

PTG series

Pressure Transmitter Bravolight

Model PTG70□

OVERVIEW

The Smart Pressure Transmitter model PTG70□ is a high-performance, highly reliable gauge pressure transmitter. Based on Yamatake's proven Smart Transmitter technologies, the model PTG70□ offers improved performance and reliability with size, weight and cost advantages. An optional, built-in digital indicator allows the pressure transmitter to be used in a wide variety of applications.

FEATURES

Compact and lightweight

- Approx. 0.9 kg (Screw connection type)

Broad range setting

- Range from -100 kPa to 50 MPa.
- Span from 2.0 kPa to 50 MPa.

Note) Screw connection type. Covered with five ranges.

Remote communication (Optional)

Any range can be set using the SFC. This further increases range flexibility and keeps inventory down.

Built-in digital indicator (Optional)

The built-in digital indicator option effectively checks output on site.

Type of protection

- Water and dust proof for IEC IP67, NEMA3 and 4X
- JIS immersion flameproof
- FM Intrinsically Safe (model PTG70G)



External views of the PTG series



*Model PTG70G
(Screw type)*



*Model PTG70B
(Flush diaphragm type)*



*Model PTG70F
(Flange type)*



*Model PTG70S
(Ferrule clamp type)*



*Model PTG70S
(Ferrule cap nut type)*



*Model PTG70K
(Ferrule clamp type
with cooling tower)*



*Model PTG70K
(Ferrule cap nut type
with cooling tower)*



*Model PTG70T
(Remote seal with ferrule type)*



*Model PTG70T
(Remote seal with ferrule cap nut type)*

COMMON SPECIFICATIONS

Type of protection

JIS C0920 watertight, JIS F8001 class 2 water or equivalent, NEMA 3 and 4X, IEC IP67

JIS immersion flameproof (EXdo IIC T4X)

Supply voltage and load resistance

Refer to Figure 1.

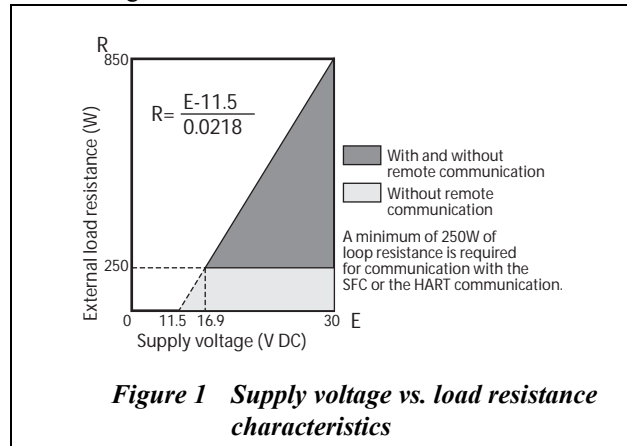


Figure 1 Supply voltage vs. load resistance characteristics

Power supply and voltage effect

0.005% F.S./V

Output / Communication

Analog output (4 to 20 mA DC) two-wire

Response speed

Approx. 400 ms

Vibration Tolerance

Less than 100 Hz : 2 G
100 to 2000 Hz : 1 G

Zero adjustment

Internal zero adjustment function

CE conformity

- EN50081-2-1993, Electromagnetic Compatibility- Generic Emission Standard, Part 2: Industrial Environment
- EN50082-2-1995, Electromagnetic Compatibility- Generic Immunity Standard, Part 2: Industrial Environment
- EN61010-1-1993, Safety requirements for electrical equipment, control and laboratory use, Part: General requirement

Finish

Baked acrylic paint, metallic green (Munsell 5G7/8)

Electrical connection

1/2 NPT internal thread

Mounting

- Direct mounting on a pipe (line mount)
- 2-inch pipe mounting
- Wall mounting

When mounting a PTG transmitter, consider its characteristics against vibration and overall vibration including piping.

Use an optional mounting bracket when mounting it onto 2-inch pipe or wall.

Optional specifications

Built-in indicating meter

The digital LCD indicator (optional) displays engineering units and can be set freely between -1999 and 1999 (3.5 digits).

Mounting bracket

Bracket for 2-inch pipe or wall mounting (For thread connection type and ferrule remote sealed type)

Oil free finish

Oil is removed from the wetted parts before shipment.

Oil and water free finish

Oil and water are removed from the wetted parts before shipment.

Electrolytic grinding (For ferrule type only)

The surface of the wetted parts is smoothed by electrolytic grinding.

Passive state finish (For ferrule type only)

The surface of the wetted parts is treated with a passive state finish to form a protective film to increase resistance to corrosion.

Corrosion-resistant finish

Corrosion-proof paint (Baked epoxy paint), fungus-proof finish

Working range of negative pressure

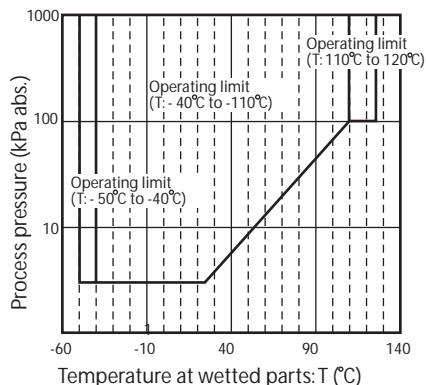


Figure 2 Minimum working pressure for model PTG70G

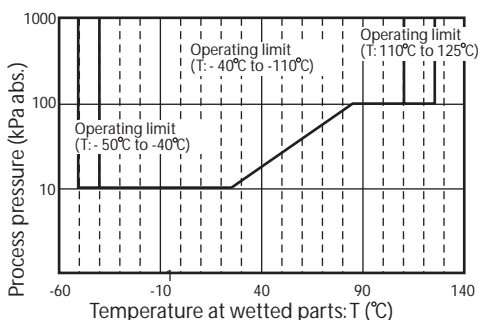


Figure 4 Minimum working pressure for combination of model PTG70B or model PTG70F

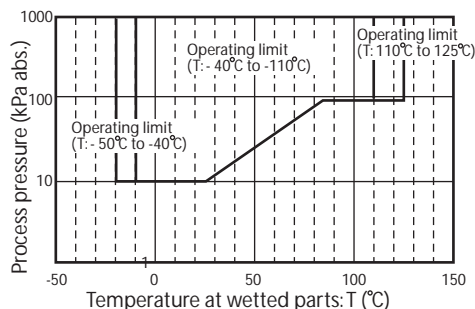


Figure 3 Minimum working pressure for model PTG70S, model PTG70T Minimum working pressure combination of model PTG70F and propylene glycol.

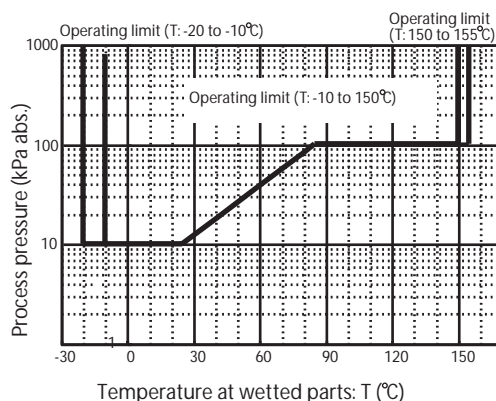


Figure 5 Minimum working pressure for model PTG70K

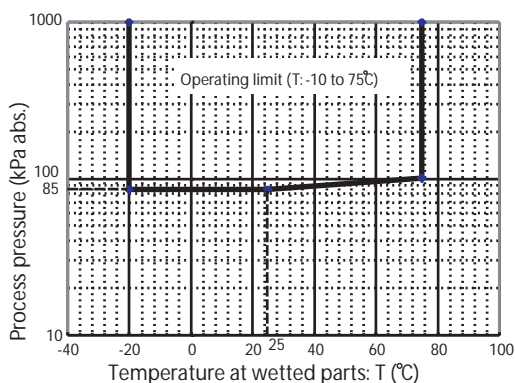
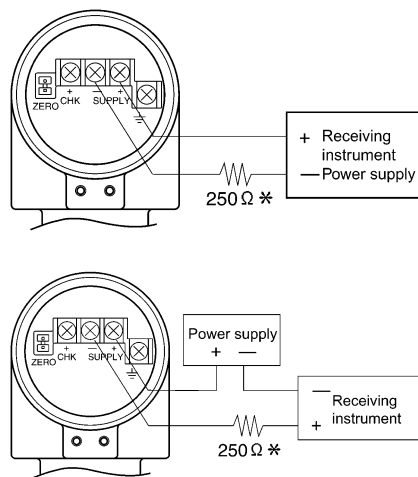


Figure 6 Minimum working pressure for model PTG70B or model PTG60G (Fluoline oil for Oxygen and chlorine models).



Note) *A minimum of 250 Ω of loop resistance is required for communication with the SFC

Index of detailed specifications for process connection types

| Process connection | Process connection style | Measurement span | | Reference page |
|---|--|--|---|----------------|
| Screw type Model PTG70G | G3/8 external thread G1/2 external thread Rc3/8 internal thread Rc1/2 internal thread 1/2NPT internal thread M20 × 1.5 external | 2.0 to 100 kPa 40 to 400 kPa 0.2 to 2 MPa 1 to 10 MPa | {0.021 to 1.019 kgf/cm ² } {0.408 to 4.07 kgf/cm ² } {2.04 to 20.3 kgf/cm ² } {10.20 to 101.9 kgf/cm ² } | 6 to 11 |
| | Rc1/4 internal thread G1/2 external thread 1/4NPT internal thread M20 × 1.5 external thread | 5 to 50 MPa | {51.0 to 509 kgf/cm ² } | |
| Flush diaphragm type Model PTG70B | G2-inch external thread | 2.0 to 100 kPa 40 to 400 kPa 0.2 to 2 MPa 1 to 10 MPa | {0.021 to 1.019 kgf/cm ² } {0.408 to 4.07 kgf/cm ² } {2.04 to 20.3 kgf/cm ² } {10.20 to 101.9 kgf/cm ² } | 12 to 13 |
| | G1/2-inch external thread | 0.2 to 2 MPa 1 to 10 MPa | {2.04 to 20.3 kgf/cm ² } {10.20 to 101.9 kgf/cm ² } | |
| Flange type Model PTG70F | JIS10K 50mm JIS30K 50mm JIS10K 15 mm JIS30K 15 mm | 2.0 to 100 kPa 40 to 400 kPa 0.2 to 2 MPa 1 to 10 MPa | {0.021 to 1.019 kgf/cm ² } {0.408 to 4.07 kgf/cm ² } {2.04 to 20.3 kgf/cm ² } {10.20 to 101.9 kgf/cm ² } | 15 to 18 |
| Ferrule type (Direct mount) PTG70S | IDF 2S clamp IDF 1½S clamp IDF 1S clamp | 2.0 to 100 kPa 40 to 400 kPa 0.2 to 2 MPa | {0.021 to 1.019 kgf/cm ² } {0.408 to 4.07 kgf/cm ² } {2.04 to 20.3 kgf/cm ² } | 19 to 21 |
| | IDF 2S cap nut IDF 1½S cap nut | 2.0 to 100 kPa 40 to 400 kPa 0.2 to 2 MPa | {0.021 to 1.019 kgf/cm ² } {0.408 to 4.07 kgf/cm ² } {2.04 to 20.3 kgf/cm ² } | 22 to 24 |
| Ferrule type with cooling tower Model PTG70K | IDF 2S clamp IDF 1½S clamp | 2.0 to 100 kPa 40 to 400 kPa 0.2 to 2 MPa | {0.021 to 1.019 kgf/cm ² } {0.408 to 4.07 kgf/cm ² } {2.04 to 20.3 kgf/cm ² } | 25 to 27 |
| | IDF 1S clamp | 40 to 400 kPa 0.2 to 2 MPa | {0.408 to 4.07 kgf/cm ² } {2.04 to 20.3 kgf/cm ² } | |
| | IDF 2S cap nut IDF 1½ inch cap nut | 2.0 to 100 kPa 40 to 400 kPa 0.2 to 2 MPa | {0.021 to 1.019 kgf/cm ² } {0.408 to 4.07 kgf/cm ² } {2.04 to 20.3 kgf/cm ² } | 28 to 30 |
| Remote seal with ferrule type (Capillary 1, 3, 5 m) Model PTG70T | IDF 2S clamp | 2.0 to 100 kPa 40 to 400 kPa 0.2 to 2 MPa | {0.021 to 1.019 kgf/cm ² } {0.408 to 4.07 kgf/cm ² } {2.04 to 20.3 kgf/cm ² } | 31 to 33 |
| | IDF 1½S clamp | 40 to 400 kPa 0.2 to 2 MPa | {0.408 to 4.07 kgf/cm ² } {2.04 to 20.3 kgf/cm ² } | |
| | IDF 2S cap nut | 2.0 to 100 kPa 40 to 400 kPa 0.2 to 2 MPa | {0.021 to 1.019 kgf/cm ² } {0.408 to 4.07 kgf/cm ² } {2.04 to 20.3 kgf/cm ² } | 34 to 36 |
| | IDF 1½S cap nut | 40 to 400 kPa 0.2 to 2 MPa | {0.408 to 4.07 kgf/cm ² } {2.04 to 20.3 kgf/cm ² } | |

Screw type



Model PTG70G- _7

| | |
|--|--|
| Accuracy ^{*1} | ± 0.5% F.S. (50 MPa > X > 10 MPa) ± (0.5 × 10.0 / X)% F.S. (10 MPa > X > 5.0 MPa) |
| Zero temperature effect per 30°C ^{*1} | ± (0.4 × 10.0 / X + 0.35)% |

Note) ^{*1}: Within a range of URV ≥ 0 and LRV ≥ 0
^{*2}: Negative pressure accuracy
 Accuracy, which is greater value of either ±3% F.S. or upper calculated accuracy.

Ambient temperature limits

Normal operating range

-25 to 60°C

Transportation and storage temperature

-40 to 70°C

Temperature range of wetted parts

-40 to 110°C

Ambient humidity limits

5 to 100% RH

Materials

Fill fluid

Silicone oil for general purpose models
 Fluorine oil for oxygen and chlorine models

Wetted parts

Diaphragm

SUS316L

Others

SUS316

Case

Aluminum alloy

Weight

Approx. 0.9 kg

FM Intrinsically Safe approval

Intrinsically safe for Class I, II, III, Division 1, Group A, B, C, D, E, F, G
 T4/Class I, Zone 0, AEx ia IIC T4

For other specification, please refer to COMMON SPECIFICATIONS.

Measuring span / Setting range / Max. working pressure

| Model no. | Measuring span | Setting range | Max. working pressure | Process connection |
|------------|----------------|-----------------|-----------------------|---|
| PTG70G- _3 | 2.0 to 100 kPa | -100 to 100 kPa | 200 kPa | Rc3/8 internal thread, Rc1/2 internal thread, G3/8 external thread, G1/2 external thread, 1/2NPT internal thread, |
| PTG70G- _4 | 40 to 400 kPa | -100 to 400 kPa | 800 kPa | |
| PTG70G- _5 | 0.2 to 2 MPa | -0.1 to 2 MPa | 4 MPa | |
| PTG70G- _6 | 1 to 10 MPa | -0.1 to 10MPa | 20 MPa | |
| PTG70G- _7 | 5 to 50 MPa | -0.1 to 50 MPa | 75 MPa* | |

Note) * 62.5 MPa for explosion-proof type

Accuracy / Temperature effect

Model PTG70G- _3

| | |
|--|---|
| Accuracy ^{*1, *2} | ± 0.5% F.S. (100 kPa > X > 20 kPa) ± (0.5 × 20 / X)% F.S. (20 kPa > X > 2 kPa) |
| Zero temperature effect per 30°C ^{*1} | ± (0.5×40 / X + 0.35)% |

Model PTG70G- _4

| | |
|--|--|
| Accuracy ^{*1, *2} | ± 0.5% F.S. (400 kPa > X > 80 kPa) ± (0.5 × 80 / X)% F.S. (80 kPa > X > 40 kPa) |
| Zero temperature effect per 30°C ^{*1} | ± (0.4 × 80 / X + 0.35)% |

Model PTG70G- _5

| | |
|--|---|
| Accuracy ^{*, *21} | ± 0.5% F.S. (2.0 MPa > X > 0.4 MPa) ± (0.5 × 0.4 / X)%F.S. (0.4 MPa > X > 0.2 MPa) |
| Zero temperature effect per 30°C ^{*1} | ± (0.4 × 0.4 / X + 0.35)% |

Model PTG70G- _6

| | |
|--|---|
| Accuracy ^{*1, *2} | ± 0.5% F.S. (10 MPa > X > 2.0 MPa) ± (0.5 × 2.0 / X)% F.S. (2.0 MPa > X > 5.0 MPa) |
| Zero temperature effect per 30°C ^{*1} | ± (0.4 × 2.0 / X + 0.35)% |

MODEL SELECTION**Smart Pressure Transmitter model PTG70G**

Process connection: Screw type

Measuring span: 2.0 to 100 kPa, 40 to 400 kPa, 0.2 to 2 MPa, 1 to 10 MPa, 5 to 50 MPa

Model number structure: Basic model number - selection - Option1 - Option2

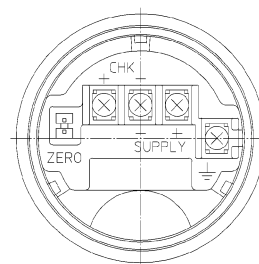
| Basic model number | | Selection | | | | Option1 | Option2 |
|--|--|-----------|-----|-----|-----|---------|---------|
| [] | | [] | [] | [] | [] | [] | |
| Product description | Gauge pressure transmitter: Screw connection type | PTG70G | - | | | | |
| Type of protection | JIS Flameproof (oil immersion) Electrical connection: G1/2 | A | | | | | |
| | FM Intrinsically safe Electrical connection: G1/2 | U | | | | | |
| Measuring span | 2.0 to 100 kPa (0.021 to 1.019 kgf/cm ²) | 3 | | | | | |
| | 40 to 400 kPa (0.408 to 4.07 kgf/cm ²) | 4 | | | | | |
| | 0.2 to 2 MPa (2.04 to 20.3 kgf/cm ²) | 5 | | | | | |
| | 1 to 10 MPa (10.20 to 101.9 kgf/cm ²) | 6 | | | | | |
| | 5 to 50 MPa (51.0 to 509 kgf/cm ²) | 7 | | | | | |
| Material: Diaphragm / wetted parts other than dia- phragm / fill fluid | SUS316L / SUS316 / Silicone oil | B1 | | | | | |
| | SUS316L / SUS316 / Fluorine oil | B2 | | | | | |
| Process connection | G1/2 external thread | | | G4 | | | |
| | G3/8 external thread (Not applicable for measuring span code "7") | | | G3 | | | |
| | Rc1/4 internal thread (Applicable only for measuring span code "7") | | | C2 | | | |
| | Rc1/2 internal thread (Not applicable for measuring span code "7") | | | C4 | | | |
| | Rc3/8 internal thread (Not applicable for measuring span code "7") | | | C3 | | | |
| | 1/4NPT internal thread (Applicable only for measuring span code "7") | | | N2 | | | |
| | 1/2NPT internal thread (Not applicable for measuring span code "7") | | | N4 | | | |
| Option 1 | | | | | - | | |
| No option | | | | | | X | |
| Built-in digital indicator | | | | | | M | |
| Heavy-duty corrosion-proof coating | | | | | | B | |
| Remote communication function | | | | | | C | |
| Wetted part finish | Oil free finish | | | | | G | |
| | Water and oil free finish | | | | | H | |
| Option2 | | | | | - | | |
| No option | | | | | | X | |
| Test report | | | | | | 1 | |
| Material certificate | | | | | | 2 | |
| Documents conforming to Japanese high pressure gas control law | | | | | | 3 | |
| Over-pressure leak test | | | | | | 4 | |
| Strength calculation sheet (JIS) | | | | | | 5 | |
| Traceability certificate | | | | | | 6 | |
| Mounting bracket | | | | | | H | |
| Certificate of oil free finish | | | | | | J | |
| Certificate of oil free and No water finish | | | | | | P | |
| Documents conforming to Japanese high pressure gas control law and thickness test report | | | | | | Y | |

DIMENSIONS

[Unit: mm]

Materials of construction

| KEY No. | Description | Materials |
|---------|-------------|------------------------------|
| 1 | Case | Aluminum alloy |
| 2 | Body | SUS 316 (Diaphragm SUS 316L) |
| 3 | Joint | SUS 316 |



Terminal Connection
(M2 Screw)

See Table 3

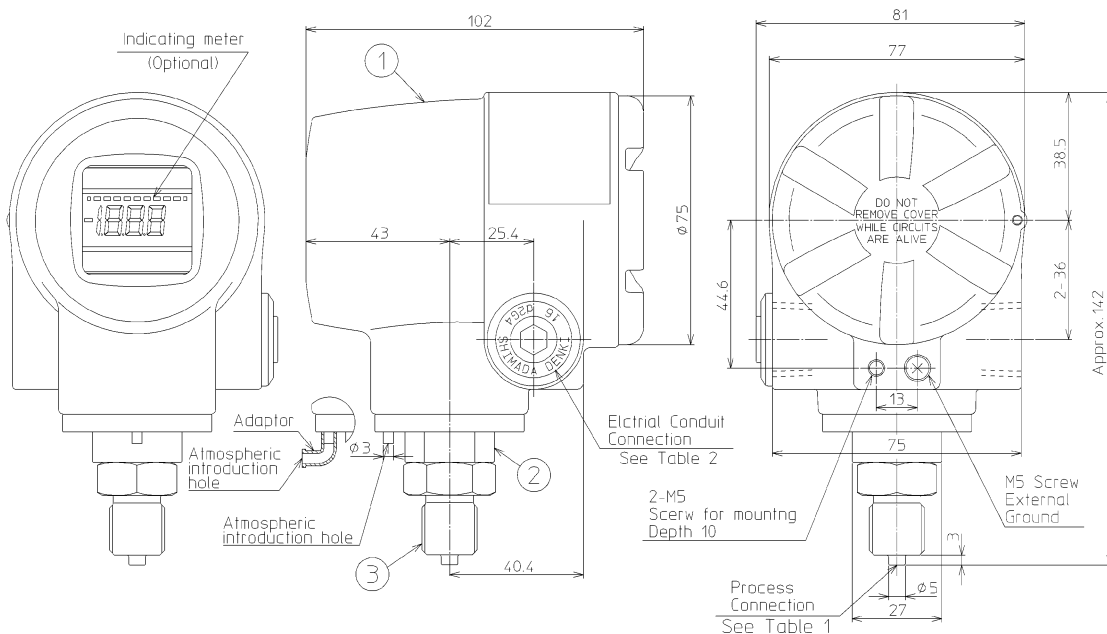


Table1 (See Inst. spec.)

| Mode No. | Thread Type of Process Connection | |
|-------------|-----------------------------------|---------------|
| Thread Type | Thread Size | |
| G | 3 | G3/8 External |

Table2 (See Inst. spec.)

| Mode No. Selection | Optional2 | Electrical Conduit Connection |
|--------------------|-----------|-------------------------------|
| A·B | — | G 1/2 Internal |
| | — | 1/2NPT Internal |
| N·D·L | T | M20 Internal (1 pc) |
| | U | M20 Internal (2 pcs) |

Table3 Terminal

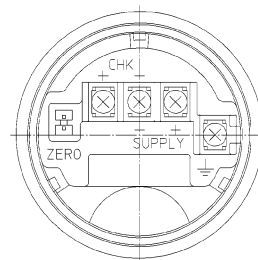
| Symbol | Terminal |
|--------------------|--------------------------------|
| SUPPLY +, SUPPLY - | Power supply and output signal |
| CHK+, CHK- | Check meter |
| ⏏ | Ground |
| ZERO | ZERO Adjuster |

Process connection :G3/8 External

[Unit: mm]

Materials of construction

| KEY No. | Description | Materials |
|---------|-------------|------------------------------|
| 1 | Case | Aluminum alloy |
| 2 | Body | SUS 316 (Diaphragm SUS 316L) |
| 3 | Joint | SUS 316 |



Terminal Connection
(M2 Screw)

See Table 3

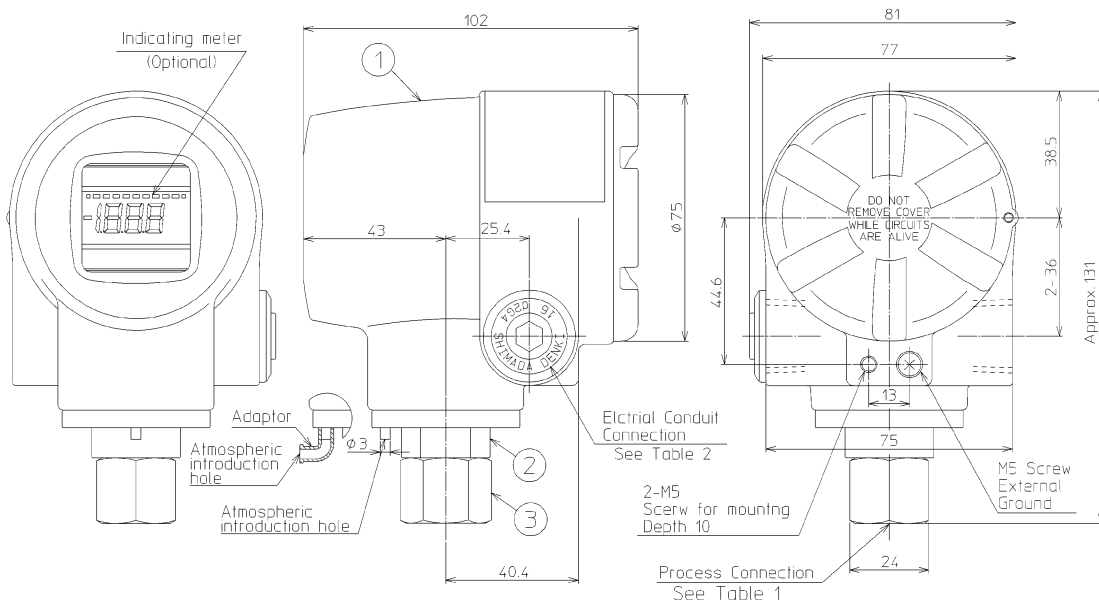


Table1 (See Inst. spec.)

| Mode No. | Thread Type | Thread Size | Process Type of | Process Connection |
|----------|-------------|-------------|-----------------|--------------------|
| C | | 3 | Rc3/8 | Internal |

Table2 (See Inst. spec.)

| Mode No. | Selection | Optional2 | Electrical | Conduit Connection |
|----------|-----------|-----------|------------|--------------------|
| A·B | — | | G 1/2 | Internal |
| | — | | 1/2NPT | Internal |
| N·D·L | T | | M20 | Internal (1 pc) |
| | U | | M20 | Internal (2 pcs) |

Table3 Terminal

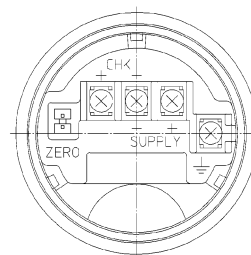
| Symbol | Terminal |
|--------------------|--------------------------------|
| SUPPLY +, SUPPLY - | Power supply and output signa. |
| CHK+, CHK- | Check meter |
| ⏏ | Ground |
| ZERO | ZERO Adjuster |

Process connection : Rc3/8 Internal

[Unit: mm]

Materials of construction

| KEY No. | Description | Materials |
|---------|-------------|------------------------------|
| 1 | Case | Aluminum alloy |
| 2 | Body | SUS 316 (Diaphragm SUS 316L) |



Terminal Connection
(M4 Screw)

See Table 3

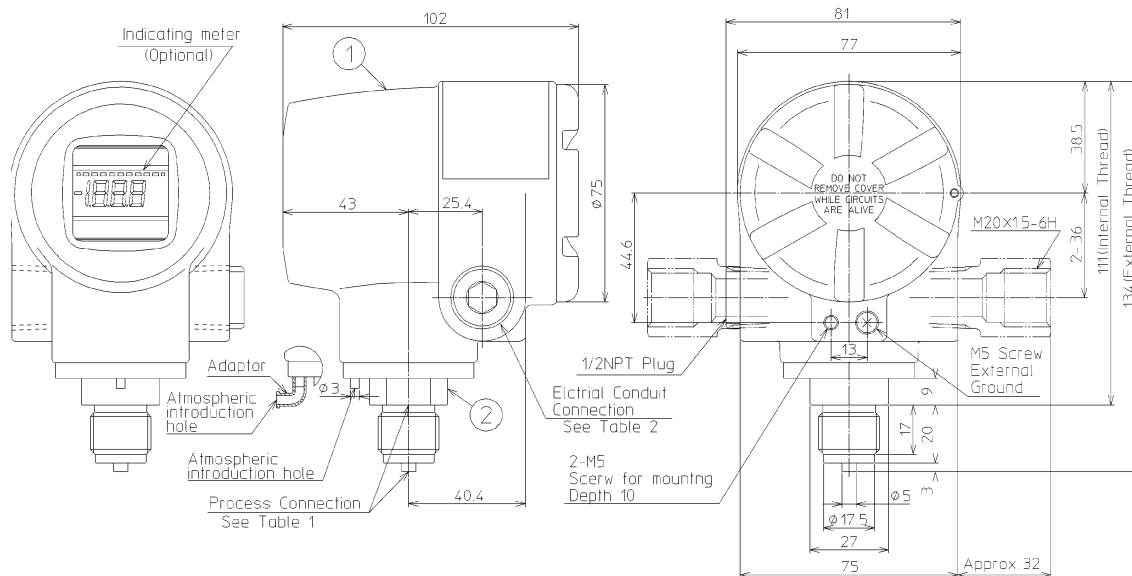


Table1 (See Inst. spec.)

| Mode No. | Thread Type of Process Connection |
|----------|-----------------------------------|
| G | 4 G1/2 External |
| N | 4 NPT 1/2 Internal |
| C | 4 Rc 1/2 Internal |

Table2 (See Inst. spec.)

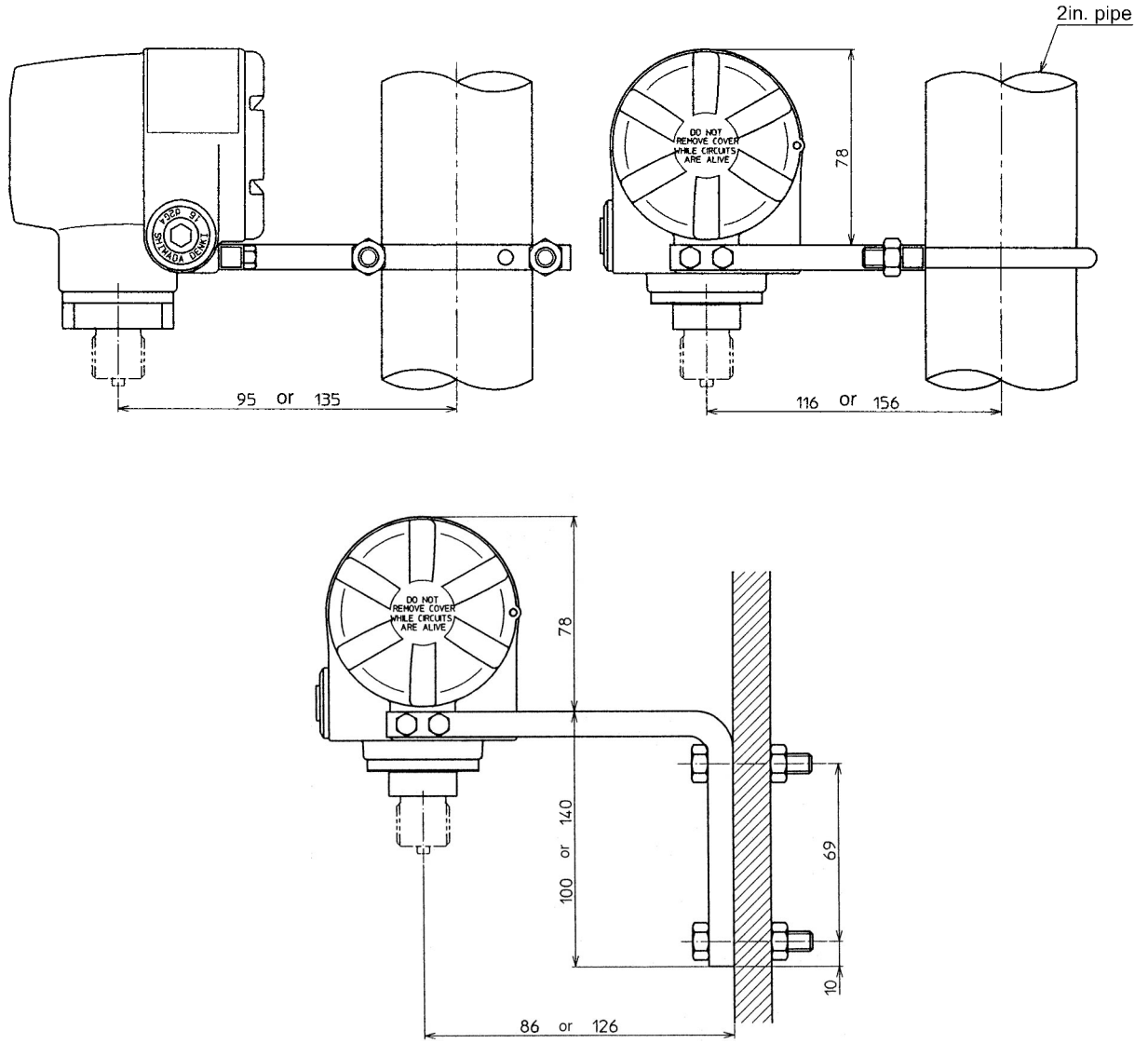
| Mode No. | Electrical Conduit Connection |
|----------|-------------------------------|
| — | 1/2NPT Internal |
| N.D.L | T M20 Internal (1 pc) |
| | U M20 Internal (2 pcs) |

Table3 Terminal

| Symbol | Terminal |
|--------------------|--------------------------------|
| SUPPLY +, SUPPLY - | Power supply and output signal |
| CHK+, CHK- | Check meter |
| ⏏ | Ground |
| ZERO | ZERO Adjuster |

Process connection :G1/2 External
 :1/2NPT internal
 :M20x15 External

[Unit: mm]



Flush diaphragm type

(G2 inch external, G1/2 inch external / flush diaphragm)

**Measuring span / Setting range / Max. working pressure**

| Model number | Measuring span | Setting range | Max. working pressure | Process connection |
|------------------|----------------|-----------------|-----------------------|--|
| PTG70B- <u>3</u> | 2.0 to 100 kPa | -100 to 100 kPa | 200kPa | G2 external thread |
| PTG70B- <u>4</u> | 40 to 400 kPa | -100 to 400 kPa | 800kPa | |
| PTG70B- <u>5</u> | 0.2 to 2 MPa | -0.1 to 2 MPa | 4MPa | G2 external thread G1/2 external thread |
| PTG70B- <u>6</u> | 1 to 10 MPa | -0.1 to 10 MPa | 20MPa | |

Accuracy / Temperature effect**Model PTG70B-3**

| | | |
|-----------------|---|--|
| Accuracy *1, *2 | ± 0.5% F.S. (100 kPa ≥ X ≥ 20 kPa) ± (0.5 × 20 / X)% F.S. (20 kPa ≥ X ≥ 2.0 kPa) | |
|-----------------|---|--|

| | | |
|-------------------------------------|--------------------|--------------------------|
| Zero temperature effect per 30°C *1 | G2 external thread | ± (4.7 × 40 / X + 0.35)% |
|-------------------------------------|--------------------|--------------------------|

Model PTG70B-4

| | | |
|-----------------|--|--|
| Accuracy *1, *2 | ± 0.5% F.S. (400 kPa ≥ X ≥ 80 kPa) ± (0.5 × 80 / X)% F.S. (80 kPa ≥ X ≥ 40 kPa) | |
|-----------------|--|--|

| | | |
|-------------------------------------|--------------------|--------------------------|
| Zero temperature effect per 30°C *1 | G2 external thread | ± (2.5 × 80 / X + 0.35)% |
|-------------------------------------|--------------------|--------------------------|

Model PTG70B-5

| | | |
|-----------------|--|--|
| Accuracy *1, *2 | ± 0.5% F.S. (2 MPa ≥ X ≥ 0.4 MPa) ± (0.5 × 0.4 / X)% F.S. (0.4 MPa ≥ X ≥ 0.2 MPa) | |
|-----------------|--|--|

| | | |
|-------------------------------------|----------------------|----------------------------|
| Zero temperature effect per 30°C *1 | G2 external thread | ± (0.82 × 0.4 / X + 0.35)% |
| | G1/2 external thread | ± (10.8 × 0.4 / X + 0.35)% |

Model PTG70B-6

| | | |
|-----------------|---|--|
| Accuracy *1, *2 | ± 0.5% F.S. (10.0 MPa ≥ X ≥ 2.0 MPa) ± (0.5 × 2.0 / X)% F.S. (2.0 MPa ≥ X ≥ 1.0 MPa) | |
|-----------------|---|--|

| | | |
|-------------------------------------|----------------------|----------------------------|
| Zero temperature effect per 30°C *1 | G2 external thread | ± (0.49 × 2.0 / X + 0.35)% |
| | G1/2 external thread | ± (2.48 × 2.0 / X + 0.35)% |

Note) *1: Within a range of URV ≥ 0 and LRV ≥ 0

*2: Negative pressure accuracy

Accuracy, which is greater value of either ±3% F.S. or upper calculated accuracy.

Ambient temperature limits**Normal operating ranges**

| Fill fluid | G2 external thread | G1/2 external thread |
|------------------|--------------------|----------------------|
| Silicone oil | -20 to 60°C | -10 to 50°C |
| Propylene glycol | -10 to 60°C | -10 to 50°C |

Transportation and storage temperatures

| Fill fluid | G2 external thread | G1/2 external thread |
|------------------|--------------------|----------------------|
| Silicone oil | -30 to 60°C | 20 to 60°C |
| Propylene glycol | -20 to 60°C | -20 to 60°C |

Temperature ranges of wetted parts

| Fill fluid | G2 external thread | G1/2 external thread |
|------------------|--------------------|----------------------|
| Silicone oil | -20 to 110°C | -10 to 85°C |
| Propylene glycol | -10 to 110°C | -10 to 85°C |

Ambient humidity limits

5 to 100% RH

Materials**Fill fluid**

- Silicone oil
- Propylene glycol

Wetted parts**Diaphragm**

SUS316L

Others

SUS316

Case

Aluminum alloy

Weight

- G2 inch external thread: Approx. 2.5kg
- G1/2 inch external thread: Approx. 1.5kg

Process connection

- G2 inch external thread
- G1/2 inch external thread

MODEL SELECTION

Smart pressure transmitter model PTG70B

Process connection: Flush diaphragm type (G2 inch external, G1/2 inch external / flush diaphragm)

Measuring span: 2.0 to 100 kPa, 40 to 400 kPa, 0.2 to 2 MPa, 1 to 10 MPa

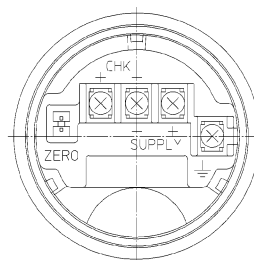
Model number structure: basic model number - Selection - Option 1 - Option 2

| Option2 | | DIMENSIONS | | | | Selection | Option1 |
|--|--|------------|---|--|-----|-----------|---------|
| Basic model number | | | - | | | | |
| Product description | Gauge pressure transmitter: Screw connection type (flush) | PTG70B | - | | | | |
| Type of protection | JIS Flameproof (oil immersion) Electrical connection: G1/2 | A | | | | | |
| Measuring span | 2.0 to 100 kPa (0.021 to 1.019 kgf/cm ²) (Not applicable for process connection G1/2) | 3 | | | | | |
| | 40 to 400 kPa (0.408 to 4.07 kgf/cm ²) (Not applicable for process connection G1/2) | 4 | | | | | |
| | 0.2 to 2 MPa (2.04 to 20.3 kgf/cm ²) | 5 | | | | | |
| | 1 to 10 MPa (10.20 to 101.9 kgf/cm ²) | 6 | | | | | |
| Material: Diaphragm / wetted parts other than diaphragm /fill fluid | SUS316L / SUS316L / Silicone oil | C1 | | | | | |
| | SUS316L / SUS316L / Propylene glycol | CB | | | | | |
| Process connection | G2 external thread | | | | AGF | | |
| | G1/2 external thread | | | | AG4 | | |
| Option 1 | | | | | | - | |
| No option | | | | | | | X |
| Built-in digital indicator | | | | | | | M |
| Heavy-duty corrosion-proof coating | | | | | | | B |
| Remote communication function | | | | | | | C |
| Wetted part finish | Oil free finish | | | | | | G |
| | Water and oil free finish | | | | | | H |
| Option2 | | | | | | - | |
| No option | | | | | | | X |
| Test report | | | | | | | 1 |
| Material certificate | | | | | | | 2 |
| Documents conforming to Japanese high pressure gas control law | | | | | | | 3 |
| Over-pressure leak test | | | | | | | 4 |
| Strength calculation sheet (JIS) | | | | | | | 5 |
| Traceability certificate | | | | | | | 6 |
| Mounting bracket | | | | | | | H |
| Certificate of oil free finish | | | | | | | J |
| Certificate of oil free and No water finish | | | | | | | P |

[Unit: mm]

Materials of construction

| KEY No. | Description | Materials |
|---------|-------------|------------------------------|
| 1 | Case | Aluminum alloy |
| 2 | Body | SUS 316 (Diaphragm SUS 316L) |
| 3 | Wetted Part | SUS 316L |



Terminal Connection
(M4 Screw)
See Table 3

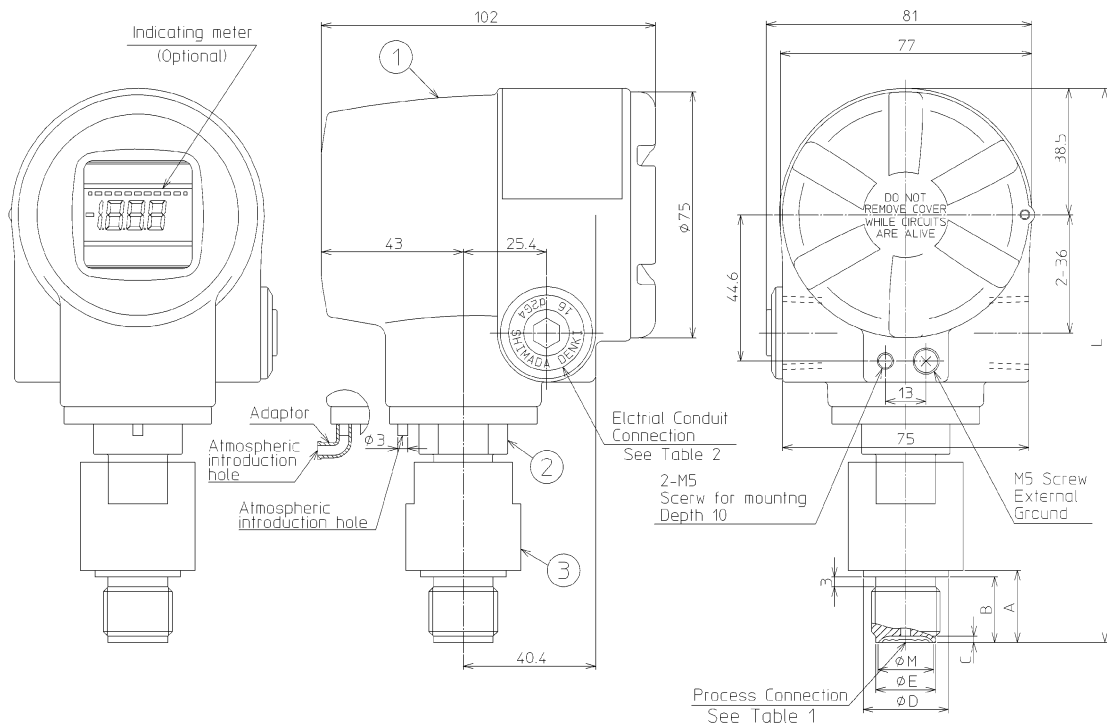


Table1 (See Inst. spec.)

| Fitting | Mode No. | | Thread Type of Process Connection (G) | A | B | φD | C | φE | φM | L |
|---------|-------------|-------------|---------------------------------------|----|----|----|---|------|----|------------|
| | Thread Type | Thread Size | | | | | | | | |
| A | G | 4 | G 1/2 External | 22 | 20 | 26 | 2 | 18.2 | 17 | Approx 172 |
| | | F | G 2 External | 30 | — | — | — | — | 43 | Approx 180 |

Table2 (See Inst. spec.)

| Mode No. | Electrical Conduit Connection |
|----------|-------------------------------|
| A, B | G 1/2 Internal |
| N, D, L | 1/2NPT Internal |

Table3 Terminal

| Symbol | Terminal |
|--------------------|--------------------------------|
| SUPPLY +, SUPPLY - | Power supply and output signal |
| CHK+, CHK- | Check meter |
| ⊥ | Ground |
| ZERO | ZERO Adjuster |

Flange type

(1/2 inch, 2 inches)



Accuracy, which is greater value of either $\pm 3\%$ F.S. or upper calculated accuracy.

Ambient temperature limits**Normal operating range**

Silicone oil -25 to 60°C
 Propylene glycol -10 to 60°C

Transportation and storage temperature

Silicone oil -40 to 70°C
 Propylene glycol -20 to 60°C

Temperature ranges of wetted parts

Silicone oil -40 to 110°C
 Propylene glycol -10 to 110°C
 150°C for 30 minutes during steam cleaning.

Ambient humidity limits

5 to 100% RH

Measuring Span / Setting Range / Max. Working Pressure

| Model number | Measuring span | Setting range | Max. working pressure | Process connection |
|---------------|----------------|-----------------|----------------------------|---|
| PTG70F- _3 | 2.0 to 100 kPa | -100 to 100 kPa | 200 kPa | 2 inches (50 mm), 1/2 inch (15 mm) |
| PTG70F- _4 | 40 to 400 kPa | -100 to 400 kPa | 800 kPa | |
| PTG70F- _5 | 0.2 to 2 MPa | -0.1 to 2 MPa | 4 MPa or flange rating | |
| PTG70F- _6 | 1 to 10 MPa | -0.1 to 10 MPa | 20 MPa or flange rating | |

Materials**Fill fluid**

- Silicone oil
- Propylene glycol

Wetted parts

Diaphragm
 SUS316L

Others
 SUS316

Flange parts

SUS304

Case

Aluminum alloy

Weight

JIS10K 50A : Approx. 4.2 kg
 JIS10K 15A : Approx. 2 kg

Process connection

- JIS10K 15 mm, 50 mm
- JIS30K 15 mm, 50 mm

Accuracy / Temperature effect**Model PTG70F- _3**

| | |
|-----------------|---|
| Accuracy *1, *2 | $\pm 0.5\%$ F.S. ($100 \text{ kPa} \geq X \geq 20 \text{ kPa}$) $\pm (0.5 \times 2.0 / X)\%$ F.S. ($20 \text{ kPa} > X > 2 \text{ kPa}$) |
|-----------------|---|

| | | |
|-------------------------------------|------------------|-------------------------------------|
| Zero temperature effect per 30°C *1 | 2 inches (50 mm) | $\pm (4.5 \times 40 / X + 0.35)\%$ |
| | 1/2 inch (15 mm) | $\pm (10.0 \times 40 / X + 0.35)\%$ |

Model PTG70F- _4

| | |
|-----------------|---|
| Accuracy *1, *2 | $\pm 0.5\%$ F.S. ($400 \text{ kPa} \geq X \geq 80 \text{ kPa}$) $\pm (0.5 \times 80 / X)\%$ F.S. ($80 \text{ kPa} \geq X \geq 40 \text{ kPa}$) |
|-----------------|---|

| | | |
|-------------------------------------|------------------|------------------------------------|
| Zero temperature effect per 30°C *1 | 2 inches (50 mm) | $\pm (2.4 \times 80 / X + 0.35)\%$ |
| | 1/2 inch (15 mm) | $\pm (7.1 \times 80 / X + 0.35)\%$ |

Model PTG70F- _5

| | |
|-----------------|---|
| Accuracy *1, *2 | $\pm 0.5\%$ F.S. ($2 \text{ MPa} \geq X \geq 0.4 \text{ MPa}$) $\pm (0.5 \times 0.4 / X)\%$ F.S. ($0.4 \text{ MPa} \geq X \geq 0.2 \text{ MPa}$) |
|-----------------|---|

| | | |
|-------------------------------------|------------------|-------------------------------------|
| Zero temperature effect per 30°C *1 | 2 inches (50 mm) | $\pm (0.8 \times 0.4 / X + 0.35)\%$ |
| | 1/2 inch (15 mm) | $\pm (1.4 \times 0.4 / X + 0.35)\%$ |

Model PTG70F- _6

| | |
|-----------------|--|
| Accuracy *1, *2 | $\pm 0.5\%$ F.S. ($10.0 \text{ MPa} > X > 2.0 \text{ MPa}$) $\pm (0.5 \times 2.0 / X)\%$ F.S. ($2.0 \text{ MPa} > X > 1.0 \text{ MPa}$) |
|-----------------|--|

| | | |
|-------------------------------------|------------------|-------------------------------------|
| Zero temperature effect per 30°C *1 | 2 inches (50 mm) | $\pm (0.5 \times 2.0 / X + 0.35)\%$ |
| | 1/2 inch (15 mm) | $\pm (0.5 \times 2.0 / X + 0.35)\%$ |

Note) *1: Within a range of $URV \geq 0$ and $LRV \geq 0$

*2: Negative pressure accuracy

MODEL SELECTION

Smart pressure transmitter model PTG70F

Process connection: Flange type

Measuring span: 2.0 to 100 kPa, 40 to 400 kPa, 0.2 to 2 MPa, 1 to 10 MPa

Model number structure: Basic model number - Selection - Option1 - Option2

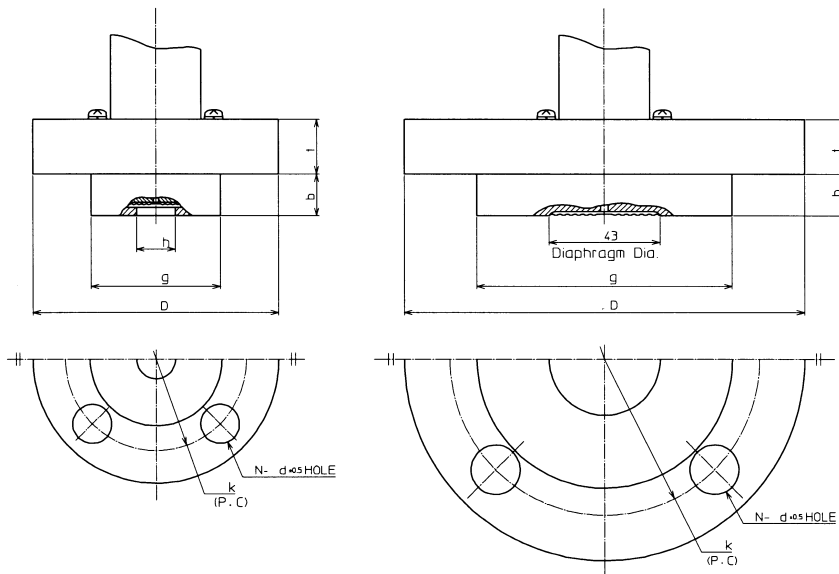
| Basic model number | | Selection | | | | | | | Option1 | Option2 |
|--|---|-----------|--|--|--|--|--|--|---------|---------|
| Product description | Gauge pressure transmitter: Flange mount type | PTG70F | | | | | | | | |
| Type of protection | JIS Flameproof (oil immersion) Electrical connection: G1/2 | A | | | | | | | | |
| Measuring span | 2.0 to 100 kPa (0.021 to 1.019 kgf/cm ²) | 3 | | | | | | | | |
| | 40 to 400 kPa (0.408 to 4.07 kgf/cm ²) | 4 | | | | | | | | |
| | 0.2 to 2 MPa (2.04 to 20.3 kgf/cm ²) | 5 | | | | | | | | |
| | 1 to 10 MPa (10.20 to 101.9 kgf/cm ²) | 6 | | | | | | | | |
| Material Diaphragm / wetted parts other than dia- phragm/fill fluid | SUS316L / SUS316L / Silicone oil | C1 | | | | | | | | |
| | SUS316L/SUS316L/Propylene glycol | CB | | | | | | | | |
| Flange standard/rating | JIS 10K | A | | | | | | | | |
| | JIS 30K *1 | D | | | | | | | | |
| Flange diameter | 2 inches / 50 mm | 3 | | | | | | | | |
| | 1 inch / 25 mm *3 | 5 | | | | | | | | |
| | 1/2 inch / 15 mm | 7 | | | | | | | | |
| Flange material | SUS304 | S | | | | | | | | |
| Flange extension | None | X | | | | | | | | |
| Option 1 | | | | | | | | | - | |
| No option | | | | | | | | | X | |
| Built-in digital indicator | | | | | | | | | M | |
| Heavy-duty corrosion-proof coating | | | | | | | | | B | |
| Remote communication function | | | | | | | | | C | |
| Wetted parts finish | Oil free finish | | | | | | | | G | |
| | Water and oil free finish | | | | | | | | H | |
| Option2 | | | | | | | | | - | |
| No option | | | | | | | | | X | |
| Test report | | | | | | | | | 1 | |
| Material certificate | | | | | | | | | 2 | |
| Documents conforming to Japanese high pressure gas control law | | | | | | | | | 3 | |
| Over-pressure leak test | | | | | | | | | 4 | |
| Strength calculation sheet (JIS) | | | | | | | | | 5 | |
| Traceability certificate | | | | | | | | | 6 | |
| Mounting bracket | | | | | | | | | H | |
| Certificate of oil free finish | | | | | | | | | J | |
| Certificate of oil free and No water finish | | | | | | | | | P | |

Note) *1 Flange rating JIS20K cannot be selected with flange size 2 inches / 50 mm.

*2 Flange size 1 inch / 25 mm is applicable only with flange rating JIS 20K

JIS 10K - 15 mm / 25 mm

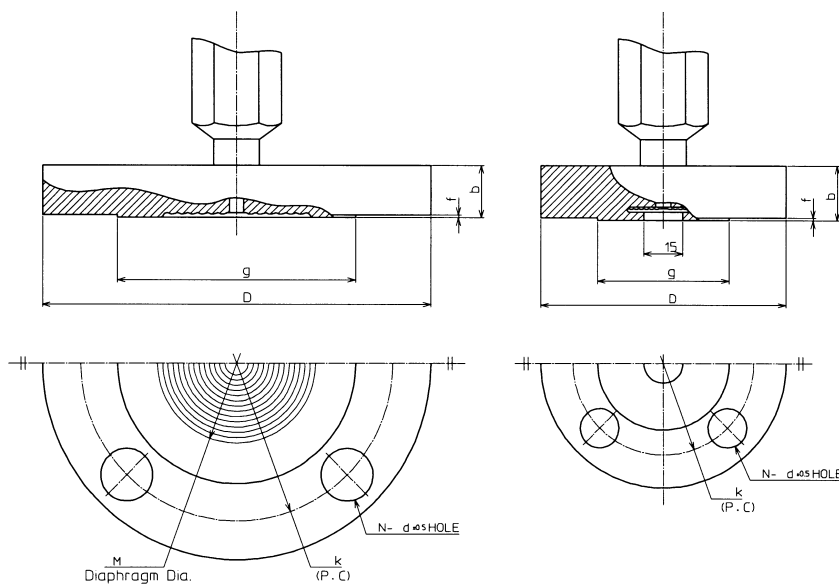
JIS 10K - 50 mm



| Flange rating | D_0^{-1} | g | k | N | $d^{\pm 0.5}$ | l^{+1} | h | b |
|-----------------|------------|----|-----|---|---------------|----------|----|----|
| JIS 10K - 15 mm | 95 | 54 | 70 | 4 | 15 | 12 | 15 | 16 |
| JIS 10K - 50 mm | 155 | 99 | 120 | 4 | 19 | 16 | - | 19 |

JIS 30K - 50mm

JIS 30K - 15 mm



| Flange rating | D^{-1} | g | k | N | $d^{\pm 0.5}$ | M | b^{+1} | f |
|-----------------|----------|-----|-----|---|---------------|----|----------|---|
| JIS 30K - 15 mm | 115 | 55 | 80 | 4 | 19 | - | 21 | 1 |
| JIS 30K - 50 mm | 165 | 105 | 130 | 8 | 19 | 59 | 22 | 2 |

Ferrule type

(1S, 1½S, 2S clamp type)

**Measuring span / Setting range / Max. working pressure**

| Model number | Measuring span | Setting range | Max. working pressure | Process connection |
|---------------|----------------|-----------------|-------------------------|--------------------|
| PTG70S- _3 | 2.0 to 100 kPa | -100 to 100 kPa | 200 kPa | 2S, 1½S |
| PTG70S- _4 | 40 to 400 kPa | -100 to 400 kPa | 800 kPa or clamp rating | 2S, 1½S, 1S |
| PTG70S- _5 | 0.2 to 2 MPa | -0.1 to 2 MPa | 4 MPa or clamp rating | |

Accuracy / Max. working pressure**Model PTG70S- _3**

| | | |
|--|---|--------------------------|
| Accuracy *1, *2 | ± 0.5% F.S. (100 kPa ≥ X ≥ 20 kPa) ± (0.5 × 20 / X)% F.S. (20 kPa ≥ X ≥ 2 kPa) | |
| Zero temperature effect per 30°C *1 | 2S (Clamp type) | ± (2.4 × 40 / X + 0.35)% |
| | 1½S (Clamp type) | ± (5.7 × 40 / X + 0.35)% |

Model PTG70S- _4

| | | |
|--|--|---------------------------|
| Accuracy *1, *2 | ± 0.5% F.S. (400 kPa ≥ X ≥ 80 kPa) ± (0.5 × 80 / X)% F.S. (80 kPa ≥ X ≥ 40 kPa) | |
| Zero temperature effect per 30°C *1 | 2S (Clamp type) | ± (1.3 × 80 / X + 0.35)% |
| | 1½S (Clamp type) | ± (3.0 × 80 / X + 0.35)% |
| | 1S (Clamp type) | ± (30.4 × 80 / X + 0.35)% |

Model PTG70S- _5

| | | |
|--|--|----------------------------|
| Accuracy *1, *2 | ± 0.5% F.S. (2 MPa ≥ X ≥ 0.4 MPa) ± (0.5 × 0.4 / X)% F.S. (0.4 MPa ≥ X ≥ 0.2 MPa) | |
| Zero temperature effect per 30°C *1 | 2S (Clamp type) | ± (0.58 × 0.4 / X + 0.35)% |
| | 1½S (Clamp type) | ± (0.92 × 0.4 / X + 0.35)% |
| | 1S (Clamp type) | ± (6.4 × 0.4 / X + 0.35)% |

Note) *1: Within a range of URV ≥ 0 and LRV ≥ 0

*2: Negative pressure accuracy

Accuracy, which is greater value of either ±3% F.S. or upper calculated accuracy.

Ambient temperature limits**Normal operating range**

-10 to 60°C

Transportation and storage temperature

-20 to 70°C

Temperature ranges of wetted parts

-10 to 121°C

150°C for 60 minutes during steam cleaning

Ambient humidity limits

5 to 100% RH

Materials**Fill fluid**

Propylene glycol

Wetted parts**Diaphragm**

SUS316L

Others

SUS316

Case

Aluminum alloy

Weight

Approx 1.2 kg

Process connection

- IDF 1S clamp type
- IDF 1½S clamp type
- IDF 2S clamp type

MODEL SELECTION

Smart pressure transmitter model PTG70S

Process connection: Ferrule clamp type

Measuring span: 2.0 to 100 kPa, 40 to 400 kPa, 0.2 to 2 MPa

Model number structure: Basic model number - Selection - Option1 - Option2

| Basic model number | | Selection | | | | Option1 | Option2 |
|---|--|-----------|---|----|--|---------|---------|
| Product description | Gauge pressure transmitter: Ferrule type with SFC communication | PTG70S | | | | | |
| Type of protection | JIS Flameproof (oil immersion) Electrical connection: G1/2 | - | A | | | | |
| Measuring span | 2.0 to 100 kPa (0.021 to 1.1019 kgf/cm ²) (Not applicable for process connection 1S.) | | | 3 | | | |
| | 40 to 400 kPa (0.408 to 4.07 kgf/cm ²) | | | 4 | | | |
| | 0.2 to 2 MPa (2.04 to 20.3 kgf/cm ²) | | | 5 | | | |
| Material: Diaphragm / wetted parts other than diaphragm/fill fluid | SUS316L / SUS316L / Propylene glycol | | | CB | | | |
| Process connection | IDF 1S ferrule clamp type | | | | | | |
| | IDF 1½S ferrule clamp type | | | | | | |
| | IDF 2S ferrule clamp type | | | | | | |
| Option 1 | | | | | | - | |
| No option | | | | | | | X |
| Built-in digital indicator | | | | | | | M |
| Heavy-duty corrosion-proof coating | | | | | | | B |
| Remote communication function | | | | | | | C |
| Wetted parts finish | Anti-dynamic pressure specification *1 | | | | | | F |
| | Anti-pulsation specification *2 | | | | | | J |
| | Oil free finish | | | | | | G |
| | Water and oil free finish | | | | | | H |
| | Electrolytic grinding | | | | | | K |
| | Passive state finish | | | | | | W |
| Option2 | | | | | | | - |
| No option | | | | | | | X |
| Test report | | | | | | | 1 |
| Material certificate | | | | | | | 2 |
| Documents conforming to Japanese high pressure gas control law | | | | | | | 3 |
| Over-pressure leak test | | | | | | | 4 |
| Strength calculation sheet (JIS) | | | | | | | 5 |
| Traceability certificate | | | | | | | 6 |
| Mounting bracket | | | | | | | H |
| Certificate of oil free finish | | | | | | | J |
| Certificate of oil free and No water finish | | | | | | | P |

Note) *1 Not applicable for ferrule size 1S. The temperature effect will be 3.5 times of the standard. Wetted parts temperature range is +10 to +90°C.

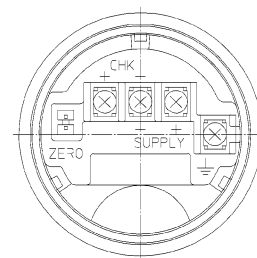
*2 Not applicable for ferrule size 1S. The accuracy will be 1.5 times and the temperature effect will be 3.5 times of the standard. Wetted parts temperature range is +10 to +45°C.

DIMENSIONS

[Unit: mm]

Materials of construction

| KEY No. | Description | Materials |
|---------|-------------|-------------------------------|
| 1 | Case | Aluminum alloy |
| 2 | Body | SUS 316 |
| 3 | Ferrule | SUS 316L (Diaphragm SUS 316L) |



Terminal Connections
(M4 Screw)
See Table 3

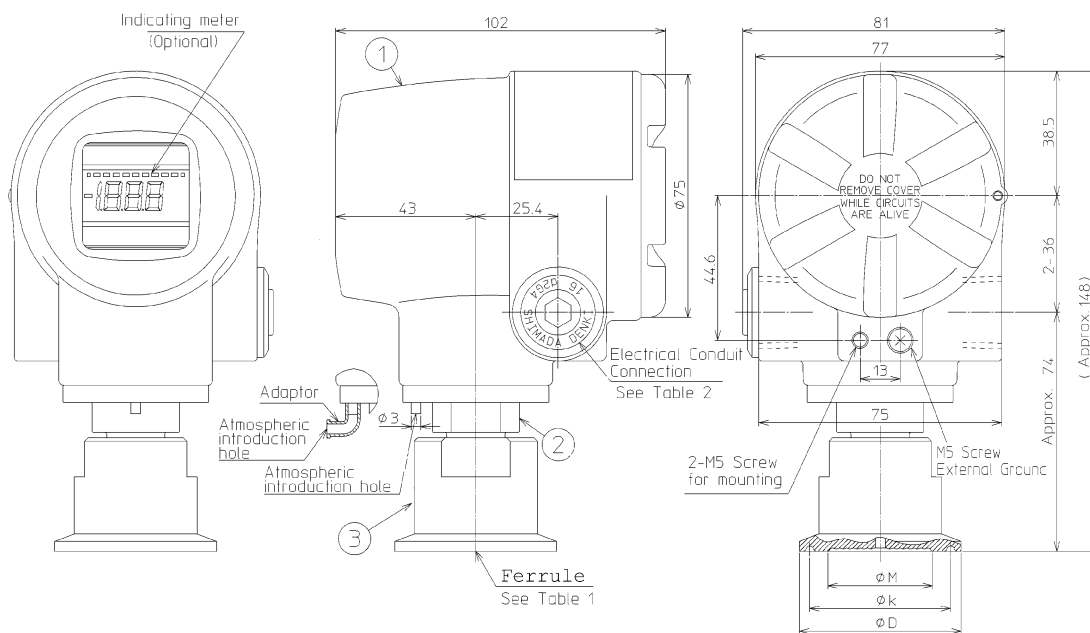


Table1 (See Inst. spec.)

| Rating | Model No. | | Ferrule size | D | φk | φM |
|--------|-----------|------|--------------|------|------|----|
| | Fitting | Size | | | | |
| A | H | 2 | IDF 1S | 50.5 | 43.5 | 22 |
| | | 3 | IDF 15S | | | 28 |
| | | 4 | IDF 2S | 64 | 56.5 | 43 |

Table2 (See Inst. spec.)

| Model No. | Electrical Conduit Connection |
|-----------|-------------------------------|
| A, B | G 1/2 Internal |
| N, D, L | 1/2 NPT Internal |

Table3 Terminal

| Symbol | Terminal |
|--------------------|--------------------------------|
| SUPPLY +, SUPPLY - | Power supply and output signal |
| CHK+, CHK- | Check meter |
| ⊥ | Ground |
| ZERO | ZERO Adjuster |

Ferrule type

(1½ inch, 2 inches cap nut type)



Measuring Span / Setting Range / Max. Working Pressure

| Model number | Measuring span | Setting range | Max. working pressure | Process connection |
|--------------|----------------|-----------------|---------------------------|--------------------|
| PTG70S - _3 | 2.0 to 100 kPa | -100 to 100 kPa | 200 kPa | 2S, 1½S |
| PTG70S - _4 | 40 to 400 kPa | -100 to 400 kPa | 800 kPa or cap nut rating | |
| PTG70S - _5 | 0.2 to 2 MPa | -0.1 to 2 MPa | 4 MPa or cap nut rating | |

Accuracy / Max. working pressure

Model PTG70S- _3

| | | |
|--|---|--------------------------|
| Accuracy *1, *2 | ± 0.5% F.S. (100 kPa ≥ X ≥ 20 kPa) ± (0.5 × 20 / X)% F.S. (20 kPa ≥ X ≥ 2 kPa) | |
| Zero temperature effect per 30°C *1 | 2S (Cap nut type) | ± (2.4 × 40 / X + 0.35)% |
| | 1½S (Cap nut type) | ± (5.7 × 40 / X + 0.35)% |

Model PTG70S- _4

| | | |
|--|---|--------------------------|
| Accuracy *1, *2 | ± 0.5% F.S. (400 kPa ≥ X ≥ 80k Pa) ± (0.5 × 80 / X)%F.S. (80 kPa ≥ X ≥ 40 kPa) | |
| Zero temperature effect per 30°C *1 | 2S (Cap nut type) | ± (1.3 × 80 / X + 0.35)% |
| | 1½S (Cap nut type) | ± (3.0 × 80 / X + 0.35)% |

Model PTG70S- _5

| | | |
|--|--|----------------------------|
| Accuracy *1, *2 | ± 0.5% F.S. (2 MPa ≥ X ≥ 0.4 MPa) ± (0.5 × 0.4 / X)% F.S. (0.4 MPa ≥ X ≥ 0.2M Pa) | |
| Zero temperature effect per 30°C *1 | 2S (Cap nut type) | ± (0.58 × 0.4 / X + 0.35)% |
| | 1½S (Cap nut type) | ± (0.92 × 0.4 / X + 0.35)% |

Note) *1: Within a range of URV ≥ 0 and LRV ≥ 0
 *2: Negative pressure accuracy
 Accuracy, which is greater value of either ±3% F.S. or upper calculated accuracy.

Ambient temperature limits

Normal operating range

-10 to 60°C

Transportation and storage temperature

-20 to 70°C

Temperature range of wetted parts

-10 to 121°C

150°C within 30 minutes of steam cleaning

Ambient humidity limits

5 to 100% RH

Materials

Fill fluid

Propylene glycol

Wetted parts

Diaphragm

SUS316L

Others

SUS316

Case

Aluminum alloy

Weight

- 1½ inch : Approx. 1.4 kg
- 2 inches : Approx. 1.7 kg

Process connection

- IDF 1½S cap nut type
- IDF 2S cap nut type

MODEL SELECTION**Smart pressure transmitter model PTG70S**

Process connection: Ferrule cap nut type

Measuring span: 2.0 to 100 kPa, 40 to 400 kPa, 0.2 to 2 MPa

Model number structure: Basic model number - Selection - Option1 - Option2

| | | Selection | | | | Option1 | Option2 |
|---|---|-----------|---|----|------|---------|---------|
| | | | | | | | |
| Product Description | Gauge pressure transmitter: Ferrule type | PTG70S | | | | | |
| Type of protection | JIS Flameproof (oil immersion) Electrical connection: G1/2 | A | | | | | |
| Measuring span | 2.0 to 100 kPa (0.021 to 1.1019 kgf/cm ²) | | 3 | | | | |
| | 40 to 400 kPa (0.408 to 4.07 kgf/cm ²) | | 4 | | | | |
| | 0.2 to 2 MPa (2.04 to 20.3 kgf/cm ²) | | 5 | | | | |
| Material: Diaphragm / wetted parts other than diaphragm/fill fluid | SUS316L / SUS316L / Propylene glycol | | | CB | | | |
| Process connection | IDF 1½S ferrule cap nut type | | | | AC3X | | |
| | IDF 2S ferrule cap nut type | | | | AC4X | | |
| Option 1 | | | | | | - | |
| No option | | | | | | | X |
| Built-in digital indicator | | | | | | | M |
| Heavy-duty corrosion-proof coating | | | | | | | B |
| Remote communication function | | | | | | | C |
| Wetted part finish | Anti-dynamic pressure specification *1 | | | | | | F |
| | Anti-pulsaion specification *2 | | | | | | J |
| | Oil free finish | | | | | | G |
| | Water and oil free finish | | | | | | H |
| | Electrolytic grinding | | | | | | K |
| | Passive state finish | | | | | | W |
| Option2 | | | | | | | - |
| No option | | | | | | | X |
| Test report | | | | | | | 1 |
| Material certificate | | | | | | | 2 |
| Documents conforming to Japanese high pressure gas control law | | | | | | | 3 |
| Over-pressure leak test | | | | | | | 4 |
| Strength calculation sheet (JIS) | | | | | | | 5 |
| Traceability certificate | | | | | | | 6 |
| Mounting bracket | | | | | | | H |
| Certificate of oil free finish | | | | | | | J |
| Certificate of oil free and No water finish | | | | | | | P |

Note) *1 The temperature effect will be 3.5 times of the standard. Wetted parts temperature range is +10 to +90°C.

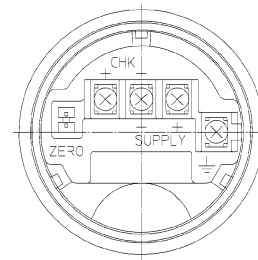
*2 Not applicable for ferrule size 1.5S. The accuracy will be 1.5 times and the temperature effect will be 3.5 times of the standard. Wetted parts temperature range is +10 to +45°C.

DIMENSIONS

[Unit: mm]

Materials of construction

| KEY No. | Description | Materials |
|---------|-------------|----------------|
| 1 | Case | Aluminum alloy |
| 2 | Body | SUS 316 |
| 3 | Wetted Part | SUS 316L |



Terminal Connections
(M4 Screw)
See Table 3

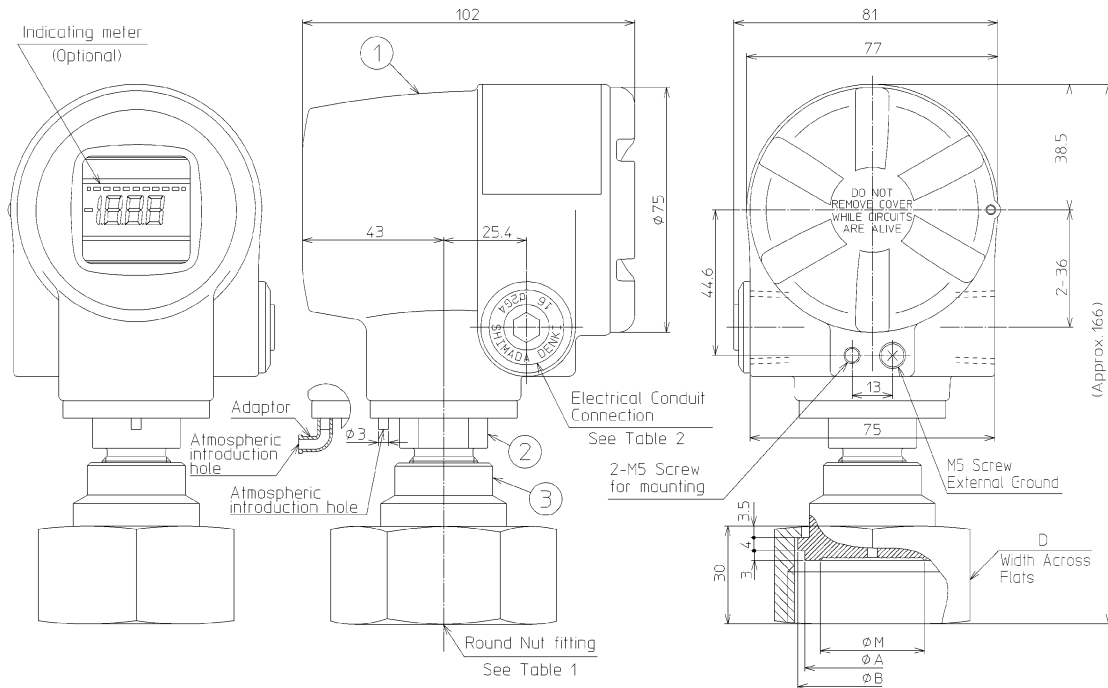


Table1 (See Inst. spec.)

| Model No. | Fitting Size | D | ØM | A | B | | |
|-----------|--------------|---|---------|----|-----------|------|------|
| Rating | Fitting Size | | | | | | |
| A | C | 3 | IDF 15S | 60 | 28 | 42.7 | 47 |
| | | 4 | IDF 2S | 75 | 43 | 56.2 | 60.5 |

Table2 (See Inst. spec.)

| Model No. | Electrical Conduit Connection |
|-----------|-------------------------------|
| A, B | G 1/2 Internal |
| N, D, L | 1/2 NPT Internal |

Table3 Terminal

| Symbol | Terminal |
|--------------------|--------------------------------|
| SUPPLY +, SUPPLY - | Power supply and output signal |
| CHK+, CHK- | Check meter |
| ⊥ | Ground |
| ZERO | ZERO Adjuster |

Ferrule with cooling tower (1 inch, 1 ½ inch, 2 inches clamp type)



Measuring span / Setting range / Max. working pressure

| Model number | Measuring span | Setting range | Max. working pressure | Process connection |
|------------------|----------------|-----------------|-------------------------|--------------------|
| PTG70K- <u>3</u> | 2.0 to 100 kPa | -100 to 100 kPa | 200 kPa | 2, 1½S |
| PTG70K- <u>4</u> | 40 to 400 kPa | -100 to 400 kPa | 800 kPa or clamp rating | 2S, 1½S, 1S |
| PTG70K- <u>5</u> | 0.2 to 2 MPa | -0.1 to 2 MPa | 4 MPa or clamp rating | |

Accuracy / Temperature effect

Model PTG70K-3

| | | |
|-------------------------------------|---|--------------------------|
| Accuracy *1, *2 | ± 0.5% F.S. (100 kPa ≥ X ≥ 20 kPa) ± (0.5 × 20 / X)% F.S. (20 kPa ≥ X ≥ 2 kPa) | |
| Zero temperature effect per 30°C *1 | 2S (Clamp type) | ± (2.5 × 40 / X + 0.35)% |
| | 1½S (Clamp type) | ± (8.5 × 40 / X + 0.35)% |

Model PTG70K-4

| | | |
|-------------------------------------|--|---------------------------|
| Accuracy *1, *2 | ± 0.5% F.S. (400 kPa > X > 80 kPa) ± (0.5 × 80 / X)% F.S. (80 kPa > X > 40 kPa) | |
| Zero temperature effect per 30°C *1 | 2S (Clamp type) | ± (1.4 × 80 / X + 0.35)% |
| | 1½S (Clamp type) | ± (4.4 × 80 / X + 0.35)% |
| | 1S (Clamp type) | ± (37.5 × 80 / X + 0.35)% |

Model PTG70K-5

| | | |
|-------------------------------------|--|---------------------------|
| Accuracy *1, *2 | ± 0.5% F.S. (2 MPa > X > 0.4 MPa) ± (0.5 × 0.4 / X)% F.S. (0.4 MPa > X > 0.2 MPa) | |
| Zero temperature effect per 30°C *1 | 2S (Clamp type) | ± (0.6 × 0.4 / X + 0.35)% |
| | 1½S (Clamp type) | ± (1.2 × 0.4 / X + 0.35)% |
| | 1S (Clamp type) | ± (7.8 × 0.4 / X + 0.35)% |

Note) *1: Within a range of URV ≥ 0 and LRV ≥ 0

*2: Negative pressure accuracy

Accuracy, which is greater value of either ±3% F.S. or upper calculated accuracy.

Ambient temperature limits

Normal operating range

-10 to 60°C

Transportation and storage temperature

-20 to 70°C

Temperature range of wetted parts

-10 to 150°C

Ambient humidity limit

5 to 100% RH

Materials

Fill fluid

Propylene glycol

Wetted parts

Diaphragm

SUS316L

Others

SUS316

Case

Aluminum alloy

Weight

Approx. 1.4 kg

Process connection

- IDF 1S clamp
- IDF 1½S clamp
- IDF 2S clamp

MODEL SELECTION

Smart pressure transmitter model PTG70K

Process connection: Ferrule clamp type with cooling tower

Measuring span: 2.0 to 100 kPa, 40 to 400 kPa, 0.2 to 2 MPa

Model number structure: Basic model number - Selection - Option1 - Option2

| Basic model number | | Selection | | | | Option1 | Option2 |
|---|---|-----------|---|----|------|---------|---------|
| Product description | Gauge pressure transmitter: Ferrule type with cooling tower | PTG70K | | | | | |
| Type of protection | JIS Flameproof (oil immersion) Electrical connection: G1/2 | A | | | | | |
| Measuring span | 2.0 to 100 kPa (0.021 to 1.019 kgf/cm ²) (Applicable only for process connection 2S) | | 3 | | | | |
| | 40 to 400 kPa (0.408 to 4.07 kgf/cm ²) | | 4 | | | | |
| | 0.2 to 2MPa (2.04 to 20.3 kgf/cm ²) | | 5 | | | | |
| Material: Diaphragm / wetted parts other than diaphragm/fill fluid | SUS316L / SUS316L / Propylene glycol | | | CB | | | |
| Process connection | IDF 1S ferrule clamp type (Not applicable for span code "3") | | | | AH2X | | |
| | IDF 1½S ferrule clamp type | | | | AH3X | | |
| | IDF 2S ferrule clamp type | | | | AH4X | | |
| Option 1 | | | | | | - | |
| No option | | | | | | X | |
| Built-in digital indicator | | | | | | M | |
| Heavy-duty corrosion-proof coating | | | | | | B | |
| Remote communication function | | | | | | C | |
| Wetted part finish | Oil free finish | | | | | G | |
| | Water and oil free finish | | | | | H | |
| | Electrolytic grinding | | | | | K | |
| | Passive state finish | | | | | W | |
| Option2 | | | | | | - | |
| No option | | | | | | | X |
| Test report | | | | | | | 1 |
| Material certificate | | | | | | | 2 |
| Documents conforming to Japanese high pressure gas control law | | | | | | | 3 |
| Over-pressure leak test | | | | | | | 4 |
| Strength calculation sheet (JIS) | | | | | | | 5 |
| Traceability certificate | | | | | | | 6 |
| Mounting bracket | | | | | | | H |
| Certificate of oil free finish | | | | | | | J |
| Certificate of oil free and No water finish | | | | | | | P |

DIMENSIONS

[Unit: mm]

Materials of construction

| KEY No. | Description | Materials |
|---------|-----------------|----------------|
| 1 | Case | Aluminum alloy |
| 2 | Body | SUS 316 |
| 3 | Capillary A'ssy | SUS 316 |
| 4 | Welded Part | SUS 316L |

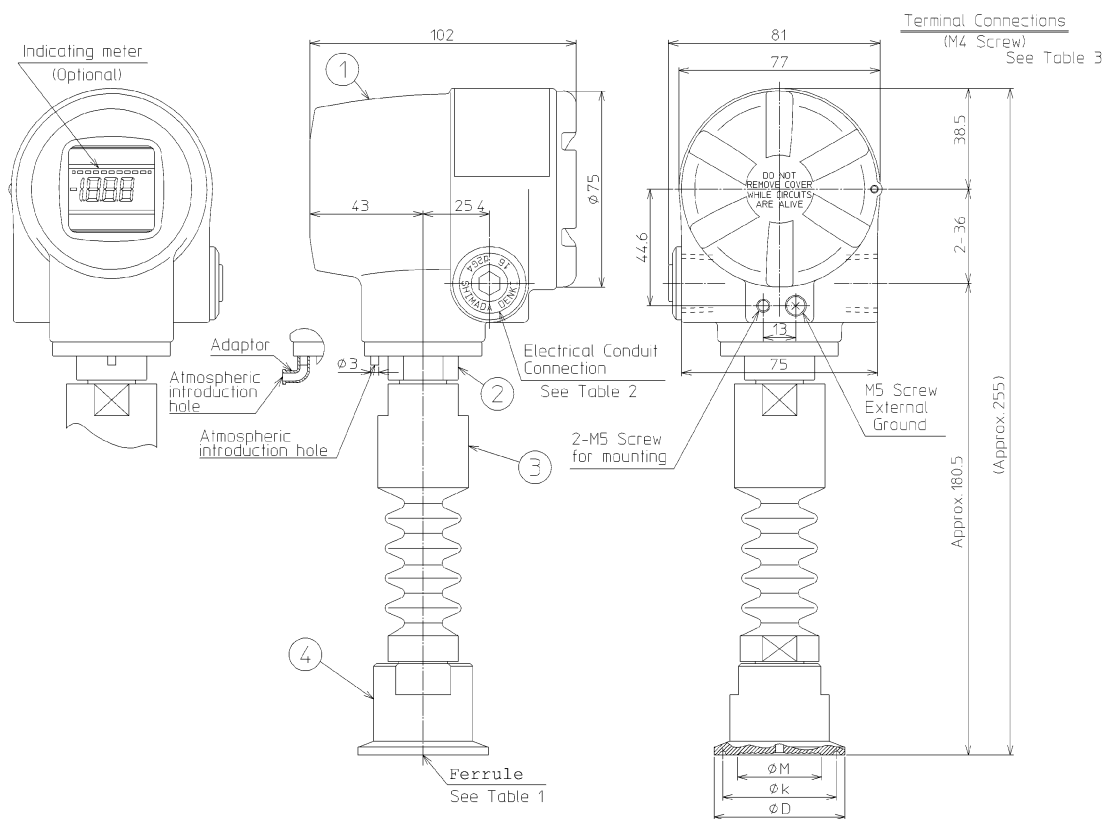
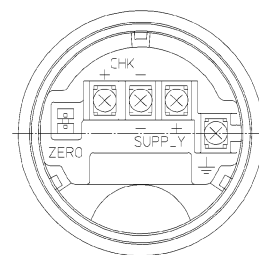


Table1 (See Inst. spec.)

| Model No. | Ferrule Size | | φD | φk | φM | |
|-----------|--------------|--------------|---------|------|------|-----------|
| | Rating | Fitting Size | | | | |
| A | H | 2 | IDF 1S | 50.5 | 43.5 | 22 |
| | | 3 | IDF 15S | | | 28 |
| | | 4 | IDF 2S | 64 | 56.5 | 43 |

Table2 (See Inst. spec.)

| Model No. | Electrical Conduit Connection |
|-----------|-------------------------------|
| A, B | G 1/2 Internal |
| N, D, L | 1/2 NPT Internal |

Table3 Terminal

| Symbol | Terminal |
|--------------------|--------------------------------|
| SUPPLY +, SUPPLY - | Power supply and output signal |
| CHK+, CHK- | Check meter |
| ⊥ | Ground |
| ZERO | ZERO Adjuster |

Ferrule with cooling tower

(1½ inch, 2 inches cap nut type)



Measuring span/ Setting range/ Max. working pressure

| Model number | Measuring span | Setting range | Max. working pressure | Process connection |
|---------------|----------------|-----------------|---------------------------|--------------------|
| PTG70K- _3 | 2.0 to 100kPa | -100 to 100 kPa | 200 kPa | 2S, 1½S |
| PTG70K- _4 | 40 to 400 kPa | -100 to 400 kPa | 800 kPa or cap nut rating | |
| PTG70K- _5 | 0.2 to 2 MPa | -0.1 to 2 MPa | 4 MPa or cap nut rating | |

Accuracy / Temperature effect

Model PTG70K- _3

| | |
|-----------------|--|
| Accuracy *1, *2 | ± 0.5% F.S. (100kPa ≥ X ≥ 20 kPa) ± (0.5 × 20 / X)% F.S. (20k Pa ≥ X ≥ 2 kPa) |
|-----------------|--|

| | | |
|-------------------------------------|--------------------|--------------------------|
| Zero temperature effect per 30°C *1 | 2S (Cap nut type) | ± (2.5 × 40 / X + 0.35)% |
| | 1½S (Cap nut type) | ± (8.5 × 40 / X + 0.35)% |

Model PTG70K- _4

| | |
|-----------------|--|
| Accuracy *1, *2 | ± 0.5% F.S. (400 kPa ≥ X ≥ 80 kPa) ± (0.5 × 80 / X)% F.S. (80 kPa ≥ X ≥ 40 kPa) |
|-----------------|--|

| | | |
|-------------------------------------|--------------------|--------------------------|
| Zero temperature effect per 30°C *1 | 2S (Cap nut type) | ± (1.4 × 80 / X + 0.35)% |
| | 1½S (Cap nut type) | ± (4.4 × 80 / X + 0.35)% |

Model PTG70K- _5

| | |
|-----------------|--|
| Accuracy *1, *2 | ± 0.5% F.S. (2 MPa ≥ X ≥ 0.4 MPa) ± (0.5 × 0.4 / X)% F.S. (0.4 MPa ≥ X ≥ 0.2 MPa) |
|-----------------|--|

| | | |
|-------------------------------------|--------------------|---------------------------|
| Zero temperature effect per 30°C *1 | 2S (Cap nut type) | ± (0.6 × 0.4 / X + 0.35)% |
| | 1½S (Cap nut type) | ± (1.2 × 0.4 / X + 0.35)% |

Note) *1: Within a range of URV ≥ 0 and LRV ≥ 0
 *2: Negative pressure accuracy
 Accuracy, which is greater value of either ±3% F.S. or upper calculated accuracy.

Ambient temperature limits

Normal operating range

-10 to 60°C

Transportation and storage temperature

-20 to 70°C

Temperature ranges of wetted parts

-10 to 150°C

Ambient humidity limits

5 to 100% RH

Materials

Fill fluid

Propylene glycol

Wetted parts

Diaphragm

SUS316L

Others

SUS316

Case

Aluminum alloy

Weight

- 1½ inch: Approx. 1.6 kg
- 2 inches: Approx. 1.9 kg

Process connection

- IDF 1½S cap nut type
- IDF 2S cap nut type

MODEL SELECTION**Smart pressure transmitter model PTG70K**

Process connection: Ferrule cap nut type with cooling tower

Measuring span 2.0 to 100 kPa, 40 to 400 kPa, 0.2 to 2 MPa

Model number structure: Basic model number - Selection - Option1 - Option2

| Basic model number | | - | Selection | | | - | Option1 | - | Option2 |
|---|--|--------|-----------|---|----|------|---------|---|---------|
| Product description | Gauge pressure transmitter: Ferrule type with cooling tower with SFC communication | PTG70K | | | | | | | |
| Type of protection | JIS Flameproof (oil immersion) Electrical connection: G1/2 | | A | | | | | | |
| Measuring span | 2.0 to 100 kPa (0.021 to 1.019 kgf/cm ²) | | | 3 | | | | | |
| | 40 to 400 kPa (0.408 to 4.07 kgf/cm ²) | | | 4 | | | | | |
| | 0.2 to 2 MPa (2.04 to 20.3 kgf/cm ²) | | | 5 | | | | | |
| Material: Diaphragm / wetted parts other than diaphragm/fill fluid | SUS316L / SUS316L / Propylene glycol | | | | CB | | | | |
| Process connection | IDF 1½S ferrule cap nut type | | | | | AC3X | | | |
| | IDF 2S ferrule cap nut type | | | | | AC4X | | | |
| Option 1 | | | | | | | - | | |
| No option | | | | | | | | X | |
| Built-in digital indicator | | | | | | | | M | |
| Heavy-duty corrosion-proof coating | | | | | | | | B | |
| Remote communication function | | | | | | | | C | |
| Wetted part finish | Oil free finish | | | | | | | G | |
| | Water and oil free finish | | | | | | | H | |
| | Electrolytic grinding | | | | | | | K | |
| | Passive state finish | | | | | | | W | |
| Option2 | | | | | | | | | - |
| No option | | | | | | | | | X |
| Test report | | | | | | | | | 1 |
| Material certificate | | | | | | | | | 2 |
| Documents conforming to Japanese high pressure gas control law | | | | | | | | | 3 |
| Over-pressure leak test | | | | | | | | | 4 |
| Strength calculation sheet (JIS) | | | | | | | | | 5 |
| Traceability certificate | | | | | | | | | 6 |
| Mounting bracket | | | | | | | | | H |
| Certificate of oil free finish | | | | | | | | | J |
| Certificate of oil free and No water finish | | | | | | | | | P |

DIMENSIONS

[Unit: mm]

Materials of construction

| KEY No. | Description | Materials |
|---------|-----------------|----------------|
| 1 | Case | Aluminum alloy |
| 2 | Body | SUS 316 |
| 3 | Capillary A'ssy | SUS 316 |
| 4 | Welded Part | SUS 316L |

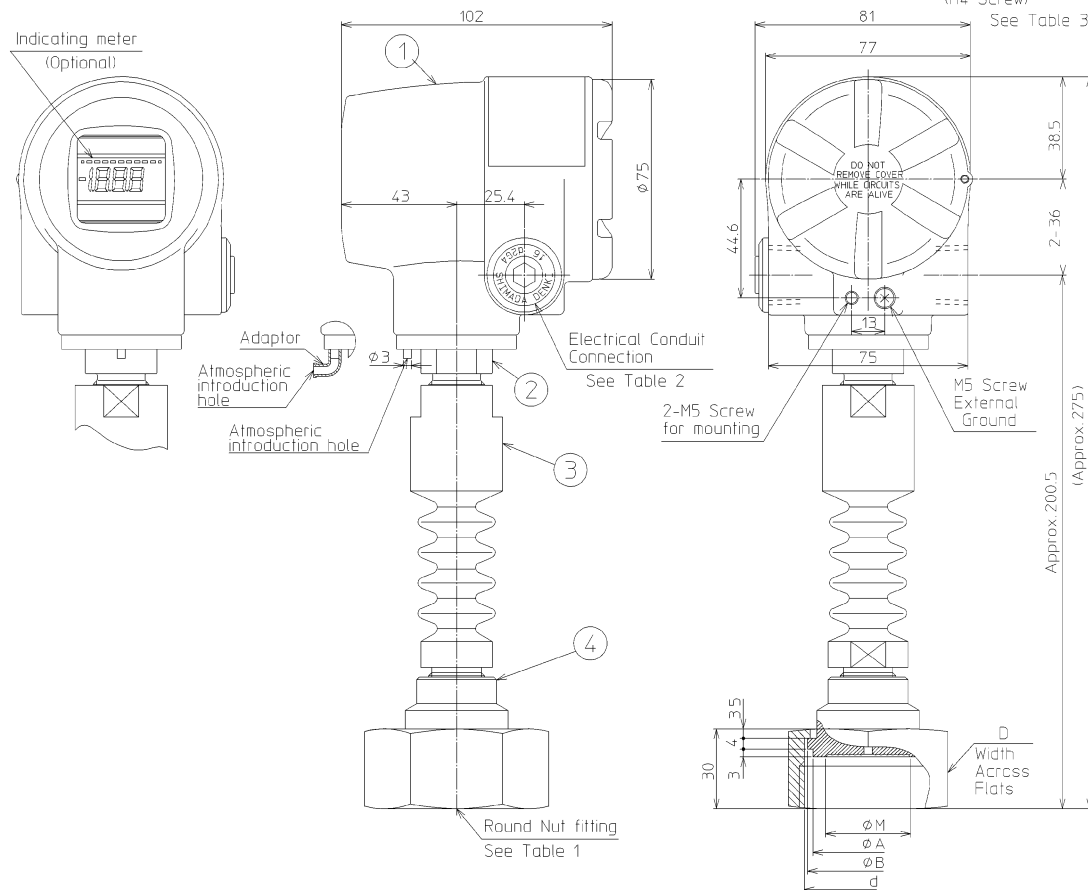


Table1 (See Inst. spec.)

| Model No. | Fitting Size | Fitting Size(d) | D | φM | A | B | |
|-----------|--------------|-----------------|---------|----|-----------|------|------|
| A | C | 3 | IDF 15S | 60 | 28 | 42.7 | 47 |
| | | 4 | IDF 2S | 75 | 43 | 56.2 | 60.5 |

Table2 (See Inst. spec.)

| Model No. | Electrical Conduit Connection |
|-----------|-------------------------------|
| A, B | G 1/2 Internal |
| N, D, L | 1/2 NPT Internal |

Table3 Terminal

| Symbol | Terminal |
|--------------------|--------------------------------|
| SUPPLY +, SUPPLY - | Power supply and output signal |
| CHK+, CHK- | Check meter |
| ⊥ | Ground |
| ZERO | ZERO Adjuster |

Remote seal with ferrule type (1½ inch, 2 inches clamp type)



Measuring span/ Setting range/ Max. working pressure

| Model number | Measuring span | Setting range | Max. working pressure | Process connection |
|---------------|----------------|-----------------|-------------------------|--------------------|
| PTG70T- _3 | 2.0 to 100 kPa | -100 to 100 kPa | 200 kPa | 2S |
| PTG70T- _4 | 40 to 400 kPa | -100 to 400 kPa | 800 kPa or clamp rating | 2S, 1½S |
| PTG70T- _5 | 0.2 to 2 MPa | -0.1 to 2 MPa | 4 MPa or clamp rating | |

Accuracy / Temperature effect

Model PTG70T- _3

| | |
|-----------------|---|
| Accuracy *1, *2 | ± 0.5% F.S. (100 kPa ≥ X ≥ 20 kPa) ± (0.5 × 20 / X)% F.S. (20 kPa ≥ X ≥ 2 kPa) |
|-----------------|---|

| | |
|-------------------------------------|---|
| Zero temperature effect per 30°C *1 | 2S (Clamp type) ± (11.5 × 40 / X + 0.35)% |
|-------------------------------------|---|

Model PTG70T- _4

| | |
|-----------------|--|
| Accuracy *1, *2 | ± 0.5% F.S. (400 kPa ≥ X ≥ 80 kPa) ± (0.5 × 80 / X)% F.S. (80 kPa ≥ X ≥ 40 kPa) |
|-----------------|--|

| | |
|-------------------------------------|--|
| Zero temperature effect per 30°C *1 | 2S (Clamp type) ± (5.9 × 80 / X + 0.35)% |
| | 1½S (Clamp type) ± (21.7 × 80 / X + 0.35)% |

Model PTG70T- _5

| | |
|-----------------|--|
| Accuracy *1, *2 | ± 0.5% F.S. (2 MPa ≥ X ≥ 0.4 MPa) ± (0.5 × 0.4 / X)% F.S. (0.4 MPa ≥ X ≥ 0.2 MPa) |
|-----------------|--|

| | |
|-------------------------------------|---|
| Zero temperature effect per 30°C *1 | 2S (Clamp type) ± (1.5 × 0.4 / X + 0.35)% |
| | 1½S (Clamp type) ± (4.65 × 0.4 / X + 0.35)% |

Note) *1: Within a range of URV ≥ 0 and LRV ≥ 0

*2: Negative pressure accuracy

Accuracy, which is greater value of either ±3% F.S. or upper calculated accuracy.

Ambient temperature limits

Normal operating ranges

1 ½ inch -5 to 55°C

2 inches -5 to 60°C

Transportation and storage temperature

-20 to 70°C

Temperature range of wetted parts

-10 to 110°C

150°C for 30 minutes during steam cleaning

Ambient humidity limits

5 to 100% RH

Materials

Fill fluid

Propylene glycol

Wetted parts

Diaphragm

SUS316L

Others

SUS316

Case

Aluminum alloy

Capillary cover

Olefin

Weight

Approx. 1.8 kg (Capillary length 3 m)

Process connection

- IDF 1½S clamp type
- IDF 2S clamp type

MODEL SELECTION

Smart pressure transmitter model PTG70T

Process connection: Remote seal with ferrule clamp type

Measuring span: 2.0 to 100 kPa, 40 to 400 kPa, 0.2 to 2 MPa

Model number structure: Basic model number - Selection - Option1 - Option2

| | | Selection | | | | | Option1 | Option2 |
|---|--|-----------|--|--|------|---|---------|---------|
| | | | | | | | | |
| Product description | Gauge pressure transmitter: Ferrule type with remote seal with SFC Communication | PTG70T | | | | | | |
| Type of protection | JIS Flameproof (oil immersion) Electrical connection: G1/2 | A | | | | | | |
| Measuring span | 2.0 to 100 kPa (0.021 to 1.019 kgf/cm ²) (Not applicable for process connection 1S) | 3 | | | | | | |
| | 40 to 400 kPa (0.408 to 4.07 kgf/cm ²) | 4 | | | | | | |
| | 0.2 to 2 MPa (2.04 to 20.3 kgf/cm ²) | 5 | | | | | | |
| Material: Diaphragm / wetted parts other than diaphragm/fill fluid | SUS316L / SUS316 L/ Propylene glycol | CB | | | | | | |
| Process connection | IDF1½S ferrule clamp type | | | | AH3X | | | |
| | IDF 2S ferrule clamp type | | | | AH4X | | | |
| Capillary length | 1m (with Olefin tube) | | | | E | | | |
| | 3m (with Olefin tube) | | | | G | | | |
| | 5m (with Olefin tube) | | | | J | | | |
| Option 1 | | | | | | | - | |
| No option | | | | | | | X | |
| Built-in digital indicator | | | | | | | M | |
| Heavy-duty corrosion-proof coating | | | | | | | B | |
| Remote communication function | | | | | | | C | |
| Wetted parts finish | Oil free finish | | | | | G | | |
| | Water and oil free finish | | | | | H | | |
| | Electrolytic grinding | | | | | K | | |
| | Passive state finish | | | | | W | | |
| Option2 | | | | | | | - | |
| No option | | | | | | | | X |
| Test report | | | | | | | | 1 |
| Material certificate | | | | | | | | 2 |
| Documents conforming to Japanese high pressure gas control law | | | | | | | | 3 |
| Over-pressure leak test | | | | | | | | 4 |
| Strength calculation sheet (JIS) | | | | | | | | 5 |
| Traceability certificate | | | | | | | | 6 |
| Mounting bracket | | | | | | | | H |
| Certificate of oil free finish | | | | | | | | J |
| Certificate of oil free and No water finish | | | | | | | | P |

DIMENSIONS

[Unit: mm]

Materials of construction

| KEY No. | Description | Materials |
|---------|-----------------|-----------------------|
| 1 | Case | Aluminum alloy |
| 2 | Body | SUS 316 |
| 3 | Capillary A'ssy | SUS 304(Olefin cover) |
| 4 | Wetted Part | SUS 316L |

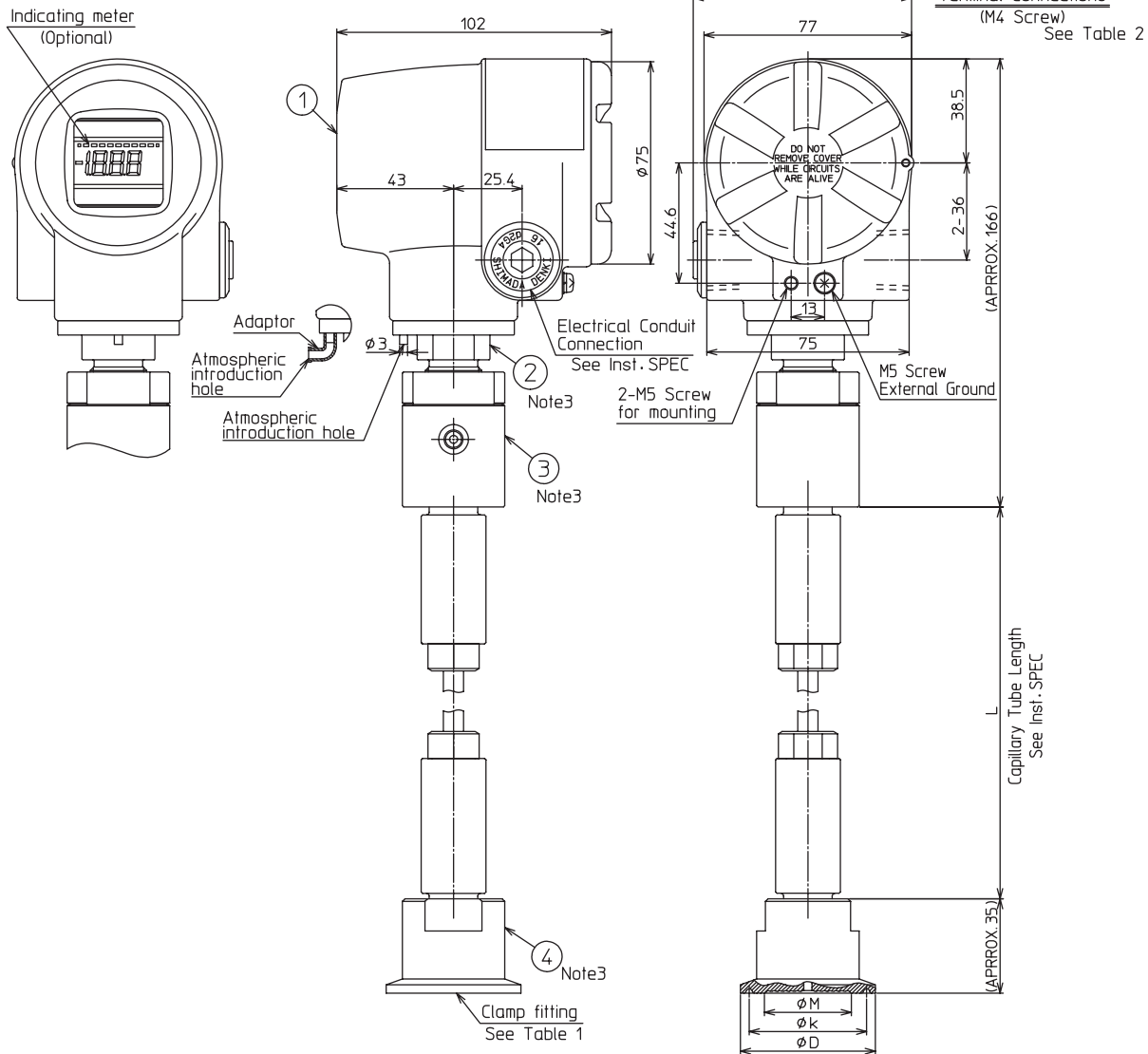


Table1 (See Inst. spec.)

| Rating | Fitting | Model No. | | ϕD | ϕk | ϕM |
|--------|---------|-----------|--------------|----------|----------|----------|
| | | Size | Ferrule Size | | | |
| A | H | 2 | IDF 1S | 50.5 | 43.5 | 22 |
| | | 3 | IDF 1.5S | | | 28 |
| | | 4 | IDF 2S | | | 64 |

Table2 Terminal

| Symbol | Terminal |
|--------------------|--------------------------------|
| SUPPLY +, SUPPLY - | Power supply and output signal |
| CHK +, CHK - | Check meter |
| \perp | Ground |
| ZERO | ZERO Adjuster |

Remote seal with ferrule type

(1½ inch, 2 inches cap nut type)



Measuring span/ Setting range/ Max. working pressure

| Model number | Measuring span | Setting range | Max. working pressure | Process connection |
|------------------|----------------|-----------------|---------------------------|--------------------|
| PTG70T- <u>3</u> | 2.0 to 100 kPa | -100 to 100 kPa | 200 kPa | 2S |
| PTG70T- <u>4</u> | 40 to 400 kPa | -100 to 400 kPa | 800 kPa or cap nut rating | 2S, 1½S |
| PTG70T- <u>5</u> | 0.2 to 2 MPa | -0.1 to 2 MPa | 4 MPa or cap nut rating | |

Accuracy / Temperature effect

Model PTG70T-3

| | |
|-----------------|---|
| Accuracy *1, *2 | ± 0.5% F.S. (100 kPa ≥ X ≥ 20 kPa) ± (0.5 × 20 / X)% F.S. (20 kPa ≥ X ≥ 2 kPa) |
|-----------------|---|

| | |
|-------------------------------------|---|
| Zero temperature effect per 30°C *1 | 2S (Cap nut type) ± (11.5 × 40 / X + 0.35)% |
|-------------------------------------|---|

Model PTG70T-4

| | |
|-----------------|--|
| Accuracy *1, *2 | ± 0.5% F.S. (400 kPa ≥ X ≥ 80 kPa) ± (0.5 × 80 / X)% F.S. (80 kPa ≥ X ≥ 40 kPa) |
|-----------------|--|

| | |
|-------------------------------------|--|
| Zero temperature effect per 30°C *1 | 2S (Cap nut type) ± (5.9 × 80 / X + 0.35)% |
| | 1½S (Cap nut type) ± (21.7 × 80 / X + 0.35)% |

Model PTG70T-5

| | |
|-----------------|--|
| Accuracy *1, *2 | ± 0.5% F.S. (2 MPa > X > 0.4 MPa) ± (0.5 × 0.4 / X)% F.S. (0.4 MPa > X > 0.2 MPa) |
|-----------------|--|

| | |
|-------------------------------------|---|
| Zero temperature effect per 30°C *1 | 2S (Cap nut type) ± (1.5 × 0.4 / X + 0.35)% |
| | 1½S (Cap nut type) ± (4.65 × 0.4 / X + 0.35)% |

Note) *1: Within a range of URV ≥ 0 and LRV ≥ 0

*2: Negative pressure accuracy

Accuracy, which is greater value of either ±3% F.S. or upper calculated accuracy.

Ambient temperature limits

Normal operating range

-5 to 60°C

Transportation and storage temperature

-20 to 70°C

Temperature range of wetted parts

-5 to 121°C

150°C for 30 minutes during steam cleaning

Ambient humidity limits

5 to 100% RH

Materials

Fill fluid

Propylene glycol

Wetted parts

Diaphragm

SUS316L

Others

SUS316

Case

Aluminum alloy

Capillary cover

Olefin

Weight

Approx. 2.3 kg (Capillary length 3 m)

Process connection

- IDF 1½S cap nut type
- IDF 2S cap nut type

MODEL SELECTION

Smart pressure transmitter model PTG70T

Process connection: Remote seal with ferrule cap nut type

Measuring span 2.0 to 100 kPa, 40 to 400 kPa, 0.2 to 2 MPa

Model number structure: Basic model number - Selection - Option1 - Option 2

| | | Selection | | | | | Option1 | Option2 |
|---|--|-----------|--|--|--|--|---------|---------|
| | | | | | | | | |
| Product description | Gauge pressure transmitter: Ferrule type with remote seal with SFC communication | PTG70T | | | | | | |
| Type of protection | JIS Flameproof (oil immersion) Electrical connection: G1/2 | A | | | | | | |
| Measuring span | 2.0 to 100 kPa (0.021 to 1.019 kgf/cm ²) | 3 | | | | | | |
| | 40 to 400 kPa (0.408 to 4.07 kgf/cm ²) | 4 | | | | | | |
| | 0.2 to 2 MPa (2.04 to 20.3 kgf/cm ²) | 5 | | | | | | |
| Material: Diaphragm / wetted parts other than diaphragm/fill fluid | SUS316L / SUS316L / Propylene glycol | CB | | | | | | |
| Process connection | IDF 1½S ferrule cap nut type | AC3X | | | | | | |
| | IDF 2S ferrule cap nut type | AC4X | | | | | | |
| Capillary length | 1m (with Olefin tube) | E | | | | | | |
| | 3m (with Olefin tube) | G | | | | | | |
| | 5m (with Olefin tube) | J | | | | | | |
| Option 1 | | | | | | | - | |
| No option | | | | | | | X | |
| Heavy-duty corrosion-proof coating | | | | | | | B | |
| Remote communication function | | | | | | | C | |
| Built-in digital indicator | | | | | | | M | |
| Wetted parts finish | Oil free finish | G | | | | | | |
| | Water and oil free finish | H | | | | | | |
| | Electrolytic grinding | K | | | | | | |
| | Passive state finish | W | | | | | | |
| Option2 | | | | | | | - | |
| No option | | | | | | | | X |
| Test report | | | | | | | | 1 |
| Material certificate | | | | | | | | 2 |
| Documents conforming to Japanese high pressure gas control law | | | | | | | | 3 |
| Over-pressure leak test | | | | | | | | 4 |
| Strength calculation sheet (JIS) | | | | | | | | 5 |
| Traceability certificate | | | | | | | | 6 |
| Mounting bracket | | | | | | | | H |
| Certificate of oil free finish | | | | | | | | J |
| Certificate of oil free and No water finish | | | | | | | | P |

