

Instrumentation for Processing Applications

Refining, Petrochemical & Chemical Industries



Part of your business

WIKA Measures Up

Petrochemical/Petroleum Refineries



WIKA pressure gauges and transmitters can be found worldwide in the field of petrochemical and petroleum refinery industries. Our measuring instruments are manufactured in close cooperation with members of ISO 15156 and NACE committee in accordance with respective latest revision.

Our pressure gauges, electronic transmitters and diaphragm seals have been put to the test in different independent institutions where they have been subject to extensive laboratory testing. All WIKA gauges and transmitters meet or exceed pressure gauge standards EN 837-1 and ASME B40.100-2005

Chemical

The chemical industry is subject to strict international requirements like the PED and ATEX. Because of the strict safety requirements and critical application demands in the chemical processing industry, WIKA has engineered our gauges and transmitters to meet and often exceed safety and performance expectations.

WIKA's electronic and mechanical measuring instruments for pressure and temperature are used for general applications as well as in potentially explosive areas. Our products operate as satisfactorily in aggressive environments as in nonaggressive environments.

Our expertise and dependability, in addition to our worldwide sales and service network, has made WIKA a global contracting partner with many well-known names in the chemical industry.



WIKA Sets the Standard

Materials

The standard material used in chemical process engineering is predominantly stainless steel, with the most popular of these being 316L.

For chemical processes involving highly-aggressive media, an extensive range of chemically-resistant materials are available, such as: **Tantalum, Hastelloy®, Inconel®, Titanium, Monel®, PTFE and Durathem (NiCo alloy).**

Solutions For Your Applications

- Harsh temperatures
- Variable pressure ranges
- Pulsation
- Vibration
- Aggressive chemicals
- Steam (water hammer)
- High-pressure measurement
- Elevated temperatures
- Highly-aggressive chemicals

Approvals



WIKA Expertise in Safety and Performance Best Practices



A WIKA Best Practice Instrument Review collects data on-site of a sampling of instrumentation at your operation—including base and operating performance—in order to identify areas of potential or immediate danger. The WIKA Best Practice Instrument Review team, led by a certified WIKA team leader along with experienced project engineers, recommends corrective actions to provide customers with the highest level instrument longevity, reliability and safety to reduce your total cost of ownership.

2XX.34 XSEL™ Process Gauge

The WIKA XSEL™ process gauge series has been designed for pressure applications found in today's grueling refining, petrochemical and chemical plants. The state-of-the-art pressure system design and rugged movement makes this pressure gauge the best choice for many applications in the plant environment.

Size

4½", 6"

Case

Black fiberglass reinforced thermoplastic

Ring

Threaded thermoplastic

Wetted parts

21X.34 - Brass
22X.34 - 1019 Steel/316L SS
23X.34 - 316L SS
26X.34- Monel® 400

Window

Acrylic

Liquid fill

Dry (2X2.34); glycerine and silicone (2X3.34)

Accuracy

±0.5% of span



Decreases misapplications

Most versatile design allows usage from normal to extreme environments

Reduces safety risks

Improved resistance to vibration and pulsation reduces the threat of damaged and worn out gauges releasing process media

Lowers total cost of ownership

Reduces on-hand inventory, downtime and maintenance costs

Longer life

Tested to 10 million pressure cycles and last 5 times longer than competing brands

New warranty

5 years on pressure gauge
10 years on pressure system

WIKA XSEL™ Stands for Excellence in...

Performance & Safety

Studies have shown that the XSEL™ process gauge lasts 5 times longer than competing brands when used in like applications. Due to its greater resistance to vibration and pulsation, the XSEL™ process gauge reduces downtime from regularly replacing worn-out instruments and improves safety and efficiency.

Innovation

Utilizing a stress reducing Bourdon tube design and movement with hardened components, the XSEL™ process gauge pressure system is capable of producing 10 million or more pressure cycles.

Quality

All XSEL™ process gauge movements are Swiss made, producing the most precise, reliable and rugged movements available today. WIKA is offering an industry's best warranty on all XSEL™ process gauges with a standard 5-year warranty on the pressure gauge and a 10-year warranty on the pressure system. (Refer to Terms & Conditions posted to www.wika.com.)

Availability

Since WIKA manufactures in Lawrenceville, Georgia, XSEL™ process gauges are readily available to ship for most common ranges as well as with diaphragm seal configurations.

Value

XSEL™ is an economical solution for most processing applications. With XSEL™ process gauges you can expect excellence in innovation, performance, safety, quality, availability and an industry's best warranty.

Pressure Gauges

23X.30 - 4½" Pressure Gauge

Type 23X.30 pressure gauge features an ASME approved solid front/blow back safety case design. The all stainless steel construction allows for excellent load-cycle stability and shock resistance, and is well suited for harsh environmental conditions.

Size
4½"

Case
304 SS - safety case

Bayonet ring
Polished stainless steel

Accuracy
±1.0% of span



23X.50 - 4½" Pressure Gauge

Type 23X.50 pressure gauge features an all stainless steel construction and contains a pressure relief plug to conform to European and international pressure gauge standards. The 316L SS socket is directly welded to the case for improved stability and performance in extreme operating environments.

Size
4½"

Case
304 SS

Bayonet ring
Polished stainless steel

Accuracy
±1.0% of span



700.04 / 700.05 Differential Pressure

The piston-style (700.04) and diaphragm-style (700.05) differential pressure gauges eliminate "blow-by" and are suited for use in applications requiring low/medium differential and medium/high process pressure media.

Size
2½", 4½"

Case
Black thermoplastic

Accuracy
±2% of span



732.51 - 4", 6" Differential Pressure

4" and 6" differential pressure gauges feature all stainless steel construction and 316 SS wetted parts. The design of the Type 732.51 makes it ideal for applications in the process industry.

Size
4", 6" (100 and 160 mm)

Case and ring
Stainless steel

Wetted parts
316 SS

Accuracy
± 1.5% of span



232.34DD Direct Drive System (DDS)

Type 232.34DD direct drive process gauge contains no movement, gears or linkages like those found on traditional Bourdon tube pressure gauges making this design extremely resistant to harsh operating conditions.

Size
4½"

Case
Yellow fiberglass reinforced thermoplastic

Wetted parts
Socket - 316L SS
Tube - Inconel® X-750

Accuracy
±0.5% of span



6XX.34 Low Pressure

Type 6X2.34 low pressure process gauges offer accurate readings in harsh ambient conditions. They measure the pressure of gaseous media from as low as 10" H₂O to 275" H₂O (10 psi) or other equivalent units of pressure or vacuum. The finely polished nickel-silver pinion gear and shaft of the movement ensure repeatable accuracy.

Size
4½"

Case
Black fiberglass reinforced thermoplastic

Ring
Threaded thermoplastic

Wetted parts
612.34 - copper alloy, 632.34 - 316L SS, 662.34 - Monel®

Accuracy
±2½% of span, ASME B40.100 Grade A



M93X.D1 All-Welded System (AWS)

The all-welded, tamper-resistant construction is ideal for tightly controlled environmental emissions and safety applications requiring gauge isolation from aggressive or clogging media.

Gauge

Refer to 2XX.34, 23X.50, 23X.30

Seal type

L990.34

Process connection

½" NPT male

Diaphragm

316L SS

Body material

316L SS

System fill fluid

Silicone oil, DC200-10, KN68 standard.
Others available upon request.



All-Welded System with cooling element

The M93X.D1 with 4" cooling element is for process temperatures above 300°F. It is "direct mounted" between the pressure instrument and the diaphragm seal. Silicone fill is recommended. Effective for temperature reductions of 200°F, depending upon ambient conditions. The all stainless steel construction is back welded to the stainless steel upper housing or flange.

Also, available in 8" up to 750°F.



L990.27, L990.FR Flanged Seal

Type L990.27 diaphragm seal is a flanged, flush design. This one-piece designed diaphragm seal is flush with the end user's gasket-sealing surface which removes all internal cavities, avoiding clogging and media build-up. A wide variety of process wetted materials are available, such as solid metallic, metal or plastic-lined, and coated. This seal is commonly installed on transmitters and pressure gauges. The L990.FR is a flanged, flush 2 piece design.

Instrument connection

¼" or ½" NPT female, capillary

Process connection

Flanged, 2" to 4"

Pressure rating

Flanged: 150# to 2500#
per ASME B16.5

Suitable pressure

10" in H₂O to 2500#
per ASME B16.5

Wetted parts

SST, Monel®, Hastelloy®,
Teflon® lining,
Tantalum, other-
consult factory



L990.27



L990.FR

L990.10 Threaded Seal

WIKa's Type L990.10 standard threaded seal configuration is constructed of an upper and lower housing with a welded diaphragm. The design of this multi-purpose seal enables it to be used on a variety of applications.

Instrument connection

¼" or ½" NPT
female, capillary

Process threaded connection

¼" to 1" flanged; ½" to
1" NPT female; 2" RF

Pressure rating

Threaded: up to 3675 psi;
flanged: 150# to
1500# per ASME B16.5

Suitable pressure

15 psi to 3675 psi

Wetted parts

CS, SST, Monel®, Hastelloy®, Tantalum,
Teflon® lining, other-consult factory



Electronic Pressure

IS-20 Intrinsically Safe Transmitter

WIKA's intrinsically safe transmitters are FM, ATEX and CSA approved. They are designed for installation in Class I, Division 1 hazardous locations. The IS-20-F has an all stainless steel integral junction box for installation in harsh environments.

Ranges

50 InWC to 15,000 psi, vacuum, compound, absolute

Output

4-20 mA

Accuracy

≤0.25% B.F.S.L.



E-10 Explosion Proof Transmitter

The E series transmitters are FM approved explosion proof for Class I, Division I locations.

Ranges

5 psi to 15,000 psi, vacuum, compound, absolute

Output

4-20 mA or 1-5V low power

Accuracy

≤0.25% B.F.S.L.



N-10 Non-incendive Transmitter

Type N-10 pressure transmitter is specifically designed for gas compressor systems. This transmitter is engineered to meet Class I, Division 2 non-incendive protection in hazardous environments.

Ranges

50 InWC to 15,000 psi, vacuum, compound, absolute

Output

4-20 mA or 1-5V low power

Accuracy

≤0.25% B.F.S.L.



CPG 1000 Digital Test Gauge

The CPG 1000 Digital Pressure Test Gauge takes the concept of an analog test gauge and brings it to a new level. The CPG 1000 combines the accuracy of digital technology with the simplicity of an analog test gauge and achieves performance, ease-of-use, and a feature set unmatched in the pressure measurement world.

Pressure units

Displays in 18 standard pressure units with 1 custom unit

Features

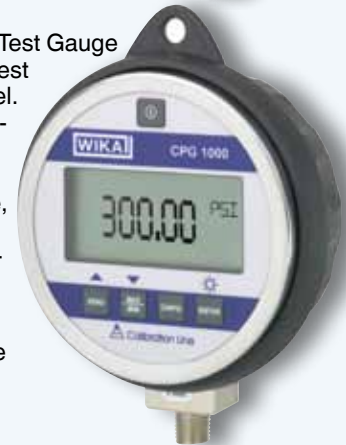
MIN/MAX, TARE, dampening

Approvals

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

Accuracy

±0.05% full scale



Thermometers

TI.30, TI.50 / TI.32, TI.52 Bimetal Thermometer

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

Size

3", 5"

Case and stem

304 SS

Case configuration

Back-connected, bottom-connected, adjustable angle

Connection

½" NPT on 3" and 5" dials (std.)

Accuracy

±1.0% of span ASME B40.3 Grade A

Scale

Single °F or °C or dual scale



TI.R45, TI.R60 Gas Actuated Thermometer

WIKA gas actuated dial thermometers are easy-to-read and provide excellent performance throughout their ranges. They provide extremely accurate temperature readings from remote locations or mercury-sensitive environments.

Dial

4½", 6"

Case connection

Front flange, back flange, u-clamp, phenolic turret, direct reading adjustable angle

Connection

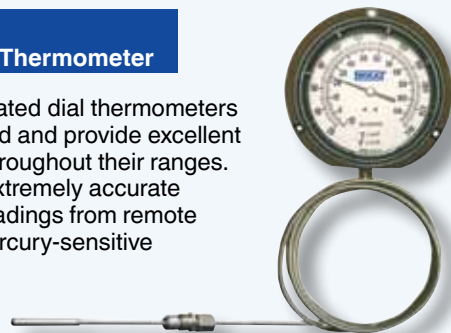
Variety of connection systems

Capillary lengths

Up to 99'

Ranges

-320°F(-200°C) to 1200°F(650°)



910.24 Mini-Siphon

The WIKA Type 910.24 mini-siphon is specifically designed to replace the old pigtail and coil siphon. The mini-siphon has a thermal barrier which protects the pressure gauge from harmful steam, hot vapors and liquids, and contains a unique inner chamber that reduces pressure surges and "water hammer". By mounting the gauge closer to the process, the mini-siphon is designed to eliminate gauge whip and vibration that is typically found on traditional siphons.

Connection

½" NPT male inlet, female outlet

Maximum pressure rating

6092 psi @ 212°F

Maximum temperature rating

1062°F @ 2611 psi

Material

316Ti SS



910.13 Overpressure Protector

Overpressure protectors protect the pressure gauge from damaging spikes and surges that exceed the rated capacity of the instrument. WIKA overpressure protectors come in seven selectable ranges from 6 psi to 8700 psi. Available in 316Ti SS.

Connection

½" NPT male inlet, female outlet

Maximum pressure rating

15,000 psi

Material

316Ti SS



910.12.X00 Snubbers

Pressure snubbers dampen pressure oscillations, allowing easy reading of the "average" pressure. They also protect the gauge from damaging pulsation and spikes. Available in brass and 316 SS with porous, piston and throttling types.



910.12.300
Throttling Snubber shown

910.15.100, 910.15.200 Siphons

Siphons protect instruments from high temperature mediums, such as saturated steam. The high temperature steam condenses in the siphon, preventing it from damaging the gauge internals. Available in brass, steel or 316 SS. For horizontal (coil) or vertical (pigtail) installations



910.15.100
Pigtail Siphon



910.15.200
Coil Siphon

TW.TH, TW.FL Thermowells

Process connections

Flanged, threaded

Instrument connection

½" NPSM standard

Shank configurations

TW.TH: Stepped, straight, tapered

Bore diameter

.260", .385"

Materials

Brass, AISI 304, AISI 316
(Other materials available upon request)

Surface finish

Brass: 60-100 Ra
AISI 304 & AISI 316: 60-100 Ra
AISI 304 & AISI 316: 16-20 Ra



910.11 Needle Valves

Needle valves isolate the pressure gauge from the pressure medium and act as a throttling device. They can also effectively dampen pulsation. WIKA's needle valves are available in standard, mini, block & bleed, and multi-port designs.



910.10
Standard Needle Valve



**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.



XSEL™ with All-Welded System

M93X.D1 (AWS)



XSEL™ Process Gauge

2XX.34

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

WIKI Instrument Corporation

1000 Wiegand Boulevard
Lawrenceville, GA 30043
Toll Free 1-888-WIKA-USA (945-2872)
Tel (770) 513-8200 Fax (770) 338-5118
info@wika.com • www.wika.com



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