

Bourdon Tube Pressure Gauges Ultra High Purity (UHP) Series Type 230.15

WIKA Datasheet 230.15

Applications

- Semiconductor and electronic industry, medical industry, gene technology, biotechnology and pharmaceutical industries.
- Suitable for corrosive environments and gaseous or liquid media that will not obstruct the pressure system
- Where measurement of high purity gases is needed without contamination of the process media.

Special features

- 316L wetted parts
- Electro-polished SS case & face-seal connection
- Positive and compound pressure ranges to 10,000 psi

Standard Features

Design

ASME B40.100

Sizes

2" (53 mm)

1 1/2" (40 mm)

Accuracy Class

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

1 1/2": $\pm 3/2/3\%$ of span (ASME B40.100 Grade B)

Ranges

Vacuum / compound to 30"Hg/0/200 psi

Pressure from 0 psi up to 10,000 psi

or other equivalent units of pressure or vacuum

Working Pressure

Steady: 3/4 scale value

Fluctuating: 2/3 full scale value

Short time: full scale value

Operating Temperature

Ambient: -40°F to +140°F (-40°C to +60°C)

Medium: +212°F (+100°C) maximum

Temperature Error

Additional error when temperature changes from reference temperature of 68°F (20°C) $\pm 0.4\%$ for every 18°F (10°C) rising or falling. Percentage of span.

Weather Protection

Weather resistant (NEMA 3 / IP 54)



Bourdon Tube Pressure Gauge Model 230.15

Pressure Connection

Material: Face-seal nut 316 stainless steel

Face-seal gland 316L

Position: Lower mount (LM)

Center back mount (CBM)

Type of Connection: Face-seal fixed male

Swivel male or female

Wetted Surface Finish: $R_a < 0.25\mu\text{m}$ ($R_a < 10\mu\text{inch}$)-internal

Pressure Connection Option, NPT

Material: 316L stainless steel

Position: Lower mount (LM) & center back mount (CBM)

Type of connection: 1/4" NPT - male

Wetted surface finish: $R_a < 1.0\mu\text{m}$ ($R_a < 40\mu\text{inch}$)-internal

Bourdon Tube

Material: 316L stainless steel

30"Hg (vac) to 1,000 psi, C-type

1,500 to 10,000 psi, helical type

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

Socket

Material: 316L stainless steel

$R_a < 0.5\mu\text{m}$ ($R_a < 20\mu\text{inch}$) - internal

Movement

Stainless steel

Dial

White aluminum with stop pin and black lettering

Pointer

Black aluminum

Case

304 stainless steel, electropolished

Window

Polycarbonate: twist-lock (2"); snap cap (1 1/2")

(Standard Features continued on Page 2 of 7)

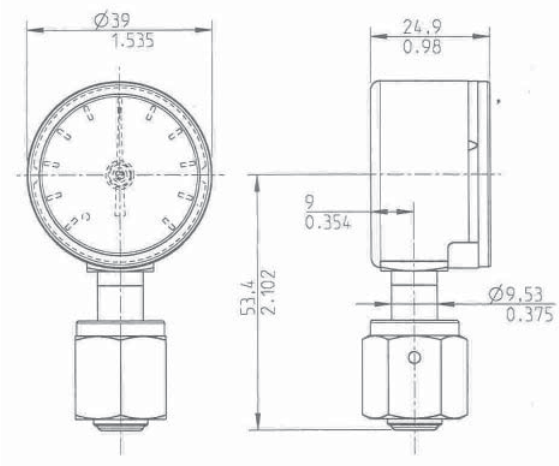
Cleanliness

UHP 'clean' for semiconductor gas applications -
 in accordance with SEMI/SEMATECH
 Cleaned and packed in class 100/10 cleanroom
 Packaged in two bags
 Purged with Nitrogen
 Protective cap over threaded connection

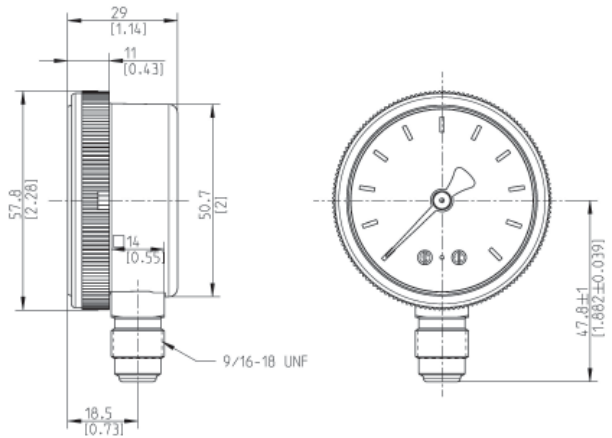
Order Options (minimum order may apply)

Alarm contact (830.1E), inductive
 Other special connections limited to wrench flat area
 Custom dial layout
 Stainless steel restrictor
 Particle test with certificate
 Dual pressure scales
 Additional process wetted materials available per request

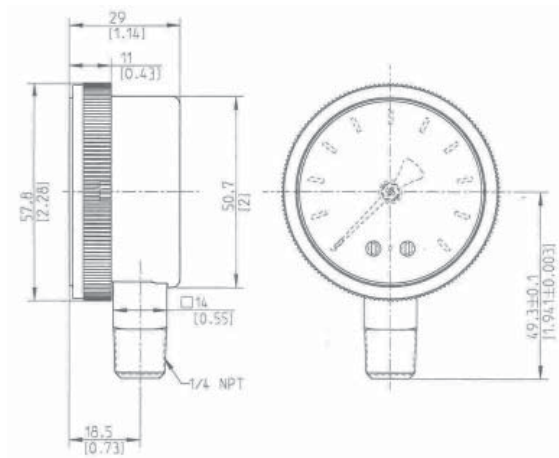
Dimensions



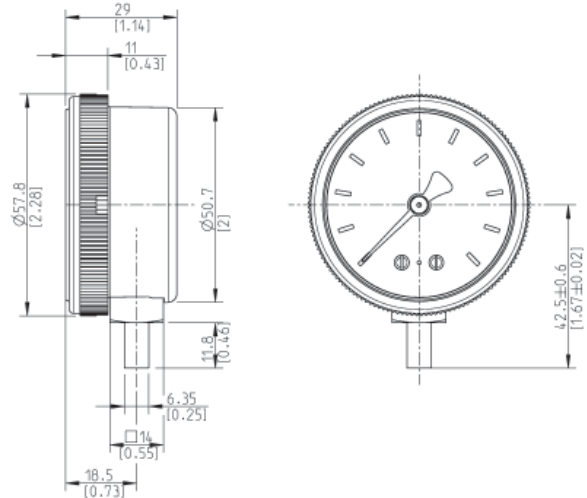
230.15 1½" LM
 FACE SEAL FEMALE SWIVEL (FSF)



230.15 2" LM
 FACE SEAL FIXED MALE (FSFM)

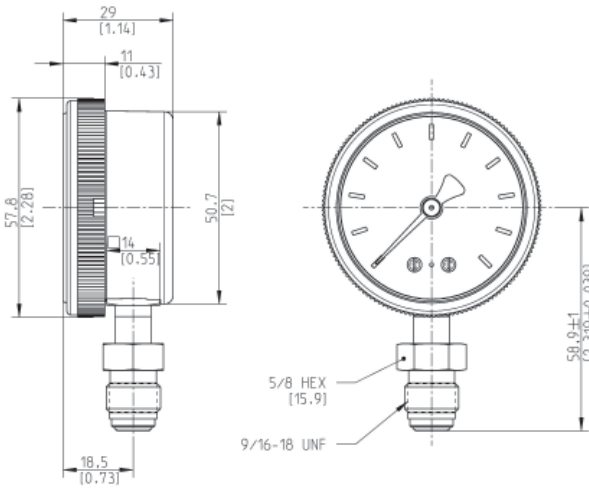


230.15 2" LM
 ¼" NPT-MALE (NPTM)

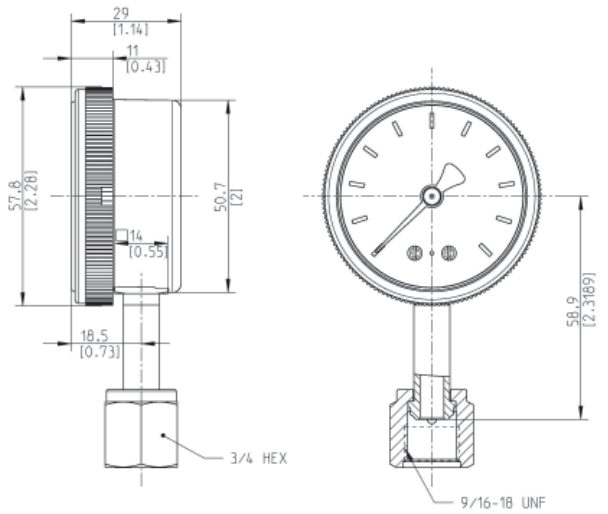


230.15 2" LM
 ¼" WELD STUB

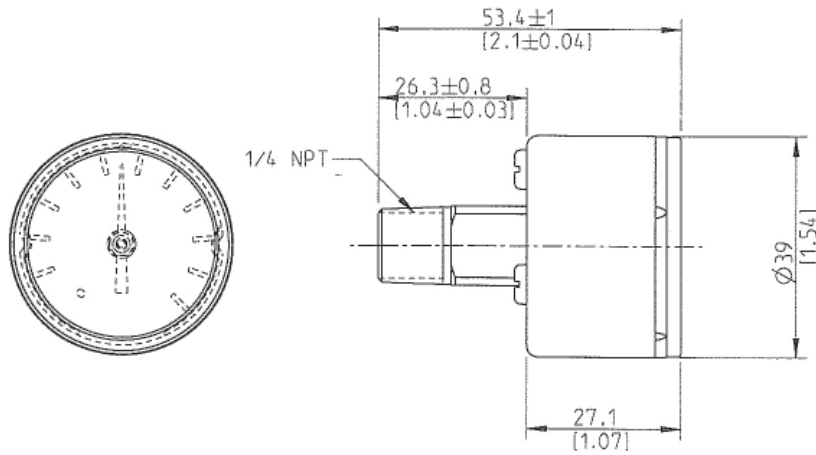
Dimensions



**230.15 2" LM
FACE SEAL MALE SWIVEL (FSM)**

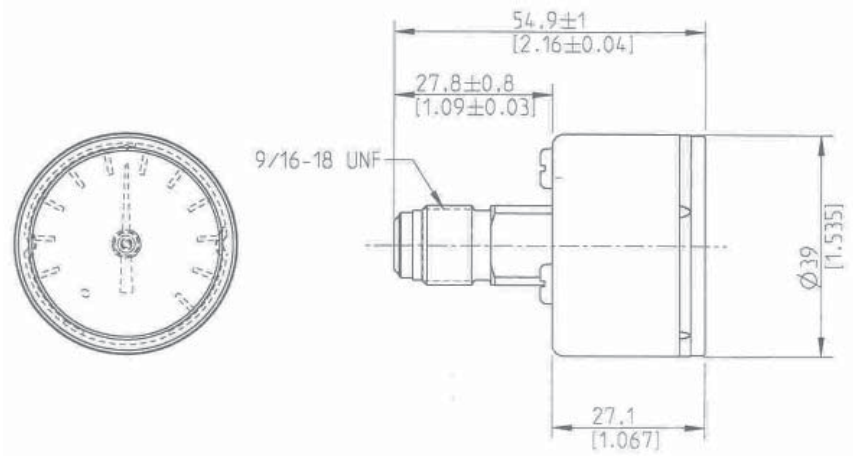


**230.15 2" LM
FACE SEAL FEMALE SWIVEL (FSF)**

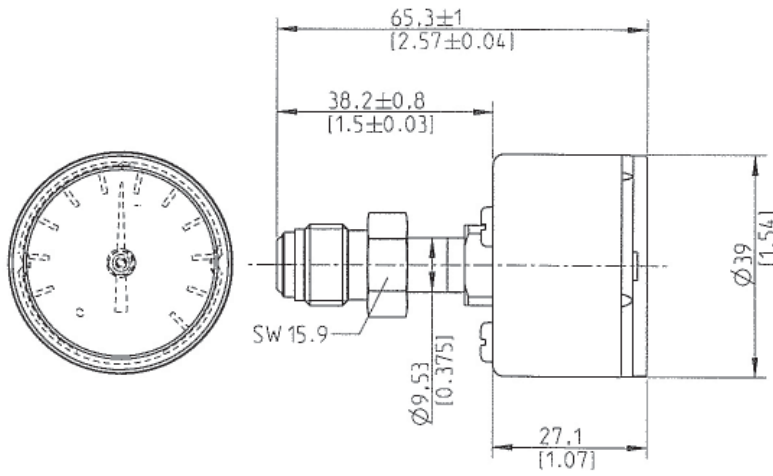


**230.15 1 1/2" CBM
1/4" NPT-MALE (NPTM)**

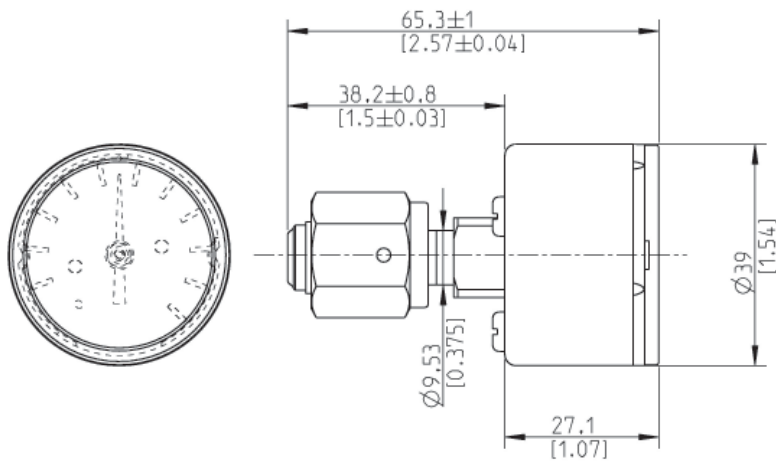
Dimensions



230.15 1 1/2" CBM
FACE SEAL FIXED MALE (FSFM)

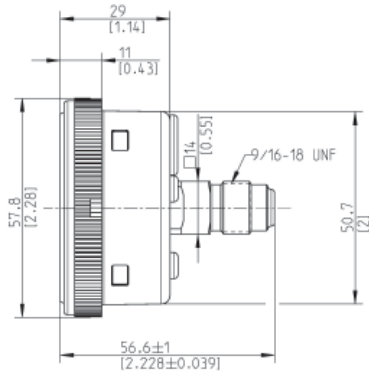


230.15 1 1/2" CBM
FACE SEAL MALE SWIVEL (FSM)

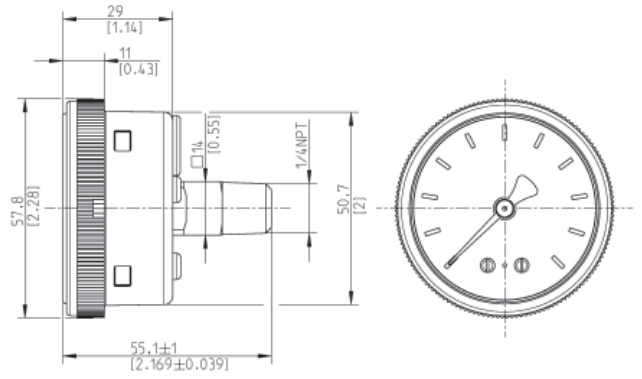


230.15 1 1/2" CBM
FACE SEAL FEMALE SWIVEL (FSF)

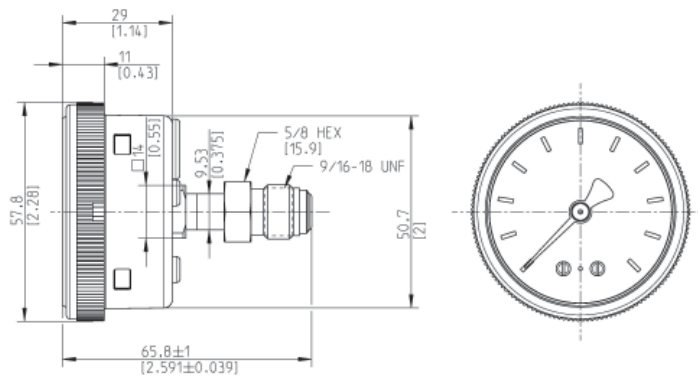
Dimensions



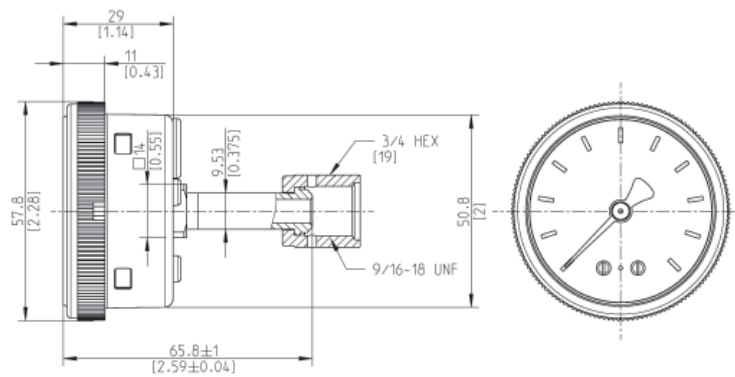
**230.15 2" CBM
FACE SEAL FIXED MALE (FSFM)**



**230.15 2" CBM
1/4" NPT-MALE (NPTM)**

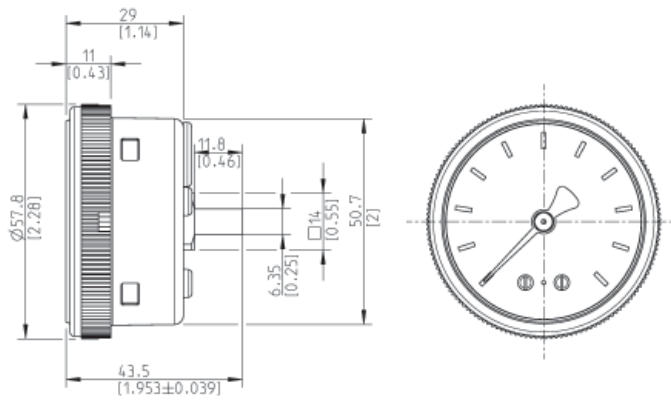


**230.15 2" CBM
FACE SEAL MALE SWIVEL (FSM)**

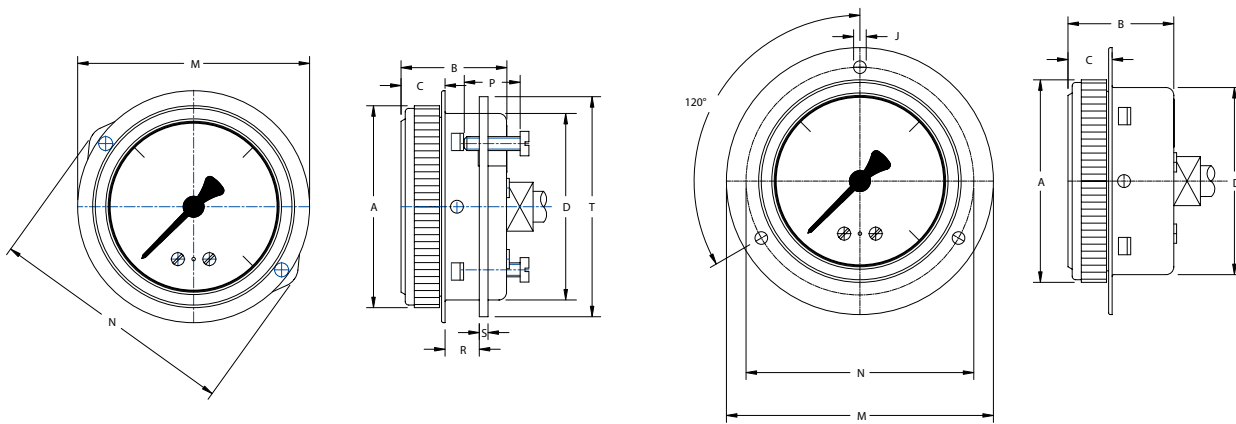


**230.15 2" CBM
FACE SEAL FEMALE SWIVEL (FSF)**

Dimensions



**230.15 2" CBM
1/4" WELD STUB**



**230.15 2" CBM
U-CLAMP OPTION**

**230.15 2" CBM
FRONT FLANGE OPTION**

TYPE/SIZE	WEIGHT	KEY	A	B	C	D	J	M	N	P	R	S	T
230.15 2" CBM / UC	0.44 lbs.	mm	57.8	30.3	12.6	53.4	-	66.4	71	16	9.80	2.5	63
		in	2.28	1.19	0.50	2.10	-	2.61	2.80	0.63	0.39	0.10	2.48
230.15 2" CBM / FF	0.38 lbs.	mm	57.8	30.2	12.6	53.4	3.6	76.2	65	-	-	-	-
		in	2.28	1.19	0.50	2.10	0.14	3.0	2.56	-	-	-	-

Recommended panel cutout = 55 mm (2.17 in.)

Case	304 stainless steel, electropolished
Wetted Material	316L stainless steel, electropolished
Window	Polycarbonate
Dial	Aluminum, white with stop pin
Pointer	Aluminum black
Accuracy	2" +/- 2/1/2% of span (ASME B40.1 Grade A) 1 1/2" +/- 2/3/2% of span (ASME B40.1 Grade B)
Cleanliness	UHP 'clean' for semiconductor gas applications - in accordance with SEMI/SEMATECH
Packaging	Double plastic bagged, nitrogen purged

Code		Features	
		Nominal Size, Case	
1	A	1.5" (40mm)	
	B	2.0" (50mm)	
		Unit, Primary Scale	
2	P	psi	
	B	Bar	
	L	kPa	
	E	MPa	
	K	Kg/cm2	
	?	other - please specify	
		Range	
3	V310	-30 inHg...0	
	V321	-30inHg...15 psi	
	V331	-30 inHg...30 psi	
	V352	-30 inHg...60 psi	
	V379	-30 inHg...100 psi	
	V412	-30 inHg...160 psi	
	V415	-30 inHg...200 psi	
	V422	-30 inHg...300 psi	
	G310	0 psi...15 psi	
	G321	0 psi...30 psi	
	G341	0 psi...60 psi	
	G369	0 psi...100 psi	
	G411	0 psi...160 psi	
	G414	0 psi...200 psi	
	G421	0 psi...300 psi	
	G428	0 psi...400 psi	
	G441	0 psi...600 psi	
	G455	0 psi...800 psi	
	G469	0 psi...1000 psi	
	G510	0 psi...1500 psi	
	G514	0 psi...2000 psi	
	G521	0 psi...3000 psi	
	G528	0 psi...4000 psi	
	G541	0 psi...6000 psi	
	G569	0 psi...10000 psi	
	???	Other - Please Specify (psi)	
			Unit, Secondary Scale
	4	Z	Without
		P	psi
		B	Bar
L		kPa	
E		MPa	
?		other - please specify	

	Process connection	
	WH	1/4" Face Seal Male Swivel (FSM)
	WI	1/4" Face Seal Swivel Female (FSF)
	WG	1/4" Face Seal Fixed Male (FSFM)
	WK	1/2" Face Seal Male Swivel
	WL	1/2" Face Seal Female Swivel
	NB	1/4" NPT-male (NPTM)
	VN	1/4" Weld Stub
	WN	3/8" "T"-Connector
5	???	Other-Please Specify
	Connector position	
	B	Center Back Mount
	U	Lower Mount
6	?	other - please specify!
	Mounting Flange/Bracket	
	Z	Without
	K	Panel Mount with SS Mounting Bracket (2" Case Only)
	F	Front Flange, Polished SS (2" Case Only)
7	?	other - please specify
	Switch Type	
	Z	Without
	N	Inductive NPN (2" Case Only) 830.1E
	P	Inductive PNP (2" Case Only) 830.1E
8	R	Reed (2" Case Only)
	Switch Function	
	Z	Without
	1	Normally Open
	2	Normally Closed
9	3	Single Pole Changeover
	Electrical Connection	
	ZZ	Without
	DA	Flying Leads
	M4	Circular Connector M12 x 1, 4-Pin (Reed Switch Only)
10	?	Other - Please Specify
	Quality certificates	
	Z	without
11	?	other - please specify
	Additional order details	
	Z	without
12	T	additional text

Order Code:

1 2 3 4 5 6 7 8 9 10 11 12
 230.15 - - - - - -