

PRESSURE TRANSDUCERS

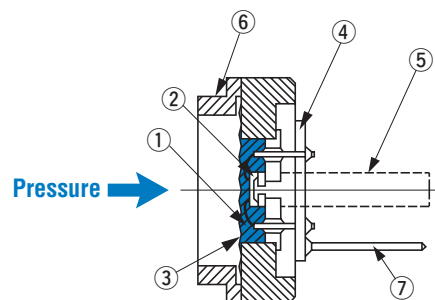
P-8300



FEATURES

- Double diaphragm structure
- Two pressure references to choose from Gauge and Absolute
- Built-in temperature compensation function (0 ~ 50 °C)

INTERNAL STRUCTURE



Part name		Material
①	Sealed liquid	Silicone oil
②	Sensor chip	Silicone
③	Stainless steel diaphragm	SUS 316L
④	Compensation resistor board	Ceramic
⑤	Vent hole (Gauge type only)	Iron+gold-plated
⑥	Pressure port	SUS 316L
⑦	Terminal pin	Copper+gold-plated

MODEL NUMBER DESIGNATION

P-8300 - 102 A - 05

Series name

Rated pressure range

351 : 0 ~ 34.3 kPa (0 ~ 0.35 kgf/cm²)
 501 : 0 ~ 49.0 kPa (0 ~ 0.5 kgf/cm²)
 102 : 0 ~ 98.1 kPa (0 ~ 1 kgf/cm²)
 352 : 0 ~ 343 kPa (0 ~ 3.5 kgf/cm²)
 103 : 0 ~ 981 kPa (0 ~ 10 kgf/cm²)

Thermal error

05 : ± 0.05 % F.S./°C
 10 : ± 0.1 % F.S./°C

Pressure reference

G : Gauge
 A : Absolute

LIST OF MODEL NUMBERS

Pressure reference		Gauge				Absolute	
Thermal error	Rated pressure range kPa (kgf/cm ²)	0 ~ 49.0 {0 ~ 0.5}	0 ~ 98.1 {0 ~ 1}	0 ~ 343 {0 ~ 3.5}	0 ~ 981 {0 ~ 10}	0 ~ 34.3 {0 ~ 0.35}	0 ~ 98.1 {0 ~ 1}
± 0.05 % F.S./°C		P-8300-501G-05	P-8300-102G-05	P-8300-352G-05	P-8300-103G-05	P-8300-351A-05	P-8300-102A-05
± 0.1 % F.S./°C		P-8300-501G-10	P-8300-102G-10	P-8300-352G-10	P-8300-103G-10	P-8300-351A-10	P-8300-102A-10

☐ : Not available

Verify the above model numbers when placing orders.

P-8300

PRESSURE TRANSDUCERS

STANDARD SPECIFICATIONS

● Unless otherwise specified, the specs are defined at an ambient temperature of 25±5 °C and excitation current of 1.5 mA DC.

Item		Model number	P-8300						
			501G	102G	352G	103G	351A	102A	
General specifications	Pressure reference		Gauge				Absolute		
	Rated pressure range	kPa {kgf/cm²}	49.0 {0.5}	98.1 {1}	343 {3.5}	981 {10}	34.3 {0.35}	98.1 {1}	
	Maximum pressure	kPa {kgf/cm²}	98.1 {1}	196 {2}	686 {7}	1961 {20}	103 {1.05}	196 {2}	
	Break-down pressure	kPa {kgf/cm²}	147 {1.5}	294 {3}	1030 {10.5}	2942 {30}	147 {1.5}	294 {3}	
	Operating temp. range		℃						
	Compensated temp. range		℃						
	Operating humidity		%RH						
	Storage temp.		℃						
	Bridge resistance		Ω						
	Pressure medium								
	Insulation resistance		MΩ minimum						
	Dielectric strength								
	Sealed liquid								
	Net weight		g						
	Power	Excitation current		mA DC					
Analog output	Offset voltage		mV						
	Span voltage		mV						
	Linearity/Hysteresis		%F.S.		± 0.3				
	Thermal error (Reference temp.: 25 °C)		ZERO %F.S./°C		± 0.05/0.10				
			SPAN %F.S./°C		± 0.05/0.10				
	Response		ms						
	Gravitational effect (From vertical position to horizontal position)		%F.S. max.		Approx. 0.5	Approx. 0.3	Approx. 0.1	Approx. 0.05	Approx. 0.5

ENVIRONMENTAL CHARACTERISTICS

Test item	Test conditions (At 25 ± 5 °C)	Permissible change
Vibration	10 ~ 500 Hz, 1.5 mm maximum/98.1 m/s ² , 3 directions for 2 hours each	Offset voltage/Span voltage: ± 1 %F.S. maximum each
Shock	981 m/s ² , 3 directions for 3 times each	
Pressure cycling	0 ~ Rated pressure, 10 ⁶ cycles	
Moisture resistance	40 °C, 90 ~ 95 %RH, 240 hrs.	

✳ P-8300 series can be operated at the vacuum pressure.

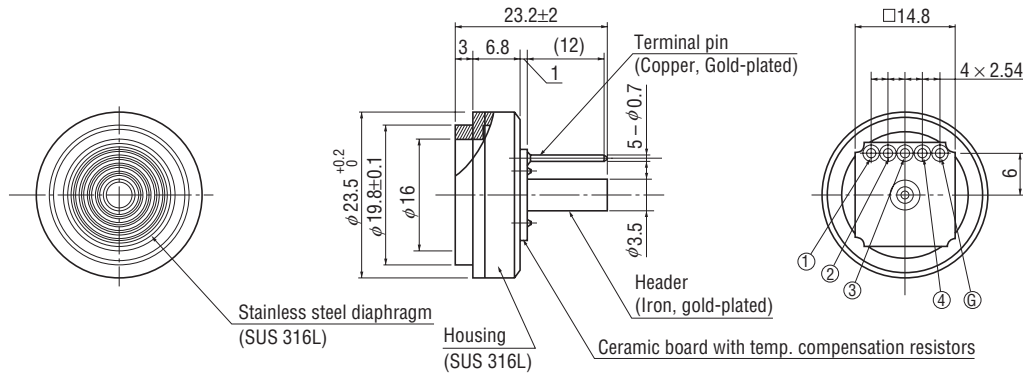
P-8300

PRESSURE TRANSDUCERS

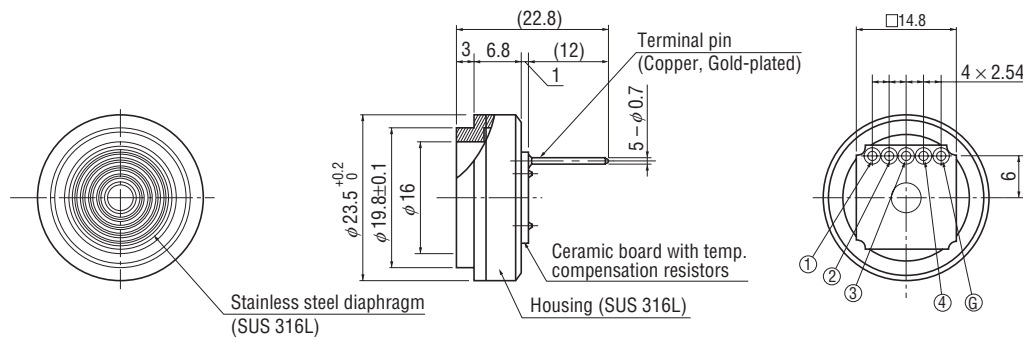
OUTLINE DIMENSIONS

Unless otherwise specified, tolerance : ± 0.5 (Unit: mm)

● P-8300 Gauge type



● P-8300 Absolute type



P-8300

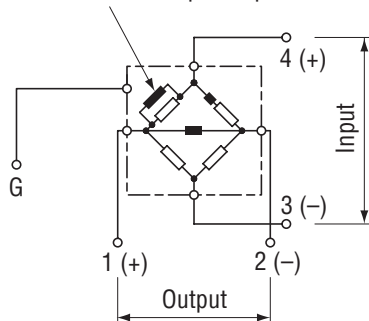
PIN	CONNECTION
①	Output $\oplus$
②	Output $\ominus$
③	Input $\ominus$
④	Input $\oplus$
⑤	Housing



Extra care should be taken with the diaphragm part. Do not touch the diaphragm directly to avoid damaging the diaphragm.

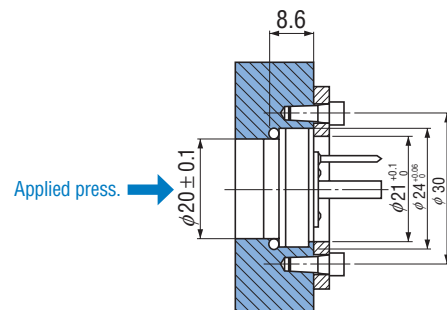
INTERNAL ELECTRICAL SCHEMATICS

Thick film resistors for temp. compensation



INSTALLATION EXAMPLES

(Unit: mm)



- An "O" ring P20 (conforms to JIS B 2401) is provided as accessory. Make the mounting bore diameters $\phi 24^{+0.06}_0$ and $\phi 20 \pm 0.1$, and the surface-roughness as 6.3 S ($\nabla \nabla \nabla$).