WIKA

Standard product portfolio

Pressure | Temperature | Level | Force | Flow | Calibration technology

Part of your business

Alexander Wiegand,
Chairman and CEO, WIKA

About us

As a family-run business acting globally, with 10,000 highly qualified employees, the WIKA group of companies is a worldwide leader in pressure and temperature measurement. The company also sets the standard in the measurement of level, force and flow, and in calibration technology.

Founded in 1946, WIKA is today a strong and reliable partner for all the requirements of industrial measurement technology, thanks to a broad portfolio of high-precision instruments and comprehensive services.

With manufacturing locations around the globe, WIKA ensures flexibility and the highest delivery performance. Every year, over 50 million quality products, both standard and customer-specific solutions, are delivered in batches of 1 to over 10,000 units.

With numerous wholly owned subsidiaries and partners, WIKA competently and reliably supports its customers worldwide. Our experienced engineers and sales experts are your competent and dependable contacts locally.

Contents

In this brochure you will find standard products from all WIKA product lines.

You can find our industry-specific products with a lot of additional information in our segment brochures at www.wika.com.

- Sanitary applications
- Ventilation and air-conditioning
- Innovative SF_6 solutions
- High purity & ultra high purity

Bourdon tube pressure gauges

Copper alloy

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 in accordance with the European standard EN837-1 (except for model 111.11 and 111.12 in NS 27).

111.10, 111.12

Standard version

Nominal size	27, 40, 50, 63, 80, 100, 160 mm
Scale range	-1 … 0 to 0 … 400 bar
Accuracy class	2.5, 1.6 optional NS 27: 4.0
Data sheet	PM 01.01, PM 01.17

111.11

Welding gauge ISO 5171

Nominal size	40, 50, 63 mm
Scale range	0 … 0.6 to 0 … 400 bar
Accuracy class	2.5
Data sheet	PM 01.03

111.16, 111.26

Panel mounting series

Nominal size	40, 50, 63 mm, model 111.26 also 80 mm
Scale range	-1 … 0 to 0 … 400 bar
Accuracy class	2.5
Data sheet	PM 01.10

113.13

Plastic case, liquid filling

Nominal size	40, 50, 63 mm
Scale range	-1 … 0 to 0 … 400 bar
Accuracy class	2.5
Data sheet	PM 01.04

214.11

Edgewise panel design

Nominal size	96 x 96, 72 x 72
Scale range	■ NS 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
Data sheet	PM 02.07

212.20

Stainless steel case

Nominal size	100, 160 mm
Scale range	0 … 0.6 to 0 … 1,000 bar
Accuracy class	1.0
Data sheet	PM 02.01

213.40

Heavy-duty version, liquid filling

Nominal size	63, 80, 100 mm
Scale range	-1 … 0 to 0 … 1,000 bar
Accuracy class	1.0 (NS 100), 1.6 (NS 63 and 80)
Data sheet	PM 02.06

113.53, 213.53

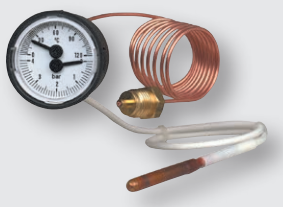
Stainless steel case, liquid filling

Nominal size	113.53: 40, 80, 100 mm 213.53: 50, 63, 100 mm
Scale range	-1 … 0 to 0 … 1,000 bar
Accuracy class	113.53: 2.5 213.53: 1.0 (NS 100), 1.6 (NS 50, 63)
Data sheet	PM 01.08, PM 02.12

Thermomanometers

MFT

With capillaries, for pressure and temperature measurement



Nominal size	40, 42, 52 mm
Scale range	■ Pressure: 0 … 4 bar ■ Temperature: 0 … 120 °C
Accuracy class	■ Pressure: 2.5 (EN 837-1) ■ Temperature: 2.5
Data sheet	PM 01.20

THM10

Eco version, for pressure and temperature measurement

Nominal size	63, 80 mm
Scale range	■ Pressure: 0 … 4 to 0 … 10 bar ■ Temperature: 0 … 120 °C
Connection location	Lower mount or back mount
Accuracy class	■ Pressure: 2.5 (EN 837-1) ■ Temperature: 2 (EN 13190)
Data sheet	PM 01.24

100.02

For pressure and temperature measurement

Nominal size	63, 80 mm
Scale range	■ Pressure: 0 … 1 to 0 … 16 bar ■ Temperature: 0 … 100 to 0 … 150 °C
Connection location	Lower mount or back mount
Accuracy class	■ Pressure: 2.5 (EN 837-1) ■ Temperature: ±2.5
Data sheet	PM 01.23

Further information at www.wika.com

Bourdon tube pressure gauges

Stainless steel

The wetted parts of these pressure gauges are manufactured entirely from stainless steel. Thus they are suitable for gaseous and liquid aggressive media that are not highly viscous or crystallising, also in aggressive environments. They are suitable for scale ranges from 0 … 0.6 to 0 … 7,000 bar.

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

131.11

Compact version

Nominal size	40, 50, 63 mm
Scale range	■ NS 40, 50: 0 … 1 to 0… 600 bar ■ NS 63: 0 … 1 to 0 … 1,000 bar
Accuracy class	2.5
Ingress protection	IP65
Data sheet	PM 01.05

232.50, 233.50

For the process industry, standard version

Nominal size	63, 100, 160 mm
Scale range	■ NS 63: 0 … 1 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	IP65
Data sheet	PM 02.02

232.30, 233.30

For the process industry, safety version

Nominal size	63, 100, 160 mm
Scale range	■ NS 63: 0 … 1 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	IP65
Data sheet	PM 02.04

232.36, 233.36

High overload safety up to the 4-fold full scale value, safety version

Nominal size	100, 160 mm
Scale range	0 … 0.6 to 0 … 40 bar
Overload safety	Up to 4 times the measuring range
Accuracy class	1.0
Data sheet	PM 02.15

232.34, 233.34

Process Gauge, safety version per ASME B40.100

Nominal size	4 ½"
Scale range	0 … 0.6 bar to 0 … 1,000 bar
Accuracy class	Grade 2A
Ingress protection	IP54, with liquid filling IP65
Data sheet	PM 02.10

Test gauges

For highest accuracy

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 … max. 1,600 bar and are suitable for calibration tasks. For each of the pressure gauges specified here, a DKD/DAkkS certificate can be provided.

312.20

Copper alloy, class 0.6

Nominal size	160 mm
Scale range	0 … 0.6 to 0 … 600 bar
Accuracy class	0.6
Ingress protection	IP54
Data sheet	PM 03.01

332.50, 333.50

Stainless steel, standard version, class 0.6

Nominal size	160 mm
Scale range	0 … 0.6 to 0 … 1,600 bar
Accuracy class	0.6
Ingress protection	IP65
Data sheet	PM 03.06

332.30, 333.30

Stainless steel, safety version, class 0.6

Nominal size	160 mm
Scale range	0 … 0.6 to 0 … 1,600 bar
Accuracy class	0.6
Ingress protection	IP65
Data sheet	PM 03.05

342.11

From class 0.1, with transport case and acceptance test certificate

Nominal size	250 mm
Scale range	0 … 1 to 0 … 1,600 bar
Accuracy class	0.1 for scale ranges < 400 bar 0.25 for scale ranges ≥ 400 bar
Ingress protection	IP54
Data sheet	PM 03.03

610.20, 630.20

For low pressure ranges from 10 mbar, class 0.6

Nominal size	160 mm
Scale range	0 … 10 to 0 … 600 mbar
Accuracy class	0.6
Ingress protection	IP54
Data sheet	PM 06.09

Further information at www.wika.com

Diaphragm pressure gauges

The application areas for diaphragm pressure gauges are very versatile. They are the specialists in the process industry when it comes to critical measuring tasks such as with highly corrosive or viscous media or when it comes to low pressures and high overload. The scale ranges are from as low as 0 … 16 mbar to typically 0 … 25 to 0 … 40 bar. Dependant upon the pressure range and the instrument model, overload safety of 3 x or 5 x full scale value is possible as standard.

For special designs, an overload safety of up to 400 bar is possible, with the measurement accuracy maintained.
Diaphragm pressure gauges are even suitable for highly viscous or contaminated media by using an open connecting flange (per DIN/ASME). For measuring particularly aggressive media, the complete wetted surface can be lined with a large selection of special materials (e.g. PTFE, Hastelloy, tantalum, and many more).

422.12, 423.12

Grey cast iron case

Nominal size	100, 160 mm
Scale range	0 … 16 mbar to 0 … 40 bar
Accuracy class	1.6
Ingress protection	IP54, with liquid filling IP65
Data sheet	PM 04.02

432.50, 433.50

For the process industry, high overload safety up to the 10-fold full scale value, max. 40 bar

Nominal size	100, 160 mm
Scale range	0 … 16 mbar to 0 … 25 bar
Accuracy class	1.6
Ingress protection	IP54, with liquid filling IP65
Data sheet	PM 04.03

432.36, 432.56

For the process industry, high overload safety to 40, 100 or 400 bar

Nominal size	100, 160 mm
Scale range	0 … 16 mbar to 0 … 40 bar
Accuracy class	1.6
Ingress protection	IP54, with liquid filling IP65
Data sheet	PM 04.07

Capsule pressure gauges

For very low pressures

These measuring instruments 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. Overload protection is possible in certain cases.

These capsule pressure gauges 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	IP54
Data sheet	PM 06.01

611.13

Plastic case

Nominal size	50, 63 mm
Scale range	0 … 60 to 0 … 600 mbar
Accuracy class	2.5
Ingress protection	IP53
Data sheet	PM 06.12

612.20

Stainless steel case

Nominal size	63, 100, 160 mm
Scale range	0 … 6 to 0 … 600 mbar
Accuracy class	1.6
Ingress protection	IP54
Data sheet	PM 06.02

614.11, 634.11

Edgewise panel design

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

For the process industry

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	IP54, with liquid filling IP65
Data sheet	PM 06.03

632.51

For the process industry, high overload safety

Nominal size	100, 160 mm
Scale range	0 … 2.5 mbar to 0 … 100 mbar
Accuracy class	1.6
Ingress protection	IP54
Data sheet	PM 06.06

Further information at www.wika.com

Differential pressure gauges

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 measuring instruments monitor

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

700.01, 700.02

With magnetic piston or with magnetic piston and separating diaphragm

Nominal size	80 mm
Scale range	700.01: 0 … 400 mbar to 0 … 10 bar 700.02: 0 … 160 mbar to 0 … 2.5 bar
Accuracy class	700.01: ±3 % 700.02: ±5 % with increasing differential pressure
Ingress protection	IP54
Data sheet	PM 07.14

711.12, 731.12

With parallel entry, copper alloy or stainless steel

Nominal size	100, 160 mm
Scale range	0 … 0.6 to 0 … 1,000 bar
Accuracy class	1.6
Ingress protection	IP33
Data sheet	PM 07.02

DPG40

With integrated working pressure indication (DELTA-plus)

Nominal size	100 mm
Scale range	0 … 0.16 to 0 … 10 bar
Accuracy class	2.5
Ingress protection	IP65
Data sheet	PM 07.20

716.11, 736.11

For very low differential pressures from 2.5 mbar, copper alloy or stainless steel

Nominal size	100, 160 mm
Scale range	NS 100: 0 … 10 to 0 … 250 mbar NS 160: 0 … 2.5 to 0 … 250 mbar
Accuracy class	1.6
Ingress protection	IP66
Data sheet	PM 07.07

732.51

For the process industry, all-metal media chamber

Nominal size	100, 160 mm
Scale range	0 … 16 mbar to 0 … 25 bar
Accuracy class	1.6
Ingress protection	IP54, with liquid filling IP65
Data sheet	PM 07.05

732.14

For the process industry, high overload safety to 40, 100, 250 or 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 82)
Accuracy class	1.6
Ingress protection	IP54, with liquid filling IP65
Data sheet	PM 07.13

Absolute pressure gauges

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.

Applications for these high-precision measuring instruments are, for example, monitoring of vacuum pumps and vacuum packaging machines. They are also used in laboratories, in order to monitor condensation pressures or to determine the vapour pressure of liquids.

532.52, 532.53, 532.54

High overload safety

Nominal size	100, 160 mm
Scale range	0 … 25 mbar to 0 … 25 bar abs., high overload safety
Accuracy class	1.0 or 1.6 or 2.5
Ingress protection	IP54, with liquid filling IP65
Data sheet	PM 05.02

Digital pressure gauges

DG-10

Digital pressure gauge for general industrial applications

Measuring range	■ 0 … 5 to 0 … 700 bar ■ -1 … +5 to -1 … +10 bar
Accuracy (% of span)	≤ 0.5 % FS ±1 digit
Special feature	■ Robust stainless steel case, nominal size 80 mm ■ Battery operation (2 x 1.5 V AA cell) ■ Option: Rotatable instrument head, backlighting
Data sheet	PE 81.66

CPG500

Digital pressure gauge

Measuring range	-1 … +16 to 0 … 1,000 bar
Accuracy	0.25 %
Special feature	■ Simple operation using 4 buttons ■ Robust case with protective rubber cap, IP67
Data sheet	CT 09.01

CPG1500

Precision digital pressure gauge

App „myWIKA device“
Play Store

Measuring range	-1 … 10,000 bar
Accuracy	to 0.025 % FS
Special feature	■ Integrated data logger ■ WIKA-Cal compatible ■ Data transfer via WIKA-Wireless ■ Password protection possible ■ Robust case IP65
Data sheet	CT 10.51

Process transmitters

UPT-20

Universal process transmitter with standard connection, Ex intrinsically safe

Non-linearity (% of span)	≤ 0.1
Output signal	4 … 20 mA, HART®
Measuring range	■ 0 … 0.4 to 0 … 4,000 bar ■ 0 … 1.6 to 0 … 40 bar abs. ■ -0.2 … +0.2 to -1 … +40 bar
Special feature	■ Multi-functional display ■ Freely scalable measuring range ■ Simple menu navigation ■ Conductive plastic case or stainless steel case ■ Large LC display, rotatable
Data sheet	PE 86.05

UPT-21

Universal process transmitter with flush process connection

Non-linearity (% of span)	≤ 0.1
Output signal	4 … 20 mA, HART®
Measuring range	■ 0 … 0.4 to 0 … 600 bar ■ 0 … 1.6 to 0 … 40 bar abs. ■ -0.2 … +0.2 to -1 … +40 bar
Special feature	■ Hygienic process connections in different designs ■ Electropolished stainless steel case for hygienic applications ■ Freely scalable measuring range ■ Conductive plastic case or stainless steel case ■ Large LC display, rotatable
Data sheet	PE 86.05

IPT-20, IPT-21

Process pressure transmitter with welded metal measuring cell

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 … 40 bar abs. ■ -1 … 0 to -1 … +40 bar
Special feature	■ Freely scalable measuring ranges ■ Case from plastic, aluminium or stainless steel ■ Flush process connection (optional) ■ With integrated display and instrument mounting bracket for wall/pipe mounting (optional) ■ Process temperature ranges to 200 °C
Data sheet	PE 86.06

CPT-20, CPT-21

Process pressure transmitter with capacitive ceramic measuring cell

Non-linearity (% of span)	≤ 0.05
Output signal	4 … 20 mA, HART® protocol (optional), PROFIBUS® PA, FOUNDATION™ Fieldbus
Measuring range	■ 0 … 0.025 to 0 … 100 bar abs. ■ -1 … 0 to -1 … +100 bar
Special feature	■ Particularly robust, ceramic measuring cell ■ Dry ceramic measuring cell with variable sealing concept ■ Freely scalable measuring ranges ■ Case from plastic, aluminium or stainless steel ■ Flush process connection (optional)
Data sheet	PE 86.07

DPT-10

Differential pressure transmitter, intrinsically safe or with flame-proof enclosure

Non-linearity (% of span)	≤ 0.075 … 0.15
Output signal	4 … 20 mA, HART® protocol (optional), PROFIBUS® PA
Measuring range	0 … 10 mbar to 0 … 40 bar
Special feature	■ Freely scalable measuring ranges ■ Static load 160 bar, optionally 420 bar ■ Case from plastic, aluminium or stainless steel ■ With integrated display and instrument mounting bracket for wall/pipe mounting (optional) ■ 3- or 5-way valve optional
Data sheet	PE 86.21

Further information at www.wika.com

Pressure sensors

A-10

For industrial applications

Non-linearity (± % of span)	≤ 0.25 or 0.5 BFSL
Measuring range	■ 0 … 0.05 to 0 …1,000 bar ■ 0 … 0.1 to 0 … 25 bar abs. ■ -0.05 … 0 to -1 … +24 bar
Special feature	■ Compact design ■ Free test report ■ 2 million possible variants
Data sheet	PE 81.60

S-20

For superior industrial applications

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. ■ -0.4 … 0 to -1 … +59 bar
Special feature	■ Extreme operating conditions ■ Customer-specific variants ■ Free test report
Data sheet	PE 81.61

S-11

Flush diaphragm

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

IS-3

Intrinsic safety Ex i

Non-linearity (± % of span)	≤ 0.2 BFSL
Measuring range	■ 0 … 0.1 to 0 … 6,000 bar ■ 0 … 0.25 to 0 … 25 bar abs. ■ -1 … 0 to -1 … +24 bar
Special feature	■ Further worldwide Ex approvals ■ High-pressure version (optional) ■ Flush process connection (optional)
Data sheet	PE 81.58

E-10, E-11

Flameproof enclosure Ex d

Non-linearity (± % of span)	≤ 0.5 BFSL
Measuring range	■ 0 … 0.4 to 0 … 1,000 bar ■ 0 … 0.4 to 0 … 16 bar abs. ■ -1 … 0 to -1 … +25 bar
Special feature	■ Low-power version ■ For sour gas applications (NACE) ■ Flush process connection (optional) ■ Further worldwide Ex approvals
Data sheet	PE 81.27

A-1200

With IO-Link, PNP or NPN switching output

Accuracy (± % of span)	≤ 0.5 or ≤ 1
Measuring range	■ 0 … 0.4 to 0 … 1,000 bar ■ 0 … 0.4 to 0 … 25 bar abs. ■ -0.4 … 0 to -1 … +24 bar
Special feature	■ IO-Link version 1.1 ■ Medium temperature to +125 °C ■ Multicolour 360° LED status display
Data sheet	PE 81.90

HP-2

For highest pressure applications to 15,000 bar

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

M-10, M-11

Spanner width 19 mm

Non-linearity (± % of span)	≤ 0.2 BFSL
Measuring range	■ 0 … 6 to 0 … 1,000 bar
Special feature	■ Small spanner width 19 mm ■ Flush connection G ¼ available
Data sheet	PE 81.25

P-30, P-31

For precision measurements

Non-linearity (± % of span)	≤ 0.04 BFSL
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

MHC-1

For mobile working machines, CANopen® or J1939

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

Further information at www.wika.com

OEM pressure sensors

O-10

For industrial applications

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 quantities ■ Customer-specific variants ■ Special version for applications with water as medium ■ 5-fold overload safety
Data sheet	PE 81.65

MH-3

For mobile working machines

Accuracy (± % of span)	≤ 1 (≥ 40 bar) or ≤ 2 (< 40 bar)
Measuring range	0 … 6 to 0 … 600 bar
Special feature	■ For extreme operating conditions ■ Compact and robust design ■ Diagnostic function (optional) ■ Signal clamping (optional) ■ Customer-specific adaptations possible
Data sheet	PE 81.59

MH-3-HY

For mobile hydrogen applications

Accuracy (± % of span)	≤ 1
Measuring range	■ 0 … 20 to 0 … 600 bar
Special feature	■ Approval per EC79/2009 ■ Compact and robust design ■ Diagnostic function (optional)
Data sheet	PE 81.59

MG-1

For medical gases

Non-linearity (± % of span)	≤ 0.5 BFSL
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

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 ■ Wetted parts from stainless steel
Data sheet	PE 81.45

Pressure sensor assemblies and modules

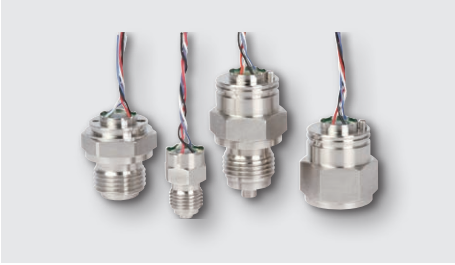
Customer-specific electronic pressure measurement solutions

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. Create your perfect pressure sensor solution together with us. Here, the experience from a multitude of completed projects is incorporated - thus we can refer back to numerous proven solutions and components. As required, we will adapt our systems to your individual application or develop new ones.

Talk to us – we are happy to provide you with advice!

TTF-1

Metal thin-film pressure sensor assembly



Non-linearity (± % of span)	≤ 0.5
Measuring range	0 … 10 to 0 … 1,000 bar
Special feature	■ Excellent resistance to media ■ Welded measuring cell
Signal	mV/V
Data sheet	PE 81.16

SCT-1

Ceramic pressure sensor element

Non-linearity (± % of span)	≤ 0.5
Measuring range	0 … 2 to 0 … 100 bar
Special feature	Excellent resistance to media
Signal	mV/V
Data sheet	PE 81.40

SPR-2, TPR-2

Piezo pressure sensor element and pressure sensor assembly

Non-linearity (± % of span)	≤ 0.3
Measuring range	0 … 0.4 to 0 … 16 bar 0 … 0.4 to 0 … 16 bar abs.
Special feature	■ Gauge and absolute pressure measurement ■ High output signal ■ High overload safety
Signal	mV/V
Data sheet	PE 81.62

TI-1

Piezo or metal thin-film pressure sensor module

Non-linearity (± % of span)	≤ 0.125 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	■ Processed signal ■ High variance in process connections
Signal	Analogue and digital
Data sheet	PE 81.57

MPR-1

Pressure sensor module

Non-linearity (± % of span)	≤ 0.125 or 0.25
Measuring range	0 … 0.4 to 0 … 25 bar 0 … 0.4 to 0 … 25 bar abs.
Special feature	■ 19 mm spanner width for limited mounting space ■ No calibration necessary, due to compensated output signal
Signal	Analogue and digital
Data sheet	PE 81.64

Further information at www.wika.com

Pressure gauges with 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 sensor. These hybrid instruments are available with all commonly used electrical signals. The sensor works in a non-contact way, without any influence on the measuring signal. Many instruments are available in versions for use in hazardous areas.

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.

PGT21

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	IP65 (IP67 optional)
Data sheet	PV 11.03

PGT23.063

Bourdon tube, for the process industry, safety version

Nominal size	63 mm
Scale range	0 … 1 to 0 … 1,000 bar
Accuracy class	1.6
Ingress protection	IP54, filled IP65
Data sheet	PV 12.03

PGT23.100, PGT23.160

Bourdon tube, for the process industry, standard or safety version

Nominal size	100, 160 mm
Scale range	0 … 0.6 to 0 … 1,600 bar
Accuracy class	1.0
Ingress protection	IP54, filled IP65
Data sheet	PV 12.04

PGT43

Diaphragm element, for the process industry, high overload safety up to the 10-fold full scale value, max. 40 bar

Nominal size	100, 160 mm
Scale range	0 … 16 mbar to 0 … 25 bar
Accuracy class	1.6
Ingress protection	IP54, with liquid filling IP65
Data sheet	PV 14.03

PGT43HP

Diaphragm element, for the process industry, high overload safety to 40, 100 or 400 bar

Nominal size	100, 160 mm
Scale range	0 … 16 mbar to 0 … 40 bar
Accuracy class	1.6
Ingress protection	IP54, with liquid filling IP65
Data sheet	PV 14.07

PGT63HP

Capsule element, for the process industry, high overload safety

Nominal size	100, 160 mm
Scale range	2.5 … 100 mbar
Accuracy class	1.6
Ingress protection	IP54
Data sheet	PV 16.06

intelliGAUGE®

DPGT43

Differential pressure, for the process industry, all-metal media chamber

Nominal size	100, 160 mm
Scale range	0 … 16 mbar to 0 … 25 bar
Accuracy class	1.6
Ingress protection	IP54, filled IP65
Data sheet	PV 17.05

DPGT43HP

Differential pressure, for the process industry, high overload safety to 40, 100, 250 or 400 bar

Nominal size	100, 160 mm
Scale range	0 … 60 mbar to 0 … 40 bar
Accuracy class	1.6
Ingress protection	IP54, filled IP65
Data sheet	PV 17.13

DPGT40

Differential pressure, with integrated working pressure indication (DELTA-trans)

Nominal size	100 mm
Scale range	0 … 0.16 to 0 … 10 bar
Accuracy class	2.5 (1.6 optional)
Ingress protection	IP65
Data sheet	PV 17.19

APGT43

Absolute pressure, for the process industry

Nominal size	100, 160 mm
Scale range	0 … 25 mbar to 0 … 25 bar abs.
Accuracy class	2.5
Ingress protection	IP54, with liquid filling IP65
Data sheet	PV 15.02

Contact pressure gauges

Control systems are gaining more and more importance in industrial applications. Consequently, mere pressure indication on the measuring instrument 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 contact pressure gauges in order to satisfy this trend.

All instruments with inductive contacts are certified in accordance with ATEX Ex ia.

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

- Magnetic snap-action contact, e.g. model 821, for general applications
- Inductive contact model 831, for hazardous areas
- Electronic contact model 830 E, for PLC
- Reed contact model 851, for general applications and PLC
- Micro switch model 850
- Transistor output NPN or PNP

PGS21

Bourdon tube, stainless steel case

Nominal size	40, 50, 63 mm
Scale range	0 … 2.5 to 0 … 400 bar
Accuracy class	2.5
Ingress protection	IP65
Special feature	NS 50: Version with VdS or LPCB approval possible
Data sheet	PV 21.02

PGS25

Bourdon tube, with electronic pressure switch, stainless steel case

Nominal size	50, 63 mm
Scale range	0 … 1.6 to 0 … 400 bar
Accuracy class	2.5
Ingress protection	IP65
Data sheet	PV 21.04

PGS21.100, PGS21.160

Bourdon tube, stainless steel case

Nominal size	100, 160 mm
Scale range	0 … 0.6 to 0 … 600 bar
Accuracy class	1.0
Ingress protection	IP54
Data sheet	PV 22.01

PGS23.100, PGS23.160

Bourdon tube, for the process industry, standard or safety version

Nominal size	100, 160 mm
Scale range	0 … 0.6 to 0 … 1,600 bar
Accuracy class	1.0
Ingress protection	IP65 or IP66
Data sheet	PV 22.02

PGS23.063

Bourdon tube, for the process industry, safety version

Nominal size	63 mm
Scale range	0 … 4 to 0 … 400 bar
Accuracy class	1.6
Ingress protection	IP54
Data sheet	PV 22.03

PGS43.100, PGS43.160

Diaphragm element, for the process industry, high overload safety up to the 10-fold full scale value, max. 40 bar

Nominal size	100, 160 mm
Scale range	0 … 25 mbar to 0 … 25 bar
Accuracy class	1.6
Ingress protection	IP54, with liquid filling IP65
Data sheet	PV 24.03

432.36, 432.56 with 8xx

Diaphragm element, for the process industry, high overload safety to 100 or 400 bar

Nominal size	100, 160 mm
Scale range	0 … 25 mbar to 0 … 40 bar
Accuracy class	1.6
Ingress protection	IP54, with liquid filling IP65
Data sheet	PV 24.07

532.53 with 8xx

Absolute pressure, for the process industry, high overload safety

Nominal size	100, 160 mm
Scale range	0 … 25 mbar to 0 … 25 bar abs.
Accuracy class	1.6
Ingress protection	IP54, with liquid filling IP65
Data sheet	PV 25.02

632.51 with 8xx

Capsule element, for the process industry, high overload safety

Nominal size	100, 160 mm
Scale range	0 … 2.5 to 0 … 100 mbar
Accuracy class	1.6
Ingress protection	IP54
Data sheet	PV 26.06

DPGS40

Differential pressure, with micro switches, with integrated working pressure indication (DELTA-comb)

Nominal size	100 mm
Scale range	0 … 0.25 to 0 … 10 bar
Accuracy class	2.5 (1.6 optional)
Ingress protection	IP65
Data sheet	PV 27.20

DPGS43

Differential pressure, for the process industry, all-metal media chamber

Nominal size	100, 160 mm
Scale range	0 … 16 mbar to 0 … 25 bar
Accuracy class	1.6
Ingress protection	IP54, filled IP65
Data sheet	PV 27.05

DPGS43HP

Differential pressure, for the process industry, high overload safety to 400 bar

Nominal size	100, 160 mm
Scale range	0 … 60 mbar to 0 … 40 bar
Accuracy class	1.6
Ingress protection	IP54, filled IP65
Data sheet	PV 27.13

Pressure switches

Electronic pressure switches

PSD-4

Electronic pressure switch with display

IO-Link

Accuracy (± % of span)	≤ 0.5
Measuring range	■ 0 … 0.4 to 0 … 1,000 bar ■ 0 … 0.4 to 0 … 25 bar abs. ■ -1 … 0 to -1 … +24 bar
Special feature	■ Intuitive and fast setup ■ Flexibly configurable and scalable output signals (NPN/PNP, mA/VDC) ■ Turndown, analogue output 5 : 1
Data sheet	PE 81.86

PSD-4-ECO

Electronic pressure switch with display

IO-Link

Accuracy (± % of span)	≤ 1.0
Measuring range	■ 0 … 0.4 to 0 … 1,000 bar ■ 0 … 0.4 to 0 … 25 bar abs. ■ -1 … 0 to -1 … +24 bar
Special feature	■ Good/bad indication through parameterisable digital display (red/green) ■ Compact size enables easy installation in confined spaces ■ Optimised design makes OEM machine integration easier ■ Designed for rough demands of up to 50 g shock and -40 … +125 °C [-40 … +257 °F]
Data sheet	PE 81.69

A-1200

With IO-Link, PNP or NPN switching output

IO-Link

Accuracy (± % of span)	≤ 0.5 or ≤ 1
Measuring range	■ 0 … 0.4 to 0 … 1,000 bar ■ 0 … 0.4 to 0 … 25 bar abs. ■ -0.4 … 0 to -1 … +24 bar
Special feature	■ IO-Link version 1.1 ■ Medium temperature to +125 °C ■ Multicolour 360° LED status display
Data sheet	PE 81.90

Mechanical pressure switches for industrial applications

PSM01

Compact pressure switch

Setting range	-0.85 … -0.15 bar 0.2 … 2 bar to 30 … 320 bar
Switching function	Normally open, normally closed, change-over contact
Material	Galvanised steel or stainless steel
Switching power	2 A, AC 48 V 1 A / 2 A, 24 V
Data sheet	PV 34.81

PSM02

Compact pressure switch, settable hysteresis

Setting range	-0.85 … -0.15 bar 0.2 … 2 bar to 30 … 320 bar
Switching function	Normally open, normally closed, change-over contact
Material	Galvanised steel or stainless steel
Switching power	2 A / 4 A, AC 250 V 2 A / 4 A, DC 24 V
Data sheet	PV 34.82

PSM-520

Pressure switch, settable hysteresis

Setting range	-0.4 … +7 bar 0 … 5 bar to 6 … 30 bar
Switching function	Normally open, normally closed, change-over contact
Material	■ Bellow: Copper alloy CuSn6 per EN 1652 ■ Process connection: Free cutting steel EN1A per EN 10277-3, tin-plated
Switching power	10 A / 6 A, AC 230 V
Data sheet	PV 35.01

PSM-550

Pressure switch, for superior industrial applications

Setting range	-1 … 0 and -0.8 … +5 bar 0 … 300 mbar 0.1 … 1.1 bar to 10 … 30 bar
Switching function	Change-over contact (SPDT)
Material	■ Bellow/Process connection: Copper alloy CuSn6 per EN 1652 or stainless steel 1.4401 ■ With NBR diaphragm: Process connection: Free cutting steel EN1A per EN 10277-3, tin-plated
Switching power	4 A / 10 A, AC 230 V
Data sheet	PV 35.03

PSM-700

Pressure switch, high adjustability of switch differential

Setting range	-1 … 1.5 bar 0.2 … 1.6 bar, 7 … 35 bar
Switching function	Change-over contact (SPDT and DPDT)
Material	■ Measuring element: Stainless steel 316L ■ Process connection: Stainless steel 316L ■ Case: Aluminum
Switching power	Up to AC 250 V/15
Data sheet	PV 35.05

Further information at www.wika.com

Mechanical pressure switches for the process industry

Due to the use of high-quality micro switches, the mechanical pressure switches are notable for their high precision and long-term stability. Furthermore, the direct switching of electrical loads up to AC 250 V/20 A is enabled, while simultaneously ensuring a high switch point reproducibility.

The instruments come with a SIL certificate and are thus particularly suited for safety-critical applications. In addition, with their 'intrinsically safe' and 'flameproof enclosure' ignition protection types the pressure switches are ideally suited for permanent use in hazardous environments.
All mechanical pressure switches for the process industry are available with EAC certificate and technical passport.

PXS, PXA

Mini pressure switch

Setting range	1 … 2.5 to 200 … 1,000 bar
Ignition protection type	Ex ia or Ex d
Switch	1 x SPDT or DPDT
Switching power	AC 250 V/5 A DC 24 V/5 A
Data sheet	PV 34.36, PV 34.38

PCS, PCA

Compact pressure switch

Setting range	-1 … -0.2 to 200 … 1,000 bar
Ignition protection type	Ex ia or Ex d
Switch	1 x SPDT or DPDT
Switching power	AC 250 V/15 A DC 24 V/2 A
Data sheet	PV 33.30, PV 33.31

MW, MA

Diaphragm pressure switch

Setting range	0 … 16 mbar to 30 … 600 bar
Ignition protection type	Ex ia or Ex d
Switch	1 or 2 x SPDT or 1 x DPDT
Switching power	AC 250 V/20 A DC 24 V/2 A
Data sheet	PV 31.10, PV 31.11

BWX, BA

Bourdon tube pressure switch

Setting range	0 … 2.5 to 0 … 1,000 bar
Ignition protection type	Ex ia or Ex d
Switch	1 or 2 x SPDT or 1 x DPDT
Switching power	AC 250 V/20 A DC 24 V/2 A
Data sheet	PV 32.20, PV 32.22

DW, DA

Differential pressure switch

Setting range	0 … 16 mbar to 0 … 40 bar, static pressure to 160 bar
Ignition protection type	Ex ia or Ex d
Switch	1 or 2 x SPDT or 1 x DPDT
Switching power	AC 250 V/20 A DC 24 V/2 A
Data sheet	PV 35.42, PV 35.43, PV 35.50

APW, APA

Absolute pressure switch

Setting range	0 … 25 mbar to 0 … 1.5 bar abs.
Proof pressure	11 bar abs.
Ignition protection type	Ex ia or Ex d
Switch	1 or 2 x SPDT or 1 x DPDT
Data sheet	PV 35.49, PV 35.48

Diaphragm seal systems

These combinations of diaphragm seals and pressure gauges or pressure sensors feature fast availability. They are particularly suitable for demanding measuring tasks in the pharmaceutical and biotechnology industries, food and beverage industries, and through to the oil & gas, chemical, petrochemical and semiconductor industries.
The diaphragm seal systems can be used for processes with gases, compressed air or vapour, with liquid, paste-like, powdery and crystallising media and also with aggressive, adhesive, corrosive, highly viscous, environmentally hazardous or toxic media.

The diaphragm seal is directly welded to the pressure gauge or pressure sensor. The diaphragm made of stainless steel provides for the separation from the medium. The pressure is transmitted to the measuring instrument via the system fill fluid which is inside the diaphragm seal system.

With flange connection

DSS26M

With pressure gauge per EN 837-1, internal diaphragm

Applications with small flange process connections in the process industry	
PN max.	40 bar
System fill fluid	KN2
Data sheet	DS 95.09

DSS26T

With high-quality pressure sensor, internal diaphragm

Applications with small flange process connections in the process industry	
PN max.	40 bar
System fill fluid	KN2
Data sheet	DS 95.10

DSS27M

With pressure gauge per EN 837-1, flush diaphragm

Applications with high requirements in the process industry, in machine building and in plant construction	
PN max.	40 bar
System fill fluid	KN2
Data sheet	DS 95.12

DSS27T

With high-quality pressure sensor, flush diaphragm

Applications with high requirements in the process industry, in machine building and in plant construction	
PN max.	40 bar
System fill fluid	KN2
Data sheet	DS 95.13

Further information at www.wika.com

Diaphragm seal systems

With threaded connection

DSS10M

With pressure gauge per EN 837-1, threaded design

General applications in the process industry	
PN max.	60 bar
System fill fluid	KN2 for general applications
Data sheet	DS 95.01

DSS10T

With high-quality pressure sensor, threaded design

General applications in the process industry	
PN max.	60 bar
System fill fluid	KN2 for general applications
Data sheet	DS 95.02

DSS34M

With pressure gauge per EN 837-1, welded design

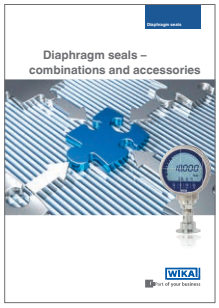
Applications with high requirements in the chemical, petrochemical and water treatment industries	
PN max.	60 bar
System fill fluid	KN2 for general applications
Data sheet	DS 95.15

DSS34T

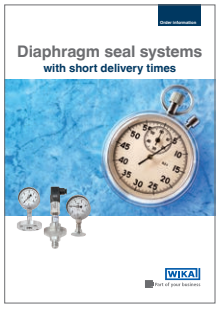
With high-quality pressure sensor, welded design

Applications with high requirements in the chemical, petrochemical and water treatment industries	
PN max.	60 bar
System fill fluid	KN2 for general applications
Data sheet	DS 95.16

Extensive information can be found in our brochure “Diaphragm seals – combinations and accessories” at www.wika.de.



Extensive information can be found in our brochure “Diaphragm seal systems with short delivery times” at www.wika.de.



Electrical accessories

A-AI-1, A-IAI-1

LCD attachable indicator, 50 x 50 mm

Input	4 … 20 mA, 2-wire
Supply voltage	Supply from the 4 … 20 mA current loop
Special feature	Model A-IAI-1 intrinsically safe per ATEX
Data sheet	AC 80.07

M12 x 1 cable

Cable assemblies M12 x 1

- Circular connector M12 x 1, 4- and 5-pin
- Straight and angled version
- 2, 5 or 10 m cable
- Ingress protection IP67

IS Barrier

Intrinsically safe repeater power supply

- 1-channel input 0/4 … 20 mA
- Intrinsically safe [Ex ia], supplying and non-supplying
- Galvanic isolation
- Bidirectional HART® signal transmission
- Suitable for SIL 2 per IEC 61508/IEC 61511
- Data sheet AC 80.14

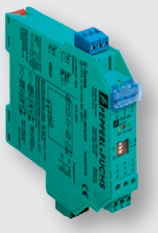
905

Contact protection relay for model 821 switch contacts

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

904

Control unit for inductive contacts model 831



Application	For operating measuring instruments with inductive switch contacts
Data sheet	AC 08.01

Valves and protective devices

Valves

910.10, 910.11

Stopcock and DIN shut-off valve

Application	For shutting off pressure measuring instruments with threaded connection
Version	910.10: Per DIN 16261, DIN 16262, DIN 16263 910.11: Per DIN 16270, DIN 16271, DIN 16272
Material	Brass, steel, stainless steel
Nominal pressure	910.10: to 25 bar 910.11: to 400 bar
Data sheet	AC 09.01, AC 09.02

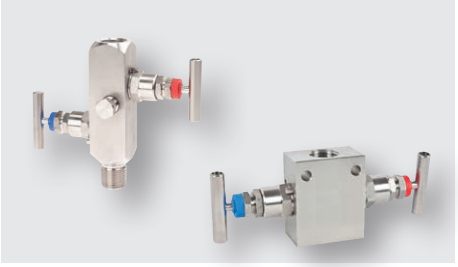
IV10, IV11

Needle valve and multiport valve

Application	For shutting off pressure measuring instruments with threaded connection
Version	Needle valve and multiport valve
Material	Stainless steel
Nominal pressure	To PN 420 (6,000 psi) Option: To PN 680 (10,000 psi)
Data sheet	AC 09.22

IV20, IV21

Block-and-bleed valve, square or flat form



Application	For shutting off and venting pressure measuring instruments with threaded connection
Version	Block-and-bleed valve
Material	Stainless steel
Nominal pressure	To PN 420 (6,000 psi) Option: To PN 680 (10,000 psi)
Data sheet	AC 09.19

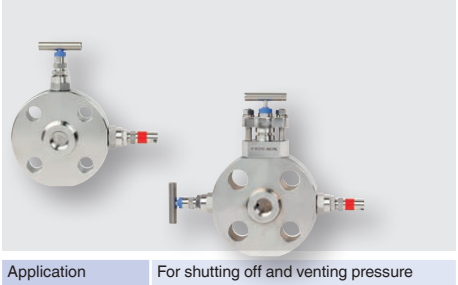
IV30, IV31, IV50, IV51

Valve manifold for differential pressure measuring instruments

Application	For shutting off, pressure compensating as well as purging and venting differential pressure measuring instruments
Version	Three-way and five-way valves
Material	Stainless steel
Nominal pressure	To PN 420 (6,000 psi) Option: To PN 680 (10,000 psi)
Data sheet	AC 09.23

IVM

Monoflange



Application	For shutting off and venting pressure measuring instruments with flange connection
Version	Flange connection per ASME or EN
Material	Stainless steel
Nominal pressure	To PN 420 (6,000 psi)
Data sheet	AC 09.17

IBF2, IBF3

Monoblock

Application	For mounting to level indicators or differential pressure instruments in level measurement
Version	Per ASME or EN
Material	Stainless steel
Nominal pressure	To PN 690 bar (10,000 psi)
Data sheet	AC 09.25

Protective devices

910.12

Snubber

Application	For the protection of pressure measuring instruments from pressure surges and pulsations
Material	Brass, steel, stainless steel
Nominal pressure	To 400 bar
Data sheet	AC 09.03

910.13

Overpressure protector

Application	For the protection of pressure measuring instruments from overpressures
Material	Brass, steel, stainless steel
Nominal pressure	To 600 bar (overload safety to 1,000 bar)
Data sheet	AC 09.04

910.15

Syphons

Application	For the protection of pressure measuring instruments from excessive pulsation and heat
Version	U-form, trumpet form, compact form, standard
Material	Steel, stainless steel
Nominal pressure	To 160 bar
Data sheet	AC 09.06

Mounting accessories

910.14, 910.16, 910.17

Adapters, instrument mounting brackets and sealings

Application	For mounting and sealing pressure gauges
Data sheet	AC 09.05, AC 09.07, AC 09.08

Dial thermometers

Our dial thermometers work on the bimetal, expansion or gas actuation principle. This enables scale ranges of -200 … +700 °C in different class accuracies, response times and resilience to environmental influences. Diverse connection designs, stem diameters and individual stem lengths enable a flexible measuring point design.

Dial thermometers with remote capillaries are particularly versatile. All thermometers are suited for operation in a thermowell if necessary.

Bimetal thermometers

A43

Heating technology

Nominal size	63, 80, 100 mm
Scale range	-30 … +120 °C
Permissible operating pressure at thermowell/stem	Max. 6 bar
Wetted parts	Copper alloy
Data sheet	TM 43.01

A48

Refrigeration and air-conditioning technology

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

A50

Standard version

Nominal size	63, 80, 100, 160 mm
Scale range	-30 … +200 °C
Connection	Removable thermowell with retainer screw
Wetted parts	Copper alloy
Data sheet	TM 50.03

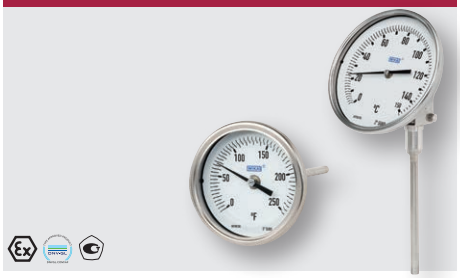
A52, R52

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

TG53

Process version per ASME B40.200



Nominal size	3, 4, 5, 6"
Scale range	-70 … +70 to 0 … +600 °C
Wetted parts	Stainless steel
Option	Liquid dampening to max. 250 °C (case and probe)
Data sheet	TM 53.02

TG54

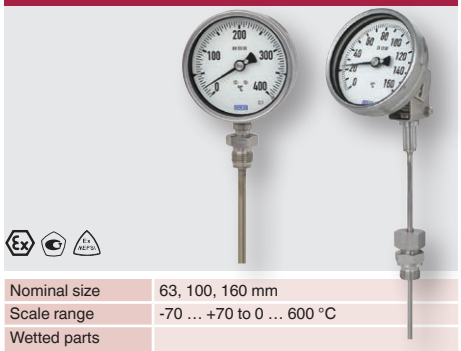
Process version per EN 13190

Nominal size	63, 80, 100, 160 mm
Scale range	-70 … +70 to 0 … +600 °C
Wetted parts	Stainless steel
Option	Liquid dampening to max. 250 °C (case and probe)
Data sheet	TM 54.02

Bimetal thermometer

55

High-quality process version per EN 13190



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

Machine glass thermometer

32

V shape

Nominal size	110, 150, 200 mm
Scale range	-30 … +200 °C
Wetted parts	Copper alloy
Option	■ Dual scale °F/°C ■ 2 variants: straight and 90°
Data sheet	TM 32.02

Expansion thermometers

TF58, TF59

With capillary, edgewise panel design

Nominal size	58 x 25 mm, 62 x 11 mm
Scale range	-50 … 250 °C
Wetted parts	Copper alloy
Option	■ Vertical arrangement ■ Special scales
Data sheet	TM 80.02

70

With capillary, stainless steel version

Nominal size	63, 100, 160 mm
Scale range	-60 … +400 °C
Wetted parts	Stainless steel
Option	■ Liquid dampening (case) ■ Indication accuracy class 1
Data sheet	TM 81.01

IFC

With capillary, standard version

Nominal size	52, 60, 80, 100 mm 48 x 48, 72 x 72, 96 x 96 mm
Scale range	-100 … +400 °C
Wetted parts	Copper alloy
Option	■ Square case version ■ Other case materials
Data sheet	TM 80.01

Further information at www.wika.com

Dial thermometers

Gas-actuated thermometers

R73, S73, A73

Axial and radial, adjustable stem and dial

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

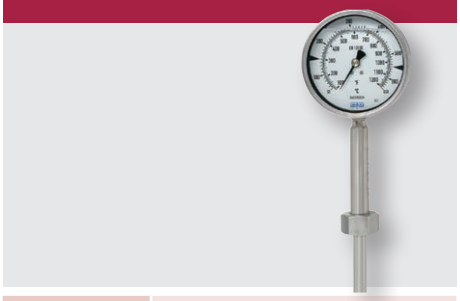
F73

With capillary

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

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

Thermomanometers

MFT

With capillaries, for pressure and temperature measurement

Nominal size	40, 42, 52 mm
Scale range	■ Pressure 0 … 4 bar ■ Temperature 0 … 120 °C
Accuracy class	■ Pressure 2.5 (EN 837-1) ■ Temperature 2.5
Data sheet	PM 01.20

THM10

Eco version, for pressure and temperature measurement

Nominal size	63, 80 mm
Scale range	■ Pressure 0 … 4 to 0 … 10 bar ■ Temperature 0 … 120 °C
Connection location	Lower mount or back mount
Accuracy class	■ Pressure 2.5 (EN 837-1) ■ Temperature 2 (EN 13190)
Data sheet	PM 01.24

100.02

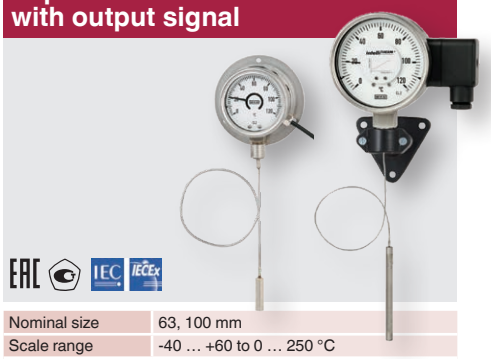
For pressure and temperature measurement

Nominal size	63, 80 mm
Scale range	■ Pressure 0 … 1 to 0 … 16 bar ■ Temperature 0 … 100 to 0 … 150 °C
Accuracy class	■ Pressure 2.5 (EN 837-1) ■ Temperature 2.5
Data sheet	PM 01.23

Dial thermometers with output signal

TGT70

Expansion thermometer with output signal



Nominal size	63, 100 mm
Scale range	-40 … +60 to 0 … 250 °C
Wetted parts	Stainless steel
Option	■ Capillary ■ Output signals 4 … 20 mA or 0.5 … 4.5 V ■ Other connection designs
Data sheet	TV 18.01

TGT73

Gas-actuated thermometer with output signal

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

Digital indicators

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)
Supply voltage	Supply from the 4 … 20 mA current loop
Data sheet	AC 80.06

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
Supply voltage	■ AC 100 … 240 V ■ AC/DC 24 V
Special feature	Analogue output signal
Data sheet	AC 80.02

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)
Supply voltage	AC 230 V or AC 115 V
Data sheet	AC 80.05

DI32-1

For panel mounting, 48 x 24 mm

Input	Multi-function input for resistance thermometers, thermocouples and standard signals
Alarm output	2 electronic contacts
Supply voltage	DC 9 … 28 V
Data sheet	AC 80.13

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 ■ Analogue output signal (optional)
Supply voltage	■ AC/DC 100 … 240 V ■ DC 10 … 40 V, AC 18 … 30 V
Data sheet	AC 80.03

DIH10

Connection head with digital indicator

Input	4 … 20 mA
Supply voltage	from the 4 … 20 mA current loop
Data sheet	AC 80.11

DIH50, DIH52

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 ■ Model DIH52 additionally suitable for multidrop operation and with local master function
Approval	■ Intrinsically safe ■ Flameproof enclosure
Data sheet	AC 80.10

TF-LCD

Longlife digital thermometer

Measuring range	-40 … +120 °C
Special feature	■ Dust and waterproof case, IP68 ■ Battery or solar powered ■ Extremely long service life
Data sheet	TE 85.01

Further information at www.wika.com

Thermocouples

Thermocouples generate a voltage directly dependent on temperature. They are particularly suitable for high temperatures to 1,700 °C (3,092 °F) and for very high oscillating stresses. For thermocouples, the accuracy classes per IEC 60584-1 and ASTM E230 apply.

In our range of products you will find all market-standard instrument versions.
If required, a temperature transmitter can be installed in the connection head.

TC10-A

Measuring insert

Sensor element	Types K, J, E, N or T
Measuring range	-40 … +1,200 °C, -40 … +2,192 °F
Measuring location	Ungrounded or grounded
Data sheet	TE 65.01

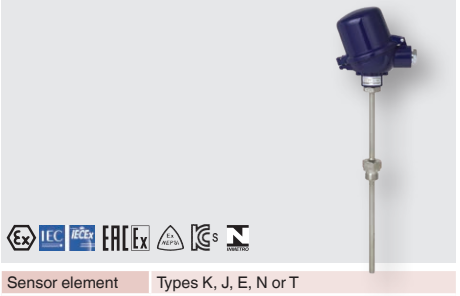
TC10-B

For additional thermowell

Sensor element	Types K, J, E, N or T
Measuring range	-40 … +1,200 °C, -40 … +2,192 °F
Measuring location	Ungrounded or grounded
Data sheet	TE 65.02

TC10-C

Threaded, with fabricated thermowell



Sensor element	Types K, J, E, N or T
Measuring range	-40 … +1,200 °C, -40 … +2.192 °F
Measuring location	Ungrounded or grounded
Process connection	Mounting thread
Data sheet	TE 65.03

TC10-D

Threaded, miniature design

Sensor element	Types K, J, E, N or T
Measuring range	-40 … +600 °C, -40 … +1,112 °F
Measuring location	Ungrounded or grounded
Process connection	Mounting thread
Data sheet	TE 65.04

TC10-F

Flanged thermocouple, with fabricated thermowell

Sensor element	Types K, J, E, N or T
Measuring range	-40 … +1,200 °C, -40 … +2,192 °F
Measuring location	Ungrounded or grounded
Process connection	Flange
Data sheet	TE 65.06

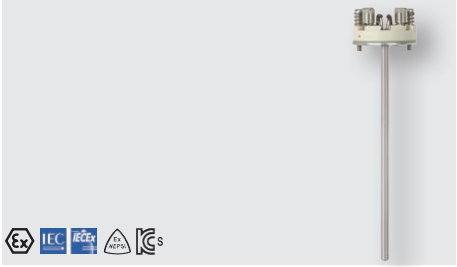
TC10-H

Without thermowell

Sensor element	Types K, J, E, N or T
Measuring range	-40 … +1,200 °C, -40 … +2,192 °F
Measuring location	Ungrounded or grounded
Process connection	Mounting thread
Data sheet	TE 65.08

TC10-K

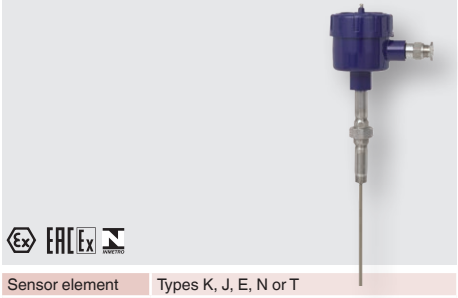
Measuring insert, for installation in TC10-L



Sensor element	Types K, J, E, N or T
Measuring range	-40 … +1,200 °C, -40 … +2,192 °F
Measuring location	Ungrounded or grounded
Data sheet	TE 65.11

TC10-L

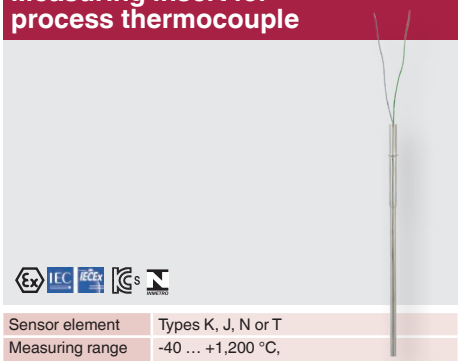
Flameproof enclosure, for additional thermowell



Sensor element	Types K, J, E, N or T
Measuring range	-40 … +1,200 °C, -40 … +2,192 °F
Measuring location	Ungrounded or grounded
Data sheet	TE 65.12

TC12-A

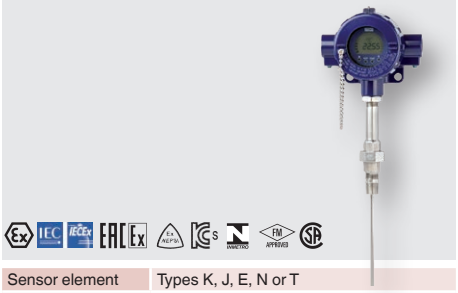
Measuring insert for process thermocouple



Sensor element	Types K, J, N or T
Measuring range	-40 … +1,200 °C, -40 … +2,192 °F
Measuring location	Ungrounded or grounded
Data sheet	TE 65.16

TC12-B

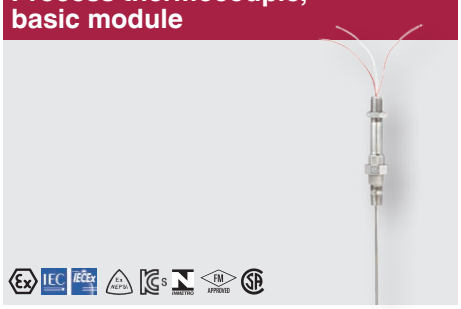
Process thermocouple, for additional thermowell



Sensor element	Types K, J, E, N or T
Measuring range	-40 … +1,200 °C, -40 … +2,192 °F
Measuring location	Ungrounded or grounded
Option	Ex i, Ex d
Data sheet	TE 65.17

TC12-M

Process thermocouple, basic module



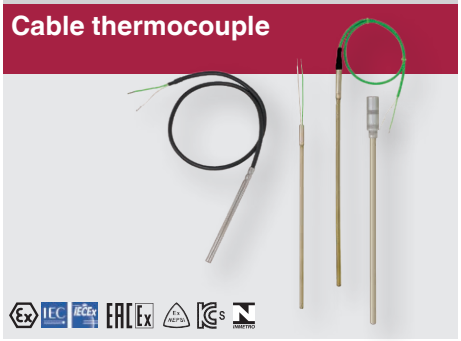
Sensor element	Types K, J, E, N or T
Measuring range	-40 … +1,200 °C, -40 … +2,192 °F
Measuring location	Ungrounded or grounded
Option	Ex i, Ex d
Data sheet	TE 65.17

Further information at www.wika.com

Thermocouples

TC40

Cable thermocouple



Sensor element	Types K, J, E, N or T
Measuring range	-40 … +1,200 °C, -40 … +2,192 °F
Measuring location	Ungrounded or grounded
Cable	Silicone, PTFE, fibreglass, PVC
Data sheet	TE 65.40

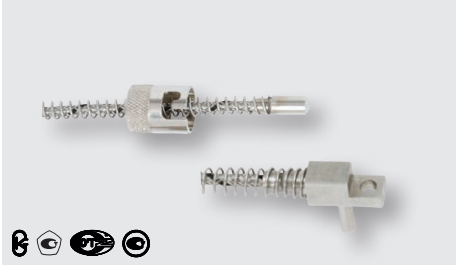
TC46

Hot runner thermocouple

Sensor element	Type J or K
Measuring range	-25 … +400 °C, -13 … +752 °F
Measuring location	Ungrounded or grounded
Special feature	■ Probe diameter 0.5 … 3.0 mm ■ Plastic-moulded transition
Data sheet	TE 65.46

TC47

Thermocouple for plastics machinery



Sensor element	Types J or K
Measuring range	-25 … +400 °C, -13 … + 752 °F
Measuring location	Ungrounded or grounded
Special feature	■ Various process connections ■ Connection lead fibreglass with stainless steel braid
Data sheet	TE 67.20

TC50

Surface thermocouple

Sensor element	Types K, J, E, N or T
Measuring range	-40 … +1,200 °C, -40 … +2,192 °F
Measuring location	Ungrounded or grounded
Process connection	Surface mounting
Data sheet	TE 65.50

TC53

Bayonet thermocouple

Sensor element	Types K, J, N, E or T
Measuring range	-40 … +1,200 °C, -40 … +2,192 °F
Measuring location	Ungrounded or grounded
Special feature	■ Single and dual thermocouple ■ Explosion-protected versions
Data sheet	TE 65.53

TC59

Tubeskin thermocouple

Sensor element	Type K or N
Measuring range	0 … 1,200 °C, 32 … 2,192 °F
Measuring location	Welded or exchangeable
Process connection	Surface mounting
Data sheet	TE 65.56 … TE 65.59

TC80

High-temperature thermocouple

Sensor element	Types S, R, B, K, N or J
Measuring range	0 … 1,700 °C, 32 … 3,092 °F
Measuring location	Ungrounded
Process connection	Stop flange, threaded bushing
Data sheet	TE 65.80

TC81

For flue gas temperature measurements

Sensor element	Types K, N or J
Measuring range	0 … 1,200 °C, 32 … 2,192 °F
Measuring location	Ungrounded or grounded
Process connection	Stop flange, threaded bushing
Data sheet	TE 65.81

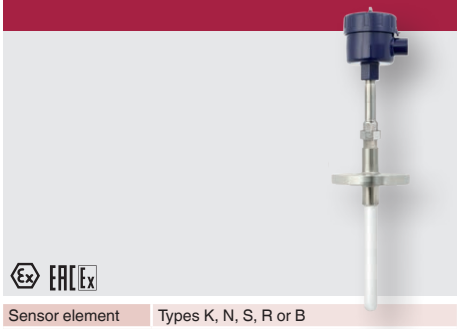
TC82

High-temperature thermocouple

Sensor element	Types K, J, E, N, S, R or B
Measuring range	0 … 1,700 °C, 32 … 3,092 °F
Thermowell	C610, C799
Data sheet	TE 65.82

TC83

Sapphire-design thermocouple



Sensor element	Types K, N, S, R or B
Measuring range	0 … 1,700 °C, 32 … 3,092 °F
Thermowell	Sapphire (monocrystalline)
Data sheet	TE 65.83

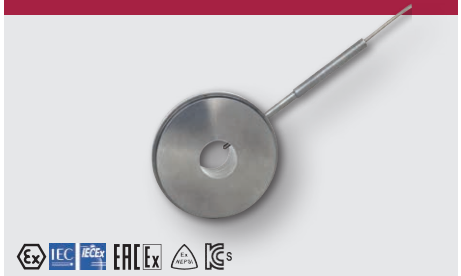
TC84

Sapphire-design thermocouple

Sensor element	Types S, R, B
Measuring range	0 … 1,700 °C, 32 … 3,092 °F
Thermowell	Sapphire (monocrystalline)
Case	Highest safety thanks to 2-chamber system
Data sheet	TE 65.84

TC90

High-pressure thermocouple



Sensor element	Types K, J or E
Measuring range	0 … 350 °C, 32 … 662 °F
Tip	Ungrounded or grounded
Process connection	Various high-pressure connections
Data sheet	TE 65.90

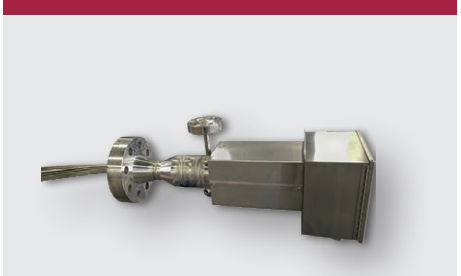
TC95

Multipoint thermocouple in band design

Sensor element	Types K, J, E, N or T
Measuring range	0 … 1,200 °C, 32 … 2,192 °F
Tip	Ungrounded or grounded
Process connection	Various process connections
Data sheet	TE 70.01

TC96-R

Flexible multipoint thermometer



Sensor element	Types K, J, E or N
Measuring range	0 … 1,200 °C, 32 … 2,192 °F
Tip	Ungrounded or grounded
Process connection	Various process connections
Data sheet	TE 70.10

Further information at www.wika.com

Resistance thermometers

Resistance thermometers are equipped with platinum sensor elements which change their electrical resistance as a function of temperature. In our range of products you will find resistance thermometers with connected cable as well as versions with connection head. A temperature transmitter can be installed directly in the connection head.

Resistance thermometers are suitable for applications between -196 … +600 °C, -320 … +1,112 °F (dependent on instrument model, sensor element, accuracy class and materials coming into contact with the medium).

Resistance thermometers are available in classes AA, A and B in accordance with IEC 60751.

TR10-A

Measuring insert, MI cable

Sensor element	1 x Pt100, 2 x Pt100
Measuring range	-196 … +600 °C, -320 … +1,112 °F
Connection method	2-, 3- and 4-wire
Measuring insert	MI cable
Data sheet	TE 60.01

TR10-B

For additional thermowell

Sensor element	1 x Pt100, 2 x Pt100
Measuring range	-196 … +600 °C, -320 … +1,112 °F
Connection method	2-, 3- and 4-wire
Measuring insert	MI cable
Data sheet	TE 60.02

TR10-C

Threaded, with fabricated thermowell

Sensor element	1 x Pt100, 2 x Pt100
Measuring range	-196 … +600 °C, -320 … +1,112 °F
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	-196 … +500 °C, -320 … +932 °F
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	-196 … +600 °C, -320 … +1,112 °F
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	-196 … +600 °C, -320 … +1,112 °F
Connection method	2-, 3- and 4-wire
Process connection	Mounting thread
Measuring insert	MI cable
Data sheet	TE 60.08

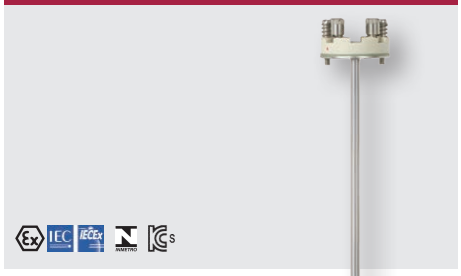
TR10-J

Threaded, with perforated thermowell

Sensor element	1 x Pt100, 2 x Pt100
Measuring range	-196 … +600 °C, -320 … +1,112 °F
Connection method	2-, 3- and 4-wire
Measuring insert	MI cable
Process connection	Mounting thread
Data sheet	TE 60.10

TR11-A

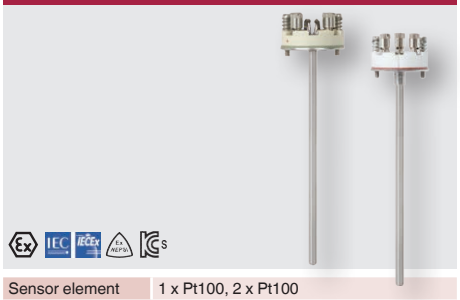
Measuring insert, tubular design



Sensor element	1 x Pt100, 2 x Pt100
Measuring range	-50 … +250 °C, -58 … +482 °F
Connection method	2-, 3- and 4-wire
Measuring insert	Tubular design
Data sheet	TE 60.13

TR10-K

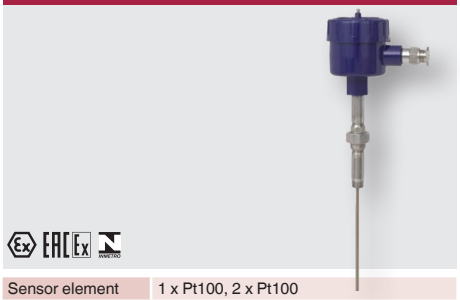
Measuring insert, for installation in TR10-L



Sensor element	1 x Pt100, 2 x Pt100
Measuring range	-196 … +600 °C, -320 … +1,112 °F
Connection method	2-, 3- and 4-wire
Measuring insert	MI cable
Data sheet	TE 60.11

TR10-L

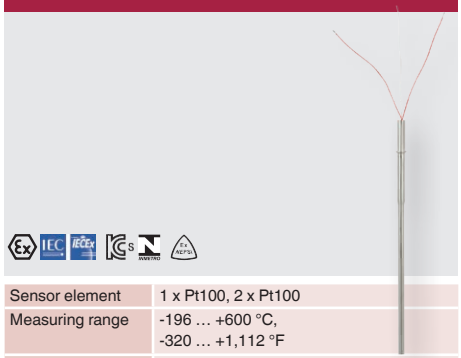
Flameproof enclosure, for additional thermowell



Sensor element	1 x Pt100, 2 x Pt100
Measuring range	-196 … +600 °C, -320 … +1,112 °F
Connection method	2-, 3- and 4-wire
Measuring insert	MI cable
Data sheet	TE 60.12

TR12-A

Measuring insert for process resistance thermometer TR12-B



Sensor element	1 x Pt100, 2 x Pt100
Measuring range	-196 … +600 °C, -320 … +1,112 °F
Connection method	2-, 3- and 4-wire
Measuring insert	MI cable
Data sheet	TE 60.16

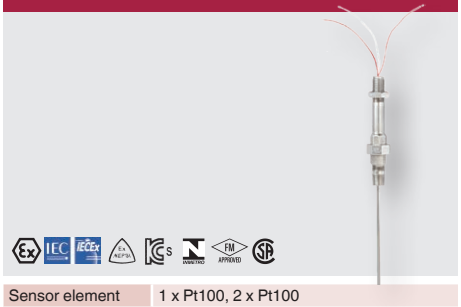
TR12-B

Process resistance thermometer, for additional thermowell

Sensor element	1 x Pt100, 2 x Pt100
Measuring range	-196 … +600 °C, -320…+1,112 °F
Connection method	2-, 3- and 4-wire
Measuring insert	MI cable
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	-196 … +600 °C, -320 … +1,112 °F
Connection method	2-, 3- and 4-wire
Measuring insert	MI cable
Option	Ex i, Ex d
Data sheet	TE 60.17

Further information at www.wika.com

Resistance thermometers

TFT35

Threaded thermometer with integrated transmitter

Measuring range	-50 … +200 °C
Special feature	■ Output signal 4 … 20 mA, 0 … 10 V, 0.5 … 4.5 V ■ Factory configured ■ Measuring insert exchangeable ■ Electr. connection via plug connection
Data sheet	TE 76.18

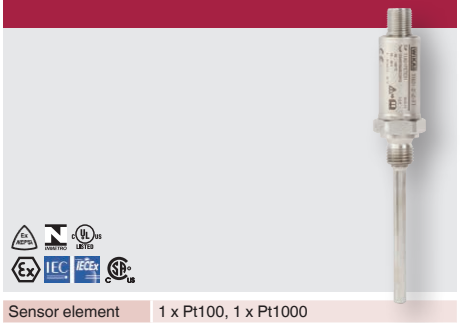
TR30

Compact version

Sensor element	1 x Pt100
Measuring range	-50 … +250 °C, -58 … +482 °F
Output	Pt100, 4 … 20 mA
Data sheet	TE 60.30

TR31

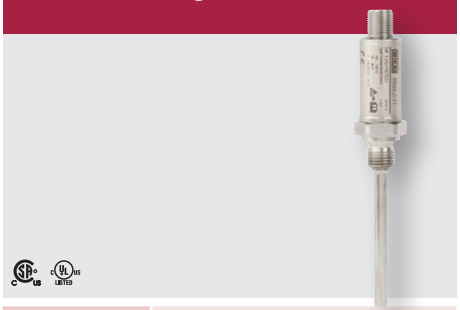
OEM miniature design



Sensor element	1 x Pt100, 1 x Pt1000
Measuring range	-50 … +250 °C, -58 … +482 °F
Output	Pt100, Pt1000, 4 … 20 mA
CSA	Ordinary and hazardous locations
Data sheet	TE 60.31

TR33

Miniature design, standard version



Sensor element	1 x Pt100, 1 x Pt1000
Measuring range	-50 … +250 °C, -58 … +482 °F
Output	Pt100, Pt1000, 4 … 20 mA
CSA	Ordinary locations
Data sheet	TE 60.33

TR34

Miniature design, explosion-protected

Sensor element	1 x Pt100, 1 x Pt1000
Measuring range	-50 … +250 °C, -58 … +482 °F
Output	Pt100, Pt1000, 4 … 20 mA
CSA	Hazardous locations
Data sheet	TE 60.34

TR40

Cable resistance thermometer

Sensor element	1 x Pt100, 2 x Pt100
Measuring range	-196 … +600 °C, -320 … +1,112 °F
Connection method	2-, 3- and 4-wire
Cable	Silicone, PTFE, PVC
Data sheet	TE 60.40

TR50

Surface resistance thermometer

Sensor element	1 x Pt100, 2 x Pt100
Measuring range	-196 … +600 °C, -320 … +1,112 °F
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	-196 … +400 °C, -320 … +752 °F
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	-196 … +500 °C, -320 … +932 °F
Connection method	2-, 3- and 4-wire
Process connection	Compression fitting
Data sheet	TE 60.55

TR57-M

Pipe surface resistance thermometer for clamping

Sensor element	1 x Pt100
Measuring range	-20 … +150 °C, -4 … +302 °F
Connection method	Pt100 3-wire, 4 … 20 mA
Data sheet	TE 60.57

TR60

Indoor and outdoor resistance thermometer

Sensor element	1 x Pt100, 2 x Pt100
Measuring range	-40 … +80 °C, -40 … +176 °F
Connection method	2-, 3- and 4-wire
Process connection	Wall mounting
Data sheet	TE 60.60

TR75

DiwiTherm® with digital indicator

Measuring range	-40.0 … +199.9 °C, +200 … +450 °C with automatic measuring range changeover (autorange)
Supply voltage	Battery operation
Data sheet	TE 60.75

TR81

For flue gas temperature measurements

Sensor element	1 x Pt100, 2 x Pt100
Measuring range	-196 … +600 °C, -320 … +1,112 °F
Connection method	2-, 3- and 4-wire
Thermowell	Metal
Data sheet	TE 60.81

TR95

Multipoint resistance thermometer in band design

Sensor	Pt100
Measuring range	-196 … +600 °C, -320 … +1,112 °F
Connection method	2-, 3- and 4-wire
Process connection	Various process connections
Data sheet	TE 70.01

Resistance thermometers

TF35

OEM threaded thermometer, with plug connection

Measuring range	-50 … +200 °C
Measuring element	Pt100, Pt1000, NTC, KTY, Ni1000
Feature	■ Compact design ■ Very high vibration resistance ■ Ingress protection of IP54 to IP69K, depending on the connector ■ Brass or stainless steel thermowell
Data sheet	TE 67.10

TF37

Threaded thermometer with connection lead

Measuring range	-50 … +260 °C
Measuring element	Pt100, Pt1000, NTC, KTY, Ni1000
Special feature	■ High vibration resistance ■ Connection lead from PVC, silicone, PTFE ■ Brass or stainless steel thermowell
Data sheet	TE 67.12

TF40

Duct thermometer

Measuring range	-50 … +200 °C
Measuring element	Pt100, Pt1000, NTC
Special feature	■ Smallest case design, UV-resistant ■ Protected against dust and water jets, IP65 ■ Mounting flange from plastic
Data sheet	TE 67.16

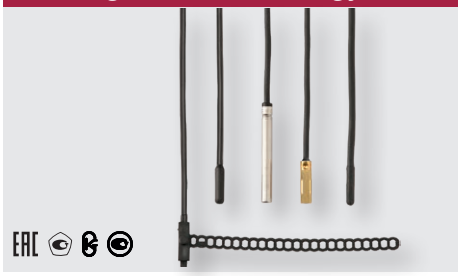
TF41

Outdoor thermometer

Measuring range	-40 … +100 °C
Measuring element	Pt100, Pt1000, NTC
Special feature	■ Smallest case design, UV-resistant ■ Protected against dust and water jets, IP65 ■ Clip-on sun protector
Data sheet	TE 67.17

TF43

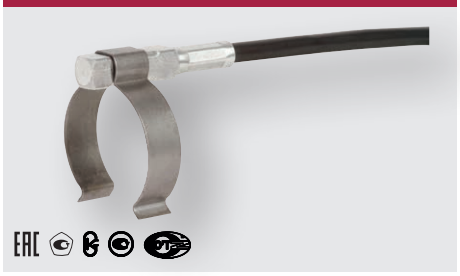
OEM insertion thermometer for refrigeration technology



Measuring range	-50 … +105 °C
Measuring element	Pt100, Pt1000, NTC
Special feature	■ Plastic-moulded measuring element ■ Waterproof ■ Compatible with market-standard refrigeration controllers
Data sheet	TE 67.13

TF44

Strap-on thermometer with connection lead



Measuring range	-50 … +200 °C
Measuring element	Pt100, Pt1000, NTC, KTY
Special feature	■ Connection lead from PVC, silicone ■ Aluminium probe sleeve ■ Protected against dust and water jets, IP65 ■ With quick-mounting clip
Data sheet	TE 67.14

TF45

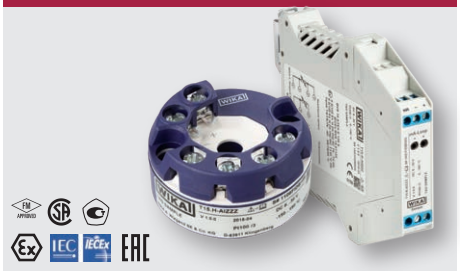
OEM insertion thermometer with connection lead

Measuring range	-50 … +260 °C
Measuring element	Pt100, Pt1000, NTC, KTY, Ni1000
Special feature	■ Connection lead from PVC, silicone, PTFE ■ Probe sleeve from stainless steel ■ Protected against dust and water jets, IP65
Data sheet	TE 67.15

Temperature transmitters

T15

Digital temperature transmitter for resistance sensors



Input	Resistance thermometers, potentiometers
Accuracy	< 0.1 %
Output	4 … 20 mA
Special feature	The fastest and simplest configuration on the market
Data sheet	TE 15.01

T16

Digital temperature transmitter for thermocouples

Input	All commercially available thermocouples
Accuracy	Typical < 2 K
Output	4 … 20 mA
Special feature	The fastest and simplest configuration on the market
Data sheet	TE 16.01

T32

HART® temperature transmitter

Input	Resistance thermometers, thermocouples, potentiometers
Accuracy	< 0.1 %
Output	4 … 20 mA, HART® protocol
Special feature	TÜV certified SIL version (full assessment)
Data sheet	TE 32.04

T53

FOUNDATION™ Fieldbus and PROFIBUS® PA transmitter

Input	Resistance thermometers, thermocouples, potentiometers
Accuracy	< 0.1 %
Special feature	PC configurable
Data sheet	TE 53.01

T91

Analogue temperature 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	< 0.1 %
Output	4 … 20 mA, HART® protocol
Special feature	PC configurable
Data sheet	TE 62.01

Further information at www.wika.com

Temperature switches

Temperature switches for industrial applications

TSD-30

Electronic temperature switch with display

Measuring range	-20 … +80 °C, -20 … +120 °C, 0 … 150 °C
Output	■ Switching outputs PNP or NPN ■ 4 … 20 mA ■ 0 … 10 V ■ IO-Link 1.1
Data sheet	TE 67.03

TFS35

Bimetal temperature switch

Switching temperature	50 … 155 °C, fixed
Special feature	■ Switching voltage to AC 48 V, DC 24 V ■ Compact version: Normally closed (NC), normally open (NO) ■ Electr. connection via plug connection
Data sheet	TV 35.01

TFS135

Bimetal temperature switch for voltages to AC 250 V

Switching temperature	50 … 130 °C, fixed
Special feature	■ Switching voltages up to AC 250 V ■ Contact version normally closed (NC) ■ Electr. connection via plug connection ■ 1 or 2 switch contacts ■ Option: With measuring element Pt1000 / Pt100
Data sheet	TV 35.02

Temperature switches for the process industry

TXS, TXA

Mini temperature switches

Setting range	-15 … +20 to 180 … 250 °C
Ignition protection type	Ex ia or Ex d
Switch	1 x SPDT
Switching power	AC 220 V/5 A DC 24 V/5 A
Data sheet	TV 31.70, TV 31.72

TCS, TCA

Compact temperature switches

Setting range	-30 … +10 to 160 … 250 °C
Ignition protection type	Ex ia or Ex d
Switch	1 x SPDT or 1 x DPDT
Switching power	AC 250 V/15 A DC 24 V/2 A
Data sheet	TV 31.64, TV 31.65

TWG, TAG

Heavy-duty version

Setting range	-30 … +70 to 0 … 600 °C
Ignition protection type	Ex ia or Ex d
Switch	1 or 2 SPDT or 1x DPDT
Switching power	AC 250 V/20 A DC 24 V/2 A
Data sheet	TV 31.60, TV 31.61

Thermometers with switch contacts

SC15

Expansion thermometer with micro switch, indicating temperature controller

Nominal size	60, 80, 100 mm 45 x 45, 72 x 72, 96 x 96 mm
Scale range	-100 … +400 °C
Wetted parts	Copper alloy
Option	Sheet steel version
Data sheet	TV 28.02

SB15

Expansion thermometer with micro switch, safety temperature limiter

Nominal size	60, 80, 100 mm 72 x 72, 96 x 96 mm
Scale range	0 … 400 °C
Wetted parts	Copper alloy
Option	■ Sheet steel version
Data sheet	TV 28.03

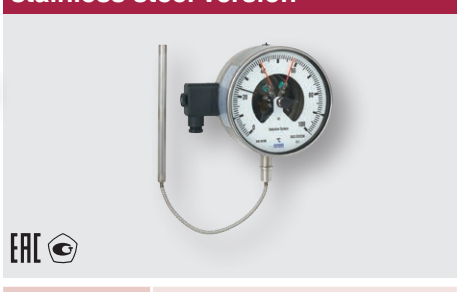
TGS55

Bimetal thermometer, stainless steel version

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

TGS73

Gas-actuated thermometer, stainless steel version



Nominal size	100, 160 mm
Scale range	-200 … +100 to 0 … 700 °C
Wetted parts	Stainless steel
Option	■ Capillary ■ Liquid dampening (case)
Data sheet	TV 27.01

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

Temperature controllers

CS4R

For rail mounting, 22.5 x 75 mm

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

CS6S, CS6H, CS6L

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

Input	Multi-function input for resistance thermometers, thermocouples and standard signals
Control mode	PID, PI, PD, P, ON/OFF (configurable)
Monitoring output	Relay (AC 250 V, 3A, (R) or 1A (L)) 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
Supply voltage	■ AC 100 … 240 V ■ AC/DC 24 V
Data sheet	AC 85.08

SC58

For panel mounting, 62 x 28 mm

Input	Pt100 or PTC
Control mode	Simple 2-point controller
Monitoring output	Relay switching output 12 A, 250 V
Supply voltage	■ 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 mode	Simple 2-point controller
Monitoring output	Relay switching output 16 A, 250 V
Supply voltage	■ AC 230 V ■ AC 12 … 24 V or DC 16 … 32 V
Data sheet	AC 85.25

Thermowells

Whether in aggressive or abrasive process media, whether in high- or low-temperature ranges: For electrical or mechanical thermometers, to prevent direct exposure of their temperature probes to the medium, thermowells that suit each application are available. Thermowells can be machined from solid-body material or assembled from tube sections and can either be screw-, weld- or flange-fitted.

They are offered in standard and special materials such as stainless steel 1.4571, 316L, Hastelloy® or titanium. Each version, depending on its construction type and its mounting to the process, has certain advantages and drawbacks with respect to its load limits and the special materials that can be used.

In order to manufacture thermowells for flange mounting at low cost from special materials, the designs used differ from standard thermowells in accordance with DIN 43772.
Thus, only the wetted parts of the thermowell are manufactured from special materials, whereas the non-wetted flange is made of stainless steel and is welded to the special material.

This design is used both for fabricated and solid-machined thermowells. With tantalum as special material a removable jacket is used, which is slid over the supporting thermowell from stainless steel.

TW10

Solid-machined with flange

Thermowell form	Tapered, straight or stepped
Nominal width	ASME 1 … 4 inch DIN/EN DN 25 … 100
Pressure rating	ASME to 2,500 lbs (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 psi
Data sheet	TW 95.20

TW25

Weld–in (solid-machined)

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

TW30

Vanstone (solid-machined) for lap flanges

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

TW31

Vanstone design in accordance with petrochemical standard

Thermowell form	In accordance with Shell drawings S38.113 and S38.114
Material	Stainless steel, special alloys
Flange	Slip-on flanges per ASME B16.5
Data sheet	TW95.31

Further information at www.wika.com

Thermowells

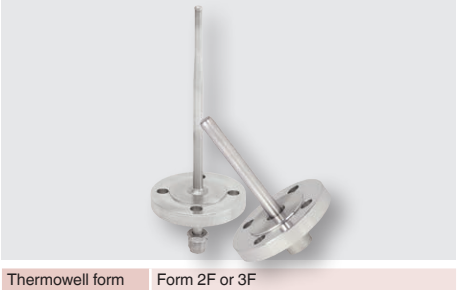
TW35

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

Thermowell form	Form 2, 2G, 3 or 3G
Material	Stainless steel
Connection to thermometer	M24 x 1.5 rotatable
Data sheet	TW 95.35

TW40

Fabricated with flange (DIN 43772 form 2F, 3F)



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

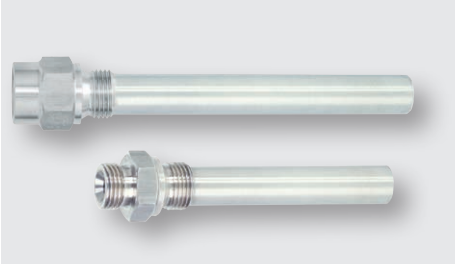
TW45

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 … 50 ASME 1 … 2 inch
Pressure rating	DIN/EN up to PN 100 (ASME up to 2,500 psig)
Data sheet	TW 95.55

STW52G

Thermowell for model 52 and model 73

Connection to thermometer	Suitable for thermometers with smooth connection (without thread), collar Ø 18 mm, stem 8 and 13 mm
Thermowell material	Copper alloy, St35 [2] or stainless steel
Process connection	G ½ B thread
Max. process temperature, process pressure	■ 160 °C with copper alloy as thermowell material (6 bar stat.) ■ 500 °C with St35 stainless steel thermowell material (25 bar stat.)
Data sheet	TW 90.11

[2] Thermowell stem material: Stainless steel

Accessories

PU-548

Programming unit for temperature transmitters

- LED status display
- Compact design
- No further voltage supply needed, neither for the programming unit nor for the transmitter
- Due to the magWIK quick connector, fast connection to the transmitter possible
- Data sheet AC 80.18

magWIK

Magnetic quick connector

- For accelerated connection for all configuration and calibration processes
- Connection of 2-mm plug contacts or 4-mm plug contacts with adapter
- Data sheet AC 80.15

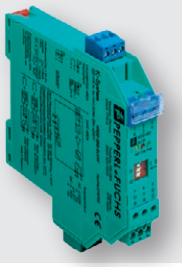
905

Contact protection relay for model 821 switch contacts

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

904

Control unit for inductive contacts



Application	For operating measuring instruments with inductive contacts
Data sheet	AC 08.01

Coupler connector

Fittings

Wires & cables

Further information at www.wika.com

Bypass level indicators

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

Applications

- Continuous level indication without supply voltage
- Indication of the level proportional to height
- Individual design and corrosion-resistant materials make the products suitable for a broad range of applications
- Chemical industry, petrochemical industry, oil and natural gas extraction (on- and offshore), shipbuilding, machine building, power generating equipment, power plants
- Process water and drinking water treatment, food and beverage industry, pharmaceutical industry

Special features

- Process- and procedure-specific production
- Operating limits: □ Operating temperature: T = -196 … +450 °C
  □ Operating pressure: P = vacuum to 400 bar [1)]
  □ Limit density: ρ ≥ 340 kg/m^3
- Wide variety of different process connections and materials
- Mounting of level sensors and magnetic switches possible as an option
- Explosion-protected versions

[1)] Individual limit values. For application limits, the joint consideration of temperature and pressure is required.

BNA-S

Standard version

Chamber	■ Ø 60.3 x 2 mm ■ Ø 60.3 x 2.77 mm
Material	■ Stainless steel 1.4571/316TI ■ 1.4404/316L
Process connection	■ Flange DIN, ANSI, EN ■ Thread ■ Weld stub
Pressure	Max. 64 bar
Temperature	-196 … +450 °C
Data sheet	LM 10.01

BNA-H

Plastic version

Chamber	Ø 60.3 x 3.91 mm Ø 60.3 x 5.54 mm 73 x 7.01 mm 76.1 x 5 mm 71 x 7.5 mm 76 x 1 mm
Material	■ 1.4571/316Ti ■ 1.4404 (316L)
Process connection	■ Flange DIN, ANSI, EN ■ Thread ■ Weld stub
Pressure	Max. 400 bar
Temperature	-196 … +400 °C
Data sheet	LM 10.01

BNA-X

Special materials

Chamber	Ø 60.3 x 2 mm Ø 60.3 x 2.77 mm Ø 60.3 x 3.91 mm Ø 60.3 x 5.54 mm
Material	■ Titanium 3.7035 ■ Hastelloy C276 ■ 6Mo 14547 ■ Monel ■ Inconel
Process connection	■ Flange DIN, ANSI, EN ■ Thread ■ Weld stub
Pressure	Max. 250 bar
Temperature	-196 … +450 °C
Data sheet	LM 10.01

BNA-P

Plastic version

Chamber	Ø 60.3 x 3 mm
Material	■ PVDF ■ PP
Process connection	■ Flange DIN, ANSI, EN
Pressure	Max. 6 bar
Temperature	-10 … +100 °C
Data sheet	LM 10.01

BNA-L

Liquid/KO*plus* version

Chamber	■ Ø 88.9 x 2 mm ■ Ø 88.9 x 2,9 mm
Material	■ Stainless steel 1.4404/316L
Process connection	■ Flange DIN, ANSI, EN ■ Thread ■ Weld stub
Pressure	Max. 64 bar
Temperature	-196 … +300 °C
Data sheet	LM 10.01

BNA-SD, BNA-HD DU*plus*

Standard/high-pressure version

Chamber	■ BNA-SD: Ø 60.3 x 2 mm Ø 60.3 x 2.77 mm ■ BNA-HD: Ø 60.3 x 3.91 mm
Material	■ 1.4571/316TI ■ 1.4404/316L
Process connection	■ Flange DIN, ANSI, EN ■ Thread ■ Weld stub
Pressure	■ BNA-SD: max. 64 bar ■ BNA-HD: max. 160 bar
Temperature	-196 … +450 °C
Data sheet	LM 10.01

Accessories for bypass level indicators

BLR

Reed sensor

Material	Stainless steel
Meter run	Max. 6,000 mm
Temperature	-100 … +350 °C depending on version
Output signal	4 … 20 mA, HART®, PROFIBUS® PA or FOUNDATION™ Fieldbus
Data sheet	LM 10.03

BMD

Magnetic display

Material	Aluminium, anodised, stainless steel
Display elements	Plastic rollers, stainless steel flaps
Cover	Polycarbonate, glass
Length	180 … 6,000 mm
Temperature	-200 … +450 °C
Data sheet	LM 10.03

BFT

Float

Material	Stainless steel, titanium, various special materials
Pressure	Up to 450 bar
Temperature	-200 … +450°C
Density	> 340 kg/m³
Data sheet	LM 10.02

Further information at www.wika.com

Accessories for bypass

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

BLM-SI, BLM-SD

Magnetostrictive level transmitter, intrinsically safe (Ex i)

Material	Stainless steel 1.4404
Guide tube length	Max. 5,800 mm
Temperature	-60 … +185 °C
Output signal	4 … 20 mA, HART®
Data sheet	LM 10.05

BLM-SF-FM

Magnetostrictive level transmitter with FM approval

Material	Stainless steel
Guide tube length	Max. 4,000 mm
Temperature	-200 … +180 °C
Output signal	4 … 20 mA, HART®
Data sheet	LM 10.05

UTN

Top-mounted level indicator

Chamber	■ Ø 42.4 x 2 mm (standard) ■ Ø 42.2 x 2.77 mm ■ Ø 60.3 x 2 mm ■ Ø 60.3 x 2.77 mm
Material	■ Stainless steel 1.4571/316Ti ■ Stainless steel 1.4401/1.4404 (316/316L)
Process connection	■ Flange DIN, ANSI, EN
Pressure	Max. 40 bar
Temperature	-196 … +300 °C
Data sheet	LM 11.02

External chambers

The external chamber model BZG consists of an external chamber vessel that is mounted laterally to a vessel using at least 2 process connections (flange, thread or weld stub). Through this type of arrangement, the level in the external chamber vessel corresponds to the level in the vessel. The level is measured by a measuring instrument inserted additionally in the external chamber vessel, for example model FLR or FLS, or by a guided wave radar.

Applications

- Level detection for almost all liquid media
- Individual design and corrosion-resistant materials make the products suitable for a broad range of applications
- Chemical industry, petrochemical industry, oil and natural gas extraction (on- and offshore), shipbuilding, machine building, power generating equipment, power plants

Special features

Process- and procedure-specific production

Operating limits: □ Operating temperature: T = -196 … +450 °C
□ Operating pressure: P = Vacuum to 400 bar [1)]

- Wide variety of different process connections and materials
- Mounting of level sensors and guided wave radars possible as an option

[1)] Individual limit values. For application limits, the joint consideration of temperature and pressure is required.

BZG-S

External chamber, standard version

Material	Stainless steel 1.4571 (316Ti), stainless steel 1.4401/1.4404 (316/316L)
Process connection	Flange ■ DIN EN 1092-1 DN 10 … DN 100, PN 6 … PN 63 ■ DIN DN 10 … DN 100, PN 6 … PN 64 ■ ANSI B 16.5 ½" … 4", class 150 … 600
Pressure	64 bar
Temperature	-196 … +450 °C
Data sheet	LM 11.01

BZG-H

External chamber, high-pressure version

Material	Stainless steel 1.4571 (316Ti), stainless steel 1.4401/1.4404 (316/316L)
Process connection	Flange ■ DIN EN 1092-1 DN 10 … DN 100, PN 100 … PN 400 ■ DIN DN 10 … DN 100, PN 100 … PN 400 ■ ANSI B 16.5 ½" … 4", class 600 … 2,500
Pressure	400 bar
Temperature	-196 … +450 °C
Data sheet	LM 11.01

BZG-K

External chamber, steel version

Material	Steel 1.0345/1.0460, steel 1.5415 (16Mo3), A105/A106 Gr. B, A350 LF2/A333 Gr. 6
Process connection	Flange ■ DIN EN 1092-1 DN 10 … DN 50, PN 16 … PN 400 ■ DIN DN 10 … DN 50, PN 16 … PN 400 ■ ANSI B 16.5 ½" … 4", class 150 … 2,500
Pressure	Max. 255 bar (material-dependent)
Temperature	-10 … +425 °C (material-dependent)
Data sheet	LM 11.01

BZG-X

External chamber, special material version

Material	Stainless steel 6Mo 1.4547 (UNS S31254) Stainless steel 1.4306 (304L) Duplex 1.4462 (UNS S31803) Super Duplex 1.4410 (UNS S3850) Titanium 3.7035 (grade 2) Hastelloy C276 (2.4819)
Process connection	Flange ■ DIN EN 1092-1 DN 10 … DN 100, PN 63 … PN 400 ■ DIN DN 10 … DN 100, PN 64 … PN 400 ■ ANSI B 16.5 ½" … 4", class 600 … 2,500
Pressure	Max. 430 bar (material-dependent)
Temperature	-196 … +450 °C (material-dependent)
Data sheet	LM 11.01

Further information at www.wika.com

Glass level gauges

Direct level indication without supply voltage

Applications

- Continuous level indication without supply voltage
- Direct indication of the level
- Individual design and corrosion-resistant materials make the products suitable for a broad range of applications
- Chemical, petrochemical industry, oil and natural gas extraction (on- and offshore), shipbuilding, machine building, power generating equipment, power plants
- Oil and gas, heat transfer and refrigeration systems, plants for cryogenics

Special features

- Process- and procedure-specific production
- Operating limits: □ Operating temperature: T = -196 … +374 °C [1)]
  □ Operating pressure: Vacuum to 250 bar [1)]
- Wide variety of different process connections and materials
- Illumination optional
- Heating and/or insulation optional

[1)] Individual limit values. For application limits, the joint consideration of temperature and pressure is required.

LGG-E

Compact version

Display type	Reflex
Material	■ Steel 1.0460 ■ A105, 1.0570
Process connection	Flange DIN, ANSI, EN
Pressure	Max. 40 bar
Temperature	-10 … +243 °C (steam)
Glass size	2 … 11
Number of segments	1 … 3
Data sheet	LM 33.01

LGG-RP, LGG-TP

Carbon-Line version

Display type	Reflex/transparent
Material	Steel A350 LF2
Process connection	■ Flange DIN, ANSI, EN ■ Male thread ½" NPT, ¾" NPT ■ Weld stub ½", ¾"
Pressure	Max. 100 bar
Temperature	■ -40 … +243 °C (steam) ■ -40 … +300 °C
Glass size	4 … 9
Number of segments	1 … 5
Data sheet	LM 33.01

LGG-RE, LGG-TE

Standard version

Display type	Reflex/transparent
Material	■ Steel 1.0570, A350 LF2 ■ Stainless steel 1.4404/316L
Process connection	■ Flange DIN, ANSI, EN ■ Male thread ½" NPT, ¾" NPT ■ Weld stub ½", ¾"
Pressure	Max. 160 bar
Temperature	■ -196 … +243 °C (steam) ■ -196 … +300 °C
Glass size	2 … 11
Number of segments	1 … 5 (others on request)
Data sheet	LM 33.01

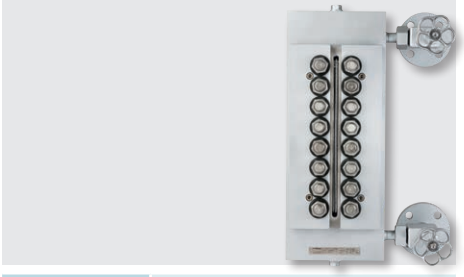
LGG-RI, LGG-TI

High-pressure version

Display type	Reflex/transparent
Material	■ Steel 1.5415 ■ Stainless steel 1.4404/316L
Process connection	■ Flange DIN, ANSI, EN ■ Male thread ½" NPT, ¾" NPT ■ Weld stub ½", ¾"
Pressure	Max. 250 bar
Temperature	-196 … +100 °C
Glass size	2 … 9
Number of segments	1 … 5
Data sheet	LM 33.01

LGG-M

Refraction version



Display type	Refraction
Material	Steel 1.5415
Process connection	■ Flange DIN, ANSI, EN ■ Male thread G ½, G ¾, ½" NPT, ¾" NPT ■ Weld stub ½", ¾"
Pressure	Max. 250 bar
Temperature	-10 … +374 °C
Glass size	2 … 11
Number of segments	1 … 9
Data sheet	LM 33.01

Submersible pressure sensors

Hydrostatic level measurement

Applications

- Level measurement in rivers and lakes
- Control of sewage lift and pumping stations
- Monitoring of sewage, settling and rainwater retention basins
- Level measurement in vessel and storage systems for oils and fuels

Special features

- Slimline and hermetically sealed design up to 300 m water column
- Highly resistant versions available
- Explosion protection per ATEX, IECEx, FM and CSA
- Drinking water conformity per KTW and ACS
- Temperature output, HART® and low-power output signal for battery operation

LF-1

For superior applications

Accuracy (± % of span)	≤ 0.5 or ≤ 1
Measuring range	0 … 0.1 to 0 … 6 bar 0 … 1.6 to 0 … 6 bar abs.
Output signal	■ 4 … 20 mA (2-wire) ■ 4 … 20 mA + HART® (2-wire) ■ DC 0.1 … 2.5 V (3-wire)
Special feature	■ Suitable for measurements in contaminated and aggressive media ■ An optimised discharge behaviour and a large pressure port prevent the instrument from clogging and ensure a minimum maintenance effort ■ Can be used in explosion-protected areas ■ Developed for wireless applications
Data sheet	LM 40.04

LS-10

For general applications

Accuracy (± % of span)	≤ 0.5
Measuring range	0 … 0.25 to 0 … 10 bar
Output signal	4 … 20 mA (2-wire)
Data sheet	PE 81.55

LH-20

High-performance

Accuracy (± % 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	■ Scalable measuring range (optional) ■ Resistant against the harshest environmental conditions ■ Reliable and secure by double-sealed design ■ Titanium case for especially high resistance (optional)
Output signal	■ 4 … 20 mA (2-wire) ■ 4 … 20 mA (2-wire) + HART® + PT100
Data sheet	PE 81.56

Continuous measurement with float for industrial applications

With reed measuring chain

Applications

- Level measurement of liquids in machine building
- Control and monitoring tasks for hydraulic power packs, compressors and cooling systems

Special features

- Media compatibility: Oil, water, diesel, refrigerants and other liquids
- Permissible medium temperature: -30 … +120 °C
- Output signals for level and temperature (optional) as resistance output signal or 4 … 20 mA current output
- Accuracy, resolution: 24, 12, 10, 6 or 3 mm

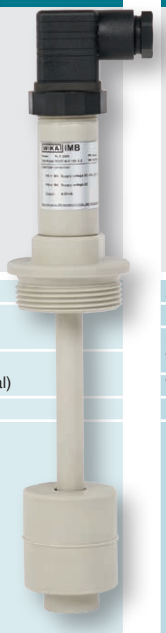
RLT-1000

Stainless steel version

Accuracy	24, 12, 10, 6 or 3 mm
Output signal	Resistance signal or 4 … 20 mA
Temperature	-30 … +80 °C (-30 … +120 °C optional)
Guide tube length	150 … 1,500 mm
Data sheet	LM 50.02

RLT-2000

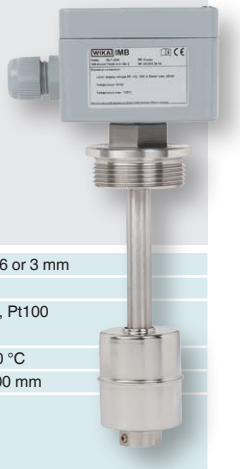
Plastic version



Accuracy	24, 12, 10, 6 or 3 mm
Output signal	Resistance signal or 4 … 20 mA
Temperature	-10 … +80 °C (-30 … +120 °C optional)
Guide tube length	150 … 1,500 mm
Data sheet	LM 50.01

RLT-3000

Stainless steel version with temperature output signal



Accuracy	24, 12, 10, 6 or 3 mm
Level output signal	4 … 20 mA
Output signal Temperature	4 … 20 mA, Pt100 or Pt1000
Temperature	-30 … +100 °C
Guide tube length	150 … 1,500 mm
Data sheet	LM 50.05

Continuous measurement with float for the process industry

Magnetostrictive

Applications

- High-accuracy level detection for almost all liquid media
- Chemical, petrochemical industry, natural gas, offshore, shipbuilding, machine building, power generating equipment, power plants
- Process water and drinking water treatment, food and beverage industry, pharmaceutical industry

Special features

- Process- and procedure-specific solutions possible
- Operating limits:
  - □ Operating temperature: T = -90 … +450 °C
  - □ Operating pressure: P = vacuum to 100 bar
  - □ Limit density: ρ ≥ 400 kg/m³
- Resolution < 0.1 mm
- Wide variety of different electrical connections, process connections and materials
- Explosion-protected versions

FLM-CA

Compact version for process applications

Process connection	■ Mounting thread downwards - G ½" … G 2" - NPT ½" … NPT 2" ■ Mounting flange - ANSI ½" … 2 ½", class 150 … 600 - EN DN 20 … DN 65, PN 6 … PN 100 - DIN DN 20 … DN 65, PN 6 … PN 100
Guide tube length	100 … 1,000 mm (Ø 6 mm guide tube) 100 … 3,000 mm (Ø 12 mm guide tube)
Pressure	Vacuum to 40 bar
Temperature	-40 … +250 °C
Density	≥ 580 kg/m³
Data sheet	LM 20.04

FLM-CM

Compact version for industrial applications

Process connection	■ Mounting thread downwards - G ½" … G 2" - NPT ½" … NPT 2"
Guide tube length	100 … 1,000 mm (Ø 6 mm guide tube)
Pressure	Vacuum to 40 bar
Temperature	-40 … +125 °C
Density	≥ 680 kg/m³
Data sheet	LM 20.05

FLM-S

Stainless steel version

Process connection	■ Mounting thread ■ Flange: DIN, ANSI
Guide tube length	Max. 6,000 mm
Pressure	0 … 200 bar
Temperature	-90 … +450 °C
Density	≥ 400 kg/m³
Data sheet	LM 20.01

FLM-SP

Plastic version

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

FLM-H

Hygienic version, for sanitary applications

Process connection	■ Clamp ISO 2852 ■ Clamp DIN 32767 ■ Aseptic thread DIN 11864-1 ■ Aseptic liner DIN 11864-1 ■ Aseptic flange DIN 11864-2 ■ Aseptic clamp DIN 11864-3 ■ VARIVENT® ■ BioConnect®
Material	1.4435 (316L) or 1.4404 (316L)
Guide tube length	Max. 6,000 mm
Pressure	10 bar
Temperature	-40 … +250 °C
Density	≥ 770 kg/m³
Data sheet	LM 20.01

With reed measuring chain

Applications

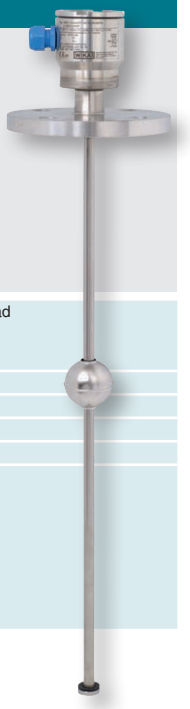
- Level detection for almost all liquid media
- Chemical, petrochemical industry, natural gas, offshore, shipbuilding, machine building, power generating equipment, power plants
- Process water and drinking water treatment, food and beverage industry, pharmaceutical industry

Special features

- Process- and procedure-specific solutions possible
- Operating limits: □ Operating temperature: T = -80 … +200 °C
  □ Operating pressure: P = vacuum to 80 bar
  □ Limit density: ρ ≥ 400 kg/m³
- Wide variety of different electrical connections, process connections and materials
- Optionally with programmable and configurable head-mounted transmitter for 4 … 20 mA field signals, HART®, PROFIBUS® PA and FOUNDATION™ Fieldbus
- Explosion-protected versions

FLR-SA, FLR-SB

Stainless steel version



Process connection	■ Mounting thread ■ Flange DIN, ANSI, EN
Guide tube length	Max. 6,000 mm
Pressure	0 … 100 bar
Temperature	-80 … +200 °C
Density	≥ 400 kg/m³
Data sheet	LM 20.02

FLR-PA, FLR-PB

Plastic version, PP, PVDF, PP

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

FLR-HA3

Hygienic version, for sanitary applications

Process connection	■ Clamp ISO 2852 ■ Clamp DIN 32767 ■ Aseptic thread DIN 11864-1 ■ Aseptic liner DIN 11864-1 ■ Aseptic flange DIN 11864-2 ■ Aseptic clamp DIN 11864-3 ■ VARIVENT® ■ BioConnect®
Material	1.4435 (316L) or 1.4404 (316L)
Guide tube length	Max. 6,000 mm
Pressure	10 bar
Temperature	-40 … +250 °C
Density	≥ 770 kg/m³
Data sheet	LM 20.02

VARIVENT® is a registered trademark of the company GEA
BioConnect® is a registered trademark of the company NEUMO

Float switches for industrial applications

Applications

- Level measurement of liquids in machine building
- Control and monitoring tasks for hydraulic power packs, compressors and cooling systems

Special features

- Media compatibility: Oil, water, diesel, refrigerants and other liquids
- Permissible medium temperature range: -30 … +150 °C
- Up to 4 switching outputs freely definable as normally open, normally closed or change-over contact
- Optional temperature output signal, selectable as preconfigured bimetal switch or either Pt100 or Pt1000

RLS-1000

Stainless steel version

Switching output	Up to 4 (normally closed, normally open, change-over contact)
Medium temperature	-30 … +80 °C (-30 … +150 °C optional)
Guide tube length	60 … 1,500 mm
Data sheet	LM 50.03

RLS-2000

Plastic version

Switching output	Up to 4 (normally closed, normally open, change-over contact)
Medium temperature	-10 … +80 °C (-30 … +120 °C optional)
Guide tube length	100 … 1,500 mm
Data sheet	LM 50.04

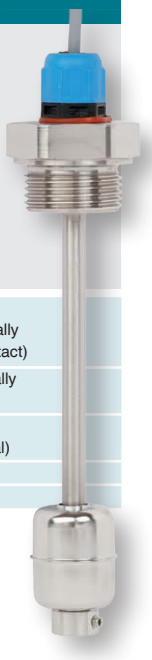
RLS-3000

Stainless steel version, with temperature output signal

Switching output	Up to 3 (normally closed, normally open, change-over contact)
Temperature output	Normally closed, normally open, Pt100, Pt1000
Medium temperature	-30 … +80 °C (-30 … +150 °C optional)
Guide tube length	60 … 1,500 mm
Data sheet	LM 50.06

RLS-4000

Intrinsic safety Ex i



Switching output	Up to 4 (normally closed, normally open, change-over contact)
Temperature output (optional)	Normally closed, normally open, Pt100, Pt1000
Medium temperature	-30 … +80 °C (-30 … +150 °C optional)
Guide tube length	60 … 1,500 mm
Data sheet	LM 50.07

RLS-5000

For the shipbuilding industry (bilge water tanks)

Switching output	Normally closed, normally open, change-over contact
Medium temperature	-40 … +80 °C
Electrical output	Marine cable, IP68
Test device	optional
Data sheet	LM 50.08

RLS-6000

For water and wastewater

Switching output	Normally closed, normally open, change-over contact
Density	≥ 1,000 kg/m³
Medium temperature	-10 … +60 °C
Guide tube length	150 … 1,000 mm
Data sheet	LM 50.09

GLS-1000

PNP or NPN switching outputs

Switching output	Up to 4 (normally closed, normally open)
Temperature output	Pt100, Pt1000
Medium temperature	-40 … +80 °C (-40 … +110 °C optional)
Guide tube length	60 … 1,000 mm
Accuracy	≤ 1 mm
Data sheet	LM 50.10

Further information at www.wika.com

Float switches for the process industry

Robust switches for liquid media

Applications

- Level measurement for almost all liquid media
- Pump and level control and monitoring of distinct filling levels
- Chemical, petrochemical industry, natural gas, offshore, shipbuilding, machine building, power generating equipment, power plants
- Process water and drinking water treatment, food and beverage industry

Special features

- Large range of application due to the simple, proven functional principle
- For harsh operating conditions, long service life
- Operating limits: □ Operating temperature: T = -196 … +350 °C
  □ Operating pressure: P = vacuum to 40 bar
  □ Limit density: ρ ≥ 300 kg/m³
- Wide variety of different electrical connections, process connections and materials
- Explosion-protected versions

FLS-SA, FLS-SB

Stainless steel version, for vertical installation

Switch points	Max. 8 switch points
Process connection	■ Mounting thread ■ Flange DIN, ANSI, EN
Guide tube length	Max. 6,000 mm
Pressure	0 … 100 bar
Temperature	-196 … +300 °C
Density	≥ 390 kg/m³
Data sheet	LM 30.01

FLS-PA, FLS-PB

Plastic version, for vertical installation

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

VARIVENT® is a registered trademark of the company GEA
BioConnect® is a registered trademark of the company NEUMO

ELS-S

For lateral mounting with external chamber

External chamber	Stainless steel
Process connection	Threaded pipe connection GE10-LR galvanised steel
Pressure	Up to 6 bar
Temperature	-30 … +300 °C
Data sheet	LM 30.03

ELS-A

For lateral mounting with external chamber

External chamber	Aluminium
Process connection	Threaded pipe connection GE10-LR galvanised steel
Pressure	Max. 1 bar
Temperature	-30 … +150 °C
Data sheet	LM 30.03

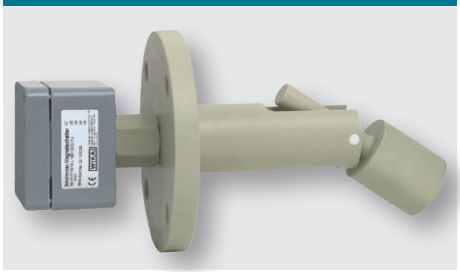
HLS-M1, HLS-M2

Plastic or stainless steel version, with cable outlet

Process connection	■ ½" NPT (installation in the tank from outside) ■ G ¼" (installation in the tank from inside)
Pressure	HLS-M1: 1 bar HLS-M2: 5 bar
Temperature	HLS-M1: -10 … +80 °C HLS-M2: -40 … +120 °C
Material	HLS-M1: PP HLS-M2: Stainless steel 1.4301
Electrical connection	HLS-M1: Cable HLS-M2: Cable or connector
Data sheet	LM 30.06

HLS-P

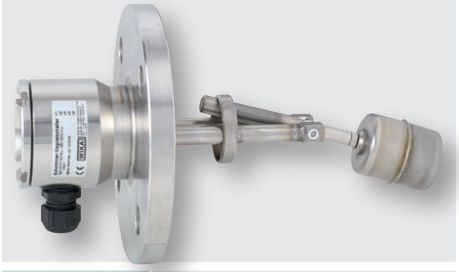
Plastic version, for horizontal installation



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

HLS-S

Stainless steel version, for horizontal installation



Process connection	Flange DIN, ANSI, EN
Pressure	0 … 232 bar
Temperature	-196 … +350 °C
Density	≥ 600 kg/m³
Material	Stainless steel, titanium
Data sheet	LM 30.02

HLS-S Ex i

Intrinsically safe stainless steel version for horizontal installation

Process connection	■ Mounting flange: DIN DN 50 … DN 100, PN 6 … 160 EN 1092 DN 50 … DN 100, PN 6 … PN 160 ANSI 2" … 4", class 150 … 900 ■ Square flange: DN 80 and DN 92 (other flanges on request)				
Pressure	Max. 6 bar				
Temperature class	T2	T3	T4	T5	T6
Process temperature	180 °C	160 °C	108 °C	80 °C	65 °C
Ambient temperature at case	80 °C				
Density	600 kg/m³				
Material	Stainless steel 1.4571				
Data sheet	LM 30.02				

Further information at www.wika.com

Optoelectronic switches for the process industry

For applications with limited mounting space

Applications

- Chemical, petrochemical, natural gas, offshore industries
- Shipbuilding, machine building, refrigerator units
- Power generating equipment, power plants
- Process water and drinking water treatment
- Wastewater and environmental engineering

Special features

- Temperature ranges from -269 … +400 °C
- Versions for pressure ranges from vacuum to 500 bar
- Special versions: High pressure, interface measurement
- Explosion-protected versions
- Signal processing is made using a separate model OSA-S switching amplifier

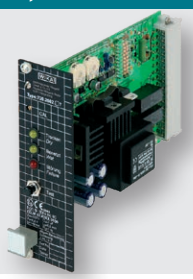
OLS-S, OLS-H

Standard and high-pressure version

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	Ex i
Data sheet	LM 31.01

OSA-S

Switching amplifier, for models OLS-S, OLS-H



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	Ex i
Data sheet	LM 31.01

OLS-C20

Compact design, high-pressure version

Material	Stainless steel, quartz glass
Process connection	■ M16 x 1.5 ■ G ½ A ■ ½ NPT
Insertion length	24 mm
Pressure	0 … 50 bar
Temperature	-30 … +135 °C
Data sheet	LM 31.02

Optoelectronic level switches for industrial applications

Applications

- Limit detection of liquids
- Machine tools
- Hydraulics
- Machine building
- Water technology

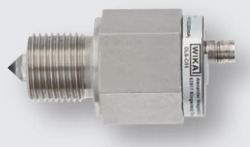
Special features

- For liquids such as oils, water, distilled water, aqueous media
- Compact design
- Mounting position as required
- Accuracy ±2 mm
- No moving components

Optoelectronic limit level switches – for general applications in machine building

OLS-C01

Standard version



Material	Stainless steel, borosilicate glass
Process connection	G ⅜", G ½" or M12 x 1
Pressure	Max. 25 bar
Temperature	-30 … +100 °C
Switching output	1 x PNP
Data sheet	LM 31.31

OLS-C02

With selectable switch length

Material	Stainless steel, borosilicate glass
Process connection	G ½"
Pressure	Max. 25 bar
Temperature	-30 … +100 °C
Switch length	65 … 1,500 mm
Switching output	1 x PNP
Data sheet	LM 31.32

OLS-C05

High-temperature version

Material	Stainless steel, borosilicate glass
Process connection	G ½"
Pressure	Max. 25 bar
Temperature	-40 … +170 °C
Switching output	1 x PNP
Data sheet	LM 31.33

Further information at www.wika.com

Optoelectronic level switches for industrial applications

Optoelectronic limit level switches – application specialists

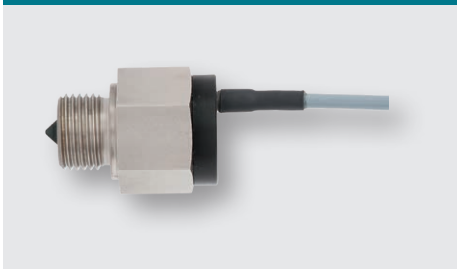
OLS-C51

Intrinsic safety Ex i

Material	Stainless steel, borosilicate glass
Process connection	G ½"
Pressure	Max. 40 bar
Temperature	-30 … +135 °C
Output signal	4 … 20 mA low/high as switching output
Data sheet	LM 31.04

OLS-C04

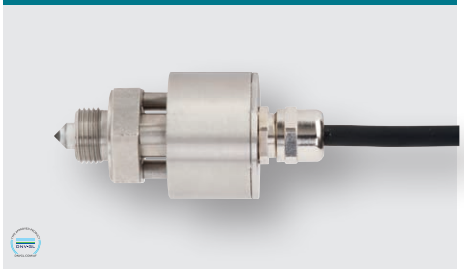
For refrigeration technology



Material	Steel, nickel-plated; melted glass
Process connection	G ½", ½" NPT
Pressure	Max. 40 bar
Temperature	-40 … +100 °C
Switching output	1 x PNP
Data sheet	LM 31.34

OLS-5200

For the shipbuilding industry



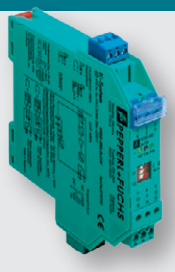
Material	Stainless steel, borosilicate glass
Process connection	Male thread G ½" or M18 x 1.5
Pressure	Max. 25 bar
Temperature	-40 … +130 °C
Switching output	1 x PNP
Vibration resistance	10 … 5,000 Hz, 0 … 60 g
Data sheet	LM 31.06

Accessories

The comprehensive accessory programme includes a wide variety of electronic equipment required for the evaluation and indication of our sensors.

904

Control unit for inductive contacts



Application	For operating measuring instruments with inductive contacts
Data sheet	AC 08.01

IS Barrier

Intrinsically safe repeater power supply

- 1-channel input 0/4 … 20 mA
- Intrinsically safe [Ex ia], supplying and non-supplying
- Galvanic isolation
- Bidirectional HART® signal transmission
- Suitable for SIL 2 per IEC 61508/IEC 61511
- Data sheet AC 80.14

DI35

Digital indicator 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 ■ Analogue output signal
Supply voltage	■ AC/DC 100 … 240 V ■ DC 10 … 40 V, AC 18 … 30 V
Data sheet	AC 80.03

DI32-1

Digital indicator for panel mounting, 48 x 24 mm

Input	Multi-function input for resistance thermometers, thermocouples and standard signals
Alarm output	2 electronic contacts
Supply voltage	DC 9 … 28 V
Data sheet	AC 80.13

Further information at www.wika.com

Compression force transducers

Compression force transducers are designed for determining compression forces and are suitable for static and dynamic measurements in the direct force flow. WIKA force transducers are manufactured from stainless steel and other high-quality materials, are robust and are notable for their reliability and high quality even in complex applications. Our compression force transducers are available in different rated loads.

They cover a wide range of application areas: For instance, these force sensors are employed in machine building or in the automation of plants to determine the pressing and joining forces, as well as for detecting weight in many industrial applications. You can select the pertinent technical and regional approvals as options.

F1119

Hydraulic compression force transducer, clamping force test instrument to 120 kN

Measuring range	0 … 320 N to 0 … 120 kN
Relative linearity error	■ Analogue ≤ ±1.6 % F_{nom} ■ Digital ≤ ±0.5 % F_{nom}
Output signal	■ Analogue: Display ■ Digital: 4 … 20 mA, 3-wire
Ingress protection	■ Analogue: IP65 ■ Digital: IP67
Data sheet	FO 52.10

F1136

Hydraulic compression force transducer, clamping force test instrument to 500 kN

Measuring range	0 … 1.2 kN to 0 … 500 kN
Relative linearity error	■ Analogue ≤ ±1.6 % F_{nom} ■ Digital ≤ ±0.5 % F_{nom}
Output signal	■ Analogue: Display ■ Digital: 4 … 20 mA, 3-wire
Ingress protection	■ Analogue: IP65 ■ Digital: IP67
Data sheet	FO 52.27

F1211

Compression force transducer to 1,000 kN

Rated force F_{nom}	0 … 1 to 0 … 1,000 kN
Relative linearity error	≤ ±0.2 % F_{nom}
Output signal	2 mV/V
Ingress protection	IP67
Data sheet	FO 51.10

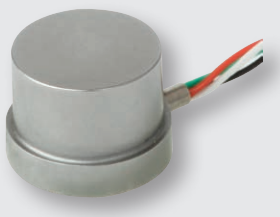
F1222

Miniature compression force transducer from 0.5 N

Rated force F_{nom}	0 … 0.5 to 0 … 5,000 N
Relative linearity error	±1 % F_{nom}
Output signal	1 … 10 mV/V/N
Ingress protection	IP65
Data sheet	FO 51.11

F1224

Miniature compression force transducer from 1 kN



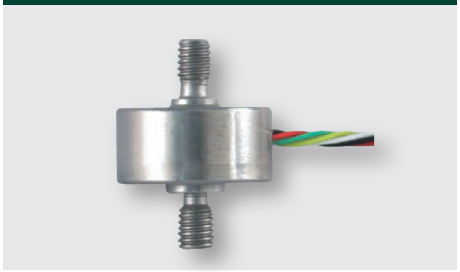
Rated force F_{nom}	0 … 1 to 0 … 500 kN
Relative linearity error	±1.0 % F_{nom}
Output signal	1.5 mV/V
Ingress protection	IP65
Data sheet	FO 51.12

Tension/compression force transducers

WIKA offers tension/compression force transducers in different designs and versions. They are available in miniature designs, as traditional s-type, as transducers with different thread forms or as low-profile force transducers (pancake). Transducers in miniature design are used for small mounting spaces and also for detecting small forces. The s-type with female thread, which is very well suited for this purpose, features a particularly high accuracy and is used in rated load ranges of up to 50 kN. For measuring high forces, tension/compression force transducers in compact size are the first choice. For low-profile force transducers, the force is transmitted via the centrical female thread. They are highly dynamic and possess a high fatigue strength.

F2220

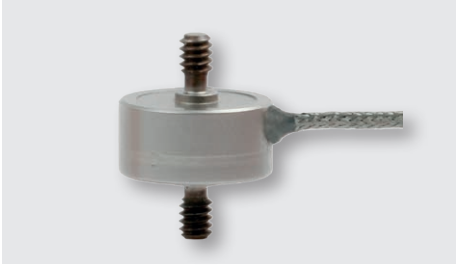
Miniature tension/compression force transducer, from 1.5 N



Rated force F_{nom}	0 … 1.5 to 0 … 5,000 N
Relative linearity error	±0.5 % F_{nom}
Output signal	2 mV/V (to 5 N 15 mV/V)
Ingress protection	IP65
Data sheet	FO 51.16

F2221

Tension/compression force transducer from 0.01 kN



Rated force F_{nom}	0 … 0.01 to 0 … 50 kN
Relative linearity error	±0.2 % F_{nom}
Output signal	2 mV/V
Ingress protection	IP65
Data sheet	FO 51.26

F2222

Tension/compression force transducer up to 2,200 kN

Rated force F_{nom}	0 … 22 N up to 0 … 2.200 kN
Relative linearity error	±0.1 % F_{nom}
Output signal	■ ≤ 25 lbs: 2 mV/V ■ > 50 lbs: 3 mV/V
Ingress protection	IP65
Data sheet	FO 51.29

F2226

Tension/compression force transducer, male thread to 3,300 kN

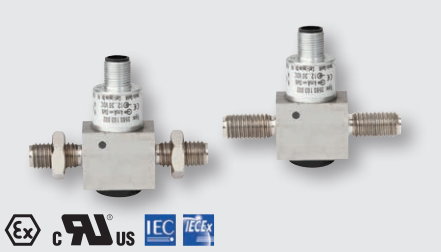
Rated force F_{nom}	0 …10 kN to 0 … 3,300 kN
Relative linearity error	■ ≤ ±0.15 % F_{nom} (≤ 200 kN) ■ ≤ ±0.20 % F_{nom} (> 200 kN)
Output signal	2 mV/V
Ingress protection	IP66
Data sheet	FO 51.51

Further information at www.wika.com

Tension/compression force transducers

F2301, F23C1, F23S1

Tension/compression force transducer with thin-film technology to 500 kN



Rated force F_{nom}	0 … 1 to 0 … 500 kN
Relative linearity error	±0.5 % F_{nom}
Output signal	■ 4 … 20 mA, 2-wire/3-wire ■ 0 … 10 V, 3-wire ■ CANopen® ■ Redundant versions available
Ingress protection	IP67 (IP69k optional)
Data sheet	FO 51.17

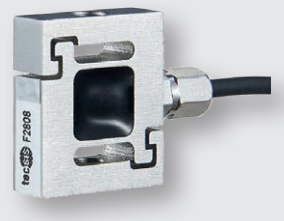
F2802

Tension/compression force transducer, s-type to 50 kN

Rated force F_{nom}	0 … 0.5 kN to 0 … 50 kN
Relative linearity error dlin	■ Steel ±0.03 % F_{nom} ■ Stainless steel ±0.05 % F_{nom}
Output signal	2.0 ±5 % mV/V
Ingress protection	IP65 (< 5 kN), IP67 (≥ 5 kN)
Data sheet	FO 51.48

F2808

Tension/compression force transducer from 0.01 kN



Rated force F_{nom}	0 … 0.01 to 0 … 50 kN
Relative linearity error	±0.15 % F_{nom}
Output signal	2.0 ±10 % mV/V
Ingress protection	IP66
Data sheet	FO 51.68

Bending/shear beams

Bending beams and shear beams are used for the determination of (shear) forces and are suitable for both static (weighing technology) and dynamic (machine building) measurement projects. To determine how strong the force is in the application, strain gauges or thin-film sensors are used, which are attached on or in the measuring body.

The fields of application of the bending beam and shear beam are many and varied. Thus, these load cells are very often used in industrial weighing technology as well as in the areas of special machine building, factory automation and stage construction. In addition, they are used in the laboratory and process industry for the indirect determination of torques.

F3831

Shear beam to 10 t

Rated load F_{nom}	0 … 500 to 0 … 10,000 kg
Relative linearity error	0.03 % F_{nom}
Output signal	■ 2.0 ±1 % mV/V ■ 3.0 ±1 % mV/V (optional)
Ingress protection	IP65 (< 500 kg), IP67 (500 kg)
Data sheet	FO 51.21

F3833

Bending beam to 500 kg

Rated load F_{nom}	0 … 20 to 0 … 500 kg
Relative linearity error	0.02 % F_{nom}
Output signal	2.0 ±1 % mV/V
Ingress protection	IP68
Data sheet	FO 51.22

Load cells

Load cells are designed as a special form of force transducers for use in weighing equipment. They enable very high measurement accuracies between 0.01 % and 0.05 % F_{nom}. Typical and widely used load cell geometries are single point load cells, bending and shear beam load cells, s-type load cells, pendulum load cells and compression force load cells. In addition, there are corresponding mounting kits and complete weighing modules available.

F4801

Single point load cell to 250 kg

Rated load F_{nom}	0 … 3 to 0 … 250 kg
Relative linearity error	0.02 % F_{nom}
Output signal	2.0 ±10 % mV/V
Ingress protection	IP65
Data sheet	FO 53.10

F4802

Single point load cell to 10 kg

Rated load F_{nom}	0 … 0.3 kg to 0 … 10 kg
Relative linearity error	0.02 % F_{nom}
Output signal	1.0 ±10 % mV/V (0.3 - 0.5 kg) 2.0 ±10 % mV/V (1 - 10 kg)
Ingress protection	IP65
Data sheet	FO 53.13

F4818

Single point load cell to 500 kg

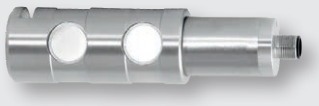
Rated load F_{nom}	0 … 20 kg to 0 … 500 kg
Relative linearity error	0.02 % F_{nom}
Output signal	2.0 ±10 % mV/V
Ingress protection	IP65
Data sheet	FO 53.14

Load pins

Load pins represent one of the most important components for measuring forces. Existing retention bolts can easily be replaced by these products in existing applications. The application areas range from construction machinery and cranes to stage construction. These force transducers are often used by designers, because, due to their design, they can be directly integrated into the force flow, without taking up space. Since the design requirements for the use of load pins are very individual, the exact layout is important. With WIKA, you will have specialists by your side who already have lots of experience in force measurement.

F5301, F53C1, F53S1

Load pin with thin-film technology to 70 kN



Rated force F_{nom}	0 … 10 to 0 … 70 kN
Relative linearity error	±1 % F_{nom}/±1.5 % F_{nom}/±2 % F_{nom}
Output signal	■ 4 … 20 mA, 2-wire/3-wire ■ 0 … 10 V, 3-wire ■ CANopen® redundant versions available
Ingress protection	IP67, IP69k (optional)
Data sheet	FO 51.18

Further information at www.wika.com

Ring force transducers

These force transducers are extremely robust and are suitable for the detection of very high (static) forces. Furthermore, they are suitable for many installation situations. The ring geometry is used in force measurement for a wide variety of spatial conditions. The main fields of application are found in spindle presses, in screw force measurement or even in geotechnology.

WIKA offers electrical and hydraulic ring force transducers in diameters from 12 millimetres up to 430 millimetres as well as in various installation heights. Discover our portfolio now.

F6212

Ring force transducer to 100 kN

Rated force F_{nom}	0 … 2 to 0 … 100 kN
Relative linearity error	±0.2 % F_{nom}
Output signal	0.8 … 1.2 mV/V
Ingress protection	IP65
Data sheet	FO 51.27

F6215

Ring force transducer to 1,500 kN

Rated force F_{nom}	0 … 15 to 0 … 1,500 kN
Relative linearity error	■ ≤ ±1 % F_{nom} for compression force measurement ■ 3 % F_{nom} for preload force measurement
Output signal	0.8 … 1.2 mV/V
Ingress protection	IP65
Data sheet	FO 51.28

Special force transducers

We refer to force transducers that do not fit into any standard design as special force transducers. Due to the specification of the requirement, in some cases design-engineered solutions must be considered. As a long-standing manufacturer of force measurement technology, WIKA brings this expertise into play and can find the best and, at the same time, most economical solution for the customer.

Among our special force transducers are, for example, force sensors for determining the weight of containers (twistlock sensors) or for checking rope tension (wire rope force transducers). The applications in which special force transducers are used are wide-ranging and always require great experience in their engineering. You can count on this when you trust in the right solution from WIKA.

F9204

Wire rope force transducer to 40 t

Rated load F_{nom}	0 … 1 to 0 … 15 t
Relative linearity error	±3 % F_{nom}
Output signal	4 … 20 mA, 2-wire
Ingress protection	IP66
Data sheet	FO 51.25

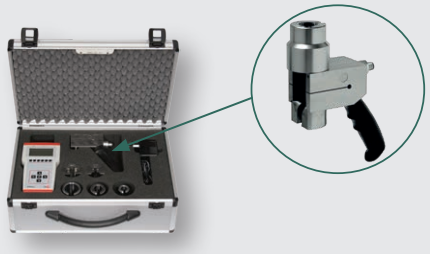
F9302

Strain transducer to 1,000 µe

Strain F_{nom}	0 … ±200, 0 … ±500, 0 … ±1,000 µe
Relative linearity error	≤ ±1 % F_{nom}
Output signal	4 … 20 mA
Ingress protection	IP67
Data sheet	FO 54.10

FRKPS

Chain hoist test set for checking friction clutches



Rated force F_{nom}	40 … 3,500 kg
Relative linearity error	0.5 % F_{nom}
Output signal	4 … 20 mA
Ingress protection	■ Force transducer IP67 ■ Display instrument IP40
Data sheet	FO 51.69

Inclination sensors

In order to determine the inclination of machines or machine parts precisely, WIKA now offers a wide range of inclination sensors. The sensors contain a dielectric medium whose surface, as in a spirit level, always aligns horizontally due to gravity.

Typical application areas of inclination sensors are cranes, aerial platforms, wind turbines or mobile working machines. Application in offshore installations for oil and gas extraction is also possible.

N1101

Inclination sensor, single-axis, 1-channel

Measuring range	0 … 360° (other measuring ranges on request)
Relative linearity error	■ < 100° - < 0.1° ■ > 100° - < 0.1 % of FS
Output signal	4 … 20 mA, 3-wire
Ingress protection	IP67
Data sheet	FO 59.01

N131C

Ex inclination sensor, redundant

Measuring range	0 … 90°, 0 … 180° or 0 … 360° (other measuring ranges on request)
Relative linearity error	■ < 100° - < 0.1° ■ > 100° - < 0.1 % of FS
Output signal	2 x 4 … 20 mA, 3-wire
Ingress protection	IP67
Data sheet	FO 59.02

Electronics

Many force measurement applications can be complemented by electronic components. To ensure that all system-relevant components come from a single source, WIKA continuously expands its product range with useful electronics. WIKA offers controllers, amplifiers, limit switches, hand-held measuring instruments, digital indicators and electronic accessories that ensure trouble-free operation. With the help of electronics matched to the measuring components, set limit values are maintained and checked with the reading instruments. Amplifiers are available with analogue and digital output signals. The LED display or LCD are available with 4 or 6 digits.

EZE09

Analogue cable amplifier for strain gauge resistance thermometry bridges

Input	Resistance thermometry bridge, 4- or 6-wire
Output	0 /4 … 20 mA, DC 0 … 10 V
Special feature	■ High accuracy ■ Cable length between amplifier and read-out unit: up to 100 m are possible ■ Compact design ■ Zero point and span adjustable
Supply voltage	DC 12 … 28 V
Data sheet	AC 50.03

ELMS1

Safety electronics PLe in accordance with DIN EN ISO 13849-1

Input	■ 8 safe 4 … 20 mA analogue inputs ■ 8 safe digital inputs ■ Fieldbus: Optionally PROFIBUS®, ProfiNet®, EtherCat® and CANopen®
Output	■ 2 safe relay outputs ■ 6 safe, positive-switching semiconductor outputs ■ Fieldbus: Optionally PROFIBUS®, ProfiNet®, EtherCat® and CANopen®
Special feature	■ Certified safety electronics, certified in accordance with DIN EN ISO 13849-1, PLe ■ Certified system solution incl. force measurement, certified in accordance with DIN EN 13849-1 cat. 3, PLd ■ Complex functionality, easy to configure via PC ■ Complete system available in a control cabinet
Supply voltage	DC 24 V
Data sheet	AC 50.06

EGS80

Digital limit switch

Input	■ 0/4 … 20 mA
Output	■ Two potential-free relay contacts (change-over) with status LED ■ One freely programmable analogue output (0 … 20 mA)
Special feature	■ Galvanic isolation, line break (LB) and short-circuit (SC) monitoring ■ Easy setting of extensive functions on the instrument or via PC software ■ Up to SIL 2 in accordance with IEC 61508
Supply voltage	■ DC 20 … 90 V ■ AC 48 … 253 V
Data sheet	AC 50.01

Further information at www.wika.com

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: Uncalibrated ±0.5 … 2.5 %
- Repeatability of measurement 0.1 %

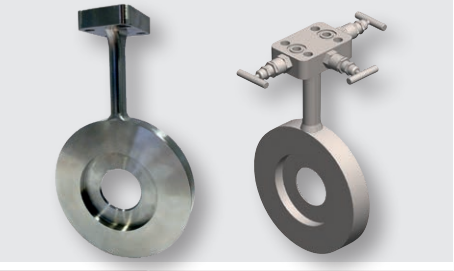
FLC-OP

Orifice plate

Standards	■ ISO 5167-2 ■ ASME MFC3M
Pipe size	■ ≥ 2" ■ ≥ 50 mm
β	Depending on version
Accuracy [1]	Uncalibrated ±0.5 … 2.5 %
Data sheet	FL 10.01

FLC-CO

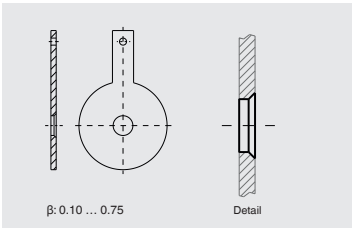
Compact orifice plate for the direct mounting of differential pressure transmitters



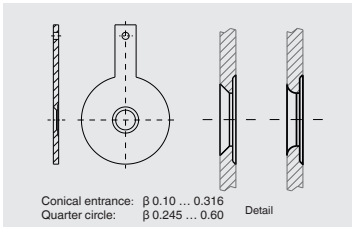
Standards	■ ISO 5167-2 ■ ANSI/ASME B16.5
Pipe size	■ 2 … 14" ■ DN 50 … 350
β	Depending on version
Accuracy	≤ ±0.5 %
Data sheet	FL 10.10

Versions

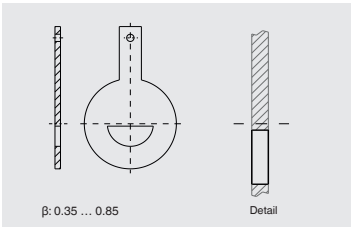
- **Square edge orifice plates** (standard version)
  This design is intended for general applications in clean liquids and gases.



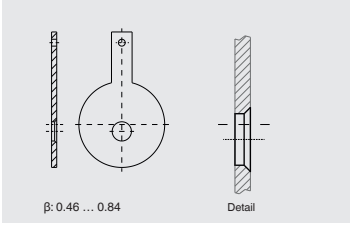
- **Quarter circle and conical entrance orifice plates**
  The best choice for measurement of liquids with low Reynolds number.



- **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.



[1] The actual measuring deviation is specified during the engineering phase

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.

FLC-FL

Orifice flanges

Standards	ISO 5167-2
Pipe size	■ ≥ 2" ■ ≥ 50 mm
β	Depending on version
Accuracy [1)]	Uncalibrated ±0.5 … 2.5 %
Data sheet	FL 10.01

FLC-AC

Annular chambers

Standards	ISO 5167-2
Pipe size	■ ≥ 2" ■ ≥ 50 mm
β	Depending on version
Accuracy [1)]	Uncalibrated ±0.5 … 2.5 %
Data sheet	FL 10.01

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)

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 ISO 5167-1:2003. This assembly is known as a “meter run”.

Main characteristics

- Nominal width < 1 ½"
- Nominal pressure rating 300 … 2,500 depending on model/version
- 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 diameter is 1 ½" or smaller and the medium is clean. An extremely compact installation can be ensured as the pressure sensor can be mounted directly onto the meter run. Without a calibration, an accuracy of ±1 … 2 % can be expected, the actual values will be confirmed during the engineering phase.

FLC-MR

Meter run

Standards	ISO 5167-2
Pipe size	■ ½ … 1½ in ■ 12 … 40 mm
β	0.2 … 0.75
Accuracy	Uncalibrated ±1 … 2 %
Data sheet	FL 10.02

Special assemblies

FLC-HHR-PP

HHR ProPak™ flow meter for oil and gas

Pipe size	2", 3", 4", 6" or 8"
β and pipe length	0.75 or 0.40
Special feature	No need for straight upstream and downstream pipes
Data sheet	FL 10.07

FLC-HHR-FP

HHR FlowPak® flow meter

Pipe size	3 … 24"
β and pipe length	0.75 or 0.40
Special feature	No need for straight upstream and downstream pipes
Data sheet	FL 10.09

FLC-WG

Wedge flow meter for slurries and highly viscous media

Pipe size	½ … 24"
H/D ratios	0.2/0.3/0.4/0.5
Special feature	■ Low maintenance through robust design ■ For very high and very low Reynolds numbers ■ Bidirectional measurement possible
Data sheet	FL 10.08

Flow nozzles

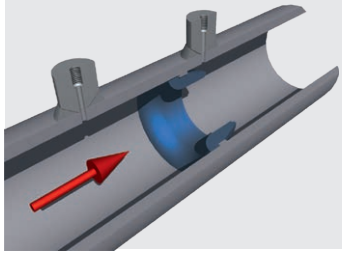
A flow nozzle consists of a convergent section with a rounded profile and a cylindrical throat. This design is generally selected for steam flow measurement at high velocity.

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.

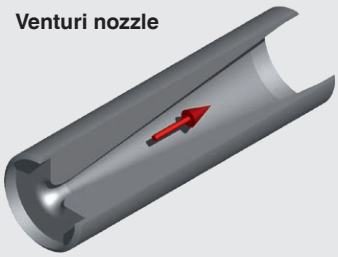
Main characteristics

- Suitable for liquid, gas and steam flow measurement
- Optimum solution for measuring the flow of steam
- Accuracy: Uncalibrated ±0.8 … 2 %
- 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]	Uncalibrated ±2 %
Data sheet	FL 10.03

FLC-FN-FLN

Flow nozzle for flange assembly

Pipe size	■ ≥ 2 in ■ ≥ 50 mm
β	0.3 … 0.8
Accuracy [1]	Uncalibrated ±0.8 %
Data sheet	FL 10.03

FLC-VN

Venturi nozzle

Pipe size	■ ≥ 2 in ■ ≥ 50 mm
β	0.2 … 0.8
Accuracy [1]	Uncalibrated ±1 %
Data sheet	FL 10.03

[1] The actual measuring deviation is specified during the engineering phase

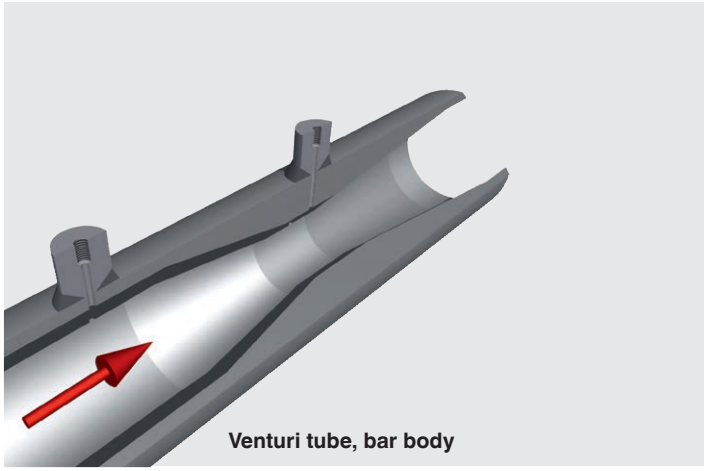
Venturi tubes

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 tube 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 possible on request
- Accuracy: Uncalibrated ±1 … 1.5 %



Venturi tube, bar body

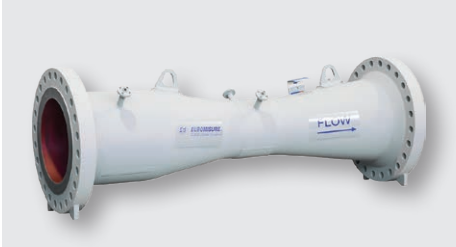
FLC-VT-BAR

Venturi tube, bar body

Pipe size	■ 2 … 32 in ■ 50 … 250 mm
β	0.4 … 0.75
Accuracy [1]	Uncalibrated ±1.25 %
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]	Uncalibrated ±1.5 %
Data sheet	FL 10.04

[1] The actual measuring deviation is specified during the engineering phase

FloTec (averaging pitot tubes)

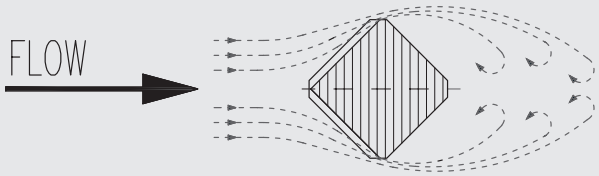
FloTec (a multi-port, averaging pitot tube) measures the difference between the static pressure and the dynamic pressure of the media in the pipe. The volumetric flow is calculated from that difference using Bernoulli's principle and taking into account the pipe inner diameter. Using four dynamic ports 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 permanent 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.

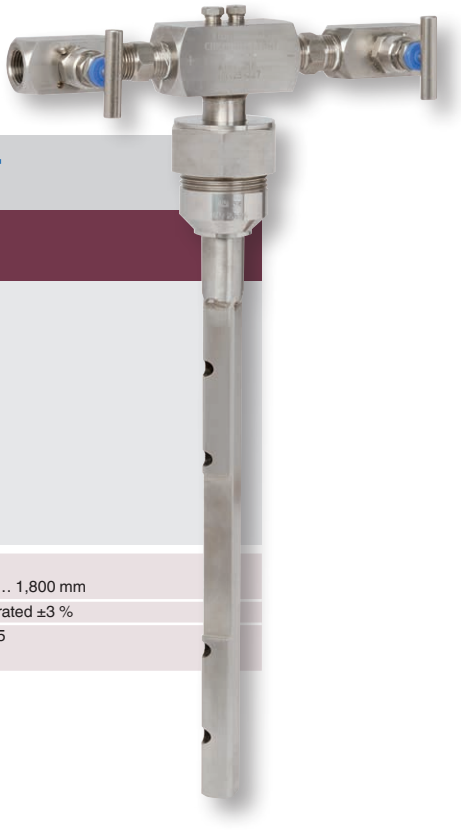


Vortex generation

FLC-APT-E

FloTec, extractable

Pipe size	■ ≥ 3 in ■ ≥ 50 … 1,800 mm
Accuracy	Uncalibrated ±3 %
Data sheet	FL 10.05



FLC-APT-F

FloTec, fixed

Pipe size	■ ≥ 3 in ■ ≥ 50 … 1,800 mm
Accuracy	Uncalibrated ±3 %
Data sheet	FL 10.05

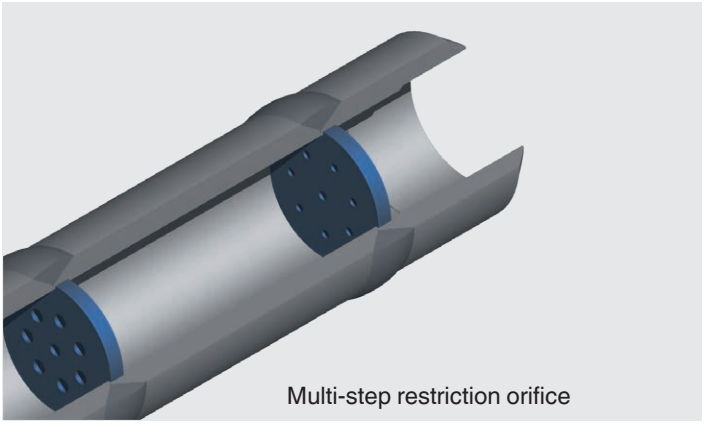
Restriction orifices

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.

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



Multi-step restriction orifice

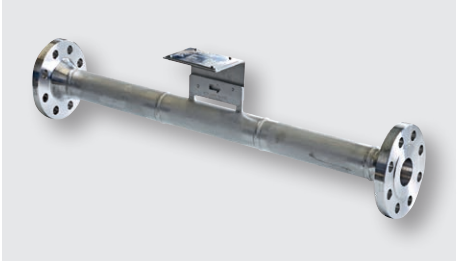
FLC-RO-ST

Single-step restriction orifice

Nominal size	½ … 24"
Special feature	■ Suitable for liquids, gases and steam ■ Single-step version
Data sheet	FL 10.06

FLC-RO-MS

Multi-step restriction orifice



Nominal size	½ … 24"
Special feature	■ Suitable for liquids, gases and steam ■ Single-step version
Data sheet	FL 10.06

Flow switches

For each flow monitoring the right flow switch

Flow switches are used for the display and monitoring of the flow of liquid and gaseous media. The instruments feature a high switching accuracy and functional safety, low switch hysteresis and continuous switch point setting by the operator.

The wide selection of WIKA flow switches also includes viscosity-compensated models and ATEX-certified instruments for use in hazardous environments.

FWS

For liquid and gaseous media

Material	Stainless steel, brass
Process connection	G ¼ … G 1½
Flow range	■ 0.005 … 250 l/min (water) ■ 0.2 … 1,450 Nl/min (air)
Output	Optionally pointer, sight glass, reed contact
Data sheet	FL 30.01

FSD-3

For liquid media

Measuring range	3 … 300 cm/s
Output signal	For flow and temperature ■ PNP or NPN ■ Analogue output (optional)
Process connection	■ G ¼ A, G ½ A ■ ¼ NPT, ½ NPT ■ M18 x 1.5
Data sheet	FL 80.01

Digital pressure gauges

High-quality digital pressure gauges from WIKA

Precision digital pressure gauges are suitable for stationary and also mobile measurement and display of pressures.
In addition, a digital pressure gauge can be used as a pressure reference and enables the easy testing, adjustment and calibration of other pressure measuring equipment directly on-site. Through efficient measuring cells with electronic linearisation of the characteristic curve, a high accuracy is achieved.

DG-10

Digital pressure gauge for general industrial applications

Measuring range	■ 0 … 5 to 0 … 700 bar ■ -1 … +5 to -1 … +10 bar
Accuracy (% of span)	≤ 0.5 % FS ±1 digit
Special feature	■ Robust stainless steel case, nominal size 80 mm ■ Battery operation (2 x 1.5 V AA cell) ■ Option: Rotatable instrument head, backlighting
Data sheet	PE 81.66

CPG500

Digital pressure gauge

Measuring range	-1 … +16 to 0 … 1,000 bar
Accuracy	0.25 %
Special feature	■ Simple operation using 4 buttons ■ Robust case with protective rubber cap, IP67
Data sheet	CT 09.01

CPG1500

Precision digital pressure gauge

App „myWIKA device“ Play Store

Measuring range	-1 … 10,000 bar
Accuracy	to 0.025 % FS
Special feature	■ Integrated data logger ■ WIKA-Cal compatible ■ Data transfer via WIKA-Wireless ■ Password protection possible ■ Robust case IP65
Data sheet	CT 10.51

CPG-KITH

Hydraulic service kit

- Simple testing and adjustment of pressure measuring instruments
- Kit consists of a CPG1500 reference instrument and a CPP700-H hand pump (hydraulic, P_{max} 700 bar) or CPP1000-H (hydraulic, P_{max} 1,000 bar)

CPG-KITP

Pneumatic service kit

- Simple testing and adjustment of pressure measuring instruments
- Kit consists of a CPG1500 reference instrument and a CPP30 hand pump (pneumatic, P_{max} 30 bar)

WIKA-Cal

Calibration software, accessories for digital pressure gauges

- 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 gauge pressure measuring instruments with absolute pressure references and vice versa

Data sheet: CT 95.10

Hand-helds, calibrators

Hand-helds are portable calibration instruments for mobile use for the accurate measurement and recording of pressure profiles. There are interchangeable pressure sensors with measuring ranges of up to 10,000 bar available for the instruments. Through this, hand-helds are particularly suitable as test instruments for a large variety of applications in the widest range of industries. Data recorded in the hand-held can be evaluated via PC software, some instruments document calibrations in the internal memory, which are later read on a PC. Optionally, a calibration certificate can be generated with our calibration software WIKA-Cal.

CPH6200, CPH62I0

Hand-held pressure indicator

Measuring range	-0.025 … 0.025 to -1 … 1,000 bar
Accuracy	0.2 %, 0.1 % (optional)
Special feature	■ Integrated data logger ■ Differential pressure measurement (optional) ■ Ex version: Model CPH62I0 (optional)
Data sheet	CT 11.01, CT 11.02

CPH6300

Hand-held pressure indicator

Measuring range	-0.025 … 0.025 to -1 … 1,000 bar
Accuracy	0.2 %, 0.1 % (optional)
Special feature	■ Robust and waterproof case with IP65, IP67 ■ Integrated data logger ■ Differential pressure measurement (optional)
Data sheet	CT 12.01

CPH6400

Precision hand-held pressure indicator

Measuring range	0 … 0.25 to -1 … 6,000 bar
Accuracy	0.025 %
Special feature	■ Integrated data logger ■ Temperature measurement (optional)
Data sheet	CT 14.01

CPH6000

ProcessCalibrator

Measuring range	0 … 0.25 to -1 … 6,000 bar
Accuracy	0.025 %
Special feature	■ Calibration function ■ Pressure switch test ■ Transmitter supply
Data sheet	CT 15.01

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

CPH7000, CPH7000-Ex

Portable process calibrator

Measuring range	-1 … 25 bar (-1 … 10,000 bar with CPT7000)
Accuracy	0.025 % FS
Special feature	■ Integrated pressure generation ■ Measurement of pressure, temperature, current, voltage, ambient conditions ■ Supply of pressure, current and voltage ■ Calibration function, data logger, switch test
Data sheet	CT 15.51

Pascal ET

Hand-held multi-function calibrator

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	0.025 % FS
Special feature	■ Large display with touchscreen ■ Integrated data logger and calibration function ■ Measurement and simulation of temperature, current, voltage, resistance, frequency, pressure ■ HART® communication
Data sheet	CT 18.02

Pascal100

Hand-held multi-function calibrator

Measuring range	■ -1 … 100 bar ■ 0 … 50 kHz ■ 0 … 10 kΩ ■ -100 …+100 mA ■ -100 …+100 mV
Accuracy	0.025 % FS
Special feature	■ Large display with touchscreen ■ Internal pressure/vacuum generation ■ Integrated data logger and calibration function ■ Measurement and simulation of pressure, current, voltage, resistance, frequency, temperature and pulses ■ HART® communication
Data sheet	CT 18.01

CPH7650

Portable pressure calibrator

Measuring range	-1 … 6,000 bar with CPT6000 Supply elec. pump: -0.85 … +20 bar
Accuracy	0.025 % FS
Special feature	■ Calibration function ■ Generation/measurement of 4 … 20 mA and DC 24 V voltage supply for transmitters ■ Interchangeable reference sensors CPT6000 ■ High-performance electric pump
Data sheet	CT 17.02

WIKA-Cal

Calibration software, accessories for hand-helds/calibrators

■ 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 gauge pressure measuring instruments with absolute pressure references and vice versa

Data sheet: CT 95.10

Precision pressure measuring instruments

Precision pressure measuring instruments are electrical measuring systems which convert pressure into an electrical signal and optionally visualise it. Precise pressure transmitters and process transmitters are used for the monitoring and control of particularly sensitive processes.

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

CPT2500

USB pressure transmitter

Measuring range	0 … 0.025 to 0 … 1,000 bar
Accuracy	0.2 %, 0.1 % (optional)
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

CPT6030

Analogue pressure transducer

Measuring range	0 … 0.025 to 0 … 1,000 bar
Accuracy	0.025 %
Medium	Non-corrosive gases, liquids > 35 mbar
Special feature	■ Comp. temperature range -25 … +70 °C ■ 4 … 20 mA ■ DC 15 … 28 V ■ Ingress protection IP67
Data sheet	CT 25.14

CPT61x0

Precision pressure sensor, standard version

Measuring range	0 … 0.025 to 0 … 400 bar
Accuracy	0.01 %, 0.025 % (for CPT6140)
Medium	Non-corrosive gases, liquids > 1 bar
Special feature	■ RS-232 or RS-485 connection ■ Analogue output (optional) ■ Barometric measuring range: 552 … 1,172 mbar abs., 0.01 % of reading ■ Measuring rate of 4 ms at CPT6140
Data sheet	CT 25.10, CT 25.11

CPT9000, CPT6020

Precision pressure sensor

Measuring range	0 … 0.025 to 0 … 1,000 bar
Accuracy	CPT9000: 0.008 % CPT6020: 0.02 %
Medium	Non-corrosive gases > 35 mbar
Special feature	■ Comp. temperature range 0 … 50 °C ■ RS-232 or RS-485 ■ Measuring rate 20 ms ■ Barometric measuring range: 552 … 1,172 mbar abs., 0.008 % of reading ■ Resolution 6 … 7 digits
Data sheet	CPT9000: CT 25.12 CPT6020: CT 25.13

CPG2500

Precision pressure indicator

Measuring range	0 … 0.025 to 0 … 2,890 bar
Accuracy	0.014 %, 0.01 % and 0.008 %
Medium	Non-corrosive gases > 1 bar liquids
Special feature	■ Up to 2 exchangeable, internal sensors and 1 external sensor of model CPT9000 or CPT6100 ■ Barometric reference (optional) ■ Delta and leak test available
Data sheet	CT 25.02

CPA2501

Precision air data test indicator

Measuring range	■ Altitudes to 100,000 ft ■ Speeds to 1,150 knots
Accuracy	0.01 %, 0.009 %
Special feature	■ RVSM compliant ■ Ps, Qc, Ps/Pt or Ps/Qc configuration with virtual channels ■ Altitude and airspeed rate indication
Data sheet	CT 29.02

Pressure controllers

WIKA pressure controllers: Always the right calibration solution

Pressure controllers are electronic controllers which quickly and automatically provide a stable pressure reference. Due to the high accuracy and control stability, pressure controllers 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.

With pneumatic ranges from 1 mbar to 700 bar and hydraulic ranges up to 1,600 bar, the pressure controllers cover a wide range. Each controller represents a breakthrough in control and measurement technology to provide first-class measurement accuracy and highly stable pressure control.

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 ■ Integrated rechargeable battery
Data sheet	CT 27.51

CPC4000

Industrial series

Measuring range	0 … 0.35 to 0 … 210 bar
Accuracy	0.02 %
Control stability	0.005 %
Medium	Dry, clean air or nitrogen
Special feature	■ Up to 2 sensors ■ Fast control speed ■ Leak test function ■ Automatic contamination protection (optional) ■ Up to 24 internal programmable sequences
Data sheet	CT 27.40

CPC6050

Modular version

Measuring range	0 … 0.025 to 0 … 210 bar
Accuracy	0.01 %
Control stability	0.003 %
Medium	Dry, clean air or nitrogen
Special feature	■ Up to 2 control/measuring channels with 2 sensors each ■ Sensors exchangeable ■ Switch test function ■ Auto-channel for both controllers ■ Automatic contamination protection (optional)
Data sheet	CT 27.62

Pneumatic pressure controllers

CPC8000

Premium version

Measuring range	0 … 0.35 to 0 … 400 bar
Accuracy	0.01 … 0.008 %
Control stability	0.002 %
Medium	Dry, clean air or nitrogen
Special feature	■ Excellent control stability and pressure control without overshooting ■ Up to three interchangeable sensors ■ Optional barometer for automatic conversion of the pressure type ■ Control performance can be matched to application
Data sheet	CT 28.01

CPC7000

High-pressure version

Measuring range	0 … 100 bar to 0 … 700 bar
Accuracy	0.01 %
Control stability	0.008 %
Medium	Nitrogen
Special feature	■ Robust and low-wear valve technology with long-term stability ■ Up to three interchangeable sensors ■ 6 x digital I/O ■ High-pressure safety
Data sheet	CT 27.63

Hydraulic pressure controller

CPC8000-H

High-pressure version

Measuring range	0 … 100 to 0 … 1,600 bar
Accuracy	0.014 % … 0.01 %
Control stability	0.005 %
Medium	Hydraulic oil or water
Special feature	■ High stability ■ Up to two interchangeable reference sensors ■ Automatic flooding ■ Hydraulic liquids available, e.g. Sebacate, Shell Tellus 22, Krytox, FC77
Data sheet	CT 28.05

For aviation

WIKA-Cal

Calibration software, accessories for pressure controllers

- 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 gauge pressure measuring instruments with absolute pressure references and vice versa

Data sheet: CT 95.10

CPA8001

Air data test set

Measuring range	■ Altitudes to 100,000 ft ■ Speeds to 1,150 knots
Accuracy	0.01 % … 0.009 %
Control stability	0.002 %
Medium	Dry, clean air or nitrogen
Special feature	■ Excellent control stability, even with rate control ■ Overshoot-free control ■ RVSM compatible ■ Configurations Ps/Pt, Ps/Qc
Data sheet	CT 29.01

An air data test set is a an electronic controller which 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.

Further information at www.wika.com

Pressure balances

Industrial series

Compact and competitively priced dead-weight testers for use on-site or for maintenance and service
The compact dimensions and low weight are key features of these dead-weight testers for their daily use in service and maintenance. With their integrated pressure generation and purely mechanical measurement principle, they are also specifically suited to on-site applications.

CPB3500

Pneumatic compact version

Measuring range	0.015 … 1 to 1 … 120 bar
Accuracy	0.015 … 0.006 %
Medium	Non-corrosive gases
Special feature	■ Compact dimensions and low weight ■ 1 bar piston can be used for positive and negative overpressure
Data sheet	CT 31.22

CPB3800

Hydraulic 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

CPB3800HP

Compact, high-pressure version with dual-range piston-cylinder system

Measuring range	1 … 2,600 bar
Accuracy	0.025 … 0.007 %
Medium	Special oil or others on request
Special feature	■ Dual-range piston-cylinder systems with fully automated changing between ranges ■ Compact dimensions and low weight
Data sheet	CT 31.07

Laboratory version

High-performance primary standards with excellent running characteristics for use in calibration laboratories
Through modern instrument design with excellent equipment features, the highest demands of operator convenience and performance are fulfilled. The selection of dual-range piston-cylinder systems with automated changing between ranges can ensure this measurement uncertainty over a large pressure range, even with a single measuring system.

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

CPB5000HP

High-pressure version

Measuring range	25 … 2,500 to 25 … 6,000 bar
Accuracy	0.025 … 0.02 %
Medium	Special oil
Special feature	Robust instrument base with integrated high-pressure generation
Data sheet	CT 31.51

CPB5800

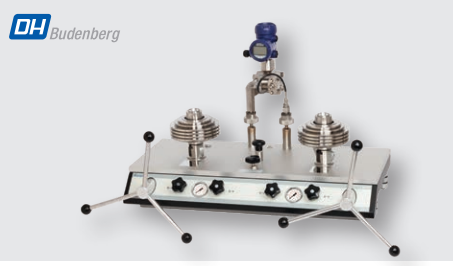
Hydraulic version with dual-range piston-cylinder systems

Measuring range	1 … 120 to 1 … 1,400 bar
Accuracy	0.015 … 0.006 %
Medium	Special oil 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

Calibration software

CPB5600DP

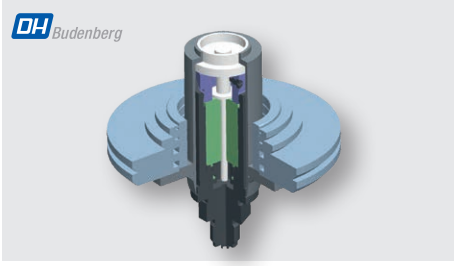
Differential pressure version



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

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

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 gauge 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

Further information at www.wika.com

Pressure balances

High-end version

High-accuracy and high-performance 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 ensure 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

CPD8500

Digital pressure balance

Measuring range	1 … 500 bar (abs. and rel.)
Accuracy	0.005 % … 0.0035 %
Medium	Non-corrosive, dry gases
Special feature	■ Unique principle of operation based on Si units ■ Intuitive operator interface ■ Automatic calibrations, no mass handling needed ■ Automatic compensation of the environmental conditions
Data sheet	CT 32.05

Calibration software

Easy and fast creation of a high-quality calibration certificate

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 website. 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.

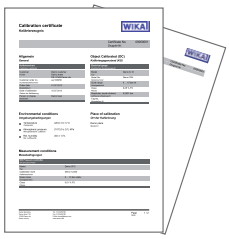
In order to switch from the demo version to a full version of the respective template, a USB key with a licence upgrade has to be purchased. The pre-installed demo version automatically changes to the selected full version when the USB key is inserted and is available as long as the USB key is connected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

WIKA-Cal

Calibration software, accessories for pressure balances

- 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 gauge pressure measuring instruments with absolute pressure references and vice versa

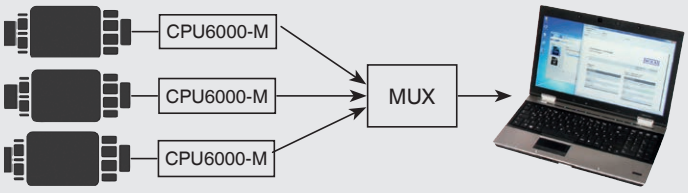
Data sheet: CT 95.10



- **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.

Multicalibration
The additionally charged “Multicalibration” licence can be ordered in addition to Cal Light or Cal. With this, it is possible to calibrate, incl. documentation, up to 16 test items simultaneously. The prerequisite is that the test items are of the same instrument model, measuring range and accuracy.
During the parallel calibration, the measuring window for each test item can be viewed via a table view.

For pressure sensors, it is possible to use either several multimeters (such as model CPU6000-M, for example) or a multiplexer to which all multimeters will be connected. As multiplexers, Agilent 34970A and Netscanner 9816 are supported. The correct cabling is the responsibility of the operator.



Pressure sensors, model CPU6000-M multimeter, multiplexer and PC with WIKA-Cal software

Further information at www.wika.com

Pressure generation

Portable pressure generation

Hand 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-H

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

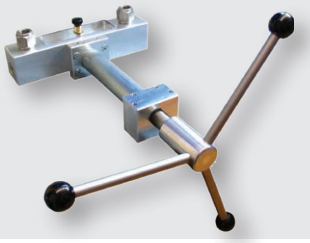
CPP700-H, CPP1000-H

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

Laboratory version

Comparison test pumps serve as pressure generators or controllers for the testing, adjustment and calibration of mechanical and electronic pressure measuring instruments.
Due to their stable case, these test pumps are particularly suitable for stationary use in laboratories or workshops.

CPP120-X

Pneumatic comparison test pump

Measuring range	0 … 120 bar
Medium	Clean, dry, non-corrosive gases
Special feature	■ Accurate pressure setting ■ Robust industrial series ■ External initial pressure supply necessary
Data sheet	CT 91.03

CPP1200-X

Hydraulic comparison test pump

Measuring range	0 … 1,200 bar
Medium	Oil or water
Special feature	■ Integrated tank ■ Dual-area spindle pump ■ Robust industrial series
Data sheet	CT 91.08

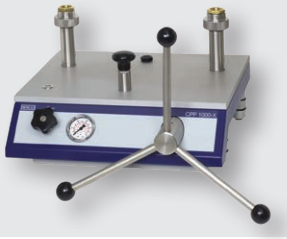
CPP4000-X

Hydraulic comparison test pump

Measuring range	0 … 1,200 bar
Medium	Oil or water
Special feature	■ Integrated tank ■ Dual-area spindle pump ■ Robust industrial series
Data sheet	CT 91.09

CPP1000-X, CPP1600-X

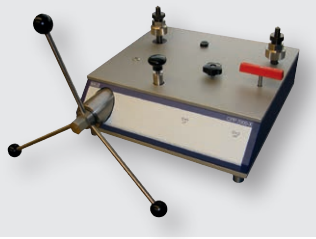
Hydraulic comparison test pump



Measuring range	0 … 1,000 to 0 … 1,600 bar
Medium	Oil or water
Special feature	■ Integrated tank ■ Robust laboratory version with priming pump ■ Compact industrial series with priming pump
Data sheet	CT 91.12

CPP7000-X

Hydraulic comparison test pump



Measuring range	0 … 7,000 bar
Medium	Sebacate oil
Special feature	■ Integrated tank ■ Robust laboratory version with priming pump
Data sheet	CT 91.13

Further information at www.wika.com

Reference thermometers

Highly accurate temperature measurement with reference thermometers

Reference thermometers (standard thermometers) are, due to their excellent stability and their geometrical adaptations, ideally suited for applications in industrial laboratories. They enable easy comparative calibration in baths, in tube furnaces and in dry-well calibrators. The advantage of reference thermometers is the wide temperature range, and with this, their flexible operation. Furthermore, with their low drift, a long service life is ensured.

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
Probe type	Pt100, Pt25
Dimensions	Depending on version
Special feature	■ Flying leads ■ DIN or SMART connector
Data sheet	CT 61.20

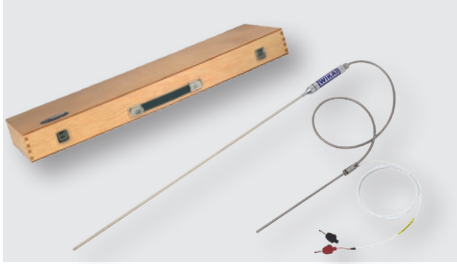
CTP5000-T25

Reference thermometer

Measuring range	-189 … +660 °C
Probe type	Pt25
Dimensions	d = 7 mm, l = 480 mm
Special feature	■ Flying leads ■ DIN or SMART connector
Data sheet	CT 61.25

CTP9000

Thermocouple



Measuring range	0 … 1,300 °C
Thermocouple	Type S per IEC 584, class 1
Dimensions	Ø 7 mm, l = 620 mm
Special feature	■ Cold junction optional ■ 2,000 mm cable
Data sheet	CT 61.10

Hand-helds

Hand-helds are portable calibration instruments for mobile use for the accurate measurement and recording of temperature profiles. For the instruments there are various designs of thermometers available. Through this, hand-helds are particularly suitable as test instruments for a large variety of applications in the widest range of industries.

Data recorded in the hand-held can be evaluated via PC software, some instruments document calibrations in the internal memory, which are later read on a PC. Optionally, a calibration certificate can be generated with our calibration software WIKA-Cal.

CTH6200

Hand-held thermometer

Measuring range	-50 … +250 °C
Accuracy	< 0.2
Probe type	Pt100
Special feature	Integrated data logger
Data sheet	CT 51.01

CTH6300, CTH63I0

Hand-held thermometer

Measuring range	-200 … +1,500 °C
Accuracy	0.1 … 1 K
Probe type	Pt100, TC
Special feature	■ 2 channels (optional) ■ Ex version: Model CTH63I0
Data sheet	CT 51.05

CTH6500, CTH65I0

Hand-held thermometer

Measuring range	-200 … +1,500 °C
Accuracy	0.03 … 0.2 K
Probe type	Pt100, TC
Special feature	■ Integrated data logger (optional) Ex version: Model CTH65I0
Data sheet	CT 55.10

CTH7000

Hand-held thermometer

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

CTR1000

Infrared hand-held thermometer

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

Further information at www.wika.com

Calibration baths

Calibration baths are 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, calibration baths are particularly suitable as a factory/working standard for the automatic testing and/or calibration of the widest range of temperature probes - 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

CTM9100-150

Multi-function calibrator

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

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

Portable temperature calibrators

Efficient calibration with temperature calibrators from WIKA

Portable temperature calibrators (dry-well calibrators) are electronic controllers which automatically, quickly and dryly supply a temperature. Due to the high reliability, accuracy and simple operation, portable temperature calibrators are particularly suitable as a factory/working standard for the automatic testing and/or calibration of temperature measuring instruments of all types.

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

CTD4000

Temperature dry-well calibrator

Measuring range	-24 … 650 °C
Accuracy	0.25 … 0.5 K
Stability	0.1 … 0.3 K
Immersion depth	104 mm/150 mm
Data sheet	CT 41.10

CTD9100-1100

High-temperature dry-well calibrator

Measuring range	200 … 1,100 °C
Accuracy	±3 K
Stability	±0.3 K
Immersion depth	220 mm, bore depth 155 mm
Data sheet	CT 41.29

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

CTD9100-375

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

CTI5000

Infrared calibrator

Measuring range	50 … 500 °C
Stability	±0.1 … 0.4 K
Special feature	Large diameter of measuring surface
Data sheet	CT 41.42

CTM9100-150

Multi-function calibrator

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

Further information at www.wika.com

Resistance thermometry bridges

By using built-in or external standard resistors, resistance thermometry bridges measure resistance ratios with high accuracy, which are indicative of the temperature, among other things. These instruments are not only used in the field of temperature measurement, but – due to their high accuracy – also in electrical laboratories.

CTR2000

Precision thermometer

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

CTR3000

Multi-functional precision thermometer

Measuring range	-210 … +1,820 °C
Accuracy	■ ±0.005 K (4-wire) ■ ±0.03 K (3-wire) ■ ±0.004 % + 2 µV for thermocouples
Probe type	Pt100, Pt25, thermocouples
Special feature	■ Versatile applications by measuring thermocouples and resistance thermometers ■ Logger and scan functions ■ Up to 44 channels possible
Data sheet	CT 60.15

CTS3000

Multiplexer

Measuring range	-210 … +1,820 °C
Accuracy	■ ±0.005 K (4-wire) ■ ±0.03 K (3-wire) ■ ±0.004 % + 2 µV for thermocouples
Probe type	Pt100, Pt25, thermocouples
Special feature	■ No loss of accuracy ■ Various coupler connector connectable ■ Complete automatic calibration routines controllable
Data sheet	AC 87.01

CTR6000

DC resistance thermometry bridge

Measuring range	-200 … +962 °C
Accuracy	±3 mK (full range)
Probe 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
Probe type	SPRT, PRT or fixed resistors
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	0.01 K, optional 0.005 K
Probe type	SPRT, PRT or fixed resistors
Special feature	■ Expendable to up to 60 channels (optional) ■ 4 selectable standby currents possible (optional) ■ AC technology
Data sheet	CT 60.80

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

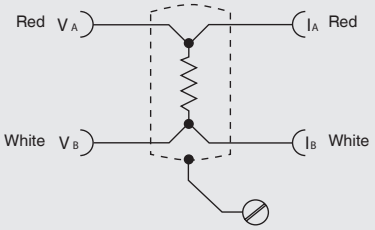
Resistance value	1, 10, 25, 100, 300, 400, 500, 1,000 and 10,000 Ω
Long-term stability	< ±5 ppm per year
Special feature	■ Low temperature coefficient ■ Rugged stainless steel construction
Data sheet	CT 70.30

CER6000-RW

Standard reference resistor

Resistance value	1, 10, 25, 100, 300, 400, 500, 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



Model CER6000-RR reference resistor with 100 Ω

Reference resistor, model CER6000-RR with different resistance range

Further information at www.wika.com

Accessories

From individual components … to complete turnkey kits

The following accessory components are the ideal complement to the individual calibration instruments. Thus a complete solution is not only quickly and easily configured, but can also be installed in the same manner. The various packages complete the product programme for calibration technology and can be used in many different applications.

Customer-specific drilled inserts, silicone oil suited for calibration in micro calibration baths and interface cables complete the product portfolio for temperature.

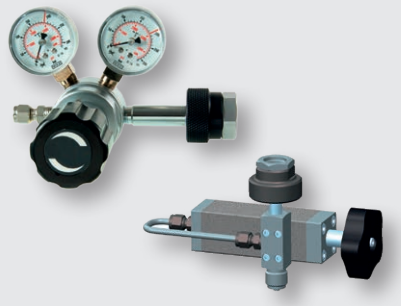
You can find a detailed description in our catalogue “Accessories for calibration technology”.

Pressure supply case

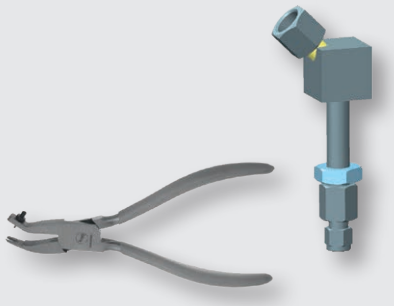
Pressure and vacuum supply packages

Connection components

Pressure control



Calibration and adjustment tools



Temperature accessories

Engineered solutions

Test and calibration systems for workshops and laboratories

Turnkey customer-specific systems for adjustment and calibration of pressure and temperature measuring instruments
Precise calibration instruments are the basis for your test requirements, even though they are only one component of a high-performance calibration system. From our extensive product range, we can design a complete and individual solution with adaptability for test items, pressure and vacuum supply, components for pressure control and fine adjustment, through to voltage supply and multimeters for the calibration of electrical test items.
Whether built-in to test benches, mobile test carts or 19" racks and supplemented with user-friendly calibration software, you will get a complete system, tailored to your requirements. Benefit from our many years of practical experience in WIKA's own accredited laboratories.

Mobile calibration vehicles

Measuring range	Customer-specific
Accuracy	Down to 0.008 %
Medium	Compressed air, nitrogen, oil or water
Special feature	Self-contained, mobile calibration van for on-site service

Mobile calibration benches

Measuring range	Customer-specific
Accuracy	Down to 0.008 %
Medium	Compressed air, nitrogen, oil or water
Special feature	Self-contained, mobile calibration system for workshops and on-site service

Multi-function stationary calibration benches

Measuring range	Customer-specific
Accuracy	Down to 0.008 %
Medium	Compressed air, nitrogen, oil or water
Special feature	■ Measurement parameters pressure, temperature and electrical measurands ■ Also possible as pure 19" rack version without desk assembly

Complete setup of laboratories

Measuring range	Customer-specific
Accuracy	■ Measurand pressure up to 0.008 % ■ Measurand temperature up to 0.001 K
Special feature	Complete solutions from one source - from factory calibration laboratories through calibration vehicles up to national laboratories

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

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

Test stands and calibration systems for production

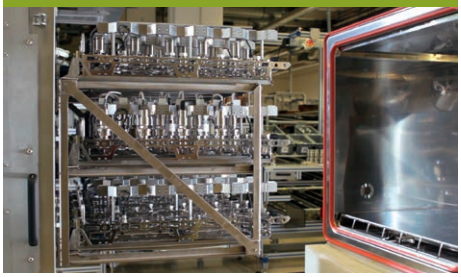
From consultation through design to implementation - all from one source.
Our particular strength lies in the project planning, development and the building of complete, individual, application-specific systems – from simple manual work stations to fully automated test systems in production lines for the calibration and adjustment of pressure sensors and process transmitters.

The precise interaction of measurement technology, test system mechanics and control components is a top priority here. The complete solutions are available in the widest range of automation levels incl. tempering units, workpiece transport systems, workpiece fixtures and electrical and pressure-side contacting. Furthermore, there is the possibility of integrating mounting or labelling operations on the test components into the overall concept.

19" test and calibration racks for pressure sensors

Measuring range	Customer-specific ■ Up to 700 bar pneumatic ■ Up to 1,600 bar hydraulic
Accuracy	Down to 0.008 %
Special feature	Compact units with CPC series pressure controllers, working pressure supply, electrical supply and signal evaluation for the test items

Batch test systems



Measuring range	Customer-specific ■ Up to 1,050 bar pneumatic ■ Up to 6,000 bar hydraulic
Accuracy	Down to 0.008 %
Temperature range	-40 … +140 °C
Special feature	With retractable tempering chamber, workpiece carrier for up to 200 pressure sensors, electrical and pressure-side contacting

Inline calibration systems for pressure sensors

Measuring range	Customer-specific ■ Up to 1,050 bar pneumatic ■ Up to 6,000 bar hydraulic
Accuracy	Down to 0.008 %
Temperature range	-40 … +140 °C
Special feature	Integration into customer's production line, linking multiple tempering chambers, automatic changeover of electrical and pressure-side contacts

Quad regulators and cylinder pressure controllers

Measuring range	Customer-specific ■ Up to 400 bar pneumatic
Accuracy	Down to 0.008 %
Special feature	Compact units with pressure accumulators in combination with CPC series pressure controllers, for fast and precise pressure control, even in large test volumes, optionally including operating pressure supply

DRC1600

Hydraulic pressure controller

Measuring range	Customer-specific ■ Up to 6,000 bar
Accuracy	Down to 0.25 %
Medium	Oil
Special feature	Robust, low-maintenance unit with high control accuracy. Suitable for industrial serial use

HPC1050G

Pneumatic pressure controller

Measuring range	Customer-specific ■ Up to 1,050 bar
Accuracy	Down to 0.25 %
Medium	Nitrogen
Special feature	Compact unit with integrated pressure control from 50 … 1,050 bar

Further information at www.wika.com

Leak and pressure function test systems for production

The selection of a suitable test method and the use of proven measurement and valve technology are the basic prerequisites for a reliable and cost-effective testing in series production. Only the perfect interaction of all systems involved in the testing process ensures a safe and efficient quality inspection.
We offer individual and turnkey solutions in various degrees of automation for a wide variety of applications, from simple test equipment through semi-automatic test benches to fully automated testing systems.
The testing processes can also be combined with assembly processes, laser marking, automated parts handling (infeed/outfeed) - in addition, the chaining of several stations is possible.

Pneumatic or helium leak testing
on fittings, valves, hoses, coolers, pumps, filters and many other test parts.

Pressure function tests or setting procedures
among other things for
control pressure of pressure reducers or thermostat control valves

- the opening pressure of safety relief valves
- switch points of pressure switches and control valves
- pressure containment of different components

Pneumatic leak test systems

Test method	■ Pressure drop methods ■ Pressure rise methods ■ Differential pressure methods
Detection limit	Typically up to 10^{-3} mbar * l/s
Special feature	Stable and quick measurement using sensor technology with higher resolution and measurement accuracy, proven valve technology, dead-volume optimised equipment design

Helium leak test systems

Test method	■ Integral vacuum methods ■ Accumulation methods (under atmosphere) ■ Sniff test methods
Detection limit	Typically up to 10^{-8} mbar * l/s
Special feature	High detection limit with temperature-independent testing, even for high test pressures up to 600 bar

Setting and pressure function test systems

Test method	Customer-specific setting and test processes possible
Test medium	Pneumatic and hydraulic
Special feature	Stable and quick measurement using sensor technology with higher resolution and measurement accuracy, proven valve technology, combinable tests possible

Test benches for safety and control valves

For regular functional and safety testing of valves.

Each system also includes a leak test and a clear and user-friendly control system.

Test benches for safety valves

Valve sizes	From ½" ANSI … 16" ANSI
Jointing type	Screw connection from ½ … 2" NPT/BSP Flange connection from ½ … 14" RF
Test pressures	Pneumatic up to 300 bar Hydraulic up to 700 bar
Design of the clamping device	■ Manually for threaded or flange connections up to 6" ■ Hydraulic with adjustable torque and clamping force for nominal sizes up to 16"

Test benches for control valves

Valve sizes	■ From ½" ANSI … 24" ANSI, maximum clamping force 300 tons
Jointing type	Screw connection from ½ … 2" NPT/BSP Flange connection from ½ … 14" RF
Test pressures	ANSI 300 up to ANSI 2500
Design of the clamping device	■ Manually for threaded or flange connections up to 6" ■ Hydraulic with adjustable torque and clamping force for nominal sizes up to 24"

Service for customer-specific systems

We are also happy to support you with service activities!

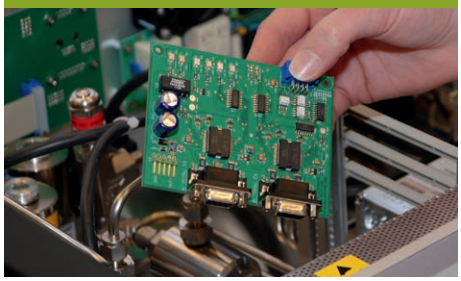
After the consultation, conceptual design and realisation of the tailor-made complete solution, naturally, we also support you with our equipment service.
With our many years of experience in service, we remain by your side as a competent partner. Commission us to carry out preventative maintenance to minimise unplanned breakdowns.

You will benefit from individually tailored spare parts packages and a wide range of spare parts which are always in stock. Parallel to maintenance, manufacturer-independent calibrations can also be carried out directly in your plant in one of our mobile laboratories. Thus, downtime is reduced to a minimum.

Mobile calibration service

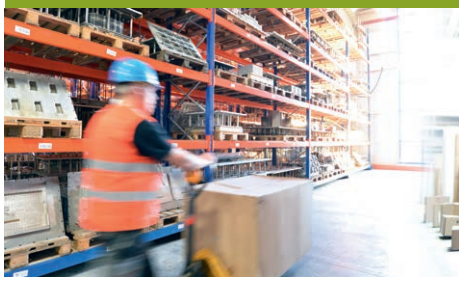
The measurement technology integrated into the plant can be recalibrated on-site. For pressure measuring instruments, a recalibration from -1 … +8,000 bar can be carried out, and for temperature measuring instruments, from -55 … +1,100 °C. Maintenance and service activities through our on-site calibration service ensure short downtimes.

Preventive maintenance



Regular and comprehensive system maintenance of mechanical components can prevent premature wear. Furthermore, the risk of unforeseen equipment downtime can be minimised.
We are happy to advise you regarding the ideal maintenance intervals.

Spare parts packages



For a quick response to unforeseen component failures, we can assemble system-specific spare parts packages for you. Thus a quick reaction is possible in the event of wear. Furthermore, we always keep a wide selection of spare parts on stock.

Service training

In addition to the commissioning training for the operating personnel, we also offer system-specific service training for various levels of maintenance. These can be adapted to your individual needs with regard to your system configuration.

Support in the event of failures

If an unscheduled failure does occur, our service hotline is available during business hours. Your request will be dealt with quickly in a standardised process and trained service technicians will take over the troubleshooting.

Service hotline: +49 9372 132 5049

Further information at www.wika.com

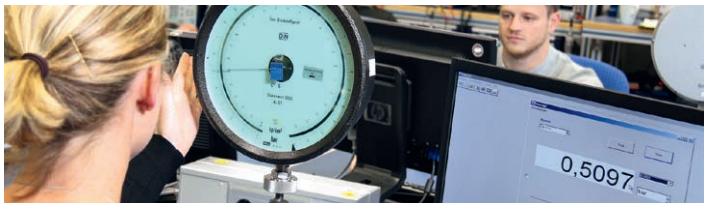
Calibration service

Our calibration laboratories have been calibrated for pressure and temperature for over 30 years. Since 2014, our calibration laboratory has also been accredited for the electrical measurands DC current, DC voltage and DC resistance. Since 2020, our calibration laboratory has also been accredited for force. Recently, factory calibration for length measuring instruments has been expanding our portfolio.

- ISO 9001 certified
- DKD/DAkkS accredited (in accordance with DIN EN ISO/IEC 17025)
- Cooperation in the DKD/DAkkS working groups
- Over 60 years of experience in pressure and temperature measurement
- Highly qualified, individually trained personnel
- Latest reference instruments with the highest accuracy

Manufacturer-independent calibration - fast and precise for ...

Pressure



- -1 bar … +10,000 bar
- Calibration using working standards (precise electrical pressure measuring instruments) or high-accuracy reference standards (pressure balances)
- With an accuracy of 0.003 % … 0.01 % of reading
- In accordance with the directives DIN EN 837, DAkkS-DKD-R 6-1 or EURAMET cg-3

Temperature

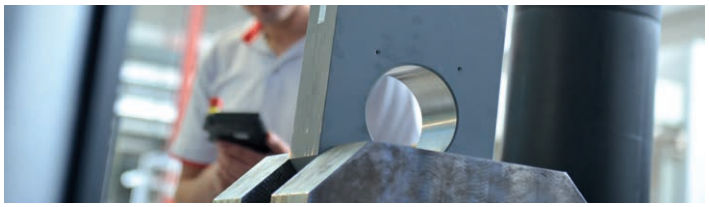
- -196 … +1,200 °C (to +1,600 °C possible with factory calibration)
- Comparative calibration in calibration baths and tube furnaces with an accuracy of down to 1.5 mK
- Calibration at fixed points of ITS90 with the smallest possible measurement uncertainties
  - Triple point of mercury (-38.8344 °C)
  - Triple point of water (0.01 °C)
  - Melting point of gallium (29.7646 °C)
  - Solidification point of tin (231.928 °C)
  - Solidification point of zinc (419.527 °C)
  - Solidification point of aluminium (660.323 °C)
- In accordance with the appropriate DKD/DAkkS directives

Further information on our services and the contact details can be found here.

Current, voltage, resistance

- DC current from 0 mA … 100 mA
- DC voltage from 0 V … 100 V
- DC resistance from 0 Ω … 10 kΩ
- In accordance with the directives VDI/VDE/DGQ/DKD 2622

Force



- 1 kN … 200 kN with a measurement uncertainty of 0.1 % in tension and compression force direction in accordance with DIN EN ISO 376
- 500 N … 6 MN with a system accuracy of 0.5 % in tension and compression force direction in accordance with DIN EN 10204

Length

- Factory calibration
- Replacement of the measuring device if required
- Calibration of special-purpose gauges in accordance with customer drawings
- Calibratable measuring devices
  - Caliper gauges to 800 mm
  - Testing pins to 100 mm
  - Ring gauges and plug gauges to 150 mm
  - Tapered thread gauges to 150 mm
  - Gauge blocks to 170 mm (also possible as a set)
  - others on request

On site (pressure and temperature)

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

- In our calibration van or on your workbench
- With a DAkkS accreditation for pressure
  - from -1 bar … +8,000 bar
  - with accuracies between 0.025 % and 0.1 % of full scale for the standard used
- With a DAkkS accreditation for temperature from -55 °C … +1,100 °C

Service for diaphragm seal systems

Diaphragm seal systems are used for demanding measuring requirements with extreme medium temperatures of -90 °C up to +400 °C in the process industry. The diaphragm seal assemblies protect the measuring instrument from aggressive, corrosive, heterogeneous, abrasive, highly viscous or toxic media.

With this service, the total costs of the diaphragm seal system can be clearly lowered. In this way, the service life of the measuring instrument can be fully utilised and only the diaphragm seal assembly needs replacement or repair, preventatively or after failure.

With a preventative repair, scheduled in line with planned shutdowns to your plant, you can reduce downtimes.

Services covered

- Replacement service for diaphragm seal systems with process transmitters or mechanical measuring instruments
- Repair of the defective parts
- Optimisation of the existing diaphragm seal system

Your benefits

- Cost and time saving
- Functional test of a process transmitter
- Current material certificate
- New calibration of the entire system

Field service for temperature applications

Supervision, installation, welding work, troubleshooting, repair, analysis & inspection

Our qualified personnel support you with the on-site installation and commissioning of your instrumentation, as well as being a competent and available service partner.

We are the right contact for both new projects and maintenance measures for shutdown, as well as in the event of an unplanned failure.

Mobile service team

Our practically experienced service team ensures that your processes can be operated safely and efficiently and thus meet the demands on you.

Through our local experts, we can be reached worldwide, are quickly available and tuned to individual circumstances.

Signal transmission and functional testing

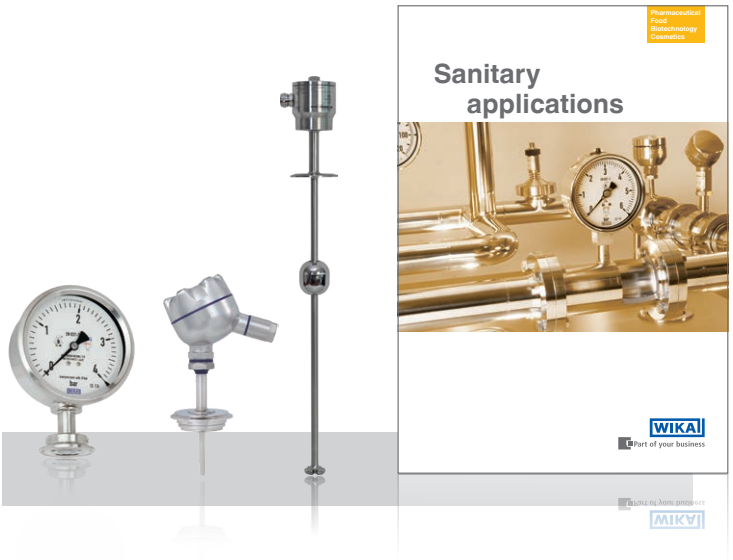
Your benefits

- Short downtimes
- Fast commissioning
- Ensuring process safety
- Extended warranty possible
- Compliance with local safety instructions
- Environmentally conscious handling

In our segment brochures, you will find the entire product families for the areas of “ventilation and air-conditioning”, “sanitary applications”, “SF_6 lifecycle solutions” and “high purity & ultra high purity” and also their technical distinctions.

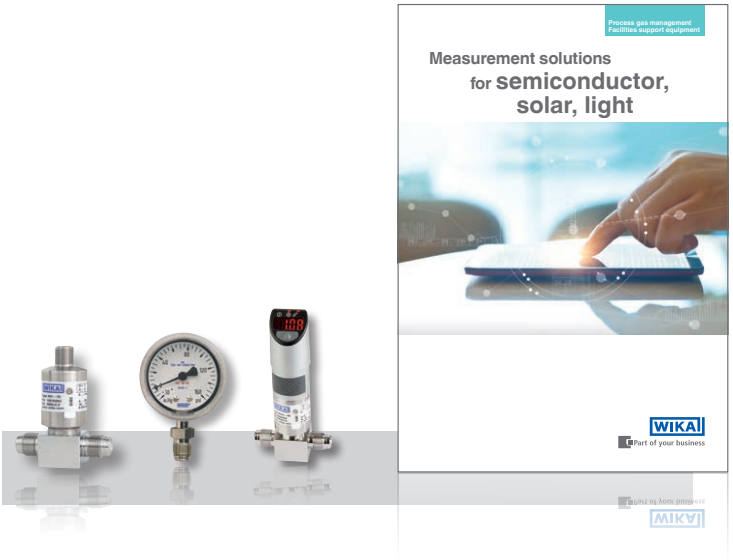
Ventilation and air-conditioning

Sanitary applications



SF_6 solutions

High purity & ultra high purity

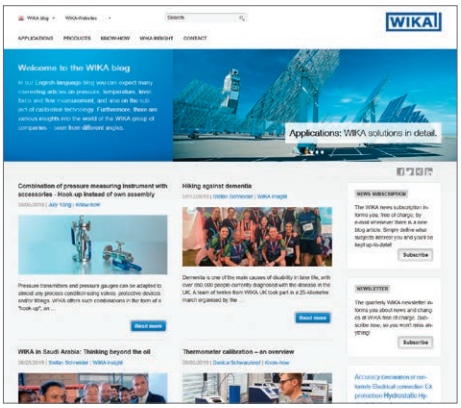


Visit us on our website and on our social media channels.

WIKA website

Find out about our wide range of measurement technology and services, or market sectors. Download 3D drawings, technical documents or informative brochures.
And please register for our free newsletter!

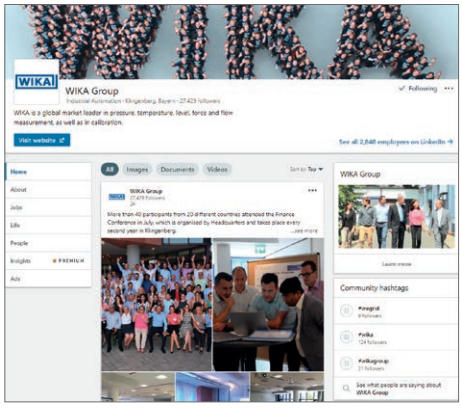
WIKA blog



Simple, quick and secure:

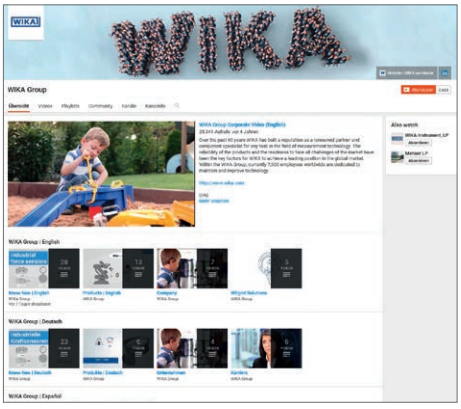
Directly select the right product for you from our standard portfolio. Or adapt the instrument you want exactly to your requirements with our configurator.

WIKA on LinkedIn



Follow us on LinkedIn. Don't just follow our news on products and applications, but also on important events within the WIKA Group.

WIKA YouTube channel



We are also happy to welcome you to our YouTube channel. Here we don't just promote our company, but also present complex technical contents, explained in a simple and understandable way.

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12393852 03/2020 EN