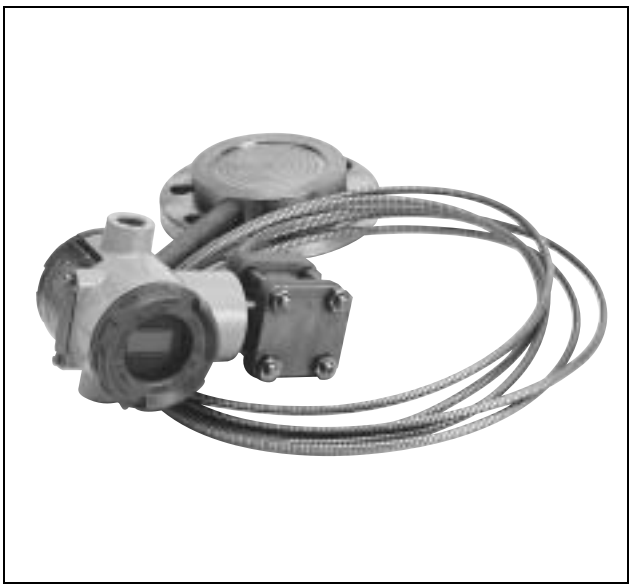
ST3000 Series 900 Smart Transmitter

Remote-sealed type of Pressure Transmitters

Model STH920/STH940/STH960/STH980

OVERVIEW

The ST3000 Smart 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 pressure. It can also execute two-way communications between the SFC (Smart Field Communicator) or HART® 275 communicator, and, via DE protocol, with the TDCS3000 or 3000^X and a database, thus facilitating self-diagnosis, range resetting, and automatic zero adjustment. Remote-sealed pressure transmitters are suitable for the measurement of pressures (pressures, liquid levels, etc.) of process fluids that are highly corrosive, tend to condense, precipitate metal, etc.



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 general purpose models 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

Change 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

- Either analog output (4 to 20 mA DC), or digital output (DE protocol) is possible.
- Two-way communication using digital output facilitates self-diagnosis, range resetting, automatic zero adjustment, and other operations.
- HART® protocol communication is available. (Option)

APPLICATION

Petroleum / Petrochemical / Chemical

- For the measurement of liquid levels including corrosive fluids at high temperatures, and high temperatures under vacuum.
- For the measurement of liquid levels in small tanks.

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.

Machinery / Shipbuilding

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

FUNCTIONAL SPECIFICATIONS

Type of protection

JIS C0920 watertight: NEMA3 and 4X
JIS F8001 class 2 watertight: IEC IP67

FM Explosionproof approval

Explosionproof for Class I (Gas, steam), Division 1, Group A, B, C, D
Dust-ignition for Class II (Inflammable dust), Division 1, Group E, F, G
Suitable for Class III (inflammable fiber), Division 1
Nonincendive for Class I, Division 2, Group A, B, C, D

FM Intrinsically safe approval

Intrinsically safe for Class I, II, III, Division 1, Group A, B, C, D, E, F, G

ATEX Flameproof approval

Certificate number: INERIS99ATEX0010 X

⟨Ex⟩ II 2 GD EExd IIC T6 at -20 ≤ Tamb ≤ +60°C

ATEX Intrinsic safety

Certificate number: KEMA03ATEX1225 X

⟨Ex⟩ II 1 G EEx ia IIC T4 at -20 ≤ Tamb ≤ +60°C

Electrical data: Ui = 30V
Ii = 100 mA
Pi = 1W
Ci = 3 nF
Li = 0.5 mH

SPECIAL CONDITIONS FOR SAFE USE (X)
Because the enclosure of the Smart Pressure Transmitter is made of aluminium, if it is mounted in an area where the use of category 1 G apparatus is required, it must be installed such, that, even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.

NEPSI Flameproof approval

Ex d IIC T6, with NEPSI Dust ignition DIP A20 T6
Approval No. GYJ 06204

NEPSI Intrinsically safe approval

NEPSI Intrinsically safe approval
Ex ia IIC T4 at -20 ≤ Tamb ≤ +60°C
The barriers should be NEPSI recognized types and comply with the following conditions as follows.
Safety Parameters : Ui=28V, Ii=93mA, Pi=0.651W, Li=0, Ci=0.0uF
Approval No. GYJ 06176

CSA Explosion-proof Approval

CSA Explosion-proof for Class I, (Division 1), Groups A, B, C and D
CSA Flameproof for Class I, Zone 1, Ex d IIC T6 at ambient temp. = -20°C to +60°C
CSA Dust-ignitionproof for Class II and III, (Division 1), Groups E, F and G

EMC Conformity

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

PED Conformity (97/23/EC)

Comply with Module H (with "H1" option), or SEP (Sound Engineering Practice) for models of which maximum working pressure is 200 bar or lower.

Lowest temperature for Module H

Bolt/nut material SNB7: -10°C
SUS630: -6°C

Measuring span / Setting range / Working pressure range

	Measuring Span	Setting Range	Working Pressure Range	Overload Resistant Value
STH 920	2.5 to 100 kPa {250 to 10160 mmH_2O}	-100 to 100 kPa {-10160 to 10160 mmH_2O}	Up to flange rating (For negative pressures, see Figures 1, 2 and 3.)	None
STH 940	35 to 3500 kPa {0.35 to 35kgf/cm^2}	-100 to 3500 kPa {-1 to 35 kgf/cm^2}	Up to flange rating (For negative pressures, see Figures 1, 2 and 3.)	5250 kPa {52.5 kgf/cm^2}
STH 960	0.7 to 10 MPa {7 to 102 kgf/cm^2}	-0.1 to 10 MPa {-1 to 102 kgf/cm^2}	Up to flange rating (For negative pressures, see Figures 1, 2 and 3.)	15.3 MPa {153 kgf/cm^2}
STH 980	0.7 to 42 MPa {7 to 420 kgf/cm^2}	-0.1 to 42 MPa {-1 to 420 kgf/cm^2}	Up to flange rating (For negative pressures, see Figures 1, 2 and 3.)	63MPa {630 kgf/cm^2}

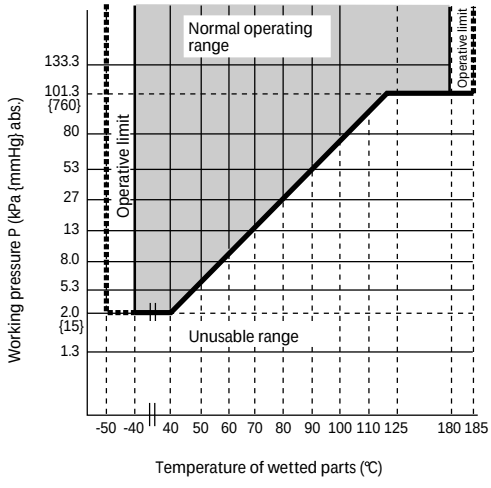
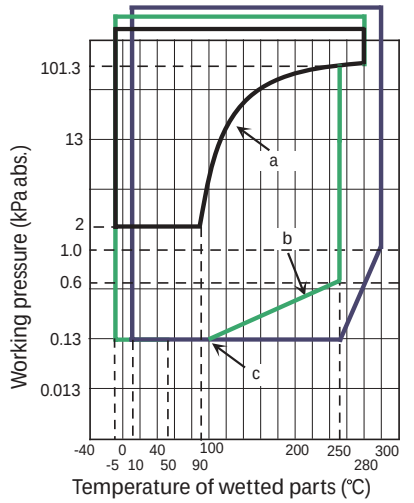


Figure 1 Working pressure and temperature of wetted parts section (for general purpose models)



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

Figure 2 Working pressure temperature of wetted parts section (For high temperature / high temperature and vacuum / high temperature and high vacuum)

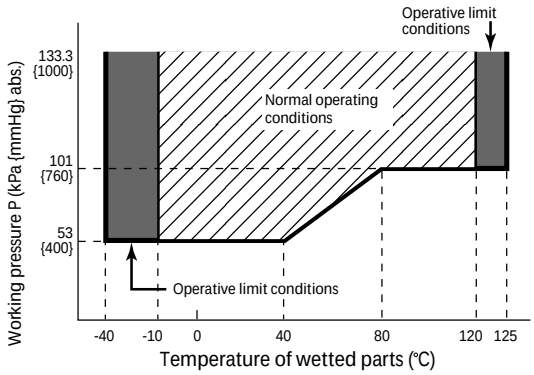


Figure 3 Working pressure and temperature of wetted parts section (for oxygen and chlorine models)

Supply voltage and load resistance

10.8 to 45V DC. A load resistance of 250 Ω or more is necessary between loops. See Figure 4.

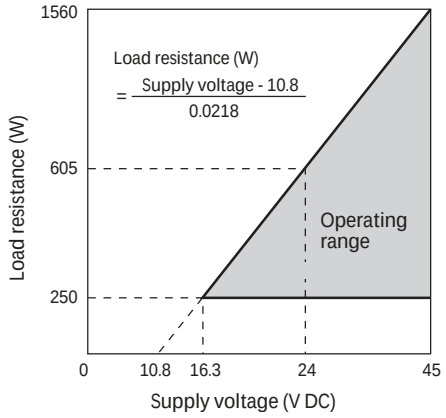


Figure 4 Supply voltage vs. load resistance characteristics

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

For ATEX Intrinsic safety model, minimum voltage of 18.0V is required.

Output

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

Ambient temperature limits / Temperature ranges of wetted parts

		Temperature range (°C) *1 *4				
		General purpose model	**High-temperature model**	**High-temperature Vacuum models**	**High-temperature 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 *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 fluid *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.*

For Explosionproof 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

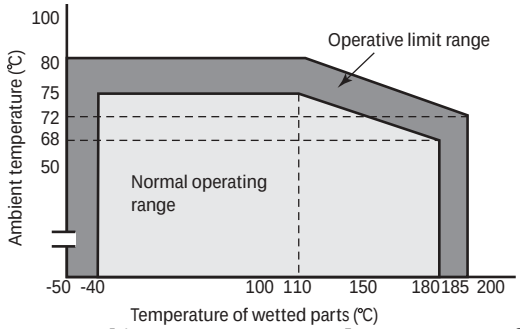


Figure 5 Ambient temperature and temperature of wetted parts section (for general purpose models)

[Flange size: 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.

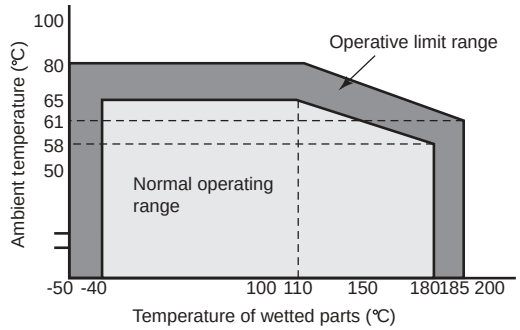


Figure 6 Ambient temperature and temperature of wetted parts section (for general purpose models)

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

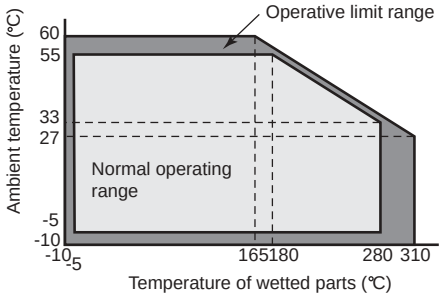


Figure 7 Ambient temperature and temperature of wetted parts section (for high temperature and vacuum 2, 3m)

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

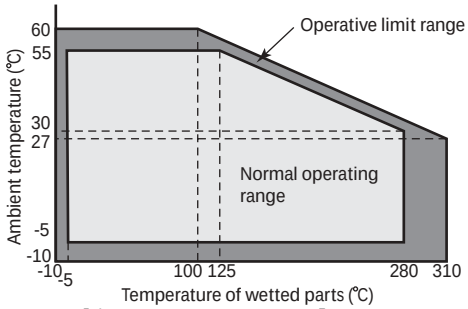


Figure 8 Ambient temperature and temperature of wetted parts section (for high temperature and vacuum 4, 5 m)

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

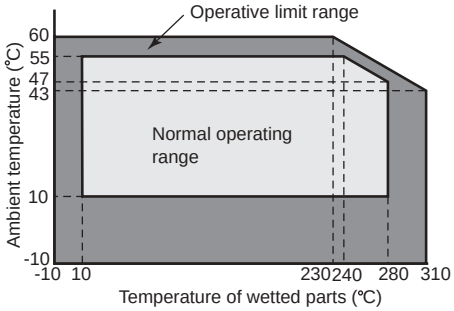


Figure 9 Ambient temperature and temperature of wetted parts section (for high temperature and high vacuum 2, 3 m)

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

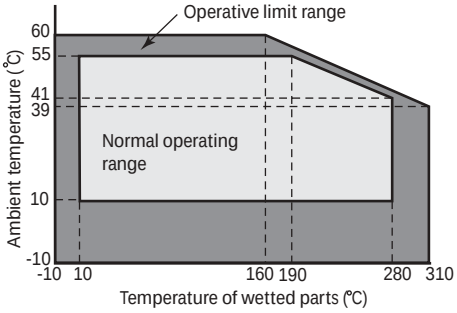


Figure 10 Ambient temperature and temperature of wetted parts section (for high temperature and high vacuum 4, 5 m)

[Flange size: 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

Approximately 0.4 sec.

Damping time

Selectable from 0 to 32 sec. in ten stages

OPTIONAL SPECIFICATIONS

Lightning protection

Peak value of voltage surge: 200 kV
Peak value of current surge: 2000 A

Built-in indicating meter

The digital LCD indicator (optional) indicates engineering units and can be set freely between -19999 and 19999 (4.5 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 SFC smart communicator (Ver. 7.1 or later) or HART®275 communicator.

Bolts and nuts materials (for fastening meter body cover)

Carbon steel (SNB7), SUS304, SUS630

Corrosion-resistant finish

Corrosion-resistant finish
Corrosion-resistant paint (Baked acrylic paint), fungus-proof finish

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.

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.
(The vent drain plug is coated with a small amount of fluorine oil to prevent galling.)

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

Burnout feature
Choice of three states at abnormal condition
Burnout of output values: None, upper limit, lower limit

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.

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 “Ambient temperature limits / Temperature ranges of wetted parts” on page 3.

Center body
SUS316

Transmitter case
Aluminum alloy

Meter body cover
SUSF304

For Wetted parts
SUS316 (SUS316L for diaphragm only)
Hastelloy C, Tantalum, SUS316L

Flange materials
SUS304, SUS316, SUS316L

Finish
Baked acrylic paint
Housing light beige (Munsell 4Y7.2/1.3)
Cap dark beige (Munsell 10YR4.7/0.5)

Weight
Approx. 19.8 kg
(Including JIS10K-80A flange and capillary 5 m long.)

INSTALLATION

Electrical connection
1/2NPT internal thread

Grounding
Resistance 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

U-bolt and nuts
SUS304

Process connection

Measured pressure (liquid side)
Flanges (both higher and lower pressure sides)

Flush diaphragm

JIS10K, 20K and 30K:	40 / 50 / 80 mm (RF) equivalents
ANSI 150, 300 and 600:	1.5 / 2 / 3 inches (RF) equivalents
JPI 150, 300 and 600:	1.5 / 2 / 3 inches (RF) equivalents

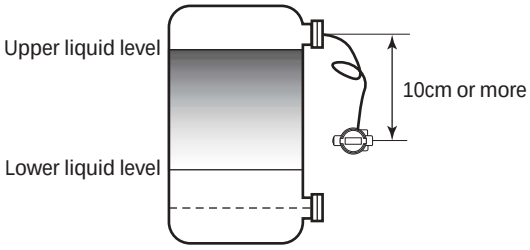
Extended diaphragm

JIS10K, 20K and 30K:	50 / 80 / 100 mm (RF) equivalents
JIS10K, 20K and 30K:	100 / 80 / 50 mm (RF) equivalents
ANSI 150, 300 and 600:	2 / 3 / 4 inches (RF) equivalents
ANSI 150, 300 and 600:	2 / 3 / 4 inches (RF) equivalents
JPI 150 and 300:	2 / 3 / 4 in (RF) equivalents
JPI 150 and 300:	2 / 3 / 4 in (RF) equivalents

Screw connection
G1½ button diaphragm (G1½ external thread)

Mounting notes

For pressure measurement
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 upper nozzle of the tank. If the no space is available, please consult us.



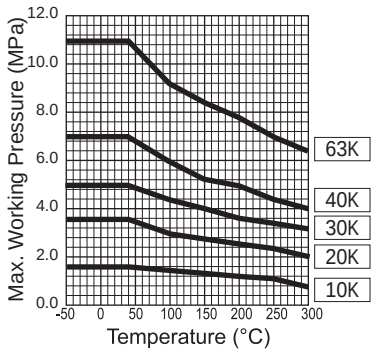
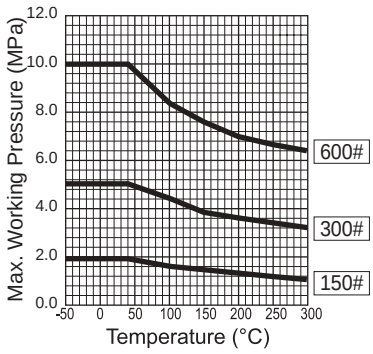
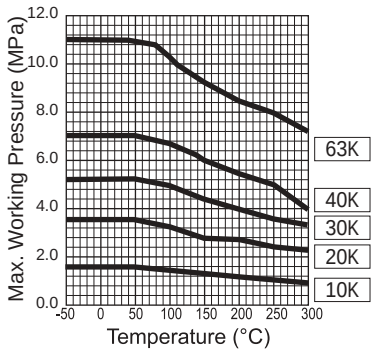
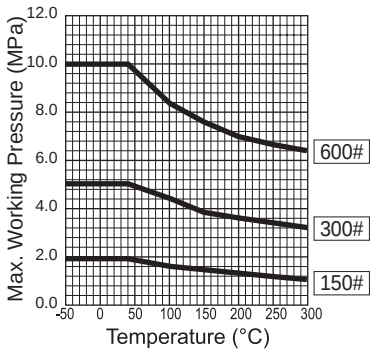
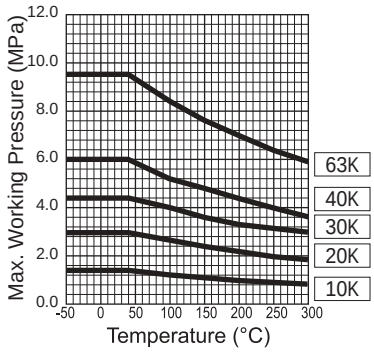
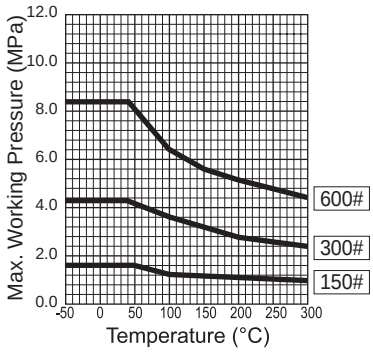
PERFORMANCE SPECIFICATIONS

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.

Note) 2. In case of flange type (model STC940□) and remote scaled type (model STU940□, model STH940□), max working pressure depends on the smaller value of either 1.5 MPa or following data.

Note) 3. In case of remote scaled type (model STH960□), max working pressure depends on the smaller value of either 10 MPa or following data.

	JIS	JPI/ANSI
SUS304		
SUS316		
SUS316L		

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 STH920 (for regular type and high-temperature service)

Material of wetted parts: Diaphragm; SUS316L, Others; SUS316
Flange size: Flush diaphragm 3 inches (80 mm) Extended diaphragm 4 inches (100 mm)

Accuracy(*3)		± 0.2%	(For $\chi \geq$ 12.5 kPa {1250 mmH_2O})
		$\pm\left(0.05 + 0.15 \times \frac{12.5}{\chi}\right)$ %	(For $\chi <$ 12.5 kPa {1250 mmH_2O})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	± 0.68%	(For $\chi \geq$ 25 kPa {2500 mmH_2O})
		$\pm\left(0.68 \times \frac{25}{\chi}\right)$ %	(For $\chi <$ 25 kPa {2500 mmH_2O})
	Combined shift: (including zero and span shifts)	± 1.36%	(For $\chi \geq$ 25 kPa {2500 mmH_2O})
		$\pm\left(1.36 \times \frac{25}{\chi}\right)$ %	(For $\chi <$ 25 kPa {2500 mmH_2O})

Model STH920 (for regular type and high-temperature service)

Material of wetted parts: Diaphragm; Hastelloy C, Tantalum, SUS316L Others; Hastelloy C, Tantalum, SUS316L
Flange size: Flush diaphragm 3 inches (80 mm)

Accuracy(*3)		± 0.4%	(For $\chi \geq$ 12.5 kPa {1250 mmH_2O})
		$\pm\left(0.4 \times \frac{12.5}{\chi}\right)$ %	(For $\chi <$ 12.5 kPa {1250 mmH_2O})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from the -5 to 55°C)	Zero shift:	± 3.2%	(For $\chi \geq$ 25 kPa {2500 mmH_2O})
		$\pm\left(3.5 \times \frac{25}{\chi}\right)$ %	(For $\chi <$ 25 kPa {2500 mmH_2O})
	Combined shift:	± 4.5%	(For $\chi \geq$ 25 kPa {2500 mmH_2O})
		$\pm\left(4.5 \times \frac{25}{\chi}\right)$ %	(For $\chi <$ 25 kPa {2500 mmH_2O})

Model STH940 (for regular type and high-temperature service)

Material of wetted parts: Diaphragm; SUS316L, Others; SUS316
Flange size: Flush diaphragm 3 inches (80 mm) Extended diaphragm 4 inches (100 mm)

Accuracy(*3)		± 0.2%	(For $\chi \geq$ 350 kPa {3.5 kgf/cm²})
		$\pm\left(0.05 + 0.15 \times \frac{350}{\chi}\right)$ %	(For $\chi <$ 350 kPa {3.5 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	$\pm\left(0.14 + 0.5 \times \frac{350}{\chi}\right)$ %	χ: kPa
	Combined shift:	± 0.57%	(For $\chi \geq$ 350 kPa {3.5 kgf/cm²})
		$\pm\left(0.19 + 0.38 \times \frac{350}{\chi}\right)$%	(For $\chi <$ 350 kPa {3.5 kgf/cm²})

Model STH940 (for regular type and high-temperature service)

Material of wetted parts: Diaphragm; Hastelloy C, Tantalum, SUS316L Others; Hastelloy C, Tantalum, SUS316L
Flange size: Flush diaphragm 3 inches (80 mm)

Accuracy(*3)		± 0.2%	(For $\chi \geq$ 350 kPa {3.5 kgf/cm²})
		$\pm\left(0.05 + 0.15 \times \frac{350}{\chi}\right)$ %	(For $\chi <$ 350 kPa {3.5 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	$\pm\left(0.15 + 0.5 \times \frac{350}{\chi}\right)$ %	χ: kPa
	Combined shift:	± 0.9%	(For $\chi \geq$ 350 kPa {3.5 kgf/cm²})
		$\pm\left(0.35 + 0.55 \times \frac{350}{\chi}\right)$ %	(For $\chi <$ 350 kPa {3.5 kgf/cm²})

*Note) *1: URV denotes the process value for 100% (20mA DC) output*
**2: LRV denotes the process value for 0% (4mA DC) output.*
**3: Within a range of URV $\geq$ 0 and LRV $\geq$ 0.*

Model STH960 (for regular type and high-temperature service)

Material of wetted parts: Diaphragm; SUS316L, Others; SUS316
Flange size: Flush diaphragm 3 inches (80 mm) Extended diaphragm 4 inches (100 mm)

Accuracy(*3)		± 0.2%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.05 + 0.15 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	$\pm\left(0.14 + 0.5 \times \frac{3.5}{\chi}\right)$ %	χ: MPa
	Combined shift:	± 0.57%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.19 + 0.38 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})

Model STH960 (for regular type and high-temperature service)

Material of wetted parts: Diaphragm; Hastelloy C, Tantalum, SUS316L Others; Hastelloy C, Tantalum, SUS316L
Flange size: Flush diaphragm 3 inches (80 mm)

Accuracy(*3)		± 0.2%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.05 + 0.15 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C(*3) (Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	$\pm\left(0.15 + 0.5 \times \frac{3.5}{\chi}\right)$ %	χ: MPa
	Combined shift:	± 0.9%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.35 + 0.55 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})

Model STH940 (for regular type and high-temperature service)

Material of wetted parts: Diaphragm; SUS316L, Others; SUS316
Flange size: Flush diaphragm 2 inches (50 mm), Extended diaphragm 3 inches (80 mm)

Accuracy(*3)		± 0.2%	(For $\chi \geq 350$ kPa {3.5 kgf/cm²})
		$\pm\left(0.05 + 0.15 \times \frac{350}{\chi}\right)$ %	(For $\chi < 350$ kPa {3.5 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	$\pm\left(0.14 + 0.27 \times \frac{350}{\chi}\right)$ %	χ: kPa
	Combined shift:	± 0.57%	(For $\chi \geq 350$ kPa {3.5 kgf/cm²})
		$\pm\left(0.19 + 0.38 \times \frac{350}{\chi}\right)$ %	(For $\chi < 350$ kPa {3.5 kgf/cm²})

Model STH940 (for regular type and high-temperature service)

Material of wetted parts: Diaphragm; SUS316L, Others; SUS316
Flange size: Flush diaphragm 1.5 inch, Extended diaphragm 2 inches (50mm)

Accuracy (*3)		± 0.3%	(For $\chi \geq 350$ kPa {3.5 kgf/cm²})
		$\pm\left(0.3 \times \frac{350}{\chi}\right)$ %	(For $\chi < 350$ kPa {3.5 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30ºC (*3) (Range from -5 to 55ºC)	Zero shift	$\pm\left(0.14 + 0.27 \times \frac{350}{\chi}\right)$ %	χ: kPa
	Combined shift	± 0.57%	(For $\chi \geq 350$ kPa {3.5 kgf/cm²})
		$\pm\left(0.19 + 0.38 \times \frac{350}{\chi}\right)$ %	(For $\chi < 350$ kPa {3.5 kgf/cm²})

Model STH940 (for regular type and high-temperature service)

Material of wetted parts: Diaphragm; Hastelloy C, Tantalum, SUS316L Others; Hastelloy C, Tantalum, SUS316L
Flange size: Flush diaphragm 2 inches (50 mm) / 1.5 inch (40 mm)

Accuracy(*3)	Analog mode:	± 0.3%	(For $\chi \geq 350$ kPa {3.5 kgf/cm²})
		$\pm\left(0.3 \times \frac{350}{\chi}\right)$	(For $\chi < 350$ kPa {3.5 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C(*3) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	$\pm\left(0.68 \times \frac{350}{\chi}\right)$ %	χ: kPa
	Combined shift:	± 1.75%	(For $\chi \geq 350$ kPa {3.5 kgf/cm²})
		$\pm\left(1.75 \times \frac{350}{\chi}\right)$ %	(For $\chi < 350$ kPa {3.5 kgf/cm²})

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

Model STH960 (for regular type and high-temperature service)

Material of wetted parts: Diaphragm; SUS316L, Others; SUS316
Flange size: Flush diaphragm 2 inches (50 mm), Extended diaphragm 3 inches (80 mm)

Accuracy(*3)		± 0.2%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.05 + 0.15 \times \frac{3.5}{\chi}\right)$	(For $\chi < 3.5$ MPa {35 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	$\pm\left(0.14 + 0.27 \times \frac{3.5}{\chi}\right)$ %	χ: MPa
	Combined shift:	± 0.57%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.19 + 0.38 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})

Model STH960 (for regular type and high-temperature service)

Material of wetted parts: Diaphragm; SUS316L, Others; SUS316
Flange size: Flush diaphragm 1.5 inch Extended diaphragm 2 inches (50mm)

Accuracy (*3)		± 0.4%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.4 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30ºC (*3) (Range from -5 to 55ºC)	Zero shift	$\pm\left(0.14 + 0.27 \times \frac{3.5}{\chi}\right)$ %	χ: MPa
	Combined shift	± 0.57%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.19 + 0.38 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})

Model STH960 (for regular type and high-temperature service)

Material of wetted parts: Diaphragm; Hastelloy C, Tantalum, SUS316L Others; Hastelloy C, Tantalum, SUS316L
Flange size: Flush diaphragm 2 inches (50 mm) /1.5 inch (40 mm)

Accuracy(*3)		± 0.4%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.4 \times \frac{3.5}{\chi}\right)$	(For $\chi < 3.5$ MPa {35 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	±0.68%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.68 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})
	Combined shift:	± 1.75%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(1.75 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})

Model STH940 (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: Diaphragm; SUS316L, Others; SUS316
Flange Size: Flush diaphragm 3 inches (80 mm) Extended diaphragm 4 inches (100 mm)

Accuracy(*3)		± 0.2%	(For $\chi \geq 350$ kPa {3.5 kgf/cm²})
		$\pm\left(0.05 + 0.15 \times \frac{350}{\chi}\right)$ %	(For $\chi < 350$ kPa {3.5 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	$\pm\left(0.15 + 0.45 \times \frac{350}{\chi}\right)$ %	χ: kPa
	Combined shift:	± 0.9%	(For $\chi \geq 350$ kPa {3.5 kgf/cm²})
		$\pm\left(0.35 + 0.55 \times \frac{350}{\chi}\right)$ %	(For $\chi < 350$ kPa {3.5 kgf/cm²})

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

Model STH940 (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: Hastelloy C, Tantalum

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

Accuracy(*3)		± 0.2%	(For $\chi \geq 350$ kPa {3.5 kgf/cm²})
		$\pm\left(0.05 + 0.15 \times \frac{350}{\chi}\right)$ %	(For $\chi < 350$ kPa {3.5 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	$\pm\left(0.15 + 0.5 \times \frac{350}{\chi}\right)$ %	χ: kPa
	Combined shift:	± 0.9%	(For $\chi \geq 350$ kPa {3.5 kgf/cm²})
		$\pm\left(0.35 + 0.55 \times \frac{350}{\chi}\right)$ %	(For $\chi < 350$ kPa {3.5 kgf/cm²})

Model STH960 (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: Diaphragm; SUS316L, Others; SUS316

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

Accuracy(*3)		± 0.2%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.05 + 0.15 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	$\pm\left(0.15 + 0.45 \times \frac{3.5}{\chi}\right)$ %	χ: MPa
	Combined shift:	± 0.9%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.35 + 0.55 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})

Model STH960 (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: Hastelloy C, Tantalum

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

Accuracy(*3)		± 0.2%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.05 + 0.15 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C(*3) (Range from -5 to 55°C)	Zero shift:	$\pm\left(0.15 + 0.5 \times \frac{3.5}{\chi}\right)$ %	χ: MPa
	Combined shift:	± 0.9%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.35 + 0.55 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})

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

Model STH940 (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: Diaphragm; SUS316L, Others; SUS316

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

Accuracy(*3)		± 0.2%	(For $\chi \geq 350$ kPa {3.5 kgf/cm²})
		$\pm\left(0.05 + 0.15 \times \frac{350}{\chi}\right)$ %	(For $\chi < 350$ kPa {3.5 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	$\pm\left(0.15 + 0.45 \times \frac{350}{\chi}\right)$ %	χ: kPa
	Combined shift:	± 0.9%	(For $\chi \geq 350$ kPa {3.5 kgf/cm²})
		$\pm\left(0.35 + 0.55 \times \frac{350}{\chi}\right)$ %	(For $\chi < 350$ kPa {3.5 kgf/cm²})

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

Model STH940 (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: Hastelloy C, Tantalum
Flange Size: Flush diaphragm 2 inches (50 mm) / 1.5 inch (40 mm)

Accuracy(*3)	Analog mode:	± 0.3%	(For $\chi \geq 350$ kPa {3.5 kgf/cm²})
		$\pm\left(0.3 \times \frac{350}{\chi}\right)$ %	(For $\chi < 350$ kPa {3.5 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	± 0.68%	(For $\chi \geq 350$ kPa {3.5 kgf/cm²})
		$\pm\left(0.68 \times \frac{350}{\chi}\right)$ %	(For $\chi < 350$ kPa {3.5 kgf/cm²})
	Combined shift:	± 1.75%	(For $\chi \geq 350$ kPa {3.5 kgf/cm²})
		$\pm\left(1.75 \times \frac{350}{\chi}\right)$ %	(For $\chi < 350$ kPa {3.5 kgf/cm²})

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

Model STH960 (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: Diaphragm; SUS316L, Others; SUS316
Flange Size: Flush diaphragm 2 inches (50 mm) / 1.5 inch (40 mm) Extended diaphragm 3 inches (80 mm) / 2 inches(50 mm)

Accuracy(*3)		± 0.2%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.05 + 0.15 \times \frac{3.5}{\chi}\right)$	(For $\chi < 3.5$ MPa {35 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	$\pm\left(0.15 + 0.45 \times \frac{3.5}{\chi}\right)$ %	χ: MPa
	Combined shift:	± 0.9%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.35 + 0.55 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})

Model STH960 (for high temperature and vacuum / high temperature and high vacuum)

Material of wetted parts: Hastelloy C, Tantalum
Flange Size: Flush diaphragm 2 inches (50 mm) / 1.5 inch (40 mm)

Accuracy(*3)		± 0.4%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.4 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	± 0.68%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(0.68 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})
	Combined shift:	± 1.75%	(For $\chi \geq 3.5$ MPa {35 kgf/cm²})
		$\pm\left(1.75 \times \frac{3.5}{\chi}\right)$ %	(For $\chi < 3.5$ MPa {35 kgf/cm²})

Model STH980 (for regular type and high temperature service)

Material of wetted parts: Diaphragm; SUS316L, Others; SUS316
Flange Size: G1½ External Screw

Accuracy(*3)		± 0.2%	(For $\chi \geq 7$ MPa {70 kgf/cm²})
		$\pm\left(0.05 + 0.15 \times \frac{7}{\chi}\right)$ %	(For $\chi < 7$ MPa {70 kgf/cm²})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) (Range from -5 to 55°C)	Zero shift:	$\pm\left(0.14 + 0.27 \times \frac{7}{\chi}\right)$ %	χ: MPa
	Combined shift:	± 0.57%	(For $\chi \geq 7$ MPa {70 kgf/cm²})
		$\pm\left(0.19 + 0.38 \times \frac{7}{\chi}\right)$ %	(For $\chi < 7$ MPa {70 kgf/cm²})

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

MODEL SELECTION

ST3000 Series 900 electric pressure transmitter
Model STH920 / STH940 / STH960 (Remote-sealed diaphragm type for gauge pressure)
Flush diaphragm type: 3 inches (80 mm)
for Regular / High-temperature service

Model No.: STH9X0 - **I II III IV V VI VII VIII** - Option I - Option II

Basic model No.

	Measuring span	2.5 to 100 kPa (250 to 10,160 mmH_2O)	STH920	Flush diaphragm flange type: 3 inches (80 mm)
		35 to 3500 kPa (0.35 to 35 kgf/cm^2)	STH940	
		0.7 to 10 MPa (7 to 102 kgf/cm^2)	STH960	

Selection I				Code	Fill fluid code			
I	Fill fluid	Model No.	Fill fluid		1	2	3	5
		STH920 / STH940 / STH960 Flush diaphragm flange type 3 inches (80 mm)	Regular type service (Silicone oil)	1				
			For oxygen service (Fluorine oil) *3	2				
			For high-temperature service (Silicone oil)	3				
			For chlorine service (Fluorine oil) *3	5				
II	Flange standard	ANSI flange		A	✔	✔	✔	✔
		JIS flange		J	✔	✔	✔	✔
		JPI flange		P	✔	✔	✔	✔
III	Flange type & rating	JIS 10K, ANSI/JPI 150 (RF) equivalent		A	✔	✔	✔	✔
		JIS 20K, ANSI/JPI 300 (RF) equivalent		B	✔	✔	✔	✔
		JIS 30K, ANSI/JPI 600 (RF) equivalent		C	✔	✔	✔	✔
IV	Flange material	SUS304		7	✔	✔	✔	✔
		SUS316		2	✔	✔	✔	✔
		SUS316L		8	✔	✔	✔	✔
V	Material of wetted parts	SUS316 (Diaphragm: SUS316L, others: SUS316)		2	✔	✔	✔	
		SUS316L (Diaphragm:SUS316L, others: SUS316L)		8	✔	✔	✔	
		Tantalum (Diaphragm: Tantalum, others: Tantalum) *17		4	✔	✔	✔	✔
		Hastelloy C (Diaphragm: Hastelloy C, others: Hastelloy C)		9	✔	✔	✔	
VI	Finish of gasket face	Standard (JIS Ra3.2 (12.5S))		J	✔	✔	✔	✔
VII	Length of extended parts	Flush diaphragm 3 inches (80 mm)		00	✔	✔	✔	✔
VIII	Length of capillary tube	2 m		2	✔	✔	✔	✔
		3 m		3	✔	✔	✔	✔
		4 m		4	✔	✔	✔	✔
		5 m		5	✔	✔	✔	✔
		6 m		6	✔	✔	✔	✔
		7 m		7	✔	✔	✔	✔
		8 m		8	✔	✔	✔	✔
		9 m		9	✔	✔	✔	✔
		10 m		A	✔	✔	✔	✔
	Length of capillary tube with olefin coating	2 m		B	✔	✔	✔	✔
		3 m		C	✔	✔	✔	✔
		4 m		H	✔	✔	✔	✔
		5 m		D	✔	✔	✔	✔
		6 m		J	✔	✔	✔	✔
		7 m		E	✔	✔	✔	✔
		8 m		F	✔	✔	✔	✔
		9 m		K	✔	✔	✔	✔
		10 m		G	✔	✔	✔	✔

(Continued)

(Continued from previous page)

Model No.: STH9X0 - I II III IV V VI VII VIII - **Option I** - **Option II**

		Code	Fill fluid code			
			1	2	3	5
		-				
Options I	No options	X	✔	✔	✔	✔
	Lightning arrester	L	✔	✔	✔	✔
	Built-in indicating smart meter (0 to 100% liner scales)	P	✔	✔	✔	✔
	Built-in indicating smart meter (engineering unit scales)	R	✔	✔	✔	✔
	SUS304 bolt and nuts material	W	✔	✔	✔	✔
	SUS630 bolt and nuts material	U	✔	✔	✔	✔
	Corrosion-resistant finish	A	✔	✔	✔	✔
	Corrosion-proof finish	B	✔	✔	✔	✔
	Corrosion-resistant finish, silver paint	D	✔	✔	✔	✔
	Oil free finish	K	✔	✔	✔	✔
	FEP protective Film	T	✔	✔		✔
	FM Explosionproof	3	✔	✔	✔	✔
	FM Intrinsically safe	4	✔	✔	✔	✔
	Combination of FM Explosionproof and Intrinsically safe	5	✔	✔	✔	✔
	ATEX Flameproof	6	✔	✔	✔	✔
	ATEX Intrinsic safety	7	✔	✔	✔	✔
	CSA Explosion-proof	8	✔	✔	✔	✔
		-				
Options II	No option	XX	✔	✔	✔	✔
	Burn-out feature (Lower limit of value at abnormal condition) *2	A4	✔	✔	✔	✔
	Burn-out feature (Upper limit of value at abnormal condition) *2	A5	✔	✔	✔	✔
	Water free finish (with oil free finish)	A7	✔	✔	✔	✔
	NEPSI Flameproof	C1	✔	✔	✔	✔
	NEPSI Intrinsically safe	C2	✔	✔	✔	✔
	Custom calibration	C7	✔	✔	✔	✔
	Digital output *38	D5	✔	✔	✔	✔
	HART communication *5 *38	D7	✔	✔	✔	✔
	One elbow	E1	✔	✔	✔	✔
	Two elbows	E2	✔	✔	✔	✔
	External zero/span adjustment	E5	✔	✔	✔	✔
	Mounting bracket	E9	✔	✔	✔	✔
	0.1mm thickness diaphragm *15	F4	✔	✔	✔	✔
	Material certificate	H2	✔	✔	✔	✔
	SI unit	U1	✔	✔	✔	✔

Note) **2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.*
**3 In case "for oxygen or chlorine (fluorine oil) service" is used, "oil free finish - code K" must be selected.*
**5 Intrinsically safe for NEPSI cannot be selected with - D7*
**15 Only available for material of wetted parts: "SUS316" and "SUS316L".*
**17 In case "Tantalum" is used for diaphragm material and in case of "for high-temperature service", normal operating conditions of meter body (process fluid) temperature is -10 to +180°C.*
**38 Either one of "digital output - code D5" or "HART communication - code D7" can be selected at a time.*

ST3000 Series 900 electric pressure transmitter
Model STH940 / STH960 (Remote-sealed diaphragm type)
Flush diaphragm type: 2 inches (50 mm), 1.5 inch (40 mm)
for Regular / High-temperature service

Model No.: STH9X0 - **I II III IV V VI VII VIII** - Option I - Option II

Basic Model No.

	Measuring span	35 to 3500 kPa (0.35 to 35 kgf/cm^2)	STH940	Flush diaphragm flange type: 2 inches (50 mm), 1.5 inch (40 mm)
		0.7 to 10 MPa (7 to 102 kgf/cm^2)	STH960	

Selection I				Code	Fill fluid code			
I	Fill fluid	Model No.	Fill fluid		1	2	3	5
		STH940 / STH960 Flush diaphragm flange type 2 inches (50 mm) 1.5 inch (40 mm)	Regular type service (Silicone oil)	1				
			For oxygen service (Fluorine oil) *3	2				
			For high-temperature service (Silicone oil)	3				
			For chlorine service (Fluorine oil) *3	5				
II	Flange standard	ANSI flange		A	✔	✔	✔	✔
		JIS flange		J	✔	✔	✔	✔
		JPI flange		P	✔	✔	✔	✔
III	Flange type & rating	JIS 10K, ANSI/JPI 150 (RF) equivalent		A	✔	✔	✔	✔
		JIS 20K, ANSI/JPI 300 (RF) equivalent		B	✔	✔	✔	✔
		JIS 30K, ANSI/JPI 600 (RF) equivalent		C	✔	✔	✔	✔
IV	Flange material	SUS304		7	✔	✔	✔	✔
		SUS316		2	✔	✔	✔	✔
		SUS316L		8	✔	✔	✔	✔
V	Material of wetted Parts	SUS316 (Diaphragm: SUS316L, others: SUS316)		2	✔	✔	✔	✔
		SUS316L (Diaphragm:SUS316L, others: SUS316L) *17		8	✔	✔	✔	✔
		Tantalum (Diaphragm: Tantalum, others: Tantalum) *27		4	✔	✔	✔	
		Hastelloy C (Diaphragm: Hastelloy C, others: Hastelloy C)		9	✔	✔	✔	✔
VI	Finish of gasket face	Standard (JISRa3.2 (12.5S))		J	✔	✔	✔	✔
VII	Length of extended parts	Flush diaphragm 2 inches (50 mm)		01	✔	✔	✔	✔
		Flush diaphragm 1.5 inch (40 mm) *27		02	✔	✔	✔	✔
VIII	Length of capillary tube	2 m		2	✔	✔	✔	✔
		3 m		3	✔	✔	✔	✔
		4 m		4	✔	✔	✔	✔
		5 m		5	✔	✔	✔	✔
	Length of capillary tube with olefin coating	2 m		B	✔	✔	✔	✔
		3 m		C	✔	✔	✔	✔
		4 m		H	✔	✔	✔	✔
		5 m		D	✔	✔	✔	✔

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Model No.: STH9X0 - I II III IV V VI VII VIII - **Option I** - **Option II**

		Code	Fill Fluid Code			
			1	2	3	5
		-				
Options I	No options	X	✔	✔	✔	✔
	Lightning arrester	L	✔	✔	✔	✔
	Built-in indicating smart meter (0 to 100% liner scales)	P	✔	✔	✔	✔
	Built-in indicating smart meter (engineering unit scales)	R	✔	✔	✔	✔
	SUS304 bolt and nuts material	W	✔	✔	✔	✔
	SUS630 bolt and nuts material	U	✔	✔	✔	✔
	Corrosion-resistant finish	A	✔	✔	✔	✔
	Corrosion-proof finish	B	✔	✔	✔	✔
	Corrosion-resistant finish, silver paint	D	✔	✔	✔	✔
	Oil free finish	K	✔	✔	✔	✔
	FEP protective film	T	✔	✔		✔
	FM Explosionproof	3	✔	✔	✔	✔
	FM Intrinsically safe	4	✔	✔	✔	✔
	Combination of FM Explosionproof and Intrinsically safe	5	✔	✔	✔	✔
	ATEX Flameproof	6	✔	✔	✔	✔
	ATEX Intrinsic safety	7	✔	✔	✔	✔
	CSA Explosion-proof	8	✔	✔	✔	✔
		-				
Options II	No option	XX	✔	✔	✔	✔
	Burn-out feature (Lower limit of value at abnormal condition) *2	A4	✔	✔	✔	✔
	Burn-out feature (Upper limit of value at abnormal condition) *2	A5	✔	✔	✔	✔
	Water free finish (with oil free finish)	A7	✔	✔	✔	✔
	NEPSI Flameproof	C1	✔	✔	✔	✔
	NEPSI Intrinsically safe	C2	✔	✔	✔	✔
	Custom calibration	C7	✔	✔	✔	✔
	Digital output *38	D5	✔	✔	✔	✔
	HART communication *5 *38	D7	✔	✔	✔	✔
	One elbow	E1	✔	✔	✔	✔
	Two elbows	E2	✔	✔	✔	✔
	External zero/span adjustment	E5	✔	✔	✔	✔
	Mounting bracket	E9	✔	✔	✔	✔
	Material certificate	H2	✔	✔	✔	✔
	SI unit	U1	✔	✔	✔	✔

Note) **2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.*
**3 In case "for oxygen or chlorine (fluorine oil) service" is used, "oil free finish - code K" must be selected.*
**5 Intrinsically safe for NEPSI cannot be selected with - D7.*
**17 In case "Tantalum" is used for diaphragm material and in case of "for high-temperature service", normal operating conditions of meter body (process fluid) temperature is -10 to +180°C.*
**27 In case "Tantalum" is used for diaphragm material and flange size is 1.5 inch, fill fluid "for high-temperature service" is not applicable and only 2 m and 3 m are available for capillary length.*
**38 Either one of "digital output - code D5" or "HART communication - code D7" can be selected at a time.*

ST3000 Series 900 electric pressure transmitter
Model STH920 / STH940 / STH960 (Remote-sealed diaphragm type for gauge pressure)
Extended diaphragm type: 4 inches (100 mm)
for Regular / High-temperature service

Model No.: STH9X0 - **I II III IV V VI VII VIII** - Option I - Option II

Basic Model No.

	Measuring span	2.5 to 100 kPa (250 to 10,160 mmH_2O)	STH920	Extended diaphragm flange type: 4 inches (100 mm)
		35 to 3500 kPa (0.35 to 35 kgf/cm^2)	STH940	
		0.7 to 10 MPa (7 to 102 kgf/cm^2)	STH960	

Selection I				Code	Fill Fluid Code		
I	Fill fluid	Model No.	Fill fluid		1	2	3
		STH920 / STH940 / STH960 Extended diaphragm flange type 4 inches (80 mm)	Regular type service (Silicone oil)	1			
			For oxygen service (Fluorine oil) *3	2			
			For high-temperature service (Silicone oil) *19 *20	3			
II	Flange standard	ANSI flange		A	✔	✔	✔
		JIS flange		J	✔	✔	✔
		JPI flange		P	✔	✔	✔
III	Flange type & rating	JIS 10K, ANSI/JPI 150 (RF) equivalent		A	✔	✔	✔
		JIS 20K, ANSI/JPI 300 (RF) equivalent *19		B	✔	✔	✔
		JIS 30K *16 *20		C	✔	✔	✔
IV	Flange material	SUS304		7	✔	✔	✔
		SUS316		2	✔	✔	✔
		SUS316L *16 *20		8	✔	✔	✔
V	Material of wetted parts	SUS316 (Diaphragm: SUS316L, others: SUS316)		2	✔	✔	✔
		SUS316L (Diaphragm:SUS316L, others: SUS316L) *16 *19 *20		8	✔	✔	✔
VI	Finish of gasket face	Standard (JIS Ra3.2 (12.5S))		J	✔	✔	✔
VII	Length of extended parts	L = 50 mm (4 inches / 100 mm) *20		09	✔	✔	✔
		L = 100 mm (4 inches / 100 mm) *20		14	✔	✔	✔
		L = 150 mm (4 inches / 100 mm) *16 *20		19	✔	✔	✔
		L = 200 mm (4 inches / 100 mm) *16 *20		24	✔	✔	✔
		L = 250 mm (4 inches / 100 mm) *16 *19 *20		29	✔	✔	✔
		L = 300 mm (4 inches / 100 mm) *16 *19 *20		34	✔	✔	✔
VIII	Length of capillary Tube	2 m		2	✔	✔	✔
		3 m		3	✔	✔	✔
		4 m		4	✔	✔	✔
		5 m		5	✔	✔	✔
		6 m		6	✔	✔	✔
		7 m		7	✔	✔	✔
		8 m		8	✔	✔	✔
		9 m		9	✔	✔	✔
		10 m		A	✔	✔	✔
	Length of capillary tube with olefin coating	2 m		B	✔	✔	✔
		3 m		C	✔	✔	✔
		4 m		H	✔	✔	✔
		5 m		D	✔	✔	✔
		6 m		J	✔	✔	✔
		7 m		E	✔	✔	✔
		8 m		F	✔	✔	✔
		9 m		K	✔	✔	✔
		10 m		G	✔	✔	✔

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Model No.: STH9X0 - I II III IV V VI VII VIII - **Option I** - **Option II**

		Code	Fill Fluid Code		
			1	2	3
		-			
Options I	No options	X	✔	✔	✔
	Lightning arrester	L	✔	✔	✔
	Built-in indicating smart meter (0 to 100% liner scales)	P	✔	✔	✔
	Built-in indicating smart meter (engineering unit scales)	R	✔	✔	✔
	SUS304 bolt and nuts material	W	✔	✔	✔
	SUS630 bolt and nuts material	U	✔	✔	✔
	Corrosion-resistant finish	A	✔	✔	✔
	Corrosion-proof finish	B	✔	✔	✔
	Corrosion-resistant finish, silver paint	D	✔	✔	✔
	Oil free finish	K	✔	✔	✔
	FM Explosionproof	3	✔	✔	✔
	FM Intrinsically safe	4	✔	✔	✔
	Combination of FM Explosionproof and Intrinsically safe	5	✔	✔	✔
	ATEX Flameproof	6	✔	✔	✔
	ATEX Intrinsic safety	7	✔	✔	✔
	CSA Explosion-proof	8	✔	✔	✔
		-			
Options II	No option	XX	✔	✔	✔
	Burn-out feature (Lower limit of value at abnormal condition) *2	A4	✔	✔	✔
	Burn-out feature (Upper limit of value at abnormal condition) *2	A5	✔	✔	✔
	Water free finish (with oil free finish)	A7	✔	✔	✔
	NEPSI Flameproof	C1	✔	✔	✔
	NEPSI Intrinsically safe	C2	✔	✔	✔
	Custom calibration	C7	✔	✔	✔
	Digital output *38	D5	✔	✔	✔
	HART communication *5 *38	D7	✔	✔	✔
	One elbow	E1	✔	✔	✔
	Two elbows	E2	✔	✔	✔
	External zero/span adjustment	E5	✔	✔	✔
	Mounting bracket	E9	✔	✔	✔
	0.1 mm Thickness Diaphragm	F4	✔	✔	✔
	Material certificate	H2	✔	✔	✔
	SI unit	U1	✔	✔	✔

Note) **2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.*

**3 In case "for oxygen or chlorine (fluorine oil) service" is used, "oil free finish - code K" must be selected.*

**5 Intrinsically safe for NEPSI cannot be selected with -D7.*

**16 In case "JIS30K" is used for flange type and rating, "SUS316L" is used for flange material and for regular service or oxygen service, not available for length of extended parts: 150 / 200 / 250 / 300 mm.*

**19 In case fill fluid: for high-temperature service and flange rating: ANSI 300 and wetted parts material: SUS316L, extension length of flange 250 mm / 300 mm are not available.*

**20 In case flange rating: JIS30K, wetted parts material: SUS316L, and for high temperature service, extended diaphragm type is not available.*

**38 Either one of "digital output - code D5" or "HART communication - code D7" can be selected at a time.*

ST3000 Series 900 electric pressure transmitter
Model STH940 / STH960 (Remote-sealed diaphragm type)
Extended diaphragm type: 3 inches (80 mm), 2 inches (50 mm)
for Regular / High-temperature service

Model No.: STH9X0 - **I II III IV V VI VII VIII** - Option I - Option II

Basic Model No.

	Measuring span	35 to 3500 kPa (0.35 to 35 kgf/cm^2)	STH940	Extended diaphragm flange type: 3 inches(80 mm), 2 inches(50 mm)
		0.7 to 10 MPa (7 to 102 kgf/cm^2)	STH960	

Selection I				Code	Fill fluid code		
I	Fill fluid	Model No.	Fill fluid		1	2	3
		STH940 / STH960 Extended diaphragm flange type 3 inches (80 mm), 2 inches (50 mm)	Regular type service (Silicone oil)	1			
			For oxygen service (Fluorine oil) *3	2			
			For high-temperature service (Silicone oil) *31	3			
II	Flange standard	ANSI flange		A	✔	✔	✔
		JIS flange		J	✔	✔	✔
		JPI flange		P	✔	✔	✔
III	Flange type & rating	JIS 10K, ANSI/JPI 150 (RF) equivalent		A	✔	✔	✔
		JIS 20K, ANSI/JPI 300 (RF) equivalent		B	✔	✔	✔
		JIS 30K, ANSI/JPI 600 (RF) equivalent *24 *31		C	✔	✔	✔
IV	Flange material	SUS304		7	✔	✔	✔
		SUS316		2	✔	✔	✔
		SUS316L		8	✔	✔	✔
V	Material of wetted parts	SUS316 (Diaphragm: SUS316L, others: SUS316)		2	✔	✔	✔
		SUS316L (Diaphragm:SUS316L, others: SUS316L) *31		8	✔	✔	✔
VI	Finish of gasket face	Standard (JIS18 to 25S)		J	✔	✔	✔
VII	Length of extended parts	L = 50 mm (3 inches / 80 mm) *24		05	✔	✔	✔
		L = 100 mm (3 inches / 80 mm) *24		10	✔	✔	✔
		L = 150 mm (3 inches / 80 mm) *24		15	✔	✔	✔
		L = 200 mm (3 inches / 80 mm) *24		20	✔	✔	✔
		L = 250 mm (3 inches / 80 mm) *24		25	✔	✔	✔
		L = 300 mm (3 inches / 80 mm) *24		30	✔	✔	✔
		L = 50 mm (2 inches / 50 mm) *24		06	✔	✔	✔
		L = 100 mm (2 inches / 50 mm) *24		11	✔	✔	✔
		L = 150 mm (2 inches / 50 mm) *24		16	✔	✔	✔
		L = 200 mm (2 inches / 50 mm) *24		21	✔	✔	✔
		L = 250 mm (2 inches / 50 mm) *24 *31		26	✔	✔	✔
		L = 300 mm (2 inches / 50 mm) *24 *31		31	✔	✔	✔
VIII	Length of capillary tube	2 m		2	✔	✔	✔
		3 m		3	✔	✔	✔
		4 m		4	✔	✔	✔
		5 m		5	✔	✔	✔
	Length of capillary tube with olefin coating	2 m		B	✔	✔	✔
		3 m		C	✔	✔	✔
		4 m		H	✔	✔	✔
		5 m		D	✔	✔	✔

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Model No.: STH9X0 - I II III IV V VI VII VIII - **Option I** - **Option II**

		Code	Fill fluid code		
		-	1	2	3
Options I	No options	X	✔	✔	✔
	Lightning arrester	L	✔	✔	✔
	Built-in indicating smart meter (0 to 100% liner scales)	P	✔	✔	✔
	Built-in indicating smart meter (engineering unit scales)	R	✔	✔	✔
	SUS304 bolt and nuts material	W	✔	✔	✔
	SUS630 bolt and nuts material	U	✔	✔	✔
	Corrosion-resistant finish	A	✔	✔	✔
	Corrosion-proof finish	B	✔	✔	✔
	Corrosion-resistant finish, silver paint	D	✔	✔	✔
	Oil free finish	K	✔	✔	✔
	FM Explosionproof	3	✔	✔	✔
	FM Intrinsically safe	4	✔	✔	✔
	Combination of FM Explosionproof and Intrinsically safe	5	✔	✔	✔
	ATEX Flameproof	6	✔	✔	✔
	ATEX Intrinsic safety	7	✔	✔	✔
	CSA Explosion-proof	8	✔	✔	✔
		-			
Options II	No option	XX	✔	✔	✔
	Burn-out feature (Lower limit of value at abnormal condition) *2	A4	✔	✔	✔
	Burn-out feature (Upper limit of value at abnormal condition) *2	A5	✔	✔	✔
	Water free finish (with oil free finish)	A7	✔	✔	✔
	NEPSI Flameproof	C1	✔	✔	✔
	NEPSI Intrinsically safe	C2	✔	✔	✔
	Custom calibration	C7	✔	✔	✔
	Digital output *38	D5	✔	✔	✔
	HART communication *5 *38	D7	✔	✔	✔
	One elbow	E1	✔	✔	✔
	Two elbows	E2	✔	✔	✔
	External zero/span adjustment	E5	✔	✔	✔
	Mounting bracket	E9	✔	✔	✔
	Material certificate	H2	✔	✔	✔
	SI unit	U1	✔	✔	✔

Note) **2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.*

**3 In case "for oxygen or chlorine (fluorine oil) service" is used, "oil free finish - code K" must be selected.*

**5 Intrinsically safe for NEPSI cannot be selected with - D7.*

**24 In case of "ANSI / JPI 600" is used for 3 inches flange type and rating, not available for the extended diaphragm flange type.*

**31 In case fill fluid: for high-temperature service, for high-temperature vacuum service or high-temperature high vacuum service and 2 inches flange rating: ANSI / JPI 600 and wetted parts material: SUS316L, extension length of flange 200 / 250 / 300 mm are not available.*

**38 Either one of "digital output - code D5" or "HART communication - code D7" can be selected at a time.*

ST3000 Series 900 electric pressure transmitter
Model STH940 / STH960 (Remote-sealed diaphragm type for gauge pressure)
Flush diaphragm type: 3 inches (80 mm)
for High-temperature / Vacuum, high-temperature / High-vacuum service

Model No.: STH9X0 - **I II III IV V VI VII VIII** - Option I - Option II

Basic Model No.

	Measuring span	35 to 3500 kPa (0.35 to 35 kgf/cm^2)	STH940	Flush diaphragm flange type: 3 inches (80 mm)
		0.7 to 10 MPa (7 to 102 kgf/cm^2)	STH960	

Selection I				Code	Fill fluid code	
I	Fill fluid	Model No.	Fill fluid		4	7
		STH940 / STH960 Flush diaphragm flange type 3 inches (80 mm)	For high-temperature vacuum service (silicone oil)	4		
			For high-temperature high vacuum service (silicone oil)	7		
II	Flange standard	ANSI flange		A	✔	✔
		JIS flange		J	✔	✔
		JPI flange		P	✔	✔
III	Flange type & rating	JIS 10K, ANSI/JPI 150 (RF) equivalent		A	✔	✔
		JIS 20K, ANSI/JPI 300 (RF) equivalent		B	✔	✔
		JIS 30K, ANSI/JPI 600 (RF) equivalent		C	✔	✔
IV	Flange material	SUS304		7	✔	✔
		SUS316		2	✔	✔
		SUS316L		8	✔	✔
V	Material of wetted parts	SUS316L (Diaphragm:SUS316L, others: SUS316L)		8	✔	✔
		Tantalum (Diaphragm: Tantalum, others: Tantalum) *17		4	✔	
		Hastelloy C (Diaphragm: Hastelloy C, others: Hastelloy C)		9	✔	
VI	Finish of gasket face	Standard (JIS Ra3.2 (12.5S))		J	✔	✔
VII	Parts	Flush diaphragm 3 inches (80 mm)		00	✔	✔
VIII	Length of capillary Tube	2 m		2	✔	✔
		3 m		3	✔	✔
		4 m		4	✔	✔
		5 m		5	✔	✔
		6 m		6	✔	✔
		7 m		7	✔	✔
		8 m		8	✔	✔
		9 m		9	✔	✔
		10 m		A	✔	✔

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Model No.: STH9X0 - I II III IV V VI VII VIII - **Option I** - **Option II**

		Code	Fill fluid code	
		-	1	2
Options I	No options	X	✔	✔
	Lightning arrester	L	✔	✔
	Built-in indicating smart meter (0 to 100% liner scales)	P	✔	✔
	Built-in indicating smart meter (engineering unit scales)	R	✔	✔
	SUS630 bolt and nuts material	U	✔	✔
	Corrosion-resistant finish	A	✔	✔
	Corrosion-proof finish	B	✔	✔
	Corrosion-resistant finish, silver paint	D	✔	✔
	Oil free finish	K	✔	✔
	FM Explosionproof	3	✔	✔
	FM Intrinsically safe	4	✔	✔
	Combination of FM Explosionproof and Intrinsically safe	5	✔	✔
	ATEX Flameproof	6	✔	✔
	ATEX Intrinsic safety	7	✔	✔
	CSA Explosion-proof	8	✔	✔
		-		
Options II	No option	XX	✔	✔
	Burn-out feature (Lower limit of value at abnormal condition) *2	A4	✔	✔
	Burn-out feature (Upper limit of value at abnormal condition) *2	A5	✔	✔
	Water free finish (with oil free finish)	A7	✔	✔
	NEPSI Flameproof	C1	✔	✔
	NEPSI Intrinsically safe	C2	✔	✔
	Custom calibration	C7	✔	✔
	Digital output *38	D5	✔	✔
	HART communication *5 *38	D7	✔	✔
	One elbow	E1	✔	✔
	Two elbows	E2	✔	✔
	External zero/span adjustment	E5	✔	✔
	Mounting bracket	E9	✔	✔
	Material certificate	H2	✔	✔
	SI unit	U1	✔	✔

Note) **2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.*
**5 Intrinsically safe for NEPSI cannot be selected with - D7.*
**17 In case "Tantalum" is used for diaphragm material and in case of "for high-temperature service", normal operating conditions of meter body (process fluid) temperature is -10 to +180°C.*
**38 Either one of "digital output - code D5" or "HART communication - code D7" can be selected at a time.*

ST3000 Series 900 electric pressure transmitter
Model STH940 / STH960 (Remote-sealed diaphragm type for gauge pressure)
Flush diaphragm type: 2 inches (50 mm), 1.5 inch (40 mm)
for High-temperature / Vacuum, high-temperature / High-vacuum service

Model No.: STH9X0 - **I II III IV V VI VII VIII** - Option I - Option II

Basic Model No.

	Measuring span	35 to 3500 kPa (0.35 to 35 kgf/cm^2)	STH940	Flush diaphragm flange type: 2 inches(50 mm), 1.5 inch (40 mm)
		0.7 to 10 MPa (7 to 102 kgf/cm^2)	STH960	

Selection I				Code	Fill Fluid Code	
I	Fill fluid	Model No.	Fill fluid		4	7
		STH940 / STH960 Flush diaphragm flange type 2 inches (50mm), 1.5 inch (40mm)	For high-temperature vacuum service (silicone oil)	4		
			For high-temperature high vacuum service (silicone oil)	7		
II	Flange standard	ANSI flange		A	✔	✔
		JIS flange		J	✔	✔
		JPI flange		P	✔	✔
III	Flange type & rating	JIS 10K, ANSI/JPI 150 (RF) equivalent		A	✔	✔
		JIS 20K, ANSI/JPI 300 (RF) equivalent		B	✔	✔
		JIS 30K, ANSI/JPI 600 (RF) equivalent		C	✔	✔
IV	Flange material	SUS304		7	✔	✔
		SUS316		2	✔	✔
		SUS316L		8	✔	✔
V	Material of wetted parts	SUS316L (Diaphragm:SUS316L, others: SUS316L)		8	✔	✔
		Tantalum (Diaphragm: Tantalum, others: Tantalum) *17		4	✔	
		Hastelloy C (Diaphragm: Hastelloy C, others: Hastelloy C)		9	✔	
VI	Finish of gasket face	Standard (JIS Ra3.2 (12.5S))		J	✔	✔
VII	Length of extended parts	Flush diaphragm 2 inches (50 mm)		01	✔	✔
		Flush diaphragm 1.5 inch (40 mm)		02	✔	✔
VIII	Length of capillary tube	2 m		2	✔	✔
		3 m		3	✔	✔
		4 m		4	✔	✔
		5 m		5	✔	✔

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Model No.: STH9X0 - I II III IV V VI VII VIII - **Option I** - **Option II**

		Code	Fill fluid code	
		-	4	7
Options I	No options	X	✔	✔
	Lightning arrester	L	✔	✔
	Built-in indicating smart meter (0 to 100% liner scales)	P	✔	✔
	Built-in indicating smart meter (engineering unit scales)	R	✔	✔
	SUS630 bolt and nuts material	U	✔	✔
	Corrosion-resistant finish	A	✔	✔
	Corrosion-proof finish	B	✔	✔
	Corrosion-resistant finish, silver paint	D	✔	✔
	Oil free finish	K	✔	✔
	FM Explosionproof	3	✔	✔
	FM Intrinsically safe	4	✔	✔
	Combination of FM Explosionproof and Intrinsically safe	5	✔	✔
	ATEX Flameproof	6	✔	✔
	ATEX Intrinsic safety	7	✔	✔
	CSA Explosion-proof	8	✔	✔
		-		
Options II	No option	XX	✔	✔
	Burn-out feature (Lower limit of value at abnormal condition) *2	A4	✔	✔
	Burn-out feature (Upper limit of value at abnormal condition) *2	A5	✔	✔
	Water free finish (with oil free finish)	A7	✔	✔
	NEPSI Flameproof	C1	✔	✔
	NEPSI Intrinsically safe	C2	✔	✔
	Custom calibration	C7	✔	✔
	Digital output	D5	✔	✔
	HART communication *5	D7	✔	✔
	One elbow	E1	✔	✔
	Two elbows	E2	✔	✔
	External zero/span adjustment	E5	✔	✔
	Mounting bracket	E9	✔	✔
	Material certificate	H2	✔	✔
	SI unit	U1	✔	✔

Note) **2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.*
**5 Intrinsically safe for NEPSI cannot be selected with - D7.*
**17 In case "Tantalum" is used for diaphragm material, and in case of "for high-temperature service", normal operating conditions of meter body (process fluid) temperature is -10 to +180°C.*
**38 Either one of "digital output - code D5" or "HART communication - code D7" can be selected at a time.*

ST3000 Series 900 electric pressure transmitter
Model STH940 / STH960 (Remote-sealed diaphragm type for gauge pressure)
Extended diaphragm type: 4 inches (100 mm)
for High-temperature / Vacuum, high-temperature / High-vacuum service

Model No.: STH9X0 - **I II III IV V VI VII VIII** - Option I - Option II

Basic Model No.

	Measuring span	35 to 3500 kPa (0.35 to 35 kgf/cm^2)	STH940	Extended diaphragm flange type: 4 inches (100 mm)
		0.7 to 10 MPa (7 to 102 kgf/cm^2)	STH960	

Selection I				Code	Fill fluid code	
I	Fill fluid	Model No.	Fill fluid	-	4	7
		STH940 / STH960 Extended diaphragm flange type 4 inches (100 mm)	For high-temperature vacuum service (silicone oil)	4		
			For high-temperature high vacuum service (silicone oil)	7		
II	Flange standard	ANSI flange		A	✔	✔
		JIS flange		J	✔	✔
		JPI flange		P	✔	✔
III	Flange type & rating	JIS 10K, ANSI/JPI 150 (RF) equivalent		A	✔	✔
		JIS 20K, ANSI/JPI 300 (RF) equivalent *23		B	✔	✔
		JIS 30K, ANSI/JPI 600 (RF) equivalent *20 *24		C	✔	✔
IV	Flange material	SUS304		7	✔	✔
		SUS316		2	✔	✔
		SUS316L *20 *23		8	✔	✔
V	Material of wetted parts	SUS316 (Diaphragm: SUS316L, others: SUS316)		2	✔	✔
		SUS316L (Diaphragm:SUS316L, others: SUS316L)		8	✔	✔
VI	Finish of gasket face	Standard (JIS Ra3.2 (JIS12.5S))		J	✔	✔
VII	Length of extended parts	L = 50 mm (4 inches / 100 mm) *24		09	✔	✔
		L = 100 mm (4 inches / 100 mm) *24		14	✔	✔
		L = 150 mm (4 inches / 100 mm) *24		19	✔	✔
		L = 200 mm (4 inches / 100 mm) *23 *24		24	✔	✔
		L = 250 mm (4 inches / 100 mm) *23 *24		29	✔	✔
		L = 300 mm (4 inches / 100 mm) *23 *24		34	✔	✔
VIII	Length of capillary tube	2 m		2	✔	✔
		3 m		3	✔	✔
		4 m		4	✔	✔
		5 m		5	✔	✔
		6 m		6	✔	✔
		7 m		7	✔	✔
		8 m		8	✔	✔
		9 m		9	✔	✔
		10 m		A	✔	✔

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Model No.: STH9X0 - I II III IV V VI VII VIII - **Option I** - **Option II**

		Code	Fill fluid code	
		-	4	7
Options I	No options	X	✔	✔
	Lightning arrester	L	✔	✔
	Built-in indicating smart meter (0 to 100% liner scales)	P	✔	✔
	Built-in indicating smart meter (engineering unit scales)	R	✔	✔
	SUS630 bolt and nuts material	U	✔	✔
	Corrosion-resistant finish	A	✔	✔
	Corrosion-proof finish	B	✔	✔
	Corrosion-resistant finish, silver paint	D	✔	✔
	Oil free finish	K	✔	✔
	FM Explosionproof	3	✔	✔
	FM Intrinsically safe	4	✔	✔
	Combination of FM Explosionproof and Intrinsically safe	5	✔	✔
	ATEX Flameproof	6	✔	✔
	ATEX Intrinsic safety	7	✔	✔
	CSA Explosion-proof	8	✔	✔
		-		
Options II	No option	XX	✔	✔
	Burn-out feature (Lower limit of value at abnormal condition) *2	A4	✔	✔
	Burn-out feature (Upper limit of value at abnormal condition) *2	A5	✔	✔
	Water free finish (with oil free finish)	A7	✔	✔
	NEPSI Flameproof	C1	✔	✔
	NEPSI Intrinsically safe	C2	✔	✔
	Custom calibration	C7	✔	✔
	Digital output *38	D5	✔	✔
	HART communication *5 *38	D7	✔	✔
	One elbow	E1	✔	✔
	Two elbows	E2	✔	✔
	External zero/span adjustment	E5	✔	✔
	Mounting bracket	E9	✔	✔
	Material certificate	H2	✔	✔
	SI unit	U1	✔	✔

Note) **2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.*
**5 Intrinsically safe for NEPSI cannot be selected with - D7.*
**20 In case flange rating: JIS 30K, wetted parts material: SUS316L and for high temperature service, extended diaphragm type is not available.*
**23 In case "ANSI / JPI 300" is used for flange type and rating, not available for length of extended parts: 200 / 250 / 300 mm.*
**24 In case "ANSI / JPI 600" is used for 3 inches flange type and rating, not available for the extended diaphragm flange type.*
**38 Either one of "digital output - code D5" or "HART communication - code D7" can be selected at a time.*

ST3000 Series 900 electric pressure transmitter
Model STH940 / STH960 (Remote-sealed diaphragm type)
Extended diaphragm type: 3 inches (80 mm), 2 inches (50 mm)
for High-temperature / Vacuum, high-temperature / High-vacuum service

Model No.: STH9X0 - **I II III IV V VI VII VIII** - Option I - Option II

Basic Model No.

	Measuring span	35 to 3500 kPa (0.35 to 35 kgf/cm^2)	STH940	Extended diaphragm flange type: 3 inches (80 mm), 2 inches (50 mm)
		0.7 to 10 MPa (7 to 102 kgf/cm^2)	STH960	

Selection I				Code	Fill fluid code	
I	Fill fluid	Model No.	Fill fluid		4	7
		STH940 / STH960 Extended diaphragm flange type 3 inches (80 mm), 2 inches (50 mm)	For high-temperature vacuum service (silicone oil)	4		
			For high-temperature high vacuum service (silicone oil)	7		
II	Flange standard	ANSI flange		A	✔	✔
		JIS flange		J	✔	✔
		JPI flange		P	✔	✔
III	Flange type & rating	JIS 10K, ANSI/JPI 150 (RF) equivalent		A	✔	✔
		JIS 20K, ANSI/JPI 300 (RF) equivalent		B	✔	✔
		JIS 30K, equivalent *24 *32		C	✔	✔
IV	Flange material	SUS304		7	✔	✔
		SUS316		2	✔	✔
		SUS316L *32		8	✔	✔
V	Material of wetted parts	SUS316 (Diaphragm: SUS316L, others: SUS316)		2	✔	✔
		SUS316L (Diaphragm:SUS316L, others: SUS316L)		8	✔	✔
VI	Finish of gasket face	Standard (JIS Ra3.2 (12.5S))		J	✔	✔
VII	Length of extended parts	L = 50 mm (3 inches / 80 mm) *24		05	✔	✔
		L = 100 mm (3 inches / 80 mm) *24		10	✔	✔
		L = 150 mm (3 inches / 80 mm) *24		15	✔	✔
		L = 50 mm (2 inches / 50 mm) *24		06	✔	✔
		L = 100 mm (2 inches / 50 mm) *24		11	✔	✔
		L = 150 mm (2 inches / 50 mm) *24		16	✔	✔
VIII	Length of capillary tube	2 m		2	✔	✔
		3 m		3	✔	✔
		4 m		4	✔	✔
		5 m		5	✔	✔

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Model No.: STH9X0 - I II III IV V VI VII VIII - **Option I** - **Option II**

		Code	Fill fluid code	
		-	4	7
Options I	No options	X	✔	✔
	Lightning arrester	L	✔	✔
	Built-in indicating smart meter (0 to 100% liner scales)	P	✔	✔
	Built-in indicating smart meter (engineering unit scales)	R	✔	✔
	SUS630 bolt and nuts material	U	✔	✔
	Corrosion-resistant finish	A	✔	✔
	Corrosion-proof finish	B	✔	✔
	Corrosion-resistant finish, silver paint	D	✔	✔
	Oil free finish	K	✔	✔
	FM Explosionproof	3	✔	✔
	FM Intrinsically safe	4	✔	✔
	Combination of FM Explosionproof and Intrinsically safe	5	✔	✔
	ATEX Flameproof	6	✔	✔
	ATEX Intrinsic safety	7	✔	✔
	CSA Explosion-proof	8	✔	✔
		-		
Options II	No option	XX	✔	✔
	Burn-out feature (Lower limit of value at abnormal condition) *2	A4	✔	✔
	Burn-out feature (Upper limit of value at abnormal condition) *2	A5	✔	✔
	Water free finish (with oil free finish)	A7	✔	✔
	NEPSI Flameproof	C1	✔	✔
	NEPSI Intrinsically safe	C2	✔	✔
	Custom calibration	C7	✔	✔
	Digital output *38	D5	✔	✔
	HART communication *5 *38	D7	✔	✔
	One elbow	E1	✔	✔
	Two elbows	E2	✔	✔
	External zero/span adjustment	E5	✔	✔
	Mounting bracket	E9	✔	✔
	Material certificate	H2	✔	✔
	SI unit	U1	✔	✔

Note) **2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.*
**5 Intrinsically safe for NEPSI cannot be selected with - D7.*
**24 In case "ANSI / JPI 600" is used for 3 inches flange type and rating, not available for the extended diaphragm flange type.*
**32 In case flange rating: JIS 30K flange material: SUS316L is not available.*
**38 Either one of "digital output - code D5" or "HART communication - code D7" can be selected at a time.*

ST3000 Series 900 electric pressure transmitter
Model STH960 / STH980 (Remote-sealed button diaphragm type)
Button diaphragm type: 1½ inch External screw
for Regular / Oxygen service

Model No.: STH9X0 - **I II III IV V VI VII VIII** - Option I - Option II

Basic Model No.

	Measuring span	0.7 to 10 MPa (7 to 102 kgf/cm^2)	STH960	Button diaphragm type: 1½ inch external screw
		0.7 to 42 MPa (7 to 420 kgf/cm^2)	STH980	

Selection I					Code	Fill fluid code		
						STH960		STH 980
I	Fill fluid	Flange Type	Model No.	Fill fluid		1	2	1
		Button diaphragm type 1½ inch external screw	STH960	Regular type service (Silicone oil)	1			
				For oxygen service (Fluorine oil) *3	2			
			STH980	Regular type service (Silicone oil)	1			
				For oxygen service (Fluorine oil) *3	2			
II	Flange standard	No flange			N	✔	✔	✔
III	Flange type & rating	1½ inch external screw button diaphragm			2	✔	✔	✔
IV	Screw material	SUS304			7	✔	✔	✔
V	Material of wetted parts	SUS316 (Diaphragm: SUS316L, others: SUS316)			2	✔	✔	✔
		SUS316L (Diaphragm:SUS316L, others: SUS316L)			8	✔	✔	✔
VI	Finish of gasket face	Standard (JIS18 to 25S)			J	✔	✔	✔
VII	Length of extended parts	Flush diaphragm (For 1½ inch external screw)			00	✔	✔	✔
VIII	Length of capillary tube	2 m			2	✔	✔	✔
		3 m			3	✔	✔	✔
		4 m			4	✔	✔	✔
		5 m			5	✔	✔	✔
	Length of capillary tube with olefin coating	2 m			B	✔	✔	✔
		3 m			C	✔	✔	✔
		4 m			H	✔	✔	✔
		5 m			D	✔	✔	✔

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Model No.: STH9X0 - I II III IV V VI VII VIII - **Option I** - **Option II**

		Code	Fill fluid code	
		-	1	2
Options I	No options	X	✔	✔
	Lightning arrester	L	✔	✔
	Built-in indicating smart meter (0 to 100% liner scales)	P	✔	✔
	Built-in indicating smart meter (engineering unit scales)	R	✔	✔
	SUS304 bolt and nuts material	W	✔	✔
	SUS630 bolt and nuts material	U	✔	✔
	Corrosion-resistant finish	A	✔	✔
	Corrosion-proof finish	B	✔	✔
	Corrosion-resistant finish, silver paint	D	✔	✔
	Oil free finish	K	✔	✔
	FM Explosionproof	3	✔	✔
	FM Intrinsically safe	4	✔	✔
	Combination of FM Explosionproof and Intrinsically safe	5	✔	✔
	ATEX Flameproof	6	✔	✔
	ATEX Intrinsic safety	7	✔	✔
	CSA Explosion-proof	8	✔	✔
		-		
Options II	No option	XX	✔	✔
	Burn-out feature (Lower limit of value at abnormal condition) *2	A4	✔	✔
	Burn-out feature (Upper limit of value at abnormal condition) *2	A5	✔	✔
	Water free finish (with oil free finish)	A7	✔	✔
	NEPSI Flameproof	C1	✔	✔
	NEPSI Intrinsically safe	C2	✔	✔
	Custom calibration	C7	✔	✔
	Digital output *38	D5	✔	✔
	HART communication *5 *38	D7	✔	✔
	One elbow	E1	✔	✔
	Two elbows	E2	✔	✔
	External zero/span adjustment	E5	✔	✔
	Mounting bracket	E9	✔	✔
	PED (97/23/EC) conformity *34 *36	H1	✔	✔
	Material certificate	H2	✔	✔
	Max. working pressure 20 MPa *36	H3	✔	✔
	SI unit	U1	✔	✔

Note) **2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.*
**3 In case "for oxygen or chlorine (fluorine oil) service" is used, "oil free finish - code K" must be selected.*
**5 Intrinsically safe for NEPSI cannot be selected with - D7.*
**34 "PED conformity" is not applicable for the combination with FM, CSA or NEPSI approvals.*
**36 Applicable for model STH980 only.*
**38 Either one of "digital output - code D5" or "HART communication - code D7" can be selected at a time.*

ST3000 Series 900 electric pressure transmitter

Model STH920 / STH940 / STH960 / STH980 (Remote-sealed 2 inches wafer diaphragm type)

2 inches wafer (Pancake)

Model No.: STH9X0 - **I II III IV V VI VII VIII** - Option I - Option II

Basic Model No.

	Measuring span	2.5 to 100 kPa (250 to 10,160 mmH_2O)	STH920	2 inches wafer diaphragm type ANSI 1500 equivalent
		35 to 3500 kPa (0.35 to 35 kgf/cm^2)	STH940	
		0.7 to 10 MPa (7 to 102 kgf/cm^2)	STH960	
		0.7 to 42 MPa (7 to 420 kgf/cm^2)	STH980	

Selection I					Code	Fill fluid code	
I	Fill fluid	Flange type	Model No.	Fill fluid		1	2
		2 inches wafer type	STH920 STH940 STH960	Regular type service (Silicone oil)	1		
				For oxygen service (Fluorine oil) *3	2		
			STH980	Regular type service (Silicone oil)	1		
				For oxygen service (Fluorine oil) *3	2		
II	Flange standard	No flange			N	✔	✔
III	Flange type & rating	2 inches wafer type (ANSI 1500 equivalent)			1	✔	✔
IV	Flange material	No flange			N	✔	✔
V	Material of wetted parts	SUS316 (Diaphragm: SUS316L, others: SUS316)			2	✔	✔
		SUS316L (Diaphragm:SUS316L, others: SUS316L)			8	✔	✔
VI	Finish of gasket face	Standard (JIS Ra3.2 (12.5S))			J	✔	✔
VII	Length of extended parts	Flush			00	✔	✔
VIII	Length of capillary tube	2 m			2	✔	✔
		3 m			3	✔	✔
		4 m			4	✔	✔
		5 m			5	✔	✔
		6 m			6	✔	✔
		7 m			7	✔	✔
		8 m			8	✔	✔
		9 m			9	✔	✔
		10 m			A	✔	✔
	Length of capillary tube with olefin coating	2 m			B	✔	✔
		3 m			C	✔	✔
		4 m			H	✔	✔
		5 m			D	✔	✔
		6 m			J	✔	✔
		7 m			E	✔	✔
		8 m			F	✔	✔
		9 m			K	✔	✔
		10 m			G	✔	✔

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Model No.: STH9X0 - I II III IV V VI VII VIII - **Option I** - **Option II**

		Code	Fill fluid code	
		-	1	2
Options I	No options	X	✔	✔
	Lightning arrester	L	✔	✔
	Built-in indicating smart meter (0 to 100% liner scales)	P	✔	✔
	Built-in indicating smart meter (engineering unit scales)	R	✔	✔
	SUS630 bolt and nuts material	U	✔	✔
	Corrosion-resistant finish	A	✔	✔
	Corrosion-proof finish	B	✔	✔
	Corrosion-resistant finish, silver paint	D	✔	✔
	Oil free finish	K	✔	✔
	FM Explosionproof	3	✔	✔
	FM Intrinsically safe	4	✔	✔
	Combination of FM Explosionproof and Intrinsically safe	5	✔	✔
	ATEX Flameproof	6	✔	✔
	ATEX Intrinsic safety	7	✔	✔
	CSA Explosion-proof	8	✔	✔
		-		
Options II	No option	XX	✔	✔
	Burn-out feature (Lower limit of value at abnormal condition) *2	A4	✔	✔
	Burn-out feature (Upper limit of value at abnormal condition) *2	A5	✔	✔
	Water free finish (with oil free finish)	A7	✔	✔
	NEPSI Flameproof	C1	✔	✔
	NEPSI Intrinsically safe	C2	✔	✔
	Custom calibration	C7	✔	✔
	Digital output *38	D5	✔	✔
	HART communication *5 *38	D7	✔	✔
	One elbow	E1	✔	✔
	Two elbows	E2	✔	✔
	External zero/span adjustment	E5	✔	✔
	Mounting bracket	E9	✔	✔
	PED (97/23/EC) conformity *34 *36	H1	✔	✔
	Material certificate	H2	✔	✔
	Max. working pressure 20 MPa *36	H3	✔	✔
	SI unit	U1	✔	✔

Note) **2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.*
**3 In case "for oxygen or chlorine (fluorine oil) service" is used, "oil free finish - code K" must be selected.*
**5 Intrinsically safe for NEPSI cannot be selected with - D7.*
**34 "PED conformity" is not applicable for the combination with FM, CSA or NEPSI approvals.*
**36 Applicable for model STH980 only.*
**38 Either one of "digital output - code D5" or "HART communication - code D7" can be selected at a time.*

ST3000 Series 900 electric pressure transmitter
Model STH940 / STH960 / STH980 (Remote-sealed 2 inches wafer diaphragm type)
2 inches wafer (Pancake)
for High-temperature / Vacuum, high-temperature / High-vacuum service

Model No.: STH9X0 - **I II III IV V VI VII VIII** - Option I - Option II

Basic Model No.

	Measuring span	35 to 3500 kPa (0.35 to 35 kgf/cm^2)	STH940	2 inches wafer diaphragm type ANSI 1500 equivalent
		0.7 to 10 MPa (7 to 102 kgf/cm^2)	STH960	
		0.7 to 42 MPa (7 to 420 kgf/cm^2)	STH980	

Selection I					Code	Fill fluid code	
						STH940 / STH960	
I	Fill fluid	Flange type	Model No.	Fill fluid		4	7
		2 inches wafer	STH940 STH960 STH980	For high-temperature vacuum service (Silicone oil)	4		
				For high-temperature high-vacuum service (Silicone oil)	7		
II	Flange standard	No flange			N	✔	✔
III	Flange type & rating	2 inches wafer type (ANSI 1500 equivalent)			1	✔	✔
IV	Flange material	No flange			N	✔	✔
V	Material of wetted parts	SUS316L (Diaphragm:SUS316L, others: SUS316L)			8	✔	✔
VI	Finish of gasket face	Standard (JIS Ra3.2 (12.5S))			J	✔	✔
VII	Length of extended parts	Flush			00	✔	✔
VIII	Length of capillary tube	2 m			2	✔	✔
		3 m			3	✔	✔
		4 m			4	✔	✔
		5 m			5	✔	✔
		6 m			6	✔	✔
		7 m			7	✔	✔
		8 m			8	✔	✔
		9 m			9	✔	✔
		10 m			A	✔	✔

(Continued)

(Continued from previous page)

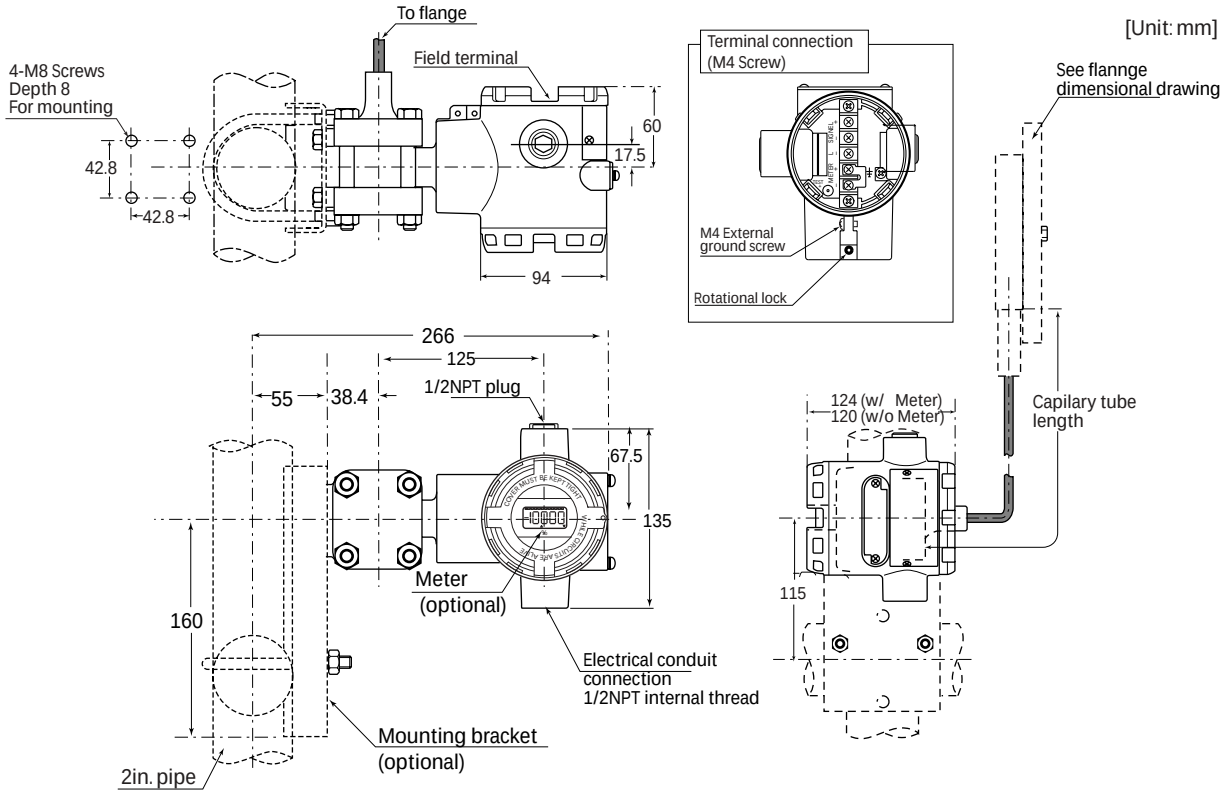
Model No.: STH9X0 - I II III IV V VI VII VIII - **Option I** - **Option II**

		Code	Fill fluid code	
		-	4	7
Options I	No options	X	✔	✔
	Lightning arrester	L	✔	✔
	Built-in indicating smart meter(0 to 100% liner scales)	P	✔	✔
	Built-in indicating smart meter (engineering unit scales)	R	✔	✔
	SUS630 bolt and nuts material	U	✔	✔
	Corrosion-resistant finish	A	✔	✔
	Corrosion-proof finish	B	✔	✔
	Corrosion-resistant finish, silver paint	D	✔	✔
	Oil free finish	K	✔	✔
	FM Explosionproof	3	✔	✔
	FM Intrinsically safe	4	✔	✔
	Combination of FM Explosionproof and Intrinsically safe	5	✔	✔
	ATEX Flameproof	6	✔	✔
	ATEX Intrinsic safety	7	✔	✔
	CSA Explosion-proof	8	✔	✔
		-		
Options II	No option	XX	✔	✔
	Burn-out feature (Lower limit of value at abnormal condition) *2	A4	✔	✔
	Burn-out feature (Upper limit of value at abnormal condition) *2	A5	✔	✔
	Water free finish (with oil free finish)	A7	✔	✔
	NEPSI Flameproof	C1	✔	✔
	NEPSI Intrinsically safe	C2	✔	✔
	Custom calibration	C7	✔	✔
	Digital output *38	D5	✔	✔
	HART communication *5 *38	D7	✔	✔
	One elbow	E1	✔	✔
	Two elbows	E2	✔	✔
	External zero/span adjustment	E5	✔	✔
	Mounting bracket	E9	✔	✔
	PED (97/23/EC) conformity *34 *36	H1	✔	✔
	Material certificate	H2	✔	✔
	Max. working pressure 20 MPa	H3	✔	✔
	SI unit	U1	✔	✔

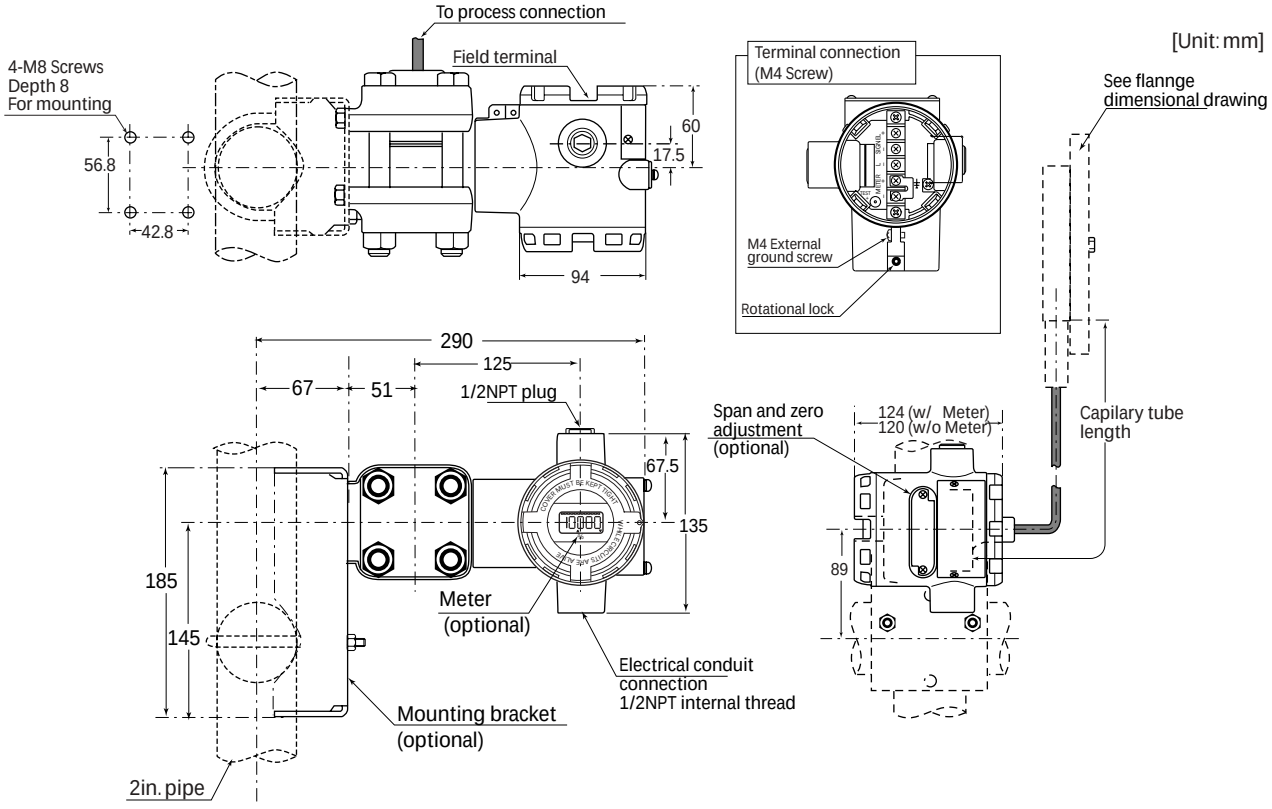
Note) **2 The output current value ranges from 3.0 to 3.8 mA for the lower limit and from 20.8 to 21.8 mA for the upper limit.*
**5 Intrinsically safe for NEPSI cannot be selected with - D7.*
**34 "PED conformity" is not applicable for the combination with FM, CSA or NEPSI approvals.*
**36 Applicable for model STH980 only.*
**38 Either one of "digital output - code D5" or "HART communication - code D7" can be selected at a time.*

DIMENSIONS

Model STH920 / STH940 / STH960



Model STH980

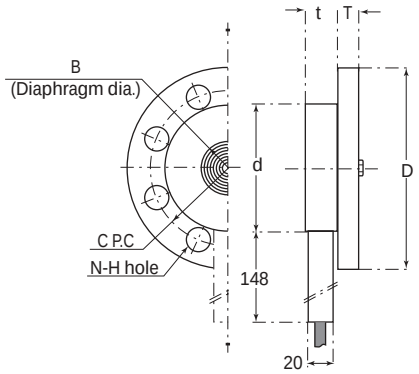


Note) 1. To prevent vibration, you are recommended to fasten the capillary tube mid-length.
2. Select a gasket that will not contact the diaphragm after it is tightened.

Model STH920 / STH940 / STH960

Table of flash diaphragm flange dimensions

[Unit: mm]



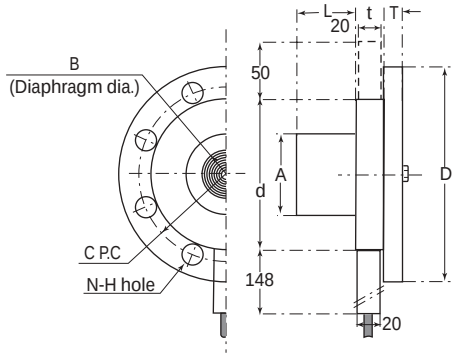
Rating	Flange rating	D	T	C	N	H	d	t	B
1.5 inch (40 mm)	JIS 10K - 40 mm	140	16	105	4	19	81	25*i	43
	JIS 20K - 40 mm	140	18	105	4	19			
	JIS 30K - 40 mm	160	22	120	4	23			
	ANSI 150 - 1.5 inch	127	18	98.6	4	16			
	ANSI 300 - 1.5 inch	155	21	114.3	4	22			
	ANSI 600 - 1.5 inch	155	22.5	114.3	4	22			
	JPI 150 - 1.5 inch	127	18	98.6	4	16			
	JPI 300 - 1.5 inch	155	21	114.3	4	22			
	JPI 600 - 1.5 inch	155	22.5	114.3	4	22			
2 inches (50 mm)	JIS 10K - 50 mm	155	16	120	4	19	99		62*ii
	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			
	JPI 600 - 2 inches	165	25.5	127	8	19			
3 inches (80 mm)	JIS 10K - 80 mm	185	18	150	8	19	129.5	25	95
	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			
	JPI 600 - 3 inches	210	32	168.1	8	22			

i. Wetted parts material is Hastelloy C and fill fluid is for regular, high-temperature, oxygen, or chlorine service: t = 26.7

ii. Wetted parts material is Hastelloy C and fill fluid is for regular, high-temperature, oxygen, or chlorine service: B = 43

Table of extended diaphragm flange dimensions

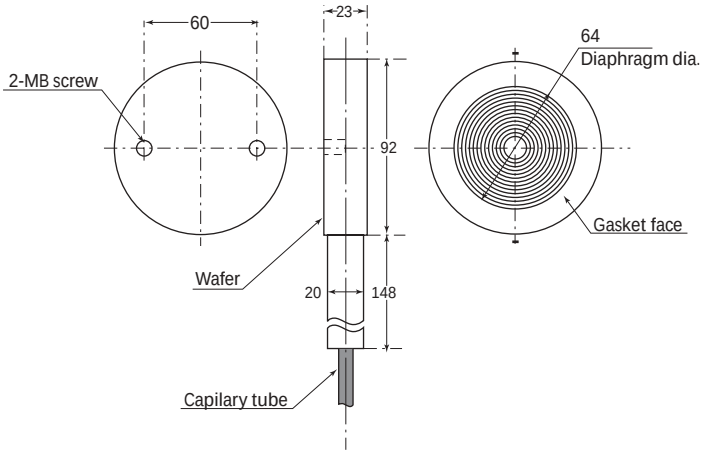
[Unit: mm]

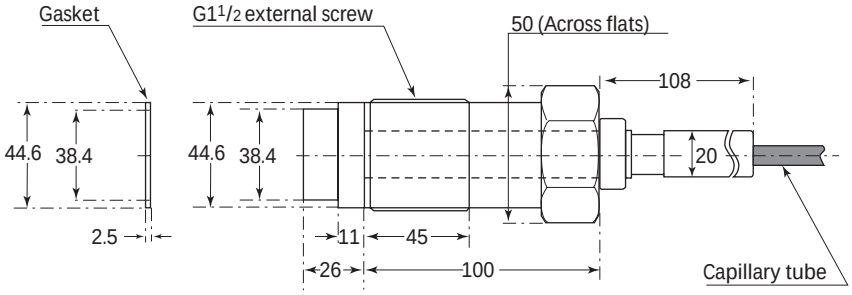


Rating	Flange rating	D	T	C	N	H	d	A	t	B	L
2 inches (50 mm)	JIS 10K - 50 mm	155	16	120	4	19	99	47±1	25	43	50
	JIS 20K - 50 mm	155	18	120	8	19					100
	JIS 30K - 50 mm	165	22	130	8	19					150
	ANSI 150 - 2 inches	152	19.5	120.6	4	19					200
	ANSI 300 - 2 inches	165	22.5	127	8	19					250
	ANSI 600 - 2 inches	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					
	JPI 600 - 2 inches	165	25.5	127	8	19					
3 inches (80 mm)	JIS 10K - 80 mm	185	18	150	8	19	129.5	69±1	25	62*i	
	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					
	JPI 600 - 3 inches	210	32	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					
	JPI 300 - 4 inches	254	32	200.2	8	22					

i. Wetted parts material is Hastelloy C and fill fluid is for regular, high-temperature, oxygen, or chlorine service: B = 43

2-inch wafer Bottom diaphragm





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