

PRESSURE TRANSDUCERS

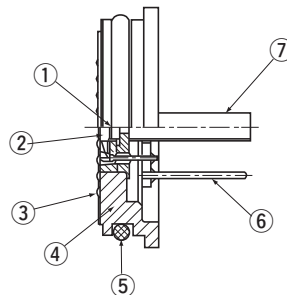
P-8305



FEATURES

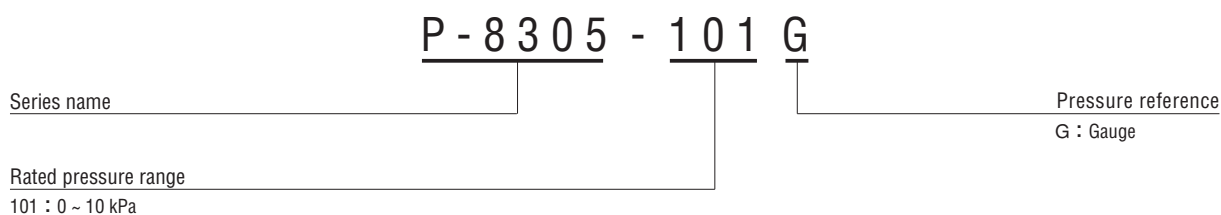
- SUS diaphragm type low pressure transducer (10 kPa)
- Double diaphragm structure
- Built-in temperature compensation function (0 ~ 50 °C)

INTERNAL STRUCTURE



| Part name | Material |
|-----------------------------|----------------------|
| ① Sensor chip | Silicone |
| ② Sealed liquid | Silicone oil |
| ③ Stainless steel diaphragm | SUS 316L |
| ④ Housing | |
| ⑤ "O" ring(S24) | Fluoro-rubber |
| ⑥ Terminal pin | Copper + gold-plated |
| ⑦ Vent hole | Iron + gold-plated |

MODEL NUMBER DESIGNATION



LIST OF MODEL NUMBERS

| Pressure reference | Gauge |
|-----------------------------|-------------|
| kPa Rated pressure range | 0 ~ 10 |
| Model number | P-8305-101G |

※ Verify the above model numbers when placing orders.

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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-8305 | |
|---|---|--------------|--|-----------|
| | | | 101G | |
| General specifications | Pressure reference | | Gauge | |
| | Rated pressure range | kPa | 10 | |
| | Maximum pressure | kPa | 30 | |
| | Break-down pressure | kPa | 100 | |
| | 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 | 4700 ± 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. 25 | |
| Power | Excitation current | mA DC | 1.5 (Constant current) | |
| Analog output | Offset voltage | | mV | ± 3 |
| | Span voltage | | mV | 25 ± 10 |
| | Linearity/Hysteresis | | %F.S. | ± 0.3 |
| | Thermal error (Reference temp.: 25 °C) | ZERO | %F.S./°C | ± 0.06 |
| | | SPAN | %F.S./°C | ± 0.04 |
| | Response | | ms | Approx. 2 |
| Gravitational effect (From vertical position to horizontal position) | | %F.S. max. | Approx. 0.5 | |

ENVIRONMENTAL CHARACTERISTICS

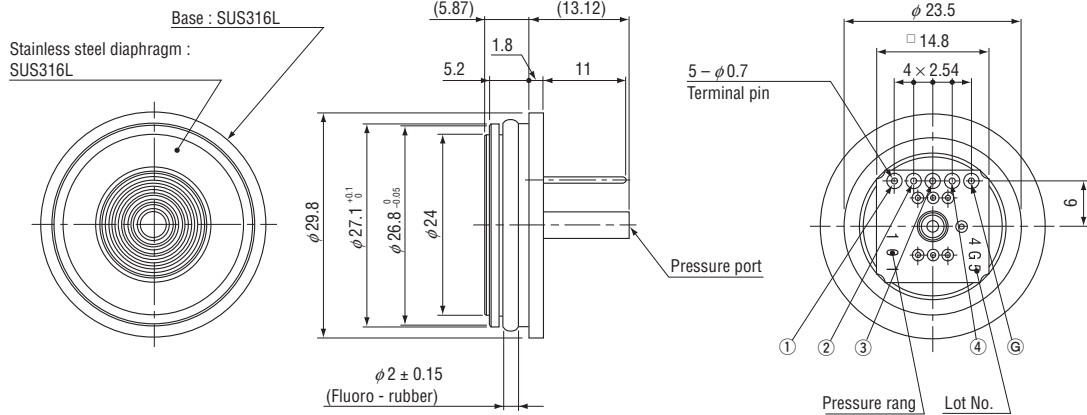
| Test item | Test conditions (At 25 ± 5 °C) | Permissible change |
|---------------------|---|---|
| Vibration | 10 ~ 500 Hz, 1.5 mm maximum/98.1 m/s ² , 3 directions for 2 hours each | Offset voltage/Span voltage: ± 2 %F.S. maximum each |
| Shock | 490 m/s ² , 3 directions for 3 times each | |
| Pressure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

※ Can be operated at vacuum pressure.

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OUTLINE DIMENSIONS



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

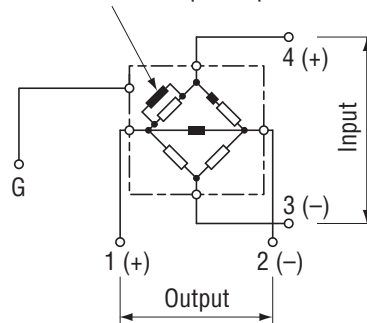
! Extra care should be taken with the diaphragm part.
Do not touch the diaphragm directly to avoid damaging the diaphragm.

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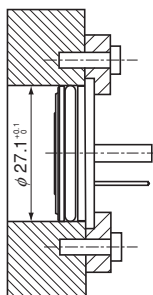
| PIN | CONNECTION |
|-----|------------|
| ① | Output + |
| ② | Output - |
| ③ | Input - |
| ④ | Input + |
| Ⓞ | Housing |

INTERNAL ELECTRICAL SCHEMATICS

Thick film resistors for temp. compensation



INSTALLATION EXAMPLES



- An "O" ring S24 is supplied as accessory.
Make the mounting bore diameter $\phi 27.1^{+0.1}_0$ 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.