

# Instrumentation for Sanitary Applications

## Pressure and Temperature Measurement



# Instrument Requirements

The WIKA INLINE Seal is a unique diaphragm seal design that assures no dead space or contamination points. The INLINE Seal is available for both sanitary transmitters and gauges. All WIKA solutions meet or exceed the stringent standards of the sanitary industry.

WIKA combines world-class LeanSigma® operations and agile manufacturing to provide you with the industry's shortest lead time. Each of the over 10 million instruments produced annually in the United States meets rigorous ISO 9001:2008 standards. Utilizing state-of-the-art equipment, resident engineering and manufacturing technology, WIKA sets the standard for precision, dependability and innovation.

## Best Practice for Instrumentation

A sanitary process flow requires peripheral components, such as pressure and temperature measuring instruments, to ensure that process and cleaning parameters are performing within allowable limits.

WIKAs best practice approach of designing and manufacturing sanitary instrumentation adds to the profitability and safety of the manufacturing process system. Additionally, our best practice approach to designing and manufacturing assists in ensuring compliance with the validation process of hygienic approval agencies.

Our best practice approach also explores the installation of the pressure and temperature measuring instruments into the process to minimize all potential contamination points and improve safety.

## Sanitary Approval Agencies



WIKA's sanitary instrumentation meets or exceeds the stringent requirements of sanitary approval agencies that are referenced during the generation of the design requirements for the facility and process, as well as conforms to current Good Manufacturing Practices (cGMP) guidelines.

## Documentation



Where the documents icon (above) appears, it signifies that a Calibration Conformance Report and material conformance documents are supplied standard with the WIKA product series, at no additional charge.

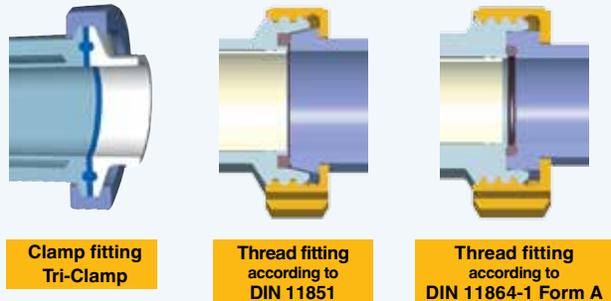
The Calibration Conformance Report supplied with each assembly contains data from a 5-point calibration using equipment that is traceable to NIST, but is not a replacement for a NIST certificate. The Calibration Conformance Report also contains the product's unique serial number and references all applicable documents to meet validation requirements. (An electropolish certificate containing nominal surface finish - [Ra microinch] - is an available option for additional cost and must be specified on the purchase order).

The material conformance documents supplied with each assembly are certificates provided by the raw material supplier, containing material composition and lot traceability for all process wetted surfaces. The material conformance documents are not a replacement for an 3.1 material certificate.

If the documents (icon) is not shown with the WIKA series number, NIST calibration report, MTR document (3.1 for process wetted surfaces) and electropolish certificate (containing Ra microinch nominal surface finish), can be obtained for an additional charge, but must be specified on the purchase order.

## Process Connections

Sanitary connections are designed to be in compliance with the majority of cleanliness requirements in the pharmaceutical, food and beverage, and cosmetic industries. Below are only some of the available sanitary connections from WIKA: Tri-Clover® Tri-Clamp, Cherry-Burrell, DIN 11851 and DIN 32676, ISO 2852, Varivent®, 4" Tank Spud.



## Mechanical Gauge Cases

The external case finish on a WIKA mechanical gauge complies with the highest sanitary standards. They are often recommended to be made of stainless steel. Mechanical gauge cases that are used in clean rooms and in pharmaceutical and biotech industries are often electropolished, which improves the external surface area finish and minimizes the adherence of unwanted particles. The gauge case should also sufficiently protect against penetration of water and cleaning agents. WIKA mechanical gauges comply up to NEMA 6 (ingress protection up to IP 68), the optimal rating for thorough washdowns.

## Cleanability

The Clean-In-Place (CIP) and Sterilization-In-Place (SIP) systems are influenced by the quality of the process wetted surfaces. In order to avoid a concentration of pathogenic organisms and/or the formation of biofilms, the surface in contact with the process needs to be passive and free of microscopic faults.

An average surface roughness of  $Ra < 20\mu\text{in}$  is deemed sufficient for the majority of sanitary process fittings (ASME BPE surface designation SFF5). WIKA products containing a 316L SS electropolished finish have an average surface finish of  $Ra < 13\mu\text{in}$  ( $Ra < 20\mu\text{in}$  in the area of the diaphragm weld).



# Process Connections Pressure Measuring Technology

## Sanitary Connections

The use of a diaphragm seal adapts non-sanitary process connections to those that are designed to comply with domestic and international sanitary standards.

The diaphragm seal isolates the pressure measuring instrument (gauge, switch, transducer or transmitter) from the process media. This isolation is achieved by means of a thin flexible metal diaphragm welded flush to a housing that is in compliance with the preferred sanitary process connection. The sanitary design ensures the pressure instrument connection to the process media is free of crevices and dead space or they are dramatically reduced.

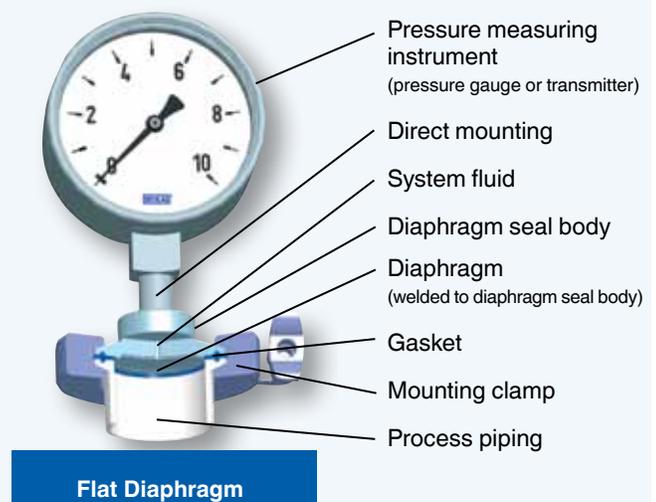
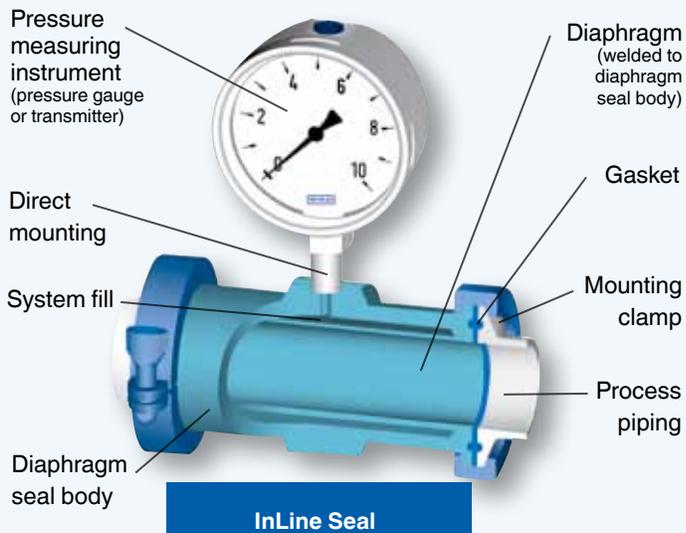
The use of a diaphragm seal provides the option of remote mounting the instrument away from the process for safety concerns or when extreme process temperatures exceed the instrument rating. The diaphragm seal can be attached to the instrument in three basic configurations:

- Instrument direct mounted onto diaphragm seal
- Instrument mounted via cooling element – extreme process temperatures
- Instrument mounted via flexible capillary – remote – mount instrument and/or extreme process temperatures

## Advantages of Diaphragm Seals

1. Converts instruments with threaded connections so that they meet acceptable sanitary industry standards
2. Various wetted materials and process connections are achieved without total redesign of the pressure measuring instrument
3. Can be used with extreme temperatures to keep the instrument within its operative temperature limits
4. Remove or reduce crevices and dead space at the tapping point of the process
5. Additional accessories can be added to the pressure measuring instrument while maintaining sanitary conditions. Examples include the following:
  - Pressure dampening device to slow the response time, therefore minimizing the fluctuation in the pressure reading
  - Two or more measuring instruments can be installed onto one sanitary diaphragm seal (local and remote readings of pressure and/or temperature)

**WIKA provides two types of sanitary seals: the InLine Seal and the Flat Diaphragm Seal (illustrated below)**



InLine diaphragm seal designs exist for flow applications where they become an integral part of the piping system. These seals will not introduce any process turbulence, corners, dead space or obstructions to the flow; thus providing an accurate pressure measurement. InLine seals are self-draining to assist in the cleaning of the piping system.

The basic flat diaphragm seals are designed to be installed into the process flow by use of a “Tee” fitting. This “Tee” type of installation allows a pressure sensing diaphragm with a relative large surface area to be exposed to the process to ensure accurate pressure readings.

## System Fill Fluids for Diaphragm Seals

WIKA uses FDA and/or USP-compliant system fill fluids to transmit pressure from diaphragm seals to the measuring instruments

Common designation	WIKA code no. KN	Permissible temperature range		S.G. at temperature		Viscosity at temperature	
		Pabs < 1 bar [°C]	Pabs ≥ 1 bar [°C]	[g/cm <sup>3</sup> ]	[°C]	[m <sup>2</sup> /s · 10 <sup>-6</sup> ]	[°C]
Glycerine	KN 7	---	-20 ... +230	1.26	+20	1110	+20
Glycerine/water	KN 12	---	-10 ... +120	1.22	+20	88	+20
Neobee® M20	KN 59	-20 ... +90	-20 ... +200	0.92	+20	10.1	+25
Mineral oil	KN 92	-20 ... +170	-20 ... +250	0.85	+15	56	+20
Food grade silicone	KN 93	---	0 ... +300	0.97	+20	350	+20

# Sanitary Assemblies

## Pressure Measurement

WIKA offers fully configured sanitary pressure measurement assemblies, both electrical and analog. These instruments offer completely welded designs with no exposed wetted or non-wetted threads to ensure highest cleanliness standards. The process connection starts as small as 3/4" Tri-Clamp and as large as a 4" nominal connection. Various sanitary industry process connection types and sizes are available with the assemblies shown below.

All transmitters include, as a minimum, a stainless steel case with internal zero and span adjustments. Mechanical gauges with a case size of 2.5" and larger have the option of liquid filling the case to extend the operating life of the instrument.

A majority of these assemblies offer an optional integral heat exchanger between the process connection and the pressure instrument. This element removes the instrument from a process medium containing an extreme temperature (hot or cold) to ensure the instrument doesn't exceed its operative limits.

### 3A Sanitary Pressure Transmitter

#### S-10-3A

**Ranges:** 15 psi to 1,500 psi vacuum, compound

**Output:** 4-20 mA, 0-5V, 0-10V

**Accuracy:**  $\leq 0.25\%$  B.F.S.L.

**Process connection:** 3/4" and larger Tri-Clamp



(S-10-3A-C)



### 3A Sanitary Fractional Gauge

#### M93X.25

**Size:** 2 1/2"

**Case:** Polished stainless steel

**Ring:** Polished stainless steel, crimped

**Wetted parts:** 316L SS

**Window:** Polycarbonate or polysulfone

**Process connection:** 3/4", 1" Tri-Clamp

**Accuracy:** +2/1/2% of span



(Clean Steam option)



### 3A Sanitary Low Pressure

#### SA-11

**Ranges:** 100 InWC to 400 psi, vacuum, compound

**Output:** 4-20 mA

**Accuracy:**  $\leq 0.25\%$  B.F.S.L.

**Process connection:** 1 1/2" and 2" Tri-Clamp



### 3A Sanitary Gauge Assembly

#### M93X.3A

**Size:** 2 1/2", 4"

**Case:** Stainless steel, electropolished

**Ring:** Stainless steel, electropolished

**Wetted parts:** 316L SS electropolished

**Window:** Polycarbonate or polysulfone

**Process connection:** 1 1/2" up to 4" Tri-Clamp, lower or back mount

**Accuracy:**  $\pm 2/1/2\%$  of span (2 1/2")  
 $\pm 1.0\%$  of span (4")



### 3A Sanitary Pressure Transmitter

#### F-20-3A

**Ranges:** 15 psi to 1500 psi, vacuum, compound

**Output:** 4-20 mA

**Accuracy:**  $\leq 0.25\%$  B.F.S.L.

**Process connection:** 3/4" and larger Tri-Clamp



(3/4" Connection)



### 3A Sanitary Fractional Gauge

#### M932.2C

**Size:** 1 1/2", 2"

**Case:** Stainless steel

**Wetted parts:** 316L SS

**Window:** Glass or acrylic

**Process connection:** 3/4" Tri-Clamp, lower or center back mount

**Accuracy:**  $\pm 3/2/3\%$  of span



# Sanitary Diaphragm Seals

Sanitary diaphragm seals are designed to facilitate ease of assembly and disassembly from its mated fitting to expedite the cleaning process. They are designed to be free of crevices and cavities that could create an area for bacterial or archaea growth. The most common sanitary diaphragm seals and fittings are held together by use of a clamp or union nut. All WIKA sanitary diaphragm seals are in compliance with 3A third party criteria.

## Tri-Clamp

**L990.22**

**Process connection:** 1½" to 4"  
Tri-Clamp

**Pressure rating:** Up to 1500 psi\*

**Suitable pressure:** 15 psi to 1500 psi

**Wetted parts:** 316L SS  
Other (consult factory)



## Threaded Sanitary, DIN 11851

**L990.18**

**Process connection:** DN25, DN80  
per DIN 11851

**Pressure rating:** Up to 40 bar

**Suitable pressure:** 15 psi to 600 psi

**Wetted parts:** 316L SS  
Other (consult factory)



\*Proper clamp design mandatory above 600 psi

## Inline Seal Tri-Clamp

**L981.22**

**Process connection:** ¾" to 4"  
Tri-Clamp

**Pressure rating:** Up to 600 psi

**Suitable pressure:** 15 psi to 600 psi

**Wetted parts:** SST  
Other (consult factory)



## Tank Spud

**L990.SD**

**Process connection:** 4" Tri-Clamp

**Pressure rating:** Up to 600 psi

**Suitable pressure:** 15 psi to 600 psi

**Wetted parts:** 316L SS  
Other (consult factory)



## Varivent®

**L990.24**

**Process connection:** Form F, form N

**Pressure rating:** 15 psi to 600 psi

**Suitable pressure:** -30" Hg to 0 psi up to  
-30" Hg to 600 psi

**Wetted parts:** 316L SS  
Other (consult factory)



## I- Clamp

**L990.57**

**Process connection:** 1½" to 3"  
I- Clamp

**Pressure rating:** Up to 500 psi

**Suitable pressure:** 15 psi to 500 psi

**Wetted parts:** 316L SS  
Other (consult factory)



# Special Solutions

## Solutions for Special Applications Meet the Highest Hygienic Standards

### Pressure Transmitter Output Signal, Single or Dual Switch and Local Display Types PSD-30 and L990.22

The WIKA PSD-30 pressure transmitter, when installed on a diaphragm seal, combines three instruments into one device: a pressure transmitter; switch; and local display. Combining several pressure instruments into one device reduces the number of required taps within the process piping, which reduces cleanliness concerns in sanitary industry applications.

The PSD-30 assembly features include a highly visible 14-segment red LED display, intuitive 3-key programming operation, 4-20mA output signal and a choice of a single or a dual NPN or PNP solid-state switch. In order to ensure compliance with most manufacturers design policies, WIKA can install a sanitary diaphragm seal onto the PSD-30, which is compatible with most industry-standard, hygienic process connections.



PSD-30 w/L990.22



M990.30

### Homogenizer Gauge Type M990.30

The mechanical pressure gauge Type M990.30 was especially designed for extremely high static and dynamic pressure loads typically present with homogenizing processes.

This engineered solution allows static pressures up to 23,000 psi with pressure surges exceeding 30,000 psi to ensure a long service life of the instrument. This model is available with either a mechanical pressure gauge or an electronic pressure transmitter with a 4 ... 20 mA output signal.

### INLINE Diaphragm Seal with Integrated Temperature Measurement Type L983.22

All the advantages of the WIKA sanitary InLine diaphragm seals are combined with an integral temperature measuring sensor. This allows measuring of both pressure and temperature from one unintrusive tapping of the process. This assembly can be supplied with numerous sanitary connections to ensure compliance with a wide variety of hygienic applications.

L983.22



### Dry Cell Mechanical Pressure Gauge Type PG43SA

This sanitary gauge has no fluid behind the measuring diaphragm. This innovative measuring technology is being introduced into the sanitary industry for all applications where possible contamination of the process media can be extremely expensive.

This innovative measuring method provides various advantages to the user. The largest advantage is the reduced potential of contamination in the case of an unforeseen breach in thin measuring diaphragm. If a breach in the thin measuring diaphragm was to occur, there is no fill fluid behind the diaphragm that can enter into the process media and destroy the batch.

**Additional advantages:** this system offers over-pressure protection of 5x the full scale (considerably greater than a Bourdon tube measuring system), little to no external temperature influence due to no fill fluid behind the diaphragm and the assembly is designed to comply with CIP, SIP and autoclaving.



PG43SA

### InLine Thermowell, Zero Dead Space

The new WIKA sanitary thermowell is designed for applications where the utmost cleanliness requirements are a necessity (e.g. biopharmaceutical industry). Obtaining an electrical temperature measurement of the process media doesn't need to add to your list of cleaning concerns.

This thermowell becomes an integral part of the piping system without adding any dead space to the process. The welding of this temperature measuring-component into the piping system removes all potential crevices and dead space associated with instrumentation tees used with normal installations. This thermowell is suitable for CIP and SIP and is self draining. This flow-through design allows the temperature measuring element to be removed for calibration without opening the process.



TW61

# Mechanical Pressure Measurement

## Mechanical Pressure Gauges Meet the Highest Sanitary Standards

The WIKA mechanical gauge product portfolio ranges from the tried and tested Bourdon tube gauge, capsule gauge for absolute pressure, bellows for low pressure, Sealgauges for tough applications and differential pressure. These mechanical gauges can be used to measure pressure by three different methods; gauge, absolute and differential pressure.

A number of optional features are readily available to assist in monitoring the process: case fill, alarm contact, minimum/maximum pointer and restrictor, and mounting flange. Some of these gauges can be adapted with sanitary connections by installing a diaphragm seal or InLine diaphragm seal.

Types 232.53/233.53 are ideal choices for general industrial applications requiring an economical dry or liquid-filled pressure gauge. When vibration and/or pulsation are present, the glycerine case fill dampens the Bourdon tube and minimizes pointer oscillation, which reduces wear on the gauge movement and extends operating life. Typical applications include hydraulic and pneumatic equipment.

With all stainless steel construction, high-quality industrial gauges ensure long service life in the harshest, most demanding environments. Typical applications include; water purification, steam generation, transfer systems and gas delivery. The large 6" diameter of the Type 232.50/233.50 gauge makes it ideal for applications that require dial reading from a distance.

### Stainless Steel Case, Stainless Steel Internals, Dry Case

**131.11**

<b>Size:</b>	1½", 2"
<b>Case:</b>	304 SS
<b>Wetted parts:</b>	316 SS
<b>Window:</b>	Plastic
<b>Scale ranges:</b>	1½": 0 - 30 psi 2": 0 - 15 psi (compound ranges available)
<b>Accuracy:</b>	2.5% of full span



### Stainless Steel Case, Stainless Steel Internals, Field Liquid-fillable

**232.53, 233.53**

<b>Size:</b>	2½", 4"
<b>Case:</b>	Stainless steel
<b>Ring:</b>	Polished stainless steel (crimped on)
<b>Wetted parts:</b>	316 SS
<b>Window:</b>	Acrylic
<b>Liquid fill:</b>	None (232.53); Glycerine (233.53)
<b>Accuracy:</b>	±2/1/2% of span (2½") ±1.0% of span (4")



### All Stainless Steel, Field Liquid-fillable

**232.54, 233.54**

<b>Size:</b>	2½", 4"
<b>Case:</b>	Stainless steel
<b>Bayonet ring:</b>	Stainless steel (twist on)
<b>Wetted parts:</b>	316 SS
<b>Window:</b>	Laminated safety glass
<b>Liquid fill:</b>	None (232.54) Glycerine (233.54)
<b>Accuracy:</b>	±2/1/2% of span (2½") ±1.0% of span (4")



### All Stainless Steel, Field Liquid-fillable

**232.50, 233.50**

<b>Size:</b>	2½", 4", 4½", 6"
<b>Case:</b>	Stainless steel
<b>Bayonet ring:</b>	Stainless steel (twist on)
<b>Wetted parts:</b>	316 SS
<b>Window:</b>	Laminated safety glass
<b>Liquid fill:</b>	None (232.50) Glycerine (233.50)
<b>Accuracy:</b>	±2/1/2% of span (2½") ±1.0% of span (4", 4½", 6")



# Mechanical Temperature Measurement

## Mechanical Temperature Measuring Instruments Meet the Highest Sanitary Standards

WIKA manufactures bimetal thermometers available in a variety of connections, case sizes and temperature ranges. This flexibility makes WIKA bimetal thermometers the ideal choice for temperature applications.

### Twin-Temp, Local and Remote Readings

WIKA's unique Twin-Temp thermometer combines the accuracy, reliability and readability dial of a bimetal or solar digital thermometer with the precision output and data acquisition capability of a thermocouple or RTD sensor. Every thermowell in your process can provide both local and remote readings.

#### TT.30, TT.32, TT.50, TT.52, TT.80, TT.82

<b>Dial size:</b>	3", 5"
<b>Case:</b>	Adjustable angle case or back-connected case
<b>Stem:</b>	¼" O.D.
<b>Length:</b>	T/C 2½" to 48"; RTD 4" to 48"
<b>Connection:</b>	½" NPT
<b>Scale:</b>	Dual °F/°C; single °F or °C
<b>Range:</b>	-100°F (-70°) to 550°F (260°C)
<b>Thermocouple:</b>	Type K thermocouple Standard types J, E, and T are optional
<b>RTD:</b>	100 Ohm thin film platinum DIN curve (.00385 Ohm/Ohm/°C)



### Thermowells

Thermowells for temperature instruments are recommended for all process insertion points. WIKA thermowells are available from a complete selection of base materials, as well as shields and coatings, and in sanitary connections. WIKA sanitary thermowells meet the criteria for USDA and 3A sanitary standard 74-03 requirements.

#### TW.SC

<b>Process connections:</b>	½" and larger Tri-Clamp
<b>Instrument connection:</b>	½" NPSM standard
<b>Shank configurations:</b>	Stepped, straight, tapered
<b>Bore diameter:</b>	.260"
<b>Bore depth:</b>	Up to 72"
<b>Materials:</b>	AISI 316 (other materials available)
<b>Surface finish:</b>	AISI 316: 16-32Ra microinch



### Process-grade Bimetal Thermometers

WIKA process grade bimetal thermometers are suitable for nearly every local reading thermometer application. Their durable construction and finish ensure reliable readings and long-lasting service. The superior quality of the WIKA Types 30, 31, 32, 50, 51, 52 is reflected in the seven-year warranty.

#### TI.30, TI.31, TI.32, TI.50, TI.51, TI.52

<b>Dial Size:</b>	3", 5"
<b>Case and stem:</b>	304 SS
<b>Stem lengths:</b>	2½" to 72"
<b>Case configuration:</b>	Back-connected, bottom-connected, adjustable angle
<b>Connection:</b>	½" NPT
<b>Window:</b>	Flat instrument glass (see options for additional material)
<b>Dial:</b>	White aluminum; anti-parallax
<b>Pointer:</b>	Black aluminum
<b>Accuracy:</b>	±1.0% of span ASME B40.3 Grade A
<b>Scale:</b>	Dual °F/°C; single °F or °C
<b>Ranges:</b>	-100°F (-70°C) to 1000°F (500°C),
<b>External reset:</b>	A slotted hex adjustment head offers screwdriver or wrench use to field calibrate the thermometer
<b>Fill policy:</b>	WIKA does not recommend continued use of filled instruments at operating temperatures above 400°F (204°C) or below -100°F (-70°C)
<b>Hermetic seal:</b>	Hermetically sealed per ASME B40.3., guaranteed not to fog
<b>Options:</b>	Lexan®, acrylic and safety glass windows; dampened movement (as shown); min-max pointer; 3/8" stem; 316 SS wetted parts; silicone fill



# Mechanical Temperature Measurement

## Process Grade Bimetal Options

### Dampened Movement

Engineered solution providing benefits of case fill in a dry configuration. This silicone-free option provides dampening of pointer fluctuation in tough environments at all available temperature ranges. Available in all process grade models.

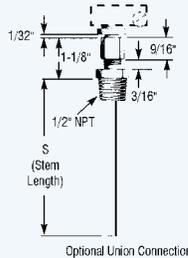


### Maximum or Minimum Indicating Pointer

This resettable option allows the operator to view the highest or lowest temperature obtained within the process.

### Adjustable Union Connection

The WIKA adjustable union connection allows for the installation of a Type 32 or 52 adjustable angle thermometer without rotating the case. Ideal for use in a confined space.



### Left, Right or Top Connection

All WIKA 3" and 5" bottom connected thermometers are available with the connection oriented to the left, right or top.

### Additional Options

- Thermometers may be ordered with sharp tips for piercing media to be measured
- 316 SS wetted parts are available
- Acrylic, Lexan®, shatterproof and glass windows
- Certificates of Conformance, Origin and Calibration available



## Laboratory Thin Stem Thermometers

WIKA laboratory thin stem thermometers deliver fast, accurate readings. They are high-quality, economical thermometers designed for laboratory and OEM applications.

### TI.T17, TI.T20

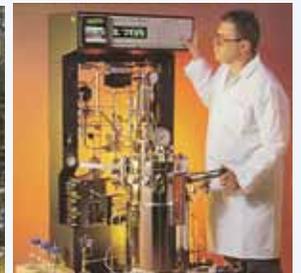
<b>Dial Size:</b>	1 3/4", 2"	<p>TI.T17</p>
<b>Case and stem:</b>	304 SS	
<b>Stem lengths:</b>	5", 8", 12", 18"	
<b>Connection:</b>	Plain, 7/16" hex hub with no threads	
<b>Window:</b>	Flat instrument glass Lexan® optional	
<b>Dial:</b>	White aluminum	
<b>Pointer:</b>	Black aluminum	
<b>Accuracy:</b>	1.0% full scale value	
<b>Scale:</b>	Dual °F/°C; single °F or °C	
<b>Ranges:</b>	-100°F (-70°C) to 750°F (500°C)	
<b>External reset:</b>	Externally adjustable on plain connection	
<b>Options:</b>	Stem lengths, threaded connections, scales and dial markings, beaker clip, stem tip	

## Pocket Thermometer

Type TI.1005 is a bimetal dial thermometer for quick, accurate readings. The thermometer includes a pocket case which can be used to protect the stem and is popular in the food service industry for temperature safety monitoring.

### TI.1005

<b>Dial size:</b>	1"	
<b>Accuracy:</b>	±1% of full scale	
<b>Case:</b>	Stainless steel	
<b>Stem:</b>	.142" diameter	
<b>Length:</b>	5"	
<b>Range:</b>	-40/160°F; 0/220°F; 50/550°F	
<b>Pointer:</b>	Aluminum with matte red finish	



# Electronic Pressure Measurement

## Transmitters / Switches

WIKA's pressure transmitters and switches feature fully-welded measuring cells without any internal sealing elements, most with stainless steel cases, moisture and vibration protection, and all are calibrated prior to shipment. WIKA offerings include fixed range transmitters along with programmable ranges and linearity (horizontal tank level). Pressure switches are fully programmable to fine tune with the process. A wide range of digital indicators are available to accessorize the pressure transmitter.

### Standard Industrial Pressure Transmitters

These rugged pressure transmitters are designed for use in harsh environments where accuracy, reliability and repeatability are critical. Applications include hydraulics and pneumatics, and numerous other processing operations.

#### S-10

**Ranges:** 50 InWC to 40,000 psi, vacuum, compound, absolute

**Output:** 4-20 mA 2-wire, 0-5 V 3-wire, 0-10 V 3-wire

**Accuracy:**  $\leq 0.25\%$  B.F.S.L.

**S-11:** Flush diaphragm version

**IS-20-S/IS-21-S:** Intrinsically safe version



### Flush Diaphragm Pressure Transmitters

The S-11 flat diaphragm pressure transmitter is designed for level measurement or high viscosity media applications.

#### S-11

**Ranges:** 50 InWC to 8,000 psi, vacuum, compound, absolute

**Output:** 4-20 mA, 0-5 V, 0-10 V

**Switch points:**  $\leq 0.25\%$  B.F.S.L.



### Field Case Pressure Transmitters

The Type F-20 pressure transmitter features an integral stainless steel junction box for installation in washdown and harsh environments.

#### F-20

**Ranges:** 30" - 0 inHg to 15,000 psi

**Output:** 4-20 mA, 0-5 V 3-wire, 0-10 V 3-wire

**Accuracy:**  $\leq 0.25\%$  B.F.S.L.

**F-21:** Flush diaphragm version

**IS-20-S/IS-21-S:** Intrinsically safe version



### Attachable Loop Powered Local Indicator

The A-AI-1 is designed for use with the 4-pin DIN 43650 "L" plug supplied with Electronic Pressure Measurement industrial and A-10 4-20 mA output pressure transmitters. User-adjustable digital filtering stabilizes the display during rapid pressure changes.

#### A-AI-1

**Display:** -1999 to +9999 user-programmable

**Power:** Loop powered with 3 VDC drop

**Application:** For use with WIKA industrial and A-10 pressure transmitters with DIN plug



Attachable Loop Powered Local Indicator

### UniTrans®

The UniTrans® has a turndown capability of up to 20:1, a 0.15% accuracy and an integral temperature sensor. An intrinsically safe version is also available with a HART communications interface.

#### UT-10, UT-11, IUT-10, IUT-11

**Ranges:** 5 psi to 15,000 psi

**Output:** 4-20 mA

**Accuracy:**  $\leq 0.15\%$  B.F.S.L. (pre-turndown)

IUT-10 intrinsically safe version available



### Pressure Transmitter with Integral LED Display and Switch Options

The PSD-30 features an integral red LED display that provides three-way adjustability for a wide variety of installation requirements. It is available with PNP or NPN solid state switches for intelligent control applications and meets VDMA standards for ease of programming.

#### PSD-30

**Ranges:** Vacuum, compound and gauge ranges up to 8000 psi

**Display:** Red 4 digit LED, .35" high, 14 segments

**Switch points:** Solid state user programmable, NPN or PNP, single or dual



## High Precision & Calibration Test Equipment

WIKA offers a wide range of testing and calibration instruments: pressure and temperature, analog, electrical, portable and laboratory. Mechanical gauges can be supplied with accuracies as stringent as  $\pm 0.1\%$  of full span and electrical devices as stringent as  $\pm 0.006\%$  of full span. With NIST and EN traceable products, WIKA can provide the required equipment to maintain metrology and calibration laboratories.

### High Precision Gauge

**332.54**

**Accuracy:**  $\pm 0.25\%$  of span  
-30 inHG to 800 psi  
 $\pm 0.5\%$  of span  
1000 psi to  
10,000 psi

**Size:** 4" dial

**Pressure ranges:** -30 inHG ... 10,000 psi



### Hand Held Pressure Indicator

**CPH 6600**

**Accuracy:** 0.025% (Calibration Certificate included)

**Pressure generation:** Via integrated electric vac/pressure pump

**Measuring ranges:** Vac ... 30 psi  
vac ... 150 psi  
vac ... 300 psi



### Pneumatic & Hydraulic Hand Pumps

**WICP-L100, WICP-M500, WICP-H10K**

**Operating Pressure Range**

WICP-L100  
-12...100 psi  
WICP-M500  
12...600 psi  
WICP-H10K  
0...10,000 psi

**Maximum Pressure Range**

WICP-L100  
150 psi  
WICP-M500  
750 psi  
WICP-H10K  
10,000 psi

**Connection**

WICP-L100  
1, 1/8" FNPT port  
WICP-M500  
1, 1/4" FNPT (top)  
1, 1/8" FNPT (side)  
WICP-H10K  
2, 1/4" FNPT (top and side)  
1, 1/8" FNPT port  
(for use with pressure relief valve only)



### Digital Test Gauge

**CPG 1000**

**Pressure units:** Displays in 18 standard pressure units with 1 custom unit

**Features:** MIN/MAX, TARE, dampening

**Approvals:** CSA/US intrinsically safe, Class 1, Div. 2 Groups A, B, C & D; CE approved





**ISO 9001  
Certified**

For over 60 years, WIKI Instrument Corporation has continuously advanced pressure gauge, transmitter and temperature measurement instrumentation. As the global leader in lean manufacturing, WIKI offers a broad selection of stock and custom instrumentation solutions, which are often available for distribution within days. Producing over 43 million gauges, diaphragm seals, transmitters and thermometers worldwide annually, WIKI's extensive product line provides measurement solutions for any application. The WIKI sales team, along with its customer service and technical staff members, are ready to share their extensive product and industry knowledge to make your business experience with WIKI productive and progressive.



**Digital Test Gauge**

**CPG 1000**



**Flush Diaphragm Transmitter**

**S-11**

WIKI provides distinctive service and support to our channel partners and customers:

- Award winning U.S.-based manufacturing, sales and ordering customer service and technical support
- Certified technical specialists who conduct Best Practice Instrument Reviews with performance improvement reports
- An in-house engineering team for product customization and innovation
- Proven capabilities to connect with customer business processes for ordering and inventory management
- Web-based customer service features, including RFQs, literature request and competitor product cross reference

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