

# PRESSURE TRANSDUCERS

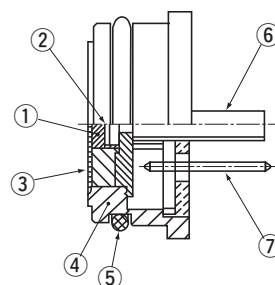
# P-8505



## FEATURES

- Double diaphragm structure
- 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 Housing	
⑤ "O" ring (S16)	Fluoro-rubber
⑥ Vent hole	Iron + gold-plated
⑦ Terminal pin	Copper + gold-plated

## MODEL NUMBER DESIGNATION

**P - 8505 - 102 G**

Series name

Rated pressure range

501 : 0 ~ 50 kPa  
 102 : 0 ~ 100 kPa  
 352 : 0 ~ 350 kPa  
 103 : 0 ~ 1000 kPa

Pressure reference  
 G : Gauge

## LIST OF MODEL NUMBERS

Pressure reference	Gauge			
Rated pressure range	0 ~ 50	0 ~ 100	0 ~ 350	0 ~ 1000
Model number	P-8505-501G	P-8505-102G	P-8505-352G	P-8505-103G

※ Verify the above model numbers when placing orders.

# P-8505

## 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-8505			
			501G	102G	352G	103G
General specifications	Pressure reference		Gauge			
	Rated pressure range	kPa	50	100	350	1000
	Maximum pressure	kPa	100	200	700	2000
	Break-down pressure	kPa	150	300	1050	3000
	Operating temp. range	°C	-20 ~ 70			
	Compensated temp. range	°C	0 ~ 50			
	Operating humidity	%RH	35 ~ 85 (No condensation)			
	Storage temp.	°C	-20 ~ 70 (Atmospheric pressure, humidity 65 %RH maximum)			
	Bridge resistance	Ω	3300 ± 30 %			
	Pressure medium		Corrosive gases/liquids compatible with SUS316L			
	Insulation resistance	MΩ minimum	100 (500 V DC)			
	Dielectric strength		500 V AC, 60 s (Leakage current 1 mA maximum)			
	Sealed liquid		Silicone oil			
	Net weight	g	Approx. 10			
Power	Excitation current	mA DC	1.5 (Constant current)			
Analog output	Offset voltage	mV	± 3			
	Span voltage	mV	90 ± 30			
	Linearity/Hysteresis	%F.S.	± 0.3		± 0.5	
	Thermal error (Reference temp.: 25 °C)	ZERO %F.S./°C	± 0.05			
		SPAN %F.S./°C	± 0.05			
	Response	ms	Approx. 2			
Gravitational effect (From vertical position to horizontal position)	%F.S. max.	Approx. 0.5		Approx. 0.1	Approx. 0.05	

### ENVIRONMENTAL CHARACTERISTICS

Test item	Test conditions (At 25 ± 5 °C)	Permissible change
Vibration	10 ~ 500 Hz, 1.5 mm maximum/98.1 m/s <sup>2</sup> , 3 directions for 2 hours each	Offset voltage/Span voltage: ± 1 %F.S. maximum each
Shock	490 m/s <sup>2</sup> , 3 directions for 3 times each	
Pressure cycling	0 ~ Rated pressure, 10 <sup>6</sup> cycles	
Moisture resistance	40 °C, 90 ~ 95 %RH, 240 hrs.	

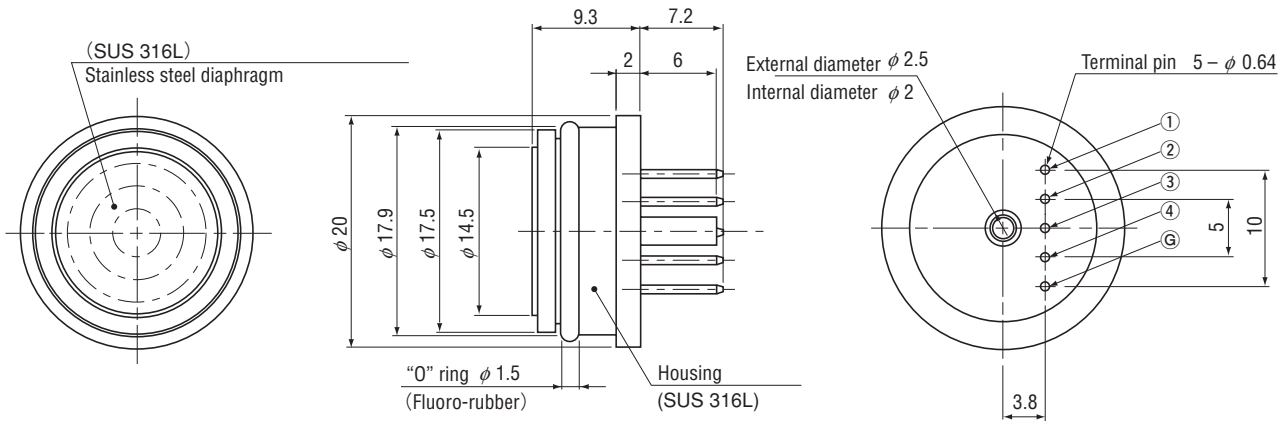
※ Can be operated at vacuum pressure.

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### OUTLINE DIMENSIONS

Unless otherwise specified, tolerance :  $\pm 0.5$  (Unit: mm)



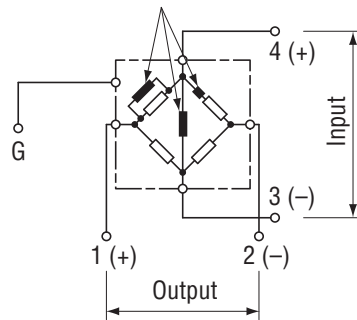
**!** Extra care should be taken with the diaphragm part.  
Do not touch the diaphragm directly to avoid damaging the diaphragm.

#### P-8505

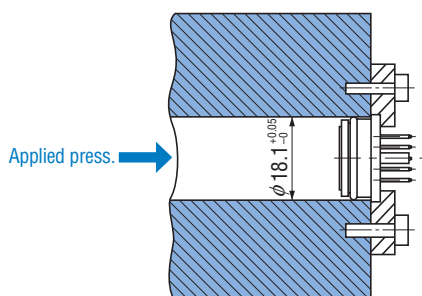
PIN	CONNECTION
①	Output +
②	Output -
③	Input -
④	Input +
Ⓞ	Housing

### INTERNAL ELECTRICAL SCHEMATICS

Resistors for temp. compensation



### INSTALLATION EXAMPLES



- An "O" ring S16 is supplied as accessory.  
Make the mounting bore diameter  $\phi 18.1^{+0.05}_{-0}$  and the surface-roughness as 6.3 S ( $\nabla\nabla\nabla$ ).
- Do not make the connector terminal side be airtight completely, as the vent hole is at this side.

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