

ULTRA HIGH PURITY GAUGES MODEL : P810 Series(Type 316L)

SERVICE INTENDED

The P810 Series specifically designed for ultra high purity gas distribution system used in semiconductor industry and electronic, medical, biotechnology, pharmaceutical industry.

NOMINAL DIAMETER

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

ACCURACY

Grade A(ASME B40.1)

Lower 1/4 of scale - $\pm 2.0\%$ of span

Middle 1/2 of scale - $\pm 1.0\%$ of span

Upper 1/4 of scale - $\pm 2.0\%$ of span

Class 1.6(EN837-1) - $\pm 1.6\%$ of span

Class 1.0(EN837-1) - $\pm 1.0\%$ of span - optional

SCALE RANGE

0.1 vacuum to 25Mpa or 28Mpa

WORKING PRESSURE

Steady pressure : 75% of full scale value

Fluctuating pressure : 67% of full scale value

OPERATING TEMPERATURE

Ambient : -40°C to $+60^{\circ}\text{C}$

Medium : $+100^{\circ}\text{C}$ maximum



Standard Features

PRESSURE CONNECTION

Type 316L Stainless steel electropolished

low mount or center back mount

surface finish $Ra \leq 0.25 \mu\text{m}$

- 1/4 inch NPT male thread

- VCR[®] male or female face seal fitting

PRESSURE ELEMENT

Type 316L Stainless steel

$< 6\text{MPa}$: C-type bourdon tube

$\geq 6\text{MPa}$: helical type bourdon tube

MOVEMENT

Type 304 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

HELIUM LEAK RATE

Tested to confirm leakage rates of less than

10^{-9} mbar \cdot l /sec

OPTION

100mm -P252 DIMENSION

ORDERING INFORMATION

BASE MODEL

P810 : Ultra high purity gauges - 316L

NOMINAL DIAMETER

- 0 : 40mm (1.5")
- 1 : 50mm (2")
- 2 : 63mm (2 1/2")
- 4 : 100mm (4")

MOUNTING

- A : Low mount(LM)
- E : Center back mount(CBM)

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

UNIT

- H : bar
- I : MPa

RANGE

Refer to Range Table

PRESSURE CONNECTION

MAT'L & DAILS

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

OPTIONS

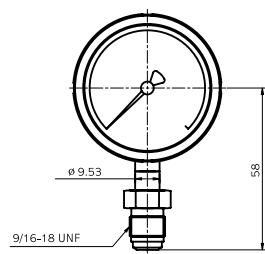
- 0 : None
- 1 : Accessories

P810
1
A
3
SF
I
047
8
0

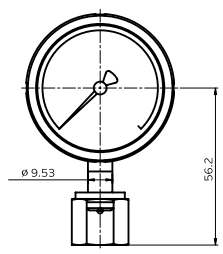
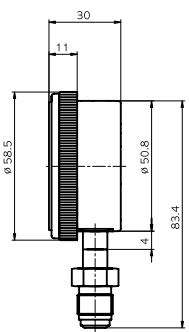
**SAMPLE
MODEL
NUMBER**

P810 (1/2) : TYPE OF MOUNTING

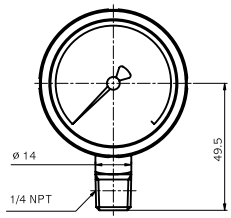
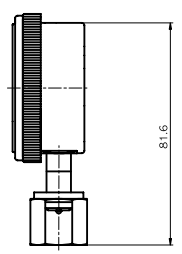
Ø 50(2") Low mount



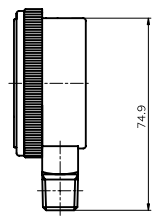
SWIVEL MALE



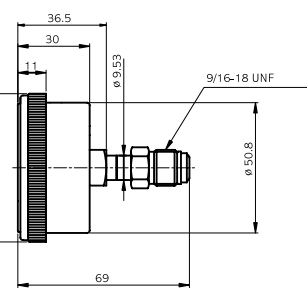
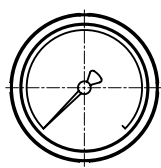
SWIVEL FEMALE



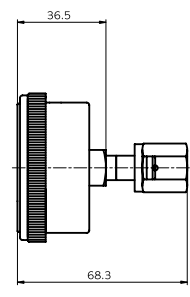
NPT MALE



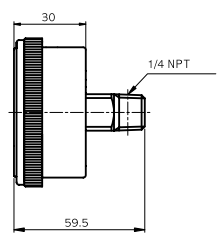
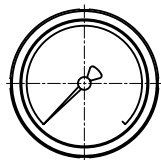
Ø 50(2") Center back mount



SWIVEL MALE



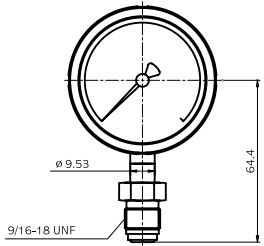
SWIVEL FEMALE



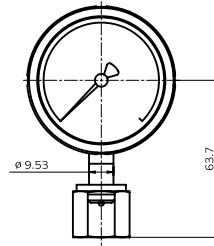
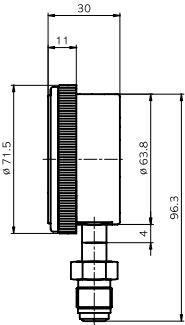
NPT MALE

P810 (2/2) : TYPE OF MOUNTING

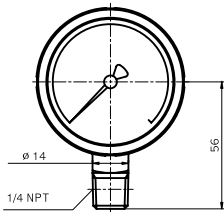
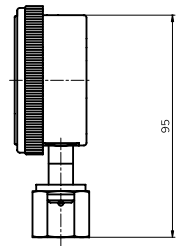
Ø 63(2 1/2") Low mount



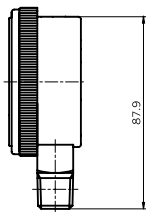
SWIVEL MALE



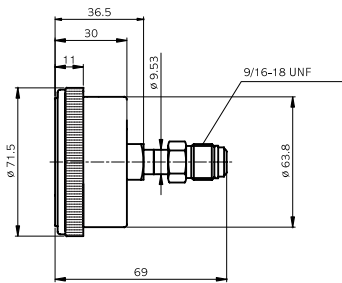
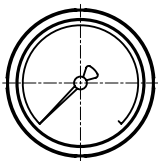
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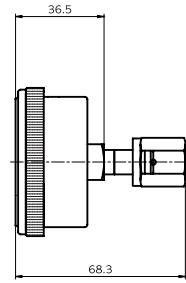
NPT MALE



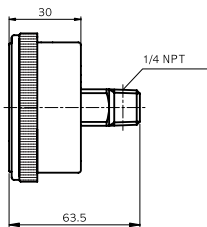
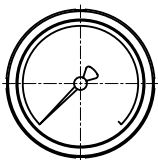
Ø 63(2 1/2") Center back mount



SWIVEL MALE



SWIVEL FEMALE



NPT MALE

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/cm ²	in.H ₂ O	mmHg	in.Hg	kPa	Bar	mmH ₂ O
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 H ₂ O (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/ft ³	gm/cm ³	kg/m ³	lb/in ³
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