

Boilers
Compressors
Chillers
Pipe Systems

HVAC & Refrigeration Applications

Pressure and Temperature Measurement



Mechanical Pressure

Refrigeration Gauge

WIKA's type 111.11RF 2½" gauges, which have an accuracy of ±1/2/5% of span, are designed as replacement gauges on refrigerant test manifolds. They have brass wetted parts and feature a twist-lock polycarbonate window and adjustment screw on the dial that allows for simple re-zeroing in the field. Additionally, this gauge has a special movement design to eliminate flutter, making the gauge easy to read.

111.11RF

Size
2½"

Case
Blue or red ABS

Wetted parts
Copper alloy

Window
Twist-lock polycarbonate

Accuracy
±1/2/5% of span



111.11RF blue
ABS shown

XSEL™ Process Gauge

WIKA XSEL™ process gauges are specifically designed for the petrochemical and processing industries. These durable gauges are engineered to provide reliable service in harsh and rugged environments.

212.34

Size
4½", 6"

Case
Black fiberglass reinforced thermoplastic

Ring
Threaded thermoplastic

Wetted parts
Copper alloy

Window
Acrylic

Accuracy
±0.5% of span (ASME B40.100 accuracy Grade 2A)



XSEL™

Panel Mount Gauge

WIKA's type 111.11PM is designed for a 2½" U-clamp panel mounting. It features a black ABS case and low friction Swiss movement to ensure a long, reliable service life. The 111.11PM design fits into 2½" U. S. size panel cut-outs.

111.11PM

Size
2½"

Case
Black ABS

Wetted parts
Copper alloy

Window
Twist-lock polycarbonate (twist-off, removable)

Accuracy
±3/2/3% of span (ASME B40.100 Grade B)



Ammonia Gauge

The WIKA type 232.53 refrigeration ammonia gauge is suitable for refrigeration ammonia or other liquid or gaseous media which are compatible with 316 SS and will not obstruct the pressure system. They can be liquid-filled in the field when used with refrigeration ammonia. The 232.53 2½" has an accuracy of ±2/1/2% of span and the 232.53 4" has an accuracy of ±1.0% of span.

232.53

Size
2½", 4"

Case
Stainless steel

Ring
Stainless steel crimped-on

Wetted parts
316 SS

Window
Polycarbonate

Liquid fill
Glycerine (232.53)

Accuracy
±2/1/2% of span (2½") (ASME B40.100 accuracy Grade A);
±1.0% of span (4") (ASME B40.100 accuracy Grade 1A)



Low Pressure Gauge

Extremely sensitive and highly accurate, the type 611.10 capsule gauge is designed to measure very low pressure. It is especially well suited for systems where air or other gases are the measured media, as well as other applications requiring exceptional sensitivity, precision and reliability.

611.10

Size
2½"

Case
Black painted steel

Wetted parts
Copper alloy

Window
Snap-in acrylic/zero adjustment screw on dial

Accuracy
±1.5% of span



Low Pressure Gauge

This low pressure DP gauge is designed to measure dry, clean non-aggressive gases and air. It is ideally suited to measure differential pressure in filtration systems, pressure monitoring for HVAC, air handlers, ventilation systems, clean rooms, gas scrubbers and dust collection systems.

A2G-10, A2G-15

Size
4½" (115 mm)

Case
Fiberglass reinforced, thermoplastic

Movement
Magnetic assist, non-contact

Window
Polycarbonate

Accuracy
±3.0% of span



A2G-10 shown

Contractor Gauge

WIKA's type 111.25CT 4½" gauges are specifically designed for the HVAC market as a contractor's gauge. This gauge features a stainless steel case, snap-in acrylic window, brass wetted parts, an adjustable pointer and has an accuracy of $\pm 1.0\%$ of span.

111.25CT

Size
4½"

Case
Stainless steel

Wetted parts
Copper alloy

Window
Snap-in acrylic

Accuracy
 $\pm 1.0\%$ of span (ASME B40.100 accuracy Grade 1A)



Hydraulic Gauge

The WIKA type 212.53 2½" gauge, with an accuracy of $\pm 2/1/2\%$ of span, features a stainless steel case and brass wetted parts for protection in harsh environments. The O-ring seal around the connection makes this gauge prepared for liquid filling; however, the type 213.53 2½" gauge is available with glycerine liquid-fill.

212.53, 213.53

Size
2", 2½", 4"

Case
304 SS

Ring
Polished stainless steel, crimped-on

Wetted parts
Copper alloy

Window
Polycarbonate

Liquid fill
Dry (212.53); glycerine (213.53)

Accuracy
 $\pm 2/1/2\%$ of span (2", 2½") (ASME B40.100, accuracy Grade A);
 $\pm 1.0\%$ of span (4") (ASME B40.100, accuracy Grade 1A)



Sprinkler Gauge

WIKA type 111.10SP 4" gauges are specifically designed and UL and FM approved for fire sprinkler service. This gauge features a black polycarbonate case, acrylic window and brass wetted parts. The 111.10SP has an accuracy of $\pm 3/2/3\%$ of span.

111.10SP

Size
4"

Case
Black polycarbonate

Wetted parts
Copper alloy

Window
Snap-in polycarbonate

Accuracy
 $\pm 3/2/3\%$ of span (ASME B40.100, Grade B)



Utility Gauge

WIKA's 111.10 lower mount (LM) and 111.12 center back mount (CBM) gauges are designed for long and reliable service under rugged conditions. The type 111.10 and 111.12 have an accuracy of $\pm 3/2/3\%$ of span. Both gauges are available in 1½", 2", 2½" and 4" to offer a wide variety of ranges and options.

111.10, 111.12

Size
1½", 2", 2½", 4"

Case
Black ABS plastic

Wetted parts
Copper alloy

Window
Snap-in acrylic

Liquid fill
Not applicable

Accuracy
 $\pm 3/2/3\%$ of span (ASME B40.100 accuracy Grade B)



111.10



111.12

Differential Gauges

This piston-style differential pressure gauge is designed for use with clean liquid or gaseous media where high differential pressure/static process pressures are required. The 700.04 and 700.05 are suitable for measuring pressure drops across a variety of devices, including filters, strainers, separators and heat exchangers. Switches are also available.

700.04, 700.05

Size
2½", 4½"

Case & bezel
Reinforced plastic

Sensor housing
316L SS or anodized aluminum

Wetted parts
Aluminum or 316 SS & ceramic magnet
Buna N separating membrane
(700.05 only)

Window
Acrylic or shatter-resistant glass

DP range
0-5 psid thru 0-100 psid

Working pressure
700.04 - 6,000 psig (400 bar)
700.05 - 3,000 psig (200 bar)

Accuracy
 $\pm 2\%$ of span (increasing)



700.04 - 2½"



700.05 - 4½"

Mechanical Temperature

3" Industrial Tamper-proof Thermometer

TI.33

WIKA's type TI.33 is an economical, industrial grade bimetal thermometer ideally used when a weather-resistant, tamper-proof thermometer is required. The TI.33 offers performance equal to WIKA's process grade thermometers and are warranted for one year.



3" Process Grade Thermometer

TI.30

The type TI.30, WIKA's process grade thermometer, is ideal for most rugged industrial temperature measurement applications. It is hermetically sealed and offers protection from both weather and dust. The TI.30 also has an external reset screw and a 7-year warranty.



3" Lower Mount Process Grade Thermometer

TI.31

WIKA's process grade type TI.31 features a lower mount connection and all the standard process grade bimetal features including a hermetic seal, an external reset and a 7-year warranty.



TI.30, TI.31, TI.33

Size
3"

Case & stem
304 SS

Stem lengths
2½" to 24" (TI.33)
2½" to 72" (TI.30, TI.31)

Case configuration
Center back mount (TI.33, TI.30)
Lower back mount (TI.31)

Connection
½" NPT

Dial
White aluminum; anti-parallax

Pointer
Black aluminum

Accuracy scale
±1.0% full scale value (ASME B40.3 Grade A)
single °F or °C or dual scale

Ranges
-100 ° to 1000 °F (and equivalent Celsius)

Surface Mount Thermometer

The type TI.ST is an economical, easy-to-use and accurate surface mount thermometer which attaches to any ferrous metal surface to give localized temperature indication.

TI.ST

Dial
2"

Depth
1/2"

Accuracy
±2% of full scale

Ranges
0 to 500 °F (-20 to 120 °C)



5" All-angle Process Grade Thermometer

WIKA's type TI.52 has a convenient all-angle swivel connection. The hermetically sealed case offers protection from weather and dust, and is guaranteed against fogging up. The TI.52 also has an external reset screw and a 7-year warranty.

TI.52

Size
5"

Case & stem
304 SS

Stem lengths
2½" to 72"

Case configuration
Adjustable angle

Connection
½" NPT

Dial
White aluminum; anti-parallax

Pointer
Black aluminum

Accuracy
±1.0% of full scale (ASME B40.3 Grade A)

Scale
Single °F or °C, or dual scale

Ranges
-100 ° to 1,000 °F (and equivalent Celsius)



Vapor Thermometers

WIKA's vapor actuated thermometers are highly accurate and provide remote reading. They are available in U-clamp, front flange or back flange case configurations. WIKA's vapor actuated thermometers are well suited for refrigeration, solar heating and water treatment applications.

TI.V20, TI.V25, TI.V35, TI.V45

Dial
2", 2½", 3½", 4½"

Case connection
Front flange, back flange, U-clamp

Connection
Plain, threaded union, thermowell

Capillary lengths
To 99'

Accuracy
±1% of reading or one scale division,
whichever is greater

Ranges
-40 °F (-40 °C) to 350 °F (176 °C)

Capillary
Copper - plain or with braid armor;
stainless steel - plain; stainless steel or
with stainless steel interlocking armor



TI.V35

Industrial Glass Thermometer

WIKA's industrial glass thermometers offer easy-to-read temperature measurements in tough applications. Their molded housings are impact resistant and offer excellent rigidity. The glass tubes are also shock resistant.

**TI.701, TI.901, TI.61102,
TI.61104, TI.62102, TI.62104**

Features

Blue spirit fill (non-mercury); guaranteed accuracy to within $\pm 1\%$ of full scale range; spring-mounted glass window to reduce rattles

7" & 9"

Completely adjustable locking case & stem; ranges to 550 °F (288 °C) in Fahrenheit, Celsius, and dual scale; available with or without thermowell

6"

Available with brass dual-threaded thermowell socket that fits both $\frac{1}{2}$ " and $\frac{3}{4}$ " NPT; ranges 40 °F (-40 °C) to 400 °F (200 °C) in Fahrenheit, Celsius and dual scale

TI.61102
shown



Solar Digital Thermometer

WIKA's solar industrial thermometer is an excellent alternative to mercury-in-glass. It eliminates toxic mercury and offers fast, accurate, easy-to-read temperature indications. Retro-fit design is a drop-in replacement for glass thermometers.

TI.D01

Range

-50 to 300 °F (-50/150 °C)

Accuracy

$\pm 1\%$ of reading or 1° (whichever is greater)

Sensor

Glass passivated thermistor - NTC

Lux rating

10 lux (one foot candle)

Stem

In full compliance with Fed Spec GG-T-321D



Pocket Test Thermometer

Type TI.1005 is a bimetal dial thermometer requiring no power to deliver its quick, accurate readings. The 1" dial is easy-to-read. Stem length is 5". Thermometer includes pocket case which can be used to hold the stem.

TI.1005

Range

-40/160 °F, 0/200 °F, 50/550 °F

Accuracy

$\pm 1\%$ of full scale

Stem

.142: diameter



Thermowells

Thermowells for temperature instruments are recommended for all processes with pressure, flow or where corrosive media is present. WIKA thermowells are available from a complete selection of base materials and for threaded, flanged or welded.

**TW.FL / TW10, TW.TH / TW15, TW.SW / TW20,
TW.WI / TW25, TW.SC / TW30**

Process connections

Threaded, flanged, welded, sanitary

Instrument connection

$\frac{1}{2}$ " NPSM standard

Shank configurations

Stepped, straight, tapered

Bore diameter

.260", .385"

Materials

Brass, AISI 304, AISI 316, (other materials available)

WIKA also carries a full line of thermowells for standard industrial glass and solar industrial thermometers. The thermowells are available in a variety of materials and lengths, and are manufactured to fit stems in compliance with Fed Spec GG-T-321D.

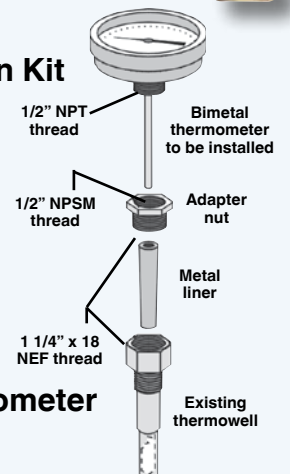


Thermowell Conversion Kit

T-85

This conversion kit offers an easy, inexpensive way to install a WIKA bimetal thermometer in a glass industrial thermometer's thermowell. To order, specify part number TA800-0T85.

Part Number- TA800-0T85



2" Utility Grade Thermometer

TI.20

WIKA's type TI.20 bimetal thermometer is a high-quality, tamper-proof and economical thermometer designed for limited space and OEM applications.

Size

2"

Case & stem

304 SS

Stem lengths

2 $\frac{1}{2}$ " to 24"

Case configuration

Center back mount

Connection

$\frac{1}{4}$ " NPT

Dial

White aluminum; anti-parallax

Pointer

Black aluminum

Accuracy

$\pm 1.0\%$ full scale value (ASME B40.3 Grade A)

Scale

Single °F or °C or dual scale

Ranges

-100 ° to 1000 °F (and equivalent Celsius)



Electronic Pressure, Accessories

Refrigeration and Air Conditioning

The R-1 and AC-1 pressure transmitters are specifically designed for refrigeration and air conditioning pressure monitoring applications. The R-1 features stainless steel construction and a completely welded measuring cell. The economical AC-1 features a brass case and ceramic sensing element. Both provide condensation-proof construction for long service life.

R-1, AC-1

Ranges

100 psi - 850 psi, compound

Output

4-20 mA, 0-10 V,
0.5 - 4.5 V ratiometric

Accuracy

<1% B.F.S.L



R-1

AC-1

Special Purpose Transmitter

The WIKA DP-10 pressure transmitter is designed for the measurement of extremely low gauge and differential pressures of clean, dry, inert, gaseous media. The transmitter uses a linear variable differential transformer (LVDT sensor) for exceptional sensitivity and performance at extremely low pressures. Applications for the DP-10 include HVAC draft flow control and monitoring, pollution control monitoring systems, dust collection systems and medical equipment.

DP-10

Ranges

30" - 0 HgVac to 15,000 psi

Output

4-20 mA

Accuracy

±1% of full scale



Mini-siphon

910.24

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.



Snubbers

910.12.100

Porous Snubbers

WIKA's porous snubbers are intended to suppress the effect of pressure pulses and pressure peaks and incorporate a fixed mesh disk.

910.12.200

Piston Snubbers

WIKA's piston snubbers are suitable for general purpose applications and are supplied with five pistons to adapt to different applications.

910.12.300

Throttling Snubbers

WIKA's adjustable snubbers include an adjustable needle valve which will considerably increase the service life of a pressure gauge in extreme operating conditions.

910.12.100, 910.12.200, 910.12.300

Pressure connection

¼" NPT or ½" NPT male x female

Material

Brass or stainless steel

O-ring material (adjustable snubber only)

Brass: Buna-N Stainless steel: Viton®

Pressure rating

Brass: 3,400 psi to 5,800 psi;
Stainless Steel: 5,800 psi to 15,000 psi

Temperature rating

14 °F to 248 °F (-10 °C to 120 °C)

Siphons

910.15.100, 910.15.200



910.15.200
Coil Siphon

910.15.100
Pigtail Siphon

Gauge siphons protect gauges 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 (pigtails) installations.

Materials

Brass, steel A120 (schedule 40), Steel A106B (schedule 80 & 160), 316 SS (schedules 80 & 160), Chrome Moly steel (A335 P22), XX Heavy

Media temperature reduction

Approximately 75 °F for each 1 foot lineal section of pipe;
Actual reduction dependent on process/application variables.

Mini-needle Valve

Mini-needle valves isolate the pressure gauge from the pressure medium and act as a throttling device. They can also effectively dampen pulsation.

Type 910.11.100

Operating temperature

Media: max. 200 °F (+93 °C);
min. 0 °F (-18 °C)

Flow rate

Max. $C_v = 0.42$

Orifice size

0.172" (4.37mm)

Brass model

Pressure rating

3,000 psi

Valve body, bonnet, valve stem

Brass

Handle

Knurled knob, brass

Handle bolt

Brass, 360

Stem seals

Viton® O-ring, Teflon® back-up ring

Carbon steel model

Pressure rating

6,000 psi

Valve body

Carbon steel

Bonnet

Carbon steel, 12L14

Valve stem

316 SS

Handle

"T", carbon steel

Handle bolt

Carbon steel, 12L14

Stem seals

Viton® O-ring, Teflon® back-up ring

Stainless steel model

Pressure rating

6,000 psi

Valve body, bonnet, valve stem

316 SS, electropolished

Handle

"T", 316 SS, electropolished

Handle bolt

Stainless steel

Stem seals

Viton® O-ring, Teflon® back-up ring



Gauge Cock

WIKA gauge cocks provide an economical method for isolating the instrument from the process. They also provide an adjustable flow orifice and are rated at 200 psi.

910.10

Pressure rating

Brass: 200 psi

Operating temperature

Media: max 140 °F (+93 °C);
min. 0 °F (-18 °C)

Valve body

Brass

Handle

Brass, available with "T"
or lever type handle

Stem seals

None

Standard threaded connection size

¼" NPT or ½" NPT M & F



Pressure & Temperature Plug (P & T)

Pressure & Temperature plugs allow multiple process sampling ports, with the addition of instruments. Equipped with a self-sealing pierceable rubber diaphragm and rated at 1,000 psi and 200 °F (350 °F available).

910.14.100

Pressure rating

1,000 psi

Pressure connection

¼" NPT or ½" NPT male

Material

Brass body; neoprene or norderl
diaphragm core

Self-sealing

Neoprene or norderl diaphragm material

Temperature rating

Neoprene 32-200 °F max.; Nordel 32-350 °F max.



Couplings for Siphons

WIKA offers couplings in a variety of connection sizes and materials. Couplings can be used for adapting siphons and gauges to the process to be measured.

910.14.300

Male-male adaptor

For joining two male
connections (e.g. pressure
gauge and gauge siphon)

Pressure connection

¼" and ½" NPT female

Materials

Brass, carbon steel, 316 SS





**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.



**Field Liquid-fillable
Industrial Gauge**

213.53



**Refrigeration and
Air Conditioning
Pressure Transmitter**

AC-1

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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