

High Purity & Ultra High Purity Pressure and Weight Measurement



Electronic Pressure Measurement

High Purity & Ultra High Purity - Pressure and Weight Measurement

WIKA offers a wide variety of gas and chemical delivery products engineered to the demanding standards of the semiconductor and photovoltaic industries.

Industry Driven Products

WIKA's High Purity and Ultra High Purity products are designed to the rigorous standards and recommendations relevant to the manufacturing of photovoltaic cells and modules (ASME, SEMATECH, SEMI, RoHS and NEMA) and to the semiconductor market and its governing agencies (ASME, SEMATECH and SEMI).

Innovative Custom Designs

A team of development engineers provide customized designs to meet customer specific applications and requirements.

Superior Quality

Comprehensive quality control and engineering efforts ensure that every WIKA instrument is built to last.

Application Examples

- Photovoltaic production
- Semiconductor, microelectronics and flat panel display production
- Gas panels for OEM tools
- Specialty and bulk-gas distribution
- Gas cabinets, gas panels, gas sticks and valve manifold boxes (VMB)
- Chemical distribution systems

Gas Cylinder Scales

GCS-1

WIKA's Gas Cylinder Scales are engineered and designed for liquid delivery sources used in both indoor and outdoor hazardous and nonhazardous applications.

Ranges

0 ... 300 lbs
(approximately 136 kg)
0 ... 100 lbs
(approximately 45 kg)
0 ... 60 lbs
(approximately 27 kg)

Output

4-20mA (all units), 0-5VDC
(only for 300 lbs units)

Accuracy
< 0.1% RSS

Dimensions
9.25" x 9.25" x 1.25"
(235 mm x 235 mm x 32 mm)

Ingress Protection
NEMA 4 / IP65



Attachable Indicators

WUR-1

WIKA's Attachable Indicators provide a local display of the process pressure measured by the transducer. In addition, the indicators provide an analog output signal (current or voltage as provided by the transducer) and two programmable switch points.

Display Design

7-segment LED (red); 4 digits

Programmable Pressure Units

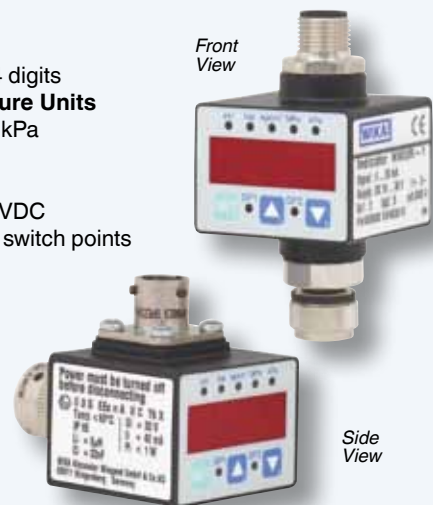
Bar, PSI, kg/cm², MPa, kPa

Outputs

4-20mA, 0-5VDC, 0-10VDC
2 NPN (open collector) switch points

Accuracy
< 0.5% RSS +/- 1 digit

Ingress Protection
IP65



Ultra High Purity Transducers

WUC-10, WUC-15, WUC-16

The ultra compact design of the WUC series transducer meets the smallest product footprint requirements. The space-saving design easily replaces comparable transducers, making it the perfect fit for new equipment and retrofit projects.

Ranges

15 psi to 5,000 psi
(and other equivalent pressure units)
Vacuum, compound, absolute, gauge

Output

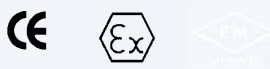
4-20mA, 0-5VDC, 0-10VDC

Accuracy

< 0.20% RSS

Ingress Protection

NEMA 4 / IP65
(side access zero point adjustment)



WU-20, WU-25, WU-26

The WU-2 series transducer combines state-of-the-art digital transducer concepts with analog-like output signals to provide the safest and most accurate pressure measurements necessary for today's demanding market requirements.

Ranges

15 psi to 5,000 psi
(and other equivalent pressure units)
Vacuum, compound, absolute, gauge

Output

4-20mA, 0-5VDC, 0-10VDC

Accuracy

< 0.15% RSS

Ingress Protection

NEMA 4 / IP65
(side access zero point adjustment)



WU-10, WU-15, WU-16

Ranges

15 psi to 5,000 psi
(and other equivalent pressure units)
Vacuum, compound, absolute, gauge

Output

4-20mA, 0-5VDC, 0-10VDC

Accuracy

< 0.25% RSS

Ingress Protection

NEMA 3 / IP54
(side access zero point adjustment)



Mechanical Pressure Measurement

High Purity Gauges

130.15

The 130.15 is the ideal gauge for specialty gas, high purity and PV applications in systems using NPT connections.

Gauge Type

Bourdon tube

Size

2" (53 mm)
1½" (40 mm)

Accuracy

2": 2/1/2 % of span (ASME B40.100 Grade A)
1½": 3/2/3 % of span (ASME B40.100 Grade B)

Case

304 stainless steel, electropolished

Wetted Surface

316L stainless steel
Ra < 1.0µm (Ra < 40µinch)-internal

Connection Type and Position

¼" NPT Lower Mount and Center Back Mount

Testing

Helium leak tested 1 x 10⁻⁹ scc/sec (inboard)

Cleanliness

ASME B40.1, level IV (for oxygen service)

Packaging

Single nylon bag, nitrogen purged



Ultra High Purity Gauges

230.15

The 230.15 is the right choice for specialty gas, high purity, PV and SEMI applications in systems using face-seal connections.

Gauge Type

Bourdon tube

Size

2" (53 mm)
1½" (40 mm)

Accuracy

2": 2/1/2 % of span (ASME B40.100 Grade A)
1½": 3/2/3 % of span (ASME B40.100 Grade B)

Case

304 stainless steel, electropolished

Wetted Surface

316L stainless steel electropolished
Ra < 0.25µm (Ra < 10µinch)

Connection Type and Position

¼" face seal, Lower Mount and Center Back Mount

Testing

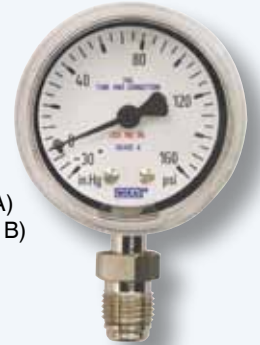
Helium leak tested 1 x 10⁻⁹ scc/sec (inboard)

Cleanliness

Special cleaning according to SEMI spec

Packaging

Cleaned, nitrogen purged and double bagged in clean room



Ultra High Purity Gauges

230.25

The 230.25 is best suited for applications that insist on VIM/VAR wetted parts and face-seal connections.

Gauge Type

Bourdon Tube

Size

2" (53 mm)
1½" (40 mm)

Accuracy

2": 2/1/2 % of span (ASME B40.100 Grade A)
1½": 3/2/3 % of span (ASME B40.100 Grade B)

Case

304 stainless steel, electropolished

Wetted Surface

316L stainless steel VIM/VAR, electropolished
Ra < 0.25µm (Ra < 10µinch)

Connection Type and Position

¼" face seal, Lower Mount and Center Back Mount

Testing

Helium leak tested 1 x 10⁻⁹ scc/sec (inboard)

Cleanliness

Special cleaning according to SEMI spec

Packaging

Cleaned, nitrogen purged and double bagged in clean room



Ultra High Purity Gauges

432.25

The 430.25 is the perfect gauge for low pressure, point-of-use applications. The gauge's diaphragm design reduces particle generation and increases dry-down times.

Gauge Type

Diaphragm

Size

2" (53 mm), 1½" (40 mm), 1½" (28 mm)

Accuracy

2": 3/2/3 % of span (ASME B40.100 Grade B)
1½": 4/3/4 % of span (ASME B40.100 Grade C)
1½": 4/3/4 % of span (ASME B40.100 Grade C)

Case

304 stainless steel, electropolished

Wetted Surface

316L stainless steel electropolished
Ra < 0.25µm (Ra < 10µinch)

Connection Type and Position

¼" face seal, flow-through
1½" C seal

Testing

Helium leak tested 1 x 10⁻⁹ scc/sec (inboard)

Cleanliness

Special cleaning according to SEMI spec

Packaging

Cleaned, nitrogen purged and double bagged in clean room



432.25, 2"



432.25, 1½"



432.25, 1½"

Indicating Pressure Switch Gauges

Used in gas delivery applications, WIKA's Indicating Pressure Switch (IPS) Gauges are available with either a magnetic reed or inductive switch alarm contact. Alarm contacts provide safe and reliable monitoring and control of process gases.

Magnetic Reed Switch Gauges

230.15, 230.25 + 851.3 Alarm Contact

Gauge Type
Bourdon tube

Switch Type
Magnetic Reed

Size
2" (53 mm)

Accuracy
2": 2/1/2 % of span
(ASME B40.100 Grade A)

Case
304 stainless steel, electropolished

Wetted Surface
230.15: 316L stainless steel
electropolished Ra < 0.25µm (Ra < 10µinch)

230.25: 316L stainless steel VIM/VAR
electropolished Ra < 0.25µm (Ra < 10µinch)

Connection Type and Position
230.15: ¼" face seal Lower Mount and
Center Back Mount (NPT option available)

230.25: ¼" face seal Lower Mount and Center Back Mount

Testing
Helium leak tested 1×10^{-9} scc/sec (inboard)

Cleanliness
Special cleaning according to SEMI spec

Packaging
Cleaned, nitrogen purged and double bagged in clean room



Inductive Switch Gauges

130.15, 230.15, 230.25 + 830.1E Alarm Contact

Gauge Type
Bourdon tube

Switch Type
Inductive, NPN or PNP

Size
2" (53 mm)

Accuracy
2": 2/1/2 % of span
(ASME B40.100 Grade A)

Case
304 stainless steel, electropolished

Wetted Surface
130.15: 316L stainless steel
Ra < 1.0µm (Ra < 40µinch)-internal

230.15: 316L stainless steel electropolished
Ra < 0.25µm (Ra < 10µinch)

230.25: 316L stainless steel VIM/VAR, electropolished
Ra < 0.25µm (Ra < 10µinch)

Connection Type and Position
130.15: ¼" NPT Lower Mount and Center Back Mount

230.15: ¼" face seal Lower Mount and Center Back Mount

230.25: ¼" face seal Lower Mount and Center Back Mount

Testing
Helium leak tested 1×10^{-9} scc/sec (inboard)

Cleanliness
130.15: ASME B40.1, level IV (for oxygen service)

230.15: Special cleaning according to SEMI spec

230.25: Special cleaning according to SEMI spec

Packaging
130.15: Single nylon bag, nitrogen purged

230.15: Cleaned, nitrogen purged and
double bagged in clean room

230.25: Cleaned, nitrogen purged
and double bagged in clean room



Pressure Gauges for High Purity and Ultra High Purity Applications



	HP		UHP	
Model	130.15		230.15	
Nominal size	1½" (40 mm)	2" (53 mm)	1½" (40 mm)	2" (53 mm)
Window type / material	snap-in / polycarbonate	twist-lock / polycarbonate	snap-in / polycarbonate	twist-lock / polycarbonate
Scale range	-1 ... 0 bar 0 ... 1000 bar		-30 inHG ... 0 psi 0 ... 14,500 psi	
Accuracy				
Class according to ASME B40.1	Grade B	Grade A	Grade B	Grade A
% of span	± 3/2/3	± 2/1/2	± 3/2/3	± 2/1/2
Design				
Gauge type	Bourdon tube gauge			
Tube or diaphragm material	316L stainless steel			
Measurement system design	standard design		gap free design	
Socket or lower part material	316L stainless steel			
Pointer	black, aluminum			
Dial	white, aluminum			
Case	304 stainless steel electropolished			
Window	polycarbonate			
Wetted surface treatment				
Bourdon tube	O ₂ cleaned acc. ASME Level IV		internal surface passivated (ASTM A967)	
Measuring system			Dynaflow extrude hone passivated after welding Ra < 0.5µm (Ra < 20µinch)	
Process connection				
Standard	1/4" NPT male wetted surface finish: Ra < 1.0µm (Ra < 40µinch) - internal		1/4" face seal wetted surface electropolished Ra < 0.25µm (Ra < 10µinch)	
Option	1/4" face seal weld stub		1/4" NPT male weld stub	
Cleaning treatment				
Production environment	manufactured on standard work floor		manufactured in cleanroom	
Calibration medium	pure nitrogen			
Cleanliness	ASME B40.1, level IV (for oxygen service)		special cleaning according to SEMI spec	
Packing	single nylon bag, nitrogen purged		cleaned, nitrogen purged and double bagged in cleanroom	
Alarm contacts				
Inductive switch	—	830.1E(NPN) 830.1E(PNP)	—	830.1E(NPN) 830.1E(PNP)
Magnetic reed switch	—	851.3	—	851.3

Legend: Standard Standard + Standard ++



UHP		UHP Flow-through gauges		
230.25		432.25		
1½" (40 mm)	2" (53 mm)	1½" (28 mm)	1½" (40 mm)	2" (53 mm)
snap-in / polycarbonate	twist-lock / polycarbonate	snap-in / polycarbonate		twist-lock / polycarbonate
-1 ... 0 bar 0 ... 400 bar	-30 inHG ... 0 psi 0 ... 6000 psi	-1 ... 4 bar -1 ... 9 bar	-30 inHG ... 60 psi -30 inHG ... 130 psi	
Grade B	Grade A	Grade C		Grade B
± 3/2/3	± 2/1/2	± 4/3/4		± 3/2/3
higher accuracy on request				
Bourdon tube gauge		Diaphragm gauge		
316L stainless steel		Inconel		
gap free design		no dead space - excellent to purge		
316L VIM/ VAR		316L stainless steel		
black, aluminum				
white, aluminum				
304 stainless steel electropolished				
polycarbonate				
internal surface passivated (ASTM A967)		---		
Dynaflow extrude hone, passivated and electropolished after welding. Ra < 0.25µm (Ra < 10µinch)		all wetted surface of lower part electropolished. Ra < 0.25µm (Ra < 10µinch)		
1/4" face seal	MSM 1 1/8"	1/4" face seal fixed male only	1/4" or 1/2" face seal	
wetted surface electropolished Ra < 0.25µm (Ra < 10µinch)				
316L VIM/VAR gland	—		weld stub	
weld stub	—		weld stub	
manufactured in cleanroom				
pure nitrogen				
special cleaning according to SEMI specification				
cleaned, nitrogen purged and double bagged in cleanroom				
—	830.1E(NPN) 830.1E(PNP)	—	—	—
—	851.3	—	—	—



**ISO 9001
Certified**

For over 60 years, WIKAI Instrument Corporation has continuously advanced pressure gauge, transmitter and temperature measurement instrumentation. As the global leader in lean manufacturing, WIKAI offers a broad selection of stock and custom instrumentation solutions, which are often available for distribution within days. Producing over 40 million gauges, diaphragm seals, transmitters and thermometers worldwide annually, WIKAI's extensive product line provides measurement solutions for any application. The WIKAI 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 WIKAI productive and progressive.



UHP Gauge

230.15



UHP Transducer

WUC-15

WIKAI 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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Pressure and Temperature Measurement**

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