

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 5000 psi

Standard Features

Design

ASME B40.100

Sizes

2" (50 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/0/300 psi
Pressure from 15 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
 $R_a < 0.5\mu\text{m}$ ($R_a < 20\mu\text{inch}$) - 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)

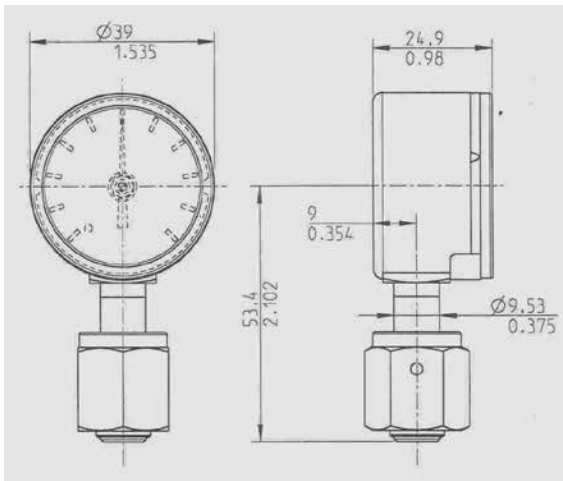
Inductive Pressure Switch (830.1E)

Custom dial layout

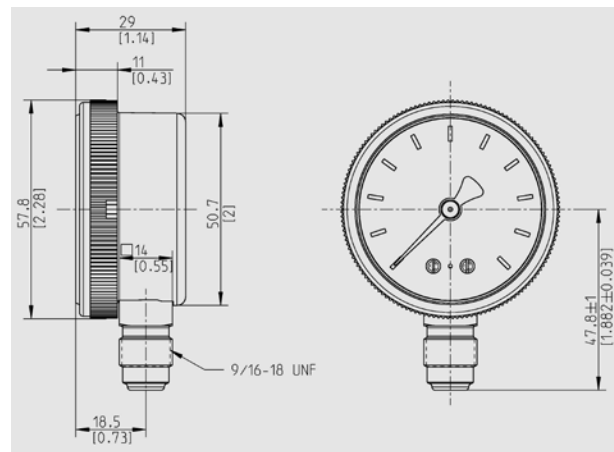
Dual pressure scales

Dimensions

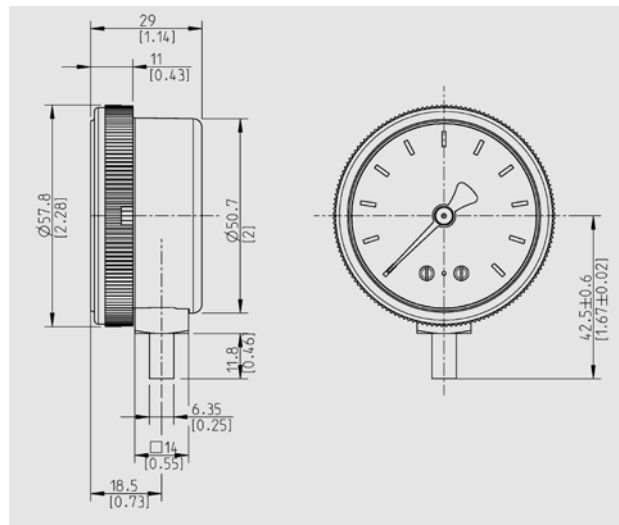
For pressure ranges greater than 250 bar (3,625 psi), the dimension of the face seal gland diameter changes from 9.53 mm (0.375") to 8.86 mm (0.349").



230.15 1½" LM
FACE SEAL FEMALE SWIVEL (FSF)

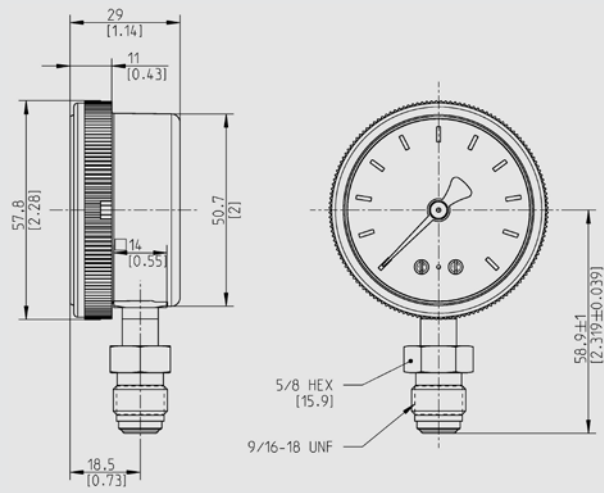


230.15 2" LM
FACE SEAL FIXED MALE (FSFM)

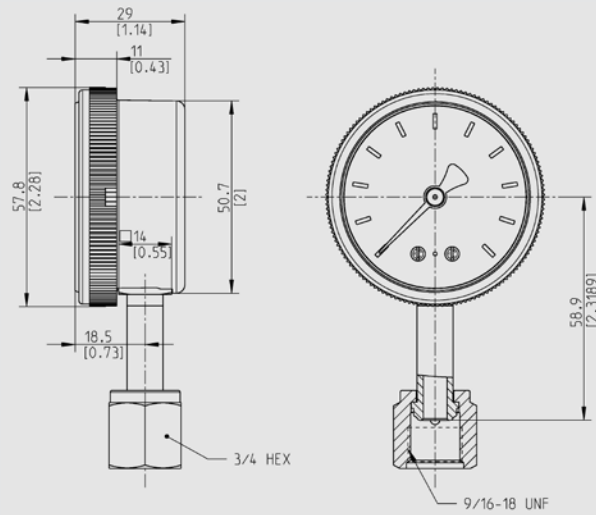


230.15 2" LM
¼" WELD STUB

Dimensions

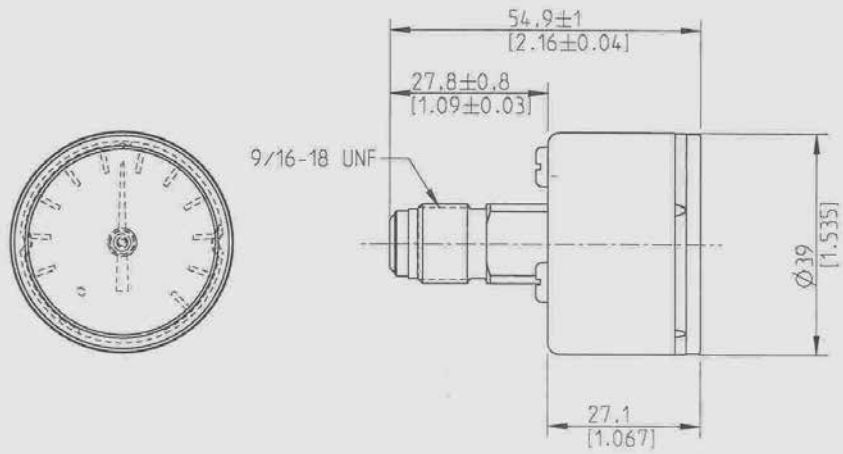


230.15 2" LM
FACE SEAL MALE SWIVEL (FSM)

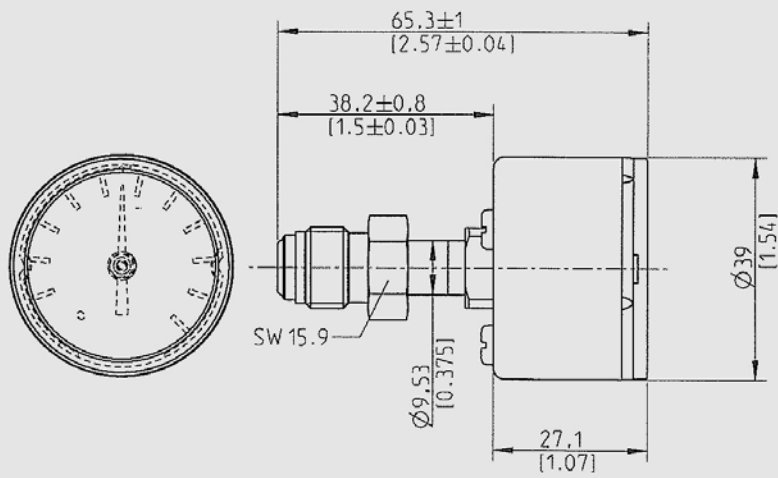


230.15 2" LM
FACE SEAL FEMALE SWIVEL (FSF)

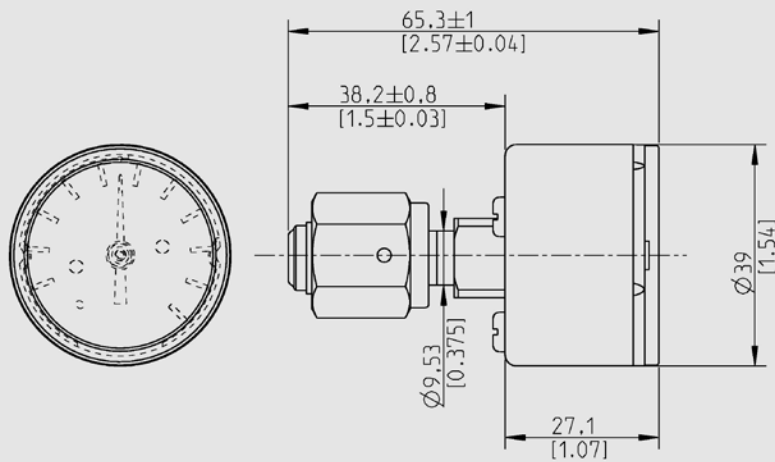
Dimensions



230.15 1½" CBM
FACE SEAL FIXED MALE (FSFM)

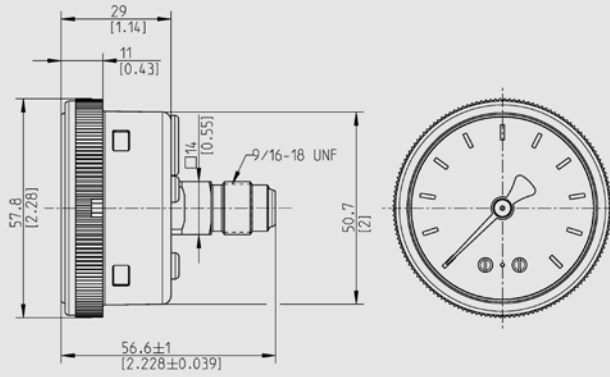


230.15 1½" CBM
FACE SEAL MALE SWIVEL (FSM)

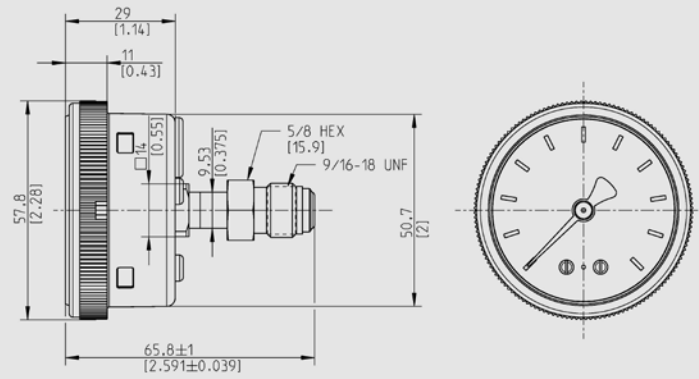


230.15 1½" CBM
FACE SEAL FEMALE SWIVEL (FSF)

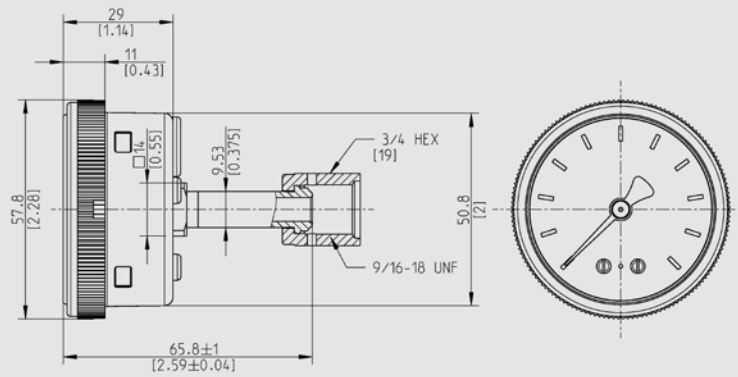
Dimensions



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

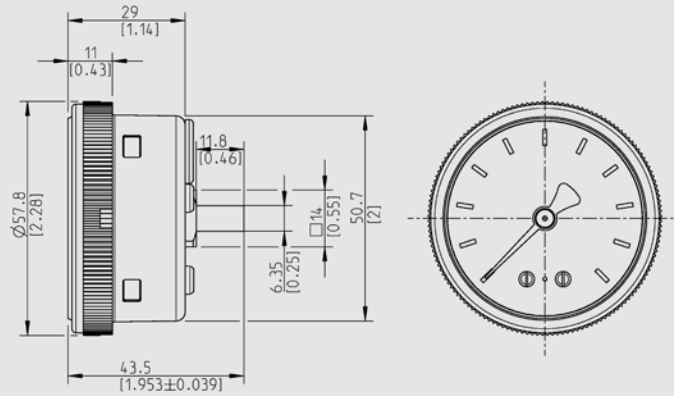


**230.15 2" CBM
FACE SEAL MALE SWIVEL (FSM)**

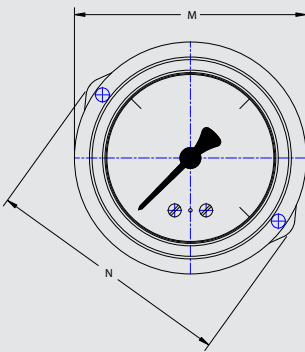


**230.15 2" CBM
FACE SEAL FEMALE SWIVEL (FSF)**

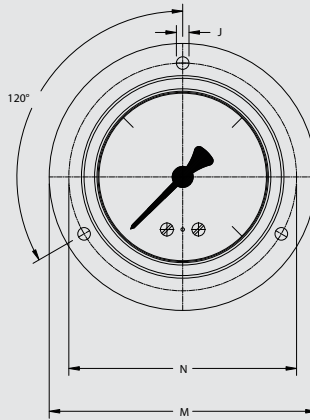
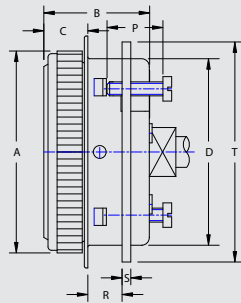
Dimensions



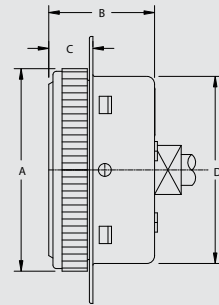
230.15 2" CBM
1/4" WELD STUB



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	
	6	1.5" (40 mm)
	7	2.0" (50 mm)
2	Primary (Outer) Scale	
	P	psi
	B	bar
	L	kPa
	E	MPa
	K	Kg/cm2
	S	Special pressure range
	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	
3	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
	G534	0 ... 5000 psi
	4	Secondary (Inner) Scale
Z		without
P		psi
B		bar
L		kPa
E		MPa
K		Kg/cm2
?		Special scale

Field No.	Code	Feature
Process Connection		
5	WH	1/4" Swivel Male Face Seal (FSM)
	WI	1/4" Swivel Female Face Seal (FSF)
	WG	1/4" Fixed Male Face Seal (FSFM)
	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
	R	Reed (851.3) - One SPDT Switch (2" Case Only) - Please Reference the Data Sheet Specific to 230.15 w/ Alarm Contacts 851.XX for model code and ordering
	D	Reed (851.33) - Two SPDT Switches (2" Case Only) - Please Reference the Data Sheet Specific to 230.15 w/Alarm Contacts 851.XX for model code and ordering
Electrical Connection		
9	ZZ	without
Quality Certificates		
10	Z	without
	2	certificate 2.2 EN 10204
	3	certificate 3.1 EN 10204
	A	2.2 and 3.1 certificates acc. EN 10204
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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