ST3000 Series 900 Smart Transmitter

Flange type of Differential Pressure Transmitter

Model STC929 / STC940

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 flow rate, pressure, 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.
Flanged differential pressure transmitters mounted on tank sides are suitable for the measurement of liquid levels, boundary surface levels, and specific gravity.

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 variety of models, including those for standard differential pressure and high differential pressure, is available to meet user requirements.
- A wide variety of corrosion-resistant materials for wetted parts is also available.

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 measuring pressures, liquid levels, and ordinary surface levels in tanks of all sizes.

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 measuring pressures, liquid levels, and boundary surface levels in tanks
- For measuring pressure, liquid levels, and boundary surface levels in tanks of all sizes.

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, 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.

Measuring span / Setting range / Working pressure range

	Measuring span	Setting range	Working pressure range
STC 929	2.5 to100kPa {250 to 10160 mmH_2O}	-100 to 100kPa {-10160 to 10160 mmH_2O}	Up to flange rating (for negative pressures, see Figure 1 and Figure 2)
STC 940	35 to 3500kPa {0.35 to 35 kgf/cm^2}	-100 to 3500kPa {-1~35 kgf/cm^2}	

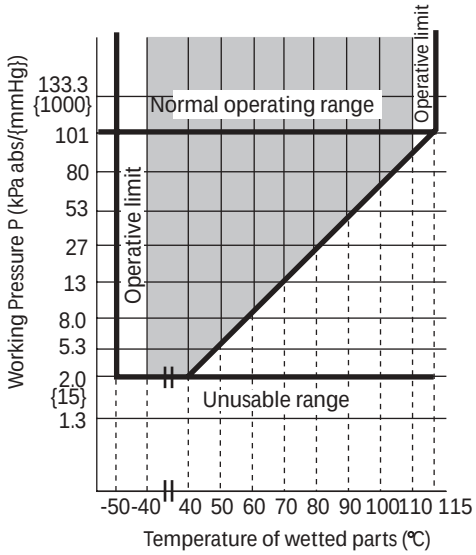


Figure 1 Working pressure and temperature of wetted parts section

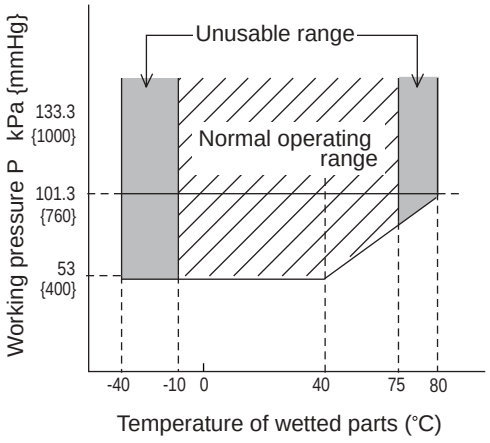


Figure 2 Working pressure and temperature of wetted parts section (for oxygen and chlorine service)

Supply voltage and load resistance

10.8 to 45V DC. A load resistance of 250 Ω or more is necessary between loops. See Figure 3.

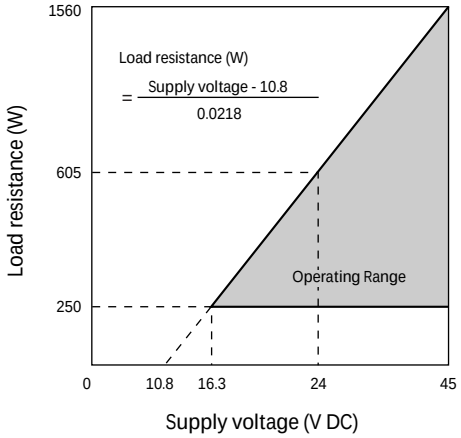


Figure 3 .Supply voltage vs. load resistance characteristics

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

Normal operating range

-30 to 75°C for general purpose models
-10 to 75°C for oxygen and chlorine models
-20 to 70°C for models with digital indicators

Operative limits

-50 to 80°C for general purpose models
-40 to 80°C for oxygen and chlorine models
-30 to 80°C for models with digital indicators

Temperature ranges wetted parts

Normal operating range

-40 to 110°C for general purpose models
-10 to 75°C for oxygen and chlorine models

Operative limits

-50 to 115°C for general purpose models
-40 to 80°C for oxygen and chlorine models

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: 2000A

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 avoid metal ions contact.

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.

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 models
Fluorine oil for oxygen and chlorine models

Center body

SUS316

Transmitter case

Aluminum alloy

Meter body cover

Carbon steel (SF440A), galvanized
Carbon steel (SF440A), nickel plated
SCS14A (equivalent to SUS316) or SUSF316

For Wetted parts

Adapter flange (option)

SCS14A (equivalent to SUS316)

Center body

SUS316 (SUS316L for diaphragm only)
Hastelloy C, Tantalum, SUS316L

Vents and plugs

SUS316

Gaskets

FEP

Flange materials

Carbon steel (SF440A), SUS304, SUS316, SUS316L

Finish

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

Weight

Approx. 6.4 kg (in case of JIS 10K-40A flange)

INSTALLATION

Electrical connection

1/2NPT internal thread

Grounding

Resistance 100 Ω max

Mounting

Direct mounting on the process side

Process connection

Measured pressure (liquid side)

Flush diaphragm

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

Extended diaphragm

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

Standard pressure side

Rc1/2, 1/2NPT internal thread, Rc1/4, 1/4NPT internal thread, atmospheric disconnection hole.

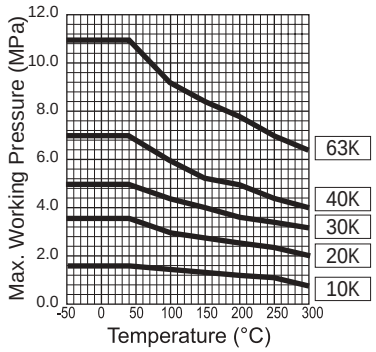
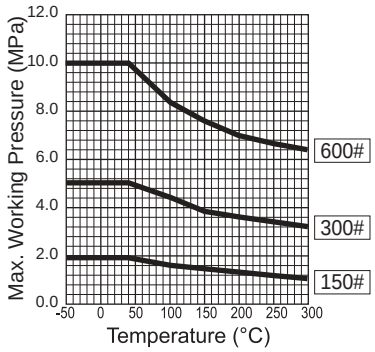
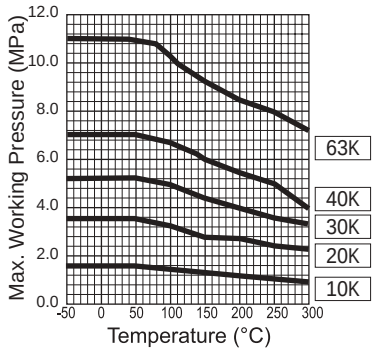
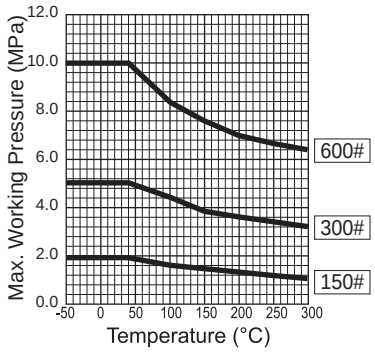
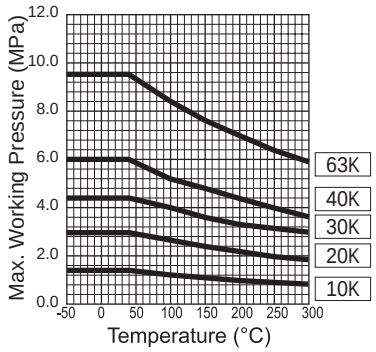
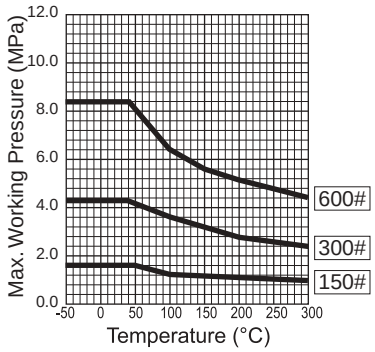
PERFORMANCE SPECIFICATIONS

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 (STC940□) and remote sealed type (STU940□, STH940□), max working pressure depends on the smaller value of either 1.5 MPa or following data.

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

	JIS	JPI/ANSI
SUS304		
SUS316		
SUS316L		

PERFORMANCE SPECIFICATIONS

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 STC929

(Material of Wetted Parts at Flange Side: Diaphragm; SUS316L Others; SUS316, Material of Wetted parts at reference side: Diaphragm; SUS316L, Others; SUS316)

Accuracy	Linear output:	± 0.2%	(For $\chi \geq$ 12.5 kPa {1250 mmH_2O})
		$\pm\left(0.05 + 0.15 \times \frac{12.5}{\chi}\right)$ %	(For χ < 12.5 kPa {1250 mmH2O})
Temperature characteristics (Shift from the set range) Change of 55°C	Zero shift:	$\pm\left(0.25 + 0.9 \times \frac{12.5}{\chi}\right)$ %	
	Combined shift: (including zero and span shifts)	± 1.45%	(For $\chi \geq$ 12.5 kPa {1250 mmH_2O})
		$\pm\left(0.35 + 1.1 \times \frac{12.5}{\chi}\right)$ %	(For χ < 12.5 kPa {1250 mmH2O})
Static pressure effect (Shift in respect to setting range) Change of 7 MPa {70 kgf/cm2}	Zero shift:	± 0.7%	(For $\chi \geq$ 25 kPa {2500 mmH_2O})
		$\pm\left(0.7 \times \frac{25}{\chi}\right)$ %	(For χ < 25 kPa {2500 mmH_2O})
	Combined shift: (including zero and span shifts)	±1.0%	(For $\chi \geq$ 25 kPa {2500 mmH_2O})
		$\pm\left(1.0 \times \frac{25}{\chi}\right)$ %	(For χ < 25 kPa {2500 mmH_2O})

Model STC940

(Material of Wetted Parts at Flange Side: Diaphragm; SUS316L Others; SUS316, Material of Wetted parts at reference side: Diaphragm; SUS316L, Others; SUS316)

Accuracy (*3)	Linear output:	± 0.15%	(For $\chi \geq$ 350 kPa {3.5 kgf/cm^2})
		$\pm\left(0.05 + 0.1 \times \frac{350}{\chi}\right)$ %	(For χ < 350 kPa {3.5 kgf/cm^2})
Temperature characteristics (Shift from the set range) (*3) **Change of 55°C**	Zero shift:	$\pm\left(0.25 + 0.2 \times \frac{350}{\chi}\right)$ %	
	Combined shift: (including zero and span shifts)	± 0.75%	(For $\chi \geq$ 350 kPa {3.5 kgf/cm^2})
		$\pm\left(0.35 + 0.4 \times \frac{350}{\chi}\right)$ %	(For χ < 350 kPa {3.5 kgf/cm^2})
Static pressure effect (Shift in respect to setting range) (*3) **Change of 7 MPa {70 kgf/cm2}**	Zero shift:	$\pm\left(0.03 + 7.5 \times \frac{350}{\chi}\right)$ %	
	Combined shift: (including zero and span shifts)	± 9.00%	(For $\chi \geq$ 350 kPa {3.5 kgf/cm^2})
		$\pm\left(1.5 + 7.5 \times \frac{350}{\chi}\right)$	(For χ < 350 kPa {3.5 kgf/cm^2})

*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 ≥ 0 and LRV ≥ 0.*

Model STC929

(Material of Wetted Parts at Flange Side: Diaphragm; Hastelloy C, Tantalum, SUS316L Others; Hastelloy C, Tantalum, SUS316L, Material of Wetted parts at reference side: Diaphragm; SUS316L, Others; SUS316)

Accuracy	Linear output:	± 0.4%	(For $\chi \geq$ 12.5 kPa {1250 mmH_2O})
		$\pm\left(0.25 + 0.15 \times \frac{12.5}{\chi}\right)$ %	(For χ < 12.5 kPa {1250 mmH2O})
Temperature characteristics (Shift from the set range) 30°C (Range from -5 to 55°C)	Zero shift:	$\pm\left(0.15 + 2.35 \times \frac{2.5}{\chi}\right)$ %	
	Combined shift: (including zero and span shifts)	$\pm\left(0.6 + 2.4 \times \frac{25}{\chi}\right)$ %	
Static pressure effect (Shift in respect to setting range) Change of 7 MPa {70 kgf/cm^2}	Zero shift:	± 2.0%	(For $\chi \geq$ 25 kPa {2500 mmH_2O})
		$\pm\left(2.0 \times \frac{25}{\chi}\right)$ %	(For χ < 25 kPa {2500 mmH_2O})
	Combined shift: (including zero and span shifts)	± 2.5%	(For $\chi \geq$ 25 kPa {2500 mmH_2O})
		$\pm\left(2.5 \times \frac{25}{\chi}\right)$ %	(For χ < 25 kPa {2500 mmH_2O})

Model STC940

(Material of Wetted Parts at Flange Side: Diaphragm; Hastelloy C, Tantalum, SUS316L Others; Hastelloy C, Tantalum, SUS316L, Material of Wetted parts at reference side: Diaphragm; SUS316L, Others; SUS316)

Accuracy (*3)	Linear output:	± 0.3%	(For $\chi \geq$ 350 kPa {3.5 kgf/cm^2})
		$\pm\left(0.15 + 0.15 \times \frac{350}{\chi}\right)$ %	(For χ < 350 kPa {3.5 kgf/cm^2})
Temperature characteristics (Shift from the set range) Change of 30°C (*3) **(Range from -5 to 55°C)**	Zero shift:	$\pm\left(0.15 + 0.4 \times \frac{350}{\chi}\right)$ %	
	Combined shift: (including zero and span shifts)	± 1.0%	(For $\chi \geq$ 350 kPa {3.5 kgf/cm^2})
		$\pm\left(0.35 + 0.65 \times \frac{350}{\chi}\right)$ %	(For χ < 350 kPa {3.5 kgf/cm^2})
Static pressure effect (Shift in respect to setting range) (*3)	Zero shift:	$\pm\left(0.03 + 7.5 \times \frac{350}{\chi}\right)$ %	
	Combined shift: (including zero and span shifts)	± 9.0%	(For $\chi \geq$ 350 kPa {3.5 kgf/cm^2})
		$\pm\left(1.5 + 7.5 \times \frac{350}{\chi}\right)$ %	(For χ < 350 kPa {3.5 kgf/cm^2})

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

MODEL SELECTION

ST3000 series 900 electric differential pressure transmitter
Model STC929 (Flange type for medium differential pressure)
Model STC940 (Flange type for high differential pressure)

Model No.: STC929 - **I II III IV V VI VII VIII** - Option I - Option II
Model No.: STC940 - **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)	STC929	Flush flange type 3 inches (80 mm)
		35 to 3500 kPa (0.35 to 35 kgf/cm^2)	STC940	

Selection I								Code	Material code								
I	Material	Reference side meter body cover	Adapter flange	Vent / drain plugs	Wetted parts of flange side center body	Wetted parts of reference side center body			A	B	D	E	F	H	U	8	9
		Carbon steel	SCS14A *1	SUS316	Diaphragm:SUS316L Others: SUS316	Diaphragm: SUS316L Others: SUS316		A									
		Carbon steel	SCS14A *1	SUS316	Diaphragm: Hastelloy C Others: Hastelloy C	Diaphragm: SUS316L Others: SUS316		B									
		Carbon steel	SCS14A *1	SUS316	Diaphragm: Tantalum Others: Tantalum	Diaphragm: SUS316L Others: SUS316		D									
		SCS14A*1	SCS14A *1	SUS316	Diaphragm:SUS316L Others: SUS316	Diaphragm: SUS316L Others: SUS316		E									
		SCS14A*1	SCS14A *1	SUS316	Diaphragm: Hastelloy C Others: Hastelloy C	Diaphragm: SUS316L Others: SUS316		F									
		SCS14A*1	SCS14A *1	SUS316	Diaphragm: Tantalum Others: Tantalum	Diaphragm: SUS316L Others: SUS316		H									
		SCS14A*1	SCS14A *1	SUS316	Diaphragm:SUS316L Others: SUS316L	Diaphragm: SUS316L Others: SUS316		U									
		Carbon steel Ni plating	SCS14A *1	SUS316	Diaphragm: Hastelloy C Others: Hastelloy C	Diaphragm: SUS316L Others: SUS316		8									
		Carbon steel Ni plating	SCS14A *1	SUS316	Diaphragm:SUS316L Others: SUS316	Diaphragm: SUS316L Others: SUS316		9									
II	Fill fluid	Regular type (Silicone oil)						1	✔	✔	✔	✔	✔	✔	✔	✔	✔
		For oxygen service (Fluorine oil) *3						2				✔	✔	✔	✔		
		For chlorine service (Fluorine oil) *3						5						✔			
III	Process connection	Top or bottom connection	Rc1/2 with adapter flange					Q	✔	✔	✔	✔	✔	✔	✔	✔	✔
			1/2NPT internal thread with adapter flange					R	✔	✔	✔	✔	✔	✔	✔	✔	✔
			Rc1/4 with adapter flange					S	✔	✔	✔	✔	✔	✔	✔	✔	✔
			1/4NPT internal thread with adapter flange					T	✔	✔	✔	✔	✔	✔	✔	✔	✔
			1/4NPT internal thread on head					U	✔	✔	✔	✔	✔	✔	✔	✔	✔
			Open to atmosphere					H	✔	✔	✔	✔	✔	✔	✔	✔	✔
IV	Flange standard	ANSI flange						A	✔	✔	✔	✔	✔	✔	✔	✔	✔
		JIS flange						J	✔	✔	✔	✔	✔	✔	✔	✔	✔
		JPI flange						P	✔	✔	✔	✔	✔	✔	✔	✔	✔
V	Flange type & rating	Standard	JIS 10K, ANSI/JPI 150 (RF) equivalent					A	✔	✔	✔	✔	✔	✔	✔	✔	✔
			JIS 20K, ANSI/JPI 300 (RF) equivalent					B	✔	✔	✔	✔	✔	✔	✔	✔	✔
			JIS 30K, ANSI/JPI 600 (RF) equivalent					C	✔	✔	✔	✔	✔	✔	✔	✔	✔
VI	Flange material	Carbon steel						1	✔	✔	✔	✔	✔	✔	✔	✔	✔
		SUS304						7	✔	✔	✔	✔	✔	✔	✔	✔	✔
		SUS316						2	✔	✔	✔	✔	✔	✔	✔	✔	✔
		SUS316L						8	✔	✔	✔	✔	✔	✔	✔	✔	✔
VII	Finish of gasket face	Standard (JIS Ra3.2 (12.5S))						J	✔	✔	✔	✔	✔	✔	✔	✔	✔
VIII	Length of extended parts	Flush diaphragm 3 inches (80 mm)						00	✔	✔	✔	✔	✔	✔	✔	✔	✔

Note) **1 SCS14A (equivalent SUS316) or SUSF316*
**3 In case "for oxygen or chlorine (fluorine oil) service" is used, "oil free finish - code K" must be selected.*

(Continued)

(Continued from previous page)

Model No.: STC929 - I II III IV V VI VII VIII - **Option I** - **Option II**
Model No.: STC940 - I II III IV V VI VII VIII - **Option I** - **Option II**

		Code	Material Code								
			A	B	D	E	F	H	U	8	9
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	✔	✔	✔	✔	✔	✔	✔	✔	✔
	FEP protective film	T	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Oil free finish	K				✔	✔	✔	✔		
	Long vent/drain plugs	J	✔	✔	✔	✔	✔	✔	✔	✔	✔
	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	✔	✔	✔	✔	✔	✔	✔	✔	✔
	0.1 mm thickness diaphragm *15	F4	✔			✔			✔		✔
	Material certificate	H2	✔	✔	✔	✔	✔	✔	✔	✔	✔
	SI unit	U1	✔	✔	✔	✔	✔	✔	✔	✔	✔

Note) **1 SCS14A (equivalent SUS316) or SUSF316*
**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" or "SUS316L".*
**38 Either one of "digital output - code D5" or "HART communication - code D7" can be selected at a time.*

Note) Material of meter body cover of high pressure side depends on model number of flange material as follow.

Code	Flange Material
1	Carbon steel
2,7,8	SCS14A*1

ST3000 series 900 electric differential pressure transmitter
Model STC929 (Flange type for medium differential pressure)
Model STC940 (Flange type for high differential pressure)

Model No.: STC929 - **I II III IV V VI VII VIII** - Option I - Option II

Model No.: STC940 - **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)	STC929	Extended flange type 4 inches (100 mm)
		35 to 3500 kPa (0.35 to 35 kgf/cm^2)	STC940	

Selection I								Code	Material code			
I	Material		Reference side meter body cover	Adapter flange	Vent/drain plugs	Wetted parts of flange side center body	Wetted parts of reference side center body		A	E	U	9
			Carbon steel	SCS14A *1	SUS316	Diaphragm: SUS316L Others: SUS316	Diaphragm: SUS316L Others: SUS316	A				
			SCS14A *1	SCS14A *1	SUS316	Diaphragm: SUS316L Others: SUS316	Diaphragm: SUS316L Others: SUS316	E				
			SCS14A *1	SCS14A *1	SUS316	Diaphragm: SUS316L Others: SUS316L	Diaphragm: SUS316L Others: SUS316	U				
			Carbon steel Ni plating	SCS14A *1	SUS316	Diaphragm: SUS316L Others: SUS316	Diaphragm: SUS316L Others: SUS316	9				
II	Fill fluid		Regular type (Silicon oil)					1	✔	✔	✔	✔
			For oxygen service (Fluorine oil) *3					2		✔	✔	
III	Process connection	Top or bottom connection	Rc1/2 with adapter flange					Q	✔	✔	✔	
			1/2NPT internal thread with adapter flange					R	✔	✔	✔	✔
			Rc1/4 with adapter flange					S	✔	✔	✔	✔
			1/4NPT internal thread with adapter flange					T	✔	✔	✔	✔
			1/4NPT internal thread on head					U	✔	✔	✔	✔
			Open to atmosphere					H	✔	✔	✔	✔
IV	Flange standard		ANSI flange					A	✔	✔	✔	✔
			JIS flange					J	✔	✔	✔	✔
			JPI flange					P	✔	✔	✔	✔
V	Flange type & rating	Standard	JIS 10K, ANSI/JPI 150 (RF) equivalent					A	✔	✔	✔	✔
			JIS 20K, ANSI/JPI 300 (RF) equivalent					B	✔	✔	✔	✔
			JIS 30K *30					C	✔	✔	✔	✔
VI	Flange material		Carbon steel					1	✔	✔	✔	✔
			SUS304					7	✔	✔	✔	✔
			SUS316					2	✔	✔	✔	✔
			SUS316L *30					8	✔	✔	✔	✔
VII	Finish of gasket face		Standard (JIS Ra3.2 (12.5S))					J	✔	✔	✔	✔
VIII	Length of extended parts		L = 50 mm (4 inches / 100 mm)					09	✔	✔	✔	✔
			L = 100 mm (4 inches / 100 mm)					14	✔	✔	✔	✔
			L = 150 mm (4 inches / 100 mm)					19	✔	✔	✔	✔
			L = 200 mm (4 inches / 100 mm)					24	✔	✔	✔	✔
			L = 250 mm (4 inches / 100 mm)					29	✔	✔	✔	✔
			L = 300 mm (4 inches / 100 mm) *30					34	✔	✔	✔	✔

Note) **1 SCS14A (equivalent SUS316) or SUSF316*

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

**30 In case flange rating: JIS30K, wetted parts material: SUS316L and for high temperature service, extension length of flange 300 mm is not available.*

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Model No.: STC929 - I II III IV V VI VII VIII - **Option I** - **Option II**
Model No.: STC940 - I II III IV V VI VII VIII - **Option I** - **Option II**

		Code	Material Code			
			A	E	U	9
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		✔	✔	
	Long vent/drain plugs	J	✔	✔	✔	✔
	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	✔	✔	✔	✔
	0.1 mm thickness diaphragm	F4	✔	✔	✔	✔
	Material certificate	H2	✔	✔	✔	✔
	SI unit	U1	✔	✔	✔	✔

*Note) *2 The output current value ranges from 3.0 to 3.8mA for the lower limit and from 20.8 to 21.8mA for the upper limit.*
**5 Intrinsically safe for NEPSI cannot be selected with -D7.*
**38 Either one of "digital output - code D5" or "HART communication - code D7" can be selected at time.*
Note) Material of meter body cover of high pressure side depends on model number of flange material as follows:

Code	Flange Material
1	Carbon steel
2,7,8	SCS14A*1

ST3000 series 900 electric differential pressure transmitter
Model STC929 (Flange type for medium differential pressure)
Model STC940 (Flange type for high differential pressure)

Model No.: STC929 - **I II III IV V VI VII VIII** - Option I - Option II

Model No.: STC940 - **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)	STC929	Flush flange type 2 inches (50 mm), 1.5 inch (40 mm)
		35 to 3500 kPa (0.35 to 35 kgf/cm^2)	STC940	

Selection I								Code	Material code									
I	Material	Reference side meter body cover	Adapter flange	Vent/ drain plugs	Wetted parts of flange side center body	Wetted parts of reference side center body			A	B	D	E	F	H	U	8	9
		Carbon steel	SCS14A *1	SUS316	Diaphragm:SUS316L Others: SUS316	Diaphragm: SUS316L Others: SUS316		A									
		Carbon steel	SCS14A *1	SUS316	Diaphragm: Hastelloy C Others: Hastelloy C	Diaphragm: SUS316L Others: SUS316		B									
		Carbon steel	SCS14A *1	SUS316	Diaphragm: Tantalum Others: Tantalum	Diaphragm: SUS316L Others: SUS316		D									
		SCS14A*1	SCS14A *1	SUS316	Diaphragm:SUS316L Others: SUS316	Diaphragm: SUS316L Others: SUS316		E									
		SCS14A*1	SCS14A *1	SUS316	Diaphragm: Hastelloy C Others: Hastelloy C	Diaphragm:SUS316L Others: SUS316		F									
		SCS14A*1	SCS14A *1	SUS316	Diaphragm: Tantalum Others: Tantalum	Diaphragm: SUS316L Others: SUS316		H									
		SCS14A*1	SCS14A *1	SUS316	Diaphragm:SUS316L Others: SUS316L	Diaphragm: SUS316L Others: SUS316		U									
		Carbon steel Ni plating	SCS14A *1	SUS316	Diaphragm: Hastelloy C Others: Hastelloy C	Diaphragm: SUS316L Others: SUS316		8									
		Carbon steel Ni plating	SCS14A *1	SUS316	Diaphragm: SUS316L Others: SUS316	Diaphragm: SUS316L Others: SUS316		9									
II	Fill fluid	Regular type (Silicone oil)						1	✔	✔	✔	✔	✔	✔	✔	✔	✔
		For oxygen service (Fluorine oil) *3						2				✔	✔	✔	✔	✔	
		For chlorine service (Fluorine oil) *3						5						✔			
III	Process connection (Top or bottom Connection)	Rc1/2 with adapter flange						Q	✔	✔	✔	✔	✔	✔	✔	✔	✔
		1/2NPT internal thread with adapter flange						R	✔	✔	✔	✔	✔	✔	✔	✔	✔
		Rc1/4 with adapter flange						S	✔	✔	✔	✔	✔	✔	✔	✔	✔
		1/4NPT internal thread with adapter flange						T	✔	✔	✔	✔	✔	✔	✔	✔	✔
		1/4NPT internal thread on head						U	✔	✔	✔	✔	✔	✔	✔	✔	✔
		Open to atmosphere						H	✔	✔	✔	✔	✔	✔	✔	✔	✔
IV	Flange standard	ANSI flange						A	✔	✔	✔	✔	✔	✔	✔	✔	✔
		JIS flange						J	✔	✔	✔	✔	✔	✔	✔	✔	✔
		JPI flange						P	✔	✔	✔	✔	✔	✔	✔	✔	✔
V	Flange type & rating (Standard)	JIS 10K, ANSI/JPI 150 (RF) equivalent						A	✔	✔	✔	✔	✔	✔	✔	✔	✔
		JIS 20K, ANSI/JPI 300 (RF) equivalent						B	✔	✔	✔	✔	✔	✔	✔	✔	✔
		JIS 30K, ANSI/JPI 600 (RF) equivalent						C	✔	✔	✔	✔	✔	✔	✔	✔	✔
VI	Flange material	Carbon steel						1	✔	✔	✔	✔	✔	✔	✔	✔	✔
		SUS304						7	✔	✔	✔	✔	✔	✔	✔	✔	✔
		SUS316						2	✔	✔	✔	✔	✔	✔	✔	✔	✔
		SUS316L						8	✔	✔	✔	✔	✔	✔	✔	✔	✔
VII	Finish of gasket Face	Standard (JIS Ra3.2 (12.5S))						J	✔	✔	✔	✔	✔	✔	✔	✔	✔
VIII	Length of extended parts	Flush Diaphragm 2 inches (50 mm)						01	✔	✔	✔	✔	✔	✔	✔	✔	✔
		Flush Diaphragm 1.5 inch (40 mm)						02	✔	✔		✔	✔		✔	✔	✔

Note) **1 SCS14A (equivalent SUS316) or SUSF316*

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

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Model No.: STC929 - I II III IV V VI VII VIII - **Option I** - **Option II**
Model No.: STC940 - I II III IV V VI VII VIII - **Option I** - **Option II**

		Code	Material Code								
			A	B	D	E	F	H	U	8	9
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	✔	✔	✔	✔	✔	✔	✔	✔	✔
	FEP protective film	T	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Oil free finish	K				✔	✔	✔	✔		
	Long vent/drain plugs	J	✔	✔	✔	✔	✔	✔	✔	✔	✔
	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	✔	✔	✔	✔	✔	✔	✔	✔	✔
	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.*
**38 Either one of "digital output - code D5" or "HART communication - code D7" can be selected at time.*
Note) Material of meter body cover of high pressure side depends on model number of flange material as follows:

Code	Flange Material
1	Carbon steel
2,7,8	SCS14A*1

ST3000 series 900 electric differential pressure transmitter
Model STC929 (Flange type for medium differential pressure)
Model STC940 (Flange type for high differential pressure)

Model No.: STC929 - **I II III IV V VI VII VIII** - Option I - Option II
Model No.: STC940 - **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)	STC929	Extended Flange Type 3 inches (80 mm), 2 inches (50 mm)
		35 to 3500 kPa (0.35 to 35 kgf/cm^2)	STC940	

Selection I								Code	Material code			
I	Material		Meter body cover	Adapter flange	Vent/ drain plugs	Wetted parts of flange side center body	Wetted parts of reference side center body		A	E	U	9
			Carbon steel	SCS14A *1	SUS316	Diaphragm:SUS316L Others: SUS316	Diaphragm:SUS316L Others: SUS316	A				
			SCS14A *1	SCS14A *1	SUS316	Diaphragm:SUS316L Others: SUS316	Diaphragm:SUS316L Others: SUS316	E				
			SCS14A *1	SCS14A *1	SUS316	Diaphragm:SUS316L Others: SUS316L	Diaphragm:SUS316L Others: SUS316	U				
			Carbon steel Ni plating	SCS14A *1	SUS316	Diaphragm:SUS316L Others: SUS316	Diaphragm:SUS316L Others: SUS316	9				
II	Fill fluid		Regular type (Silicon oil)					1	✔	✔	✔	✔
			For oxygen service (Fluorine oil) *3					2		✔	✔	
III	Process connection	Top or bottom connection	Rc1/2 with adapter flange					Q	✔	✔	✔	✔
			1/2NPT internal thread with adapter flange					R	✔	✔	✔	✔
			Rc1/4 with adapter flange					S	✔	✔	✔	✔
			1/4NPT internal thread with adapter flange					T	✔	✔	✔	✔
			1/4NPT internal thread on head					U	✔	✔	✔	✔
			Open to atmosphere					H	✔	✔	✔	✔
IV	Flange standard		ANSI flange					A	✔	✔	✔	✔
			JIS flange					J	✔	✔	✔	✔
			JPI flange					P	✔	✔	✔	✔
V	Flange type & rating	Standard	JIS 10K, ANSI/JPI 150(RF) equivalent					A	✔	✔	✔	✔
			JIS 20K, ANSI/JPI 300(RF) equivalent					B	✔	✔	✔	✔
			JIS 30K, ANSI/JPI 600(RF) equivalent *24					C	✔	✔	✔	✔
VI	Flange material		Carbon steel					1	✔	✔	✔	✔
			SUS304					7	✔	✔	✔	✔
			SUS316					2	✔	✔	✔	✔
			SUS316L *24					8	✔	✔	✔	✔
VII	Finish of gasket face		Standard (JIS Ra3.2 (12.5S))					J	✔	✔	✔	
VIII	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)					06	✔	✔	✔	✔
			L = 100 mm (2 inches / 5 0mm)					11	✔	✔	✔	✔
			L = 150 mm (2 inches / 50 mm)					16	✔	✔	✔	✔

Note) **1 SCS14A (equivalent SUS316) or SUSF316*
**3 In case "For oxygen or chlorine (Fluorine oil) service" is used, "oil free finish - code K' must be selected.*
**24 In case of "ANSI/JPI 600" is used for 3inches flange type and rating, not available for the extended diaphragm flange type.*

(Continued)

(Continued from previous page)

Model No.: STC929 - I II III IV V VI VII VIII - **Option I** - **Option II**
Model No.: STC940 - I II III IV V VI VII VIII - **Option I** - **Option II**

		Code	Material Code			
		-	A	E	U	9
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		✔	✔	
	Long Vent/drain plugs	J	✔	✔	✔	✔
	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	✔	✔	✔	✔
	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.*
**38 Either one of "digital output - code D5" or "HART communication - code D7" can be selected at time.*

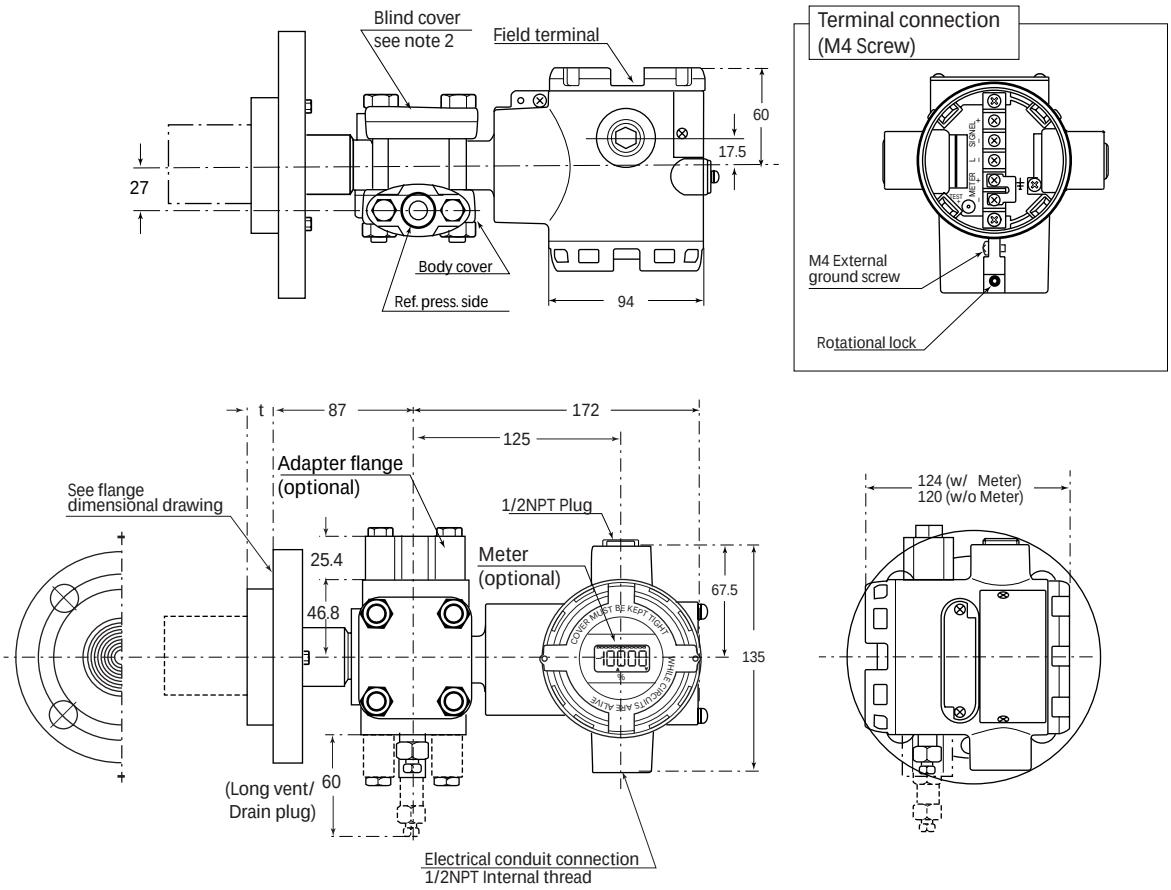
Note) Material of meter body cover of high pressure side depends on model number of flange material as follows:

Code	Flange Material
1	Carbon steel
2,7,8	SCS14A*1

DIMENSIONS

Model STC929 / 940

[Unit: mm]

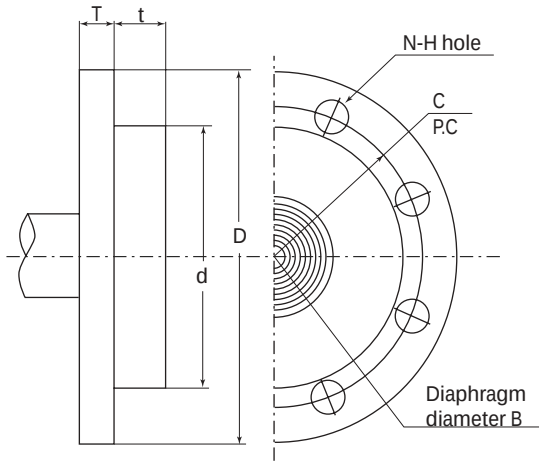


Note) 1) For the process pipe connection on the standard pressure side, choose either the upward or downward directions. When changing the connection, replace the adapter flange and the vent/drain plugs.

2) Select a gasket that will not contact the diaphragm after it is tightened.

Flash diaphragm flange

[Unit: mm]

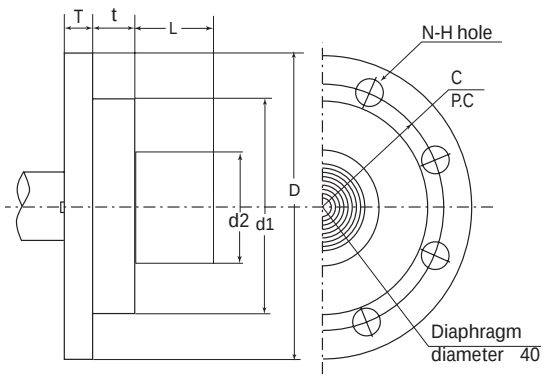


Material of wetted parts	B
SUS316	40
SUS316L	
Hastelloy C	43
Tantalum	62

Rating	Flange rating	D	T	C	N	H	d	t
1.5 inch/ 40 mm	JIS 10K - 40 mm	140	18	105	4	19	81	16
	JIS 20K - 40 mm	140	18	105	4	19		
	JIS 30K - 40 mm	160	25	120	4	23		
	ANSI 150 - 1.5 inch	127	18	98.6	4	16		
	ANSI 300 - 1.5 inch	155	25	114.3	4	22		
	ANSI 600 - 1.5 inch	155	32	114.3	4	22		
	JPI 150 - 1.5 inch	127	18	98.6	4	16		
	JPI 300 - 1.5 inch	155	25	114.3	4	22		
	JPI 600 - 1.5 inch	155	32	114.3	4	22		
2 inches/ 50 mm	JIS 10K - 50 mm	155	16	120	4	19	99	19
	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	22
	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		

External diaphragm flange

[Unit; mm]



Rating	Flange rating	D	T	C	N	H	d1	d2	t	B	L
2 inches/ 50 mm	JIS 10K - 50 mm	155	16	120	4	19	99	47±1	19	40	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	22		
	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		
	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					

Note

Note

azbil

Yamatake Corporation
Advanced Automation Company

1-12-2 Kawana, Fujisawa
Kanagawa 251-8522 Japan

URL:http://www.azbil.com