Smart Pressure Transmitter

Model PTG71/PTG72

OVERVIEW

The Smart Pressure Transmitter model PTG is a high- performance, highly reliable gauge pressure transmitter. Based on Azbil Corporation's proven Smart Transmitter technologies, the model PTG 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.

The model PTG can also execute two-way communications between the communicator,thus facilitating self-diagnosis,range resetting, and automatic zero/span adjustment.

CE mark

Model PTG71G screw type

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

Any range can be set using the Smart communicator or the HART communicator (available separately).

This further increases range flexibility and keeps inventory down.

Built-in digital indicator

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

Type of protection

- Water and dust proof for IEC IP67
- TIIS Explosion-proof
- FM Explosion-proof
- FM Dust-ignition-proof
- KCs Flameproof
- NEPSI Flameproof
- NEPSI Dust ignition-proof

External views of the model PTG7_ _

Model PTG7_G
(Screw type)

Model PTG7_B
(Flush diaphragm type)

Model PTG7_F
(Flange type)

Model PTG7_S
(Ferrule clamp type)

Model PTG7_S
(Ferrule cap nut type)

Model PTG7_K
(Ferrule clamp type with cooling tower)

Model PTG7_K
(Ferrule cap nut type with cooling tower)

Model PTG7_T
(Remote seal with ferrule clamp type)

Model PTG7_T
(Remote seal with ferrule cap nut type)

COMMON SPECIFICATIONS

Type of protection

JIS C0920 watertight, NEMA 3 and 4X, IEC IP67

TIIS Explosion-proof approval

Exdo IIC T4X

FM Explosion-proof approval

Explosion-proof for Class I, Division 1, Groups A, B, C and D, T4, ambient temperature = 60°C

Dust-ignition for Class II and III, Division 1, Groups E, F and G, T6 ambient temperature = 60°C, Type 4X

KCs Flameproof approval

Ex d IIC T4

NEPSI Flameproof approval

Ex d IIC T4

Ambient temperature: -25 to +60°C
Maximum Temperature of wetted part: +130°C

Ex d IIC T5

Ambient temperature: -25 to +60°C
Maximum Temperature of wetted part: +95°

Ex d IIC T6

Ambient temperature: -25 to +40°C
Maximum Temperature of wetted part: +80°C

NEPSI Dust ignition-proof

DIP A20 TA T4

Ambient temperature: -25 to +60°C
Maximum Temperature of wetted part: +130°C

DIP A20 TA T5

Ambient temperature: -25 to +60°C
Maximum Temperature of wetted part: +95°C

DIP A20 TA T6

Ambient temperature: -25 to +40°C
Maximum Temperature of wetted part: +80°C

Supply voltage and load resistance

Refer to Figure 1.

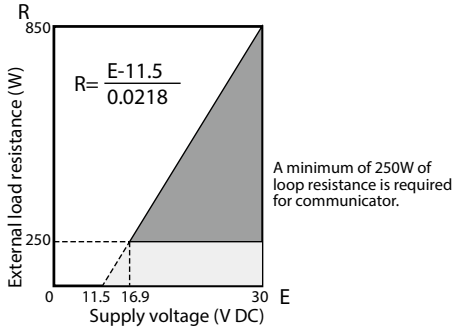


Figure 1. Supply voltage vs. load resistance characteristics

Power supply and voltage effect

0.005% F.S./V

Lightning protection

Peak value of voltage surge : 6kV
Peak value of current surge : 700A

Output / Communication

Model PTG71

- Analog output (4 to 20 mA DC) with SFN communication

Model PTG72

- Analog output (4 to 20 mA DC) with HART communication

PED Conformity (2014/68/EU)

The maximum pressures applicable under the Sound Engineering Practice (SEP) section of the Pressure Equipment Directive depend on the type of fluid measured, as shown in the table below.

Measured fluid	Group*	Pressure	Applicable models
Gas	1	200bar (20MPa)	All models except PTG_ _G-_7
	2	1000bar (100MPa)	All models
Liquid	1	500bar (50MPa)	All models
	2	1000bar (100MPa)	All models

Note) Group1 comprises fluids defines as: explosive, extremely flammable, highly flammable, flammable, very toxic, toxic and oxidizing.
Group2 comprises all other fluilds not refer to group1

Any model having a maximum working pressure that is higher than the pressure corresponding to its group does not conform to SEP.

Models PTG_ _G-_7 conform to PED according to Module A.

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

- EN61326-1: 2013, Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
- EN61326-2-3: 2013, Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-3: Particular requirements - Test configuration, operational conditions and performance criteria for transducers with integrated or remote signal conditioning
- EN IEC63000: 2018

Finish

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

Electrical connection

G1/2, 1/2NPT

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 -19999 and 19999 (4.5 digits).

Corrosion-proof finish

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

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.

Test report

The test report indicates the results of appearance, I/O characteristics, insulation resistance, and breakdown voltage tests.

Material certificate

The material certificate shows the chemical composition, heat-treatment conditions, and mechanical properties of the materials used for the wetted parts. The transmitter can be easily zeroadjusted in the field with a flat-blade screwdriver.

Withstand pressure test

The withstand pressure test result sheet shows the results of a pressure resistance test (under water pressure for 10 minutes) performed on the wetted parts.

Strength calculation sheet

The strength calculation sheet indicates the strength of the flanges, bolts, etc.

Traceability certificate

This certificate consists of three parts: the transmitter's measurement control system configuration diagram, a calibration certificate, and a test report.

Mounting bracket

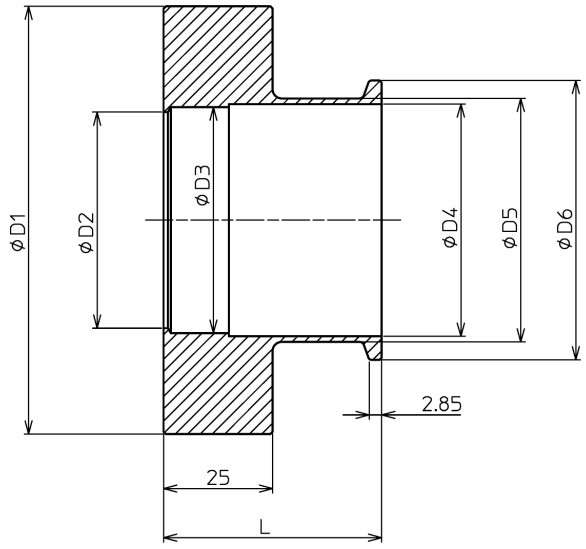
Bracket for 2-inch pipe or wall mounting (For thread connection type and ferrule remote sealed type)

Withstand pressure and air tight test (for general purposes)

The withstand pressure and air tight test result sheet shows the results of a pressure resistance test (10 minutes) and a gas-tightness test (10 minutes) performed on the wetted parts.

Tank spud

This part is for attaching the diaphragm of the wetted part. Weld it to the tank before use. (See the figure below).



(UNIT : mm)

D1	98
D2	49.5
D3	51.8
D4	53.2
D5	55.8
D6	64
L	50
Material	SUS316L
Size	2S

Air release opening interior type

Install the cable wiring segment so that the air inlet is not exposed to the outside.

Working range of negative pressure

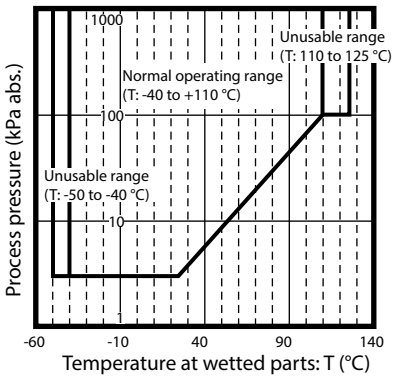


Figure 2. Minimum working pressure for model PTG_ _G.

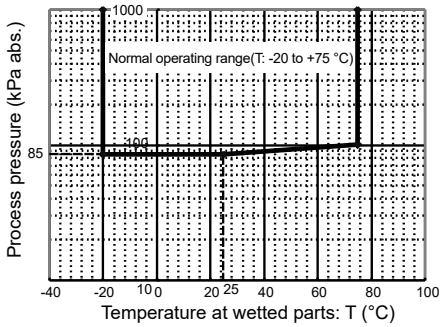


Figure 3. Minimum working pressure for combination of model PTG_ _G and fluorine oil.

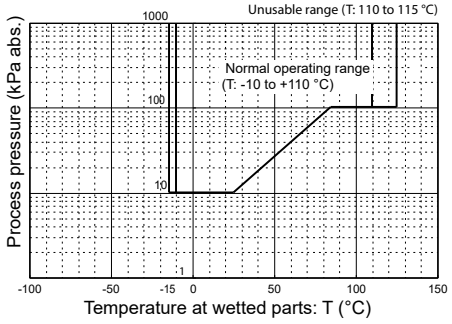


Figure 4. Minimum working pressure for combination of model PTG_ _B and silicone oil.
For the PTG_ _B 1/2B, the upper limit for normal operation is 85 °C. The extreme upper limit for operation is 90 °C.

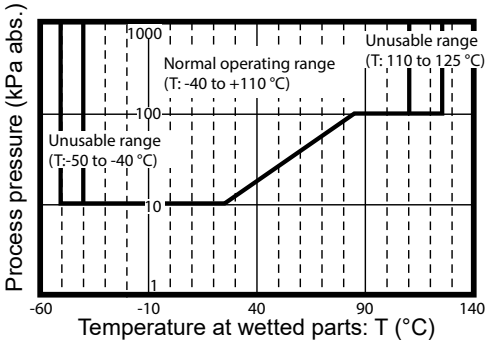


Figure 5. Minimum working pressure for combination of model PTG_ _F and silicone oil.

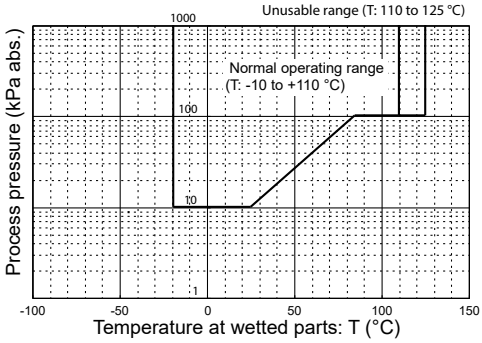


Figure 6. Minimum working pressure for combination of model PTG_ _F and propylene glycol.

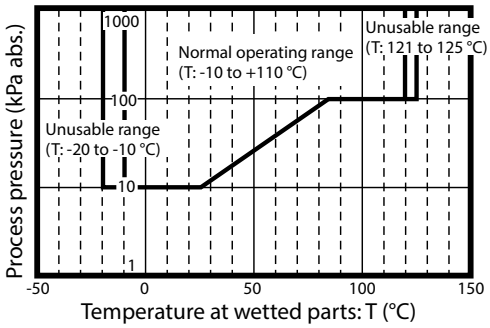


Figure 7. Minimum working pressure for model PTG_ _S.
For the PTG_ _S pulsation-proof model (-J), the normal operation range is +10 to 45 °C, and the extreme temperature range for operation is +8 to 47 °C.

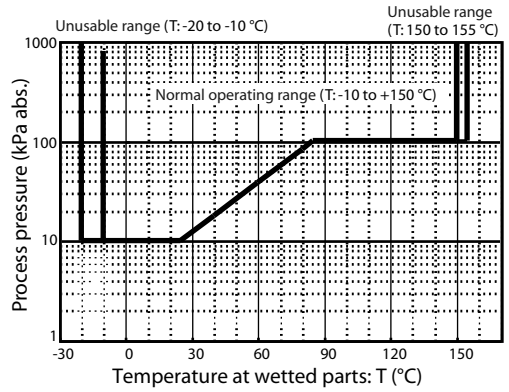


Figure 8. Minimum working pressure for modelPTG_K.

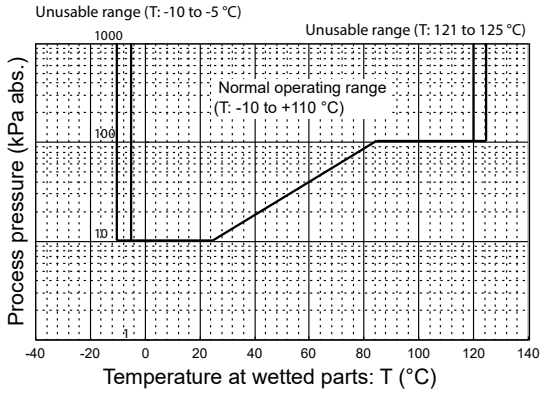


Figure 9. Minimum working pressure for model PTG_T.

Transmitter handling notes

To get the most from the performance this transmitter can offer, please use it properly noting the points mentioned below. Before using it, please read the Instruction Manual.

Transmitter installation notes

⚠WARNING

- When installing the transmitter, ensure that gaskets do not protrude from connecting points into the process (such as adapter flange connection points and connecting pipes and flanges). Gasket protrusion may result in leaks and output errors.
- Do not use the transmitter outside its defined pressure, temperature, and connection specifications. A serious accident may otherwise occur due to damage and leaks.
- When performing wiring work in explosion-proof areas, follow the work method specified in the explosion-proof guidelines.

⚠CAUTION

- After installing the transmitter, do not stand on it. Using it as a foothold could cause it to collapse and cause physical injury.
- Be careful not to hit the glass indicator with tools etc. This could break the glass and cause injury.
- The transmitter is heavy. Wear safety shoes and take care when installing it.
- Impact to transmitter can damage sensor module.

Wiring notes

⚠WARNING

- To avoid shocks, do not perform electrical wiring work with wet hands or with live wires.

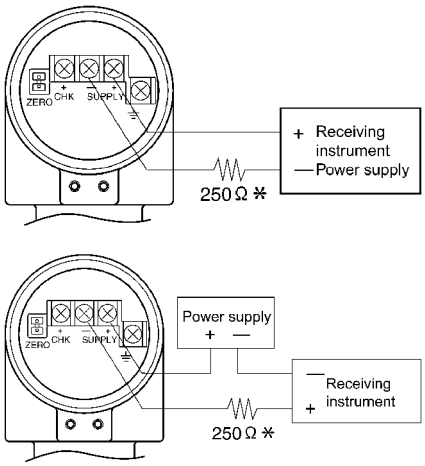
⚠CAUTION

- Do wiring work properly in conformance with the specifications. Wiring mistakes may result in malfunction or irreparable damage to the instrument.
- Use a power supply that conforms to the specifications. Use of an improper power supply may result in malfunction or irreparable damage to the instrument.

Handling precautions for HART-specification devices

- If you need to operate with a secondary host (HART communicator, etc.), set the communication interval of the primary host (DCS, device management system) to 8 seconds or more, or suspend communication from the primary host. If the primary host repeats HART communication within 8 seconds, the request from the secondary host may not be received (communication may not be possible).
- If electrical noise in the environment prevents HART communications with the host, take countermeasures such as separating the signal cables from the source of the noise, improving the grounding, changing to shielded signal cables, etc. Even if noise interferes with HART communications, the 4-20 mA analog signal will be unaffected and can be used for control.
- If this product is being operated in multidrop mode, there is a limit to the number of devices that can be used. If you are using multidrop mode, please consult with us.

Wiring diagram

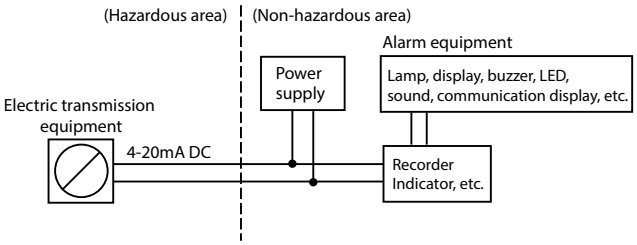


*Note) *A minimum of 250 Ω of loop resistance is required for communicator.*

Cautions for installation (in case of a TIIS explosion-proof model)

This device has explosion-proof specifications. Configure your system so that an alarm is triggered in case of an output error (output of 3.8 mA or less, or 20.8 mA or more). The type of alarm system can be freely determined by your specification.

Sample alarm system configuration



Index of detailed specifications for process connection types

Process connection	Process connection style	Measurement span	Reference page
Screw type PTG_G	G1/2 external thread G3/8 external thread M20 × 1.5 external thread Rc1/2 internal thread G3/8 internal thread 1/2NPT internal thread Rc1/4 internal thread 1/4NPT internal thread 1/2NPT external thread	2.0 to 100 kPa {0.021 to 1.019 kgf/cm²}	9 to 13
	G3/8 external thread G1/2 external thread Rc3/8 internal thread Rc1/2 internal thread 1/2NPT internal thread 1/2NPT external thread M20 × 1.5 external	40 to 400 kPa {0.408 to 4.07 kgf/cm²} 0.2 to 2 MPa {2.04 to 20.3 kgf/cm²} 1 to 10 MPa {10.20 to 101.9 kgf/cm²}	
	Rc1/4 internal thread G1/2 external thread 1/4NPT internal thread M20 × 1.5 external thread 1/2NPT external thread	5 to 50 Mpa {51.0 to 509 kgf/cm²}	
Flush diaphragm type PTG_B	G2-inch external thread	10 to 100 kPa {0.101 to 1.019 kgf/cm²} 40 to 400 kPa {0.408 to 4.07 kgf/cm²} 0.2 to 2 MPa {2.04 to 20.3 kgf/cm²} 1 to 10 MPa {10.20 to 101.9 kgf/cm²}	14 to 16
	G1/2-inch external thread	0.2 to 2 MPa {2.04 to 20.3 kgf/cm²} 1 to 10 MPa {10.20 to 101.9 kgf/cm²}	
Flange type PTG_F	JIS10K 50 mm JIS30K 50 mm JIS20K 25 mm JIS10K 15 mm JIS20K 15 mm JIS30K 15 mm	10 to 100 kPa {0.101 to 1.019 kgf/cm²} 40 to 400 kPa {0.408 to 4.07 kgf/cm²} 0.2 to 2 MPa {2.04 to 20.3 kgf/cm²} 1 to 10 MPa {10.20 to 101.9 kgf/cm²}	17 to 20
Ferrule type (Direct mount) PTG_S	IDF 2S clamp IDF 1.5S clamp IDF 1S clamp	10 to 100 kPa {0.101 to 1.019 kgf/cm²} 40 to 400 kPa {0.408 to 4.07 kgf/cm²} 0.2 to 2 MPa {2.04 to 20.3 kgf/cm²}	21 to 23
	IDF 2S cap nut IDF 1.5S cap nut	10 to 100 kPa {0.101 to 1.019 kgf/cm²} 40 to 400 kPa {0.408 to 4.07 kgf/cm²} 0.2 to 2 MPa {2.04 to 20.3 kgf/cm²}	24 to 26
Ferrule type with cooling tower PTG_K	IDF 2S clamp IDF 1.5S clamp	20 to 100 kPa {0.203 to 1.019 kgf/cm²} 40 to 400 kPa {0.408 to 4.07 kgf/cm²} 0.2 to 2 MPa {2.04 to 20.3 kgf/cm²}	27 to 29
	IDF 1S clamp	40 to 400 kPa {0.408 to 4.07 kgf/cm²} 0.2 to 2 MPa {2.04 to 20.3 kgf/cm²}	
	IDF 2S cap nut IDF 1.5S cap nut	20 to 100 kPa {0.203 to 1.019 kgf/cm²} 40 to 400 kPa {0.408 to 4.07 kgf/cm²} 0.2 to 2 MPa {2.04 to 20.3 kgf/cm²}	30 to32
Remote seal with ferrule type (Capillary 1, 3, 5 m) PTG_T	IDF 2S clamp	10 to 100 kPa {0.101 to 1.019 kgf/cm²} 40 to 400 kPa {0.408 to 4.07 kgf/cm²} 0.2 to 2 MPa {2.04 to 20.3 kgf/cm²}	33 to 35
	IDF 1.5S clamp	40 to 400 kPa {0.408 to 4.07 kgf/cm²} 0.2 to 2 MPa {2.04 to 20.3 kgf/cm²}	
	IDF 2S cap nut	10 to 100 kPa {0.101 to 1.019 kgf/cm²} 40 to 400 kPa {0.408 to 4.07 kgf/cm²} 0.2 to 2 MPa {2.04 to 20.3 kgf/cm²}	36 to 39
	IDF 1.5S cap nut	40 to 400 kPa {0.408 to 4.07 kgf/cm²} 0.2 to 2 MPa {2.04 to 20.3 kgf/cm²}	

Screw type

Accuracy / Temperature effect

Model PTG7_ G- _3

Accuracy *1	± 0.2% F.S. (100 kPa > X > 20 kPa) ± (0.2×20 / X)% F.S. (20 kPa > X > 2 kPa)
Zero temperature effect per 30°C *1	± (0.5×40 / X +0.35)%

Model PTG7_ G- _4

Accuracy *1	± 0.2% F.S. (400 kPa > X > 80 kPa) ± (0.2×80 / X)% F.S. (80 kPa > X > 40 kPa)
Zero temperature effect per 30°C *1	± (0.4×80 / X +0.35)%

Model PTG7_ G- _5

Accuracy *1	± 0.2% F.S. (2.0 MkPa > X > 0.4 MkPa) ± (0.2×0.4 / X)% F.S. (0.4 MPa > X > 0.2 MPa)
Zero temperature effect per 30°C *1	± (0.4×80 / X +0.35)%

Model PTG7_ G- _6

Accuracy *1	± 0.2% F.S. (10 MkPa > X > 2.0 MkPa) ± (0.2×2.0 / 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 PTG7_ G- _7

Accuracy *1	± 0.2% F.S. (50 MPa > X > 10 MPa) ± (0.2×10.0 / 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*

Ambient temperature limits

Normal operating range

Water and dust proof	TIIS Explosion-proof FM Explosion-proof KCs Flameproof NEPSI Flameproof (Ex d II CT4, 5)	NEPSI Flameproof (Ex d IICT6)
-20 to +70°C	-20 to +60°C	-20 to +40°C

Transportation and storage conditions

-30 to +80°C Temperature range of wetted parts

Fill fluid	Water and dust proof	TIIS Explosion-proof FM Explosion-proof KCs Flameproof NEPSI Flameproof (Ex d II CT4)	NEPSI Flameproof (Ex d II CT5)	NEPSI Flameproof (Ex d II CT6)
Silicone oil	-40 to +110°C	-20 to +110°C	-20 to +95°C	-20 to +80°C
Fluorine oil	-20 to +75°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

Process connection

- G1/2 external thread
- G3/8 external thread
- Rc1/4 internal thread
- Rc1/2 internal thread
- Rc3/8 internal thread
- 1/4 NPT internal thread
- 1/2 NPT internal thread
- M20 x 1.5 external thread
- 1/2NPT external thread

Measuring span / Setting range / Max. working pressure

Model no.	Measuring span	Setting Range	Max. Working Pressure	Process Connection								
				G1/2 external thread	G3/8 external thread	M20 x 1.5 external thread	Rc1/2 internal thread	Rc3/8 internal thread	1/2NPT internal thread	Rc1/4 internal thread	1/4NPT internal thread	1/2NPT external thread
PTG7_G - _3	2.0 to 100 kPa	-100 to +100 kPa	200 kPa	✓	✓	✓	✓	✓	✓	✓	✓	✓
PTG7_G - _4	40 to 400 kPa	-100 to +400 kPa	800 kPa	✓	✓	✓	✓	✓	✓	–	–	✓
PTG7_G - _5	0.2 to 2 MPa	-0.1 to +2 MPa	4 MPa	✓	✓	✓	✓	✓	✓	–	–	✓
PTG7_G - _6	1 to 10 MPa	-0.1 to +10 MPa	20 MPa	✓	✓	✓	✓	✓	✓	–	–	✓
PTG7_G - _7	5 to 50 MPa	-0.1 to +50 MPa	75 MPa*	✓	–	✓	–	–	–	✓	✓	✓

*Note) * 62.5 MPa for explosion-proof type*

For other specification, please refer to COMMON SPECIFICATIONS.

MODEL SELECTION

Smart Pressure Transmitter model PTG7XG

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			-					-		-	
Product description	Gauge pressure transmitter: Screw connection type with SFN communication	PTG71G									
	Gauge pressure transmitter: Screw connection type with HART5 communication	PTG72G									
			-								
Type of protection	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:G1/2			G							
	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:1/2 NPT			N							
	TIIS Flameproof Electrical connection:G1/2			A							
	FM Explosion-proof and Dust-ignition-proof Electrical connection:1/2 NPT			D							
	NEPSI Flameproof and Dust-ignition-proof Electrical connection:1/2 NPT			L							
	KCs Flameproof and Dust-ignition-proof Electrical connection:G1/2			J							
	KCs Flameproof Electrical connection: 1/2 NPT			K							
Measuring span	2.0 to 100 kPa (0.021 to 1.019 kgf/cm²)				3						
	40 to 400 kPa (0.408 to 4.07 kgf/cm²)				4						
	0.2 to 2 MPa (2.04 to 20.3 kgf/cm²)				5						
	1 to 10 MPa (10.20 to 101.9 kgf/cm²)				6						
	5 to 50 MPa (51.0 to 509 kgf/cm²)				7						
Material: Diaphragm / wetted parts other than diaphragm / fill fluid	SUS316L / SUS316 / Silicone oil					B1					
	SUS316L / SUS316 / Fluorine oil *1					B2					
Process connection	G1/2 external thread						G4				
	G3/8 external thread (Not applicable for measuring span code “7”)						G3				
	M20 × 1.5 external thread						PH				
	Rc1/2 internal thread (Not applicable for measuring span code “7”)						C4				
	Rc3/8 internal thread (Not applicable for measuring span code “7”)						C3				
	1/2NPT internal thread (Not applicable for measuring span code “7”)						N4				
	Rc1/4 internal thread (Applicable only for measuring span code “3” and “7”)						C2				
	1/4NPT internal thread (Applicable only for measuring span code “3” and “7”)						N2				
	1/2NPT external thread						M4				
Option 1								-			
No option									X		
Built-in digital indicator									M		
Corrosion-proof finish									B		
Wetted part finish	Oil free finish								G		
	Water and oil free finish								H		
Option 2										-	
No option											X
Test report											1
Material certificate											2
Withstand pressure test											4
Strength calculation sheet (JIS)											5
Traceability certificate											6
Non SI unit											F
Mounting bracket											H
Oil free finish certificate											J
Withstand pressure and Airtight test											K
Air release opening interior type *2,*3											N
Water and oil free finish certificate											P

*Note) *1 The oil free finish or the water and oil free finish in the Option1 must be selected.*

**2 “Built-in digital indicator” in the Option 1 must be selected.*

**3 Must be selected Type of protection “G” or “N”.*

DIMENSIONS

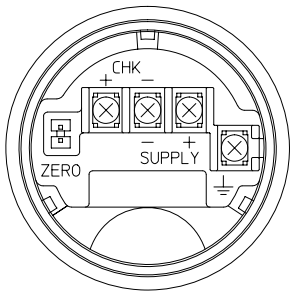
[mm]

Materials of Construction

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

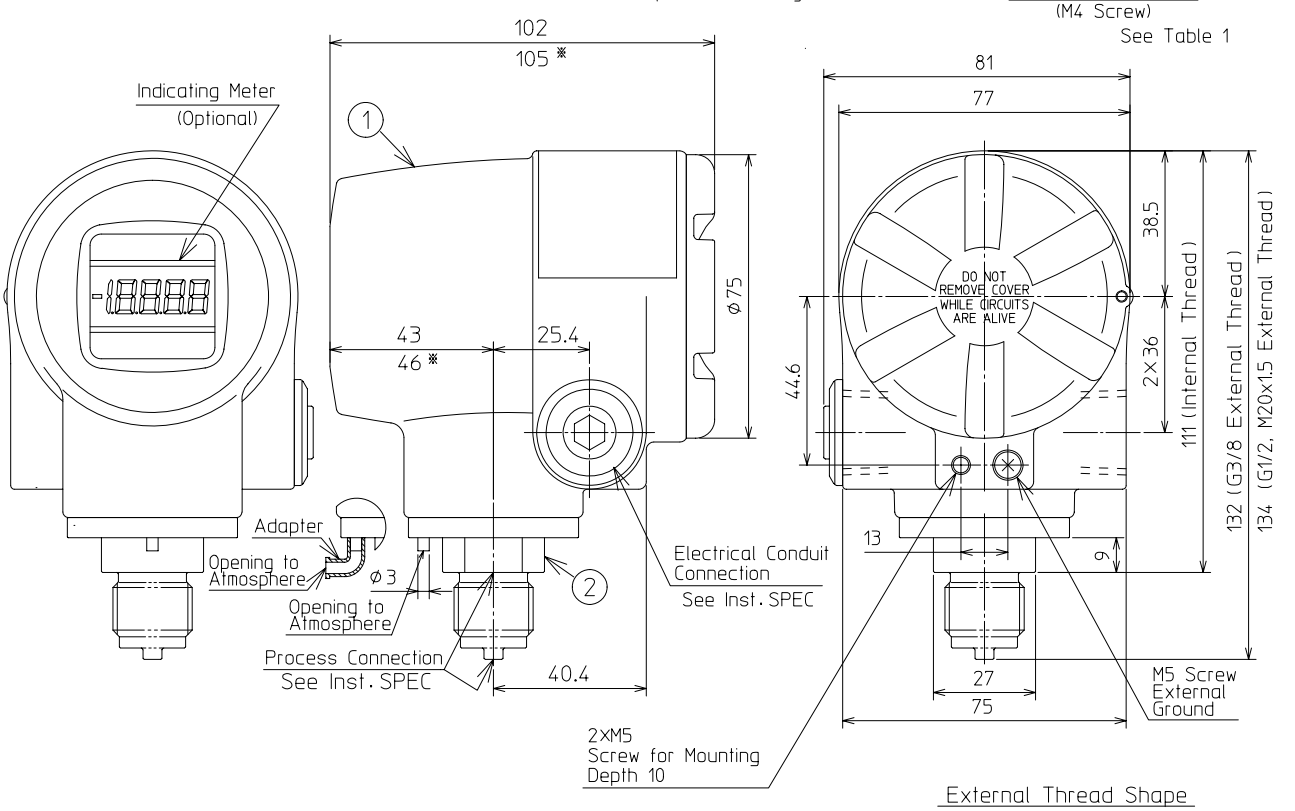
Table1 Terminal

Symbol	Terminal
SUPPLY +, SUPPLY −	Power Supply / Output Signal
CHK+, CHK−	Check Meter
⏚	Ground
ZERO	Zero Adjustment

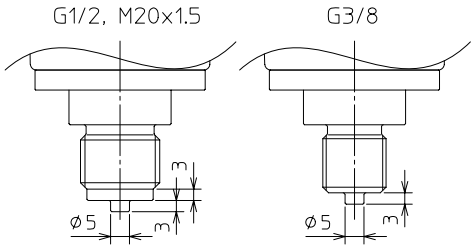


Terminal Connection
(M4 Screw)
See Table 1

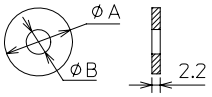
※ Dimension when NEPSI or ATEX flameproof with indicating meter is chosen.



External Thread Shape



Note A ring-shaped gasket as in below drawing is included for external thread connections.
Material : PTFE



Thread	A	B
G1/2, M20×1.5	18	6.5
G3/8	14	5.8

Process Connection :
G1/2, G3/8, M20×1.5 External Thread
Rc1/2, Rc3/8, Rc1/4 Internal Thread
1/2NPT, 1/4NPT Internal Thread

[mm]

Material of Construction

KEY No.	Description	Material
1	Case	Aluminum Alloy
2	Body	SUS 316 (Diaghragm SUS 316L)

Terminal Connection
(M4 Screw) See Table 1

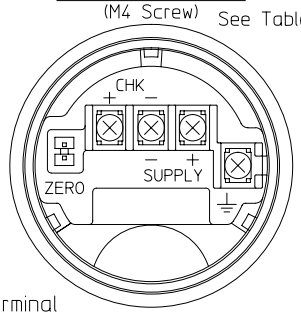
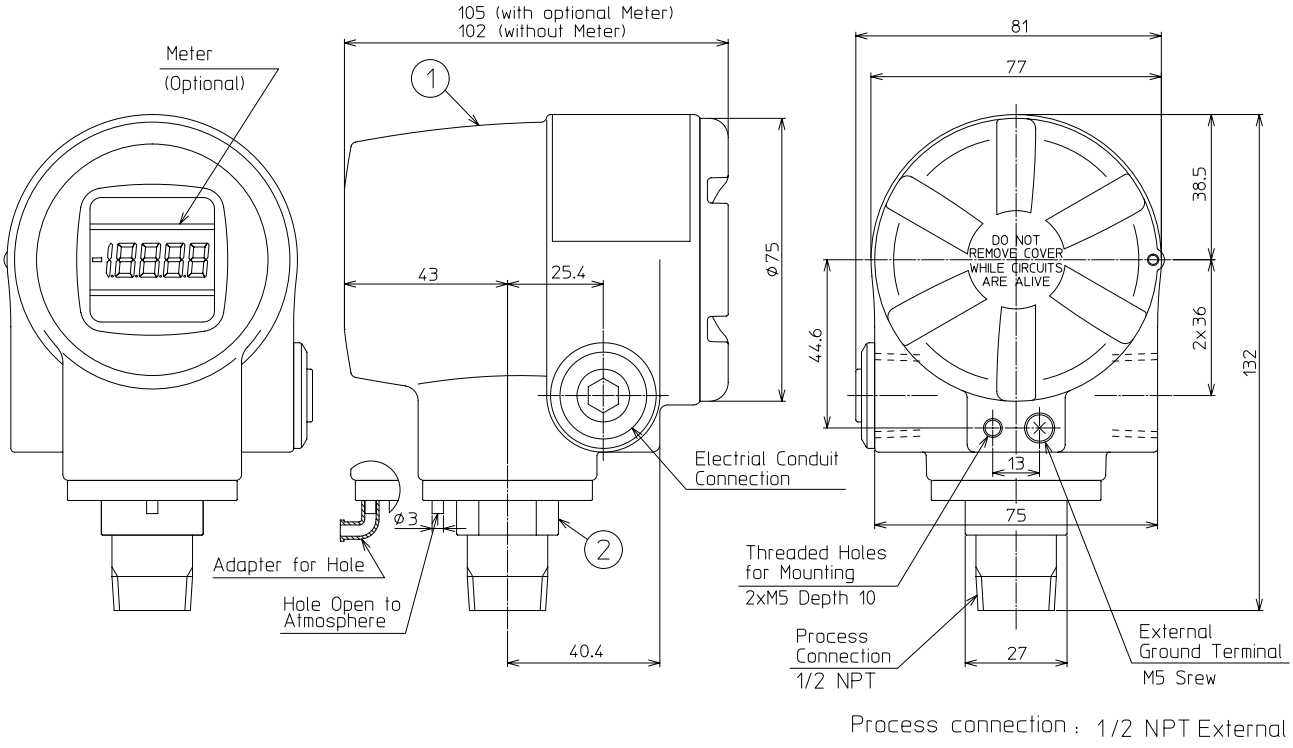


Table1 Terminal

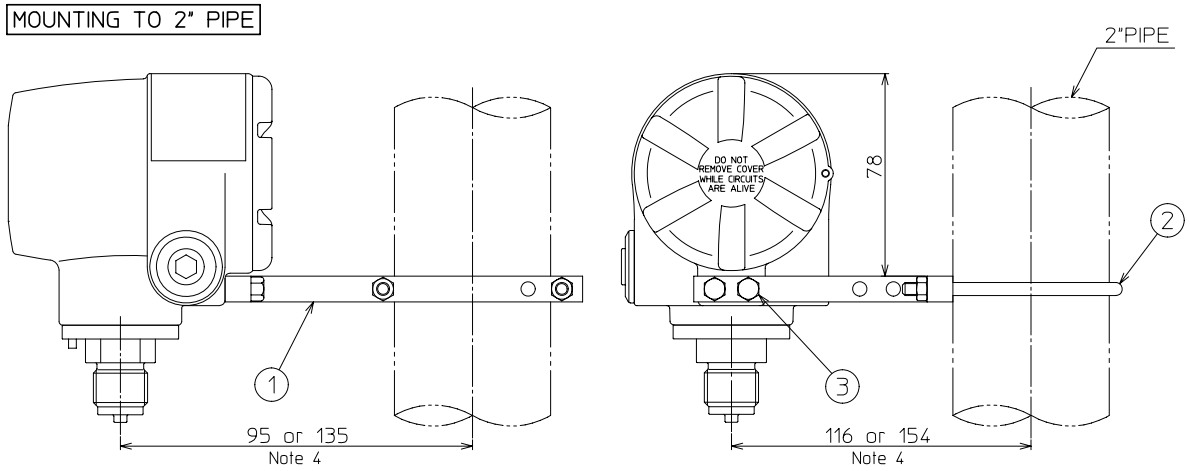
Symbol	Terminal
SUPPLY +, SUPPLY −	Power Supply and Output Signal
CHK+, CHK−	Check Meter
⏚	Ground
ZERO	Zero Adjustment

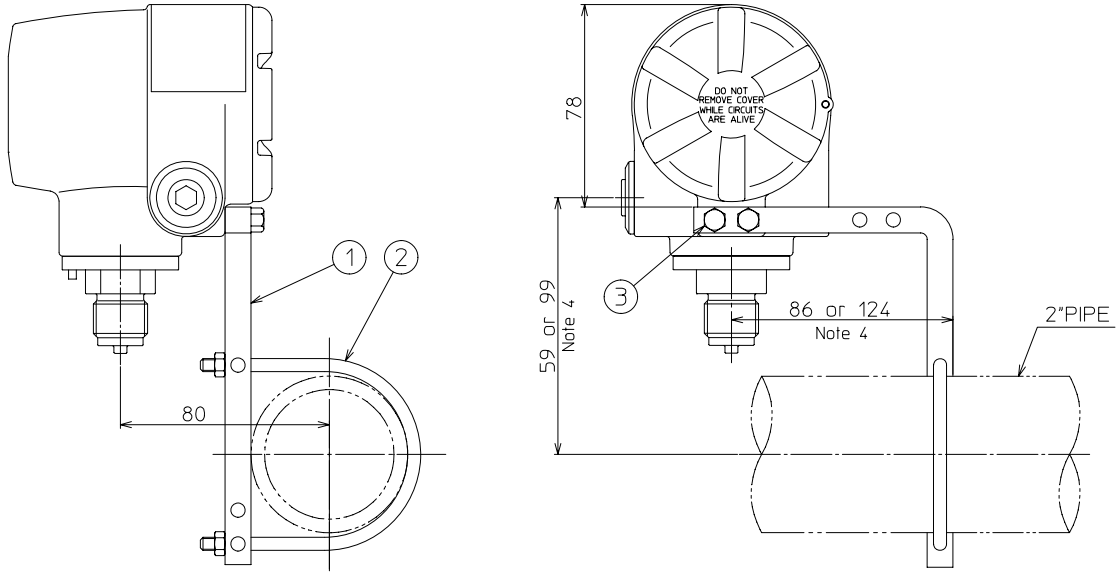


Process connection : 1/2 NPT External

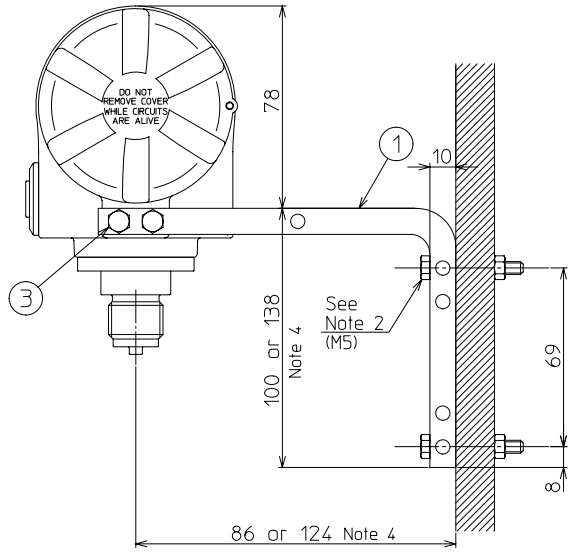
[mm]

MOUNTING TO 2" PIPE

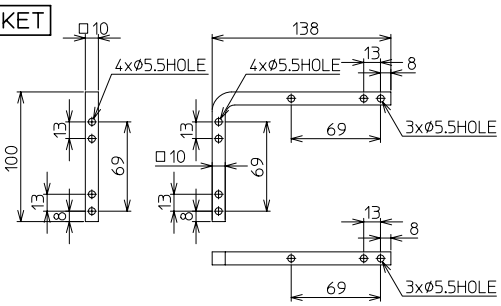




MOUNTING TO WALL



DIMENSION OF BRACKET



MATERIALS OF CONSTRUCTION

KEY No.	DESCRIPTION	MATERIALS
1	MOUNTING BRACKET	SUS 304
2	U-BOLT/NUT	SUS 304
3	BOLT	SUS 304

NOTES

1) Drawing shows dimensions when mounting bracket is used.
2) Bolts for wall mounting are not included.
   Recommended thread size: M5
3) This drawing shows several mounting examples using the bracket.
4) This dimension depends on which side of the bracket, short or long, is connected to the pipe or wall.

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
PTG7_B - _3	10 to 100 kPa	-100 to +100 kPa	200 kPa	G2 external thread
PTG7_B - _4	40 to 400 kPa	-100 to +400 kPa	800 kPa	
PTG7_B - _5	0.2 to 2 MPa	-0.1 to +2 MPa	4 MPa	G2 external thread G1/2 external thread
PTG7_B - _6	1 to 10 MPa	-0.1 to +10 MPa	20 MPa	

Accuracy / Temperature effect

Model PTG7_ B- _3

Accuracy *1	± 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 PTG7_ B- _4

Accuracy *1	± 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 PTG7_ B- _5

Accuracy *1	± 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 PTG7_ B- _6

Accuracy *1	± 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*

Ambient temperature limits

Normal operating range

	TIIS Explosion-proof FM Explosion-proof KCs Flameproof NEPSI Flameproof (Ex d II CT4, 5)	NEPSI Flameproof (Ex d IICT6)
G2 external thread	-10 to +60°C	-10 to +40°C
G1/2 external thread	-10 to +50°C	-10 to +40°C

Transportation and storage temperature

-10 to + 50 °C

Temperature ranges of wetted parts

	TIIS Explosion-proof FM Explosion-proof KCs Flameproof NEPSI Flameproof (Ex d II CT4)	NEPSI Flameproof (Ex d IICT5)	NEPSI Flameproof (Ex d IICT6)
G2 external thread	-10 to +110°C	-10 to +95°C	-10 to +80°C
G1/2 external thread	-10 to +85°C	-10 to +85°C	-10 to +80°C

Ambient humidity limits

5 to 100% RH

Materials

Fill fluid

- Silicone oil
- Propylene glycol

Wetted parts

Diaphragm

SUS316L

Others

SUS316L

Case

Aluminum alloy

Weight

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

Process connection

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

For other specification, please refer to COMMON SPECIFICATIONS.

MODEL SELECTION

Smart pressure transmitter model PTG7XB

Process connection: Flush diaphragm type (G2 inch external, G1/2 inch external / flush diaphragm)
Measuring span: 10 to 100 kPa, 40 to 400 kPa, 0.2 to 2 MPa, 1 to 10 MPa

				Selection				Option1	Option2
Basic model number			-					-	-
Product description	Gauge pressure transmitter: Screw connection type (flush) with SFN communication	PTG71B							
	Gauge pressure transmitter: Screw connection type (flush) with HART5 communication	PTG72B							
			-						
Type of protection	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:G1/2			G					
	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:1/2 NPT			N					
	TIIS Flameproof Electrical connection:G1/2			A					
	FM Explosion-proof and Dust-ignition-proof Electrical connection:1/2 NPT			D					
	NEPSI Flameproof and Dust-ignition-proof Electrical connection:1/2 NPT			L					
	KCs Flameproof and Dust-ignition-proof Electrical connection:G1/2			J					
	KCs Flameproof Electrical connection: 1/2 NPT			K					
Measuring span	10 to 100 kPa (0.101 to 1.019 kgf/cm²) (Not applicable for process connection G1/2)				3				
	40 to 400 kPa (0.408 to 4.07 kgf/cm²) (Not applicable for process connection G1/2)				4				
	0.2 to 2 MPa (2.04 to 20.3 kgf/cm²)				5				
	1 to 10 MPa (10.20 to 101.9 kgf/cm²)				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	
Corrosion-proof finish								B	
Wetted part finish	Oil free finish							G	
	Water and oil free finish							H	
Option 2									-
No option									X
Test report									1
Material certificate									2
Withstand pressure test									4
Strength calculation sheet (JIS)									5
Traceability certificate									6
Non SI unit									F
Mounting bracket									H
Oil free finish certificate									J
Air release opening interior type *2,*3									N
Water and oil free finish certificate									P

*Note) *2 Must be selected Type of protection "G" or "N".*

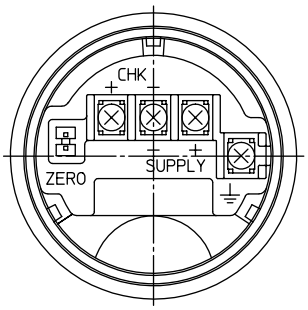
**3 Must be selected option I "M:Built-in digital indicator"*

DIMENSIONS

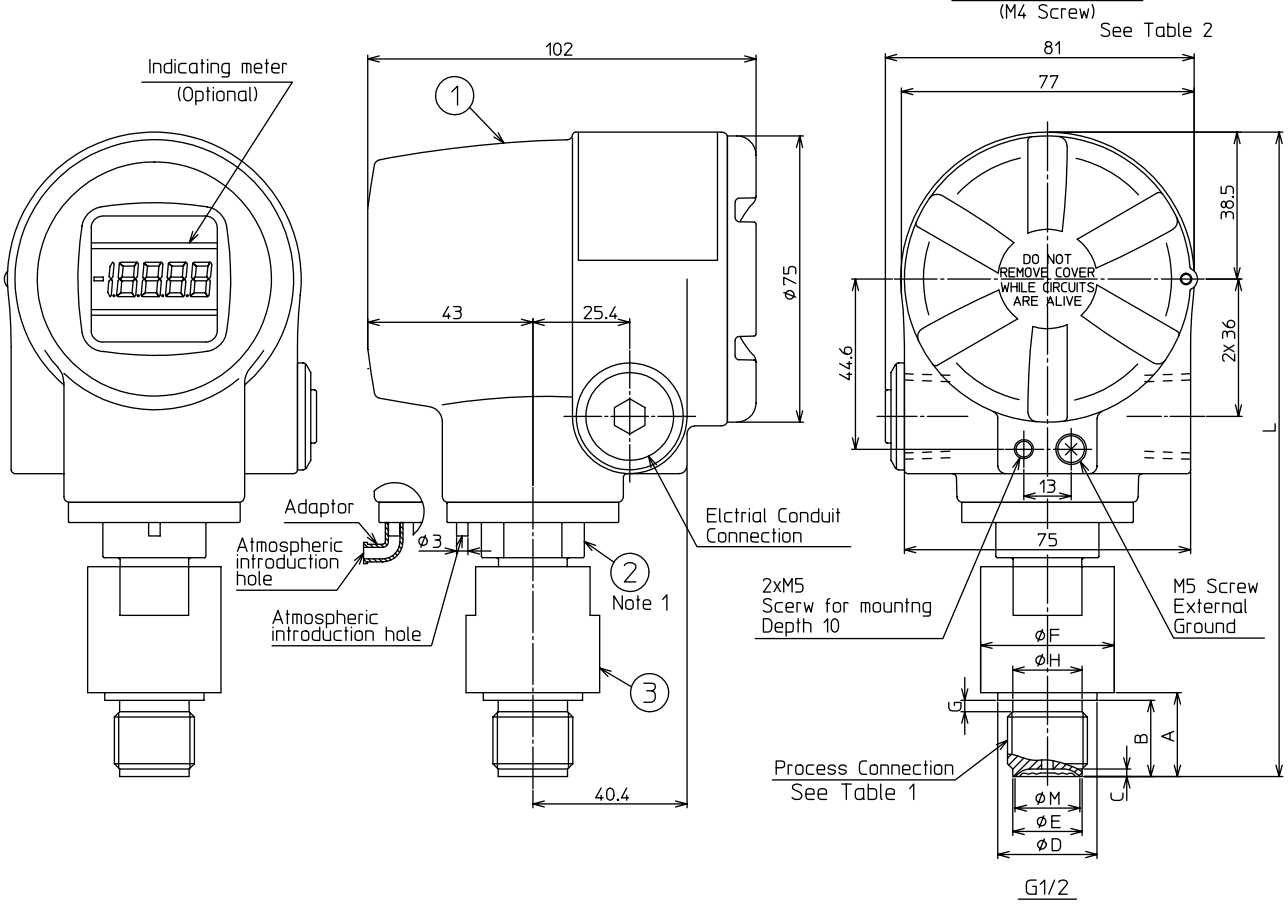
[mm]

Materials of construction

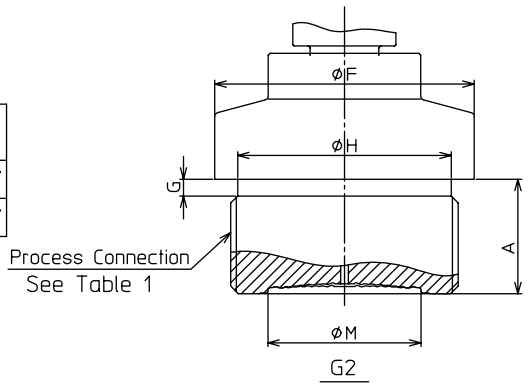
KEY No.	Description	Materials
1	Case	Aluminum alloy
2	Body	SUS 316 (Diaghragm SUS 316L)
3	Wetted Part	SUS 316L



Terminal Connection
(M4 Screw)



G1/2



G2

Table1

Code No.			Thread Type of Process Connection (G)	A	B	øD	C	øE	øF	G	øH	øM	L
Fitting	Thread Type	Thread Size											
A	G	4	G 1/2 External	22	20	26	2	18.2	35	2.5	17.8	17	Approx. 172
		F	G 2 External	30	—	—	—	—	68	4.4	56	43	Approx. 180

Table2 Terminal

Symbol	Terminal
SUPPLY + SUPPLY −	Power supply and output signal
CHK+, CHK−	Check meter
⏚	Ground
ZERO	ZERO Adjuster

Note 1. Do not loosen, Loosening will lead to fill-fluid leakage.

Flange type

(1/2 inch, 1 inch, 2 inches)

Measuring Span / Setting Range / Max. Working Pressure

Model Number	Measuring span	Setting Range	Max. Working Pressure	Process Connection
PTG7_F - _3	10 to 100 kPa	-100 to +100 kPa	200 kPa	2 inches (50 mm), 1inch (25 mm), 1/2 inch (15 mm)
PTG7_F - _4	40 to 400 kPa	-100 to +400 kPa	800 kPa	
PTG7_F - _5	0.2 to 2 MPa	-0.1 to +2 MPa	4 MPa or flange rating	
PTG7_F - _6	1 to 10 MPa	-0.1 to +10 MPa	20 MPa or flange rating	

Accuracy / Temperature effect

Model PTG7_ F- _3

Accuracy *1	± 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	1 inches (25mm)	± (4.5 × 40 / X +0.35)%
	2 inches (50 mm)	
	1/2 inch (15 mm)	± (10.0 × 40 / X +0.35)%

Model PTG7_ F- _4

Accuracy *1	± 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	1 inches (25mm)	± (2.4 × 80 / X +0.35)%
	2 inches (50 mm)	
	1/2 inch (15 mm)	± (7.1 × 80 / X +0.35)%

Model PTG7_ F- _5

Accuracy *1	± 0.5% F.S. (2 MPa ≥ X ≥ 0.4 kPa) ± (0.5×0.4 / X)% F.S. (0.4 MPa ≥ X ≥ 0.2 MPa)	
Zero temperature effect per 30°C *1	1 inches (25mm)	± (0.8×0.4 / X +0.35)%
	2 inches (50 mm)	
	1/2 inch (15 mm)	± (1.4×0.4 / X +0.35)%

Model PTG7_ F- _6

Accuracy *1	± 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	1 inches (25mm)	± (0.5 × 2.0 / X +0.35)%
	2 inches (50 mm)	
	1/2 inch (15 mm)	

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

Ambient temperature limits

Normal operating range

Fill fluid	Water and dust proof	TIIS Explosion-proof FM Explosion-proof KCs Flameproof NEPSI Flameproof (Ex d II CT4, 5)	NEPSI Flameproof (Ex d IICT6)
Silicone oil	-20 to +70°C	-20 to +60°C	-20 to +40°C
Propylene glycol	-10 to +70°C	-10 to +60°C	-10 to +40°C

Transportation and storage temperature

Silicone oil -30 to + 80°C
Propylene glycol -10 to + 70°C

Temperature ranges of wetted parts

Fill fluid	Water and dust proof	TIIS Explosion-proof FM Explosion-proof KCs Flameproof NEPSI Flameproof (Ex d II CT4)	NEPSI Flameproof (Ex d IICT5)	NEPSI Flameproof (Ex d IICT6)
Silicone oil	-40 to +110°C	-20 to +110°C	-20 to +95°C	-20 to +80°C
Propylene glycol	-10 to +110°C	-10 to +110°C	-10 to +95°C	-10 to +80°C

150°C for 60 minutes during steam cleaning for water and dust proof model

Ambient humidity limits

5 to 100% RH

Materials

Fill fluid

- Silicone oil
- Propylene glycol

Wetted parts

Diaphragm

SUS316L

Others

SUS316L

Flange parts

SUS304

Case

Aluminum alloy

Weight

JIS10K 50mm type : Approx. 4.2 kg
JIS10K 15mm type : Approx. 2 kg

Process connection

- JIS10K 15 mm, 50 mm
- JIS20K 15 mm, 25 mm
- JIS30K 15 mm, 50 mm

For other specification, please refer to COMMON SPECIFICATIONS.

MODEL SELECTION

Smart pressure transmitter model PTG7XF

Process connection: Flange type

Measuring span: 10 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

			Selection							Option1	Option2
Basic model number											

Product description	Gauge pressure transmitter: Flange mount type with SFN communication	PTG71F									
	Gauge pressure transmitter: Flange mount type with HART5 communication	PTG72F									
			-								
Type of protection	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:G1/2			G							
	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:1/2 NPT			N							
	TIIS Flameproof Electrical connection:G1/2			A							
	FM Explosion-proof and Dust-ignition-proof Electrical connection:1/2 NPT			D							
	NEPSI Flameproof and Dust-ignition-proof Electrical connection:1/2 NPT			L							
	KCs Flameproof and Dust-ignition-proof Electrical connection:G1/2			J							
	KCs Flameproof Electrical connection: 1/2 NPT			K							
Measuring span	10 to 100 kPa (0.101 to 1.019 kgf/cm²)				3						
	40 to 400 kPa (0.408 to 4.07 kgf/cm²)				4						
	0.2 to 2 MPa (2.04 to 20.3 kgf/cm²)				5						
	1 to 10 MPa (10.20 to 101.9 kgf/cm²)				6						
Material	SUS316L/SUS316L/Silicone oil					C1					
Diaphragm / wetted parts other than diaphragm/ fill fluid	SUS316L/SUS316L/Propylene glycol					CB					
Flange standard/rating	JIS10K						A				
	JIS20K *1						C				
	JIS30K						D				
Flange diameter	2 inches / 50 mm							3			
	1 inch / 25 mm *2							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
Corrosion-proof finish											B
Wetted parts finish	Oil free finish										G
	Water and oil free finish										H
Option2											-
No option											X
Test report											1
Material certificate											2
Withstand pressure test											4
Strength calculation sheet (JIS)											5
Traceability certificate											6
Non SI unit											F
Mounting bracket											H
Oil free finish certificate											J
Air release opening interior type *4,*5											N
Water and oil free finish certificate											P

*Note) *1 The 2 inches / 50 mm "code 3" in the Flange diameter can not be selected.*

**2 Only applicable for the JIS20K "code C" in the Flange standard / rating.*

**4 Must be selected Type of protection "G" or "N".*

**5 Must be selected option I "M:Built-in digital indicator"*

DIMENSIONS

[mm]

Materials of construction

KEY No.	Description	Materials
1	Case	Aluminum alloy
2	Body	SUS 316
3	Wetted Part	See Spec. Code.

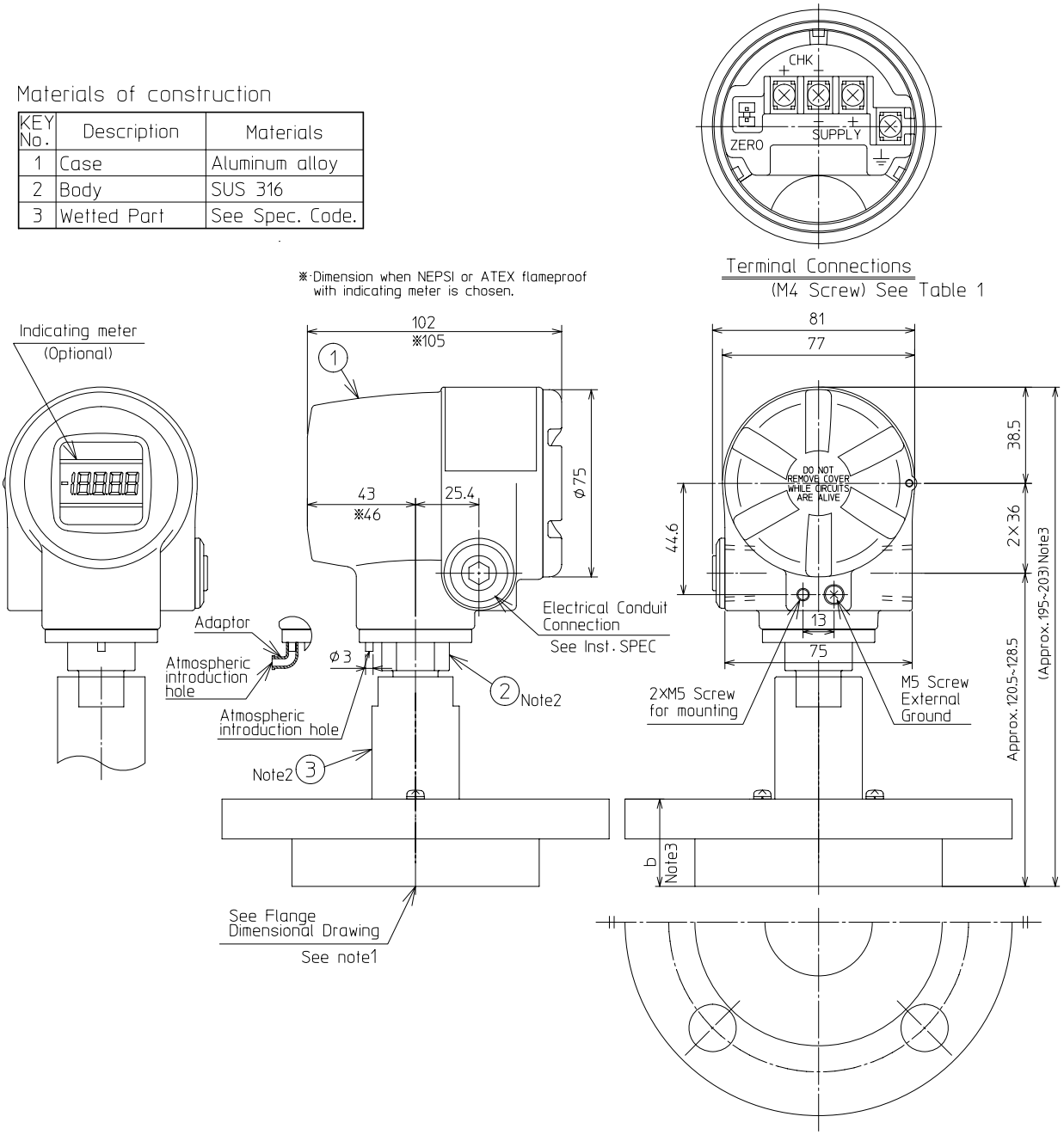
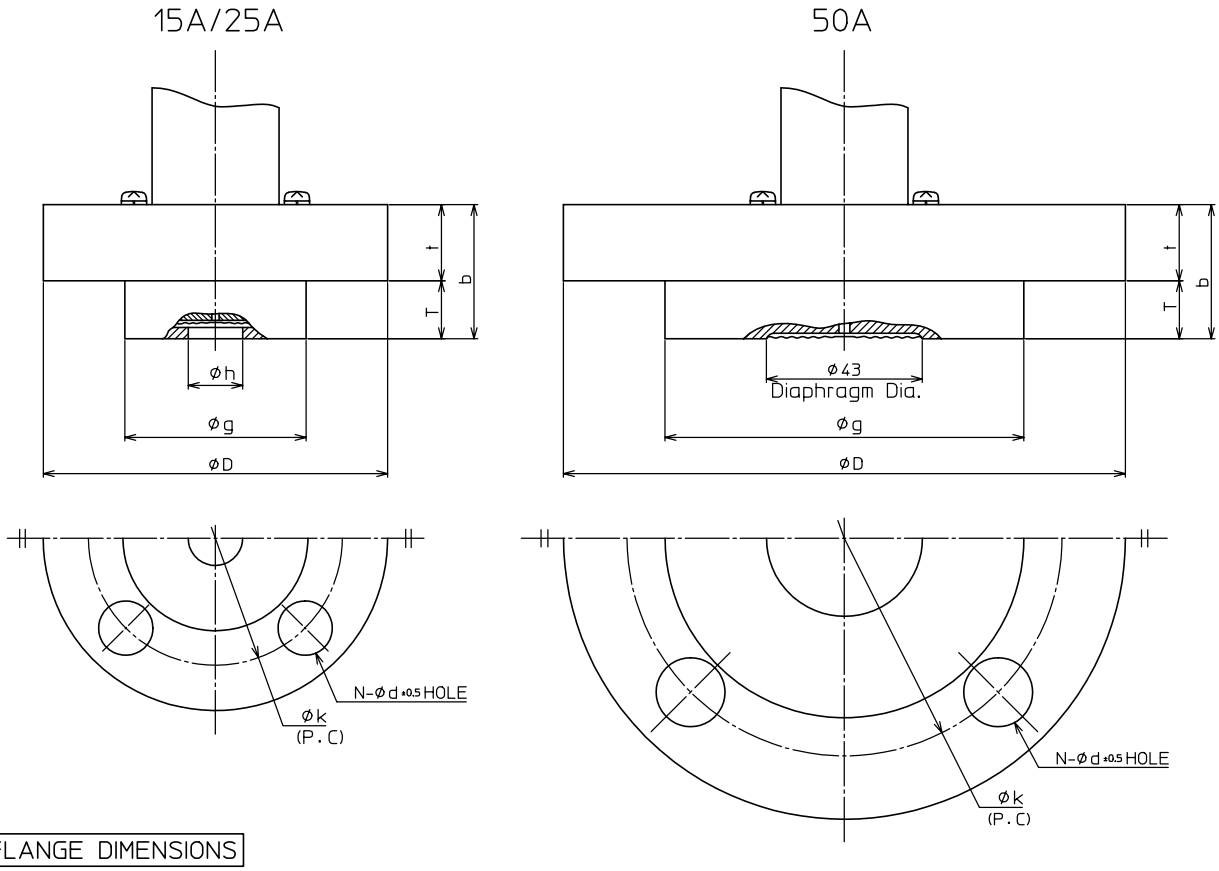


Table1 Terminal

Symbol	Terminal
SUPPLY +, SUPPLY −	Power supply and output signal
CHK+, CHK−	Check meter
⏚	Ground
ZERO	ZERO Adjuster

Note 1. See flange dimensions on proceeding pages.
2. Do not loosen.
Loosening will lead to fill-fluid leakage.

[mm]



FLANGE DIMENSIONS

Flange Rating	øD	øg	øk	N	ød	øh	t	T	b
JIS10K-15A	95	54	70	4	15	15	12	15	27
JIS20K-15A	95	54	70	4	15	15	14	15	29
JIS30K-15A	115	54	80	4	19	15	18	15	33
JIS20K-25A	125	70	90	4	19	27	16	15.5	31.5
JIS10K-50A	155	99	120	4	19	—	16	19	35
JIS30K-50A	165	99	130	8	19	—	22	19	41

FLANGE STANDARD : JIS B2220(2004)

Ferrule type

(1S, 1.5S, 2S clamp type)

Measuring span / Setting range / Max. working pressure

Model Number	Measuring span	Setting Range	Max. Working Pressure	Process Connection
PTG7_S - _3	10 to 100 kPa	-100 to +100 kPa	200 kPa	2S, 1.5S
PTG7_S - _4	40 to 400 kPa	-100 to +400 kPa	800 kPa or clamp rating	2S, 1.5S, 1S
PTG7_S - _5	0.2 to 2 MPa	-0.1 to +2 MPa	4 MPa or clamp rating	

Accuracy / Max. working pressure

Model PTG7_ S- _3

Accuracy *1	± 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)%
	1.5S (Clamp type)	± (11.5 × 40 / X +0.35)%
	2S Extension(Clamp type)	± (2.7×40/X+0.35)%

Model PTG7_ S- _4

Accuracy *1	± 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)%
	1.5S (Clamp type)	± (5.9 × 80 / X +0.35)%
	1S (Clamp type)	± (30.4 × 80 / X +0.35)%
	2S Extension(Clamp type)	± (1.5×80/X+0.35)%

Model PTG7_ S- _5

Accuracy *1	± 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)%
	1.5S (Clamp type)	± (1.5 × 0.4 / X +0.35)%
	1S (Clamp type)	± (6.4 × 0.4 / X +0.35)%
	2S Extension(Clamp type)	± (0.63×0.4/X+0.35)%

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

Ambient temperature limits

Normal operating range

Water and dust proof	TIIS Explosion-proof FM Explosion-proof KCs Flameproof NEPSI Flameproof (Ex d II CT4, 5)	NEPSI Flameproof (Ex d IICT6)
-10 to +70°C	-10 to +60°C	-10 to +40°C

Transportation and storage temperature

-10 to +80°C (15 to +35°C for type -J)

Temperature ranges of wetted parts

Water and dust proof	TIIS Explosion-proof FM Explosion-proof KCs Flameproof NEPSI Flameproof (Ex d II CT4)	NEPSI Flameproof (Ex d IICT5)	NEPSI Flameproof (Ex d IICT6)
-10 to +121°C	-10 to +110°C	-10 to +95°C	-10 to +80°C

150°C for 60 minutes during steam cleaning for water and dust proof model

Ambient humidity limits

5 to 100% RH

Materials

Fill fluid

- Propylene glycol

Wetted parts

Diaphragm

SUS316L

Others

SUS316L

Case

Aluminum alloy

Weight

Approx. 1.3kg(1S or 1.5S)

Process connection

- IDF 1S ferrule clamp type
- IDF 1.5S ferrule clamp type
- IDF 2S ferrule clamp type

For other specification, please refer to COMMON SPECIFICATIONS.

MODEL SELECTION

Smart pressure transmitter model PTG7XS

Process connection: Ferrule clamp type
Measuring span: 10 to 100 kPa, 40 to 400 kPa, 0.2 to 2 MPa
Model number structure: Basic model number - Selection - Option1 - Option2

				Selection					Option1	Option2	
Basic model number											
Product description	Gauge pressure transmitter: Ferrule type type with SFN communication	PTG71S									
	Gauge pressure transmitter: Ferrule type with HART5 communication	PTG72S									
			-								
Type of protection	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:G1/2			G							
	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:1/2 NPT			N							
	TIIS Flameproof Electrical connection:G1/2			A							
	FM Explosion-proof and Dust-ignition-proof Electrical connection:1/2 NPT			D							
	NEPSI Flameproof and Dust-ignition-proof Electrical connection:1/2 NPT			L							
	KCs Flameproof and Dust-ignition-proof Electrical connection:G1/2			J							
	KCs Flameproof Electrical connection: 1/2 NPT			K							
Measuring span	10 to 100 kPa (0.101 to 1.019 kgf/cm²) *1				3						
	40 to 400 kPa (0.408 to 4.07 kgf/cm²)				4						
	0.2 to 2 MPa (2.04 to 20.3 kgf/cm²)				5						
Material: Diaphragm / wetted parts other than diaphragm/ fill fluid	SUS316L/SUS316L/Propylene glycol					CB					
Process connection	IDF 1S ferrule clamp type						AH2X				
	IDF1.5S ferrule clamp type						AH3X				
	IDF 2S ferrule clamp type						AH4X				
	IDF 2S ferrule (Extension length:50mm) clamp type (with silicon gasket)						AH42				
	IDF 2D ferrule (Extension length: 50mm) clamp type (with EPDM gasket)						AH4A				
Option 1								-			
No option									X		
Built-in digital indicator									M		
Corrosion-proof finish									B		
Wetted parts finish	Anti-dynamic pressure specification *1 *2								F		
	Anti-pulasation specification *3								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
Withstand pressure test											4
Strength calculation sheet (JIS)											5
Traceability certificate											6
Non SI unit											F
Mounting bracket											H
Oil free finish certificate											J
Air release opening interior type *4,*5											N
Water and oil free finish certificate											P
Tank spud for extended type *1											S

*Note) *1 Not applicable for ferrule size 1S.*

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

**3 Applicable for ferrule size 2S only. 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.*

**4 Must be selected Type of protection "G" or "N".*

**5 Must be selected option I "M:Built-in digital indicator"*

Caution for device selection

For the following installation locations, a device error may occur for standard specification devices. Instead, use a model with dynamic pressure proof or pulsation proof specifications.

- Recommended locations for a dynamic pressure proof model

1. Locations where dynamic pressure from the process is repeatedly applied to this device by a batch process
   (Ex.: beer-barrel fillers and washers)
2. Locations where the pressure-receiving section of this device would be subject to direct spray when the tank is cleaned
   (Ex.: at the top of a conical tank)
3. Locations where dynamic pressure is applied to this device by the process

- Recommended locations for a pulsation proof model

1. Locations where this device would be subject to direct pulsation from the process
   (Ex.: rotary pump outlet)

DIMENSIONS

[mm]

Materials of construction

KEY No.	Description	Materials
1	Case	Aluminum alloy
2	Body	SUS 316
3	Wetted Part	SUS 316L
4	Tank Spud(Option)	SUS 316L
5	"O"ring	Silicone Rubber or EPDM *

*Material of "O"ring will be either silicone rubber or EPDM, according to the selected code.

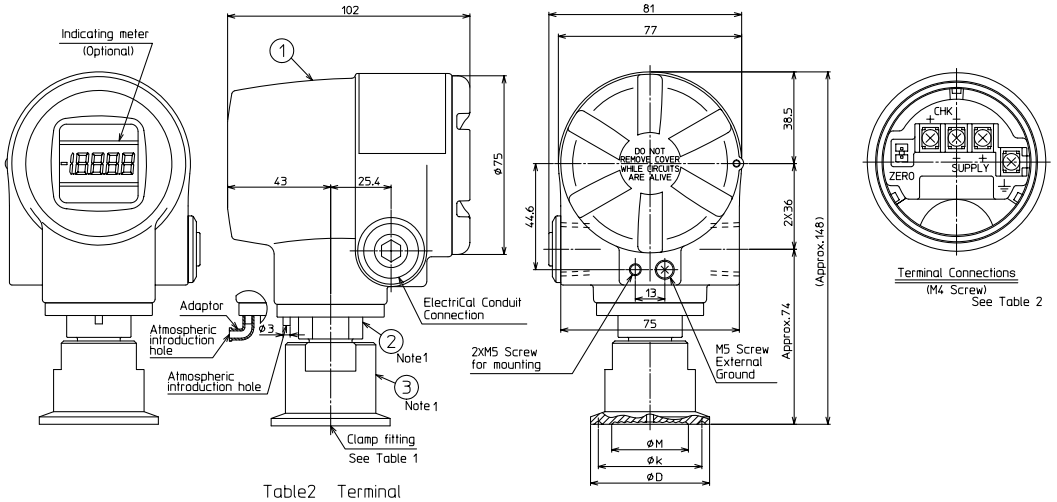


Table1

Code No.			Ferrule Size	øD	øk	øM
Rating	Fitting	Size				
A	H	2	IDF 1S	50.5	43.5	22
		3	IDF 1.5S			28
		4	IDF 2S	64	56.5	43

Table2 Terminal

Symbol	Terminal
SUPPLY +, SUPPLY −	Power supply and output signal
CHK+, CHK−	Check meter
⏚	Ground
ZERO	ZERO Adjuster

※ Dimension when NEPSI or ATEX flameproof with indicating meter is chosen.

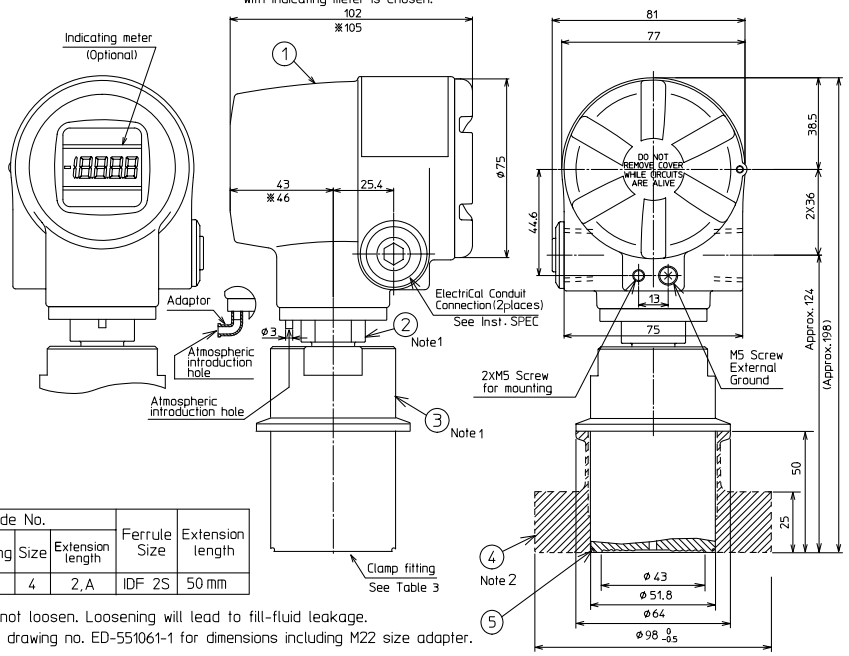


Table3

Code No.				Ferrule Size	Extension length
Rating	Fitting	Size	Extension length		
A	H	4	2, A	IDF 2S	50 mm

Note 1. Do not loosen. Loosening will lead to fill-fluid leakage.
2 See drawing no. ED-551061-1 for dimensions including M22 size adapter.

Ferrule type

(1.5S, 2S cap nut type)

Measuring Span / Setting Range / Max. Working Pressure

Model Number	Measuring span	Setting Range	Max. Working Pressure	Process Connection
PTG7_S - _3	10 to 100 kPa	-100 to +100 kPa	200 kPa	2S, 1.5S
PTG7_S - _4	40 to 400 kPa	-100 to +400 kPa	800 kPa or cap nut rating	
PTG7_S - _5	0.2 to 2 MPa	-0.1 to +2 MPa	4 MPa or cap nut rating	

Accuracy / Max. working pressure

Model PTG7_ S- _3

Accuracy *1	± 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)%
	1.5S (Cap nut type)	± (11.5 × 40 / X +0.35)%

Model PTG7_ S- _4

Accuracy *1	± 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)	± (1.3 × 80 / X +0.35)%
	1.5S (Cap nut type)	± (5.9 × 80 / X +0.35)%

Model PTG7_ S- _5

Accuracy *1	± 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)%
	1.5S (Cap nut type)	± (1.5 × 0.4 / X +0.35)%

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

Ambient temperature limits

Normal operating range

Water and dust proof	TIIS Explosion-proof FM Explosion-proof KCs Flameproof NEPSI Flameproof (Ex d II CT4, 5)	NEPSI Flameproof (Ex d IICT6)
-10 to +70°C	-10 to +60°C	-10 to +40°C

Transportation and storage temperature

-10 to +80°C

Temperature ranges of wetted parts

Water and dust proof	TIIS Explosion-proof FM Explosion-proof KCs Flameproof NEPSI Flameproof (Ex d II CT4)	NEPSI Flameproof (Ex d IICT5)	NEPSI Flameproof (Ex d IICT6)
-10 to +121°C	-10 to +110°C	-10 to +95°C	-10 to +80°C

150°C for 60 minutes during steam cleaning for water and dust proof model

Ambient humidity limits

5 to 100% RH

Materials

Fill fluid

- Propylene glycol

Wetted parts

Diaphragm

SUS316L

Others

SUS316L

Case

Aluminum alloy

Weight

- 1.5S : Approx. 1.4 kg
- 2S : Approx. 1.7 kg

Process connection

- IDF 1.5S ferrule cap nut type
- IDF 2S ferrule cap nut type

For other specification, please refer to COMMON SPECIFICATIONS.

MODEL SELECTION

Smart pressure transmitter model PTG7XS

Process connection: Ferrule cap nut type
Measuring span: 10 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 SFN communication	PTG71S						
	Gauge pressure transmitter: Ferrule type with HART5 communication	PTG72S						
			-					
Type of protection	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:G1/2		G					
	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:1/2 NPT		N					
	TIIS Flameproof Electrical connection:G1/2		A					
	FM Explosion-proof and Dust-ignition-proof Electrical connection:1/2 NPT		D					
	NEPSI Flameproof and Dust-ignition-proof Electrical connection:1/2 NPT		L					
	KCs Flameproof and Dust-ignition-proof Electrical connection:G1/2		J					
	KCs Flameproof Electrical connection: 1/2 NPT		K					
Measuring span	10 to 100 kPa (0.203 to 1.019 kgf/cm²)			3				
	40 to 400 kPa (0.408 to 4.07 kgf/cm²)			4				
	0.2 to 2 MPa (2.04 to 20.3 kgf/cm²)			5				
Material: Diaphragm / wetted parts other than diaphragm/ fill fluid	SUS316L/SUS316L/Propylene glycol				CB			
Process connection	IDF1.5S ferrule cap nut type					AC3X		
	IDF2S ferrule cap nut type					AC4X		
Option 1							-	
No option								X
Built-in digital indicator								M
Corrosion-proof finish								B
Wetted parts finish	Anti-dynamic pressure specification *1							F
	Anti-pulasation 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
Withstand pressure test								4
Strength calculation sheet (JIS)								5
Traceability certificate								6
Non SI unit								F
Mounting bracket								H
Oil free finish certificate								J
Air release opening interior type *3,*4								N
Water and oil free finish certificate								P

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

**2 Applicable for ferrule size 2S only. 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.*

**3 Must be selected Type of protection "G" or "N".*

**4 Must be selected option I "M:Built-in digital indicator"*

Caution for device selection

For the following installation locations, a device error may occur for standard specification devices. Instead, use a model with dynamic pressure proof or pulsation proof specifications.

- Recommended locations for a dynamic pressure proof model

1. Locations where dynamic pressure from the process is repeatedly applied to this device by a batch process
   (Ex.: beer-barrel fillers and washers)
2. Locations where the pressure-receiving section of this device would be subject to direct spray when the tank is cleaned
   (Ex.: at the top of a conical tank)
3. Locations where dynamic pressure is applied to this device by the process

- Recommended locations for a pulsation proof model

1. Locations where this device would be subject to direct pulsation from the process
   (Ex.: rotary pump outlet)

DIMENSIONS

[mm]

Materials of construction

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

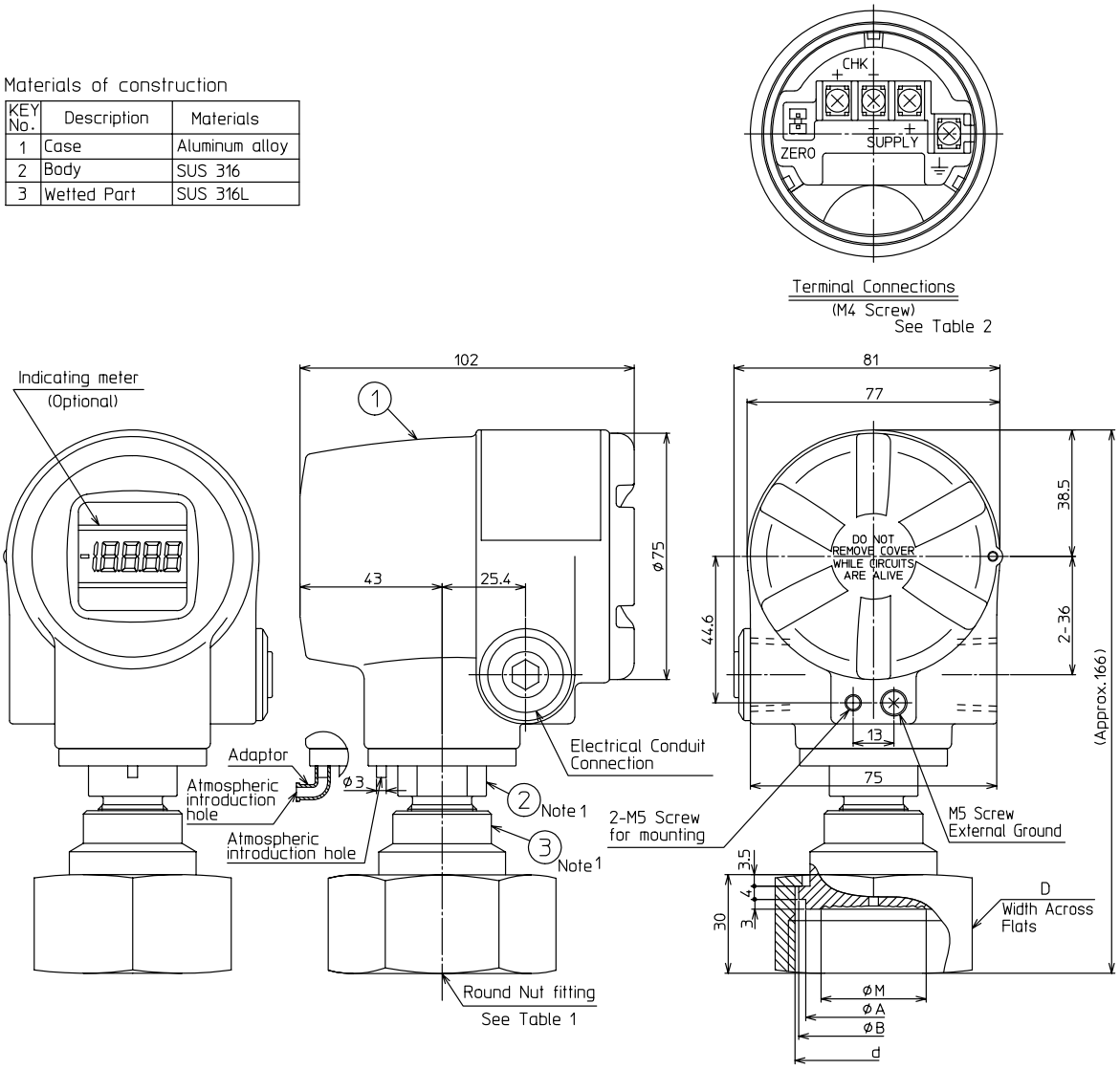


Table1

Code No.			Fitting Size(d)	D	øM	A	B
Rating	Fitting	Size					
A	C	3	IDF 1.5S	60	28	42.7	47
		4	IDF 2S	75	43	56.2	60.5

Table2 Terminal

Symbol	Terminal
SUPPLY +, SUPPLY −	Power supply and output signal
CHK+, CHK−	Check meter
⏚	Ground
ZERO	ZERO Adjuster

Note 1. Do not loosen. Loosening will lead to fill-fluid leakage.

Ferrule with cooling tower

(1S, 1.5S, 2S clamp type)

Measuring span / Setting range / Max. working pressure

Model Number	Measuring span	Setting Range	Max. Working Pressure	Process Connection
PTG7_K - _3	20 to 100 kPa	-100 to +100 kPa	200 kPa	2, 1.5S
PTG7_K - _4	40 to 400 kPa	-100 to +400 kPa	800 kPa or clamp rating	2S, 1.5S, 1S
PTG7_K - _5	0.2 to 2 MPa	-0.1 to +2 MPa	4 MPa or clamp rating	

Accuracy / Temperature effect

Model PTG7_ K- _3

Accuracy *1	± 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)%
	1.5S (Clamp type)	± (15.5 × 40 / X +0.35)%

Model PTG7_ K- _4

Accuracy *1	± 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)%
	1.5S (Clamp type)	± (7.9 × 80 / X +0.35)%
	1S (Clamp type)	± (38.4 × 80 / X +0.35)%

Model PTG7_ K- _5

Accuracy *1	± 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)%
	1.5S (Clamp type)	± (1.9 × 0.4 / X +0.35)%
	1S (Clamp type)	± (8.0 × 0.4 / X +0.35)%

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

Ambient temperature limits

Normal operating range

Water and dust proof	TIIS Explosion-proof FM Explosion-proof NEPSI Flameproof (Ex d II CT4, 5)	NEPSI Flameproof (Ex d IICT6)
-10 to +70°C	-10 to +60°C	-10 to +40°C

Transportation and storage temperature

-10 to +70°C

Temperature ranges of wetted parts

Water and dust proof	TIIS Explosion-proof FM Explosion-proof NEPSI Flameproof (Ex d II CT4)	NEPSI Flameproof (Ex d IICT5)	NEPSI Flameproof (Ex d IICT6)
-10 to +150°C	-10 to +110°C	-10 to +95°C	-10 to +80°C

Note) The temperature of the threaded section of this device and of the sanitary ferrule should not exceed 110 °C.

Ambient humidity limits

5 to 100% RH

Materials

Fill fluid

- Propylene glycol

Wetted parts

Diaphragm

SUS316L

Others

SUS316L

Case

Aluminum alloy

Weight

Approx. 1.4 kg

Process connection

- IDF 1S ferrule clamp
- IDF 1.5S ferrule clamp
- IDF 2S ferrule clamp

For other specification, please refer to COMMON SPECIFICATIONS.

MODEL SELECTION

Smart pressure transmitter model PTG7XK

Process connection: Ferrule clamp type with cooling tower
Measuring span: 20 to 100 kPa, 40 to 400 kPa, 0.2 to 2 MPa
Model number structure: Basic model number - Selection - Option1 - Option2

				Selection					Option1		Option2
Basic model number											
Product description	Gauge pressure transmitter: Ferrule type with cooling tower with SFN communication	PTG71K									
	Gauge pressure transmitter: Ferrule type with cooling tower with HART5 communication	PTG72K									
			-								
Type of protection	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:G1/2			G							
	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:1/2NPT			N							
	TIIS Flameproof Electrical connection:G1/2			A							
	FM Explosion-proof and Dust-ignition-proof Electrical connection:1/2NPT			D							
	NEPSI Flameproof and Dust-ignition-proof Electrical connection:1/2 NPT			L							
Measuring span	20 to 100 kPa (0.203 to 1.019 kgf/cm²) (Not applicable for process connection 1S.)				3						
	40 to 400 kPa (0.408 to 4.07 kgf/cm²)				4						
	0.2 to 2 MPa (2.04 to 20.3 kgf/cm²)				5						
Material: Diaphragm / wetted parts other than diaphragm/ fill fluid	SUS316L/SUS316L/Propylene glycol					CB					
Process connection	IDF 1S ferrule clamp type						AH2X				
	IDF1.5S ferrule clamp type						AH3X				
	IDF 2S ferrule clamp type						AH4X				
Option 1									-		
No option										X	
Built-in digital indicator										M	
Corrosion-proof finish										B	
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
Withstand pressure test											4
Strength calculation sheet (JIS)											5
Traceability certificate											6
Non SI unit											F
Mounting bracket											H
Oil free finish certificate											J
Air release opening interior type *1,*2											N
Water and oil free finish certificate											P

*Note) *1 Must be selected Type of protection "G" or "N".*

**2 Must be selected option I "M:Built-in digital indicator"*

Caution for device selection

In the following installation locations, device error may occur. Do not use this device, even if the pressure or temperature, etc., is within the device specifications.

1. Locations where dynamic pressure from the process is repeatedly applied to this device by a batch process
   (Ex. Filler and washer of beer barreling equipment)
2. Locations where the pressure-receiving section of this device would be subject to direct spray when the tank is cleaned
   (Ex.: at the top of a conical tank)
3. Locations where dynamic pressure is applied to this device by the process
   (Ex.: near a bent pipe)
4. Locations where this device would be subjet to direct pulsation from the process
   (Ex.: rotary pump outlet)

DIMENSIONS

[mm]

Materials of Construction

KEY No.	Parts Name	Material
1	Case	Aluminum Alloy
2	Body	SUS316
3	Cooling Fin	SUS303 or SUS304
4	Ferrule	SUS316L

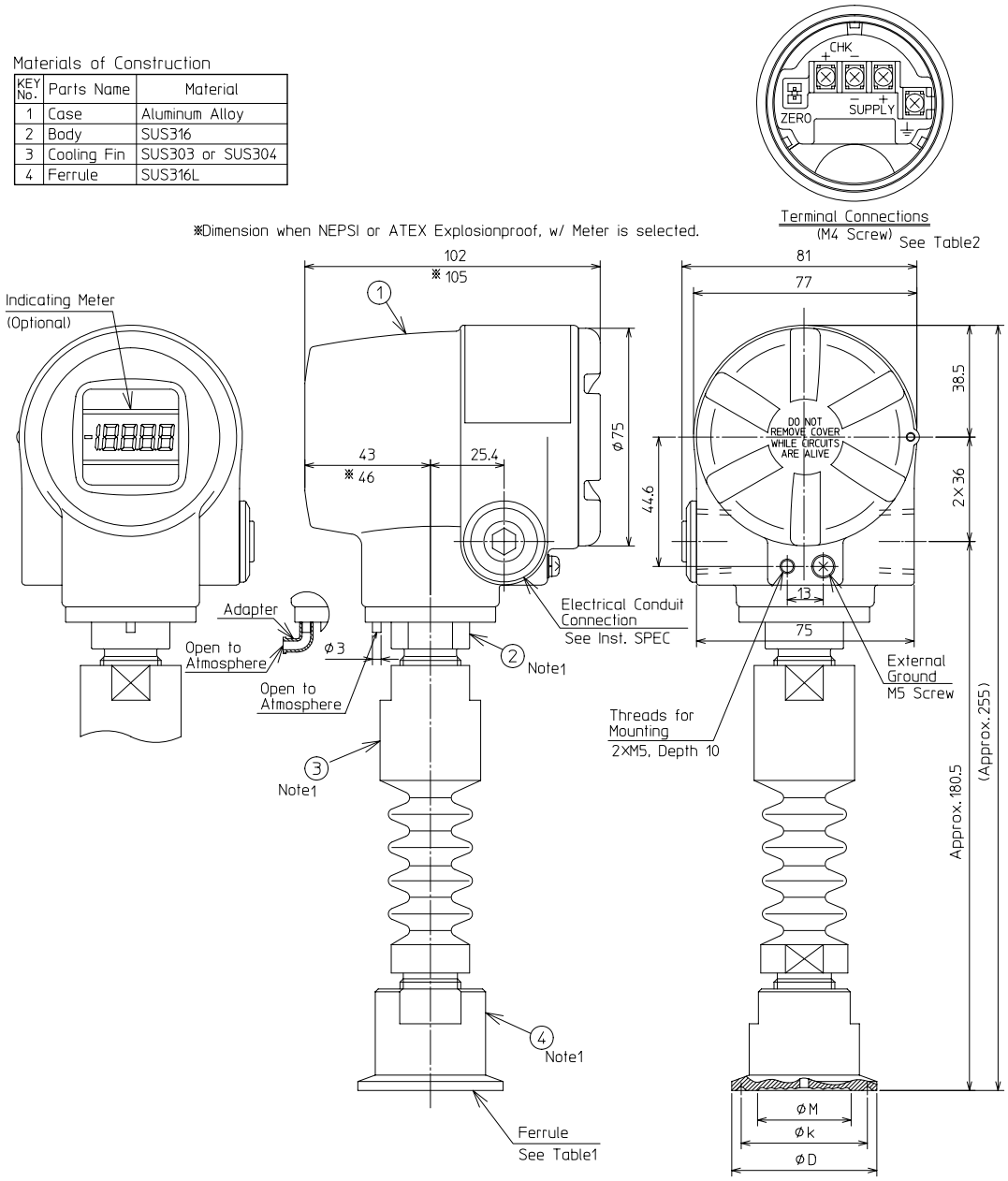


Table1 (See Inst. SPEC)

Code No.			Ferrule Size	øD	øk	øM
Rating	Fitting	Size				
A	H	2	IDF 1S	50.5	43.5	22
		3	IDF 1.5S			28
		4	IDF 2S	64	56.5	43

Note1. Do not loosen. Loosening will lead to fill-fluid leakage.

Table2 Terminal Connections

Symbol	Description
SUPPLY +, SUPPLY −	Power Supply and Output Signal
CHK+, CHK−	Check Meter
⏚	Ground
ZERO	ZERO Adjuster

Ferrule with cooling tower

(1.5S, 2S cap nut type)

Measuring span/ Setting range/ Max. working pressure

Model Number	Measuring span	Setting Range	Max. Working Pressure	Process Connection
PTG7_K - _3	20 to 100 kPa	-100 to +100 kPa	200 kPa	2S, 1.5S
PTG7_K - _4	40 to 400 kPa	-100 to +400 kPa	800 kPa or cap nut rating	
PTG7_K - _5	0.2 to 2 MPa	-0.1 to +2 MPa	4 MPa or cap nut rating	

Accuracy / Temperature effect

Model PTG7_ K- _3

Accuracy *1	± 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)	± (2.5 × 40 / X +0.35)%
	1.5S (Cap nut type)	± (15.5 × 40 / X +0.35)%

Model PTG7_ K- _4

Accuracy *1	± 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)%
	1.5S (Cap nut type)	± (7.9 × 80 / X +0.35)%

Model PTG7_ K- _5

Accuracy *1	± 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)%
	1.5S (Cap nut type)	± (1.9 × 0.4 / X +0.35)%

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

Ambient temperature limits

Normal operating range

Water and dust proof	TIIS Explosion-proof FM Explosion-proof NEPSI Flameproof (Ex d II CT4, 5)	NEPSI Flameproof (Ex d IICT6)
-10 to +70°C	-10 to +60°C	-10 to +40°C

Transportation and storage temperature

-10 to + 70°C

Temperature ranges of wetted parts

Water and dust proof	TIIS Explosion-proof FM Explosion-proof NEPSI Flameproof (Ex d II CT4)	NEPSI Flameproof (Ex d IICT5)	NEPSI Flameproof (Ex d IICT6)
-10 to +150°C	-10 to +110°C	-10 to +95°C	-10 to +80°C

Ambient humidity limits

5 to 100% RH

Materials

Fill fluid

- Propylene glycol

Wetted parts

Diaphragm

SUS316L

Others

SUS316L

Case

Aluminum alloy

Weight

- 1.5S: Approx. 1.6 kg
- 2S: Approx. 1.9 kg

Process connection

- IDF 1.5S ferrule cap nut type
- IDF 2S ferrule cap nut type

For other specification, please refer to COMMON SPECIFICATIONS.

MODEL SELECTION

Smart pressure transmitter model PTG7XK

Process connection: Ferrule cap nut type with cooling tower
Measuring span 20 to 100 kPa, 40 to 400 kPa, 0.2 to 2 MPa
Model number structure: Basic model number - Selection - Option1 - Option2

					Selection					Option1		Option2
Basic model number				-					-		-	
Product description	Gauge pressure transmitter: Ferrule type with cooling tower with SFN communication	PTG71K										
	Gauge pressure transmitter: Ferrule type with cooling tower with HART5 communication	PTG72K										
				-								
Type of protection	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:G1/2				G							
	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:1/2NPT				N							
	TIIS Flameproof Electrical connection:G1/2				A							
	FM Explosion-proof and Dust-ignition-proof Electrical connection:1/2NPT				D							
	NEPSI Flameproof and Dust-ignition-proof Electrical connection:1/2 NPT				L							
Measuring span	20 to 100 kPa (0101 to 1.019 kgf/cm²)					3						
	40 to 400 kPa (0.408 to 4.07 kgf/cm²)					4						
	0.2 to 2 MPa (2.04 to 20.3 kgf/cm²)					5						
Material: Diaphragm / wetted parts other than diaphragm/ fill fluid	SUS316L/SUS316L/Propylene glycol						CB					
Process connection	IDF 1.5S ferrule cap nut type							AC3X				
	IDF 2S ferrule cap nut type							AC4X				
Option 1									-			
No option										X		
Built-in digital indicator										M		
Corrosion-proof finish										B		
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
Withstand pressure test												4
Strength calculation sheet (JIS)												5
Traceability certificate												6
Non SI unit												F
Mounting bracket												H
Oil free finish certificate												J
Air release opening interior type *1,*2												N
Water and oil free finish certificate												P

*Note) *1 Must be selected Type of protection "G" or "N".*

**2 Must be selected option I "M:Built-in digital indicator"*

Caution for device selection

In the following installation locations, device error may occur. Do not use this device, even if the pressure or temperature, etc., is within the device specifications.

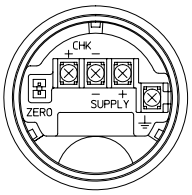
1. Locations where dynamic pressure from the process is repeatedly applied to this device by a batch process
   (Ex. Filler and washer of beer barreling equipment)
2. Locations where the pressure-receiving section of this device would be subject to direct spray when the tank is cleaned
   (Ex.: at the top of a conical tank)
3. Locations where dynamic pressure is applied to this device by the process
   (Ex.: near a bent pipe)
4. Locations where this device would be subjet to direct pulsation from the process
   (Ex.: rotary pump outlet)

DIMENSIONS

[mm]

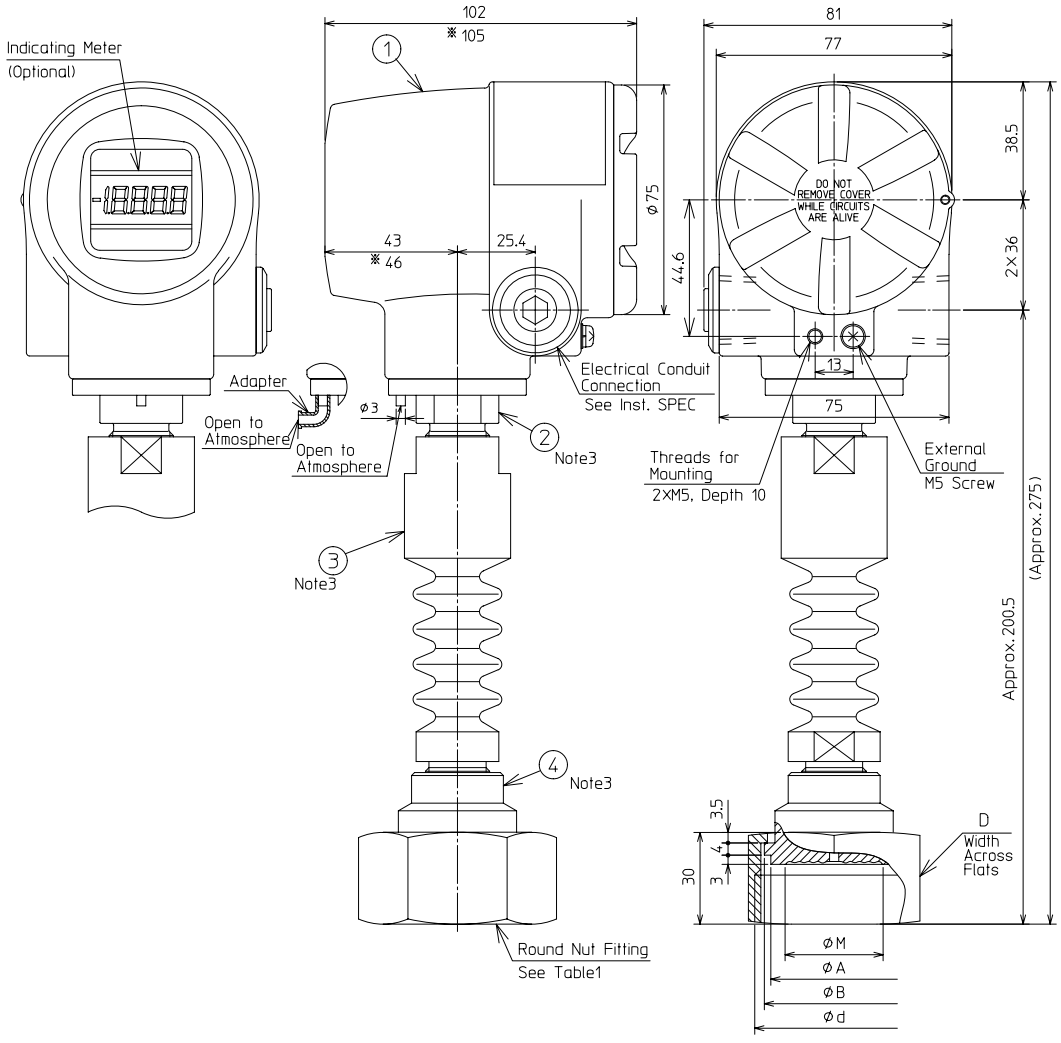
Materials of Construction

KEY No.	Parts Name	Material
1	Case	Aluminum Alloy
2	Body	SUS316
3	Cooling Fin	SUS303 or SUS304
4	Wetted Part	SUS316L



Terminal Connections
(M4 Screw) See Table2

※Dimension when NEPSI or ATEX Explosionproof, w/ Meter is selected.



Note1. When TIIS Explosion-Proof is selected, the attached cable adapter must be connected to the electrical conduits, or when elbow option is selected, to the elbow. See Drawing No.ED-551054-□□ for dimensions.

2. See Drawing No.ED-551052-□□ for dimensions including mounting bracket.

3. Do not loosen. Loosening will lead to fill-fluid leakage.

Table1 (See Inst. SPEC)

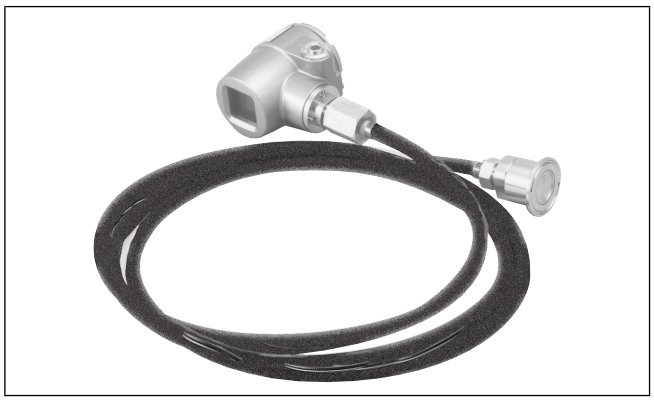
Code No.			Fitting Size (ød)	D	øM	øA	øB
Rating	Fitting	Size					
A	C	3	IDF 1.5S	60	28	42.7	47
		4	IDF 2S	75	43	56.2	60.5

Table2 Terminal Connections

Symbol	Description
SUPPLY +, SUPPLY −	Power Supply and Output Signal
CHK+, CHK−	Check Meter
⏚	Ground
ZERO	ZERO Adjuster

Remote seal with ferrule type

(1.5S, 2S clamp type)



Measuring span/ Setting range/ Max. working pressure

Model Number	Measuring span	Setting Range	Max. Working Pressure	Process Connection
PTG7_T - _3	10 to 100 kPa	-100 to +100 kPa	200 kPa	2S
PTG7_T - _4	40 to 400 kPa	-100 to +400 kPa	800 kPa or clamp rating	2S, 1.5S
PTG7_T - _5	0.2 to 2 MPa	-0.1 to +2 MPa	4 MPa or clamp rating	

Accuracy / Temperature effect

Model PTG7_ T- _3

Accuracy *1	± 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 PTG7_ T- _4

Accuracy *1	± 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)%
	1.5S (Clamp type)	± (33.9 × 80 / X +0.35)%

Model PTG7_ T- _5

Accuracy *1	± 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)%
	1.5S (Clamp type)	± (7.1 × 0.4 / X +0.35)%

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

Ambient temperature limits

Normal operating range

	TIIS Explosion-proof FM Explosion-proof NEPSI Flameproof (Ex d II CT4, 5)	NEPSI Flameproof (Ex d IICT6)
IDF 1.5 S	-5 to +55°C	-5 to +40°C
IDF 2 S	-5 to +60°C	-5 to +40°C

Transportation and storage temperature

-5 to +50°C

Temperature ranges of wetted parts

Water and dust proof	TIIS Explosion-proof FM Explosion-proof NEPSI Flameproof (Ex d II CT4)	NEPSI Flameproof (Ex d IICT5)	NEPSI Flameproof (Ex d IICT6)
-5 to +121°C	-5 to +110°C	-5 to +95°C	-5 to +80°C

150°C for 60 minutes during steam cleaning for water and dust proof model

Ambient humidity limits

5 to 100% RH

Materials

Fill fluid

- Propylene glycol

Wetted parts

Diaphragm

SUS316L

Others

SUS316L

Case

Aluminum alloy

Capillary cover

Olefin

Weight

Approx. 1.8 kg (Capillary length 3 m)

Process connection

- IDF 1.5S ferrule clamp type
- IDF 2S ferrule clamp type

For other specification, please refer to COMMON SPECIFICATIONS.

*Note) *1 Applicable only for water and dust proof "N" and FM intrinsically safe "E" in the type of protection.*

MODEL SELECTION

Smart pressure transmitter model PTG7XT

Process connection: Remote seal with ferrule clamp type
Measuring span: 10 to 100 kPa, 40 to 400 kPa, 0.2 to 2 MPa
Model number structure: Basic model number - Selection - Option1 - Option2

					Selection						Option1		Option2	
Basic model number			-							-		-		
Product description	Gauge pressure transmitter: Ferrule type with remote seal with SFN Communication	PTG71T												
	Gauge pressure transmitter: Ferrule type with remote seal with HART5 Communication	PTG72T												
			-											
Type of protection	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:G1/2			G										
	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:1/2NPT			N										
	TIIS Flameproof Electrical connection:G1/2			A										
	FM Explosion-proof and Dust-ignition-proof Electrical connection:1/2NPT			D										
	NEPSI Flameproof and Dust-ignition-proof Electrical connection:1/2 NPT			L										
Measuring span	10 to 100 kPa (0.101 to 1.019 kgf/cm²) (Not applicable for process connection 1.5S)				3									
	40 to 400 kPa (0.408 to 4.07 kgf/cm²)				4									
	0.2 to 2 MPa (2.04 to 20.3 kgf/cm²)				5									
Material: Diaphragm / wetted parts other than diaphragm/ fill fluid	SUS316L/SUS316L/Propylene glycol					CB								
Process connection	IDF 1.5S ferrule clamp type						AH3X							
	IDF 2S ferrule clamp type						AH4X							
Capillary length	1 m (with Olefin tube)							E						
	3 m (with Olefin tube)							G						
	5 m (with Olefin tube)							J						
Option 1										-				
No option											X			
Corrosion-proof finish											B			
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	
Withstand pressure test													4	
Strength calculation sheet (JIS)													5	
Traceability certificate													6	
Non SI unit													F	
Mounting bracket													H	
Oil free finish certificate													J	
Air release opening interior type *1,*2													N	
Water and oil free finish certificate													P	

*Note) *1 Must be selected Type of protection "G" or "N".*

**2 Must be selected option I "M:Built-in digital indicator"*

DIMENSIONS

[mm]

Materials of construction

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

※ Dimension when NEPSI or ATEX flameproof with indicating meter is chosen.

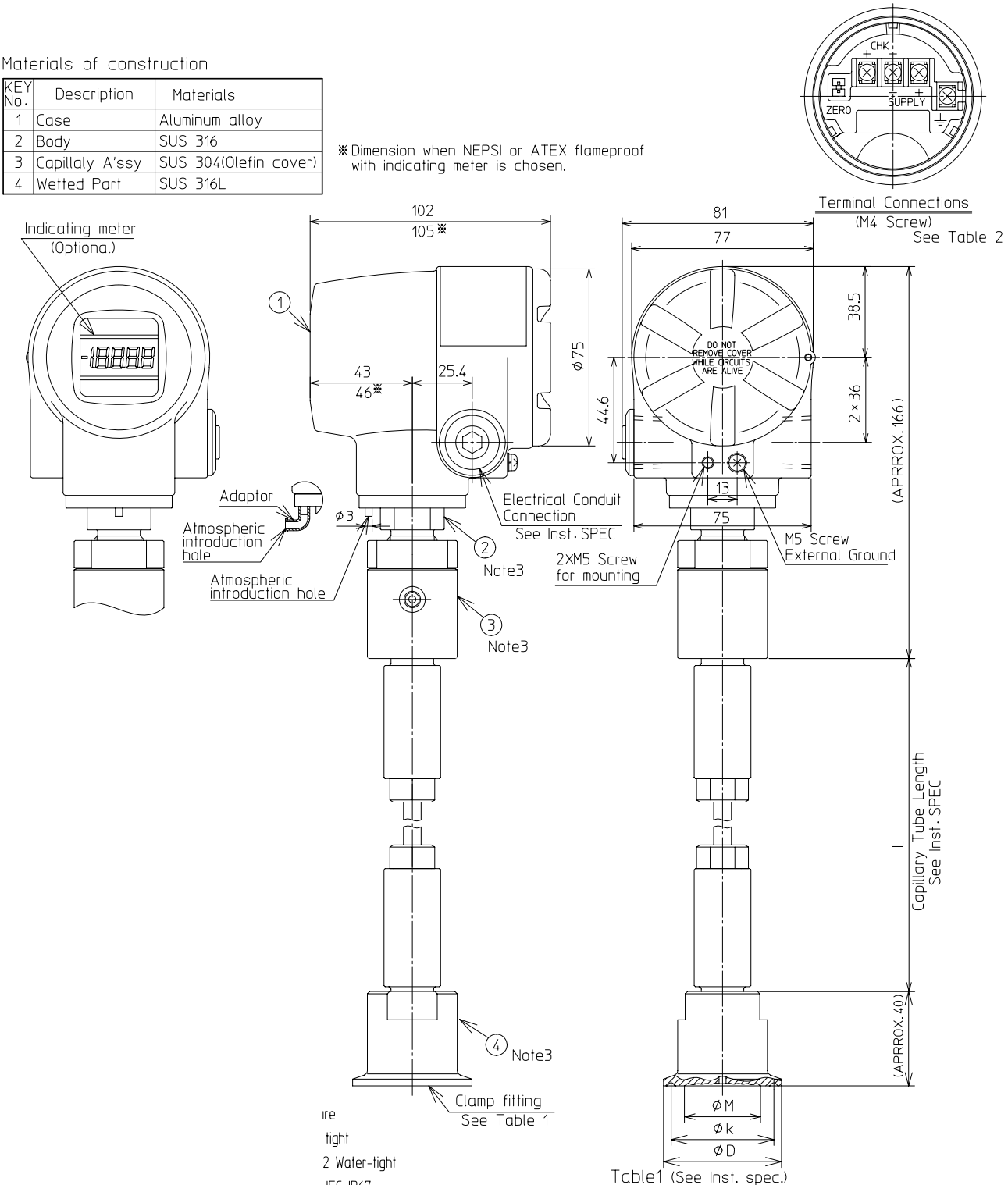


Table1 (See Inst. spec.)

Code No.			Ferrule Size	ϕD	ϕk	ϕM
Rating	Fitting	Size				
A	H	2	IDF 1S	50.5	43.5	22
		3	IDF 1.5S			28
		4	IDF 2S	64	56.5	43

Table2 Terminal

Symbol	Terminal
SUPPLY +, SUPPLY −	Power supply and output signal
CHK+, CHK−	Check meter
⏚	Ground
ZERO	ZERO Adjuster

Note 1. An elbow and cable adapter is connected for JIS explosion-proof approved instruments.
See drawing no. ED-551054-□□ for dimensions.
2. See drawing no. ED-551052-□□ for dimensions including mounting bracket.
3. Do not loosen. Loosening will lead to fill-fluid leakage.

Remote seal with ferrule type

(1S, 2S cap nut type)

Measuring span/ Setting range/ Max. working pressure

Model Number	Measuring span	Setting Range	Max. Working Pressure	Process Connection
PTG7_T - _3	10 to 100 kPa	-100 to +100 kPa	200 kPa	2S
PTG7_T - _4	40 to 400 kPa	-100 to +400 kPa	800 kPa or cap nut rating	2S, 1.5S
PTG7_T - _5	0.2 to 2 MPa	-0.1 to +2 MPa	4 MPa or cap nut rating	

Accuracy / Temperature effect

Model PTG7_ T- _3

Accuracy *1	± 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 PTG7_ T- _4

Accuracy *1	± 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)%
	1.5S (Cap nut type)	± (33.9 × 80 / X +0.35)%

Model PTG7_ T- _5

Accuracy *1	± 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)%
	1.5S (Cap nut type)	± (7.1 × 0.4 / X +0.35)%

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

Ambient temperature limits

Normal operating range

	TIIS Explosion-proof FM Explosion-proof NEPSI Flameproof (Ex d II CT4, 5)	NEPSI Flameproof (Ex d IICT6)
IDF 1.5 S	-5 to +55°C	-5 to +40°C
IDF 2 S	-5 to +60°C	-5 to +40°C

Transportation and storage temperature

-5 to +50°C

Temperature range of wetted parts

Water and dust proof	TIIS Explosion-proof FM Explosion-proof NEPSI Flameproof (Ex d II CT4)	NEPSI Flameproof (Ex d IICT5)	NEPSI Flameproof (Ex d IICT6)
-5 to +121°C	-5 to +110°C	-5 to +95°C	-5 to +80°C

150°C for 60 minutes during steam cleaning for water and dust proof model

Ambient humidity limits

5 to 100% RH

Materials

Fill fluid

- Propylene glycol

Wetted parts

Diaphragm

SUS316L

Others

SUS316L

Case

Aluminum alloy

Capillary cover

Olefin

Weight

Approx. 2.3 kg (Capillary length 3 m)

Process connection

- IDF 1.5S ferrule cap nut type
- IDF 2S ferrule cap nut type

For other specification, please refer to COMMON SPECIFICATIONS.

MODEL SELECTION

Smart pressure transmitter model PTG7XT

Process connection: Remote seal with ferrule cap nut type
Measuring span 10 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
Basic model number			-						-		-	
Product description	Gauge pressure transmitter: Ferrule type with remote seal with SFN Communication	PTG71T										
	Gauge pressure transmitter: Ferrule type with remote seal with HART5 Communication	PTG72T										
			-									
Type of protection	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:G1/2			G								
	No explosionproof approvals, IP67 waterproof and dust tight Electrical connection:1/2NPT			N								
	TIIS Flameproof Electrical connection:G1/2			A								
	FM Explosion-proof and Dust-ignition-proof Electrical connection:1/2NPT			D								
	NEPSI Flameproof and Dust-ignition-proof Electrical connection:1/2 NPT			L								
Measuring span	10 to 100 kPa (0.101 to 1.019 kgf/cm²)				3							
	40 to 400 kPa (0.408 to 4.07 kgf/cm²)				4							
	0.2 to 2 MPa (2.04 to 20.3 kgf/cm²)				5							
Material: Diaphragm / wetted parts other than diaphragm/ fill fluid	SUS316L/SUS316L/Propylene glycol					CB						
Process connection	IDF 1.5S ferrule cap nut type						AC3X					
	IDF 2S ferrule cap nut type						AC4X					
Capillary length	1 m (with Olefin tube)							E				
	3 m (with Olefin tube)							G				
	5 m (with Olefin tube)							J				
Option 1									-			
No option										X		
Corrosion-proof finish										B		
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
Withstand pressure test												4
Strength calculation sheet (JIS)												5
Traceability certificate												6
Non SI unit												F
Mounting bracket												H
Oil free finish certificate												J
Air release opening interior type *1,*2												N
Water and oil free finish certificate												P

*Note) *1 Must be selected Type of protection "G" or "N".*

**2 Must be selected option I "M:Built-in digital indicator"*

DIMENSIONS

[mm]

Materials of construction

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

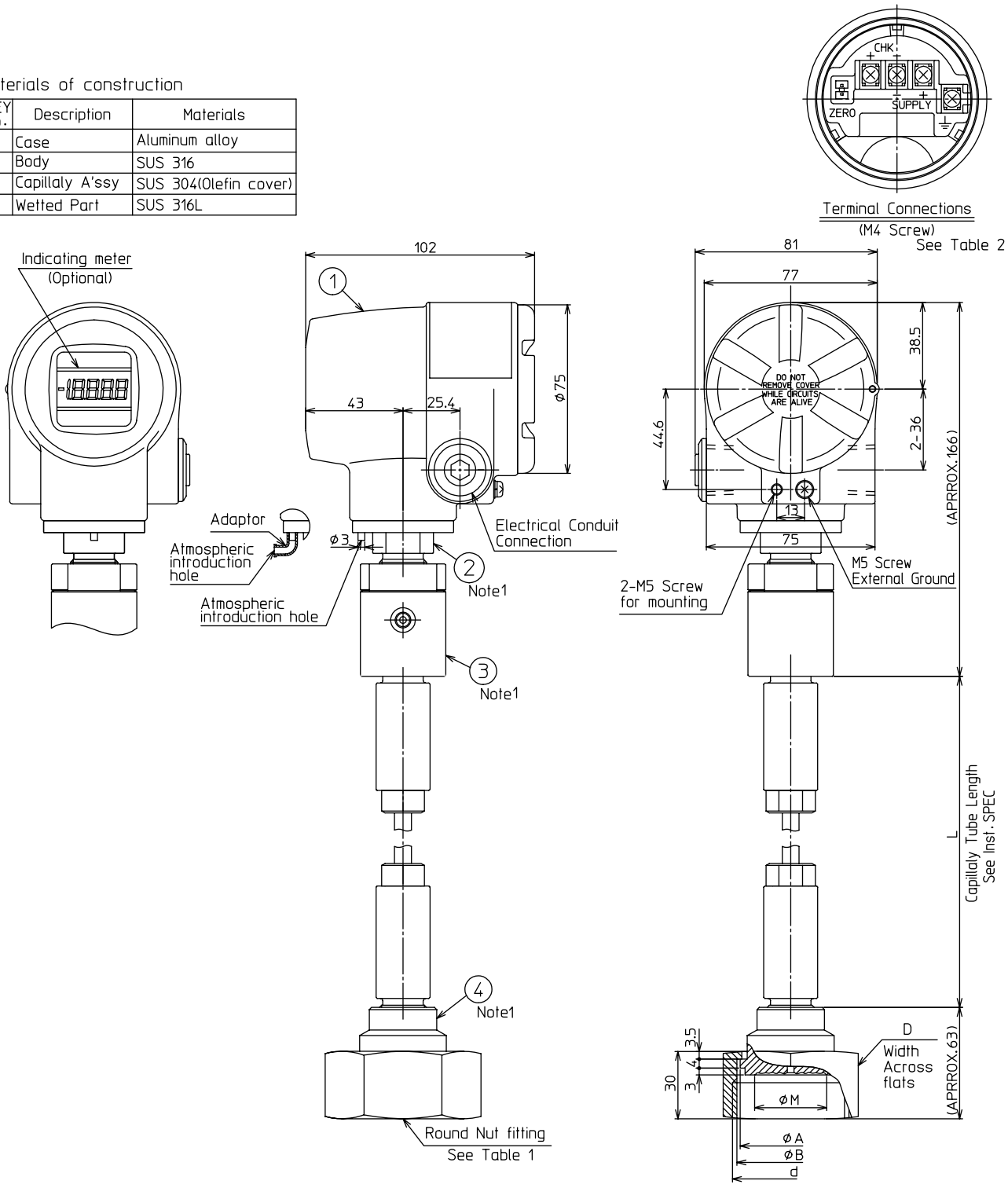


Table1

Code No.			Fitting Size(d)	D	øM	A	B
Rating	Fitting	Size					
A	C	3	IDF 1.5S	60	32	42.7	28
		4	IDF 2S	75	52	56.2	43

Table2 Terminal

Symbol	Terminal
SUPPLY +, SUPPLY −	Power supply and output signal
CHK+, CHK−	Check meter
⏚	Ground
ZERO	ZERO Adjuster

Note 1. Do not loosen. Loosening will lead to fill-fluid leakage.

DIMENSIONS

[mm]

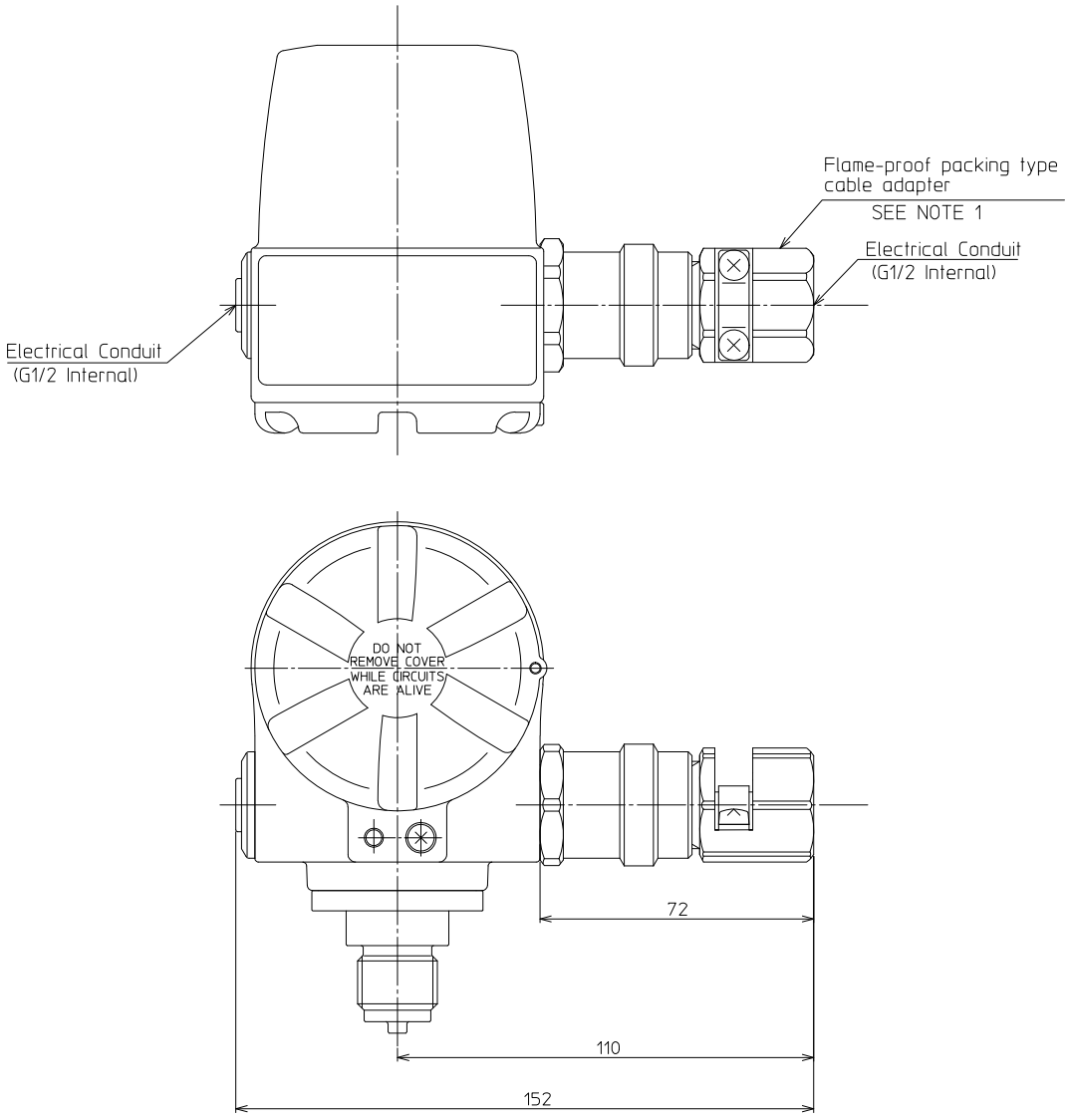


Table 1 (See Inst. SPEC.)

Code No. / Selections /Case Structure	Number of Cable Adapters
A	1

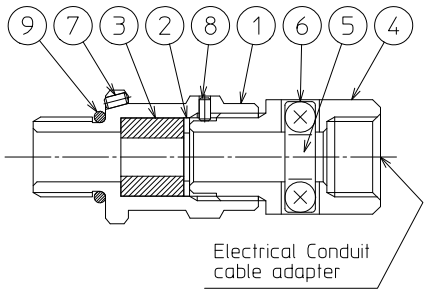


Table 2 Materials Table

KEY No.	Description	Materials
1	M. screw	C3604
2	Washer	SUS 304
3	Packing	CR
4	Packing gland	C3604
5	Clamp	SUS 304
6	Cross recessed head screw	SUS 304
7	Set screw	SUS 304
8	Set screw	SUS 304
9	"O" Ring	NBR

Note 1) The cable adapter may be connected to opposite conduit.
2) Select packing and washer according to cable diameter.
See Table 3. for applicable cable diameters.

Table 3

Packing inside diameter	Washer inside diameter	Applicable cable outside diameter ØD
ø10	ø10	ø9≤ØD≤ø10
ø11	ø13	ø10≤ØD≤ø11
ø12	ø13	ø11≤ØD≤ø12

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