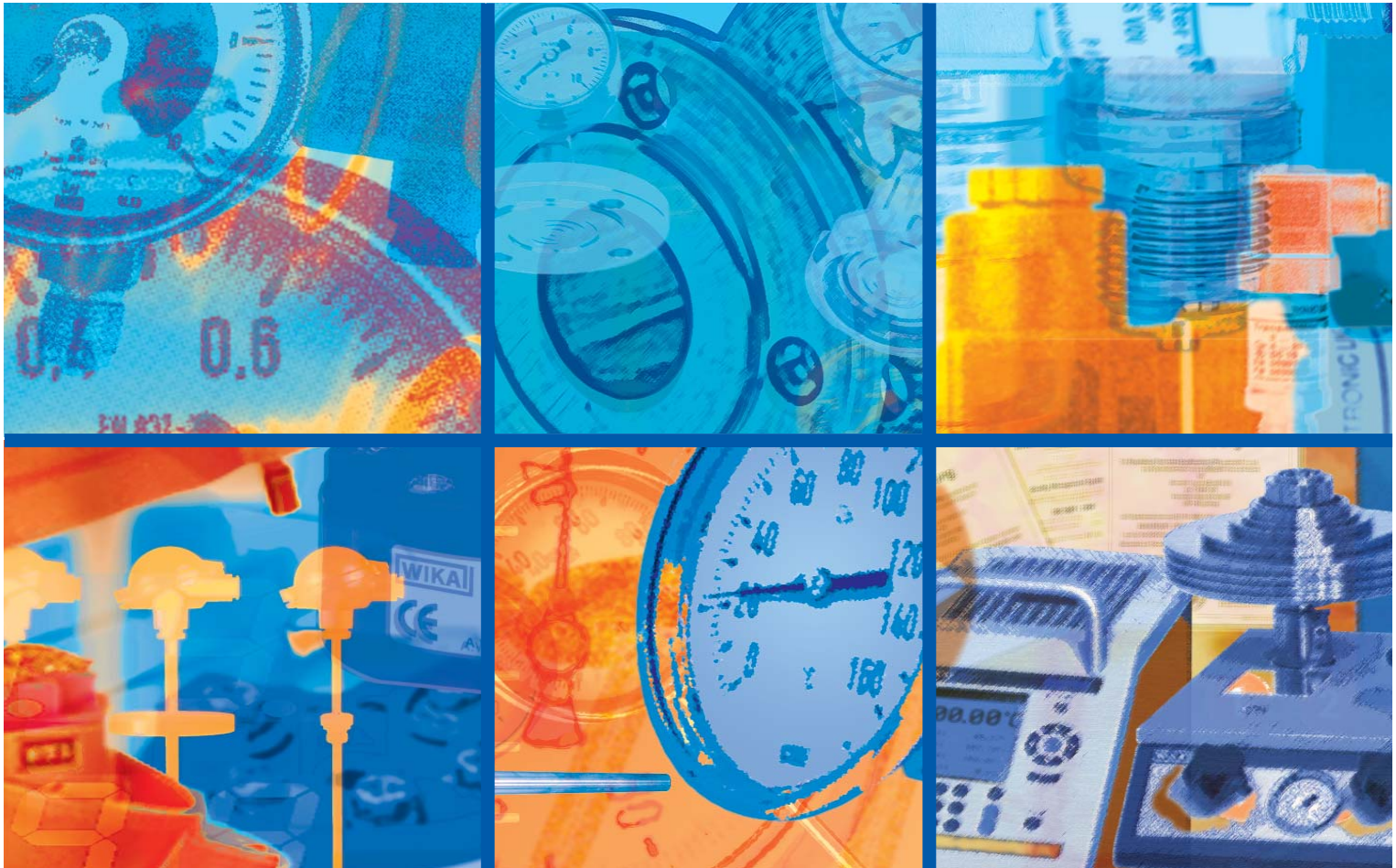


WIKA

CONNEXION

Pressure and Temperature Measuring Instruments



**FACTORY
CONTROLS**

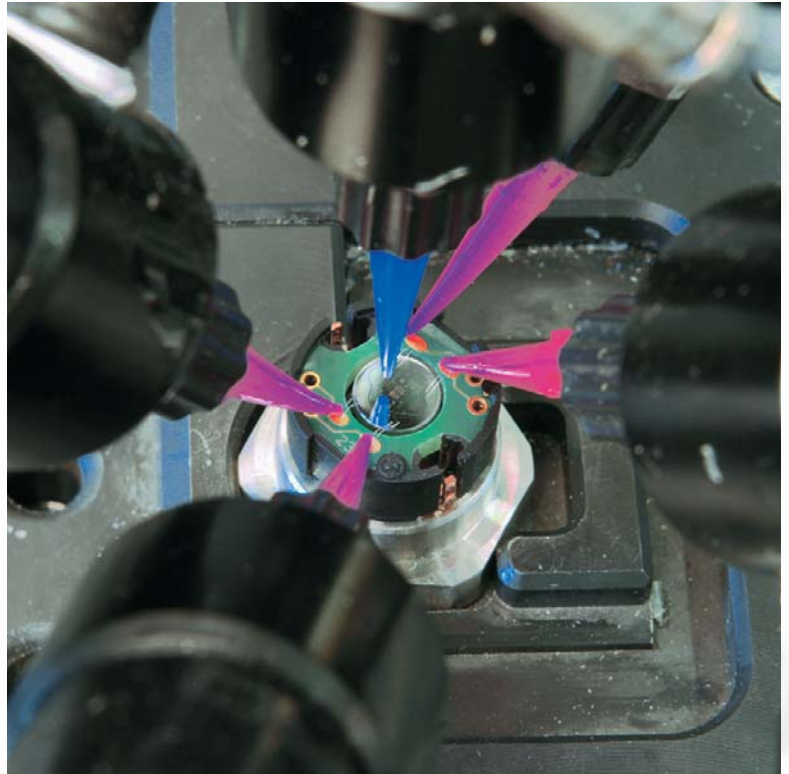
Ph: 03 5278 8222 Fax: 03 5278 9761
65 Douro Street, North Geelong VIC 3215
www.factorycontrols.com.au

WIKA

Part of your business

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Ability to meet any challenge

Our knowledge for your success

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

Certified quality

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

www.wika.com

On the internet at www.wika.com more information for all products in this brochure is available – data sheets, operating instructions and software. Furthermore you can find information on WIKA's product innovations and services (e.g. calibration service for instruments of all makes). And of course you can also order our current Product Catalog on CD-ROM.

Made by WIKA

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

Whether SMD automatic insertion machines, CNC automatic machining centres, welding robots, laser welding, sputterers, thermotransfer printing or thin film production – we exploit all possibilities to achieve above-average results. And the end result: More than 43 million quality products are delivered year in, year out, in more than 100 countries. This means some 350 million WIKA measuring instruments in use all over the globe.

WIKA Product lines

CONNEXION

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

Electronic Pressure Measuring Instruments

WIKA offers a complete range of electronic pressure measuring instruments: pressure sensors, pressure switches and pressure transmitters for the measurement of gauge, absolute and differential pressure. Our pressure measuring instruments are available in the measuring ranges 0 ... 0.6 mbar to 0 ... 10,000 bar. These instruments come supplied with standardised current or voltage output signals (also intrinsically safe or with flameproof enclosure according to ATEX), interfaces and protocols for various types of field buses.

Whether ceramic thick film, metal thin film or piezoresistive, WIKA is the only manufacturer worldwide that produces the full range of today's leading sensor technologies at the company's own premises.

Mechanical Pressure Measuring Instruments

Indicating instruments for gauge, absolute and differential pressure with bourdon tube, diaphragm or capsule pressure element have been tested millions of times over. These instruments, which cover pressure ranges from 0 ... 2.5 mbar to 0 ... 7,000 bar and accuracies of up to 0.1 %, can also be equipped with mechanical, electrical and electronic accessories and combined with a variety of diaphragm seal solutions.

Diaphragm Seals

WIKA diaphragm seals are appreciated and recognised internationally for the adaption of pressure gauges, pressure transducers, pressure transmitters etc., to extremely difficult measuring operations. Diaphragm seals protect measuring instruments from extreme temperatures as well as aggressive, corrosive, heterogeneous, abrasive, highly viscous or toxic media. WIKA is able to provide diaphragm seals with test certificates and approvals for use in hazardous areas as well as for special sterile engineering processes, for instance in the food, biotechnology and pharmaceutical industries (e.g. sanitary standards 3A, FDA or EHEDG).

Electrical Temperature Measuring Instruments

Our range of products includes thermocouples, resistance thermometers (also with local display), temperature switches as well as analogue and digital temperature transmitters with matching thermowells for all industrial applications, covering temperature ranges from -200 to +1,800 °C.

Mechanical Temperature Measuring Instruments

Our mechanical temperature measuring instruments work on the bimetal, expansion or gas actuation principle and cover temperature ranges from -200 °C to +700 °C. If required, all of these thermometers are suited for thermowell installation. Some of these instruments can also be equipped with electrical accessories or combined with electrical thermometers.

Testing and Calibration Technology

WIKA offers a wide range of calibration instruments for the measurement parameters pressure and temperature. In addition, as WIKA service, any kind of electronic and mechanical pressure and temperature measuring instruments (even from other manufacturers) are calibrated at our DKD calibration laboratories.



Pressure Transmitters for industrial applications



Model A-10



Non-linearity	0.25 % or 0.5 % BFSL
Pressure range	0 ... 1 up to 0 ... 600 bar
	<ul style="list-style-type: none"> ■ Standard ■ compact design ■ free test protocol



Model S-10



Accuracy	0.25 up to 0.5 %
Pressure range	0 ... 0.1 up to 0 ... 1000 bar -1 ... 0 up to -0.1 ... 0 bar
	<ul style="list-style-type: none"> ■ high-grade ■ absolute pressure ■ flush diaphragm ■ customer specific options

Model OT-1



Accuracy	1.0 %
Pressure range	0 ... 6 up to 0 ... 60 bar
	<ul style="list-style-type: none"> ■ from 300 pieces ■ high long-term stability

Pressure Transmitter for special applications

Mobile hydraulics

Model MH-2

Accuracy	1.0 %
Pressure range	0 ... 60 up to 0 ... 600 bar
Ingress protection	up to IP 69K
	<ul style="list-style-type: none"> ■ solid ■ high immunity level ■ diverse versions



Refrigeration and Air-Conditioning Technology

Model R-1

Accuracy	2.0 %
Pressure range	0 ... 6 up to 0 ... 60 bar
	<ul style="list-style-type: none"> ■ compact ■ seal not exposed to pressure medium ■ vibration resistant



Semiconductor industry

Models WU-10 / WU-15 / WU-16

Accuracy	0.5 %
Pressure range	0 ... 4 up to 0 ... 400 bar -1 ... +3 up to -1 ... +250 bar
Process connection	Single End Flow Through Modular Surface Mount (MSM)
	<ul style="list-style-type: none"> ■ Ex n per ATEX ■ FM Class1 Div 2 ■ Attachable indicator



Food, bio and pharmaceutical industry

Model SA-11

Accuracy	0.25 up to 0.5 %
Pressure range	0 ... 0.25 up to 0 ... 25 bar -1 ... 0 up to -1 ... 15 bar
Process connection	Clamp Connection DIN 11 864 Varivent® NEUMO BioConnect® NEUMO BioControl®
	<ul style="list-style-type: none"> ■ crevice free, free of dead space ■ all welded construction



Electronic Pressure Measurement

Pressure Transmitter



Field case

Model F-20

Accuracy	0.25 up to 0.5 %
Pressure range	0 ... 0.1 up to 0 ... 1000 bar -1 ... 0 up to -0.1 ... 0 bar
Material	complete stainless steel <ul style="list-style-type: none"> ■ flush diaphragm ■ Intrinsically safe version ■ version for food and beverage industries



Precision

Models D-10 / P-10

Accuracy	0.05 up to 0.1 %
Pressure range	0 ... 0.25 up to 0 ... 1000 bar -1 ... 0 up to -0.25 ... 0 bar
Output signal	RS232 analog e.g. 4 ... 20 mA <ul style="list-style-type: none"> ■ zero point calibration on the pressure transmitter ■ Configuration Software „EasyCom“ ■ no additional temperature error in the range 0 ... 50 °C



High pressure

Model HP-2

Accuracy	0.5 %
Pressure range	0 ... 1600 up to 0 ... 10000 bar <ul style="list-style-type: none"> ■ high long-term stability ■ high load changes resistance ■ optional cavitation protection



Fieldbus interface

Models D-10-7 / D-10-9 / D-20-9

Accuracy	0.1 up to 1.0 %
Pressure range	0 ... 0.25 up to 0 ... 1000 bar -1 ... 0 up to -0.25 ... 0 bar
Output signal	CANopen Profibus® DP <ul style="list-style-type: none"> ■ extensive calibration and diagnostic services ■ digital filter functions inside ■ for CANopen: Configuration Software „EasyCom“



Pressure Transmitter for hazardous environments



Pressure transmitter with Turndown up to 1:20

UniTrans® Model IUT-10

Accuracy	0.1 %
Pressure range	0 ... 0.4 up to 0 ... 4000 bar -1 ... 0 up to -1 ... +15 bar 0 ... 0.4 up to 0 ... 16 bar absolut
Output signal	4 ... 20 mA 4 ... 20 mA, HART®
	<ul style="list-style-type: none"> ■ flush diaphragm ■ integrated Display ■ oxygen version ■ Aluminium or plastic case



Pressure transmitter with Turndown up to 1:30

Model IPT-10

Accuracy	0.075 up to 0.1 %
Pressure range	0 ... 0.1 up to 0 ... 4000 bar -1 ... 0 up to -1 ... +40 bar 0 ... 0.1 up to 0 ... 16 bar absolut
Output signal	4 ... 20 mA, HART® PROFIBUS PA FOUNDATION Fieldbus™
	<ul style="list-style-type: none"> ■ flush diaphragm ■ integrated or external Display ■ aluminum or stainless steel case



Pressure transmitter

Models IS-20 / E-10 / N-10

Accuracy	0.25 up to 0.5 %
Pressure range	0 ... 0.1 up to 0 ... 6000 bar -1 ... 0 up to -0.1 ... 0 bar
	<ul style="list-style-type: none"> ■ flush diaphragm ■ field case ■ high temperature version

Electronic Pressure Measurement



Level probes

Models IL-10 / LH-10 / LS-10



Accuracy	0.25 up to 0.5 %
Pressure range	0 ... 0.1 up to 0 ... 25 bar
	<ul style="list-style-type: none"> ■ battery power supply ■ lightning protection ■ Hastelloy version ■ Intrinsically safe version

Digital gauge

Model DG-10



Accuracy	0.5 ± 1 Digit
Pressure range	0 ... 2 up to 0 ... 600 bar
	<ul style="list-style-type: none"> ■ solid stainless steel case ■ multifunctional display ■ efficient energy management



Pressure switch with digital display

Model PSD-10

Accuracy	1.0 % ± 1 Digit
Pressure range	0 ... 25 bar up to 0 ... 600 bar -1 ... +2.5 up to -1 ... +16 bar
Display	-999 ... +9999
	<ul style="list-style-type: none"> ■ large, easy-to-read display ■ rotatable case 280° with display ■ easy controlling via 3 keys

Pressure transmitter for low pressure and differential pressure

Model DP-10



Accuracy	1.0 up to 0.2 %
Pressure range	0 ... 0.5 up to 0 ... 1000 mbar 0 ... 600 up to 800 ... 1200 mbar absolute
	<ul style="list-style-type: none"> ■ integrated display ■ 1 oder 2 alarm contacts ■ square root output signal

... for customer specific applications



Thin film pressure transducer

Model TTF-1

Non-linearity	0.125 ... 0,4
Pressure range	0 ... 10 up to 0 ... 1000 bar
	<ul style="list-style-type: none"> ■ for limited mounting space ■ Design-in solution



Ceramic pressure sensor

Model SCT-1

Accuracy	Typ. 0.4 % max. 0.75 %
Pressure range	0 ... 2 up to 0 ... 100 bar

mitter
10 bar
20 mA
10 ... 50
39110
39080

Pressure gauges with bourdon tube



Standard series

Model 111.10 (bottom connection)

Model 111.12 (back connection)

Application	for gaseous and liquid media
Nominal size [mm]	40, 50, 63, 80, 100 (Model 111.10 also NG 160)
Scale ranges	0 ... 0.6 up to 0 ... 400 bar (Model 111.10 NG 160 only up to 40 bar)
Accuracy	2.5
Wetted parts	Copper-alloy



Plastic case with liquid filling

Model 113.13

Application	for adverse service conditions where pulsation
Nominal size	40 (only back), 50, 63
Scale ranges	0 ... 1.0 up to 0 ... 400 bar
Accuracy	2.5
Wetted parts	Copper-alloy



Welding gauges EN 562

Model 111.11

Application	for uses in welding cutting and related processes
Nominal size [mm]	40, 50, 63
Scale ranges	0 ... 0.6 up to 0 ... 400 bar for oxygen, acetylene and other gases
Accuracy	2.5
Wetted parts	Copper-alloy



Industrial series Model 212.20

Application	for gaseous and liquid media
Nominal size [mm]	100, 160
Scale ranges	0 ... 0.6 up to 0 ... 1600 bar
Accuracy	1.0
Wetted parts	Copper-alloy



Forged brass case with liquid filling Model 213.40

Application	for adverse service conditions where pulsation or vibration exists
Nominal size [mm]	63, 100
Scale ranges	0 ... 0.6 up to 0 ... 1000 bar
Accuracy	1.0 1.6 (NG 63)
Wetted parts	Copper-alloy



stainless steel case with liquid filling Model 213.53

Application	for adverse service conditions where pulsation or vibration exists
Nominal size [mm]	40, 50, 63, 100
Scale ranges	0 ... 0.6 up to 0 ... 1000 bar
Accuracy	1.0 / 1.6 / 2.5
Wetted parts	Copper-alloy



Square and edgewise panel mounting series Model 214.11

Application	for gaseous and liquid media, designed particularly for panel mounting
Nominal size [mm]	48 x 24, 72 x 36 72 x 72, 96 x 96 144 x 144, 144 x 72
Scale ranges	0 ... 0.6 up to 0 ... 1000 bar
Accuracy	1.0 / 1.6
Wetted parts	Copper-alloy

Pressure gauges with bourdon tube



Stainless steel series
Model 131.11

Application	for gaseous and liquid, also corrosive media, also in a corrosive environment
Nominal size [mm]	40, 50, 63
Scale ranges	0 ... 1.0 up to 0 ... 600 bar
Accuracy	2.5
Wetted parts	Stainless steel



Stainless steel series
Model 232.50
Model 233.50 (liquid filling)

Application	for gaseous and liquid, also corrosive media, also in a corrosive environment
Nominal size [mm]	63, 100, 160
Scale ranges	0 ... 0.6 up to 0 ... 1600 bar
Accuracy	1.0
Wetted parts	Stainless steel



Safety pattern gauge
Model 232.34
Model 233.34 (liquid filling)

Application	for gaseous and liquid, aggressive, non-viscous and non-crystallising media
Nominal size [inch]	4 1/2
Scale ranges	0 ... 0.6 up to 0 ... 1000 bar 0 ... 10 up to 0 ... 15000 psi
Accuracy	0.5 %
Wetted parts	Stainless steel



Safety pattern gauge solid front
Model 232.30
Model 233.30 (liquid filling)



Application	for particular safety with gaseous media
Nominal size [mm]	63, 100, 160
Scale ranges	0 ... 0.6 up to 0 ... 1600 bar
Accuracy	1.0 / 1.6
Wetted parts	Stainless steel

Precision Pressure Gauges



Test gauge class 0.6
Model 312.20 / 610.20

Application	for gaseous and liquid media, particularly for testing and calibration
Nominal size [mm]	160
Scale ranges	Model 312.20: 0 ... 0.6 up to 0 ... 1600 bar
	Model 610.20: 0 ... 10 mbar up to 0 ... 600 mbar
Accuracy	0.6
Wetted parts	Copper-alloy



Test gauge
Model 33X.50
Model 33X.30 (Safety attachment)

Application	for gaseous and liquid media, particularly for testing and calibration
Nominal size [mm]	160
Scale ranges	0 ... 0.6 up to 0 ... 1600 bar
Accuracy	0.6
Wetted parts	Stainless steel



Precision test gauge
Class 0.25 or 0.1
Model 3XX.11 / 612.11

Application	for gaseous and liquid media, particularly for testing and calibration
Nominal size [mm]	250
Scale ranges	Model 3XX.11: 0 ... 0.6 up to 0 ... 1600 bar
	Model 612.11: 0 ... 6 mbar up to 0 ... 400 mbar
Accuracy	0.25 / 0.1
Wetted parts	GNI / NiFe-alloy Copper-alloy



Field service test gauge
solid front, class 0.6
Model 332.11

Application	for gaseous and liquid media, particularly for mobile testing and calibration
Nominal size [mm]	160
Scale ranges	0 ... 0.6 up to 0 ... 600 bar
Accuracy	0.6
Wetted parts	Stainless steel

Mechanical Pressure Measurement

Pressure gauges with diaphragm elements



Industrial series
Model 422.12
Model 423.12 (liquid filling)

Application	for gaseous and liquid media
Nominal size [mm]	100, 160
Scale ranges	0 ... 16 mbar up to 0 ... 40 bar
Accuracy	1.6
Wetted parts	Steel, stainless steel, NBR



Process industry series
Model 432.50
Model 433.50 (liquid filling)



Application	for gaseous and liquid, also corrosive media also in a corrosive environment
Nominal size [mm]	100, 160
Scale ranges	0 ... 16 mbar up to 0 ... 40 bar
Accuracy	1.6
Wetted parts	Stainless steel, NiCrCo-alloy, FPM/FKM

Absolute pressure gauge



Stainless steel series
for gases and liquids
Model 532.5X
Model 533.5X (liquid filling)

Application	Measurement of absolute pressure excluding the effect of barometric pressure variation
Nominal size [mm]	100, 160
Scale ranges	0 ... 25 mbar up to 0 ... 25 bar absolute pressure, high overpressure safe
Accuracy	0.6 (Model 532.51, NS 160) 1.0 (Model 532.52) 1.6 (Model 532.53) 2.5 (Model 532.54)
Wetted parts	Stainless steel, NiCrCo-alloy

Pressure gauges with capsule elements



Standard and industrial series
Model 611.10 (Standard)
Model 612.20 (Industrial)

Application	for gaseous and dry media
Nominal size [mm]	50, 63 100, 160 (Model 612.20)
Scale ranges	0 ... 10 up to 0 ... 600 mbar
Accuracy	1.6
Wetted parts	Copper-alloy, NBR



Square and edgewise panel mounting series
Model 614.11

Application	for gaseous media, particularly for panel mounting industrial
Nominal size [mm]	72 x 72, 96 x 96 144 x 144 144 x 72
Scale ranges	0 ... 10 up to 0 ... 600 mbar
Accuracy	1.6
Wetted parts	Copper-alloy, NBR



Plastic series
Model 611.13 swikap

Application	for gaseous, dry and non-corrosive media; medical, vacuum, environmental, heating engineering
Nominal size [mm]	50, 63
Scale ranges	0 ... 60 up to 0 ... 1000 mbar
Accuracy	2.5
Wetted parts	Copper-Beryllium-alloy, NBR



Stainless steel series
Model 632.50

Application	for gaseous and dry, also corrosive media, also in a corrosive environment
Nominal size [mm]	63, 100, 160
Scale ranges	0 ... 40 up to 0 ... 600 mbar
Accuracy	1.6
Wetted parts	Stainless steel

Mechanical Pressure Measurement

Differential pressure gauges



Parallel entry with bourdon tube
Model 711.12

Application	for gaseous and liquid media
Nominal size [mm]	100, 160
Scale ranges	0 ... 0.6 up to 0 ... 1000 bar
Accuracy	1.6
Wetted parts	Copper-alloy, stainless steel



Magnetic piston and
compression spring
(with sealing membrane)
Model 700.01 (gaseous media)
Model 700.02 (liquid media)



Application	for gaseous and liquid media
Nominal size [mm]	80
Scale ranges	Model 700.01: 0 ... 400 mbar up to 0 ... 10 bar Model 700.02: 0 ... 160 mbar up to 0 ... 2,5 bar
Accuracy	Model 700.01 $\pm 3\%$, Model 700.02 $\pm 5\%$, full scale ascending differential pressure
Wetted parts	Compression spring: stainless steel, magnetic piston: stainless steel and barium-ferrit, Model 700.02: sealing membrane NBR



Stainless steel series
accepts alarm contacts or transmitters
Model 736.51

Application	for gaseous media with low pressures, also in a corrosive environment
Nominal size [mm]	100, 160
Scale ranges	0 ... 2.5 up to 0 ... 160 mbar
Accuracy	1.6
Wetted parts	Stainless steel, Aluminium, glass, PUR, PTFE, NBR



Process industry series
all welded construction
Model 732.51 / Model 733.51 (liquid filling)



Application	for gaseous and liquid, also aggressive media, also in aggressive environment
Nominal size [mm]	100, 160
Scale ranges	0 ... 16 mbar up to 0 ... 25 bar
Accuracy	1.6
Wetted parts	Stainless steel, NiCrCo-alloy



Multi purpose
overpressure safe up to 40, 100, 250 or 400 bar
Model 732.14 (stainless steel)
Model 762.14 (Monel)
Model 7X3.14 (liquid filling)



Application	for gaseous and liquid media
Nominal size [mm]	100, 160
Scale ranges	0 ... 60 mbar to 0 ... 40 bar Overpressure safety 400 bar 0 ... 0.4 bar up to 0 ... 40 bar
Accuracy	1.6
Wetted parts	Stainless steel, NiCrCo-alloy, FPM/FKM (Model 732.14) Monel, FPM/FKM (Model 762.14)



The family of differential pressure instrument, overpressure safe up to 25 bar
Model DELTA-plus 702.01 (indicator)
Model DELTA-comb 702.02 (indicator and switch)
Model DELTA-switch 851.02 (switch)
Model DELTA-trans 891.34.2189 (indicator and transmitter)

Application	for filter plants, pumps and piping in the field of heating, ventilation and climate control engineering, facility management and water treatment
Nominal size [mm]	100
Scale ranges	Differential pressure ranges from 0 ... 160 mbar up to 0 ... 25 bar
Accuracy	Differential pressure gauge: 2.5
Wetted parts	GD-AISI 12 (Cu) 3.2982, stainless steel 1.4310 resp. 1.4305, 1.4571, FPM/FKM, Cu-alloy

Diaphragm Seals

Diaphragm Seals with threaded process connection



**Threaded design
Model 990.10**

Application	General applications in the process industry
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**Welded design,
with threaded process connection
Model 990.34**

Application	General applications in process industry; suitable for corrosive, contaminated or heterogeneous pressure media
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**Plastic body, threaded design,
with threaded process connection
Model 990.31**

Application	Chemical plant with plastic pipework; particularly for farming equipment and waste disposal
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**Welded design, economic version
Model 990.38**

Application	Standard applications in the mechanical engineering, plant construction and process industries
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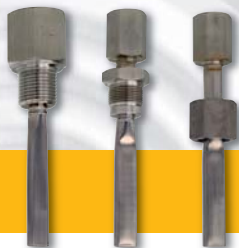
**Flush diaphragm,
threaded process connection
Model 990.36**

Application	Particularly for highly viscous and solids-containing pressure media
Extras	Special version with protection disc for abrasive media available



**Large volume diaphragm,
threaded design
Model 990.40**

Application	To combine with diaphragm or differential pressure gauges and transmitters, for low pressures
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**Diaphragm probe seals
Model Typ 970.1X**

Application	Particularly for flowing, heterogeneous media and high pressures from 100 bar
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Diaphragm Seals with flanged process connection



Flange-type seals with flush diaphragm Model 990.27

Application	Process and petrochemical industries with high measuring requirements
Process connection	25 ... 125 (1" ... 5") EN 1092-1 resp. DIN 2501 ASME B 16.5
Extras	With additional flushing ring Model 910.27 mounted between seal and process connection for cleaning of seal diaphragm



Threaded design Model 990.12

Application	General applications in the process industry; for small flanged connections (\leq DN 25 / 1") and pressures $>$ 40 bar
Process connection	15 ... 25 (1/2" ... 1") EN 1092-1 resp. DIN 2501 ASME B 16.5



Large volume diaphragm Threaded design Model 990.41

Application	To combine with diaphragm or differential pressure gauges and transmitters, for low pressures
Process connection	15 ... 50 (1/2" ... 2") EN 1092-1 resp. DIN 2501 ASME B 16.5



Cell-type (sandwich) seals Model 990.28

Application	Process and petrochemical industries with high measuring requirements
Process connection	25 ... 125 (1" ... 5") EN 1092-1 resp. DIN 2501 ASME B 16.5



Flange-type, with internal diaphragm Model 990.26

Application	Process industry; for small flanged connections (\leq 25 / 1")
Process connection	15 ... 25 (1/2" ... 1") EN 1092-1 or ASME B 16.5

Diaphragm Seals

Diaphragm Seals with flanged process connection

Flange-type seals with extended diaphragm Model 990.29



Application	Service intended Process and petrochemical industries, particularly for thick-walled or heavily insulated systems
Process connection	40 ... 125 (1 1/2" ... 5") EN 1092-1 resp. DIN 2501 ASME B 16.5

Cell-type (sandwich) seals with extended diaphragm Model 990.35



Application	Service intended Process and petrochemical industries, particularly for thick-walled or heavily insulated systems
Process connection	40 ... 125 (1 1/2" ... 5") EN 1092-1 resp. DIN 2501 ASME B 16.5

Diaphragm seals for block flange or saddle flange Model 990.15



Application	In connection with block flange or saddle flange in the chemical engineering and petrochemical industries
Pressure rating max. [bar]	PN 100 / 250
Arrangement of diaphragm	Flush with body

Saddle flange Model 910.20



Application	Service intended For welding onto the product pipeline in order to provide a measuring point connection in the process and petrochemical industries
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Block flange Model 910.19 for plain pipe Model 910.23 for jacketed pipe



Application	For welding into the product (and heating) pipelines in order to provide a measuring point connection in the process and petrochemical industries
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Diaphragm Seals for special applications

For Pulp and paper industry design Model 990.23



Application	For use in the pulp and paper industry
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For food and beverage industry Model 990.17



Application	mainly for hydrostatic pressure measurement in tanks and storage container for level measurement
Process connection	DRD-Connection

Diaphragm In-Line Seals with flanged process connection

For flange connections Model 981.10 Cell-type (sandwich)



Application	For direct, permanent installation in pipelines; for flowing media; measuring point free of dead space
Process connection	Cell-type (sandwich)
Standard	EN 1092-1 and ASME B 16.5

For flange connections Model 981.27 Flange type



Application	For direct, permanent installation in pipelines; for flowing media; measuring point free of dead space
Process connection	Flange type
Standard	EN 1092-1 and ASME B 16.5

Diaphragm Seals

Diaphragm Seals with sterile process connection for food and beverage, pharmaceutical industry



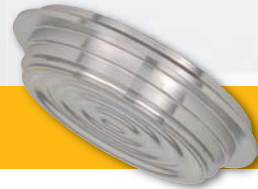
Milk thread fittings
Model 990.18 (DIN 11 851)



Process connection	Male or female hygienic connection
Options	Connection to fit standards: SMS = Model 990.19 IDF = Model 990.20 APV-RJT = Model 990.21



VARIVENT®
Model 990.24



Process connection	For VARIVENT® In-Line Access Unit
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NEUMO BioConnect®
Model 990.50



Process connection	NEUMO BioConnect® threads or flange
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Clamp
Model 990.22 (Tri-Clamp)



Process connection	Tri-Clamp
Options	Connection to fit standards: DIN 32 676 = Model 990.52 ISO 2852 = Model 990.53



NEUMO BioControl®
Model 990.60



Process connection	For mounting to NEUMO BioControl® System
Options	Accessories: Model 910.60 NEUMO BioControl® housing, mounting flange and glass set



Aseptic connection
Model 990.51



Process connection	DIN 11 864-1: threaded pipe connection DIN 11 864-2: flanged connection DIN 11 864-3: Clamp connection
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Homogeniser
Model 990.30



Service intended	for homogeniser machines
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Diaphragm Seals with sterile process connection for food and beverage, pharmaceutical industry



NEUMO BioConnect®
Model 981.50



Process connection	NEUMO BioConnect® threads or flange
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Tri-Clamp
Model 981.22



Process connection	Tri-Clamp
Options	Process connections: DIN 32 676 = Model 981.52 ISO 2852 = Model 981.53



Threaded fittings
Model 981.18 (DIN 11851)



Process connection	Male thread
Options	Connection to fit standards: SMS = Model 981.19 IDF = Model 981.20 APV-RJT = Model 981.21



Aseptic connection
Model 981.51



Process connection	DIN 11 864-1: threaded pipe connection DIN 11 864-2: flanged connection DIN 11 864-3: Clamp connection
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In-line diaphragm seal with integrated temperature measurement
Model 983

Process connection	DIN 11851 = 983.18 Tri-Clamp = 983.22
Options	<ul style="list-style-type: none"> ■ With welded bourdon tube pressure gauge or transmitter ■ Temperature sensor is located at the interior of the in-line seal

Electrical Temperature Measurement

Resistance thermometers / Thermocouples



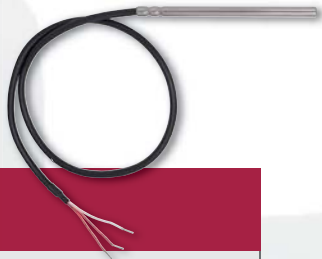
Measuring insert
Models TR10A / TC10-A

Application	for electrical thermometer with interchangeable measuring insert
Optional extras	<ul style="list-style-type: none"> ■ lengths and diameter standard and customer specific ■ Additional tolerance classes ■ Transmitter mounted on measuring insert ■ explosion protection



Cable probe Model TR 40
surfaces probe Model TC40

Application	to plug in for plane surfaces or for tube surfaces
Optional extras	<ul style="list-style-type: none"> ■ lengths and diameter standard and customer specific ■ Additional tolerance classes ■ Cable: Silicon, Teflon ■ Plug mounted on cable ■ explosion protection



Thermometer with screwed connection
Model TR10-D

Application	Machine, plant and container construction industry, motive power engineering Refrigeration and air conditioning
Optional extras	explosion protection



Connection head with digital display
Model DIH10

Application	local display for connection to electrical thermometers
Input	4 ... 20 mA
Accuracy	± 0.2 % (Measuring span) ± 1 digit
Optional extras	explosion protection





Resistance thermometers Model TR75 DiwiTherm® / DiwiTherm®-Solar

Application	digital local display, battery or solar-powered
Sensor	Pt1000 / NTC; Kl. B; 2-wire DIN EN 60 751
Optional extras	<ul style="list-style-type: none"> ■ analogue output 4 ... 20 mA ■ explosion protection



To mount into a thermowell Model TR10-B

Application	to mount into an existing thermowell
Process connection	Thread, mounting into thermowell required



Resistance thermometers Compact design Model TR30

Application	Machine and apparatus construction Facility management, Refrigeration and air conditioning
Process connection	Thread G 1/2 B, G 1/4 B, 1/2 NPT



Electronic temperature switch Model TR70

Sensor	Pt100
Pressure range	-200 ... +400 °C
Output	<ul style="list-style-type: none"> ■ 2 switches ■ switch and 4 ... 20 mA output
Process connection	Circular connector M12



Resistance thermometers / Thermocouples



**With thermowell
Model TR10**

Application	to screw in, with flange
Process connection	thread, flange



**Sheathed design
Model TR10-H**

Application	flexible and Vibration proof, for tanks, pipelines, apparatus, machines
Process connection	Stainless steel, Inconel



**Straight thermocouples
Model TR80**

Application	Flue gas measurement , Furnaces and smelts , Up to 1800 °C (Ceramic thermowell)
Process connection	Steel, Enamelled steel, Stainless steel, Ceramics



**Hygienic version for sterile
process connection, Model TR20**

Application	food and beverage, pharmaceutical industry, clean room technology
Process connection	aseptic process connections



**In-Line-Resistance thermometer
Model TR25**

Application	food and beverage, pharmaceutical industry, lacquers
Process connection	pipe body with clamp or threaded connections, aseptic process connections

Temperature Transmitters



Temperature transmitter Model T19



Features	<ul style="list-style-type: none"> ■ Universal, versions for Pt100 and Thermocouples ■ Configurable measuring ranges ■ Analogue signal processing ■ For industrial applications
Input	Pt100, Pt1000, Thermocouples
Output	4 ... 20 mA
Typical measuring deviation	< 0.5 %



Temperature transmitter Model T24



Features	<ul style="list-style-type: none"> ■ Universal ■ Configurable via PC ■ Analogue signal processing
Input	Pt100
Typical measuring deviation	< 0.2 %



Temperature transmitter Model T91



Features	<ul style="list-style-type: none"> ■ Universal, versions for Pt100 and thermocouples ■ Fixed measuring range ■ Analogue Signal processing ■ for industrial applications
Input	Pt100, Pt 1000 Thermocouples
Typical measuring deviation	< 0.5 %



Temperature transmitter Model T32



Features	<ul style="list-style-type: none"> ■ Universal for all temperature sensors ■ High Accuracy ■ EMC per NAMUR NE 21 ■ Galvanic isolation ■ Functional Safety (SIL)
Input	Pt100, Thermocouples, other sensors (mV, Ω)
Typical measuring deviation	< 0.12 %



Temperature transmitter Model T12



Features	<ul style="list-style-type: none"> ■ Universal for all temperature sensors ■ Galvanic isolation
Input	Pt100, Thermocouples, other sensors (mV, Ω)
Typical measuring deviation	< 0.25 %



Temperature transmitter Model T53



Features	<ul style="list-style-type: none"> ■ Universal for all temperature sensors ■ Automatic switch between protocols ■ EMC per NAMUR NE 21 ■ Galvanic isolation
Input	Pt100, Thermocouples, other sensors (mV, Ω)
Typical measuring deviation	< 0.1 %

Evaluating and controlling units

Digital Indicators

Digital Indicator
Model DI15



Size	48 x 24 mm
Input	Multifunction input for resistance thermometers, thermocouples and standard signals
Alarm outputs	2 electronic contacts
Power supply	DC 9 ... 28 V

Digital Indicator
Model DI25



Size	96 x 48 mm
Input	Multifunction input for resistance thermometers, thermocouples and standard signals
Alarm outputs	<ul style="list-style-type: none"> ■ 3 relays, ■ 2 relays at units with integrated transmitter power supply DC 24 V
Power supply	AC 100 ... 240 V or AC/DC 24 V
Special	retransmission output signal
Optional extras	<ul style="list-style-type: none"> ■ integrated transmitter power supply ■ serial interface

Digital Indicator
Model DI30



Size	96 x 96 mm
Input	standard signals
Alarm outputs	2 relays
power supply	AC 230 V
Special	integrated transmitter power supply

Digital Indicator
Model DI35



Size	96 x 48 mm
Input	Multifunction input for resistance thermometers, thermocouples and standard signals or: Double input with calculation (+ - x /) for 2 transmitters
Alarm outputs	optional 2 or 4 Relais
Power supply	AC 230 V alternativ AC 115 V or DC 24 V
Optional extras	<ul style="list-style-type: none"> ■ integrated transmitter power supply ■ retransmission output signal ■ serial interface



HART® current loop indicator Model DIH50-F

Size	150 x 127 x 127 mm
Input	4 ... 20 mA, HART®, 2-wire
Power supply	supplied by the 4 ... 20 mA loop
Speciality	automatic setting of the indication range via HART®-Kommunikation
Approval	<ul style="list-style-type: none"> ■ intrinsically safe according to ATEX and CSA ■ explosion proof housing in preparation
Optional extras	<ul style="list-style-type: none"> ■ cable glands and blind plugs ■ pipe mounting set

Temperature controller



Temperature controller Models CS4S / CS4H/ CS4L / CS4R

Sizes	48 x 48 mm, 48 x 96 mm, 96 x 96 mm, 22.5 x 75 mm
Input	Multi-function input for Resistance thermometers, Thermocouples and standard signals
Control characteristic	PID, PI, PD, P, ON/OFF (configurable)
Control output	Relay or logic DC 0/12 V to control an electronic switch relay (SSR) or analogue current signal 4 ... 20 mA
Power supply	AC 100 ... 240 V alternatively AC/DC 24 V
Optional extras	<ul style="list-style-type: none"> ■ 2nd control output ■ 2nd alarm output ■ heater burnout alarm ■ serial interface ■ integrated transmitter power supply



Attachable indicator Models A-AI-1 / A-IAI-1

Size	50 x 50 mm (case)
Input	4 ... 20 mA, 2-wire
Power supply	supplied by the 4 ... 20 mA loop
Approval	ATEX (Model A-IAI-1)



Attachable indicator Models A-AS-1

Size	38 x 29 mm
Input	4 ... 20 mA, 2-wire 0 ... 5 V 0 ... 10 V
Power supply	DC 16 ... 30 V with 4 ... 20 mA DC 10 ... 30 V with 0 ... 5 V DC 15 ... 30 V with 0 ... 10 V
Optional extras	for UHP applications (Model WUR-1) Ex-version (Model NWUR-1)

Mechanical Temperature Measurement

Bimetal thermometers



**Domestic and industrial heating
Model A46**

Nominal size	63, 80, 100
Pressure rating max. in bar of thermowell/stem	6
Wetted parts	Cu-alloy



**Refrigeration and Air-Conditioning Technology
Model A48**

Nominal size	63, 80, 100, 160
Wetted parts	Cu-alloy



**Refrigeration and air conditioning
Model A50**

Nominal size	63, 80, 100, 160
Pressure rating max. in bar of thermowell/stem	6
Wetted parts	Cu-alloy



**Industrial series
Back connection (axial)
Model 52**

Nominal size	25, 33, 40, 50, 63, 80, 100, 160
Pressure rating max. in bar of thermowell/stem	25
Wetted parts	stainless steel



**Industrial series
Bottom connection (radial)
Model 52**

Nominal size	63, 80, 100, 160
Pressure rating max. in bar of thermowell/stem	25
Wetted parts	Stainless steel



**Process Industry Series
Model 53**

Nominal size	3", 5"
Pressure rating max. in bar of thermowell/stem	25
Wetted parts	Stainless steel



Process Industry Series
Adjustable stem and dial
Model 53

Nominal size	3", 5"
Wetted parts	Stainless steel
Special features	<ul style="list-style-type: none"> ■ Liquid damping Up to max. 250 °C (case and probe)



Process Industry Series
Model 55

Nominal size	63, 100, 160
Wetted parts	Stainless steel



GL
Heavy duty series
Also with GL approval
Model 54

Nominal size	63, 80, 100, 160
Wetted parts	Stainless steel
Special features	<ul style="list-style-type: none"> ■ Liquid damping Up to max. 250 °C (case and probe) ■ Twin-Temp, Pt100 3-wire



Process Industry Series
Adjustable stem and dial
Model 55

Nominal size	100, 160
Wetted parts	Stainless steel



Heavy duty series
Adjustable stem and dial
Model 54

Nominal size	63, 80, 100, 160
Wetted parts	Stainless steel
Special features	<ul style="list-style-type: none"> ■ liquid damping Up to max. 250 °C (case and probe)



Process Industry Series
with electrical alarm contact
Model 55

Nominal size	100, 160
Wetted parts	Stainless steel

Mechanical Temperature Measurement

Expansion thermometers



**Standard version
Model IFC**

Nominal size	60, 80, 100
Wetted parts	Cu-alloy
Special features	square case



**Combistat
mechanical temperature regulator
Model SC 15**

Nominal size	60, 80, 100
Wetted parts	Cu-alloy
Special features	<ul style="list-style-type: none"> ■ square case ■ safety temperature limiter



**Stainless steel case
Model 70**

Nominal size	63, 100, 160
Wetted parts	stainless steel
Special features	<ul style="list-style-type: none"> ■ liquid damping (case) ■ Accuracy class 1 ■ with micro switch

Gas actuated thermometers



**Stainless steel version
Model 73**

Nominal size	100, 160
Wetted parts	stainless steel
Special features	<ul style="list-style-type: none"> ■ liquid damping (case) ■ ingress protection IP65 ■ short response time ■ accuracy class 1 (DIN GN 13190)



**Stainless steel version with capillary
Model 73**

Nominal size	100, 160
Wetted parts	stainless steel
Special features	<ul style="list-style-type: none"> ■ various mounting provisions ■ liquid damping (case) ■ protective coating for capillary ■ ingress protection IP 65 ■ thermometer for domestic and industrial heating with capillary



**Stainless steel version
Adjustable stem and dial
Model 73**

Nominal size	100, 160
Wetted parts	stainless steel
Special features	liquid damping (case)

Mechanical Temperature Measurement

Gas actuated thermometers

**Stainless steel version
Panel mounting with capillary
Model 73**



Nominal size	144 x 144
Wetted parts	stainless steel

**Stainless steel version
Combithermometer with Pt100
Model 76**



Nominal size	100, 160
Wetted parts	stainless steel
Special features	<ul style="list-style-type: none"> ■ Thermowells ■ liquid damping (case) ■ alarm contact ■ Temperature transmitter

**Stainless steel version with contact probe
Model 73**



Nominal size	100, 160
Wetted parts	stainless steel
Special features	<ul style="list-style-type: none"> ■ various mounting provisions ■ liquid damping (case)

**Stainless steel version
for food, bio and pharmaceutical industry
Model 74**



Nominal size	100
Wetted parts	Stainless steel 1.4435
Special features	<ul style="list-style-type: none"> ■ liquid damping (case) ■ Surface of wetted parts electropolished ■ alarm contact

**Stainless steel version
with electrical alarm contact
Model 73**



Nominal size	100, 160 144 x 144
Wetted parts	stainless steel
Special features	<ul style="list-style-type: none"> ■ liquid damping (case)

**Stainless steel version
fuel gas / diesel thermometers
Model 75**



Nominal size	100
Wetted parts	stainless steel
Special features	<ul style="list-style-type: none"> ■ suitable for high vibrations ■ ingress protection IP 66 ■ accuracy class 1

Thermowells

Flanged, solid machined Model TW10

Process connection	flanges to national or international standards
Connection zum thermometer female thread	G ½, ½ NPT
Material	Cu-alloy



Flanged, fabricated construction Model TW40

Process connection	flanges to national or international standards
Connection zum thermometer male thread	M24 x 1.5
Material	stainless steel



Threaded, solid machined, international version Model TW15

Process connection	male thread ½ NPT, ¾ NPT, 1 NPT
Connection zum thermometer female thread	½ NPT
Material	stainless steel



Threaded, fabricated construction Model TW45

Process connection	male thread G ½ B, G ¾ B
Connection zum thermometer female thread	G ½, G ¾
male thread	G ½ B, G ¾ B
Material	Cu-alloy or stainless steel



Threaded, solid machined, DIN 43772 Models TW50

Process connection	male thread G ½ B, G ¾ B
Connection zum thermometer female thread	G ½, G ¾
male thread	G ½ B, G ¾ B
Material	stainless steel



Socket weld fabricated construction, Model TW20

Process connection	Welding diameter Ø 26.7 mm 33.4 mm or 48.3 mm
Connection zum thermometer female thread	½ NPT, G ½
Material	stainless steel



Weld-in type or with flange, solid machined DIN 43772, Model TW55

Process connection	flanges to national or international standards
Connection zum thermometer female thread	M18 x 1.5, M14 x 1.5, G ½, ½ NPT
Material	stainless steel



Hand-Held Pressure Indicators / Pressure Balance



Hand-Held Pressure Indicators
Models CPH6200 / CPH6200-S2 (2-Channel-Version)
CPH6200-Ex

Application	<ul style="list-style-type: none"> ■ Accurate, mobile pressure measurement ■ Basic calibration tasks (software assistance) possible ■ Leak test
Accuracy	0.2 % up to 0.1 %
Pressure ranges	0 ... 0.1 to 0 ... 1000 bar



Kompakt Pressure Balance
Typ CPB3000

Application	<ul style="list-style-type: none"> ■ Primary standard for factory and calibration laboratories ■ Mobile system for research or service laboratories (also on-site) ■ ideally suited to on-site use
Accuracy	0.025 % of reading
Pressure ranges	up to 1000 bar / 15000 psi hydraulic



Precision Hand-Held Pressure Indicators
Typ CPH6400

Application	<ul style="list-style-type: none"> ■ Precise, mobile pressure measurement ■ Basic calibration tasks (via software assistance) possible ■ Leak test
Accuracy	<= 1000 bar: 0.025 % > 1000 bar: 0.15 %
Pressure ranges	0 ... 0.4 up to 0 ... 4000 bar



Pressure Balance
Model CPB5000

Application	<ul style="list-style-type: none"> ■ Primary standard for factory and calibration laboratories ■ Mobile system for research or service laboratories (also on-site)
Accuracy	0.015 % of reading opt. 0.01 % of reading
Pressure ranges	-1 ... +100 bar / -14 ... +1500 psi pneumatic up to 1000 bar / 15000 psi hydraulic High pressure up to 4000 bar / 60000 psi differential pressure version



Process Calibrator
Model CPH6000

Application	<ul style="list-style-type: none"> ■ Precise pressure measuring ■ On-site Calibration (without PC) ■ Pressure switch test
Accuracy	0.025 %
Pressure ranges	0 ... 0.25 up to 0 ... 1000 bar

Pressure Calibrators / Pressure Controllers



Precisions Pressure Indicators
Models CPG2500 / CPG8000

Application	<ul style="list-style-type: none"> ■ Precisions pressure measurement ■ Differential pressure measuring via 2 internal sensors ■ Software based calibration
Accuracy	0.025 % up to 0.008 %
Pressure ranges	0 ... 0.025 up to 0 ... 2500 bar



Precisions Pressure Controller
Model CPC6000

Application	<ul style="list-style-type: none"> ■ Fully automatic calibration (pneumatic) ■ Differential pressure generation via 2 control channels
Accuracy	0.01 %
Pressure ranges	0 ... 0.025 up to 0 ... 100 bar



Portable Low Pressure Controller
Model CPC2000

Application	Supply-pressure independent calibration in the low pressures ranges
Accuracy	0.25 % up to 0.1 %
Pressure ranges	0 ... 1 mbar up to 0 ... 1000 mbar gauge pressure and differential pressure



Precision Pressure Controller
Models CPC8000-L / -X
CPC8000-DL / -DX (Dual-range Version)

Application	<ul style="list-style-type: none"> ■ Fully automatic calibration ■ Precision pressure measuring ■ Leak test
Accuracy	0.01 % up to 0.008 %
Pressure ranges	0 ... 0.025 up to 0 ... 400 bar



High-Speed Pressure Controller
Model CPC3000

Application	<ul style="list-style-type: none"> ■ High-Speed Pressure supply ■ Fully automatic calibration (pneumatic)
Accuracy	0.025 %
Pressure ranges	0 ... 0.35 up to 0 ... 70 bar



Precision High-Pressure Controller
Model CPC8000-H

Application	Fully automatic calibration in high pressure range
Accuracy	0.01 %
Pressure ranges	0 ... 600 up to 0 ... 1600 bar

Hand-Held Thermometers / Portable Temperature Calibrators / Calibration Baths



Hand-Held Thermometers
 Model CTH6200
 Models CTH6500 / CTH6510 (ATEX-Version)

Application	Flexible temperature measuring or data recording
Temperature ranges	-200 ... +850 °C (Pt100, Ex) -200 ... +1760 °C (TC)
Accuracy	0.03 ... 0.2 K



Infrared Hand-Held Thermometer
 Model CTH71MT4
 Model CTH71ST20

Application	<ul style="list-style-type: none"> ■ Diagnostic and monitoring ■ Calibration and service companies ■ Industry (laboratory, work-, shop and production) ■ Quality assurance
Temperature ranges	-32 ... 760 °C
Accuracy	1 ... 3 K or 1 ... 2 %



Temperature Dry Well Calibrators Industrial Version
 Models CTD9100

Application	<ul style="list-style-type: none"> ■ On-site calibration and laboratory calibration ■ Quality assurance and test ■ Adjustment of temperature transmitters
Temperature ranges	-35 ... +650 °C
Accuracy	0.10 K ... 0.80 K



Micro Calibration Baths Industrial Version
 Models CTB9100-165 / -225

Application	<ul style="list-style-type: none"> ■ On-site calibration and laboratory calibration for short temperature sensors ■ Calibration of thermometers with larger diameters ■ Simultaneous calibration of several temperature sensors
Temperature ranges	-35 ... +225 °C
Accuracy	0.2 ... 0.3 K



Temperature Dry Well Calibrators Precise Version
 Models CTD9300

Application	<ul style="list-style-type: none"> ■ On-site calibration and calibration in laboratories ■ Quality assurance and test ■ Adjustment of temperature transmitters
Temperature ranges	-35 ... +650 °C
Accuracy	0.10 K ... 0.6 K



Temperature Calibration Baths
 Models CTB9210 / CTB9220
 Models CTB9430 / CTB9441

Application	Calibration and testing of industrial thermometers
Temperature ranges	-30 ... +250 °C
Stability	± 0.01 K at 70 °C with water

Pressure generation / Calibration Systems for pressure and temperature



Manual Pressure generation Models CPP30 / CPP-X

Application	<ul style="list-style-type: none"> Simple pressure generation for laboratories, workshops or on site For testing, adjusting and calibrating all types of pressure measuring instruments
Pressure ranges	-0.95 ... +35 bar pneumatic 0 ... 7000 bar hydraulic



Pressure Supply Case

Application	<ul style="list-style-type: none"> Mobile pressure source Adjustment and calibration of pressure gauges Pressure regulated by adjustment valves
Accuracy	(Depending on reference in use)
Pressure ranges	-1 ... +35 bar (low pressure) 0 ... 200 bar (high pressure) others on request



Adjustment and Calibration Benches

Application	<ul style="list-style-type: none"> Test bench for production, maintenance workshops and laboratories Testing, calibration and adjustment
Accuracy	(Depending on reference in use)
Pressure ranges	-1 ... +400 bar pneumatic 10 ... 1600 bar hydraulic



Mobile Calibration Systems

Application	Test laboratory, calibration, Service companies, pressure Transmitter manufactures
Accuracy	
Pressure	up to 0.008 %
Temperature	up to 0,05 K
Pressure ranges	Customer specific
Temperature ranges	Customer specific



Automatic Calibration Systems

Application	Test laboratory, calibration, Service companies, pressure Transmitter manufactures
Accuracy	up to 0.008 %
Pressure ranges	Customer specific