

AT9000 Advanced Transmitter

Remote-sealed type of Differential Pressure Transmitters

OVERVIEW

AT9000 Advanced Transmitter is a microprocessor-based smart transmitter that features high performance and excellent stability. Capable of measuring gas, liquid, and vapor, and liquid levels, it transmits 4 to 20 mA DC analog and digital signals according to the measured differential pressure.

It can also execute two-way communications between the CommPad (Handy Communicator) or HART® 375 communicator, thus facilitating self-diagnosis, range resetting, and automatic zero adjustment.



FEATURES

Excellent stability and high performance

- Long-term stability is proven in 500,000 installations worldwide.
- Unique characterization and composite semiconductor sensors realize excellent temperature and static pressure characteristics.

A diverse lineup

- A diverse flange lineup, ranging from small diameter 1.5 inch (40 mm) and 2 inches (50 mm) to 3 inches (80 mm), is available to meet user requirements.
- A wide range of models, including those for general purposes, high-temperature, and high temperature and high-vacuum service, is available to meet user requirements. In addition, the working temperature range of regular type has been expanded to 180°C maximum to allow you greater freedom instrumentation.
- A wide variety of corrosion-resistant materials for wetted parts is also available.

Function to correct the temperature of the fill fluid of the capillary section

Changes in the density of the fill fluid caused by temperature fluctuations are calculated, and the output is corrected accordingly. This function substantially reduces (to 1/5 - 1/10) the effect of seasonal fluctuations in temperature.

Remote communication

- Two-way communication using digital output facilitates self-diagnosis, range resetting, automatic zero adjustment, and other operations.
- HART® protocol communication is available. (Option)

China RoHS

This device is used in the Oil & Gas, Petrochemical, Chemical, Pulp & Paper, Food & Beverage, Machinery, Steel/Metal & Mining, and Automobile industries and therefore does not fall under the China RoHS Legislation.

If this device is used in semiconductor manufacturing equipment, labeling on the device and documents for the China RoHS may be required. If such documents are required, consult a Yamatake representative.

HART® is a registered trademark of the HART Communication Foundation.

APPLICATION**Petroleum / Petrochemical / Chemical**

- For the measurement of liquid levels including corrosive fluids at high temperatures, and high temperatures under vacuum
- For the control of flow rates as used with tapless venturi tubes
- For replacement of displacement type level gauges
- For materialization of instrumentation without connecting tubes

Electric power / City gas / Other utilities

For measurement applications that require high degrees of stability and accuracy.

Pulp and paper

- For lines that need transmitters resistant to chemical liquids, corrosive fluids and the like
- For the measurement of liquid levels in small tanks
- Iron and Steel / Nonferrous metal / Ceramics
- For lines that require stable measurement under strictly controlled (temperature, humidity, etc.) conditions

Iron and steel / Nonferrous metal / Ceramics

For lines that require stable measurement under strictly controlled (temperature, humidity, vibration, etc.) conditions.

Machinery / Shipbuilding

For lines that require stable measurement under strictly controlled (temperature, humidity, etc.) conditions.

FUNCTIONAL SPECIFICATIONS**Type of protection**

NEMA3 and 4X
IEC IP67

FM Explosionproof and Dust Approvals

Explosionproof for Class I, Division 1, Groups A, B, C and D; Class I, Zone 1, AEx d IIC
Dust-Ignitionproof for Class II, III, Division 1, Groups E, F and G

T5 -40°C ≤ Tamb ≤ +85°C

Hazardous locations

Indoor / Outdoor Type 4X, IP67

Factory sealed, conduit seal not required for Division applications

Caution - Use supply wires suitable for 5°C above surrounding ambient

FM Intrinsically safe Approval

IS/I,II,III/1/ABCDEF/T4; -40 °C ≤ Tamb ≤ +60 °C;
80395278, 80395279,80395280; Entity; TYPE 4X; IP67
I/O/ AEx ia/IIC/T4; -40 °C ≤ Tamb ≤ +60 °C;80395278,
80395279, 80395280; Entity; TYPE 4X;IP67
Entity Parameters: Vmax(Ui)=30 Volts, Imax(Ii)=100mA,
Pi=1W, Ci=10nF, Li=0.5mH

FM Nonincendive Approval

NI/I/2/ABCD/T4; -40 °C ≤ Tamb ≤ +60 °C;80395494;
NIFW; TYPE 4X; IP67
NI/I/2/IIC/T4; -40 °C ≤ Tamb ≤ +60 °C; 80395494;
NIFW; TYPE 4X; IP67
S/II,III/1/EFG/T4; -40 °C ≤ Tamb ≤ +60 °C;
80395494;NIFW; TYPE 4X; P67

Nonincendive Field Wiring Parameters: Vmax(Ui)=30 Volts, Ci=10nF, Li=0.5mH

ATEX Flameproof and Dust Certifications

CE 0344

EX KEMA 08ATEX0004

II 1/2 G Ex d IIC T6 Tprocess=85°C

-30°C ≤ Tamb ≤ +75°C IP66/67

II 1/2 G Ex d IIC T5 Tprocess=100°C

-30°C ≤ Tamb ≤ +80°C IP66/67

II 1/2 G Ex d IIC T4 Tprocess=110°C

-30°C ≤ Tamb ≤ +80°C IP66/67

II 2 D Ex tD A21 IP66/67 T85 Tprocess=85°C

-30°C ≤ Tamb ≤ +75°C

II 2 D Ex tD A21 IP66/67 T100 Tprocess=100°C

-30°C ≤ Tamb ≤ +75°C

II 2 D Ex tD A21 IP66/67 T110 Tprocess=110°C

-30°C ≤ Tamb ≤ +75°C

Caution - Use supply wires suitable for 5°C above surrounding ambient

ATEX Intrinsic safety and Dust Certifications

CE 0344

EX KEMA 07ATEX0200 X

II 1 G Ex ia IIC T4 TPROCESS = 105 °C

-30 °C ≤ Tamb ≤ +60 °C IP66 / 67

ELECTRICAL PARAMETERS: Ui = 30 V, Ii = 93 mA,
Pi = 1 W, Ci = 5 nF, Li = 0.5 mH

II 1 D Ex iaD 20 IP66 / 67 T105 TPROCESS = 105 °C

-30 °C ≤ Tamb ≤ +60 °C

ATEX Type n and Dust Certifications

CE 0344

EX KEMA 07ATEX0200 X

II 3 G Ex nL IIC T4 TPROCESS = 105 °C

-30 °C ≤ Tamb ≤ +60 °C IP66 / 67

ELECTRICAL PARAMETERS: Ui = 30 V, Ci = 5 nF, Li = 0.5 mH

II 2 D Ex tD A21 IP66 / 67 T85 TPROCESS = 85 °C

-30 °C ≤ Tamb ≤ +75 °C

II 2 D Ex tD A21 IP66 / 67 T100 TPROCESS = 100 °C

-30 °C ≤ Tamb ≤ +80 °C

II 2 D Ex tD A21 IP66 / 67 T110 TPROCESS = 110 °C

-30 °C ≤ Tamb ≤ +80 °C

NEPSI Flameproof and Dust Certifications

Ex d IIC T6 DIP A21 TA 85°C Tprocess=80°C -40°C ≤ Tamb ≤ +75°C

Ex d IIC T5 DIP A21 TA 100°C Tprocess=95°C -40°C ≤ Tamb ≤ +80°C

Ex d IIC T4 DIP A21 TA 115°C Tprocess=110°C -40°C ≤ Tamb ≤ +80°C

ENCLOSURE TYPE IP66/67

Certificate No. GYJ071268

NEPSI Intrinsic Safety Certification

Ex ia IIC T4 Tprocess=105°C -40°C ≤ Tamb ≤ +60°C
Enclosure IP66 / 67

Electrical Parameters: Ui=30V, Ii=100mA, Pi=1W,
Ci=13nF, Li=0.5mH

Certificate No. GYJ071269

NEPSI Type n Certification

Ex nL IIC T4 Tprocess=110°C -40°C ≤ Tamb ≤ +60°C
Enclosure IP66 / 67

Electrical Parameters: Ui=30V, Ii=100mA, Pi=1W,
Ci=13nF, Li=0.5mH

Certificate No. GYJ071269

IECEX Flameproof and Dust Certifications

Certificate No. IECEx KEM 08.0001

Ga/Gb Ex d IIC T6 T_{process}=85°C -30°C ≤ Tamb ≤ +75°C IP66/67

Ga/Gb Ex d IIC T5 T_{process}=100°C -30°C ≤ Tamb ≤ +80°C IP66/67

Ga/Gb Ex d IIC T4 T_{process}=110°C -30°C ≤ Tamb ≤ +80°C IP66/67

Ex tD A21 IP66/67 T85 T_{process}=85°C -30°C ≤ Tamb ≤ +75°C

Ex tD A21 IP66/67 T100 T_{process}=100°C -30°C ≤ Tamb ≤ +75°C

Ex tD A21 IP66/67 T110 T_{process}=110°C -30°C ≤ Tamb ≤ +75°C

Caution - Use supply wires suitable for 5°C above surrounding ambient

IECEX Intrinsic safety and Dust Certifications

IECEX KEM 07.0058X

Zone 0 Ex ia IIC T4 T_{PROCESS} = 105 °C

-30 °C ≤ Tamb ≤ +60 °C IP66 / 67

ELECTRICAL PARAMETERS: Ui = 30 V, Ii = 93 mA, Pi = 1 W, Ci = 5 nF, Li = 0.5 mH

Ex iaD 20 IP66 / 67 T105 T_{PROCESS} = 105 °C

-30 °C ≤ Tamb ≤ +60 °C

IECEX Type n and Dust Certifications

IECEX KEM 07.0058X

Ex nL IIC T4 T_{PROCESS} = 105 °C

-30 °C ≤ Tamb ≤ +60 °C IP66 / 67

ELECTRICAL PARAMETERS: Ui = 30 V, Ci = 5 nF, Li = 0.5 mH

Ex tD A21 IP66 / 67 T85 T_{PROCESS} = 85 °C

-30 °C ≤ Tamb ≤ +75 °C

Ex tD A21 IP66 / 67 T100 T_{PROCESS} = 100 °C

-30 °C ≤ Tamb ≤ +80 °C

Ex tD A21 IP66 / 67 T110 T_{PROCESS} = 110 °C

-30 °C ≤ Tamb ≤ +80 °C

EMC Conformity

89/336/EEC, 92/31/EEC, 93/68/EEC Electromagnetic Compatibility (EMC) Directive

Measuring span / Setting range / Working pressure range

	Measuring Span	Setting Range	Working Pressure Range
GTX 35R	2.5 to 100 kPa {250 to 10160 mmH ₂ O}	-100 to 100 kPa {-10160 to 10160 mmH ₂ O}	Up to flange rating (For negative pressures, see Figure 1, Figure 2 and Figure 3.)
GTX 40R	35 to 700 kPa {0.35 to 7 kgf/cm ² }	-100 to 700 kPa {-1 to 7 kgf/cm ² }	

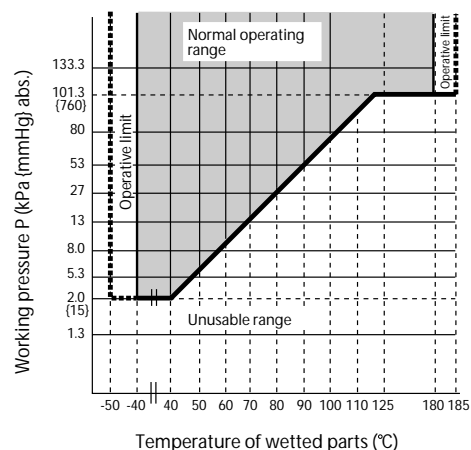


Figure 1 Working pressure and temperature of wetted parts section (for general purpose models)

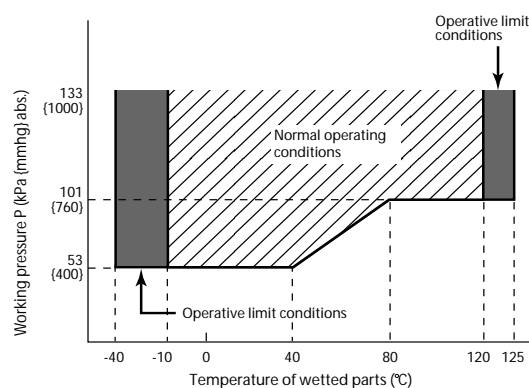
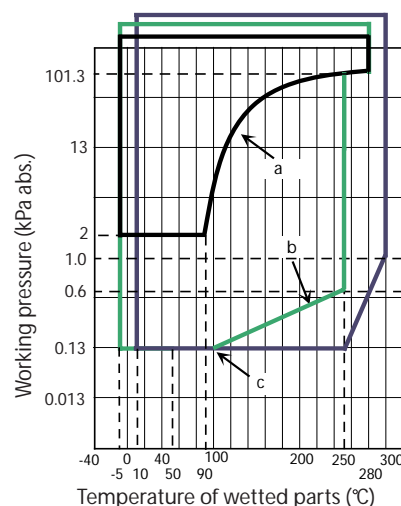


Figure 2 Working pressure and temperature wetted parts section (for oxygen and chlorine service)



a. For high temperature b. For high temperature and vacuum,
c. For high temperature and high vacuum

Figure 3 Working pressure temperature of wetted parts section (For high temperature / high temperature and vacuum / high temperature and high vacuum)

Supply voltage and load resistance

17.9 to 42V DC. A load resistance of 250 Ω or more is necessary between loops. See Figure 4.

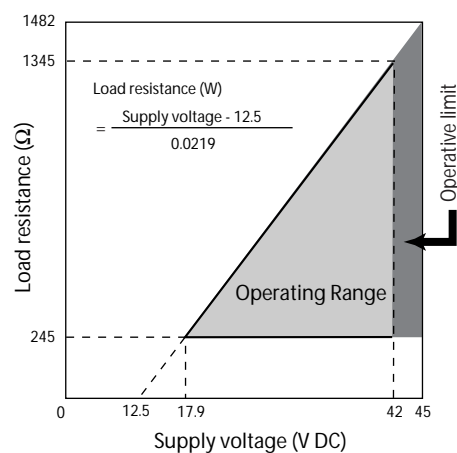


Figure 4 *Supply voltage vs. load resistance characteristics*

Note) For communication with HART communicator, a load resistance of 250 Ω or more is necessary.

Output

Analog output (4 to 20 mA DC) with DE protocol

Analog output (4 to 20 mA DC) with HART protocol

Output signal

3.6 to 21.6 mA

3.8 to 20.5 mA (NAMUR NE43 compliant)

Failure Alarm

Upper: 21.6 mA or more

Lower: 3.6 mA or less

Table 1: Ambient temperature limits / Temperature ranges of wetted parts: Flange size: 4 inches (100mm), 3 inches (80mm), 2 inches (50mm), 1.5 inches (40mm)

		Temperature range (°C) *1 *4				
		Regular type	High-temp. models	High-temp. Vacuum models	High-temp. High Vacuum models	Oxygen and Chlorine models
Wetted parts section	Normal operating range	-40 to 180	-5 to 280 *5	-5 to 280 *5	10 to 300 *5	-10 to 120
	Operative limit range	-50 to 185	-10 to 310 *6	-10 to 310 *6	-10 to 310 *6	-40 to 125
Ambient temperature *2 Flange size: Flush diaphragm type 3 inches (80 mm) Extended diaphragm type 4 inches (100 mm)	Normal operating range	-30 to 75	-5 to 55	-5 to 55	10 to 55	-10 to 75
	Operative limit range	-50 to 80	-10 to 60	-10 to 60	-10 to 60	-40 to 80
Ambient temperature Note 2 Flange size: Flush diaphragm type 2 inches (50 mm) / 1.5 inch (40 mm) Extended diaphragm type 3 inches (80 mm) / 2 inches (50 mm)	Normal operating range	-15 to 65	-5 to 45	-5 to 55	10 to 55	-10 to 75
	Operative limit range	-30 to 80	-10 to 55	-10 to 60	-10 to 60	-40 to 80
Specific gravity of fill liquid *3		0.935	1.07	1.07	1.09	1.87

Note) *1: See the working pressures and temperatures of the wetted parts section in Figure 1, Figure 2 and Figure 3.

*2: Ambient temperatures of the transmitter itself

*3: Approximate values at the temperature of 25°C

*4: Note that if the operating temperature falls below the lower limit of the normal operating range, the response of the transmitter becomes slower.

*5: When the wetted parts material is tantalum, the upper limit is 180°C.

*6: When the wetted parts material is tantalum, the upper limit is 200°C.

Table 2: Ambient temperature limits / Temperature ranges of wetted parts: Flange size: 3/4inches (20mm), 1/2 inches (15mm)

		Temperature range (°C) *1 *4			
		Regular type	High-temp. models	Oxygen and chlorine models	Fast response models
Wetted parts section	Normal operating range	-40 to 180	-5 to 280	-10 to 120	-40 to 120
	Operative limit range	-50 to 185	-10 to 310	-40 to 125	-50 to 125
Ambient temperature *2	Normal operating range	-15 to 65	-5 to 45	-10 to 75	-15 to 65
	Operative limit range	-30 to 80	-10 to 55	-40 to 80	-30 to 80
Specific gravity of fill liquid *3		0.935	1.07	1.87	0.873

Note)*1: See the working pressures and temperatures of the wetted parts section in Figure 1, Figure 2, and Figure 3.

*2: Ambient temperatures of the transmitter itself.

*3: Approximate values at the temperature of 25°C.

*4: Note that if the operating temperature falls below the lower limit of the normal operating range, the response of the transmitter becomes slower.

For Explosion proof models with digital indicators, which have to be used within the following ranges

Normal operating condition

-20 to 70°C

Operative limit

-30 to 80°C

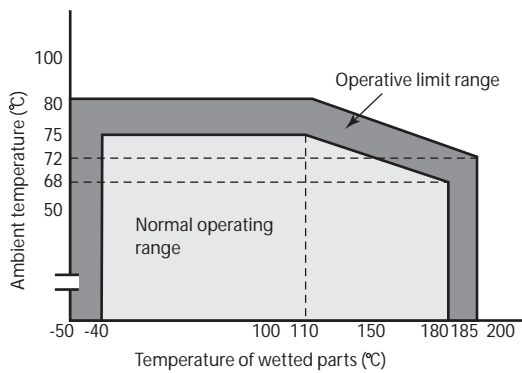


Figure 5 Ambient temperature and temperature of wetted parts section (for general purpose models)

[Flange diameter: Flush diaphragm 2 inches (50 mm) / 1.5 inch (40 mm)
Extended diaphragm 3 inches (80 mm) / 2 inches (50 mm)]

Note) When the fill liquid is for general purposes, make sure before using your transmitter that the conditions in both Figure 1, Figure 5 and Figure 6 are met.

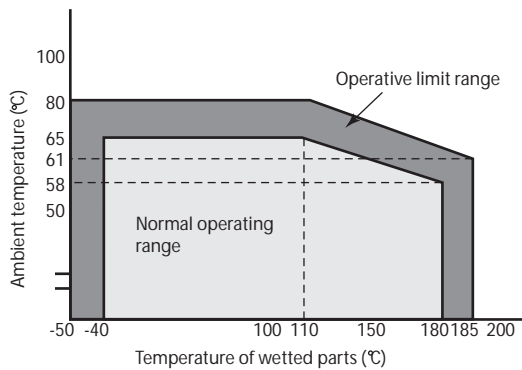


Figure 6 Ambient temperature and temperature of wetted parts section (for general purpose models)

[Flange diameter: Flush diaphragm 3 inches (80 mm)
Extended diaphragm 4 inches (100 mm)]

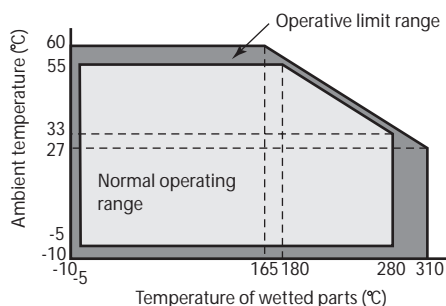


Figure 7 Ambient temperature and temperature of wetted parts section (for high temperature and vacuum 2, 3 m)

[Flange diameter: Flush diaphragm 2 inches (50 mm) / 1.5 inch (40 mm)]

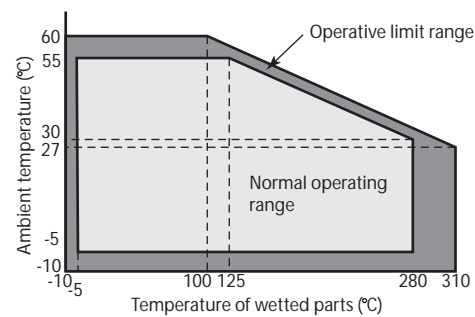


Figure 8 Ambient temperature and temperature of wetted parts section (for high temperature and vacuum 4, 5 m)

[Flange diameter: Flush diaphragm 2 inches (50 mm) / 1.5 inch (40 mm)]

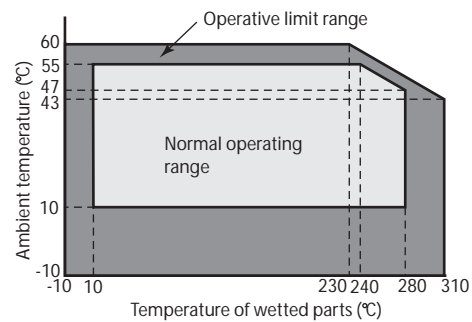


Figure 9 Ambient temperature and temperature of wetted parts section (for high temperature and high vacuum 2, 3 m)

[Flange diameter: Flush diaphragm 2 inches (50 mm) / 1.5 inch (40 mm)]

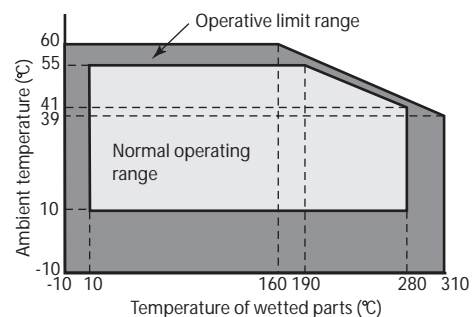


Figure 10 Ambient temperature and temperature of wetted parts section (for high temperature and high vacuum 4, 5 m)

[Flange diameter: Flush diaphragm 2 inches (50 mm) / 1.5 inch (40 mm)]

Ambient humidity limits

5 to 100% RH

Stability against supply voltage change

± 0.005% FS/V

Dead time

Max: 0.4 sec.

Damping time

Selectable from 0 to 32 sec. in ten stages

Correcting temperature of the capillary section fill fluid

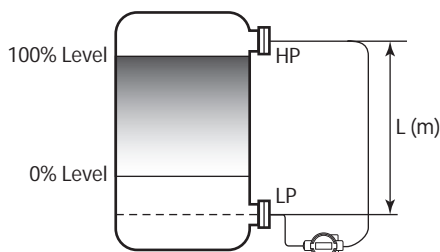
Changes in the density of the fill fluid (ρ) caused by temperature fluctuations are calculated, and the output is cor-

rected accordingly. This function substantially reduces the effect of seasonal fluctuations in temperature.

How to set this function

Set the inter-flange height L (m) according to the SFC. If the height L (m) is already known, let us know, so, this function can be set before shipment.

If the high pressure side (HP) of your transmitter is located under the tank, place a minus (-) sign before the height L setting.



Lightning protection

Applicable Standards; IEC 61000-4-5

Peak value of current surge(80/20 μ sec.): 6000A

Indicator

The digital LCD indicator (optional) indicates engineering units and can be set freely between -99999 and 99999 (5 digits). For meter calibration, specify the following items when placing your order

- Meter calibration range
- Meter calibration unit
- Linear / Square-root for meter indication.

Various kinds of data can be set using the CommPad or the HART[®]375 communicator.

Bolts and nuts materials (for fastening meter body cover)

Carbon steel (SNB7), 304 SST, 630 SST

Paint

Standard

Corrosion-resistant paint (Baked acrylic paint)

Corrosion-proof finish

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

Corrosion-resistant finish (silver paint)

Transmitter case is coated with silver paint in addition to the above corrosion-resistant finish.

OPTIONAL SPECIFICATIONS

FEP protective film

Use FEP protective films when corrosive fluids are used or to inhibition migration from metal diaphragms.

Working temperature range

0 to 110°C

Working pressure range

Atmospheric pressure to flange rating
(up to JIS10K, ANSI / JPI 150)
(Not usable under negative pressure)

Oil free finish

The transmitter is shipped with oil-free wetted parts.

External zero/span adjustment function

The transmitter can be easily zero/span adjusted in the field.

Elbow

This is an adaptor for changing the electrical conduit connection port from the horizontal to the vertical direction, if required by wiring conditions in the field. One or two elbows may be used as needed.

Conformance to SI units

We deliver transmitters set to any SI units as specified.

Safety Transmitter

Select this option to be used as a component of Safety Instrumented System (SIS).

AT9000 is complied with IEC61508, certified according to Safety Integrity Level2 (SIL-2)

Alarm Output (contact output)

Contact output is prepared as alarm output when alarm (Output Alarm/Sensor Temp. Alarm) condition is detected. It can be set to Normally Open. (When alarm is detected, Contact ON).

Custom calibration

Calibrate for the specified pressure range at the factory.

PHYSICAL SPECIFICATIONS

Materials

Fill fluid

Silicone oil for general purpose and high-temperature vacuum models

Fluorine oil for oxygen and chlorine models

For specific gravity, refer to page 5.

Center body

316 SST

Transmitter case

Aluminum alloy

Meter body cover

SCS14A (Equivalent to 316 SST)

For wetted parts

SCS14A (316L SST for diaphragm only)

ASTM B575 (Hastelloy C-276 equivalent), Tantalum, 316L SST

Flange materials

304 SST, 316 SST, 316L SST

Capillary section

Capillary tube length

2, 3, 4, 5, 6, 7, 8, 9 and 10 m

2, 3, 4 and 5 m when flange diameter is flush diaphragm

2 inches (50 mm) / 1.5 inch (40 mm)

3/4 inches (20 mm), 1/2 inches (15mm)

extended diaphragm

3 inches (80 mm) / 2 inches (50 mm)

Capillary tube material

316 SST

Armored tube material

304 SST

Coating (optional)

Olefin coating to improve corrosion resistance
(Not applicable for high-temperature / Vacuum service type and High-temperature / High-vacuum service type.)

Weight

Approx. 20.0 kg
(Including ANSI 150# - 3 inches flange and capillary 5 m long)

INSTALLATION**Electrical connection**

1/2NPT internal thread, M20 internal thread.

GroundingResistance 100 Ω max.**Mounting**

Direct mounting on the process side

Using 2-inch pipe mounting brackets: Mount the transmitter on a horizontal or vertical 2-inch pipe.

Bracket

Carbon steel, 304 SST

U-bolt and nuts

304 SST

Process connection

Flange (both higher and lower pressure sides)

Flush diaphragm

ANSI 150, 300 and 600: 3 / 2 / 1.5 inches (RF) equivalents

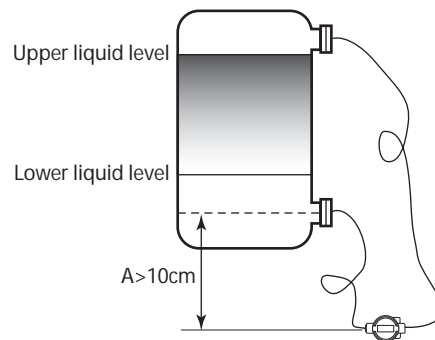
ANSI 150, 300: 3/4, 1/2 inches (RF) equivalents

Extended diaphragm

ANSI 150 and 300: 4 / 3 / 2 inches (RF) equivalents

Mounting notes

- 1) If the fluid to be measured contains hydrogen, please consult us.
- 2) When mounting the transmitter, leave a space of at least 10 cm under the lower nozzle of the tank. If no space is available, please consult us.

**WARNING**

- Impact to transmitter can damage sensor module.

PERFORMANCE SPECIFICATIONS**Max working pressure**

- Note 1. Max. working pressure depends on flange rating, flange materials and operating temperature. Please refer to the following data. Operating range of temperature depends on specification of transmitters.
2. Max. working pressure depends on the smaller value of either 1.5 MPa or following data.
3. Max. working pressure depends on the smaller value of either 10 MPa or following data.

	JIS	JPI/ANSI
304 SST		
316 SST		
316L SST		

Reference accuracy

Shown for each item are the percentage ratio for χ (kPa), which is the greatest value of either the upper range value (URV) ^{*1}, the lower range value (LRV) ^{*2} or the span.

Model GTX35R (for regular type / high-temperature service / oxygen service)

Material of wetted parts: 316 SST, 316L SST

Flange size: Flush diaphragm 3 inches (80 mm) Extended diaphragm 4 inches (100 mm)

Reference accuracy (*4)		$\pm 0.2\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.05 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 0.71\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (0.38 + 0.33 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm (0.03 + 0.72 \times \frac{25}{\chi})\%$	χ : kPa
	Combined shift	$\pm 1.00\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (0.03 + 0.97 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

Model GTX40R (for regular type / high-temperature service / oxygen service)

Material of wetted parts: 316 SST, 316L SST

Flange size: Flush diaphragm 3 inches (80 mm) Extended diaphragm 4 inches (100mm)

Reference accuracy (*3)(*4)		$\pm 0.2\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (0.05 + 0.15 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Ambient Temperature effect (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Combined shift	$\pm 0.71\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (0.38 + 0.33 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm (0.03 + 0.47 \times \frac{700}{\chi})\%$	χ : kPa
	Combined shift	$\pm (0.03 + 0.72 \times \frac{700}{\chi})\%$	χ : kPa

Note) *1: URV denotes the process value for 100% (20 mA DC) output.

*2: LRV denotes the process value for 0% (4 mA DC) output.

*3: Within a range of $URV \geq 0$ and $LRV \geq 0$.

*4: Reference accuracy at calibrated condition.

Model GTX35R (for regular type / high-temperature service / oxygen service)**(For option “M5”, 0.1mm thickness diaphragm)**

Material of wetted parts: 316 SST, 316L SST

Flange size: Flush diaphragm 3 inches (80 mm) Extended diaphragm 4 inches (100 mm)

Reference accuracy (*4)		$\pm 0.4\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.1 + 0.3 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 2.84\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (1.52 + 1.32 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm (0.06 + 1.44 \times \frac{25}{\chi})\%$	χ : kPa
	Combined shift	$\pm 2.00\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (0.06 + 1.94 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

Model GTX35R (for regular type / high-temperature / oxygen / chlorine service)

Material of wetted parts: ASTM B575 (Hastelloy C-276 equivalent), Tantalum

Flange size: Flush diaphragm 3 inches (80 mm)

Reference accuracy (*4)		$\pm 0.4\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.25 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 1.36\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (0.69 + 0.67 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm 1.5\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (1.5 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
	Combined shift	$\pm 2.0\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (2.0 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

Model GTX40R (for regular type / high-temperature / oxygen / chlorine service)

Material of wetted parts: ASTM B575 (Hastelloy C-276 equivalent), Tantalum

Flange size: Flush diaphragm 3 inches (80 mm)

Reference accuracy (*3)(*4)		$\pm 0.2\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (0.05 + 0.15 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Ambient Temperature effect (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Combined shift	$\pm 1.75\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (1.00 + 0.75 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm (0.75 \times \frac{700}{\chi})\%$	χ : kPa
	Combined shift	$\pm (1.00 \times \frac{700}{\chi})\%$	χ : kPa

(Note) *3: Within a range of $URV \geq 0$ and $LRV \geq 0$

*4: Reference accuracy at calibrated condition.

Model GTX40R (for regular type / high-temperature service / oxygen service)**(For option “M5”, 0.1mm thickness diaphragm)**

Material of wetted parts: 316 SST, 316L SST

Flange size: Flush diaphragm 3 inches (80 mm)

Reference accuracy (*3)(*4)		$\pm 0.4\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (0.1 + 0.3 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Ambient Temperature effect (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Combined shift	$\pm 2.84\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (1.52 + 1.32 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm (0.06 + 0.94 \times \frac{700}{\chi})\%$	χ : kPa
	Combined shift	$\pm (0.06 + 1.44 \times \frac{700}{\chi})\%$	χ : kPa

Model GTX35R (for regular type / high-temperature service / oxygen service)

Material of wetted parts: 316 SST, 316L SST

Flange size: Flush diaphragm 2 inches (50 mm) Extended diaphragm 3 inches (80mm)

Reference accuracy (*4)		$\pm 0.2\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.05 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 0.88\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (0.55 + 0.33 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm (0.03 + 1.44 \times \frac{25}{\chi})\%$	χ : kPa
	Combined shift	$\pm 1.97\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (0.03 + 1.94 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

**Model GTX35R (for regular type / oxygen service),
(capillary length up to 3m)**

Material of wetted parts: 316 SST, 316L SST

Flange size: Flush diaphragm 1.5 inch (40 mm), 3/4 inches (20 mm), 1/2 inches (15mm) Flange type code “1, 3”

Reference accuracy (*4)		$\pm 0.3\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.15 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 0.88\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (0.55 + 0.33 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm (0.03 + 1.44 \times \frac{25}{\chi})\%$	χ : kPa
	Combined shift	$\pm 1.97\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (0.03 + 1.94 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

Note) *3: Within a range of URV ≥ 0 and LRV ≥ 0

*4: Reference accuracy at calibrated condition.

**Model GTX35R (for regular type / oxygen service),
(capillary length 4m and 5m)**
Model GTX35R (for high-temperature service)

Material of wetted parts: 316 SST, 316L SST

Flange size: Flush diaphragm 1.5 inch (40 mm), 3/4 inches (20 mm), 1/2 inches (15mm)

Reference accuracy (*4)		$\pm 0.3\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.15 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 6.54\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (6.21 + 0.33 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm 2.7\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (2.7 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
	Combined shift	$\pm 3.5\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (3.5 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

Model GTX35R (for regular type / high-temperature service / oxygen service)

Material of wetted parts: 316 SST, 316L SST

Flange size: Extended diaphragm 2 inches (50 mm)

Reference accuracy (*4)		$\pm 0.3\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.15 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 6.54\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (6.21 + 0.33 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm 2.7\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (2.7 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
	Combined shift	$\pm 3.5\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (3.5 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

Model GTX35R (for regular type / high-temperature / oxygen / chlorine service)

Material of wetted parts: ASTM B575 (Hastelloy C-276 equivalent), Tantalum

Flange size: Flush diaphragm 2 inches (50 mm), 1.5 inch (40 mm), 3/4 inches (20 mm), 1/2 inches (15mm)

Flange type code "1, 3"

Reference accuracy (*4)		$\pm 0.4\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.25 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 6.54\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (5.87 + 0.67 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm 6.00\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (6.00 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
	Combined shift	$\pm 7.00\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (7.00 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

Note) *3: Within a range of $URV \geq 0$ and $LRV \geq 0$

*4: Reference accuracy at calibrated condition.

Model GTX35R (for low temperature / fast response service)

Material of wetted parts: 316 SST

Flange size: Flush diaphragm 3/4 inches (20 mm), 1/2 inches (15mm) Flange type code “1, 3”

Reference accuracy (*4)		$\pm 0.3\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.15 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 6.54\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (5.87 + 0.67 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm 2.7\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (2.7 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
	Combined shift	$\pm 3.5\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (3.5 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

Model GTX40R (for regular type / high-temperature service / oxygen service)

Material of wetted parts: 316 SST, 316L SST

Flange size: Flush diaphragm 2 inches (50 mm), 1.5 inch (40 mm), 3/4 inches (20 mm), 1/2 inches (15mm) Flange type code “1, 3”

Extended diaphragm 3 inches (80 mm), 2 inches (50 mm)

Reference accuracy (*3)(*4)		$\pm 0.2\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (0.05 + 0.15 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Ambient Temperature effect (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Combined shift	$\pm 1.53\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (1.2 + 0.33 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm (0.03 + 0.47 \times \frac{700}{\chi})\%$	χ : kPa
	Combined shift	$\pm (0.03 + 0.72 \times \frac{700}{\chi})\%$	χ : kPa

Model GTX40R (for regular type / high-temperature / oxygen / chlorine service)

Material of wetted parts: ASTM B575 (Hastelloy C-276 equivalent), Tantalum

Flange size: Flush diaphragm 2 inches (50 mm), 1.5 inch (40 mm)

Reference accuracy (*3)(*4)		$\pm 0.2\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (0.05 + 0.15 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Ambient Temperature effect (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Combined shift	$\pm 3.0\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (2.2 + 0.8 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm (0.75 \times \frac{700}{\chi})\%$	χ : kPa
	Combined shift	$\pm (1.0 \times \frac{700}{\chi})\%$	χ : kPa

Note) *3: Within a range of $URV \geq 0$ and $LRV \geq 0$.

*4: Reference accuracy at calibrated condition.

Model GTX35R (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: 316 SST, 316L SST

Flange size: Flush diaphragm 3 inches (80 mm) Extended diaphragm 4 inches (100mm)

Reference accuracy (*4)		$\pm 0.3\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.15 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 1.36\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (0.69 + 0.67 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm 1.5\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (1.5 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
	Combined shift	$\pm 2.0\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (2.0 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

Model GTX40R (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: 316 SST, 316L SST

Flange size: Flush diaphragm 3 inches (80 mm) Extended diaphragm 4 inches (100mm)

Reference accuracy (*3)(*4)		$\pm 0.2\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (0.05 + 0.15 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Ambient Temperature effect (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Combined shift	$\pm 1.67\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (1.00 + 0.67 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm (0.75 \times \frac{700}{\chi})\%$	χ : kPa
	Combined shift	$\pm (1.00 \times \frac{700}{\chi})\%$	χ : kPa

Model GTX35R (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: ASTM B575 (Hastelloy C-276 equivalent), Tantalum

Flange size: Flush diaphragm 3 inches (80 mm)

Reference accuracy (*4)		$\pm 0.4\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.25 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 3.0\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (2.33 + 0.67 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm 1.5\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (1.5 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
	Combined shift	$\pm 2.0\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (2.0 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

(Note) *3: Within a range of URV ≥ 0 and LRV ≥ 0 .

*4: Reference accuracy at calibrated condition.

Model GTX40R (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: ASTM B575 (Hastelloy C-276 equivalent), Tantalum

Flange size: Flush diaphragm 3 inches (80 mm)

Reference accuracy (*3)(*4)		$\pm 0.2\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (0.05 + 0.15 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Ambient Temperature effect (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Combined shift	$\pm 1.75\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (1.00 + 0.75 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm (0.75 \times \frac{700}{\chi})\%$	χ : kPa
	Combined shift	$\pm (1.00 \times \frac{700}{\chi})\%$	χ : kPa

Model GTX35R (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: 316 SST, 316L SST

Flange size: Flush diaphragm 2 inches (50 mm), Extended diaphragm 3 inch (80 mm)

Reference accuracy (*4)		$\pm 0.3\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.15 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 4.0\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (3.33 + 0.67 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm 6.0\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (6.0 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
	Combined shift	$\pm 7.0\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (7.0 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

Model GTX35R (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: 316 SST, 316L SST

Flange size: Flush diaphragm 1.5 inches (40 mm), Extended diaphragm 2 inches (50 mm)

Reference accuracy (*4)		$\pm 0.3\%$	(For $\chi \geq 12.5$ kPa (1250mmH ₂ O))
		$\pm (0.15 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 6.54\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (5.87 + 0.67 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm 6.0\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (6.0 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
	Combined shift	$\pm 7.0\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (7.0 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

Note) *3: Within a range of URV ≥ 0 and LRV ≥ 0 .

*4: Reference accuracy at calibrated condition.

Model GTX40R (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: 316 SST, 316L SST

Flange size: Flush diaphragm 2 inches (50 mm), Extended diaphragm 3 inches (80mm)

Reference accuracy (*3)(*4)		$\pm 0.2\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (0.05 + 0.15 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Ambient Temperature effect (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Combined shift	$\pm 1.87\%$	(For $\chi \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (1.2 + 0.67 \times \frac{210}{\chi})\%$	(For $\chi < 210$ kPa (2.1 kgf/cm ²))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm (0.75 \times \frac{700}{\chi})\%$	χ : kPa
	Combined shift	$\pm (1.0 \times \frac{700}{\chi})\%$	χ : kPa

Model GTX40R (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: 316 SST, 316L SST

Flange size: Flush diaphragm 1.5 inches (40 mm), Extended diaphragm 2 inch (50 mm)

Reference accuracy (*4)		$\pm 0.2\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.05 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 2.87\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (2.2 + 0.67 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm (0.75 \times \frac{700}{\chi})\%$	χ : kPa
	Combined shift	$\pm (1.0 \times \frac{700}{\chi})\%$	χ : kPa

Model GTX35R (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: ASTM B575 (Hastelloy C-276 equivalent), Tantalum

Flange size: Flush diaphragm 2 inches (50 mm), 1.5 inch (40 mm)

Reference accuracy (*4)		$\pm 0.4\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.25 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 6.54\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (5.87 + 0.67 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm 6.00\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (6.00 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
	Combined shift	$\pm 7.00\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (7.00 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

Note) *3: Within a range of $URV \geq 0$ and $LRV \geq 0$.

*4: Reference accuracy at calibrated condition.

Model GTX40R (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: ASTM B575 (Hastelloy C-276 equivalent), Tantalum

Flange size: Flush diaphragm 2 inches (50 mm), 1.5 inch (40 mm)

Reference accuracy (*3)(*4)		$\pm 0.2\%$	(For $x \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (0.05 + 0.15 \times \frac{210}{x})\%$	(For $x < 210$ kPa (2.1 kgf/cm ²))
Ambient Temperature effect (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Combined shift	$\pm 3.0\%$	(For $x \geq 210$ kPa (2.1 kgf/cm ²))
		$\pm (2.2 + 0.8 \times \frac{210}{x})\%$	(For $x < 210$ kPa (2.1 kgf/cm ²))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm (0.75 \times \frac{700}{x})\%$	x: kPa
	Combined shift	$\pm (1.0 \times \frac{700}{x})\%$	x: kPa

Model GTX35R (for regular type / high temperature service)

Material of wetted parts: 316 SST

Flange size: Flush diaphragm 3/4 inches (20 mm), 1/2 inch (15 mm) Flange type code "6"

Reference accuracy (*4)		$\pm 0.2\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.05 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 0.77\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (0.38 + 0.39 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm 1.23\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (1.23 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
	Combined shift	$\pm 1.65\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (1.65 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

Model GTX35R (for regular type / high temperature service)

Material of wetted parts: 316 SST

Flange size: Flush diaphragm 3/4 inches (20 mm), 1/2 inch (15 mm) Flange type code "5"

Reference accuracy (*4)		$\pm 0.2\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.05 + 0.15 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm 0.81\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (0.38 + 0.43 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm 1.47\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (1.47 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
	Combined shift	$\pm 1.97\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (1.97 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

Note) *3: Within a range of $URV \geq 0$ and $LRV \geq 0$.

*4: Reference accuracy at calibrated condition.

Model GTX35R (for regular type / high temperature service)

Material of wetted parts: ASTM B575 (Hastelloy C-276 equivalent)

Flange size: Flush diaphragm 3/4 inches (20 mm), 1/2 inch (15 mm) Flange type code "5"

Reference accuracy (*4)		$\pm 0.3\%$	(For $\chi \geq 12.5$ kPa (1250 mmH ₂ O))
		$\pm (0.05 + 0.25 \times \frac{12.5}{\chi})\%$	(For $\chi < 12.5$ kPa (1250 mmH ₂ O))
Ambient Temperature effect (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Combined shift	$\pm (1.0 + 1.05 \times \frac{25}{\chi})\%$	
Static pressure effect (Shift from the set range) Change of 7 MPa (70 kgf/cm²)	Zero shift	$\pm 6.00\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (6.00 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))
	Combined shift	$\pm 7.00\%$	(For $\chi \geq 25$ kPa (2500 mmH ₂ O))
		$\pm (7.00 \times \frac{25}{\chi})\%$	(For $\chi < 25$ kPa (2500 mmH ₂ O))

Note) *3: Within a range of $URV \geq 0$ and $LRV \geq 0$.

*4: Reference accuracy at calibrated condition.

MODEL SELECTION**Model GTX35R(Remote-sealed type for standard differential pressure)****Model GTX40R(Remote-sealed type for high differential pressure)****Flush 3 inches flange type for regular/ high temperature/ oxygen/ chlorine service)**

Model No.:GTX__R-Selection I(I II III IV V VI VII)-Selection II(I II III IV V VI)-Option

Basic Model No.

	Measuring span	2.5 to 100kPa (250 to 10,160mmH ₂ O)	GTX35R	Flush flange type 3 inches (80mm)
		35 to 700kPa (0.35 to 7kgf/cm ²)	GTX40R	

Selection I

I	Output	4 to 20mA (SFN Communication)	A	
		4 to 20mA (HART Communication)	B	
II	Fill fluid	Regular type (Silicone oil)	A	
		For high temperature service (Silicone oil)	B	
		For oxygen service (Fluorine oil)	H	
		For chlorine service (Fluorine oil) *2	J	
III	Wetted parts material	316 SST (Diaphragm:316L SST)	A	
		ASTM B575 (Equivalent to Hastelloy C-276)	B	
		Tantalum *1	C	
		316L SST	D	
IV	Flange rating	ANSI150	A1	
		ANSI300	A2	
		ANSI600	A3	
V	Flange size	3in./80A	F	
VI	Flange type	Flush type	A	
VII	Flange material/ bolt and nut material	Flange	Bolt and nut	
		304 SST	304 SST	A
		304 SST	630 SST	C
		304 SST	Carbon steel	D
		316 SST	304 SST	E
		316 SST	630 SST	G
		316 SST	Carbon steel	H
VIII	Gasket face finish	None Standard JISRa3.2(12.5S)	A	
IX	Capillary length	2m	02	
		3m	03	
		4m	04	
		5m	05	
		6m	06	
		7m	07	
		8m	08	
		9m	09	
		10m	10	
		2m (with Olefin Cover)	A2	
		3m (with Olefin Cover)	A3	
		4m (with Olefin Cover)	A4	
		5m (with Olefin Cover)	A5	
		6m (with Olefin Cover)	A6	
		7m (with Olefin Cover)	A7	
		8m (with Olefin Cover)	A8	
		9m (with Olefin Cover)	A9	
		10m (with Olefin Cover)	A0	

Note) *1 In case "Tantalum" is used for diaphragm material and in case of "For high-temperature service", normal operating temperature of wetted parts is -10 to +180deg.C

*2 In case code J is selected, code C "Tantalum" of Wetted parts material should be selected.

Model GTX35R(Remote-sealed type for standard differential pressure)**Model GTX40R(Remote-sealed type for high differential pressure)****Extended 4 inches flange type for regular/ high temperature/ oxygen/ chlorine service)**

Model No.:GTX__R-Selection I(I II III IV V VI VII)-Selection II(I II III IV V VI)-Option

Basic Model No.

	Measuring span	2.5 to 100kPa (250 to 10,160mmH ₂ O)	GTX35R	Extended flange type 4 inches (100mm)
		35 to 700kPa (0.35 to 7kgf/cm ²)	GTX40R	

Selection I

I	Output	4 to 20mA (SFN Communication)	A	
		4 to 20mA (HART Communication)	B	
II	Fill fluid	Regular type (Silicone oil)	A	
		For high temperature service (Silicone oil) *1	B	
		For oxygen service (Fluorine oil)	H	
III	Wetted parts material	316 SST (Diaphragm:316L SST) *1	A	
		316L SST	D	
IV	Flange rating	ANSI150	A1	
		ANSI300	A2	
		ANSI600	A3	
V	Flange size	4in./100A	G	
VI	Flange type	Extended Length 50mm	B	
		Extended Length 100mm	C	
		Extended Length 150mm	D	
		Extended Length 200mm	E	
		Extended Length 250mm *1	F	
		Extended Length 300mm *1	G	
VII	Flange material/ bolt and nut material	Flange	Bolt and nut	
		304 SST	304 SST	
		304 SST	630 SST	
		304 SST	Carbon steel	
		316 SST	304 SST	
		316 SST	630 SST	
		316 SST	Carbon steel	
VIII	Gasket face finish	None Standard JISRa3.2(12.5S)	A	
IX	Capillary length	2m	02	
		3m	03	
		4m	04	
		5m	05	
		6m	06	
		7m	07	
		8m	08	
		9m	09	
		10m	10	
		2m (with Olefin Cover)	A2	
		3m (with Olefin Cover)	A3	
		4m (with Olefin Cover)	A4	
		5m (with Olefin Cover)	A5	
		6m (with Olefin Cover)	A6	
		7m (with Olefin Cover)	A7	
		8m (with Olefin Cover)	A8	
		9m (with Olefin Cover)	A9	
		10m (with Olefin Cover)	A0	

Note) *1 In case Fill Fluid: For high-temperature service and Flange Rating: ANSI300 and Wetted Parts material: 316L SST, Extended length of flange 250/300mm are not available.

Model GTX35R(Remote-sealed type for standard differential pressure)**Model GTX40R(Remote-sealed type for high differential pressure)****Flush 2 inches, 1.5inches flange type for regular/ high temperature/ oxygen/ chlorine service)**

Model No.:GTX__R-Selection I(I II III IV V VI VII)-Selection II(I II III IV V VI)-Option

Basic Model No.

	Measuring span	2.5 to 100kPa (250 to 10,160mmH ₂ O)	GTX35R	Flush flange type 2 inches (50mm), 1.5 inches(40mm)
		35 to 700kPa (0.35 to 7kgf/cm ²)	GTX40R	

Selection I

I	Output	4 to 20mA (SFN Communication)	A	
		4 to 20mA (HART Communication)	B	
II	Fill fluid	Regular type (Silicone oil)	A	
		For high temperature service (Silicone oil)	B	
		For oxygen service (Fluorine oil)	H	
		For chlorine service (Fluorine oil) *5	J	
III	Wetted parts material	316 SST (Diaphragm:316L SST)	A	
		ASTM B575 (Equivalent to Hastelloy C-276)	B	
		Tantalum *1*2	C	
		316L SST	D	
IV	Flange rating	ANSI150	A1	
		ANSI300	A2	
		ANSI600	A3	
V	Flange size	1.5in./40A	D	
		2in./50A	E	
VI	Flange type	Flush type	A	
VII	Flange material/ bolt and nut material	Flange	Bolt and nut	
		304 SST	304 SST	A
		304 SST	630 SST	C
		304 SST	Carbon steel	D
		316 SST	304 SST	E
		316 SST	630 SST	G
		316 SST	Carbon steel	H
VIII	Gasket face finish	None Standard JISRa3.2(12.5S)		A
IX	Capillary length	2m		02
		3m		03
		4m *3		04
		5m *3		05
		2m (with Olefin Cover)		A2
		3m (with Olefin Cover)		A3
		4m (with Olefin Cover) *3		A4
		5m (with Olefin Cover) *3		A5

Note) *1 In case "Tantalum" is used for diaphragm material and in case of "For high-temperature service", normal operating temperature of wetted parts is -10 to +180deg.C.

*2 In case: Basic Model is GTX35R, and Tantalum is used for diaphragm material and Flange size is "Flush Diaphragm 1.5in./40mm", 2m or 3m (Code 02, 03, A2, or A3) for "Length of Capillary Tube" are applicable and Minimum Span will be 10 kPa.

*3 Specifications for Capillary Length 4m and 5m are as follows;

a. Temperature effect and Static pressure effect will be 1.5 times of those of High-temperature service.

b. Ambient temperature range for Regular service: -10 to 55 deg.C. Temperature of wetted parts: -30 to 110 deg.C.

c. Ambient temperature range for Oxygen service: -10 to 55 deg.C. Temperature of wetted parts: -10 to 110 deg.C.

d. In the case, Ambient temperature is 40 deg.C, the highest wetted parts temperature for High-temp service (4 m) will be 280 deg.C.

e. In the case, Ambient temperature is 38 deg.C, the highest wetted parts temperature for High-temp service (5 m) will be 280 deg.C.

*5 In case code J is selected, code C "Tantalum" of Wetted parts material should be selected.

Model GTX35R(Remote-sealed type for standard differential pressure)**Model GTX40R(Remote-sealed type for high differential pressure)****Extended 3 inches, 2 inches flange type for regular/ high temperature/ oxygen/ chlorine service**

Model No.:GTX__R-Selection I(I II III IV V VI VII)-Selection II(I II III IV V VI)-Option

Basic Model No.

	Measuring span	2.5 to 100kPa (250 to 10,160mmH ₂ O)	GTX35R	Extended flange type 3 inches (80mm), 2 inches(50mm)
		35 to 700kPa (0.35 to 7kgf/cm ²)	GTX40R	

Selection I

I	Output	4 to 20mA (SFN Communication)	A	
		4 to 20mA (HART Communication)	B	
II	Fill fluid	Regular type (Silicone oil)	A	
		For high temperature service (Silicone oil)	B	
		For oxygen service (Fluorine oil)	H	
III	Wetted parts material	316 SST (Diaphragm:316L SST)	A	
		316L SST	D	
IV	Flange rating	ANSI150	A1	
		ANSI300	A2	
		ANSI600 *2*3	A3	
V	Flange size	2in./50A *2	E	
		3in./80A *2	F	
VI	Flange type	Extended Length 50mm	B	
		Extended Length 100mm	C	
		Extended Length 150mm	D	
		Extended Length 200mm *3	E	
		Extended Length 250mm *3	F	
		Extended Length 300mm *3	G	
VII	Flange material/ bolt and nut material	Flange	Bolt and nut	
		304 SST	304 SST	A
		304 SST	630 SST	C
		304 SST	Carbon steel	D
		316 SST	304 SST	E
		316 SST	630 SST	G
VIII	Gasket face finish	316 SST	Carbon steel	H
		None Standard JISRa3.2(12.5S)		A
IX	Capillary length	2m	02	
		3m	03	
		4m	04	
		5m	05	
		2m (with Olefin Cover)	A2	
		3m (with Olefin Cover)	A3	
		4m (with Olefin Cover) *1	A4	
		5m (with Olefin Cover) *1	A5	

Note) *1 Specifications for Capillary Length 4m and 5m are as follows;

- a. Temperature characteristics and Static pressure effect will be 1.5 times of those of High-temperature service.
b. Ambient temperature range for Regular service: -10 to 55 deg.C, Temperature of wetted parts: -30 to 110 deg.C.
c. Ambient temperature range for Oxygen service: -10 to 55 deg.C, Temperature of wetted parts: -10 to 110 deg.C.
d. In the case, Ambient temperature is 40 deg.C, the highest wetted parts temperature for High-temp service (4 m) will be 280 deg.C.
e. In the case, Ambient temperature is 38 deg.C, the highest wetted parts temperature for High-temp service (5 m) will be 280 deg.C.
- *2 In case of "ANSI/JPI600" is used for 3in. flange type and rating, not available for the extended diaphragm flange type.
- *3 In case Fill Fluid: For high-temperature service, for high-temperature vacuum service or high-temperature high vacuum service and 2 in. Flange Rating: ANSI/JPI600 and Wetted Parts material: 316L SST, Extension length of Flange 200/250/300mm are not available.

**Model GTX35R(Remote-sealed type for standard
Model GTX40R(Remote-sealed type for high differential pressure)**

Flush 3 inches flange type for high temperature vacuum, high temperature high vacuum service

Model No.:GTX__R-Selection I(I II III IV V VI VII)-Selection II(I II III IV V VI)-Option

Basic Model No.

	Measuring span	2.5 to 100kPa (250 to 10,160mmH ₂ O)	GTX35R	Flush flange type 3 inches (80mm)
		35 to 700kPa (0.35 to 7kgf/cm ²)	GTX40R	

Selection I

I	Output	4 to 20mA (SFN Communication)	A	
		4 to 20mA (HART Communication)	B	
II	Fill fluid	For high temperature vacuum service (Silicone oil)	C	
		For high temperature high vacuum service (Silicone oil)	D	
III	Wetted parts material	ASTM B575 (Equivalent to Hastelloy C-276)	B	
		Tantalum *1	C	
		316L SST	D	
IV	Flange rating	ANSI150	A1	
		ANSI300	A2	
		ANSI600	A3	
V	Flange size	3in./80A	F	
VI	Flange type	Flush type	A	
VII	Flange material/ bolt and nut material	Flange	Bolt and nut	
		304 SST	304 SST	A
		304 SST	630 SST	C
		304 SST	Carbon steel	D
		316 SST	304 SST	E
		316 SST	630 SST	G
		316 SST	Carbon steel	H
VIII	Gasket face finish	None Standard JISRa3.2(12.5S)	A	
IX	Capillary length	2m	02	
		3m	03	
		4m	04	
		5m	05	
		6m	06	
		7m	07	
		8m	08	
		9m	09	
		10m	10	

Note) *1 In case "Tantalum" is used for diaphragm material, and in case of "For high-temperature service", normal operating temperature of wetted parts is -10 to +180deg.C.

Model GTX35R(Remote-sealed type for standard differential pressure)**Model GTX40R(Remote-sealed type for high differential pressure)****Extended 4 inches flange type for high temperature vacuum, high temperature high vacuum service**

Model No.:GTX__R-Selection I(I II III IV V VI VII)-Selection II(I II III IV V VI)-Option

Basic Model No.

	Measuring span	2.5 to 100kPa (250 to 10,160mmH ₂ O)	GTX35R	Extended flange type 4 inches (100mm)
		35 to 700kPa (0.35 to 7kgf/cm ²)	GTX40R	

Selection I

I	Output	4 to 20mA (SFN Communication)	A	
		4 to 20mA (HART Communication)	B	
II	Fill fluid	For high temperature vacuum service (Silicone oil)	C	
		For high temperature high vacuum service (Silicone oil)	D	
III	Wetted parts material	316 SST (Diaphragm:316L SST)	A	
		316L SST	D	
IV	Flange rating	ANSI150	A1	
		ANSI300 *1	A2	
		ANSI600	A3	
V	Flange size	4in./100A	G	
VI	Flange type	Extended Length 50mm	B	
		Extended Length 100mm	C	
		Extended Length 150mm	D	
		Extended Length 200mm *1	E	
		Extended Length 250mm *1	F	
		Extended Length 300mm *1	G	
VII	Flange material/ bolt and nut material	Flange	Bolt and nut	
		304 SST	304 SST	A
		304 SST	630 SST	C
		304 SST	Carbon steel	D
		316 SST	304 SST	E
		316 SST	630 SST	G
		316 SST	Carbon steel	H
VIII	Gasket face finish	None Standard JISRa3.2(12.5S)		A
IX	Capillary length	2m		02
		3m		03
		4m		04
		5m		05
		6m		06
		7m		07
		8m		08
		9m		09
		10m		10

Note) *1 In case "ANSI/JPI300" is used for Flange Type & Rating, Not available for Length of Extended Parts: 200/250/300mm.

Model GTX35R(Remote-sealed type for standard differential pressure)**Model GTX40R(Remote-sealed type for high differential pressure)****Flush 2 inches,1.5 inches flange type for high temperature vacuum, high temperature high vacuum service**

Model No.:GTX__R-Selection I(I II III IV V VI VII)-Selection II(I II III IV V VI)-Option

Basic Model No.

	Measuring span	2.5 to 100kPa (250 to 10,160mmH ₂ O)	GTX35R	Flush flange type 2 inches (50mm), 1.5 inches(40mm)
		35 to 700kPa (0.35 to 7kgf/cm ²)	GTX40R	

Selection I

I	Output	4 to 20mA (SFN Communication)	A	
		4 to 20mA (HART Communication)	B	
II	Fill fluid	For high temperature vacuum service (Silicone oil)	C	
		For high temperature high vacuum service (Silicone oil)	D	
III	Wetted parts material	ASTM B575 (Equivalent to Hastelloy C-276)	B	
		Tantalum *1	C	
		316L SST	D	
IV	Flange rating	ANSI150	A1	
		ANSI300	A2	
		ANSI600	A3	
V	Flange size	1.5in./40A	D	
		2in./50A	E	
VI	Flange type	Flush type	A	
VII	Flange material/ bolt and nut material	Flange	Bolt and nut	
		304 SST	304 SST	A
		304 SST	630 SST	C
		304 SST	Carbon steel	D
		316 SST	304 SST	E
		316 SST	630 SST	G
		316 SST	Carbon steel	H
VIII	Gasket face finish	None Standard JISRa3.2(12.5S)	A	
IX	Capillary length	2m		02
		3m		03
		4m		04
		5m		05

Note) *1 In case "Tantalum" is used for diaphragm material and in case of "For high-temperature service", normal operating temperature of wetted parts is -10 to +180deg.C

Model GTX35R(Remote-sealed type for standard differential pressure)**Model GTX40R(Remote-sealed type for high differential pressure)****Extended 3 inches, 2 inches flange type for high temperature vacuum, high temperature high vacuum service**

Model No.:GTX_ _R-Selection I(I II III IV V VI VII)-Selection II(I II III IV V VI)-Option

Basic Model No.

	Measuring span	2.5 to 100kPa (250 to 10,160mmH ₂ O)	GTX35R	Extended flange type 3 inches (80mm), 2 inches(50mm)1.5 inches(40mm)
		35 to 700kPa (0.35 to 7kgf/cm ²)	GTX40R	

Selection I

I	Output	4 to 20mA (SFN Communication)	A	
		4 to 20mA (HART Communication)	B	
II	Fill fluid	For high temperature vacuum service (Silicone oil)	C	
		For high temperature high vacuum service (Silicone oil)	D	
III	Wetted parts material	316 SST (Diaphragm:316L SST)	A	
		316L SST	D	
IV	Flange rating	ANSI150	A1	
		ANSI300	A2	
		ANSI600 *1	A3	
V	Flange size	2in./50A	E	
		3in./80A *1	F	
VI	Flange type	Extended Length 50mm *1	B	
		Extended Length 100mm *1	C	
		Extended Length 150mm *1	D	
		Extended Length 200mm *1	E	
		Extended Length 250mm *1	F	
		Extended Length 300mm *1	G	
VII	Flange material/ bolt and nut material	Flange	Bolt and nut	
		304 SST	304 SST	
		304 SST	630 SST	
		304 SST	Carbon steel	
		316 SST	304 SST	
		316 SST	630 SST	
		316 SST	Carbon steel	
VIII	Gasket face finish	None Standard JISR3.2(12.5S)		A
IX	Capillary length	2m		02
		3m		03
		4m		04
		5m		05

Note) *1 In case of "ANSI/JPI600" is used for 3in. Flange type and rating, not available for the extended diaphragm flange type.

Model GTX35R(Remote-sealed type for standard differential pressure)**Model GTX40R(Remote-sealed type for high differential pressure)****Flush 3/4 inches, 1/2inches flange type for regular/ high temperature/ oxygen/ chlorine service)**

Model No.:GTX__R-Selection I(I II III IV V VI VII)-Selection II(I II III IV V VI)-Option

Basic Model No.

	Measuring span	2.5 to 100kPa (250 to 10,160mmH ₂ O)	GTX35R	Flush flange type 3/4 inches (20mm), 1/2 inches(15mm)
		35 to 700kPa (0.35 to 7kgf/cm ²)	GTX40R	

Selection I

I	Output	4 to 20mA (SFN Communication)	A	
		4 to 20mA (HART Communication)	B	
II	Fill fluid	Regular type (Silicone oil)	A	
		For high temperature service (Silicone oil)	B	
		For oxygen service (Fluorine oil)	H	
III	Wetted parts material	316 SST (Diaphragm:316L SST)	A	
		ASTM B575 (Equivalent to Hastelloy C-276) *5	B	
		316L SST *6	D	
IV	Flange rating	No flange	XX	
V	Flange size	For small size flange	X	
VI	Flange type	For small flange type with adapter, rear connection to capillary *1	1	
		For small flange type with no adapter, rear connection to capillary	3	
		For small flange type, corrosion resistant model with adapter, rear connection to capillary *1*2*3	5	
		For small flange type, high model with adapter, rear connection to capillary *1*2*4	6	
VII	Flange material/ bolt and nut material	Flange	Bolt and nut	
		No flange	304 SST	
		No flange	630 SST	
		No flange	Carbon steel	
VIII	Gasket face finish	None Standard JISRa3.2(12.5S))	A	
IX	Capillary length	2m	02	
		3m	03	
		4m	04	
		5m	05	
		2m (with Olefin Cover)	A2	
		3m (with Olefin Cover)	A3	
		4m (with Olefin Cover)	A4	
		5m (with Olefin Cover)	A5	

Note) *1 Small flange mounting kit model (HF-) should be selected.

*2 The combination with model: SDR (Elliptical Tube Flowmeter) is not available.

*3 In case code 5 is selected, wetted parts material 316 SST or ASTM B575 should be selected.

*4 In case code 6 is selected, wetted parts material 316 SST should be selected.

*5 Not applicable for code 6 of Flange type.

*6 Not applicable for code 5 and 6 of Flange type.

Flush 3/4 inches, 1/2 inches flange type for low temperature/ fast response service Silicone oil
Model No.: GTX R-Selection I(I II III IV V VI VII)-Selection II(I II III IV V VI)-Option

	Measuring span	2.5 to 100kPa (250 to 10,160mmH ₂ O)	GTx35R	Flush flange type 3/4 inches (20mm), 1/2 inches(15mm)
--	----------------	---	--------	--

I	Output	4 to 20mA (SFN Communication)	A
		4 to 20mA (HART Communication)	B
II	Fill fluid	For low temperature / Fast response service	F
III	Wetted parts material	316 SST (Diaphragm:316L SST)	A
IV	Flange rating	No flange	XX
V	Flange size	For small size flange model	X
VI	Flange type	For small flange type with adapter, rear connection to capillary *1	1
		For small flange type with no adapter, rear connection to capillary	3
VII	Flange material/ bolt and nut material	Flange	Bolt and nut
		No flange	304 SST
		No flange	630 SST
		No flange	Carbon steel
VIII	Gasket face finish	None Standard JISRa3.2(12.5S)	A
IX	Capillary length	2m	02
		3m	03
		4m	04
		5m	05
		2m (with Olefin Cover)	A2
		3m (with Olefin Cover)	A3
		4m (with Olefin Cover)	A4
		5m (with Olefin Cover)	A5

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Model No.:GTX__R-Selection I(I II III IV V VI VII)-Selection II(I II III IV V VI)-Option

Selection II			-
I	Electrical connection	1/2 NPT, Watertight	A
		M20, Watertight *19	B
II	Explosion proof	None	XX
		FM Explosion proof	F1
		FM Intrinsically safe	F2
		FM Nonincendive	F5
		ATEX Explosion proof	A1
		ATEX Intrinsically safe	A2
		ATEX Type n	A5
		IECEX Explosion proof,	E1
		IECEX Intrinsically safe	E2
		IECEX Type n	E5
		NEPSI Explosionproof	N1
		NEPSI Intrinsically safe	N2
		NEPSI Type n	N5
III	Built-in indicating smart meter	None	X
		With indicator	A
IV	Paint	Standard	X
		Corrosion-proof	B
		Corrosion-resistant (Silver coating)	D
V	Failure alarm	UP Scale	A
		DOWN scale	B
VI	Mounting Bracket	None	X
		Carbon steel (Flat Form)	5
		304 SST (Flat Form)	6
		Direct mounting kit *18	D
Option			-
	No options		XX
	External Zero adjustment *11		A2
	Oil and water free finish		K1
	Oil free finish *4		K3
	Au Plating Diaphragm *17		L1
	0.1mm thickness diaphragm *12*13		M5
	FEP protective film *14*15*16		N1
	Safety Transmitter *5		Q1
	NAMUR NE43 Compliant Output signal limits:3.8 to 20.5mA (Output 21.6mA/selected upper limit, 3.6mA/selected lower limit)		Q2
	Alarm Output (contact output)		Q7
	Custom calibration		R1
	Test report		T1
	Mill certificate		T2
	Traceability certificate		T4
	NACE certificate *9		T5
	Non SI Unit		W1

Note) *4 No need to select when Fill Fluid code H, or J is selected.

*5 Not applicable for the combination with code A2, or Q7 of Option.

*9 Applicable for "ASTM B575", code B of Material (center body).

*11 Not applicable for the combination with code X "None" of Indicator. Please select "With indicator".

*12 0.1 mm thickness diaphragm option is only available for Material of Wetted parts: "316 SST" and "316L SST".

*13 0.1 mm thickness diaphragm option is only available for 4inches Extended Flange or 3inches Flush Flange.

*14 Not applicable for the combination with Extended Flange Type.

*15 Not applicable for the combination with code B, C, and D of Fill Fluid. (Max. 110 degree C)

*16 Not applicable for the combination with 1/2 inches or 3/4 inches flange.

*17 Not applicable for the combination with "Tantalum" of Material (center body).

*18 Not applicable for the combination with B, C, or D of Fill Fluid.

*19 Not applicable for the combination with code F1 "FM Explosion proof" of Explosion proof.

**Small flange type mounting kit
(Adapter flange)**

HF -			I	II	III	IV	V	-	VI
I	Adapter flange quantity	For DP remote (2 PIECES) *2*5 For high performance DP remote (2 PIECES) *4*6*7	E W						
II	Flange size	1/2in. 3/4in.		1 2					
III	Flange rating	ANSI150 ANSI300 *3			G H				
IV	Adapter material	SCS14A or 316 SST				2			
V	Bolt/nut material	304 SST 630 SST					2 3		
VI	Option	None Oil and water finish *1 Oil free finish *1 Long Vent / Drain Plug Assembled with a transmitter						-	X 1 2 3 4

Note) *1 When this option is selected, the same option for transmitter must be selected.

*2 630 SST Bolt/nut material should be selected.

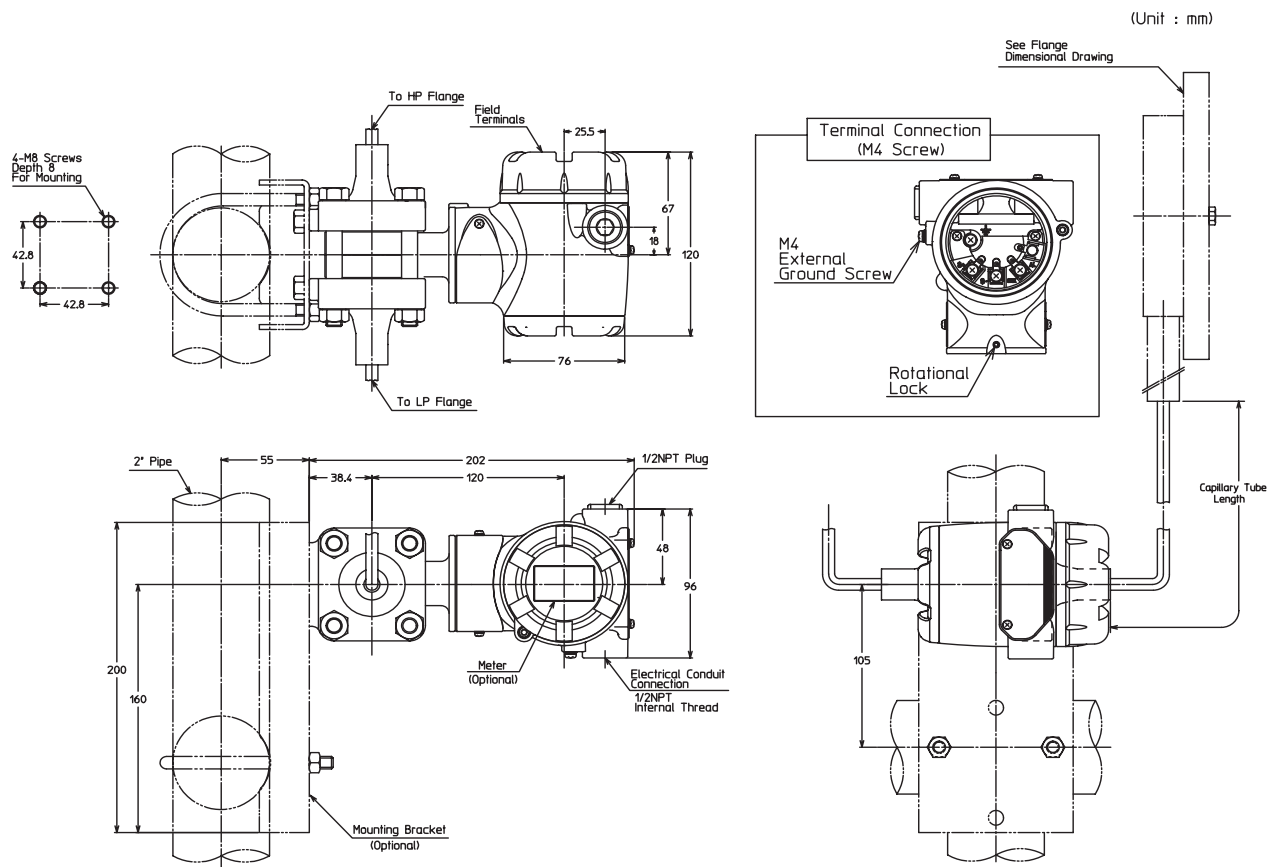
*3 Refer to the specification sheet for the working pressure range.

*4 The combination with Model:SDR is not available.

*5 Select this code when flange type code "1" is selected in the transmitter selection.

*6 Select this code when flange type code "5" or "6" is selected in the transmitter selection.

*7 304 SST Bolt/nut material should be selected.

DIMENSION**Model GTX35R / GTX40R**

- Note)
1. To prevent vibration, you are recommended to fasten the capillary tube mid-length.
 2. Select a gasket that will not contact the diaphragm after it is tightened.
 3. When the suppression is larger than one half of the measuring span, the higher pressure side and the lower pressure side of the process connection end flange are opposite to those shown in the figure above. When using the transmitter to measure liquid levels, connect at H and L marks on the meter body as shown in the right figure.

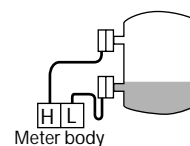


Table of flush diaphragm flange dimensions

[Unit: mm]

B
(Diaphragm dia.)

C.P.C.

N-H hole

d

148

20

t

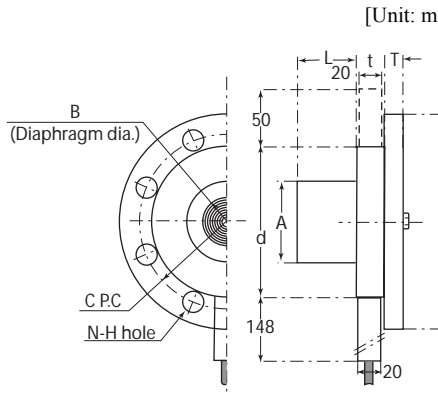
T

Rating	Flange rating	D	T	C	N	H	d	B	t
1.5 inch/ 40mm	JIS 10K-40 mm	140	16	105	4	19	81	43	25 (note2)
	JIS 20K-40 mm	140	18	105	4	19			
	JIS 30K-40 mm	160	22	120	4	23			
	ANSI 150-1.5 inch	127	18	98.6	4	16			
	ANSI 300-1.5 inch	155	21	114.3	4	22			
	ANSI 600-1.5 inch	155	22.5	114.3	4	22			
	JPI 150-1.5 inch	127	18	98.6	4	16			
	JPI 300-1.5 inch	155	21	114.3	4	22			
2 inches (50 mm)	JIS 10K-50 mm	155	16	120	4	19	99	62 (note1)	
	JIS 20K-50 mm	155	18	120	8	19			
	JIS 30K-50 mm	165	22	130	8	19			
	ANSI 150-2 inches	152	19.5	120.6	4	19			
	ANSI 300-2 inches	165	22.5	127	8	19			
	ANSI 600-2 inches	165	25.5	127	8	19			
	JPI 150-2 inches	152	19.5	120.6	4	19			
	JPI 300-2 inches	165	22.5	127	8	19			
3 inches (80 mm)	JIS 10K-80 mm	185	18	150	8	19	129.5	95	25
	JIS 20K-80 mm	200	22	160	8	23			
	JIS 30K-80 mm	210	28	170	8	23			
	ANSI 150-3 inches	190	24	152.4	4	19			
	ANSI 300-3 inches	210	28.5	168.1	8	22			
	ANSI 600-3 inches	210	32	168.1	8	22			
	JPI 150-3 inches	190	24	152.4	4	19			
	JPI 300-3 inches	210	28.5	168.1	8	22			

Note) 1) Wetted parts material is ASTM B575 and Fill fluid is for regular, high-temperature, oxygen, or chlorine service: B=43

2) Wetted parts material is ASTM B575 and Fill fluid is for regular, high-temperature, oxygen, or chlorine service: t=26.7

Table of extended diaphragm flange dimensions

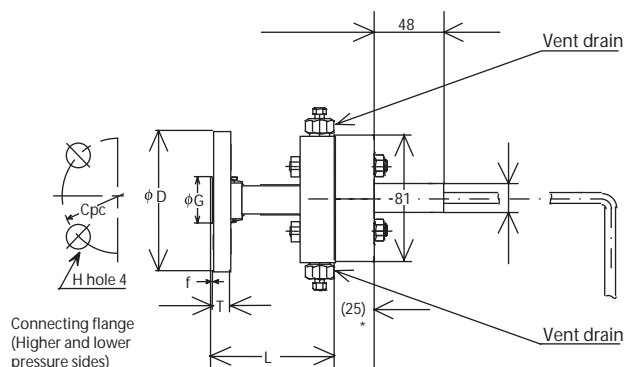


Rating	Flange rating	D	T	C	N	H	d	A	t	B	L
2 inches (50 mm)	JIS 10K - 50 mm	155	16	120	4	19	99	47±1	25	43	50
	JIS 20K - 50 mm	155	18	120	8	19					100
	JIS 30K - 50 mm	165	22	130	8	19					150
	ANSI 150 - 2 inches	152	19.5	120.6	4	19					200
	ANSI 300 - 2 inches	165	22.5	127	8	19					250
	ANSI 600 - 2 inches	165	25.5	127	8	19					300
	JPI 150 - 2 inches	152	19.5	120.6	4	19					
	JPI 300 - 2 inches	165	22.5	127	8	19					
3 inches (80 mm)	JIS 10K - 80 mm	185	18	150	8	19	129.5	69±1	25	62	
	JIS 20K - 80 mm	200	22	160	8	23					
	JIS 30K - 80 mm	210	28	170	8	23					
	ANSI 150 - 3 inches	190	24	152.4	4	19					
	ANSI 300 - 3 inches	210	28.5	168.1	8	22					
	ANSI 600 - 3 inches	210	32	168.1	8	22					
	JPI 150 - 3 inches	190	24	152.4	4	19					
	JPI 300 - 3 inches	210	28.5	168.1	8	22					
4 inches (100 mm)	JIS 10K - 100 mm	210	18	175	8	19	157	95±1	23	90.4	
	JIS 20K - 100 mm	225	24	185	8	23					
	JIS 30K - 100 mm	240	32	195	8	25					
	ANSI 150 - 4 inches	229	24	190.5	8	19					
	ANSI 300 - 4 inches	254	32	200.2	8	22					
	JPI 150 - 4 inches	229	24	190.5	8	19					

1/2 or 3/4 inch flange adapter assembly drawing Table 3 Table of flange dimensions

[Unit: mm]

Model HF - E _____ - _____



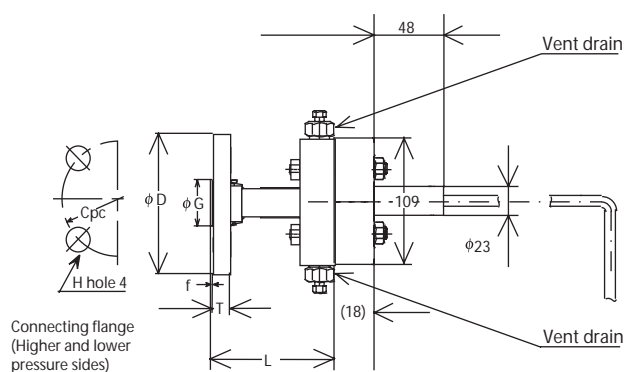
Flange standard	φD	φG	T	f	φC	φH	φL
JIS 10K - 15 mm (1/2 inch)	95	51	12	1	70	15	84
JIS 20K - 15 mm (1/2 inch)	95	51	14	1	70	15	84
JIS 30K - 15 mm (1/2 inch)	115	55	18	1	80	19	79
ANSI 150 - 15 mm (1/2 inch)	89	35.1	11.5	1.6	60.5	16	86
ANSI 300 - 15 mm (1/2 inch)	95	35.1	14.5	1.6	66.5	16	92
JPI 150 - 15 mm (1/2 inch)	89	35.1	11.5	1.6	60.5	16	86
JPI 300 - 15 mm (1/2 inch)	95	35.1	14.5	1.6	66.5	16	92
JIS 10K - 20 mm (3/4 inch)	100	56	14	1	75	15	90
JIS 20K - 20 mm (3/4 inch)	100	56	16	1	75	15	90
JIS 30K - 20 mm (3/4 inch)	120	60	18	1	85	19	84
ANSI 150 - 20 mm (3/4 inch)	99	42.9	13	1.6	69.8	16	90
ANSI 300 - 20 mm (3/4 inch)	117	42.9	16	1.6	82.6	19	99
JPI 150 - 20 mm (3/4 inch)	99	42.9	13	1.6	69.8	16	90
JPI 300 - 20 mm (3/4 inch)	117	42.9	16	1.6	82.6	19	99

Note) *: In the case of tantalum for wetted part material, this is 24 mm.

1/2 or 3/4 inch flange adapter assembly drawing Table 4 Table of flange dimensions

[Unit: mm]

Model HF - W_____ - _____



Flange standard	φD	φG	T	f	φC	φH	φL
JIS 10K - 15 mm (1/2 inch)	95	51	12	1	70	15	102
JIS 20K - 15 mm (1/2 inch)	95	51	14	1	70	15	102
JIS 30K - 15 mm (1/2 inch)	115	55	18	1	80	19	107
ANSI 150 - 15 mm (1/2 inch)	89	35.1	11.5	1.6	60.5	16	99
ANSI 300 - 15 mm (1/2 inch)	95	35.1	14.5	1.6	66.5	16	105
JPI 150 - 15 mm (1/2 inch)	89	35.1	11.5	1.6	60.5	16	99
JPI 300 - 15 mm (1/2 inch)	95	35.1	14.5	1.6	66.5	16	105
JIS 10K - 20 mm (3/4 inch)	100	56	14	1	75	15	103
JIS 20K - 20 mm (3/4 inch)	100	56	16	1	75	15	103
JIS 30K - 20 mm (3/4 inch)	120	60	18	1	85	19	107
ANSI 150 - 20 mm (3/4 inch)	99	42.9	13	1.6	69.8	16	103
ANSI 300 - 20 mm (3/4 inch)	117	42.9	16	1.6	82.6	19	112
JPI 150 - 20 mm (3/4 inch)	99	42.9	13	1.6	69.8	16	103
JPI 300 - 20 mm (3/4 inch)	117	42.9	16	1.6	82.6	19	112

Note

Specifications are subject to change without notice.

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