High purity pressure gauge
Model : P830 Series (Type 316L)

WISE®

Service intended
The P830 Series are specifically designed for the high purity gas distribution system used in semiconductor
electronic, medical, biotechnology, and pharmaceutical industry.

Nominal diameter
50mm (2"), 63mm (2 1/2")

Accuracy
Grade A(ASME B40.1)
Lower 1/4 of scale - ±2.0% of span
Middle 1/2 of scale - ±1.0% of span
Upper 1/4 of scale - ±2.0% of span
Class 1.6(EN837-1) - ±1.6% of span
Class 1.0(EN837-1) - ±1.0% of span - optional

Scale range
0.1MPa vacuum to 25MPa

Working pressure
Steady pressure : 75% of full scale value
Fluctuating pressure : 67% of full scale value

Working temperature
Ambient : -40˚C to +60˚C
Medium : +100˚C maximum



Standard features

Pressure connection
Type 316L Stainless steel low mount
or center back mount
BA grade of surface finish
- 1/4 inch NPT male thread
- VCR® male or female face seal fitting

Pressure element
Type 316L Stainless steel
＜6MPa : C-type bourdon tube
≥6MPa : helical type bourdon tube

Movement
Stainless steel

Dial
White aluminum, with pointer stop pin
With black/red lettering, dual pressure scale (bar/psi)

Pointer
Black aluminum pointer

Case
Type 304 Stainless steel, electropolished with pressure relief

Ring and window
Twist-lock polycarbonate

Optional 1
Tested to confirm leakage rates of less than
10^{-9} mbar • ℓ /sec

Optional 2
100mm - P252 DIMENSION

Ordering information

Base model

P830: High purity gauge-316L

Nominal diameter

1 : 50mm (2")
2 : 63mm (2 1/2")

Mounting

A : Low mount (LM)
F : Center back mount (CBM)
I : Center back Connection, Flush, Case Center Mounting Plate with Bracket
(Only available with diameter 50mm)

Accuracy

3 : 1.0 Class
4 : 1.6 Class

Connection type

CD : 1/4"" NPT(male)
SF : Swivel female face seal
SM : Swivel male face seal
FM : Fixed male face seal
TW : Tube welding

Unit

H : bar
I : MPa

Range

Refer to Range Table

Pressure connection Mat'l & dials color

4 : 316LSS & 2 Colors
8 : 316LSS & 3 Colors

Options

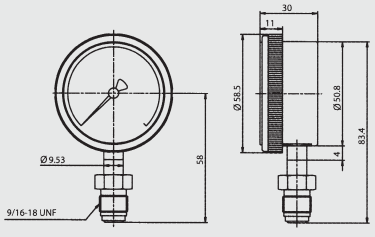
0 : None
1 : Accessories

P830	1	A	3	SF	H	047	8	0

Sample model number

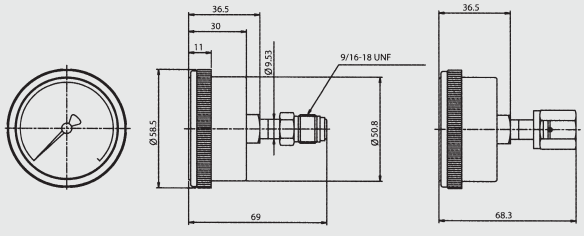
P830 : Type of mounting (1/2)

Ø50(2") Low mount



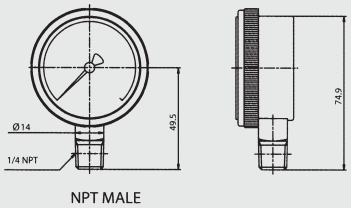
SWIVEL MALE

Ø50(2") Center back mount

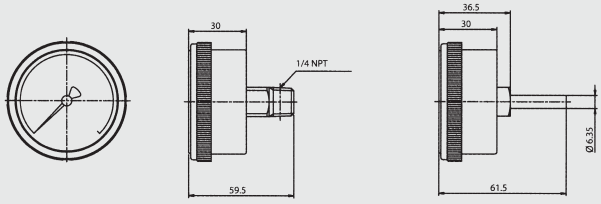


SWIVEL MALE

SWIVEL FEMALE



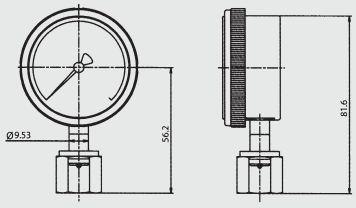
NPT MALE



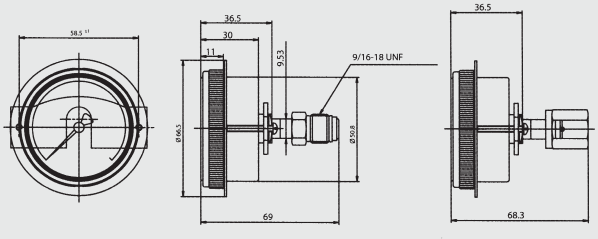
NPT MALE

TUBE WELDING

Ø50(2") Center back mount bracket

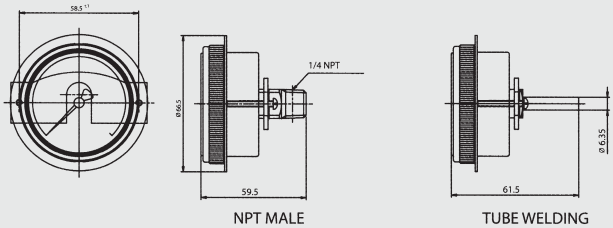


SWIVEL FEMALE



SWIVEL MALE

SWIVEL FEMALE

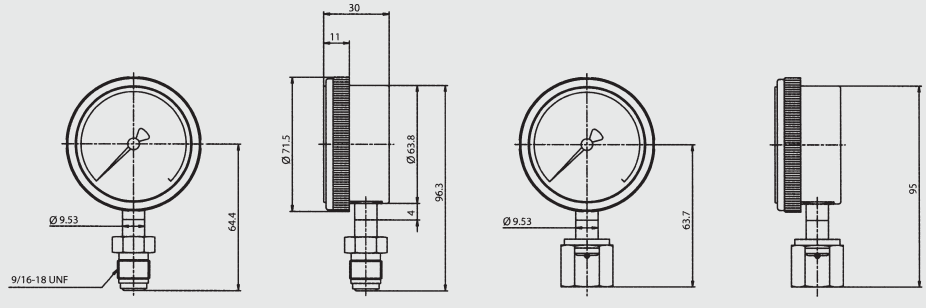


NPT MALE

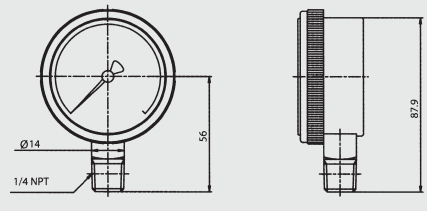
TUBE WELDING

P830 : Type of mounting (2/2)

Ø63(21/2") Low mount

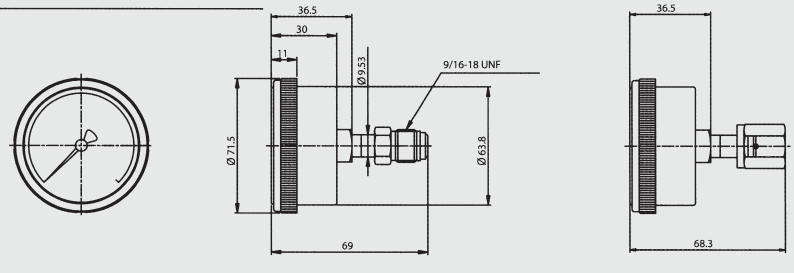


SWIVEL MALE SWIVEL FEMALE

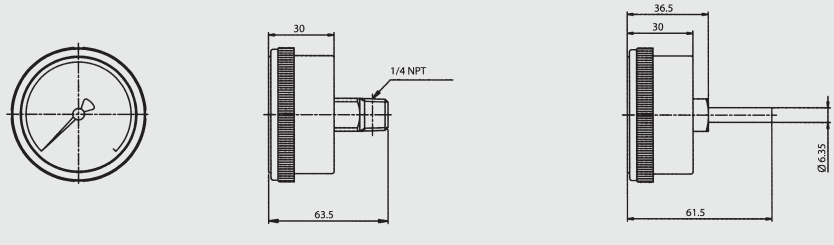


NPT MALE

Ø63(21/2") Center back mount



SWIVEL MALE SWIVEL FEMALE



NPT MALE TUBE WELDING

Range table

RANGE & CODE	UNIT & CODE		NOMINAL DIAMETER	
	H : bar	I : MPa	50mm	63mm
026	-1	-0.1	○	○
040	0.5	0.05	×	×
041	1	0.1	○	×
133	1.6	0.16	○	○
042	2	0.2	○	×
134	2.5	0.25	○	○
043	3	0.3	○	×
044	4	0.4	○	○
045	6	0.6	○	○
047	10	1	○	○
050	15	1.5	○	×
143	16	1.6	○	○
051	20	2	○	×
052	25	2.5	○	○
054	35	3.5	○	×
151	40	4	○	○
055	50	5	○	×
056	60	6	○	○
057	70	7	○	×
058	100	10	○	○
059	150	15	○	×
060	160	16	○	○
062	250	25	○	○
027	+-1	+-0.1	○	×
127	-1~1.6	-0.1~0.16	○	○
028	-1~2	-0.1~0.2	○	×
129	-1~2.5	-0.1~0.25	○	○
029	-1~3	-0.1~0.3	○	○
030	-1~4	-0.1~0.4	○	×
010	-1~5	-0.1~0.5	○	○
031	-1~6	-0.1~0.6	○	×
014	-1~9	-0.1~0.9	○	○
032	-1~10	-0.1~1	○	×
033	-1~15	-0.1~1.5	○	○
034	-1~20	-0.1~2	○	×
035	-1~25	-0.1~2.5	×	×

○ : AVAILABLE × : NOT AVAILABLE

Conversion table

PRESSURE CONVERSION CHART

PSI	ATM	kg/cm²	in.H₂O	mmHg	in.Hg	kPa	Bar	mmH₂O
1	0.068046	0.070307	27.7276	51.715	2.03602	6.895	0.06895	704.28104
14.696	1	1.0332	407.484	760	29.921	101.325	1.01325	10350.0936
14.2233	0.96784	1	394.38	735.559	28.959	98.096	0.98067	10000
0.036092	0.002454	0.00253	1	1.8651	0.07343	0.249	0.00249	25.4
0.019336	0.001315	0.001359	0.53616	1	0.03937	0.1333	0.001333	13.618464
0.491154	0.0033421	0.03453	13.6185	25.4	1	3.3864	0.033864	345.9099
0.145	0.00987	0.010197	4.0186	7.5006	0.2953	1	0.01	102.07244
14.5038	0.98692	1.01972	402.156	750.062	29.53	100	1	10214.7624
0.00142	0.000097	0.0001	0.03937	0.0734	0.0029	0.0098	0.000098	1

VOLUME CONVERSION CHART

GALLON (U.S)	CUBIC FEET	CUBIC INCHES	BARRELS (OIL)	CUBIC CM	CUBIC METER	LITER	IMP. GALLON
1	0.1337	231	0.02381	3785	0.003785	3.785	0.8327
7.481	1	1728	0.1781	28320	0.02832	28.32	6.229
0.004329	0.000578	1	0.000103	16.39	0.000016	0.01639	0.003605
42	5.615	9702	1	159000	0.159	158.94	34.97
0.000264	0.000035	0.06102	0.000006	1	0.000001	0.001	0.00022
264.17	35.3144	61023	6.2906	1000000	1	1000	220.1
0.264	0.0353	61.03	0.0629	1000	0.001	1	0.22
1.201	0.1606	277.4	0.0286	4546	0.004546	4.546	1

MASS CONVERSION CHART

lb.	oz.	kg	gm	gal H₂O (32F)	long ton	metric tonne	ton
1	16	0.4536	453.6	0.1198	0.000446	0.000453	0.0005
0.0625	1	0.02835	28.35	0.00749	0.000027	0.000028	0.000031
2.205	35.27	1	1000	0.2642	0.009839	0.001	0.001102
0.002205	0.03527	0.001	1	0.000264	0.000000	0.000001	0.000001
8.345	133.5	3.785	3785	1	0.003726	0.003786	0.004171
2240	35840	1016.4	1016363	268.352	1	1.016	1.12
2204.6	35273	1000	1000000	264.11	0.9842	1	1.1023
2000	32000	907.03	909090.9	239.7	0.892857	0.907194	1

DENSITY CONVERSION CHART

lb/ft³	gm/cm³	kg/m³	lb/in³
1	0.016018	16.0184	0.000578
62.43	1	1000	0.03613
0.06243	0.001	1	0.000036
1728	27.68	27679.8	1