

# Ultra high purity pressure gauge (EP grade)

## Model: P820 series (316L type double melt)

Spec. sheet no. PD08-02

### Service intended

P820 series are specially designed for the ultra-high purity gas distribution system used in a semiconductor, electronic, medical, biotechnology and pharmaceutical industry.



### Nominal diameter

50 (2") and 63 mm (2½")

### Accuracy

Grade A (ASME B40.1) : 50 (2") and 63 mm (2½")

Grade B (ASME B40.1) : 50 (2") and 63 mm (2½")

### Scale range

-0.1 ~ 0 to 0 ~ 28 MPa

### Working pressure

Steady pressure : 75 % of full scale value

Fluctuating pressure : 67 % of full scale value

### Working temperature

Ambient : -40 ~ 65 °C

Fluid : Max. 100 °C

### Temperature effect

Accuracy at temperature above and below the reference temperature (20 °C) will be effected by approximately  $\pm 0.4$  % per 10 °C of full scale



## Standard features

### Pressure connection

Type 316L SS double melt electropolished  
low mount or center back mount

surface finish  $Ra \leq 0.25 \mu m$

- ¼" NPT male thread
- VCR® male or female face seal fitting

### Element

Type 316L SS

<6 MPa : C-type bourdon tube

≥6 MPa : Helical type bourdon tube

### Case

Type 304SS, Electropolished with pressure relief

### Cover and window

Twist-lock polycarbonate

### Movement

Stainless steel

### Dial

White aluminium with pointer stop pin

With black/red lettering, dual pressure scale (bar/psi)

### Pointer

Black painted aluminium alloy

### Helium leak rate

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

### Certificates

ATEX Ex II GD c IIC TX

**WISE®**

**1. Base model****P820** Ultra high purity gauge (316L type double melt)**2. Nominal diameter**

- 1 50 mm (2")
- 2 63 mm (2½")

**3. Type of 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 50 mm

**4. Accuracy**

- 3 Grade A

**5. Connection type**

- CD** ¼" NPT (Male)
- SF** Swivel female face seal
- SM** Swivel male face seal
- TW** Tube welding

**6. Unit**

- H** bar
- I** MPa

**7. Range****XXX** Refer to pressure range table**8. Pressure connection material and dials color**

- 4 316L SS and 2 colors
- 8 316L SS and 3 colors

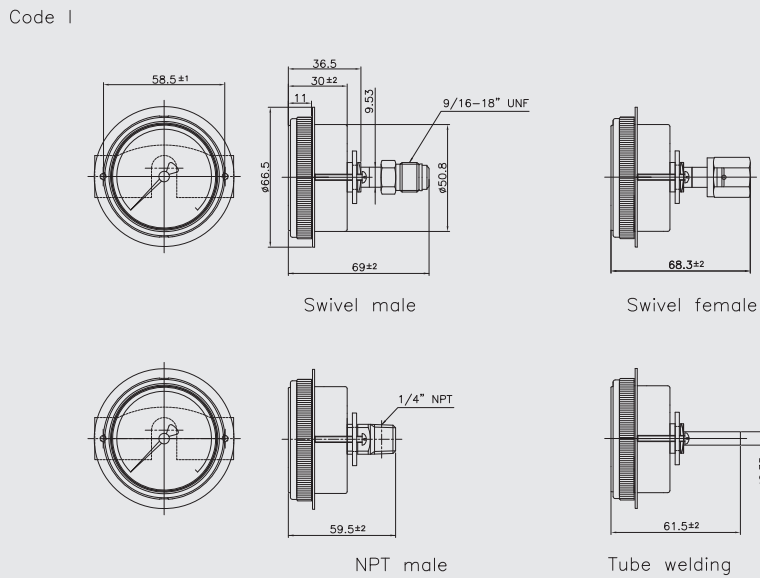
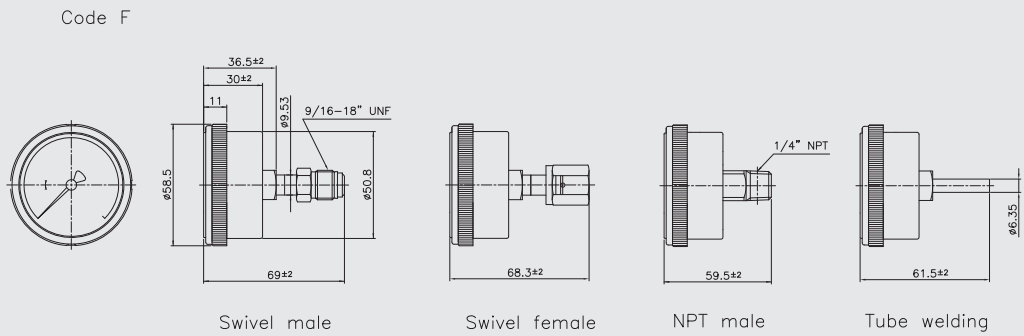
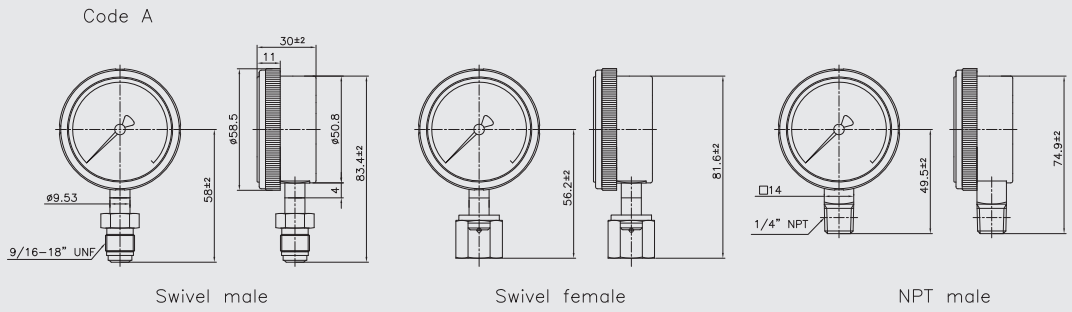
**9. Options**

- 0 None
- 1 Accessories

1	2	3	4	5	6	7	8	9
P820	1	A	3	CD	H	XXX	4	0

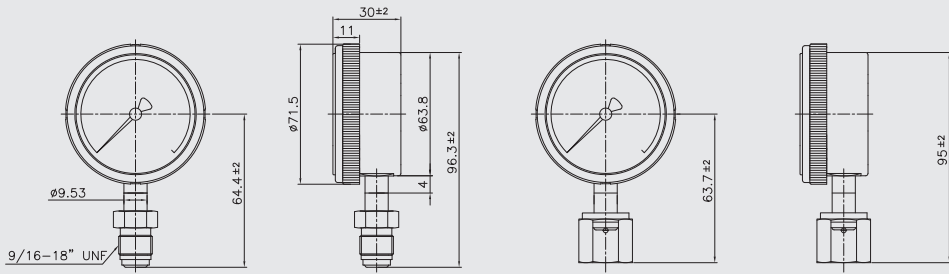
Sample  
ordering code

## P820 : Type of mounting (1/2)



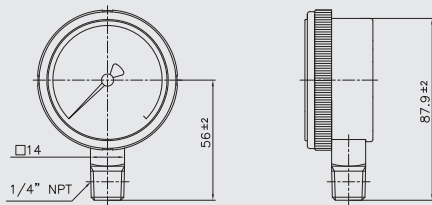
## P820 : Type of mounting (2/2)

Code A



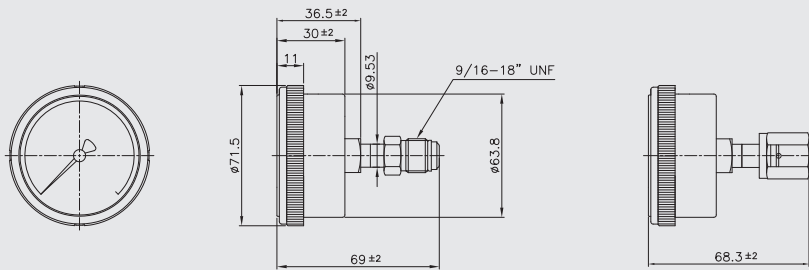
Swivel male

Swivel female



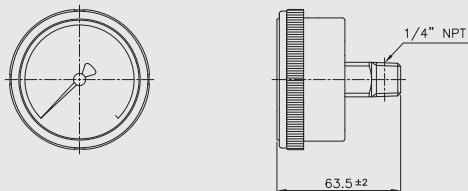
NPT male

Code F



Swivel male

Swivel female



NPT male

## Range table

Range and code	Unit and code		Nominal diameter	
	H : bar	I : MPa	50 mm	63 mm
026	-1 ~ 0	-0.1 ~ 0	X	O
041	0 ~ 1	0 ~ 0.1	X	O
133	0 ~ 1.6	0 ~ 0.16	X	O
042	0 ~ 2	0 ~ 0.2	O	O
134	0 ~ 2.5	0 ~ 0.25	X	O
043	0 ~ 3	0 ~ 0.3	O	O
044	0 ~ 4	0 ~ 0.4	O	O
045	0 ~ 6	0 ~ 0.6	O	O
047	0 ~ 10	0 ~ 1	O	O
050	0 ~ 15	0 ~ 1.5	O	O
143	0 ~ 16	0 ~ 1.6	O	O
051	0 ~ 20	0 ~ 2	O	O
052	0 ~ 25	0 ~ 2.5	O	O
054	0 ~ 35	0 ~ 3.5	O	O
151	0 ~ 40	0 ~ 4	O	O
055	0 ~ 50	0 ~ 5	O	O
056	0 ~ 60	0 ~ 6	O	O
057	0 ~ 70	0 ~ 7	O	O
058	0 ~ 100	0 ~ 10	O	O
059	0 ~ 150	0 ~ 15	O	O
060	0 ~ 160	0 ~ 16	O	O
062	0 ~ 250	0 ~ 25	O	O
027	-1 ~ 1	-0.1 ~ 0.1	O	O
127	-1 ~ 1.6	-0.1 ~ 0.16	X	O
028	-1 ~ 2	-0.1 ~ 0.2	O	O
029	-1 ~ 3	-0.1 ~ 0.3	O	O
030	-1 ~ 4	-0.1 ~ 0.4	O	O
010	-1 ~ 5	-0.1 ~ 0.5	O	O
031	-1 ~ 6	-0.1 ~ 0.6	O	O
014	-1 ~ 9	-0.1 ~ 0.9	O	O
032	-1 ~ 10	-0.1 ~ 1	O	O
033	-1 ~ 15	-0.1 ~ 1.5	O	O
034	-1 ~ 20	-0.1 ~ 2	O	O
035	-1 ~ 25	-0.1 ~ 2.5	X	O

O : Available    X : Not available

## Conversion table

Pressure conversion chart

psi	atm	kgf/cm <sup>2</sup>	inH <sub>2</sub> O	mmHg	inHg	kPa	bar	mmH <sub>2</sub> O
1	0.068046	0.070307	27.7276	51.715	2.03602	6.835	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	10,000
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

## Memo