

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 SS wetted parts
- Electro-polished stainless steel 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 5000 psi
or other equivalent units of pressure or vacuum

Working Pressure

Steady: $\frac{3}{4}$ full-scale value
Fluctuating: $\frac{2}{3}$ 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



Bourdon Tube Pressure Gauge Model 230.15

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)

Pressure Connection

Material: Face-seal nut, 316 SS
Face-seal gland, 316L SS
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

Bourdon Tube

Material: 316L SS
30" Hg (vac) to 1,000 psi, C-type
1,500 to 5000 psi, helical type
Helium leak tested 1×10^{-9} scc/sec (inboard)

Socket

Material: 316L SS
 $R_a < 1.0\mu\text{m}$ ($R_a < 40\mu\text{inch}$) - internal

(Standard Features continued on Page 2 of 8)

Movement

Stainless steel

Dial

White aluminum with stop pin and black lettering

Pointer

Black aluminum

Case

304 SS, electropolished

Window

Polycarbonate: twist-lock (2"); snap cap (1½")

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

Packaged in two bags

Other special connections limited to wrench flat area

Custom dial layout

Stainless steel restrictor

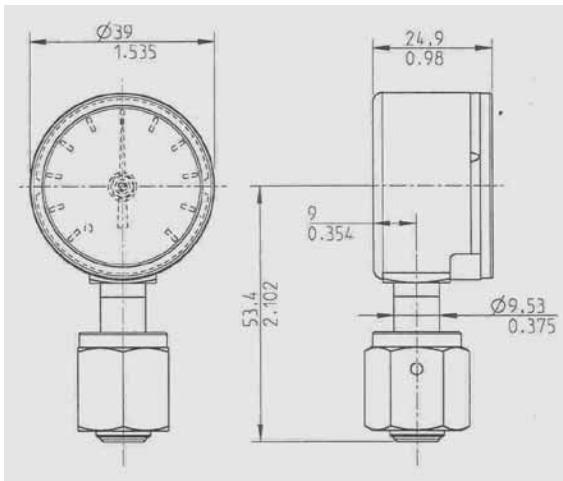
Particle test with certificate

Dual pressure scales

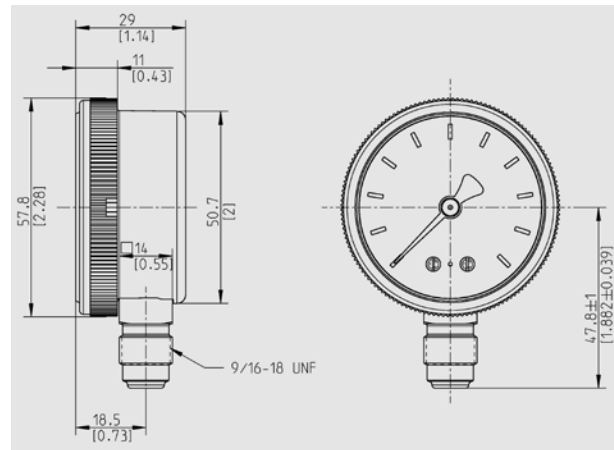
Additional process wetted materials available per request

Dimensions

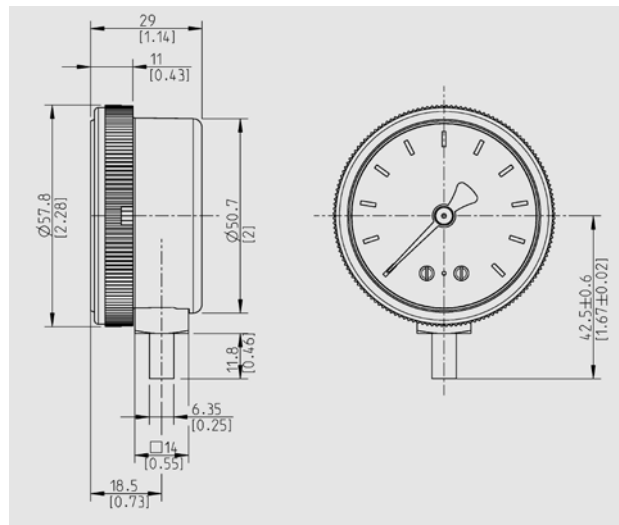
For pressure ranges greater than 250 bar (3,625 psi), the dimension of the face seal gland diameter changes from 9.53 mm (0.375") to 8.86 mm (0.349").



230.15 1½" LM
FACE SEAL FEMALE SWIVEL (FSF)

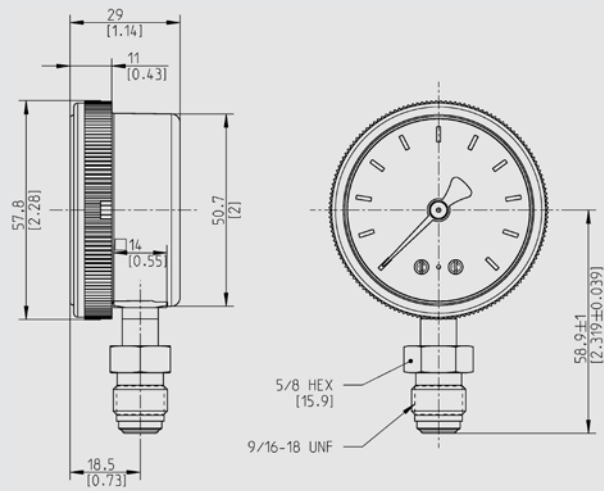


230.15 2" LM
FACE SEAL FIXED MALE (FSFM)

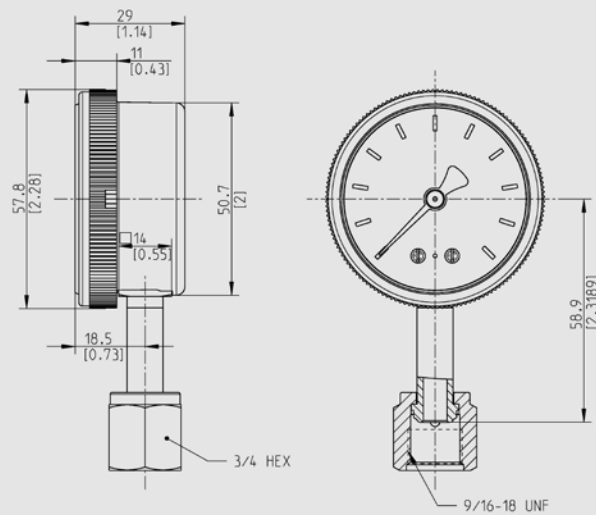


230.15 2" LM
¼" WELD STUB

Dimensions

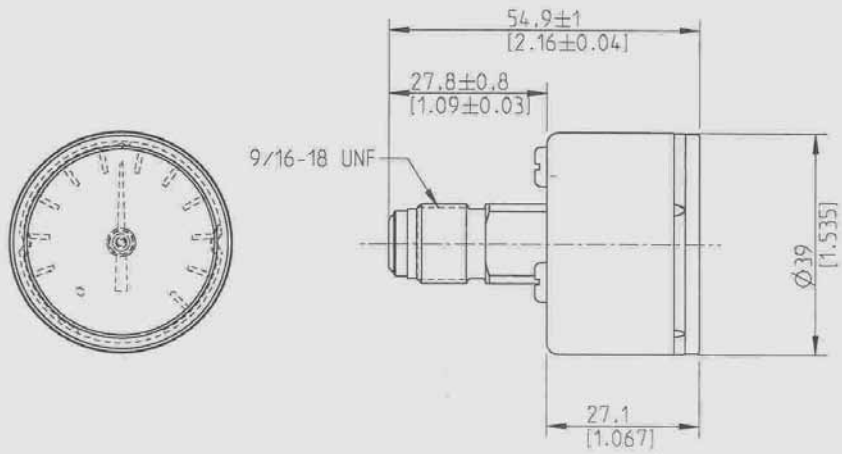


230.15 2" LM
FACE SEAL MALE SWIVEL (FSM)

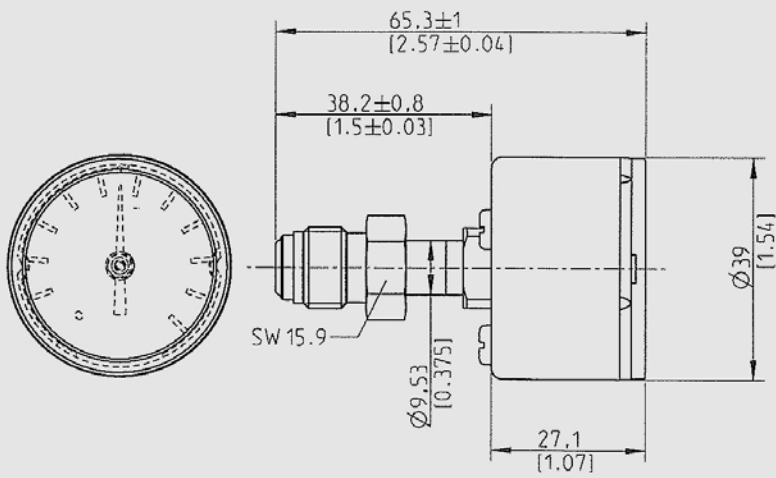


230.15 2" LM
FACE SEAL FEMALE SWIVEL (FSF)

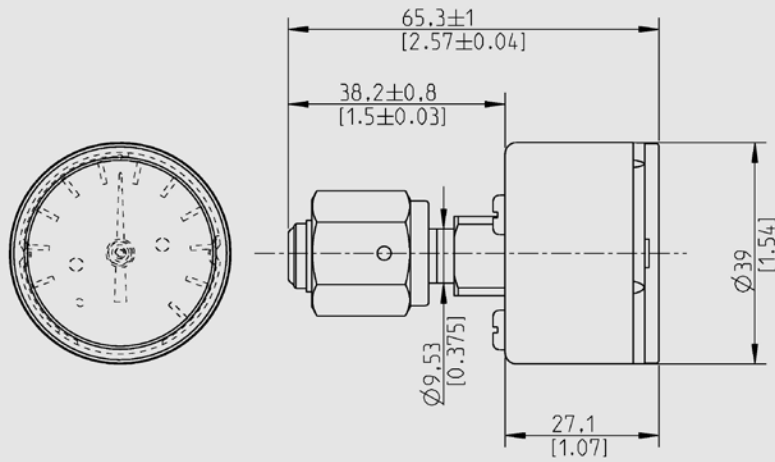
Dimensions



230.15 1½" CBM
FACE SEAL FIXED MALE (FSFM)

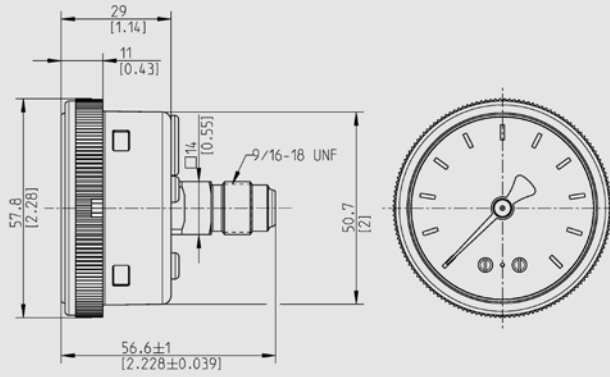


230.15 1½" CBM
FACE SEAL MALE SWIVEL (FSM)

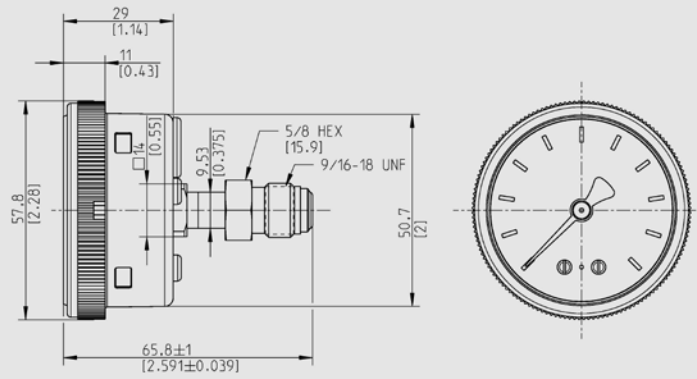


230.15 1½" CBM
FACE SEAL FEMALE SWIVEL (FSF)

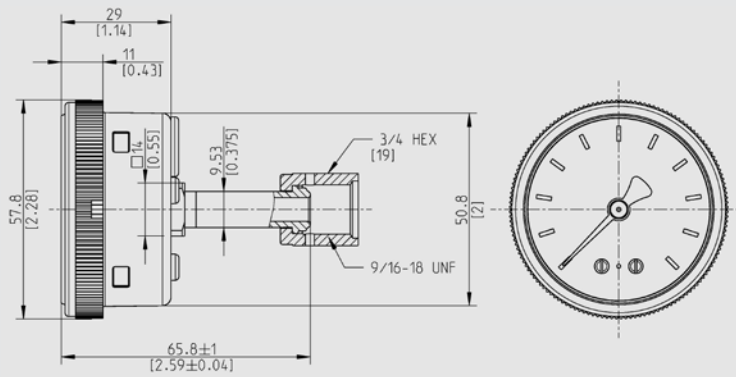
Dimensions



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

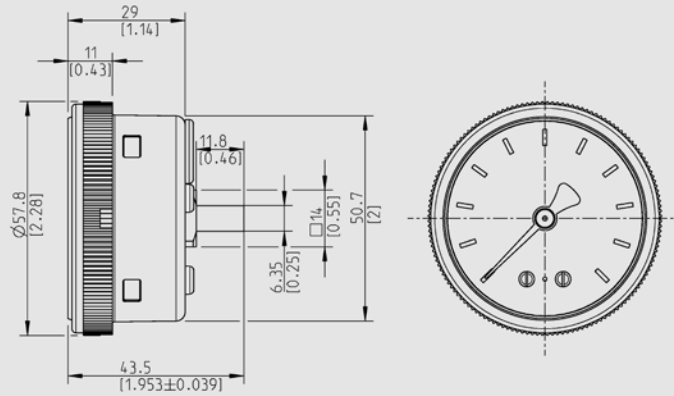


**230.15 2" CBM
FACE SEAL MALE SWIVEL (FSM)**

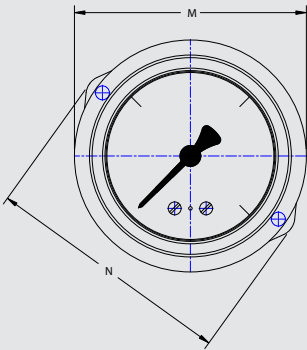


**230.15 2" CBM
FACE SEAL FEMALE SWIVEL (FSF)**

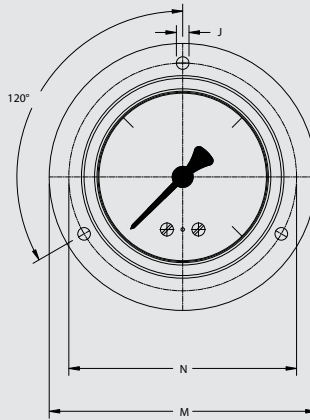
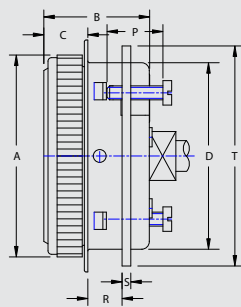
Dimensions



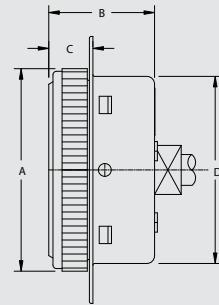
**230.15 2" CBM
1/4" WELD STUB**



**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 SS, electropolished
Wetted Material	316L SS, 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": +/- 3/2/3% 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

Field No.	Code	Feature
1	Nominal Case Size	
	A	1.5" (40 mm)
	B	2.0" (50 mm)
	Unit	
	P	psi
	B	bar
	L	kPa
	E	MPa
	K	Kg/cm2
	?	other
2	Pressure Range	
	V310	-30 inHg ... 0 psi
	V321	-30 inHg ... 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 ... 15 psi
	G321	0 ... 30 psi
	G341	0 ... 60 psi
	G369	0 ... 100 psi
	G411	0 ... 160 psi
	G414	0 ... 200 psi
	G421	0 ... 300 psi
	G428	0 ... 400 psi
	G441	0 ... 600 psi
	G455	0 ... 800 psi
	G469	0 ... 1000 psi
	G510	0 ... 1500 psi
	G514	0 ... 2000 psi
	G521	0 ... 3000 psi
	G528	0 ... 4000 psi
	G541	0 ... 5000 psi
3	????	other - please specify
4	Unit	
	Z	without
	P	psi
	B	bar
	L	kPa
	E	MPa
	K	Kg/cm2
	?	other

Field No.	Code	Feature
Process Connection		
5	WH	1/4" swivel male face seal
	WI	1/4" swivel female face seal
	WG	1/4" fixed male face seal
	VN	1/4" Weld Stub
	??	other - please specify
Connector Position		
6	B	Center back mount
	U	Lower mount
Mounting Flange/Bracket		
7	Z	Without
	K	Panel mount with stainless steel mounting bracket (2" CBM only)
	F	Front flange, polished stainless steel (2" CBM only)
	?	other - please specify
Switch Type		
8	Z	without
	N	Inductive NPN (2" Case only) 830.1E
	P	Inductive PNP (2" Case only) 830.1E
Electrical Connection		
9	ZZ	without
	DA	Flying leads, 10' (3 m)
Quality Certificates		
10	Z	without
	?	other - please specify
Additional Order Details		
11	Z	without
	T	Additional text

Order Code: 1 2 3 4 5 6 7 8 9 10 11*

230.15 - - - - - **Z**

*Additional order details _____

Specifications provided in this datasheet represent the state of engineering at the time of printing.
Modifications may take place and the specified materials may change without prior notice



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