item via a digital indicator
- Online acquisition of the calibration data and generation of calibration certificates in conjunction with the PrintCal software

Calibration

Product quality, operational safety and cost effectiveness relate directly to an accurate and reliable registration of the process variables. Therefore, you should entrust the calibration and maintenance of your measuring instruments to a competent partner. Since 1982 WIKA Calibration and Service centre in Klingenberg has been a member of the German Calibration Service (DKD) and has been accredited to DIN EN ISO/IEC 17025. Since then we have been actively participating in working groups as well as standardisation committees – contributing our experience to technological progress.

Carrying out a calibration

Prior to calibration an evaluation of the calibration capability of the instruments is performed and, if necessary, an adjustment.
The calibration is carried out in accordance with the valid directives.
The results of the calibration are documented in a calibration certificate and the calibration item receives a calibration mark.

We perform calibration of pressure and temperature measuring instruments from our own production as well as instruments from all other manufacturers. Depending on your requirements you can select either a traceable calibration or a factory calibration.

DAkkS calibration

- List of single measured values
- Specification of the applied reference standard
- Calculation of mathematical parameters
- Calculation of the expanded measurement uncertainty (as required in ISO 9001)

- Traceability to the national standard of the country is guaranteed

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- Documentation and graphic illustration in a traceable certificate

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- European co-operation for Accreditation ensures world-wide acceptance

→ DAkkS calibration certificate

Factory calibration

- List of single measured values
- Specification of the applied reference standard

- Traceability of the testing devices to the national standard is given, as a rule

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- Documentation in an acceptance test certificate (no formal obligation)

- No normative or internationally agreed standards

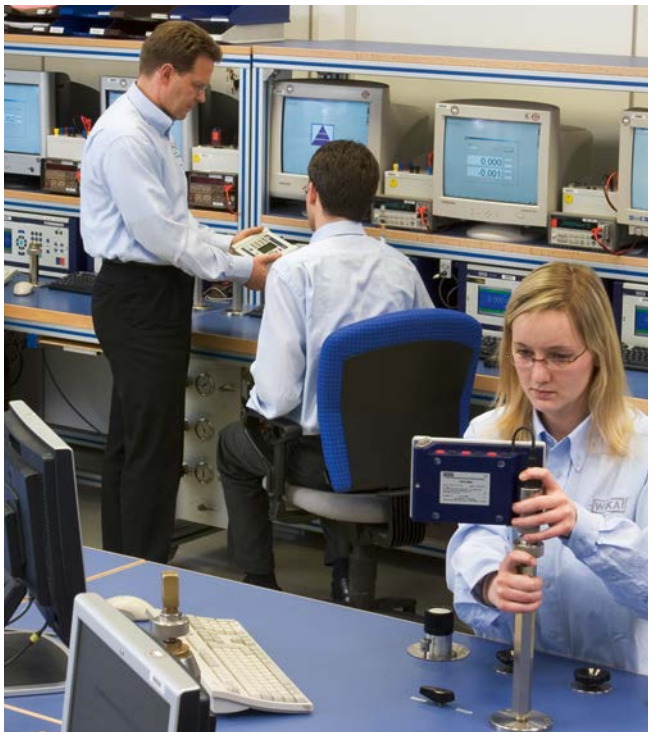
→ 3.1 acceptance test certificate per DIN EN 10 204

Further information at www.wika.com

Calibration services

Our calibration laboratory for pressure has been accredited since 1982 and for temperature since 1992 in accordance with DIN EN ISO/IEC 17025.

From -1 ... +8,000 bar



D-K-15105-01-00

We calibrate your pressure measuring instruments quickly and precisely:

- in the range (-1 ... +8,000) bar
- using high-precision reference standards (pressure balances) and working standards (precise electrical pressure measuring instruments)
- with an accuracy from (0.003 ... 0.01) % of reading depending on the pressure range
- in accordance with the directives DIN EN 837, DAkkS-DKD-R 6-, EURAMET cg-3 or EURAMET cg-17

From -196 ... +1,200 °C

D-K-15105-01-00

We calibrate your temperature measuring instruments quickly and precisely:

- in the range (-196 ... +1,200) °C
- in calibration baths, tube furnaces or at fixed points using appropriate reference thermometers
- with an accuracy from 2 mK ... 1.5 K depending on temperature and the applied procedure
- in accordance with the appropriate DKD/DAkkS and EURAMET directives

CT Service Hotline

You will receive information about calibrations in the WIKA laboratory and on-site calibrations from our CT Service Team.

Tel. +49 9372 132-5049 · CTServiceteam@wika.com

Online services

If you would like to send your measuring instrument for calibration to the WIKA laboratory, please use our product return form at
www.wika.com – Service – Product return

On-site calibration

D-K-15105-01-00

In order to have the least possible impact on the production process, we offer you a time-saving, on-site DAkkS calibration throughout Germany (measurement parameter pressure).

We calibrate your pressure and temperature measuring instruments quickly and precisely:

- in our calibration van or on your workbench
- with a DAkkS accreditation for pressure
  - in the range from (-1 ... +1,600 bar)
  - with accuracies between 0.01 % and 0.05 % of FS for the standard used
- Factory test certificates for temperature from (-55 ... +1,100) °C

Consulting and training

If you are planning to expand your instrumentation, we will gladly lend our experience in the selection of the appropriate solution.

In collaboration with our team of calibration technology experts, we develop tailor-made solutions.

If required, also as a turnkey plug and play system. On-site commissioning as well as the training of the operator is naturally included.

Our calibration courses are individually matched to your requirements and needs.
Thus we can orientate the topics for the theory as well as the practice of calibration technology.

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