

ST3000 Ace Smart Transmitter

JTC Series of Flange Type

Differential Pressure Transmitters

JTC929A/JTC940A

General

The ST3000 Ace* Smart Transmitter is a microprocessor-based smart transmitter that features high performance and excellent stability. Capable of measuring gas, liquid, pressure, and liquid levels, it transmits 4 to 20 mA DC analog and digital signals according to the measured differential pressure.

It can also execute two-way communications between the SFC (Smart Field 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

- (1) Excellent stability and high performance
 - Long-term stability has been proven in 500,000 installations worldwide.
 - Unique characterization and composite semiconductor sensors realize excellent temperature and static pressure characteristics.
- (2) A diverse lineup
 - A diverse flange lineup, ranging from small diameter 1.5in (40mm) and 2in (50mm) to 3in (80mm), 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.
- (3) Multiprotocol communication
 - Either analog output (4 to 20 mA DC), analog FSK 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.
- (4) Full after-sales service program
 - From product delivery to replacement, we will service all your needs. Our nationwide service network provides all the backup you require, including trial operation support and regular maintenance.

Applications

Petroleum/Petrochemical/Chemical

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

Electric Power/City Gas/Other Utilities

- For measuring 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 pressures, 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 and humidity) conditions

Machinery/Shipbuilding

- For lines that require stable measurement under strictly controlled (temperature and humidity) conditions

Specifications

Measuring span/setting range/working pressure range:

See Table 1.

Output/communication:

Analog output (4 to 20 mA DC)
 Analog FSK output (4 to 20 mA DC)
 (Frequency shift keying signal transmission system)
 Digital output (DE protocol)

Supply voltage and load resistance:

10.8 to 45 V DC. A load resistance of 250 Ω or more is necessary between loops. (See Figure 1)

Fill Fluid:

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

Ambient temperature range:

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

JIS special explosion-proof models: -20 to 60°C

JIS intrinsically safe models: -10 to 60°C

Temperature ranges of 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

JIS special explosion-proof models: -20 to 110°C

JIS intrinsically safe models: -10 to 110°C

Ambient humidity range:

5 to 100% RH

Stability against supply voltage change:

±0.005% FS/V

Lightning protection:

Peak value of voltage surge: 100 kV
 Peak value of current surge: 1000 A

Dead time:

Approx. 0.4 sec

Damping time constant:

Selectable from 0 to 32 sec in ten stages

Waterproof/dustproof structure:

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

Explosion-proof structure:

JIS special explosion-proof models: (Exd II CT4X)
 JIS intrinsically safe models: (i3aG4)

Process pipe connection:

Measured pressure (liquid level side):

Flush diaphragm:

JIS10K, 20K, 30K, and 63K-40mm, 50mm, and 80mm (RF) equivalents
 ANSI150, 300, and 600-1.5in, 2in, and 3in (RF) equivalents
 JPI150, 300, and 600-1.5in, 2in, and 3in (RF) equivalents

Extended diaphragm:

JIS10K, 20K, and 30K-50mm, 80mm, and 100mm(RF) equivalents
 ANSI150 and 300-2in, 3in, and 4in (RF) equivalents
 JPI150 and 300-2in, 3in, and 4in (RF) equivalents

Standard pressure side:

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

Electrical conduit connection:

G1/2 internal thread
 1/2NPT internal thread

Materials:

Center body: SUS316
 Transmitter case: Aluminum alloy

Wetted parts materials:

Meter body cover:

Carbon steel (SF440A) galvanized
 Carbon steel (SF440A) nickel plated
 SUSF316

Flange side wetted parts:

SUS316 (SUS316L for diaphragm only)
 Hastelloy C, tantalum, etc.

Standard side wetted parts:

SUS316 (SUS316L for diaphragm only)

Vent drain plug:

SUS316

Wetted parts gasket:

FEP

Flange materials:

Carbon steel (SF440A), SUS304, SUS316, SUS316L

	Measuring Span	Setting Range	Working Pressure Range
JTC929A	2.5~100kPa {250~10000mmH ₂ O}	-100~100kPa {-10000~10000mmH ₂ O}	Up to the smaller value of either setting range or flange rating (For negative pressures, see Figures 2 and 3.) (For flange rating, see "Max Working Pressure")
JTC940A	70~3500kPa {0.7~35kgf/cm ² }	-100~3500kPa {-1~35kgf/cm ² }	

Table 1 Measuring Span, Setting Range, and Working Pressure Range

Bolts and nuts materials (for fastening meter body cover):

Carbon steel (SNB7), SUS304, SUS630

Finish:

Housing: light beige (Munsell 4Y7.2/1.3)

Cap: dark beige (Munsell 10YR4.7/0.5)

Corrosion-resistant finish:

Standard: Corrosion-resistant paint (Baked acrylic paint)

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 silver-coated in addition to
the above corrosion-resistant finish.**Built-in indicating meter:**

The digital LCD indicator (optional) indicates actual flow rates (in SI units) and can be set freely between -19999 and 19999 (4.5 digits). For actual calibration, specify the following items when placing your order:

- Actual calibration range
- Actual calibration unit
- Proportional representation and instructions about square-root extraction

Various kinds of data can be set using the SFC smart communication (Ver. 7.1 or newer).

Burnout feature:

Choice of three states at abnormal condition:

Burnout of output values: none
upper limit
lower limit

Grounding:

Grounding resistance 100 Ω max.

Mounting:

Direct mounting on the process side

Weight:

Approx. 6.4 kg (in case of JIS10K-40mm flange)

Optional Specifications

External zero adjustment function:

The transmitter can be easily zero-adjusted in the field with a flat-head screwdriver.

Additional lightning protection:

It is possible to achieve a lightning protection performance of 200 kV, 2000 A, twice the standard performance (100 kV, 1000 A). This is advisable when the transmitter is to be used in lightning-prone areas such as mountains, hills or wherever high-performance lightning protection is required.

Long vent drain:

A longer (58 mm) drain than the standard (24 mm) can be used for maintenance, process, and safety reasons.

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.

Dual diaphragm:

Diaphragm can be changed when the adapter for and diaphragm is used.

Water free treatment (including oil free treatment):

The transmitter is shipped with dry and oil-free wetted parts.

Oil free treatment:

The transmitter is shipped with oil-free wetted parts.

FEP protective film:

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

Working temperature range:

0 to 110°C

Working pressure range:

atmospheric pressure to flange rating

(up to JIS10K, ANSI/JPI150)

(Not usable under negative pressure)

Electric power specification:

This specification applies to where stringent quality control is required, such as in the electric power and city gas industries.

Special burnout (3.2 mA):

The burnout output value (in the lower-limit direction) under abnormal conditions shall be 3.2 mA (-5%) or less.

Test report:

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

Material certificate:

The Material certificate shows the chemical composition, heat-treatment conditions, and mechanical properties of the materials used for the wetted parts.

Strength calculation sheet:

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

Withstand pressure and airtight test (for general purposes):

The test result sheet shows the results of a pressure resistance test (under water pressure for 10 minutes) and a gas-tightness test (using N₂ gas for 10 minutes) performed on the wetted parts.

Traceability certificate:

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

Conformance to non-SI units:

We deliver transmitters set to any non-SI unit you specify.

Transmitter Handling Notes

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

Transmitter Installation Notes



Warning

- When installing the transmitter, ensure that gaskets do not protrude from connecting points into the process (such as adapter flange connection points and connecting pipes and flanges). Gasket protrusion may result in leaks and output errors.
- Do not use the transmitter outside its defined pressure, temperature, and connection specifications. A serious accident may otherwise occur due to damage and leaks.
- When performing wiring work in explosion-proof areas, follow the work method specified in the explosion-proof guidelines. In addition, when the wiring for an explosion-proof product is a pull-in pressure-resistant packing-cable, be sure to use a pressure-resistant packing-cable adapter certified by Yamatake Corporation.
- Be sure to use the cable which allowable temperature is more than 65°C.



Caution

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

Wiring Notes



Warning

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



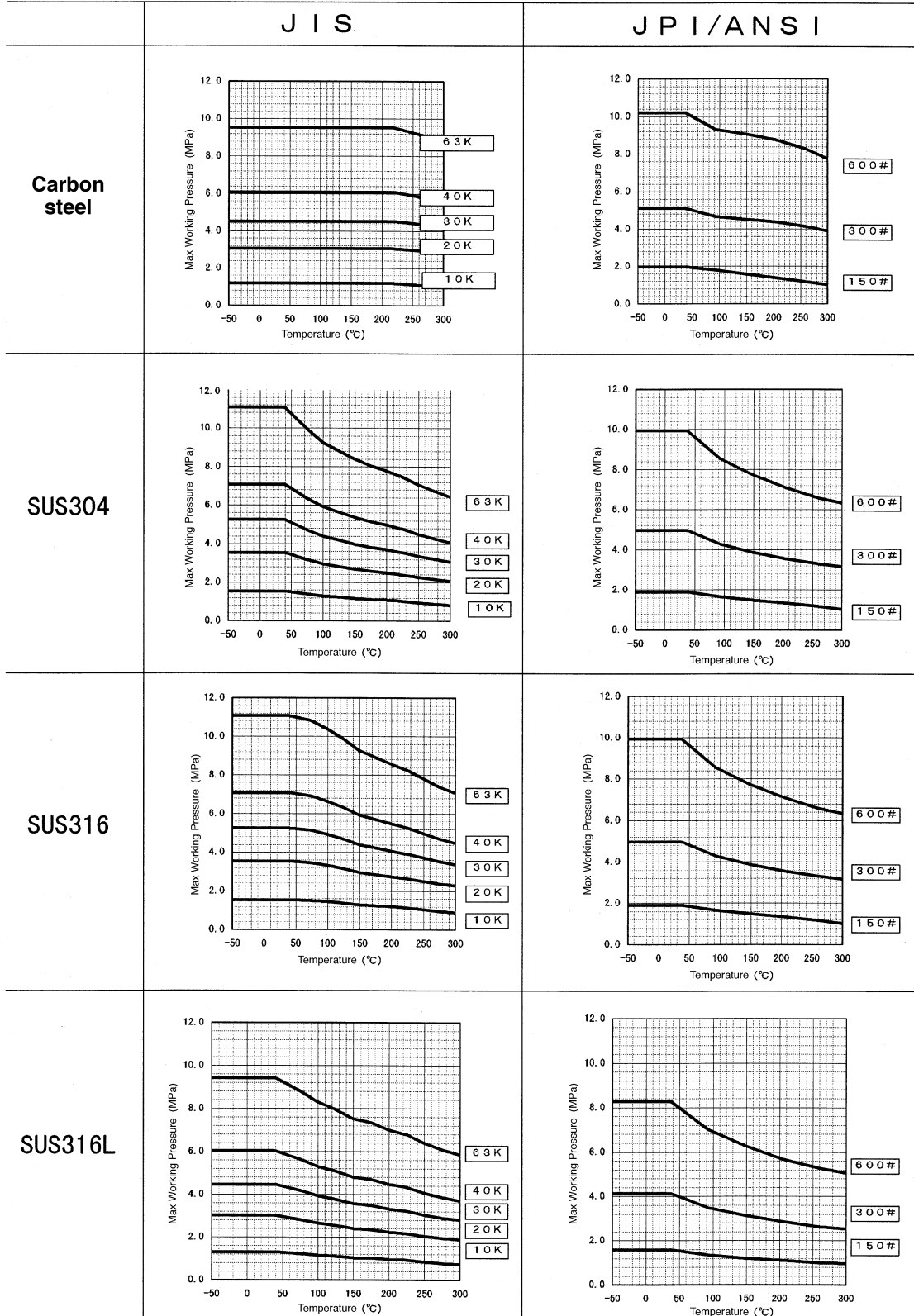
Caution

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

Max Working Pressure

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- Note1. Max Working Pressure depends on flange rating, flange materials and operating temperature. Please refer to the data blow. Operating range of temperature depends on the specifications of transmitter.
- Note2. In the case of flange type (JTF940□, JTC940□) and remote sealed type (JTU940□, JTH940□), Max Working Pressure depends on the smaller value of either 3.5MPa or following data.
- Note3. In the case of absolute remote sealed type (JTS940□), Max Working Pressure depends on the smaller value of either 3.5MPa abs or following data. As for the following data, the vertical axis represent gauge pressure.
- Note4. In the case of remote sealed type (JTH960□), Max Working Pressure depends on the smaller value of either 10MPa or following data.
- Note5. In the case of 1/2in, remote sealed type (JTE929□, JTE930□, JTH960□), Max Working Pressure depends on the smaller value of either 5.1MPa or the following data sa for adaptor flange (HF).



Performance

Shown for each item are the upper limit (URV) ⁽¹⁾ and the lower limit (LRV) ⁽²⁾ of the calibration range or the percentage ratio of the maximum value of the span to χ (kPa).

JTC929A (Material for Wetted Parts on Flange Side: SUS316)

Accuracy	Linear output:	$\pm 0.2\%$ ($\chi \geq 12.5\text{kPa}$ {1250mmH ₂ O}) $\pm(0.05+0.15 \times \frac{12.5}{\chi})\%$ ($\chi < 12.5\text{kPa}$ {1250mmH ₂ O})
Temperature characteristics (Shift from the set range) Change of 55°C	Zero shift:	$\pm(0.25+0.9 \times \frac{12.5}{\chi})\%$
	Combined shift: (including zero and span shifts)	$\pm 1.45\%$ ($\chi \geq 12.5\text{kPa}$ {1250mmH ₂ O}) $\pm(0.35+1.1 \times \frac{12.5}{\chi})\%$ ($\chi < 12.5\text{kPa}$ {1250mmH ₂ O})
Static pressure effect (Shift in respect to setting range) Change of 7MPa {70kgf/cm²}	Zero shift:	$\pm 0.7\%$ ($\chi \geq 2.5\text{kPa}$ {2500mmH ₂ O}) $\pm(0.7 \times \frac{2.5}{\chi})\%$ ($\chi < 2.5\text{kPa}$ {2500mmH ₂ O})
	Combined shift: (including zero and span shifts)	$\pm 1.0\%$ ($\chi \geq 2.5\text{kPa}$ {2500mmH ₂ O}) $\pm(1.0 \times \frac{2.5}{\chi})\%$ ($\chi < 2.5\text{kPa}$ {2500mmH ₂ O})

JTC940A (Material for Wetted Parts on Flange Side: SUS316)

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

JTC929A (Material for Wetted Parts on Flange Side: Hastelloy C, Tantalum, SUS316L)

Accuracy	Linear output:	$\pm 0.4\%$ ($\chi \geq 12.5\text{kPa}$ {1250mmH ₂ O}) $\pm(0.25+0.15 \times \frac{12.5}{\chi})\%$ ($\chi < 12.5\text{kPa}$ {1250mmH ₂ O})
Temperature characteristics (Shift from the set range) Change of 30°C (Range from -5 to 55°C)	Zero shift:	$\pm(0.15+2.35 \times \frac{25}{\chi})\%$
	Combined shift: (including zero and span shifts)	$\pm(0.6+2.4 \times \frac{25}{\chi})\%$
Static pressure effect (Shift in respect to setting range) Change of 7MPa {70kgf/cm²}	Zero shift:	$\pm 2.0\%$ ($\chi \geq 25\text{kPa}$ {2500mmH ₂ O}) $\pm(2.0 \times \frac{25}{\chi})\%$ ($\chi < 25\text{kPa}$ {2500mmH ₂ O})
	Combined shift: (including zero and span shifts)	$\pm 2.5\%$ ($\chi \geq 25\text{kPa}$ {2500mmH ₂ O}) $\pm(2.5 \times \frac{25}{\chi})\%$ ($\chi < 25\text{kPa}$ {2500mmH ₂ O})

JTC940A (Material for Wetted Parts on Flange Side: Hastelloy C, Tantalum, SUS316L)

Accuracy ^(*)	Linear output: $\pm 0.3\%$ ($\chi \geq 350\text{kPa}$ {3.5kgf/cm ² }) $\pm (0.15+0.15 \times \frac{350}{\chi})\%$ ($\chi < 350\text{kPa}$ {3.5kgf/cm ² })
Temperature characteristics (Shift from the set range) Change of 30°C ^(*) (Range from -5 to 55°C)	Zero shift: $\pm (0.15 + 0.4 \times \frac{350}{\chi})\%$ Combined shift: (including zero and span shifts) $\pm 1.0\%$ ($\chi \geq 350\text{kPa}$ {3.5kgf/cm ² }) $\pm (0.35+0.65 \times \frac{350}{\chi})\%$ ($\chi < 350\text{kPa}$ {3.5kgf/cm ² })
Static pressure effect (Shift in respect to setting range) ^(*) Change of 7MkPa {70kgf/cm ² }	Zero shift: $\pm (0.03+7.5 \times \frac{350}{\chi})\%$ Combined shift: (including zero and span shifts) $\pm 9.0\%$ ($\chi \geq 350\text{kPa}$ {3.5kgf/cm ² }) $\pm (1.5+7.5 \times \frac{350}{\chi})\%$ ($\chi < 350\text{kPa}$ {3.5kgf/cm ² })

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

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

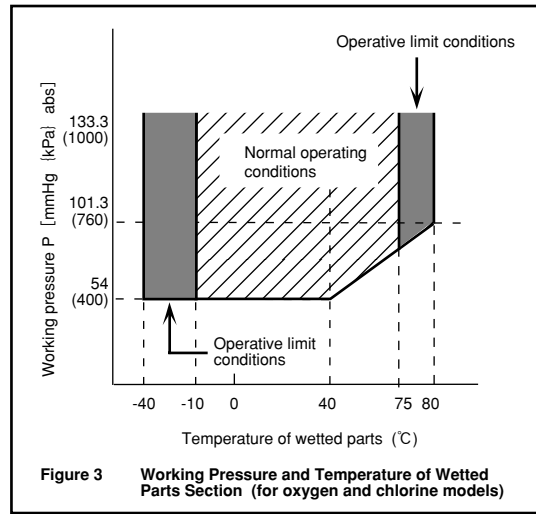
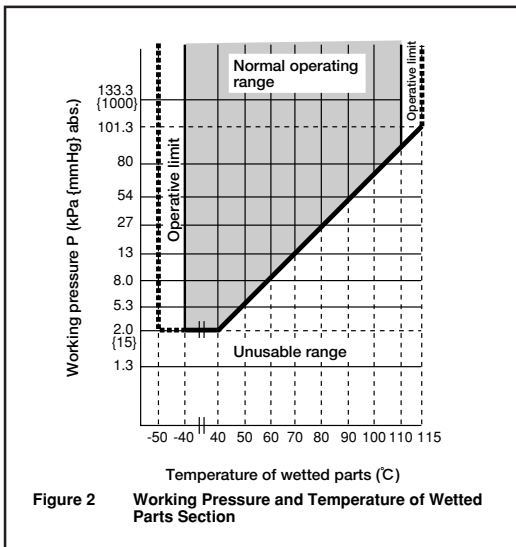
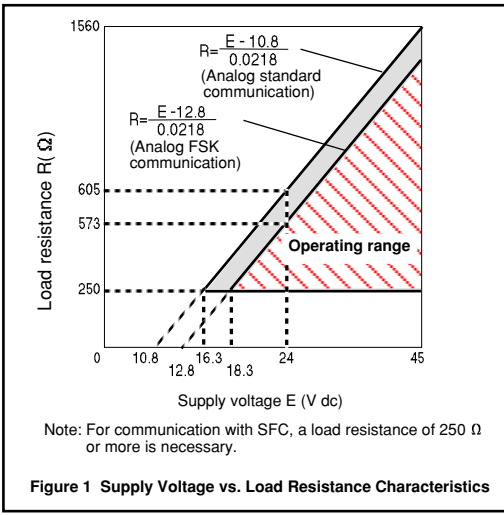
⁽³⁾: Within a range of URV ≥ 0 and LRV ≥ 0

Dual Diaphragm JTC929A/JTC940A (For general, oxygen and chlorine service)

(“Material of wetted parts : SUS316, SUS316L, Hastelloy C, Tantalum”)

Flange size : Flush diaphragm 3in (80mm)/ 2in (50mm)

Accuracy	(Original accuracy $\pm 0.1\%$)
Temperature characteristics	(Original temperature characteristics $\times 2\%$)
Static pressure effect	(Original Static pressure effect $\times 2\%$) * For original accuracy, temperature, static pressure effect, refer to P7 and P8.



* The case of the dual diaphragm, the lower limit value of working pressure becomes 53kPa abs.

Model Number Configuration Table

DSTJ3000 Ace Electric Differential Pressure Transmitter Flange style

Model	Pressure range/style	Service (Fill fluid)	Process connection
JTC929A	2.5 to 100kPa(25.0 to 10,160mmH ₂ O)	Medium differential pressure Regular service(Silicon oil)	Flush diaphragm 3 in. (80mm)
JTC940A	70 to 3500kPa(0.70 to 35kgf/cm ²)	High differential pressure Regular service(Silicon oil)	Flush diaphragm 3 in. (80mm)

Basic model No. - I III IIII IV V VI VII VIII- IX XXI XII XIII - Options 2

Option 1, 2: Refer to page 19.

Basic Model No.

Measuring span	2.5 to 100kPa(25.0 to 10,160mmH ₂ O)	JTC929A
	70 to 3500kPa(0.70 to 35kgf/cm ²)	JTC940A

Selections

I	Output	4 to 20mA	1			
		4 to 20mA (Analog FSK communication)	2 *3			
		Digital output (DE protocol)	3 *1, *2			
II	Material	Meterbody cover	Vent/Drain plugs	Wetted part of Flange side	Wetted part of reference side	
		*8 Carbon steel Zn plating	SUS316	SUS316 *9	SUS316 *9	A
		*8 Carbon steel Zn plating	SUS316	HastelloyC	SUS316 *9	B
		*8 Carbon steel Zn plating	SUS316	Tantalum	SUS316 *9	D
		*10 SUSF316	SUS316	SUS316 *9	SUS316 *9	E
		*10 SUSF316	SUS316	HastelloyC	SUS316 *9	F
		*10 SUSF316	SUS316	Tantalum	SUS316 *9	H
		*10 SUSF316	SUS316	SUS316L	SUS316 *9	L
		Carbon steel Ni plating	SUS316	SUS316 *9	SUS316 *9	P
		Carbon steel Ni plating	SUS316	HastelloyC	SUS316 *9	Q
		Carbon steel Ni plating	SUS316	Tantalum	SUS316 *9	S
		*8 Carbon steel Ni plating	SUS316	SUS316L	SUS316 *9	7
*8 Carbon steel Ni plating	SUS316	SUS316L	SUS316 *9	8		
III	Fill Fluid	Regular type (Silicone oil)	1			
IV	Process connection (Reference side)	Rc 1/2, top connection	A			
		Rc 1/2, bottom connection	B			
		1/2 NPT internal thread, top connection	F			
		1/2 NPT internal thread, bottom connection	G			
		Rc 1/4, top connection	L			
		Rc 1/4, bottom connection	M			
		1/4 NPT internal thread, top connection	R			
		1/4 NPT internal thread, bottom connection	S			
		Open to atmosphere	*10 W			
V	Flange rating	JIS 10K	A			
		JIS 20K	C			
		JIS 30K	D			
		*11 JIS 63K	F			
		ANSI 150	G			
		ANSI 300	H			
		*11 ANSI 600	J			
		JPI 150	N			
		JPI 300	P			
		*11 JPI 600	Q			
VI	Flange size	3 in. /80 mm	2			
VII	Flange type	Standard	1			
VIII	Flange material/bolt and nut	Carbon steel	A			
		Carbon steel/SUS304	B			
		Carbon steel/SUS630	C			
		SUS304/Carbon steel	D			
		SUS304/SUS304	E			
		SUS304/SUS630	F			
		SUS316/Carbon steel	G			
		SUS316/SUS304	H			
		SUS316/SUS630	J			
		SUS316L/Carbon steel	K			
		SUS316L/SUS304	L			
		SUS316L/SUS630	M			

Notes

- 1 Digital output (DE protocol) should be selected with upper/lower direction of burn out feature.
- 2 Digital output (DE protocol) can not be combined with an external zero adjustment function.
- 3 Analog FSK Communication can not be combined with Intrinsically safe.
- 8 This can be selected for the meterbody cover if the process fluid contains hydro-carbon or H₂S which used for Refinery/Petrochemical. In other cases, select Carbon steel Ni plating for meterbody cover.
- 9 When a wetted part is SUS316, the diaphragm material is SUS316L.
- 10 When "Open to atmosphere" of process connection is selected, the meterbody cover is SUSF304 instead of SUSF316.
- 11 Dual diaphragm is not available for JIS63K, ANSI600 and JPI600 for a flange rating.

DSTJ3000 Ace Electric Differential Pressure Transmitter Flange style

Model	Pressure range/style	Service (Fill fluid)	Process connection
JTC929A	2.5 to 100kPa (250 to 10,160mmH2O)	Medium differential pressure Oxygen service (Fluorine oil)	Flush diaphragm 3 in. (80 mm)
JTC940A	0.7 to 3500kPa (0.70 to 35kgf/cm ²)	High differential pressure Oxygen service (Fluorine oil)	Flush diaphragm 3 in. (80 mm)

Selections Options 1
Basic Model No. - I III IIII IV V VI VI VII VIII - IX XXI XII XIII - Options 2

Option 1, 2: Refer to page 19.

Basic Model No.

Measuring span	2.5 to 100kPa (250 to 10,160mmH2O)	JTC929A
	0.70 to 3500kPa (0.70 to 35kgf/cm ²)	JTC940A

Selections

I	Output	4 to 20mA	1			
		4 to 20mA (Analog FSK communication)	2 *3			
		Digital output (DE protocol)	3 *1, *2			
II	Material	Meterbody cover	Vent/Drain plugs	Wetted part of Flange side	Wetted part of reference side	
		*10 SUSF316	SUS316	SUS316 *9	SUS316 *9	E
		*10 SUSF316	SUS316	HastelloyC	SUS316 *9	F
		*10 SUSF316	SUS316	Tantalum	SUS316 *9	H
		*10 SUSF316	SUS316	SUS316L	SUS316 *9	L
III	Fill Fluid	For oxygen service (Fluorine oil)	2			
IV	Process connection	Rc 1/2, top connection	A			
		Rc 1/2, bottom connection	B			
		1/2 NPT internal thread, top connection	F			
		1/2 NPT internal thread, bottom connection	G			
		Rc 1/4, top connection	L			
		Rc 1/4, bottom connection	M			
		1/4 NPT internal thread, top connection	R			
		1/4 NPT internal thread, bottom connection	S			
		Open to atmosphere *10	W			
V	Flange rating	JIS 10K	A			
		JIS 20K	C			
		JIS 30K	D			
		*11 JIS 63K	F			
		ANSI 150	G			
		ANSI 300	H			
		*11 ANSI 600	J			
		JPI 150	N			
		JPI 300	P			
		*11 JPI 600	Q			
VI	Flange size	3 in. /80 mm	2			
VII	Flange type	Standard	1			
VIII	Flange material/bolt and nut	Carbon steel	A			
		Carbon steel/SUS304	B			
		Carbon steel/SUS630	C			
		SUS304/Carbon steel	D			
		SUS304/SUS304	E			
		SUS304/SUS630	F			
		SUS316/Carbon steel	G			
		SUS316/SUS304	H			
		SUS316/SUS630	J			
		SUS316L/Carbon steel	K			
		SUS316L/SUS304	L			
		SUS316L/SUS630	M			

Notes

- 1 Digital output (DE protocol) should be selected with upper/lower direction of burn out feature.
- 2 Digital output (DE protocol) can not be combined with an external zero adjustment function.
- 3 Analog FSK Communication can not be combined with Intrinsically safe.
- 9 When a wetted part is SUS316, the diaphragm material is SUS316L.
- 10 When "Open to atmosphere" of process connection is selected, the meterbody cover is SUS304 instead of SUSF316.
- 11 Dual diaphragm is not available for JIS63K, ANSI600 and JPI600 for a flange rating.

DSTJ3000 Ace Electric Differential Pressure Transmitter Flange style

Model	Pressure range/style	Service (Fill fluid)	Process connection
JTC929A	2.5 to 100kPa (250 to 10,160mmH ₂ O) : Medium differential pressure	Chlorine service (Fluorine oil)	Flush diaphragm 3 in. (80mm)
JTC940A	70 to 3500kPa (0.70 to 35kgf/cm ²) : High differential pressure	Chlorine service (Fluorine oil)	Flush diaphragm 3 in. (80mm)

Selections Options 1

Basic model No. - I III IIII IV VVI VII VIII- IX XXI XII XIII - Options 2

Option 1, 2: Refer to page 19.

Basic Model No.

Measuring span		Model No.
2.5 to 100kPa (250 to 10,160mmH ₂ O)		JTC929A
70 to 3500kPa (0.70 to 35kgf/cm ²)		JTC940A

Selections

I	Output	4 to 20mA	1	*3	
		4 to 20mA (Analog FSK communication)	2		
		Digital output (DE protocol)	3		*1, *2
II	Material	Meterbody cover	Vent/Drain plugs	Wetted part of Flange side	Wetted part of reference side
		*10 SUSF316	SUS316	Tantalum	SUS316 *9 H
III	Fill Fluid	For Chlorine service (Fluorine oil)			5
IV	Process connection (Reference side)	Rc 1/2, top connection			A
		Rc 1/2, bottom connection			B
		1/2 NPT internal thread, top connection			F
		1/2 NPT internal thread, bottom connection			G
		Rc 1/4, top connection			L
		Rc 1/4, bottom connection			M
		1/4 NPT internal thread, top connection			R
		1/4 NPT internal thread, bottom connection			S
		Open to atmosphere	*10		W
V	Flange rating	JIS 10K			A
		JIS 20K			C
		JIS 30K			D
		*11 JIS 63K			F
		ANSI 150			G
		ANSI 300			H
		*11 ANSI 600			J
		JPI 150			N
		JPI 300			P
*11 JPI 600			Q		
VI	Flange size	3 in. /80 mm			2
VII	Flange type	Standard			1
VIII	Flange material/bolt and nut	Carbon steel			A
		Carbon steel/SUS304			B
		Carbon steel/SUS630			C
		SUS304/Carbon steel			D
		SUS304/SUS304			E
		SUS304/SUS630			F
		SUS316/Carbon steel			G
		SUS316/SUS304			H
		SUS316/SUS630			J
		SUS316L/Carbon steel			K
		SUS316L/SUS304			L
SUS316L/SUS630			M		

Notes

- 1 Digital output (DE protocol) should be selected with upper/lower direction of burn out feature.
- 2 Digital output (DE protocol) can not be combined with an external zero adjustment function.
- 3 Analog FSK Communication can not be combined with Intrinsically safe.
- 9 When a wetted part is SUS316, the diaphragm material is SUS316L.
- 10 When "Open to atmosphere" of process connection is selected, the meterbody cover is SUSF304 instead of SUSF316.
- 11 Dual diaphragm is not available for JIS63K, ANSI600 and JPI600 for a flange rating.

DSTJ3000 Ace Electric Differential Pressure Transmitter Flange style

Model	Pressure range/style	Service (Fill fluid)	Process connection
JTC929A	2.5 to 100kPa (250 to 10,160mmH2O) : Medium differential pressure	Regular service (Silicone oil)	Flush diaphragm 2in. (50mm)/1.5in.(40mm)
JTC940A	70 to 3500kPa (0.70 to 35kgf/cm2) : High differential pressure	Regular service (Silicone oil)	Flush diaphragm 2in. (50mm)/1.5in.(40mm)

Basic Model No. - I III IIII IV V VI VII VIII - IX XXI XII XIII - Options 2 Option 1, 2: Refer to page 19.

Basic Model No.			
Measuring span	2.5 to 100kPa(250 to 10,160mmH2O)	JTC929A	
	70 to 3500kPa(0.70 to 35kgf/cm2)	JTC940A	

Selections

I	Output	4 to 20mA	1		
		4 to 20mA (Analog FSK communication)	2 *3		
		Digital output (DE protocol)	3 *1, *2		
II	Material	Meterbody cover	Vent/Drain plugs	Wetted part of Flange side	Wetted part of reference side
		*8 Carbon steel Zn plating	SUS316	SUS316 *9	SUS316 *9 A
		*8 Carbon steel Zn plating	SUS316	HastelloyC	SUS316 *9 B
		*8 Carbon steel Zn plating	SUS316	Tantalum	SUS316 *9 D
		*10 SUSF316	SUS316	SUS316 *9	SUS316 *9 E
		*10 SUSF316	SUS316	HastelloyC	SUS316 *9 F
		*10 SUSF316	SUS316	Tantalum	SUS316 *9 H
		*10 SUSF316	SUS316	SUS316L	SUS316 *9 L
		Carbon steel Ni plating	SUS316	SUS316 *9	SUS316 *9 P
		Carbon steel Ni plating	SUS316	HastelloyC	SUS316 *9 Q
		Carbon steel Ni plating	SUS316	Tantalum	SUS316 *9 S
		*8 Carbon steel Ni plating	SUS316	SUS316L	SUS316 *9 7
		Carbon steel Ni plating	SUS316	SUS316L	SUS316 *9 8
III	Fill Fluid	Regular type (Silicone oil)	1		
IV	Process connection (Reference side)	Rc 1/2, top connection	A		
		Rc 1/2, bottom connection	B		
		1/2 NPT internal thread, top connection	F		
		1/2 NPT internal thread, bottom connection	G		
		Rc 1/4, top connection	L		
		Rc 1/4, bottom connection	M		
		1/4 NPT internal thread, top connection	R		
		1/4 NPT internal thread, bottom connection	S		
		Open to atmosphere	*10 W		
V	Flange rating	JIS 10K	A		
		JIS 20K	C		
		JIS 30K	D		
		*11 JIS 63K	F		
		ANSI 150	G		
		ANSI 300	H		
		*11 ANSI 600	J		
		JPI 150	N		
		JPI 300	P		
*11 JPI 600	Q				
VI	Flange size	2 in./50mm	3		
		1.5 in./40mm	4		
VII	Flange type	Standard	1		
VIII	Flange material/bolt and nut	Carbon steel	A		
		Carbon steel/SUS304	B		
		Carbon steel/SUS630	C		
		SUS304/Carbon steel	D		
		SUS304/SUS304	E		
		SUS304/SUS630	F		
		SUS316/Carbon steel	G		
		SUS316/SUS304	H		
		SUS316/SUS630	J		
		SUS316L/Carbon steel	K		
		SUS316L/SUS304	L		
SUS316L/SUS630	M				

Notes

- Digital output (DE protocol) should be selected with upper/lower direction of burn out feature.
- Digital output (DE protocol) can not be combined with an external zero adjustment function.
- Analog FSK Communication can not be combined with Intrinsically safe.
- This can be selected for the meterbody cover if the process fluid contains hydro-carbon or H2S which used for Refinery/Petrochemical. In other cases, select Carbon steel Ni plating for meterbody cover.
- When a wetted part is SUS316, the diaphragm material is SUS316L.
- When "Open to atmosphere" of process connection is selected, the meterbody cover is SUSF304 instead of SUSF316.
- Dual diaphragm is not available for JIS63K, ANSI600 and JPI600 for a flange rating.

DSTJ3000 Ace Electric Differential Pressure Transmitter Flange style

Model	Pressure range/style	Service (Fill fluid)	Process connection
JTC929A	2.5 to 100kPa (250 to 10,160 mmH ₂ O)	Medium differential pressure Oxygen service (Fluorine oil)	Flush diaphragm 2 in. (50mm)/1.5 in. (40mm)
JTC940A	70 to 3500kPa (0.70 to 35kgf/cm ²)	High differential pressure Oxygen service (Fluorine oil)	Flush diaphragm 2 in. (50mm)/1.5 in. (40mm)

Selections Options 1

Basic model No. - I III IIII IV V VI VII VIII - IX XXI XII XIII - Options 2

Option 1, 2: Refer to page 19.

Basic Model No.

Measuring span		
2.5 to 100kPa(250 to 10,160mmH ₂ O)	JTC929A	
70 to 3500kPa(0.70 to 35kgf/cm ²)	JTC940A	

Selections

I	Output	4 to 20mA	1		
		4 to 20mA (Analog FSK communication)	2	*3	
		Digital output (DE protocol)	3	*1, *2	
II	Material	Meterbody cover	Vent/Drain plugs	Wetted part of Flange side	Wetted part of reference side
		*10 SUSF316	SUS316	Tantalum	SUS316 *9 H
		*10 SUSF316	SUS316	SUS316 *9	SUS316 *9 E
		*10 SUSF316	SUS316	SUS316L	SUS316 *9 L
		*10 SUSF316	SUS316	HastelloyC	SUS316 *9 F
III	Fill Fluid	For oxygen service (Fluorine oil)			2
IV	Process connection	Rc 1/2, top connection			A
		Rc 1/2, bottom connection			B
		1/2 NPT internal thread, top connection			F
		1/2 NPT internal thread, bottom connection			G
		Rc 1/4, top connection			L
		Rc 1/4, bottom connection			M
		1/4 NPT internal thread, top connection			R
		1/4 NPT internal thread, bottom connection			S
		Open to atmosphere *10			W
V	Flange rating	JIS 10K			A
		JIS 20K			C
		JIS 30K			D
		*11 JIS 63K			F
		ANSI 150			G
		ANSI 300			H
		*11 ANSI 600			J
		JPI 150			N
		JPI 300			P
		*11 JPI 600			Q
VI	Flange size	2 in./50mm			3
		1.5 in./40mm *11			4
VII	Flange type	Standard			1
VIII	Flange material/bolt and nut	Carbon steel			A
		Carbon steel/SUS304			B
		Carbon steel/SUS630			C
		SUS304/Carbon steel			D
		SUS304/SUS304			E
		SUS304/SUS630			F
		SUS316/Carbon steel			G
		SUS316/SUS304			H
		SUS316/SUS630			J
		SUS316L/Carbon steel			K
		SUS316L/SUS304			L
		SUS316L/SUS630			M

Notes

- Digital output (DE protocol) should be selected with upper/lower direction of burn out feature.
- Digital output (DE protocol) can not be combined with an external zero adjustment function.
- Analog FSK Communication can not be combined with Intrinsically safe.
- When a wetted part is SUS316, the diaphragm material is SUS316L.
- When "Open to atmosphere" of process connection is selected, the meterbody cover is SUSF304 instead of SUSF316.
- Dual diaphragm is not available for JIS63K, ANSI600 and JPI600 for a flange rating.

DSTJ3000 Ace Electric Differential Pressure Transmitter Flange style

Model	Pressure range/style	Service (Fill fluid)	Process connection
JTC929A	2.5 to 100kPa (250 to 10,160 mmH2O)	Medium differential pressure Chlorine service (Fluorine oil)	Flush diaphragm 2 in. (50 mm)
JTC940A	70 to 3500kPa (0.70 to 35kgf/cm ²)	High differential pressure Chlorine service (Fluorine oil)	Flush diaphragm 2 in. (50 mm)

Selections Options 1
Basic model No. - I III IIII V VI VII VIII - IX XXI XII XIII - Options 2

Option 1, 2: Refer to page 19.

Basic Model No.

Measuring span	2.5 to 100kPa(250 to 10,160mmH2O)	JTC929A
	70 to 3500kPa(0.70 to 35kgf/cm ²)	JTC940A

Selections

I	Output	4 to 20mA	1		
		4 to 20mA (Analog FSK communication)	2	*3	
		Digital output (DE protocol)	3	*1, *2	
II	Material	Meterbody cover	Vent/Drain plugs	Wetted part of Flange side	Wetted part of reference side
		*10 SUSF316	SUS316	Tantalum	SUS316 *9 H
III	Fill Fluid	For Chlorine service (Fluorine oil)			5
IV	Process connection	Rc 1/2, top connection			A
		Rc 1/2, bottom connection			B
		1/2 NPT internal thread, top connection			F
		1/2 NPT internal thread, bottom connection			G
		Rc 1/4, top connection			L
		Rc 1/4, bottom connection			M
		1/4 NPT internal thread, top connection			R
		1/4 NPT internal thread, bottom connection			S
		Open to atmosphere	*10		
V	Flange rating	JIS 10K			A
		JIS 20K			C
		JIS 30K			D
		*11 JIS 63K			F
		ANSI 150			G
		ANSI 300			H
		*11 ANSI 600			J
		JPI 150			N
		JPI 300			P
		*11 JPI 600			Q
VI	Flange size	2 in./50mm			3
VII	Flange type	Standard			1
VIII	Flange material/bolt and nut	Carbon steel			A
		Carbon steel/SUS304			B
		Carbon steel/SUS630			C
		SUS304/Carbon steel			D
		SUS304/SUS304			E
		SUS304/SUS630			F
		SUS316/Carbon steel			G
		SUS316/SUS304			H
		SUS316/SUS630			J
		SUS316L/Carbon steel			K
		SUS316L/SUS304			L
SUS316L/SUS630			M		

Notes

- 1 Digital output (DE protocol) should be selected with upper/lower direction of burn out feature.
- 2 Digital output (DE protocol) can not be combined with an external zero adjustment function.
- 3 Analog FSK Communication can not be combined with Intrinsically safe.
- 9 When a wetted part is SUS316, the diaphragm material is SUS316L.
- 10 When "Open to atmosphere" of process connection is selected, the meterbody cover is SUS304 instead of SUSF316.
- 11 Dual diaphragm is not available for JIS63K, ANSI600 and JPI600 for a flange rating.

DSTJ3000 Ace Electric Differential Pressure Transmitter Flange style

Model	Pressure range/style	Service (Fill fluid)	Process connection
JTC929A	2.5 to 100kPa (250 to 10,160mmH ₂ O) : Medium differential pressure	Regular service (Silicone oil)	Extended flange type 4 in. (100mm)
JTC940A	70 to 3500kPa (0.70 to 35kgf/cm ²) : High differential pressure	Regular service (Silicone oil)	Extended flange type 4 in. (100mm)

Basic model No. - I III IIII IV V VI VII VIII - IX XXI XII XIII - Options 2

Option 1, 2: Refer to page 19.

Basic Model No.

Measuring span	2.5 to 100kPa (250 to 10,160mmH ₂ O) 70 to 3500kPa (0.70 to 35kgf/cm ²)	JTC929A JTC940A
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Selections

I	Output	4 to 20mA	1	*3		
		4 to 20mA (Analog FSK communication)	2			
		Digital output (DE protocol)	3		*1, *2	
II	Material	Meterbody cover	Vent/Drain plugs	Wetted part of Flange side	Wetted part of reference side	
		*8 Carbon steel Zn plating	SUS316	SUS316 *9	SUS316 *9	A
		*10 SUSF316	SUS316	SUS316 *9	SUS316 *9	E
		*10 SUSF316	SUS316	SUS316L	SUS316 *9	L
		Carbon steel Ni plating	SUS316	SUS316 *9	SUS316 *9	P
		*8 Carbon steel Ni plating	SUS316	SUS316L	SUS316 *9	7
		Carbon steel Ni plating	SUS316	SUS316L	SUS316 *9	8
III	Fill Fluid	Regular type (Silicone oil)	1			
IV	Process connection (Reference side)	Rc 1/2, top connection			A	
		Rc 1/2, bottom connection			B	
		1/2 NPT internal thread, top connection			F	
		1/2 NPT internal thread, bottom connection			G	
		Rc 1/4, top connection			L	
		Rc 1/4, bottom connection			M	
		1/4 NPT internal thread, top connection			R	
		1/4 NPT internal thread, bottom connection			S	
		Open to atmosphere	*10		W	
V	Flange rating	JIS 10K			A	
		JIS 20K			C	
		JIS 30K			D	
		ANSI 150			G	
		ANSI 300			H	
		JPI 150			N	
		JPI 300			P	
VI	Flange size	4in./100mm	1			
VII	Flange type	Length of extended part 50mm			2	
		Length of extended part 100mm			3	
		Length of extended part 150mm			4	
		Length of extended part 200mm			5	
		Length of extended part 250mm			6	
		Length of extended part 300mm			7	
VIII	Flange material/bolt and nut	Carbon steel			A	
		Carbon steel/SUS304			B	
		Carbon steel/SUS630			C	
		SUS304/Carbon steel			D	
		SUS304/SUS304			E	
		SUS304/SUS630			F	
		SUS316/Carbon steel			G	
		SUS316/SUS304			H	
		SUS316/SUS630			J	
		SUS316L/Carbon steel			K	
		SUS316L/SUS304			L	
SUS316L/SUS630			M			

Notes

- Digital output (DE protocol) should be selected with upper/lower direction of burn out feature.
- Digital output (DE protocol) can not be combined with an external zero adjustment function.
- Analog FSK Communication can not be combined with Intrinsically safe.
- This can be selected for the meterbody cover if the process fluid contains hydro-carbon or H₂S which used for Refinery/Petrochemical. In other cases, select Carbon steel Ni plating for meterbody cover.
- When a wetted part is SUS316, the diaphragm material is SUS316L.
- When "Open to atmosphere" of process connection is selected, the meterbody cover is SUSF304 instead of SUSF316.
- Dual diaphragm is not available for JIS63K, ANSI600 and JPI600 for a flange rating.

DSTJ3000 Ace Electric Differential Pressure Transmitter Flange style

Model	Pressure range/style	Service (Fill fluid)	Process connection
JTC929A	2.5 to 100kPa (250 to 10,160mmH2O)	Medium differential pressure	Oxygen service (Fluorine oil)
JTC940A	70 to 3500kPa (0.70 to 35kgf/cm2)	High differential pressure	Oxygen service (Fluorine oil)

Selections Options 1
 Basic model No. - I III III IV V VI VII VIII - IX XXI XII XIII - Options 2
 Basic Model No.

Option 1, 2: Refer to page 19.

Measuring span		Model
2.5 to 100kPa (250 to 10,160mmH2O)		JTC929A
70 to 3500kPa (0.70 to 35kgf/cm2)		JTC940A

Selections

I	Output	4 to 20mA	1		
		4 to 20mA (Analog FSK communication)	2 *3		
		Digital output (DE protocol)	3 *1, *2		
II	Material	Meterbody cover	Vent/Drain plugs	Wetted part of Flange side	Wetted part of reference side
		*10 SUSF316	SUS316	SUS316 *9	SUS316 *9 E
		*10 SUSF316	SUS316	SUS316L	SUS316 *9 L
III	Fill Fluid	For oxygen service (Fluorine oil)	2		
IV	Process connection	Rc 1/2, top connection	A		
		Rc 1/2, bottom connection	B		
		1/2 NPT internal thread, top connection	F		
		1/2 NPT internal thread, bottom connection	G		
		Rc 1/4, top connection	L		
		Rc 1/4, bottom connection	M		
		1/4 NPT internal thread, top connection	R		
		1/4 NPT internal thread, bottom connection	S		
		Open to atmosphere *10	W		
V	Flange rating	JIS 10K	A		
		JIS 20K	C		
		JIS 30K	D		
		ANSI 150	G		
		ANSI 300	H		
		JPI 150	N		
		JPI 300	P		
VI	Flange size	4 in. /100mm	1		
VII	Flange type	Length of extended part 50mm	2		
		Length of extended part 100mm	3		
		Length of extended part 150mm	4		
		Length of extended part 200mm	5		
		Length of extended part 250mm	6		
		Length of extended part 300mm	7		
VIII	Flange material/bolt and nut	Carbon steel	A		
		Carbon steel/SUS304	B		
		Carbon steel/SUS630	C		
		SUS304/Carbon steel	D		
		SUS304/SUS304	E		
		SUS304/SUS630	F		
		SUS316/Carbon steel	G		
		SUS316/SUS304	H		
		SUS316/SUS630	J		
		SUS316L/Carbon steel	K		
		SUS316L/SUS304	L		
SUS316L/SUS630	M				

Notes

- 1 Digital output (DE protocol) should be selected with upper/lower direction of burn out feature.
- 2 Digital output (DE protocol) can not be combined with an external zero adjustment function.
- 3 Analog FSK Communication can not be combined with Intrinsically safe.
- 9 When a wetted part is SUS316, the diaphragm material is SUS316L.
- 10 When "Open to atmosphere" of process connection is selected, the meterbody cover is SUSF304 instead of SUSF316.

DSTJ3000 Ace Electric Differential Pressure Transmitter Flange style

Model	Pressure range/style	Service (Fill fluid)	Process connection
JTC929A	2.5 to 100kPa (250 to 10,160mmH2O) : Medium differential pressure	Regular service(Silicone oil)	Extended flange type 3 in./80mm/2 in./50mm
JTC940A	70 to 3500kPa(0.70 to 35kgf/cm2) : High differential pressure	Regular service(Silicone oil)	Extended flange type 3 in./80mm/2 in./50mm

Basic model No. - I III IIII IV V VI VII VIII- IX X XI XII XIII - Options 2

Option 1, 2: Refer to page 19.

Basic Model No.	Measuring span	2.5 to 100kPa(250 to 10,160mmH2O) 70 to 3500kPa(0.70 to 35kgf/cm2)	JTC929A JTC940A

Selections

I	Output	4 to 20mA			1	
		4 to 20mA (Analog FSK communication)			2 *3	
		Digital output (DE protocol)			3 *1, *2	
II	Material	Meterbody cover	Vent/Drain plugs	Wetted part of Flange side	Wetted part of reference side	
		*8 Carbon steel Zn plating	SUS316	SUS316 *9	SUS316 *9	A
		*10 SUSF316	SUS316	SUS316 *9	SUS316 *9	E
		*10 SUSF316	SUS316	SUS316L	SUS316 *9	L
		Carbon steel Ni plating	SUS316	SUS316 *9	SUS316 *9	P
		*8 Carbon steel Ni plating	SUS316	SUS316L	SUS316 *9	7
		Carbon steel Ni plating	SUS316	SUS316L	SUS316 *9	8
III	Fill Fluid	Regular type (Silicone oil)			1	
IV	Process connection (Reference side)	Rc 1/2, top connection			A	
		Rc 1/2, bottom connection			B	
		1/2 NPT internal thread, top connection			F	
		1/2 NPT internal thread, bottom connection			G	
		Rc 1/4, top connection			L	
		Rc 1/4, bottom connection			M	
		1/4 NPT internal thread, top connection			R	
		1/4 NPT internal thread, bottom connection			S	
		Open to atmosphere *10			W	
V	Flange rating	JIS 10K			A	
		JIS 20K			C	
		JIS 30K			D	
		ANSI 150			G	
		ANSI 300			H	
		JPI 150			N	
		JPI 300			P	
VI	Flange size	3 in./80mm			2	
		2 in./50mm			3	
VII	Flange type	Length of extended part 50mm			2	
		Length of extended part 100mm			3	
		Length of extended part 150mm			4	
VIII	Flange material/bolt and nut	Carbon steel			A	
		Carbon steel/SUS304			B	
		Carbon steel/SUS630			C	
		SUS304/Carbon steel			D	
		SUS304/SUS304			E	
		SUS304/SUS630			F	
		SUS316/Carbon steel			G	
		SUS316/SUS304			H	
		SUS316/SUS630			J	
		SUS316L/Carbon steel			K	
		SUS316L/SUS304			L	
SUS316L/SUS630			M			

Notes

- Digital output (DE protocol) should be selected with upper/lower direction of burn out feature.
- Digital output (DE protocol) can not be combined with an external zero adjustment function.
- Analog FSK Communication can not be combined with Intrinsically safe.
- This can be selected for the meterbody cover if the process fluid contains hydro-carbon or H2S which used for Refinery/Petrochemical. In other cases, select Carbon steel Ni plating for meterbody cover.
- When a wetted part is SUS316, the diaphragm material is SUS316L.
- When "Open to atmosphere" of process connection is selected, the meterbody cover is SUSF304 instead of SUSF316.

DSTJ3000 Ace Electric Differential Pressure Transmitter Flange style

Model	Pressure range/style	Service (Fill fluid)	Process connection
JTC929A	2.5 to 100kPa(250 to 10,160mmH ₂ O) Medium differential pressure	Oxygen service(Fluorine oil)	Extended flange type 3 in.(80mm)/2 in.(50mm)
JTC940A	70 to 3500kPa(0.70 to 35kgf/cm ²) High differential pressure	Oxygen service(Fluorine oil)	Extended flange type 3 in.(80mm)/2 in.(50mm)

Selections Options 1

Basic model No. - I III IIII IV V VI VII VIII- IX X XI XII XIII - Options 2

Option 1, 2: Refer to page 19.

Basic Model No.

Measuring span	2.5 to 100kPa(250 to 10,160mmH ₂ O)	JTC929A
	70 to 3500kPa(0.70 to 35kgf/cm ²)	JTC940A

Selections

I	Output	4 to 20mA	1		
		4 to 20mA (Analog FSK communication)	2 *3		
		Digital output (DE protocol)	3 *1, *2		
II	Material	Meterbody cover	Vent/Drain plugs	Wetted part of Flange side	Wetted part of reference side
		*10 SUSF316	SUS316	SUS316 *9	SUS316 *9 E
		*10 SUSF316	SUS316	SUS316L	SUS316 *9 L
III	Fill Fluid	For oxygen service (Fluorine oil)	2		
IV	Process connection	Rc 1/2, top connection	A		
		Rc 1/2, bottom connection	B		
		1/2 NPT internal thread, top connection	F		
		1/2 NPT internal thread, bottom connection	G		
		Rc 1/4, top connection	L		
		Rc 1/4, bottom connection	M		
		1/4 NPT internal thread, top connection	R		
		1/4 NPT internal thread, bottom connection	S		
	Open to atmosphere *10	W			
V	Flange rating	JIS 10K	A		
		JIS 20K	C		
		JIS 30K	D		
		ANSI 150	G		
		ANSI 300	H		
		JPI 150	N		
		JPI 300	P		
VI	Flange size	3 in./80mm	2		
		2 in./50mm	3		
VII	Flange type	Length of extended part 50mm	2		
		Length of extended part 100mm	3		
		Length of extended part 150mm	4		
VIII	Flange material/bolt and nut	Carbon steel	A		
		Carbon steel/SUS304	B		
		Carbon steel/SUS630	C		
		SUS304/Carbon steel	D		
		SUS304/SUS304	E		
		SUS304/SUS630	F		
		SUS316/Carbon steel	G		
		SUS316/SUS304	H		
		SUS316/SUS630	J		
		SUS316L/Carbon steel	K		
		SUS316L/SUS304	L		
SUS316L/SUS630	M				

Notes

- 1 Digital output (DE protocol) should be selected with upper/lower direction of burn out feature.
- 2 Digital output (DE protocol) can not be combined with an external zero adjustment function.
- 3 Analog FSK Communication can not be combined with Intrinsically safe.
- 9 When a wetted part is SUS316, the diaphragm material is SUS316L.
- 10 When "Open to atmosphere" of process connection is selected, the meterbody cover is SUSF304 instead of SUSF316.

DSTJ3000 Ace Electric Differential Pressure Transmitter Flange style

Selections Options 1
 Basic model No. - I III IIII IV V VI VII VIII- IX XXI XII XIII - Options 2

Options1

IX	Electrical connection / explosion-proof	G1/2, Watertight	X
		G1/2, JIS Flameproof with 1 pc. Of cable gland attached.	2
		G1/2, JIS Flameproof with 2 pcs. Of cable gland attached.	3
		G1/2, intrinsically safe *3	6
		1/2 NPT, Watertight	A
X	Building indicating smart meter	None	X
		0 to 100 % linear scales	1
		Engineering unit scales	2
XI	Finish	Standard	X
		Corrosion-resistant	A
		Corrosion-proof	B
		Corrosion-resistant (Silver coating)	D
XII	Finish of gasket face	Standard (JISRa3.2(12.5S))	X
XIII	Burnout feature *1	None	X
		Upper limit of output at abnormal condition	U
		Lower limit of output at abnormal condition	D

Option 2

XX	No options
A1	Adapter flange for corrosion-resistant application (SUS316L or Tantal for the wetted parts of centerbody)
A2	External Zero adjustment *2
A4	Lightning arrestor
A5	Long vent/drain plugs
B2	Steam block
B7	For mounting a high load resistance smart meter
C1	Color : Red (Munsell 5R4/13)
C2	Color : Yellow (Munsell 2.5Y8/16))
C3	Color : Blue (Munsell 7.5BG7/2)
C7	Process connection ; reverse
D1	Water free finish (included oil free finish) *16 *17
D2	Oil free finish *16 *17
D3	FEP protective film
G1	One elbow (left)
G2	One elbow (right)
G3	2 elbows
G6	Adapter for dual diaphragm
J8	Special burn-out feature (3.2mA) *18
T1	Test report
T2	Material certificate *19
T5	Strength calculation sheet *20
T6	Withstand pressure and airtight test(for regular service)
T8	Traceability certificate
U2	Non-SI unit conformance

Notes

- 1 Digital output (DE protocol) should be selected with upper/lower direction of burn out feature.
- 2 Digital output (DE protocol) can not be combined with an external zero adjustment function.
- 3 Analog FSK Communication can not be combined with Intrinsically safe.
- 16 When the fill fluid is for oxygen or chroline service, there is not needed to select this.
- 17 The carbon steel for meterbody cover material is not available for this option.
- 18 This should be selected with upper/lower direction of burn out feature.
- 19 Available only for material of wetted part.
- 20 When ordering, designed pressure and designed temperature are required.
- 21 When ordering, withstand pressure and airtight test pressure are required.

DSTJ3000 Ace Electric Differential Pressure Transmitter Flange style

Dual diaphragm adapter (Flush flange 3 in.),

For regular service (fill fluid : silicon oil), oxygen service and chlorine service(fill fluid : Fluorine oil)

Selections Options

HH -I II III IV V VI VII - VIII

Basic Model No.

	Adpater for dual diaphragm		HH
--	----------------------------	--	----

Selections

I	Transmitter model number	JTC with 1 adapter		C
II	Material of wetted part	SUS316 (Diaphragm:SUS316L)	2	
		Tantalum	4	
		Hasterloy C	H	
		SUS316L	8	
III	Fill fluid	Regular type (Silicone oil)	1	
		For oxygen service (Fluorine oil)	2	
		For Chlorine service (Fluorine oil)	5	
IV	Flange rating	JIS 10K		A
		JIS 20K		C
		JIS 30K		D
		ANSI 150		G
		ANSI 300		H
		JPI 150		N
		JPI 300		P
V	Flange size	3 in. /80 mm	2	
VI	Flange type	Standard (Flush diaphragm)	1	
VII	Finish of gasket face	Standard		X
Options				
VIII		No options		XX
	*13	Water free and oil free treatment		D1
	*13	Oil free treatment		D2
	*13	Material certificate		T2
	*13	Pressure test		T7

Notes

13 When this option is selected, the same option for transimtter must be selected.

DSTJ3000 Ace Electric Differential Pressure Transmitter Flange style

Dual diaphragm adapter (Flush flange 2 in.),

For regular service (fill fluid : silicon oil), oxygen service and chlorine service(fill fluid : Fluorine oil)

Selections Options
 HH - I II III IV V VI VII - VIII

Basic Model No.

	Adpater for dual diaphragm	HH
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Selections

I	Transmitter model number	JTC with 1 adapter	C		
II	Material of wetted part	SUS316 (Diaphragm:SUS316L)	2		
		Tantalum	4		
		SUS316L	8		
III	Fill fluid	Regular type (Silicone oil)	1		
		For oxygen service (Fluorine oil)	2		
		For Chlorine service (Fluorine oil)	5		
IV	Flange rating	JIS 10K		A	
		JIS 20K		C	
		JIS 30K		D	
		ANSI 150		G	
		ANSI 300		H	
		JPI 150		N	
		JPI 300		P	
V	Flange size	2 in. /50 mm	3		
VI	Flange type	Standard (Flush diaphragm)	1		
VII	Finish of gasket face	Standard		X	
Options					
VIII		No options		-	XX
	*13	Water free and oil free treatment			D1
	*13	Oil free treatment			D2
	*13	Material certificate			T2
	*13	Pressure test			T7

Notes

13 When this option is selected, the same option for transimtter must be selected.

DSTJ3000 Ace Electric Differential Pressure Transmitter Flange style

Model	Pressure range/style	Service (Fill fluid)	Process connection
JTC929A	2.5 to 100kPa(250 to 10,160mmH2O)	Medium differential	Sanitary (Propyleneglycol)
JTC940A	70 to 3500kPa(0.70 to 35kgf/cm2)	High differential pressure	Sanitary (Propyleneglycol)

Selections Options 1

Basic model No. - III IIII IV V VI VII VIII- IX X XI XII XIII - Options 2

Basic Model No.

	Measuring span	2.5 to 100kPa(250 to 10,160mmH2O)	JTC929A
		70 to 3500kPa(0.70 to 35kgf/cm2)	JTC940A

Selections

I	Output	4 to 20mA	1
II	Material of wetted part	Ferrule	Wetted part
		SUS316L	SUS316L
III	Fill Fluid	Propyleneglycol (Food additive)	B
IV	Process connection	Open to atmosphere	V
V	Flange rating	IDF	U
VI	Clamp size	Clamp 4S	A
VII	Ferrule type	Standard (Flush diaphragm)	1
		Length of extended part 50mm	2
		Length of extended part 100mm	3
VIII	Material of Flange/bolt and nut	Ferrule	R
Options1			
IX	Electrical connection / explosion-proof	G1/2, Watertight	X
		G1/2, JIS Flameproof with 1 pc. Of cable gland attached.	2
		G1/2, JIS Flameproof with 2 pcs. Of cable gland attached.	3
X	Building indicating smart meter	None	X
		0 to 100 % linear scales	1
		Engineering unit scales	2
XI	Finish	Standard	X
		Corrosion-proof	B
XII	Finish of gasket face	Standard (JISRa3.2(12.5S))	X
		Electro polishing	A
		Passivation	B
XIII	Burnout feature *1	None	X
		Upper limit of output at abnormal condition	U
		Lower limit of output at abnormal condition	D

Option 2

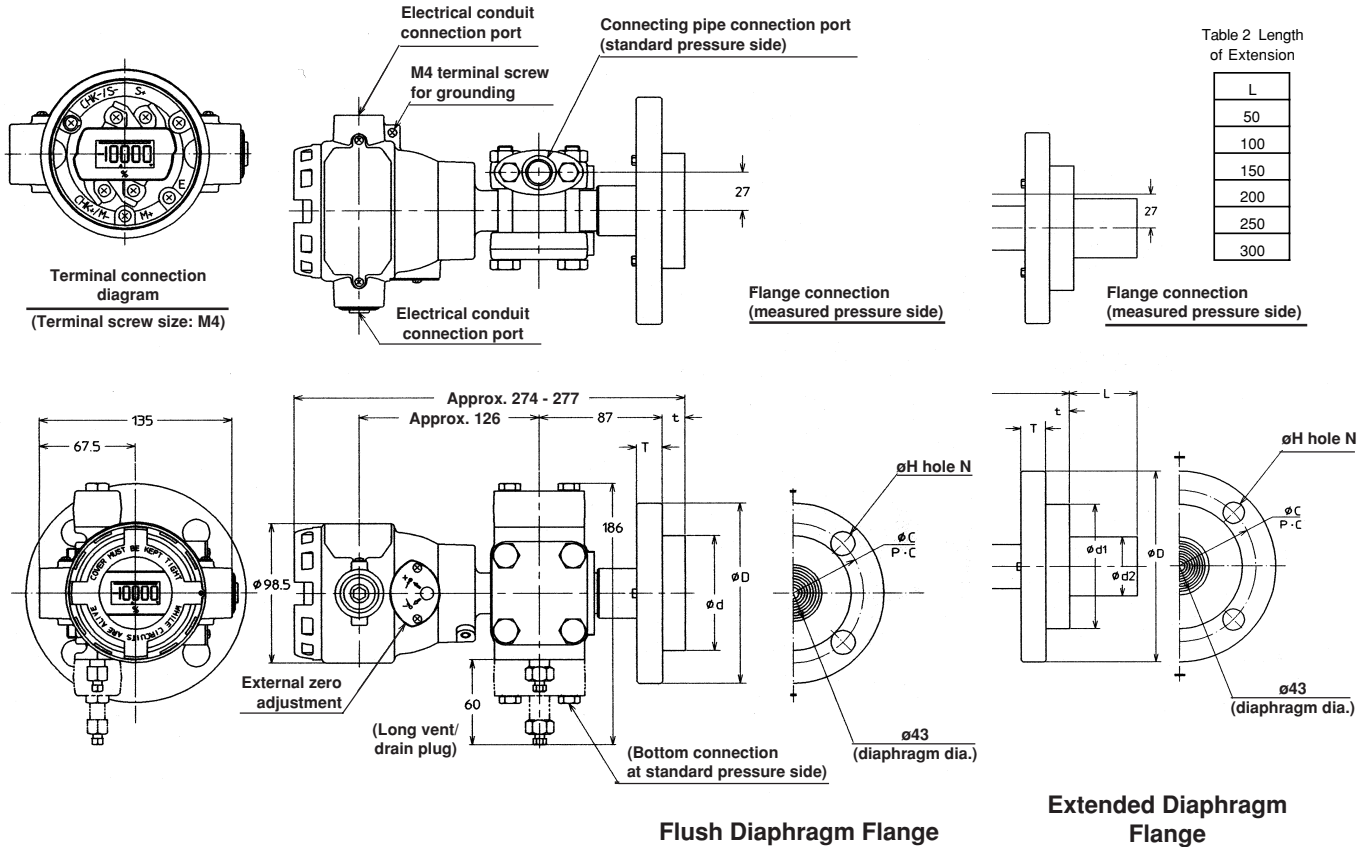
	No options	XX
	External Zero adjustment *1	A2
	Lightning arrestor	A4
	Water free finish (included oil free finish)	D1
	Oil free finish *2	D2
	One elbow (left)	G1
	One elbow (right)	G2
	2 elbows	G3
	Special burn-out feature (3.2mA) *18	J8
	Test report	T1
	Traceability certificate	T8
	2 sets of IDF clamp with gaskets for Flush diaphragm type	S1
	2 sets of IDF clamp	S2
	2 sets of gaskets for Flush diaphragm type	S3
	Extended type Tank spud for 4S clamp	S4
	Non-SI unit conformance	U2

Notes

- Digital output (DE protocol) should be selected with upper/lower direction of burn out feature.
- Digital output (DE protocol) can not be combined with an external zero adjustment function.
- This should be selected with upper/lower direction of burn out feature.

Dimensions

JTC929A/940A



Flush Diaphragm Flange Dimensions

Rating	Flange rating	φ D	T	φ C	N	φ H	φ d	t	Diaphragm dia.
1.5in (40mm)	JIS 10K-40mm	140	18	105	4	19	81	16	
	JIS 20K-40mm	140	18	105	4	19			
	JIS 30K-40mm	160	25	120	4	23			
	ANSI 150-1 1/2in	127	18	98.6	4	16			
	ANSI 300-1 1/2in	155	25	114.3	4	22			
	JPI 150-1 1/2in	127	18	98.6	4	16			
2in (50mm)	JIS 10K-50mm	155	16	120	4	19	99	19	43
	JIS 20K-50mm	155	18	120	8	19			
	JIS 30K-50mm	165	22	130	8	19			
	ANSI 150-2in	152	19.5	120.6	4	19			
	ANSI 300-2in	165	22.5	127	8	19			
	JPI 150-2in	152	19.5	120.6	4	19			
3in (80mm)	JIS 10K-80mm	185	18	150	8	19	129.5	22	
	JIS 20K-80mm	200	22	160	8	23			
	JIS 30K-80mm	210	28	170	8	23			
	ANSI 150-3in	190	24	152.4	4	19			
	ANSI 300-3in	210	28.5	168.1	8	22			
	JPI 150-3in	190	24	152.4	4	19			

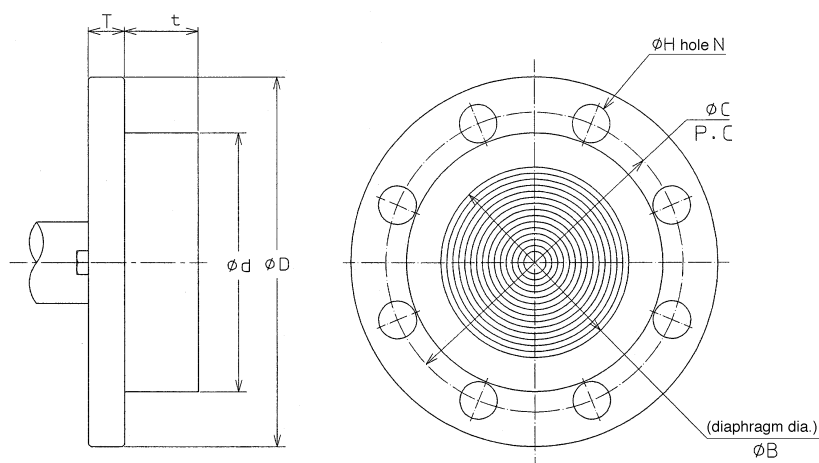
Extended Diaphragm Flange Dimensions

Rating	Flange rating	φ D	T	φ C	N	φ H	φ d1	φ d2	t	Diaphragm dia.
2in (50mm)	JIS 10K-50mm	155	16	120	4	19	99	47 ^{±1}	19	
	JIS 20K-50mm	155	18	120	8	19				
	JIS 30K-50mm	165	22	130	8	19				
	ANSI 150-2in	152	19.5	120.6	4	19				
	ANSI 300-2in	165	22.5	127	8	19				
	JPI 150-2in	152	19.5	120.6	4	19				
3in (80mm)	JIS 10K-80mm	185	18	150	8	19	129.5	69 ^{±1}	22	43
	JIS 20K-80mm	200	22	160	8	23				
	JIS 30K-80mm	210	28	170	8	23				
	ANSI 150-3in	190	24	152.4	4	19				
	ANSI 300-3in	210	28.5	168.1	8	22				
	JPI 150-3in	190	24	152.4	4	19				
4in (100mm)	JIS 10K-100mm	210	18	175	8	19	157	95 ^{±1}	23	
	JIS 20K-100mm	225	24	165	8	23				
	JIS 30K-100mm	240	32	195	8	25				
	ANSI 150-4in	229	24	190.5	8	19				
	ANSI 300-4in	254	32	200.2	8	22				
	JPI 150-4in	229	24	190.5	8	19				

Notes:

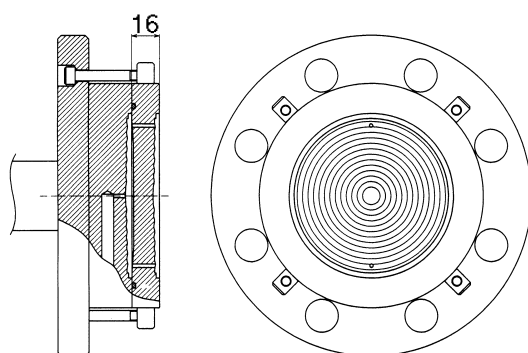
- 1) For the process pipe connection on the standard pressure side, choose either the upward or downward directions. When changing the connection, replace the adaptor flange and the vent/drain plugs.
- 2) Select a gasket that will not contact the diaphragm after it is tightened.
- 3) The material of the meter body cover on the higher pressure side is SF440A. If the flange material is carbon steel (SFVC2A), it is otherwise SUSF304.

JTC929A/940A Flush Diaphragm Flange (The Material of Wetted Part : Tantalum)



Flush Diaphragm Flange Dimensions

Rating	Flange rating	ϕD	T	ϕC	N	ϕH	ϕd	t	diaphragm dia.
2 in (50mm)	JIS 10K -50mm	155	16	120	4	19	99	33	62
	JIS 20K -50mm	155	18	120	8	19			
	JIS 30K -50mm	165	22	130	8	19			
	JIS 63K -50mm	185	34	145	8	23			
	ANSI 150 -2 in	152	19.5	120.6	4	19			
	ANSI 300 -2 in	165	22.5	127	8	19			
	ANSI 600 -2 in	165	25.5	127	8	19			
	JPI 150 -2 in	152	19.5	120.6	4	19			
	JPI 300 -2 in	165	22.5	127	8	19			
JPI 600 -2 in	165	25.5	127	8	19				
3 in (80mm)	JIS 10K -80mm	185	18	150	8	19	129.5	36	95
	JIS 20K -80mm	200	22	160	8	23			
	JIS 30K -80mm	210	28	170	8	23			
	JIS 63K -80mm	230	40	185	8	25			
	ANSI 150 -3 in	190	24	152.4	4	19			
	ANSI 300 -3 in	210	28.5	168.1	8	22			
	ANSI 600 -3 in	210	32	168.1	8	22			
	JPI 150 -3 in	190	24	152.4	4	19			
	JPI 300 -3 in	210	28.5	168.1	8	22			
	JPI 600 -3 in	210	32	168.1	8	22			



Dual diaphragm

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