

General Specifications

GS 01C22H01-00E

Model EJA118W, EJA118N and EJA118Y Diaphragm Sealed Differential Pressure Transmitters

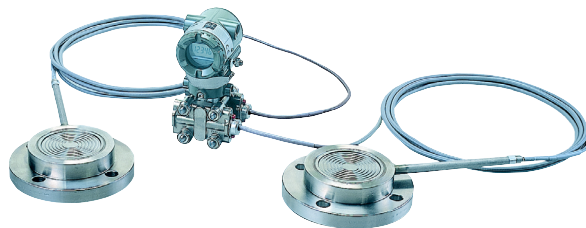
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Diaphragm seals are used to prevent process medium from entering directly into the pressure-sensing assembly of the differential pressure transmitter, they are connected to the transmitter using capillaries filled with fill fluid.

Model EJA118W, EJA118N and EJA118Y Diaphragm Sealed Differential Pressure Transmitters can be used to measure liquid, gas, or steam flow, as well as liquid level, density, and pressure. They output a 4 to 20 mA DC signal corresponding to the measured pressure differential.

The transmitters also feature remote setup and monitoring through communications with the model BT200/100 BRAIN TERMINAL, CENTUM CS/XL system etc.



■ STANDARD SPECIFICATIONS

Refer to GS 01C22T02-00E for FOUNDATION Fieldbus communication type and GS 01C22T03-00E for PROFIBUS PA communication type marked with “◇.”

Measurement Ranges:

Capsule	Measurement Span	Measurement Range
M	2.5 to 100 kPa { 250 to 10000 mmH ₂ O }	-100 to 100 kPa { -10000 to 10000 mmH ₂ O }
H	25 to 500 kPa { 0.25 to 5 kgf/cm ² }	-500 to 500 kPa { -5 to 5 kgf/cm ² }

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Output Signal “◇”:

4 to 20 mA DC, 2-wire system with digital communication

Failure Alarm:

Output status at CPU failure and hardware error;

Up-scale: 110%, 21.6 mA DC or more (standard)

Down-scale: -5%, 3.2 mA DC or less

-2.5%, 3.6 mA DC or less (Optional code /F1)

Note: Applicable for Output signal code D and E

Supply Voltage “◇”:

10.5 to 42 V DC for general use and flameproof type

10.5 to 32 V DC for lightning protector (Optional code /A)

10.5 to 30 V DC for intrinsically safe, Type n, nonincendive, or non-sparking type

10.5 to 28 V DC for TIIS intrinsically safe type

Conditions of Communication Line “◇”:

Power supply voltage;

16.4 to 42 V DC

Load resistance; See Figure 1.

Note: In case of an intrinsically safe transmitter, external load resistance includes safety barrier resistance.

Communication distance;

2 km, when CEV polyethylene-insulated

PVC-sheathed control cables are used.

Note: Communication distance varies depends on kind of cable.

Load capacitance; 0.22 μF or less.

Load inductance; 3.3 mH or less.

Spacing from power line; 15 cm or more.

Input impedance of receiver connected receiving resistance;

10 kΩ or more at 2.4 kHz

(See Optional Specifications for Intrinsically safe type)

Accuracy:

See Table 2-1, 2-2 and 2-3.

Ambient Temperature Limits:

-40 to 60 °C (-40 to 140 °F) (general-use type)

-30 to 60 °C (-22 to 140 °F) (with integral indicator)

(Note: The ambient temperature limits must be within the fill fluid operating temperature range, see table 1.)

(See ‘Optional Specifications’ for Explosion-protected types)

Ambient Temperature Effect:

See Table 2-1, 2-2 and 2-3.

Process Temperature Limits:

See Table 1.

(See ‘Optional Specifications’ for Explosion-protected types)

Ambient Humidity Limits:

5 to 100 % R.H. (at 40 °C)

Working Pressure Range:

2.7 kPa abs { 20 mmHg abs } to flange rating pressure.

For atmospheric pressure or below, see Figure 2.

Static Pressure Effect:

See Table 2-1, 2-2 and 2-3.

Power Supply Effect “◇”:

±0.005 %/V (21.6 to 32 V DC, 350 Ω)

Mounting:

Transmitter; 2-inch pipe mounting

Diaphragm seals; flange mounting

Mounting Flange Rating:

See ‘Model and Suffix Codes.’

Flanges conforming to ANSI are serrated on their gasket surfaces (ANSI B16.5).

Note: For model EJA118W wetted parts material code H, T, or U, no serration is worked.

Degrees of Protection:

IP67, NEMA4X

Explosion-protected Construction:

See ‘Optional Specifications.’

Electrical Connection:

See ‘Model and Suffix Codes.’

Amplifier Housing:

Cast aluminum alloy or JIS SCS14A stainless steel (optional)

Transmitter Material:

Cover flange; JIS SCS14A
Cover flange bolts; See 'Model and Suffix Codes.'

Diaphragm Seals Material:

Diaphragm and other wetted parts;
See 'Model and Suffix Codes.'
Capillary tubes; JIS SUS316
Protection tubes; JIS SUS304 PVC-sheathed
(Max, operating temperature of PVC,
100 °C (212 °F)) Fill fluid; See Table 1.

Damping Time Constant:

(Sum of time constants for amplifier assembly and capsule assembly including diaphragm seals)

Amplifier assembly time constant;

Can be set in 9 increments from 0.2 to 64 sec.

Capsule assembly time constant;

Capsule	M	H
Time Constant (sec)	Approx. 0.5	Approx. 0.5

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Approximate values obtained at normal temperature when the capillary length is 5 m, process flange size/material code D, E, F and the fill fluid code is A.

Painting:

Polyurethane resin baked finish
Deep sea moss green (Munsell 0.6GY3.1/2.0)

Integral Indicator:

LCD digital indicator (optional)

External Zero Adjustment “◇”:

Continuously adjustable Resolution; 0.01 % of span

Zero Adjustment Limits:

Zero can be fully elevated or suppressed as long as low and high range value are within the measurement range limits of the capsule.

Tag Plate:

JIS SUS304 or SUS316

Weight:

17.3 kg (38.2 lb) Model EJA118W with 80 mm JIS 10K flange, capillary length 5 m; with integral indicator and mounting bracket.

22.9 kg (50.6 lb) Model EJA118N with 100 mm JIS 10K flange, $X_2=100$, capillary length 5 m; with integral indicator and mounting bracket.

20.1 kg (44.4 lb) Model EJA118Y with 100 mm JIS 10K flange, $X_2=100$, capillary length 5 m; with integral indicator and mounting bracket.

Add 1.4 kg (3.1lb) for JIS SCS14A stainless steel amplifier housing.

EMC Conformity Standards “◇”: **CE** , **N200**

EN61326-1 Class A, Table2 (For use in industrial locations)
EN61326-2-3

European Pressure Equipment Directive 97/23/EC:

Sound Engineering Practice

< Settings When Shipped > “◇”

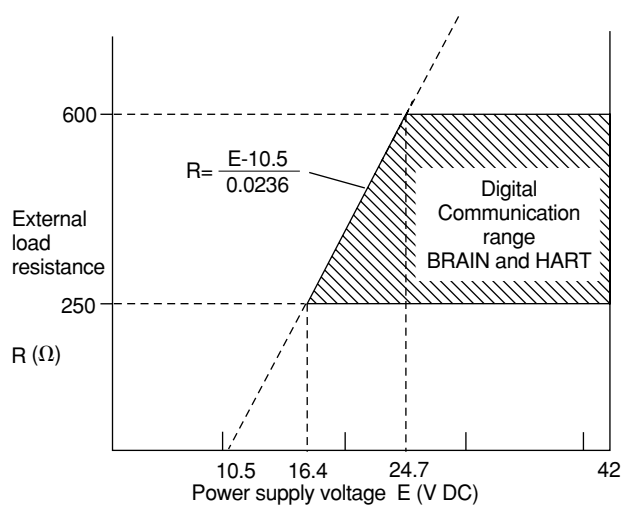
Tag Number	As specified in order *1
Output Mode	'Linear' unless otherwise specified in order
Display Mode	'Linear' unless otherwise specified in order
Operation Mode	'Normal' unless otherwise specified in order
Damping Time Constant *2	'2 sec.'

Calibration Range Lower Range Value	As specified in order
Calibration Range Higher Range Value	As specified in order
Calibration Range Units	Selected from mmH ₂ O, mmAq, mmWG, mmHg, Pa, hPa, kPa, MPa, mbar, bar, gf/cm ² , kgf/cm ² , inH ₂ O, inHg, ftH ₂ O, or psi. (Only one unit can be specified)

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*1: Up to 16 alphanumeric characters (including - and .) will be entered in the amplifier memory.

*2: If using square root output, set damping time constant to 2 sec. or more.



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Figure 1. Relationship Between Power Supply Voltage and External Load Resistance

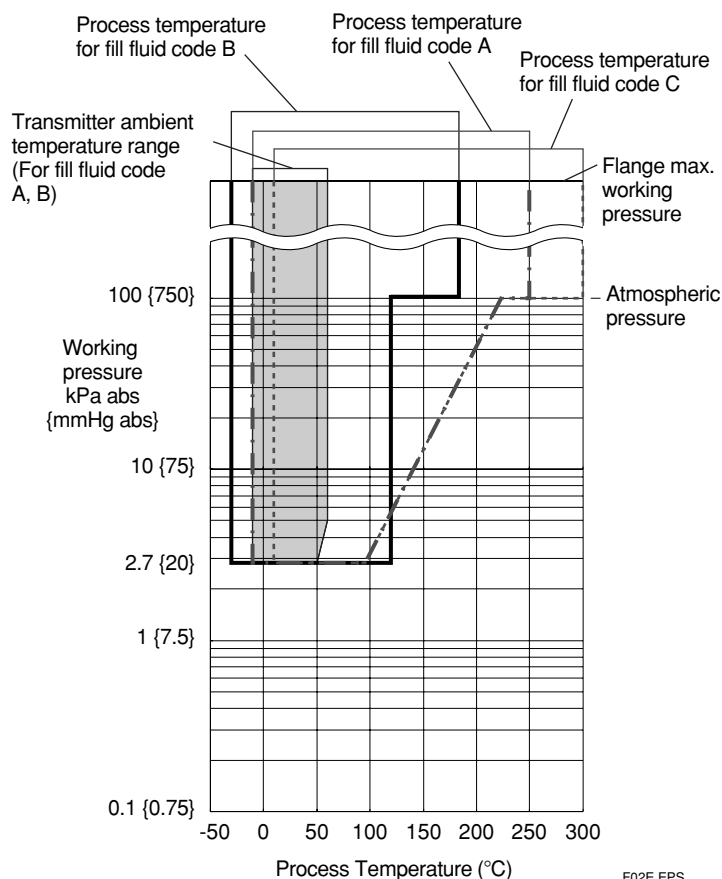


Figure 2. Working Pressure and Process Temperature

Table 1. Process Temperature and Ambient Temperature

	Silicone Oil			Fluorinated Oil	Ethylene Glycol
	Fill Fluid Code 'A'	Fill Fluid Code 'B'	Fill Fluid Code 'C'	Fill Fluid Code 'D'	Fill Fluid Code 'E'
Process Temperature *1	-10 to 250 °C (14 to 482 °F)	-30 to 180 °C (-22 to 356 °F)	10 to 300 °C (50 to 572 °F)	-20 to 120 °C (-4 to 248 °F)	-50 to 100 °C (-58 to 212 °F)
Ambient temperature *2	-10 to 60 °C (14 to 140 °F)	-15 to 60 °C (5 to 140 °F)	10 to 60 °C (50 to 140 °F)	-10 to 60 °C (14 to 140 °F)	-40 to 60 °C (-40 to 140 °F)
Working pressure	See Figure 2			51 kPa abs or more {380 mmHg abs}	Vacuum pressure not allowed
Specific gravity *3	1.07	0.94	1.09	1.90 to 1.92	1.09

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*1: See Figure 2 'Working Pressure and Process Temperature.'

*2: This ambient temperature is the transmitter ambient temperature.

*3: Approximate values at a temperature of 25 °C (77 °F)

Note: The differential pressure transmitter should be installed at least 600 mm below the high pressure (HP) process connection. However, this value (600 mm) may be affected by ambient temperature, operating pressure, fill fluid or material of the wetted diaphragm. Contact YOKOGAWA when the transmitter can not be installed at least 600 mm below the HP process connection.

Table 2-1. Accuracy, Ambient Temperature Effect, and Static Pressure Effect
(With Linear Output, As Percent of 'x') *1 *2
[For model EJA118W 3-inch flange, model EJA118N 4-inch flange and model EJA118Y,
Wetted parts material code S]

Capsule		M, H	
Accuracy		$\pm 0.2 \%$	For $x \geq \text{Pref}$
		$\pm (0.15 + 0.05 \times \frac{\text{Pref}}{x}) \%$	For $x < \text{Pref}$
Ambient temperature effect *3	Zero shift	$\pm (0.2 + 0.5 \times \frac{\text{Pref}}{x}) \%$ / 50 °C	
	Total shift *5	$\pm 1.4 \%$ / 50 °C	For $x \geq \text{Pref}$
		$\pm (0.7 + 0.7 \times \frac{\text{Pref}}{x}) \%$ / 50 °C	For $x < \text{Pref}$
Static pressure effect	Zero shift	$\pm 0.1 \%$ / 0.98 MPa{ 10 kgf/cm ² }	For $x \geq \text{Pref}$
		$\pm (0.1 \times \frac{\text{Pref}}{x}) \%$ / 0.98 MPa{ 10 kgf/cm ² }	For $x < \text{Pref}$
	Total shift *4 *5	$\pm 0.14 \%$ / 0.98 MPa{ 10 kgf/cm ² }	For $x \geq \text{Pref}$
		$\pm (0.04 + 0.1 \times \frac{\text{Pref}}{x}) \%$ / 0.98 MPa{ 10 kgf/cm ² }	For $x < \text{Pref}$

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*1: 'x' is the highest value among the absolute value of the lower range value (LRV) and higher range value (HRV), and the span value in a calibration range. Accuracy of square root output is as shown in Table 4.

$$\text{Percent of span} = \text{Percent of } x \times \frac{x}{\text{span}}$$

*2: In case of 6 to 10 m. for capillary length, values of ambient temperature effect and static pressure effect are twice that given in the table.

*3: The ambient temperature effect specification applies to the range of 0 to 60 °C (32 to 140 °F).
 (Below 0 °C (32 °F), value is three times that given in the table.)

*4: Values for measurement span 4.9 kPa { 500 mmH₂O } or below are estimated values.

*5: Combined zero and span shift

Table 2-2. Accuracy, Ambient Temperature Effect, and Static Pressure Effect
(With Linear Output, As Percent of 'x') *1
[For Model EJA 118W 2-inch flange and EJA 118N 3-inch flange]

Capsule		M, H	
Accuracy		$\pm 0.2 \%$	For $x \geq \text{Pref}$
		$\pm (0.15 + 0.05 \times \frac{\text{Pref}}{x}) \%$	For $x < \text{Pref}$
Ambient temperature effect *2	Zero shift	$\pm (0.2 + 0.7 \times \frac{\text{Pref}}{x}) \%$ / 50 °C	
	Total shift *4	$\pm 1.4 \%$ / 50 °C	For $x \geq \text{Pref}$
		$\pm (1.4 \times \frac{\text{Pref}}{x}) \%$ / 50 °C	For $x < \text{Pref}$
Static pressure effect	Zero shift	$\pm 0.2 \%$ / 0.98 MPa{ 10 kgf/cm ² }	For $x \geq \text{Pref}$
		$\pm (0.2 \times \frac{\text{Pref}}{x}) \%$ / 0.98 MPa{ 10 kgf/cm ² }	For $x < \text{Pref}$
	Total shift *3 *4	$\pm 0.25 \%$ / 0.98 MPa{ 10 kgf/cm ² }	For $x \geq \text{Pref}$
		$\pm (0.25 \times \frac{\text{Pref}}{x}) \%$ / 0.98 MPa{ 10 kgf/cm ² }	For $x < \text{Pref}$

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*1: 'x' is the highest value among the absolute value of the lower range value (LRV) and higher range value (HRV), and the span value in a calibration range. Accuracy of square root output is as shown in Table 4.

$$\text{Percent of span} = \text{Percent of } x \times \frac{x}{\text{span}}$$

*2: The ambient temperature effect specification applies to the range of 0 to 60 °C (32 to 140 °F).
 (Below 0 °C (32 °F), value is three times that given in the table.)

*3: Values for measurement span 4.9 kPa { 500 mmH₂O } or below are estimated values.

*4: Combined zero and span shift

**Table 2-3. Accuracy, Ambient Temperature Effect, and Static Pressure Effect
(With Linear Output, As Percent of 'x') *1
[For Model EJA 118W wetted part material code H,T and U]**

Capsule		M, H	
Accuracy		$\pm 0.2 \%$ $\pm (0.15 + 0.05 \times \frac{\text{Pref}}{x}) \%$	For $x \geq \text{Pref}$ For $x < \text{Pref}$
Ambient temperature effect *2	Zero shift	$\pm (0.4 + 1.0 \times \frac{\text{Pref}}{x}) \%$ / 50 °C	
	Total shift *4	$\pm 2.0 \%$ / 50 °C $\pm (1.0 + 1.0 \times \frac{\text{Pref}}{x}) \%$ / 50 °C	For $x \geq \text{Pref}$ For $x < \text{Pref}$
Static pressure effect	Zero shift	$\pm 0.3 \%$ / 0.98 MPa{ 10 kgf/cm ² } $\pm (0.3 \times \frac{\text{Pref}}{x}) \%$ / 0.98 MPa{ 10 kgf/cm ² }	For $x \geq \text{Pref}$ For $x < \text{Pref}$
	Total shift *3 *4	$\pm 0.4 \%$ / 0.98 MPa{ 10 kgf/cm ² } $\pm (0.1 + 0.3 \times \frac{\text{Pref}}{x}) \%$ / 0.98 MPa{ 10 kgf/cm ² }	For $x \geq \text{Pref}$ For $x < \text{Pref}$

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- *1: 'x' is the highest value among the absolute value of the lower range value (LRV) and higher range value (HRV), and the span value in a calibration range. Accuracy of square root output is as shown in Table 4.

$$\text{Percent of span} = \text{Percent of } x \times \frac{x}{\text{span}}$$

- *2: The ambient temperature effect specification applies to the range of 0 to 60 °C (32 to 140 °F). (Below 0 °C (32 °F), value is three times that given in the table.)
- *3: Values for measurement span 4.9 kPa { 500 mmH₂O } or below are estimated values.
- *4: Combined zero and span shift

Table 3. Value of 'Pref'

Capsule	Pref
M	20 kPa { 2000 mmH ₂ O }
H	100 kPa { 1 kgf/cm ² }

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Table 4. Accuracy for Square Root Output

Square Root Output	Accuracy
50 % or greater	Same as accuracy for linear output
50 % down to dropout point	$(\text{linear output accuracy}) \times \frac{50}{(\text{square root output } [\%])}$

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MODEL AND SUFFIX CODES

● MODEL EJA118W [Flange size : 3-inch (80 mm)]

Model	Suffix Codes	Description
EJA118W		Diaphragm sealed differential pressure transmitter (Flush diaphragm type)
Output Signal	-D -E -F -G	4 to 20 mA DC with digital communication (BRAIN protocol) 4 to 20 mA DC with digital communication (HART protocol) *1 Digital communication (FOUNDATION Fieldbus protocol) *6 Digital communication (PROFIBUS PA protocol) *10
Measurement span (capsule)	M H	2.5 to 100 kPa {250 to 10000 mmH ₂ O} {10 to 400 inH ₂ O} {25 to 1000 mbar} 25 to 500 kPa {0.25 to 5 kgf/cm ² } {100 to 2000 inH ₂ O} {250 to 5000 mbar}
Wetted parts material *8	S [#] H [#] T U	[Diaphragm] [Others] JIS SUS316L JIS SUS316L *11 Hastelloy C-276 *9 Hastelloy C-276 *9 Tantalum Tantalum Titanium Titanium
Process flange rating	J1 J2 J4 A1 A2 A4 D2 D4 D5	JIS 10K JIS 20K JIS 40K ANSI Class 150 P1 JPI Class 150 ANSI Class 300 P2 JPI Class 300 ANSI Class 600 P4 JPI Class 600 DIN PN10/16 DIN PN25/40 DIN PN64
Process flange size / material ☆	D E F	3-inch (80 mm) / JIS S25C 3-inch (80 mm) / JIS SUS304 *12 3-inch (80 mm) / JIS SUS316 *13
Cover flange bolts material ☆	A B	JIS SCM435 JIS SUS630
Fill fluid ☆	-A *2 -B -C *3 -D *4 -E	[Process temp.] [Ambient temp.] For general use (silicone oil) -10 to 250 °C -10 to 60 °C For general use (silicone oil) -30 to 180 °C -15 to 60 °C For high temperature use (silicone oil) 10 to 300 °C 10 to 60 °C For oil-prohibited use (fluorinated oil) -20 to 120 °C -10 to 60 °C For low temperature use (ethylene glycol) -50 to 100 °C -40 to 60 °C
—	A	Always A
Capillary length (m)	☐ ☐ *5	Specify capillary length from 1 to 10m in ☐ ☐ . (Example for 2 m : 02)
Installation	-9	Horizontal impulse piping type, left side high pressure
Electrical connection ☆	0 2 3 4 5 7 8 9 A C D	G1/2 female, one electrical connection 1/2 NPT female, two electrical connections without blind plug Pg 13.5 female, two electrical connections without blind plug M20 female, two electrical connections without blind plug G1/2 female, two electrical connections and a blind plug 1/2 NPT female, two electrical connections and a blind plug Pg 13.5 female, two electrical connections and a blind plug M20 female, two electrical connections and a blind plug G1/2 female, two electrical connections and a SUS316 blind plug 1/2 NPT female, two electrical connections and a SUS316 blind plug M20 female, two electrical connections and a SUS316 blind plug
Integral indicator ☆	D E N	Digital indicator Digital indicator with the range setting switch *7 (None)
Mounting bracket ☆	A B J N	JIS SECC 2-inch pipe mounting (flat type) JIS SUS304 2-inch pipe mounting (flat type) JIS SUS316 2-inch pipe mounting (flat type) (None)
Optional codes	/ ☐ Optional specification	

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The '☆' marks indicate the most typical selection for each specification. Example: EJA118W-DMSA1DA-AA02-92NA/☐

The '#' marks indicate the construction materials conform to NACE material recommendations per MR01-75. For the use of SUS316 material, there may be certain limitations for pressure and temperature. Please refer to NACE standards for details.

*1: Refer to GS 01C22T01-00E for HART Protocol version.

*2: In case of Wetted parts material code T (Tantalum), the process temperature limit is -10 to 200 °C.

*3: Wetted parts material code T (Tantalum) cannot be applied.

*4: Even in case where Fill fluid code D (fluorinated oil) is selected, if degrease cleansing treatment or both degrease cleansing and dehydrating treatment for the wetted parts is required, specify Optional code K1 or K5.

*5: In case of Wetted parts material code H (Hastelloy C), T (Tantalum), and U (Titanium) or Fill fluid code C (for high temperature use), specify capillary length from 1 to 5 m.

*6: Refer to GS 01C22T02-00E for Fieldbus communication.

*7: Not applicable for Output signal code F and G.

- *8:  Users must consider the characteristics of selected wetted parts material and the influence of process fluids. The use of inappropriate materials can result in the leakage of corrosive process fluids and cause injury to personnel and/or damage to plant facilities. It is also possible that the diaphragm itself can be damaged and that material from the broken diaphragm and the fill fluid can contaminate the user's process fluids. Be very careful with highly corrosive process fluids such as hydrochloric acid, sulfuric acid, hydrogen sulfide, sodium hypochlorite, and high-temperature steam (150°C [302°F] or above). Contact Yokogawa for detailed information of the wetted parts material.
- *9: Hastelloy C-276 or ASTM N10276.
- *10: Refer to GS 01C22T03-00E for PROFIBUS PA communication.
- *11: JIS SUS316L or ASTM grade 316L.
- *12: JIS SUS304 or ASTM grade 304. Forged version may be used.
- *13: JIS SUS316 or ASTM grade 316. Forged version may be used.

● MODEL EJA118W [Flange size : 2-inch (50mm)]

Model	Suffix Codes	Description
EJA118W		Diaphragm sealed differential pressure transmitter (Flush diaphragm type)
Output Signal	-D -E -F -G	4 to 20 mA DC with digital communication (BRAIN protocol) 4 to 20 mA DC with digital communication (HART protocol) *1 Digital communication (FOUNDATION Fieldbus protocol) *2 Digital communication (PROFIBUS PA protocol) *5
Measurement span (capsule)	M H	2.5 to 100 kPa {250 to 10000 mmH ₂ O} {10 to 400 inH ₂ O} {25 to 1000 mbar} 25 to 500 kPa {0.25 to 5 kgf/cm ² } {100 to 2000 inH ₂ O} {250 to 5000 mbar}
Wetted parts material *4	S#	[Diaphragm] [Others] JIS SUS316L JIS SUS316L *6
Process flange rating	J1 J2 J4 A1 A2 A4 D2 D4 D5	JIS 10K JIS 20K JIS 40K ANSI Class 150 P1 JPI Class 150 ANSI Class 300 P2 JPI Class 300 ANSI Class 600 P4 JPI Class 600 DIN PN10/16 DIN PN25/40 DIN PN64
Process flange size / material	A B C	2-inch (50 mm) / JIS S25C 2-inch (50 mm) / JIS SUS304 *7 2-inch (50 mm) / JIS SUS316 *8
Cover flange bolts material ☆	A B	JIS SCM435 JIS SUS630
Fill fluid ☆	-A -B	[Process temp.] [Ambient temp.] For general use (silicone oil) -10 to 250 °C -10 to 60 °C For general use (silicone oil) -30 to 180 °C -15 to 60 °C
—	A	Always A
Capillary length (m)	☐ ☐	Specify capillary length from 1 to 5 m in ☐ ☐ . (Example for 2 m : 02)
Installation	-9	Horizontal impulse piping type, left side high pressure
Electrical connection ☆	0 2 3 4 5 7 8 9 A C D	G1/2 female, one electrical connection 1/2 NPT female, two electrical connections without blind plug Pg 13.5 female, two electrical connections without blind plug M20 female, two electrical connections without blind plug G1/2 female, two electrical connections and a blind plug 1/2 NPT female, two electrical connections and a blind plug Pg 13.5 female, two electrical connections and a blind plug M20 female, two electrical connections and a blind plug G1/2 female, two electrical connections and a SUS316 blind plug 1/2 NPT female, two electrical connections and a SUS316 blind plug M20 female, two electrical connections and a SUS316 blind plug
Integral indicator ☆	D E N	Digital indicator Digital indicator with the range setting switch *3 (None)
Mounting bracket ☆	A B J N	JIS SECC 2-inch pipe mounting (flat type) JIS SUS304 2-inch pipe mounting (flat type) JIS SUS316 2-inch pipe mounting (flat type) (None)
Optional codes	☐ Optional specification	

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The '☆' marks indicate the most typical selection for each specification. Example: EJA118W-DMSA1AA-AA02-92NA/☐

- *1: Refer to GS 01C22T01-00E for HART Protocol version.
- *2: Refer to GS 01C22T02-00E for Fieldbus communication.
- *3: Not applicable for Output signal code F and G.
- *4:  Users must consider the characteristics of selected wetted parts material and the influence of process fluids. The use of inappropriate materials can result in the leakage of corrosive process fluids and cause injury to personnel and/or damage to plant facilities. It is also possible that the diaphragm itself can be damaged and that material from the broken diaphragm and the fill fluid can contaminate the user's process fluids. Be very careful with highly corrosive process fluids such as hydrochloric acid, sulfuric acid, hydrogen sulfide, sodium hypochlorite, and high-temperature steam (150°C [302°F] or above). Contact Yokogawa for detailed information of the wetted parts material.
- *5: Refer to GS 01C22T03-00E for PROFIBUS PA communication.
- *6: JIS SUS316L or ASTM grade 316L.
- *7: JIS SUS304 or ASTM grade 304. Forged version may be used.
- *8: JIS SUS316 or ASTM grade 316. Forged version may be used.

● MODEL EJA118N [Flange size : 4-inch (100 mm)]

Model	Suffix Codes	Description
EJA118N		Diaphragm sealed differential pressure transmitter (Extended diaphragm type)
Output Signal	-D -E -F -G	4 to 20 mA DC with digital communication (BRAIN protocol) 4 to 20 mA DC with digital communication (HART protocol) *1 Digital communication (FOUNDATION Fieldbus protocol) *4 Digital communication (PROFIBUS PA protocol) *8
Measurement span (capsule)	M H	2.5 to 100 kPa {250 to 10000 mmH ₂ O} {10 to 400 inH ₂ O} {25 to 1000 mbar} 25 to 500 kPa {0.25 to 5 kgf/cm ² } {100 to 2000 inH ₂ O} {250 to 5000 mbar}
Wetted parts material *7	S#	[Diaphragm] [Pipe] [Others] JIS SUS316L JIS SUS316 JIS SUS316 *9
Process flange rating	J1 J2 A1 A2 D2 D4	JIS 10K JIS 20K ANSI Class 150 P1 JPI Class 150 ANSI Class 300 P2 JPI Class 300 DIN PN10/16 DIN PN25/40
Diaphragm extension length (X ₂)	2 4 6	X ₂ = 50 mm X ₂ = 100 mm X ₂ = 150 mm
Process flange size / material ☆	G H J	4-inch (100 mm) / JIS S25C 4-inch (100 mm) / JIS SUS304 *10 4-inch (100 mm) / JIS SUS316 *11
Cover flange bolts material ☆	A B	JIS SCM435 JIS SUS630
Fill fluid	-A -B -C -D *2..... -E	[Process temp.] [Ambient temp.] For general use (silicone oil) -10 to 250 °C -10 to 60 °C For general use (silicone oil) -30 to 180 °C -15 to 60 °C For high temperature use (silicone oil) 10 to 300 °C 10 to 60 °C For oil-prohibited use (fluorinated oil) -20 to 120 °C -10 to 60 °C For low temperature use (ethylene glycol) -50 to 100 °C -40 to 60 °C
—	B	Always B
Capillary length (m) *3 *5	☐ ☐	Specify capillary length from 1 to 10 m in ☐ ☐ . (Example for 2 m : 02)
Installation	-9	Horizontal impulse piping type, left side high pressure
Electrical connection ☆	0 2 3 4 5 7 8 9 A C D	G1/2 female, one electrical connection 1/2 NPT female, two electrical connections without blind plug Pg 13.5 female, two electrical connections without blind plug M20 female, two electrical connections without blind plug G1/2 female, two electrical connections and a blind plug 1/2 NPT female, two electrical connections and a blind plug Pg 13.5 female, two electrical connections and a blind plug M20 female, two electrical connections and a blind plug G1/2 female, two electrical connections and a SUS316 blind plug 1/2 NPT female, two electrical connections and a SUS316 blind plug M20 female, two electrical connections and a SUS316 blind plug
Integral indicator ☆	D E N	Digital indicator Digital indicator with the range setting switch *6 (None)
Mounting bracket ☆	A B J N	JIS SECC 2-inch pipe mounting (flat type) JIS SUS304 2-inch pipe mounting (flat type) JIS SUS316 2-inch pipe mounting (flat type) (None)
Optional codes	/□ Optional specification	

T14E.EPS

The '☆' marks indicate the most typical selection for each specification. Example: EJA118N-DMSA12GA-AB02-92NA/□

*1: Refer to GS 01C22T01-00E for HART Protocol version.

*2: Even in case where Fill fluid code D (fluorinated oil) is selected, if degrease cleansing treatment or both degrease cleansing and dehydrating treatment for the wetted parts is required, specify Optional code K1 or K5.

*3: In case of Fill fluid code C (for high temperature use), specify capillary length from 1 to 5 m.

*4: Refer to GS 01C22T02-00E for Fieldbus communication.

*5: The specified capillary length includes the diaphragm extension length(X₂) and the flange thickness(t).

*6: Not applicable for Output signal code F and G.

*7:  Users must consider the characteristics of selected wetted parts material and the influence of process fluids. The use of inappropriate materials can result in the leakage of corrosive process fluids and cause injury to personnel and/or damage to plant facilities. It is also possible that the diaphragm itself can be damaged and that material from the broken diaphragm and the fill fluid can contaminate the user's process fluids. Be very careful with highly corrosive process fluids such as hydrochloric acid, sulfuric acid, hydrogen sulfide, sodium hypochlorite, and high-temperature steam (150°C [302°F] or above). Contact Yokogawa for detailed information of the wetted parts material.

*8: Refer to GS 01C22T03-00E for PROFIBUS PA communication.

*9: JIS SUS316 or ASTM grade 316.

*10: JIS SUS304 or ASTM grade 304. Forged version may be used.

*11: JIS SUS316 or ASTM grade 316. Forged version may be used.

● MODEL EJA118N [Flange size : 3-inch (80mm)]

Model	Suffix Codes	Description
EJA118N		Diaphragm sealed differential pressure transmitter (Extended diaphragm type)
Output Signal	-D -E -F -G	4 to 20 mA DC with digital communication (BRAIN protocol) 4 to 20 mA DC with digital communication (HART protocol) *1 Digital communication (FOUNDATION Fieldbus protocol) *2 Digital communication (PROFIBUS PA protocol) *6
Measurement span (capsule)	M H	2.5 to 100 kPa {250 to 10000 mmH ₂ O}{10 to 400 inH ₂ O}{25 to 1000 mbar} 25 to 500 kPa {0.25 to 5 kgf/cm ² }{100 to 2000 inH ₂ O}{250 to 5000 mbar}
Wetted parts material *5	S#	[Diaphragm] [Pipe] [Others] JIS SUS316L JIS SUS316 JIS SUS316 *7
Process flange rating	J1 J2 A1 A2 P1 P2 D2 D4	JIS 10K JIS 20K ANSI Class 150 ANSI Class 300 JPI Class 150 JPI Class 300 DIN PN10/16 DIN PN25/40
Diaphragm extension length (X ₂)	2 4 6	X ₂ = 50 mm X ₂ = 100 mm X ₂ = 150 mm
Process flange size / material ☆	D E F	3-inch (80 mm) / JIS S25C 3-inch (80 mm) / JIS SUS304 *8 3-inch (80 mm) / JIS SUS316 *9
Cover flange bolts material ☆	A B	JIS SCM435 JIS SUS630
Fill fluid ☆	-A -B B	[Process temp.] [Ambient temp.] For general use (silicone oil) -10 to 250 °C -10 to 60 °C For general use (silicone oil) -30 to 180 °C -15 to 60 °C Always B
Capillary length (m) *3	□ □	Specify capillary length from 1 to 5 m in □ □. (Example for 2 m : 02)
Installation	-9	Horizontal impulse piping type, left side high pressure
Electrical connection ☆	0 2 3 4 5 7 8 9 A C D	G1/2 female, one electrical connection 1/2 NPT female, two electrical connections without blind plug Pg 13.5 female, two electrical connections without blind plug M20 female, two electrical connections without blind plug G1/2 female, two electrical connections and a blind plug 1/2 NPT female, two electrical connections and a blind plug Pg 13.5 female, two electrical connections and a blind plug M20 female, two electrical connections and a blind plug G1/2 female, two electrical connections and a SUS316 blind plug 1/2 NPT female, two electrical connections and a SUS316 blind plug M20 female, two electrical connections and a SUS316 blind plug
Integral indicator ☆	D E N	Digital indicator Digital indicator with the range setting switch *4 (None)
Mounting bracket ☆	A B J N	JIS SECC 2-inch pipe mounting (flat type) JIS SUS304 2-inch pipe mounting (flat type) JIS SUS316 2-inch pipe mounting (flat type) (None)
Optional codes	/□ Optional specification	

T15E.EPS

The '☆' marks indicate the most typical selection for each specification. Example: EJA118N-DMSA12DA-AB02-92NA/□

*1: Refer to GS 01C22T01-00E for HART Protocol version.

*2: Refer to GS 01C22T02-00E for Fieldbus communication.

*3: The specified capillary length includes the diaphragm extension length(X₂) and the flange thickness(t).

*4: Not applicable for Output signal code F and G.

*5:  Users must consider the characteristics of selected wetted parts material and the influence of process fluids. The use of inappropriate materials can result in the leakage of corrosive process fluids and cause injury to personnel and/or damage to plant facilities. It is also possible that the diaphragm itself can be damaged and that material from the broken diaphragm and the fill fluid can contaminate the user's process fluids. Be very careful with highly corrosive process fluids such as hydrochloric acid, sulfuric acid, hydrogen sulfide, sodium hypochlorite, and high-temperature steam (150°C [302°F] or above). Contact Yokogawa for detailed information of the wetted parts material.

*6: Refer to GS 01C22T03-00E for PROFIBUS PA communication.

*7: JIS SUS316 or ASTM grade 316.

*8: JIS SUS304 or ASTM grade 304. Forged version may be used.

*9: JIS SUS316 or ASTM grade 316. Forged version may be used.

● MODEL EJA118Y

Model	Suffix Codes	Description
EJA118Y		Diaphragm sealed differential pressure transmitter (Combination of extended diaphragm and flush diaphragm type)
Output Signal	-D -E -F -G	4 to 20 mA DC with digital communication (BRAIN protocol) 4 to 20 mA DC with digital communication (HART protocol) *1 Digital communication (FOUNDATION Fieldbus protocol) *5 Digital communication (PROFIBUS PA protocol) *9
Measurement span (capsule)	M H	2.5 to 100 kPa {250 to 10000 mmH ₂ O} {10 to 400 inH ₂ O} {25 to 1000 mbar} 25 to 500 kPa {0.25 to 5 kgf/cm ² } {100 to 2000 inH ₂ O} {250 to 5000 mbar}
High pressure side (extended diaphragm type) wetted parts material *8	S *2.....	[Diaphragm] [Pipe] [Others] JIS SUS316L JIS SUS316 JIS SUS316 *10
Process flange rating	J1 J2 A1 A2 D2 D4	JIS 10K JIS 20K ANSI Class 150 P1 JPI Class 150 ANSI Class 300 P2 JPI Class 300 DIN PN10/16 DIN PN25/40
Diaphragm extension length (X ₂)	2 4 6	X ₂ = 50 mm X ₂ = 100 mm X ₂ = 150 mm
Process flange size / material ☆	P Q R	High pressure side 4-inch (100 mm) / JIS S25C Low pressure side 3-inch (80 mm) / JIS S25C High pressure side 4-inch (100 mm) / JIS SUS304 *11 Low pressure side 3-inch (80 mm) / JIS SUS304 *12 High pressure side 4-inch (100 mm) / JIS SUS316 *11 Low pressure side 3-inch (80 mm) / JIS SUS316 *12
Cover flange bolts material ☆	A B	JIS SCM435 JIS SUS630
Fill fluid	☆ -A ☆ -B ☆ -C ☆ -D *3..... ☆ -E ☆ C	[Process temp.][Ambient temp.] For general use (silicone oil) -10 to 250 °C -10 to 60 °C For general use (silicone oil) -30 to 180 °C -15 to 60 °C For high temperature use (silicone oil) 10 to 300 °C 10 to 60 °C For oil-prohibited use (fluorinated oil) -20 to 120 °C -10 to 60 °C For low temperature use (ethylene glycol) -50 to 100 °C -40 to 60 °C Always C
Capillary length (m) *4 *6	□ □	Specify capillary length from 1 to 10 m in □ □. (Example for 2 m : 02)
Installation	-9	Horizontal impulse piping type, left side high pressure
Electrical connection	☆ 0 ☆ 2 ☆ 3 ☆ 4 ☆ 5 ☆ 7 ☆ 8 ☆ 9 ☆ A ☆ C ☆ D	G1/2 female, one electrical connection 1/2 NPT female, two electrical connections without blind plug Pg 13.5 female, two electrical connections without blind plug M20 female, two electrical connections without blind plug G1/2 female, two electrical connections and a blind plug 1/2 NPT female, two electrical connections and a blind plug Pg 13.5 female, two electrical connections and a blind plug M20 female, two electrical connections and a blind plug G1/2 female, two electrical connections and a SUS316 blind plug 1/2 NPT female, two electrical connections and a SUS316 blind plug M20 female, two electrical connections and a SUS316 blind plug
Integral indicator	D E ☆ N	Digital indicator Digital indicator with the range setting switch *7 (None)
Mounting bracket	☆ A ☆ B ☆ J ☆ N	JIS SECC 2-inch pipe mounting (flat type) JIS SUS304 2-inch pipe mounting (flat type) JIS SUS316 2-inch pipe mounting (flat type) (None)
Optional codes	/□ Optional specification	

T16E.EPS

The '☆' marks indicate the most typical selection for each specification. Example: EJA118Y-DMSA12PA-AC02-92NA/□

*1: Refer to GS 01C22T01-00E for HART Protocol version.

*2: Low pressure side (Flush diaphragm) wetted parts material: Diaphragm; SUS316L, Others; JIS SUS316L or ASTM grade 316L.

*3: Even in case where Fill fluid code D (fluorinated oil) is selected, if degrease cleansing treatment or both degrease cleansing and dehydrating treatment for the wetted parts is required, specify Optional code K1 or K5.

*4: In case of Fill fluid code C (for high temperature use), specify capillary length from 1 to 5 m.

*5: Refer to GS 01C22T02-00E for Fieldbus communication.

- *6: The specified capillary length of high pressure side(extended diaphragm side) includes the diaphragm extension length(X_2) and the flange thickness(t).
- *7: Not applicable for Output signal code F and G.
- *8:  Users must consider the characteristics of selected wetted parts material and the influence of process fluids. The use of inappropriate materials can result in the leakage of corrosive process fluids and cause injury to personnel and/or damage to plant facilities. It is also possible that the diaphragm itself can be damaged and that material from the broken diaphragm and the fill fluid can contaminate the user's process fluids.
Be very careful with highly corrosive process fluids such as hydrochloric acid, sulfuric acid, hydrogen sulfide, sodium hypochlorite, and high-temperature steam (150°C [302°F] or above). Contact Yokogawa for detailed information of the wetted parts material.
- *9: Refer to GS 01C22T03-00E for PROFIBUS PA communication.
- *10: JIS SUS316 or ASTM grade 316.
- *11: JIS SUS304 or ASTM grade 304. Forged version may be used.
- *12: JIS SUS316 or ASTM grade 316. Forged version may be used.

■ OPTIONAL SPECIFICATIONS (For Explosion Protected types “◇”)

For FOUNDATION Fieldbus explosion protected type, see GS 01C22T02-00E.

For PROFIBUS PA explosion protected type, see GS 01C22T03-00E.

Item	Description	Code
Factory Mutual (FM)	FM Explosionproof Approval *1 *3 *4 Applicable standard: FM3600, FM3615, FM3810, ANSI/NEMA250 Explosionproof for Class I, Division 1, Groups B, C and D Dust-ignitionproof for Class II/III, Division 1, Groups E, F and G Hazardous (classified) locations, indoors and outdoors (NEMA 4X) Division 2, 'SEALS NOT REQUIRED', Temp. Class: T6 Amb. Temp.: -40 to 60°C (-40 to 140°F)	FF1
	FM Intrinsically safe Approval *1 *3 *4 Applicable standard: FM3600, FM3610, FM3611, FM3810, ANSI/NEMA250 Intrinsically Safe for Class I, Division 1, Groups A, B, C & D, Class II, Division 1, Groups E, F & G and Class III, Division 1 Hazardous Locations. Nonincendive for Class I, Division 2, Groups A, B, C & D, Class II, Division. 2, Groups E, F & G, and Class III, Division 1 Hazardous Locations. Enclosure: "NEMA 4X", Temp. Class: T4, Amb. Temp.: -40 to 60°C (-40 to 140°F) Intrinsically Safe Apparatus Parameters [Groups A, B, C, D, E, F and G] Vmax=30 V, Imax=165 mA, Pmax=0.9 W, Ci=22.5 nF, Li=730 μH [Groups C, D, E, F and G] Vmax=30 V, Imax=225 mA, Pmax=0.9 W, Ci=22.5 nF, Li=730 μH	FS1
	Combined FF1 and FS1 *1 *3 *4	FU1
CENELEC ATEX	CENELEC ATEX (KEMA) Flameproof Approval *2 *4 Applicable standard: EN60079-0, EN60079-1 Certificate: KEMA 02ATEX2148 II 2G Ex d IIC T4, T5, T6 Amb. Temp.: T5: -40 to 80°C (-40 to 176°F), T4 and T6: -40 to 75°C (-40 to 167°F) Max. process Temp.: T4: 120°C (248°F), T5: 100°C (212°F), T6: 85°C (185°F)	KF21
	CENELEC ATEX (KEMA) Intrinsically safe Approval *2 *3 *4 Applicable standard: EN50014, EN50020, EN500284, EN50281-1-1 Certificate: KEMA 02ATEX1030X II 1G EEx ia IIC T4, Amb. Temp.: -40 to 60°C (-40 to 140°F) Ui=30 V, Ii=165 mA, Pi=0.9 W, Ci=22.5 nF, Li=730 μH	KS2
	Combined KF21, KS2 and Type n *2 *3 *4 Type n Applicable standard: EN 60079-15 Referential standard: IEC60079-0, IEC60079-11 II 3G Ex nL IIC T4, Amb. Temp.: -40 to 60°C (-40 to 140°F) Ui=30 V DC, Ci=22.5 nF, Li=730 μH Dust [For combined with II 2G] Applicable standard: EN61241-0, EN61241-1 II 2D Ex tD A21 IP6X Max. surface Temp. for dust-proof : T85°C (Tamb: -40 to 75°C, Tp:85°C), T100°C (Tamb: -40 to 80°C, Tp:100°C), T120°C (Tamb: -40 to 75°C, Tp:120°C) [For combined with II 1G] II 1D maximum surface temperature T65°C (149°F) {Tamb.: 40°C (104°F)}, T85°C (185°F) {Tamb.: 60°C (140°F)}, T105°C (221°F) {Tamb.: 80°C (176°F)}	KU21

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*1: Applicable for Electrical connection code 2, 7 and C (1/2 NPT female).

*2: Applicable for Electrical connection code 2, 4, 7, 9, C and D (1/2 NPT and M20 female).

*3: Applicable for Output signal code D and E. For intrinsically safe approval, use the safety barrier certified by the testing laboratories (BARD-400 is not applicable).

*4: Lower limit of ambient temperature is -15°C (5°F) when /HE is specified.

Item	Description	Code
Canadian Standards Association (CSA)	CSA Explosionproof Approval *1 *3 *4 Applicable standard: C22.2 No. 0, No. 0.4, No. 25, No. 30, No. 94, No. 142 Certificate: 1089598 Explosionproof for Class I, Division 1, Groups B, C and D Dustignitionproof for Class II/III, Division 1, Groups E, F and G Division2 ‘SEALS NOT REQUIRED’ , Temp. Class: T4, T5, T6 Encl Type 4x Max. Process Temp.: T4; 120°C (248°F), T5; 100°C (212°F), T6; 85°C (185°F) Amb. Temp.: –40 to 80°C (–40 to 176°F) Process Sealing Certification Dual Seal Certified by CSA to the requirement of ANSI/ISA 12.27.01 No additional sealing required. Primary seal failure annunciation: at the zero adjustment screw	CF1
	CSA Intrinsically safe Approval *1 *3 *4 Applicable standard: C22.2 No. 0, No. 0.4, No. 25, No. 30, No. 94, No. 142, No. 157, No. 213 Certificate: 1053843 Class I, Groups A, B, C and D Class II and III, Groups E, F and G Encl Type 4x, Temp. Class: T4, Amb. Temp.: –40 to 60°C (–40 to 140°F) Vmax=30 V, Imax=165 mA, Pmax=0.9 W, Ci=22.5 nF, Li=730 µH Process Sealing Certification Dual Seal Certified by CSA to the requirement of ANSI/ISA 12.27.01 No additional sealing required. Primary seal failure annunciation: at the zero adjustment screw	CS1
	Combined CF1 and CS1 *1 *3 *4	CU1
IECEX Scheme	IECEX Intrinsically safe, type n and Flameproof Approval *3 *4 *9 Intrinsically safe and type n Applicable Standard: IEC 60079-0:2004, IEC 60079-11:1999, IEC 60079-15:2005, IEC 60079-26:2005 Certificate: IECEX KEM 06.0007X Ex ia IIC T4, Ex nL IIC T4 Enclosure: IP67 Amb. Temp.: –40 to 60°C (–40 to 140°F), Max. Process Temp.: 120°C (248°F) Electrical Parameters: [Ex ia] Ui=30 V, Ii=165 mA, Pi=0.9 W, Ci=22.5 nF, Li=730 µH [Ex nL] Ui=30 V, Ci=22.5 nF, Li=730 µH Flameproof Applicable Standard: IEC 60079-0:2004, IEC60079-1:2003 Certificate: IECEX KEM 06.0005 Ex d IIC T6...T4 Enclosure: IP67 Max.Process Temp.: T4;120°C (248°F), T5;100°C (212°F), T6; 85°C (185°F) Amb.Temp.: –40 to 75°C (–40 to 167°F) for T4, –40 to 80°C (–40 to 176°F) for T5, –40 to 75°C (–40 to 167°F) for T6	SU2
TIIS certification	TIIS Flameproof Approval, Ex do IIC T4X *3 *5 *7 *8 *10 Certificate: TC15296 (Without integral indicator) TC15297 (With integral indicator) Amb. Temp.: –20 to 60°C, Process Temp.: –20 to 120°C	JF3
	TIIS Intrinsically safe Approval, Ex ia IIC T4 *6 *8 Certificate: TC14632 Amb. Temp.: –20 to 60°C, Process Temp.: –20 to 120°C	JS3
Attached flameproof packing adapter *5	Electrical connection: G1/2 female	1 pc.
	Applicable cable: O. D. 8 to 12 mm	2 pcs.

T20E.EPS

- *1: Applicable for Electrical connection code 2, 7 and C (1/2 NPT female).
- *2: Applicable for Electrical connection code 2, 4, 7, 9, C and D (1/2 NPT and M20 female).
- *3: Applicable for Output signal code D and E. For intrinsically safe approval, use the safety barrier certified by the testing laboratories (BARD-400 is not applicable).
Lower limit of ambient temperature is -15°C (5°F) when /HE is specified.
- *4: Lower limit of ambient temperature is -15°C (5°F) when /HE is specified.
- *5: If cable wiring is to be used to a TIIS flameproof type transmitter, add the YOKOGAWA-assured flameproof packing adapter.
- *6: Applicable for Output signal code D. See <Safety Barrier for TIIS Intrinsically Safe Type>.
- *7: In case that the ambient temperature exceeds 50°C or that the ambient temperature exceeds 45°C with the process temperature of 90°C or above, use heat-resistant cables with maximum allowable temperature of 75°C or above.
- *8: TIIS (The Technology Institution of Industrial Safety) Certification is a new notation for the explosionproof approval in Japan instead of JIS.
- *9: Applicable for Electrical connection code 2, 4, 7, C and D (1/2 NPT and M20 female).
- *10: Not applicable for Electrical connection code A, C and D.

OPTIONAL SPECIFICATIONS

Item		Description	Code
Painting *10	Color change	Amplifier cover only	P□
		Amplifier cover and terminal cover, Munsell 7.5 R4/14	PR
	Coating change	Epoxy resin-baked coating *11	X1
316 SST exterior parts		Exterior parts on the amplifier housing(name plates, tag plate, zero-adjustment screw, stopper screw) will become 316 SST *12	HC
Fluoro-rubber O-ring		All O-rings of amplifier housing. Lower limit of ambient temperature: −15°C (5°F) *13	HE
Lightning protector		Transmitter power supply voltage : 10.5 to 32 V DC (10.5 to 28 V DC for TIIS intrinsically safe type, 10.5 to 30 V DC for intrinsically safe type other than TIIS, or 9 to 32 V DC for Fieldbus communication type.) Allowable current : Max. 6000 A (1×40 μs), Repeating 1000 A (1×40 μs) 100 times	A
Oil-prohibited use		Degrease cleansing treatment	K1
Oil-prohibited use with dehydrating treatment		Degrease cleansing and dehydrating treatment	K5
Calibration units *1	P calibration (psi unit)	(See Table 5. on page 19)	D1
	bar calibration (bar unit)		D3
	M calibration (kgf/cm ² unit)		D4
Sealing treatment to JIS SUS630 nuts		Sealant(liquid silicone rubber) is coated on JIS SUS630 cover flange mounting nuts against stress corrosion cracking.	Y
No serration *2		No serration work on the flange gasket surface (for ANSI flange only)	Q
Teflon film *3		Diaphragm protection from sticky process fluid by FEP Teflon film attached with fluorinated oil. Operation range: 20 to 150°C, 0 to 2 MPa(Not applicable for vacuum service).	T
Operating temperature correction *4		Adjusting range : 80°C to Maximum temperature of specified fill fluid	R
Capillary without PVC sheaths		When ambient temperature exceeds 100°C, or use of PVC is prohibited	V
Fast response *8		Update time: 0.125 sec Amplifier assembly damping time constant: 0.1 to 64 sec in 9 increments. Response time (with min. damping time constant): max. 0.5 sec (excluding diaphragm seal units)	F1
Failure alarm down-scale *5		Output status at CPU failure and hardware error is −5%, 3.2 mA or less.	C1
NAMUR NE43 compliant *5 *9	Output signal limits: 3.8 mA to 20.5 mA	Failure alarm down-scale: output status at CPU failure and hardware error is −5%, 3.2 mA or less.	C2
		Failure alarm up-scale: output status at CPU failure and hardware error is 110%, 21.6 mA or more.	C3
Data configuration at factory		Description into “Descriptor” parameter of HART protocol	CA
Stainless steel amplifier housing *6		Amplifier housing material : JIS SCS14A stainless steel (equivalent to JIS SUS316 cast stainless steel or ASTM CF-8M)	E1
Gold-plate *7		Inside of isolating diaphragms(fill fluid side) are gold plated, effective for hydrogen permeation.	A1
Wired tag plate		304SST tag plate wired onto transmitter	N4

T17E.EPS

- *1: The unit of MWP (Max. working pressure) on name plate of a housing is the same unit as specified by Option code D1, D3, and D4.
- *2: This item cannot be applied to model EJA118W Wetted part material code H, T, or U, whose gasket contact surface are not serrated as standard specifications.
- *3: Teflon film can only be specified for model EJA118W.
- *4: Specify the process operating temperature for zero correction. Example: Zero correction by process temperature 90°C.
- *5: Applicable for Output signal code D and E. The hardware error indicates faulty amplifier or capsule.
When combining with Option code F1, output status for down-scale is -2.5%, 3.6 mA DC or less.
- *6: Applicable for Electrical connection code 2, 3, 4, A, C and D. Not applicable for Option code P□, X1, and JF3.
- *7: Applicable for Wetted parts material code S and H.
- *8: Applicable for Output signal code D and E. Write protection switch is attached for Output code E. Not applicable for Integral indicator code E.
- *9: Not applicable for Option code C1.
- *10: Standard polyurethan painting can be used in acid atmosphere, whereas the epoxy resin-baked coating (Option code X1) can be used in alkaline atmosphere. Anti-corrosion coating, the combination of polyurethan and epoxy resin-baked coating, is available by special order as sea water, alkaline, and acid resistant.
- *11: Not applicable for color change option.
- *12: 316 or 316L SST. The specification is included in option code /E1. Not applicable with option code /JF3.
- *13: Not applicable with option code /JF3.

Item	Description			Code
Mill Certificate	Process flange, Block (For model EJA118W)			M05
	Process flange, Block, Pipe, Base (For model EJA118N)			M06
	High pressure side: Process flange, Block, Pipe, Base Low pressure side: Process flange, Block (For model EJA118Y)			M07
Pressure test/Leak test Certificate *1	(Flange rating)	(Test pressure)	(Applicable model)	
	JIS 10K	2 MPa { 20 kgf/cm ² }	All EJA118□	T31
	JIS 20K	5 MPa { 50 kgf/cm ² }		T32
	JIS 40K	10 MPa { 100 kgf/cm ² }	EJA118W	T33
	ANSI/JPI Class 150	3 MPa { 29.8 kgf/cm ² }	All EJA118□	T36
	ANSI/JPI Class 300	7.7 MPa { 77 kgf/cm ² }	EJA118W	T37
	ANSI/JPI Class 300	7 MPa { 70 kgf/cm ² }	EJA118N/EJA118Y	T38
	ANSI/JPI Class 600	14 MPa { 140 kgf/cm ² }	EJA118W	T39

T21E.EPS

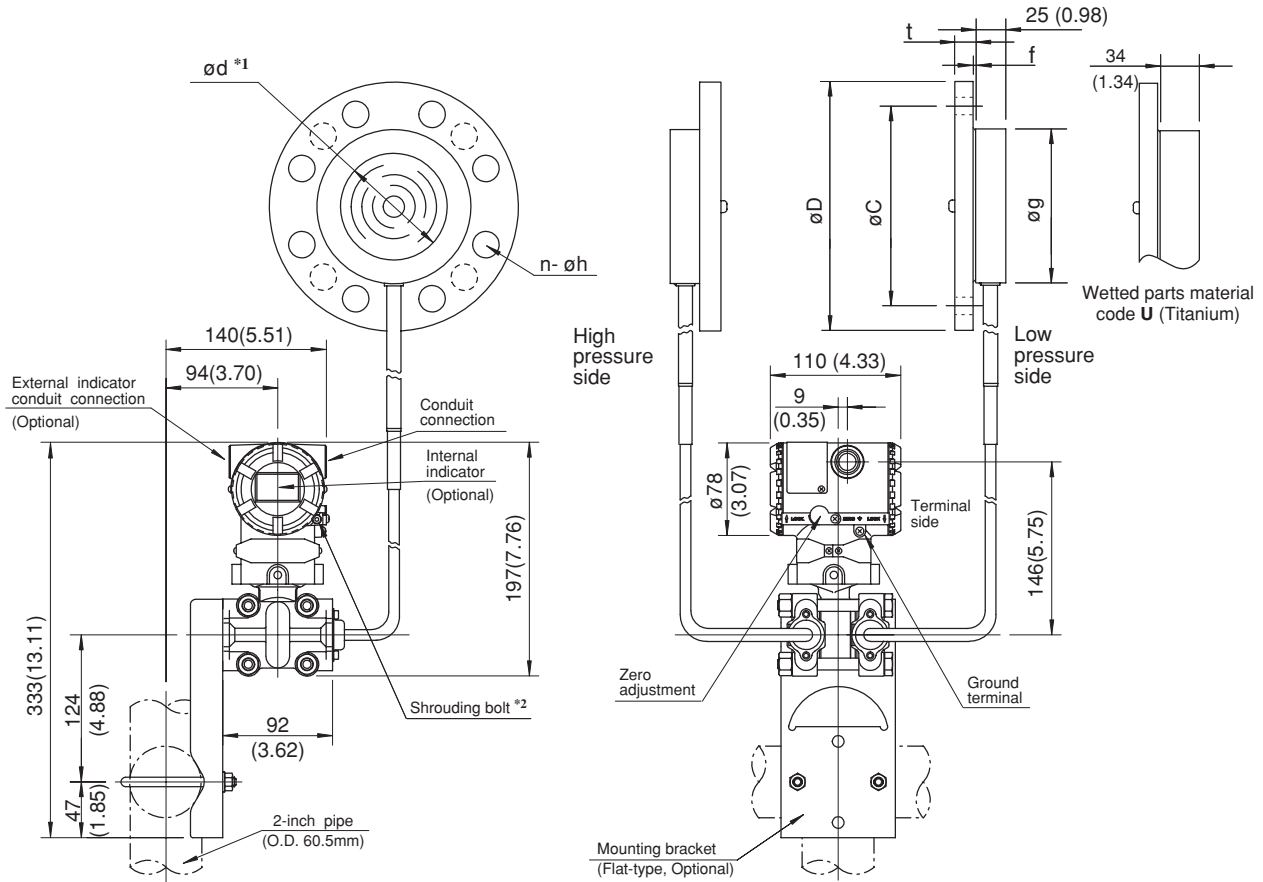
*1: The unit on the certificate is always MPa regardless of selection of option code D1, D3, or D4.

*2: Pure nitrogen gas is used for oil-prohibited use (Option code K1 and K5).

DIMENSIONS

● Model EJA118W

Unit : mm (approx.inch)



*1: Indicates inside diameter of gasket contact surface.

*2: Applicable only for ATEX, IECEx, and TIIS Flameproof type.

Process flange size : 3 inch (80 mm)

Flange Rating	ϕD	ϕC	ϕg	ϕd	t	f *	n	ϕh
JIS 10K	185(7.28)	150(5.91)	130(5.12)	90(3.54)	18(0.71)	0	8	19(0.75)
JIS 20K	200(7.87)	160(6.30)	130(5.12)	90(3.54)	22(0.87)	0	8	23(0.91)
JIS 40K	210(8.27)	170(6.69)	130(5.12)	90(3.54)	32(1.26)	0	8	23(0.91)
ANSI Class 150	190.5(7.50)	152.4(6)	130(5.12)	90(3.54)	23.9(0.94)	1.6(0.06)	4	19.1(0.75)
ANSI Class 300	209.6(8.25)	168.1(6.62)	130(5.12)	90(3.54)	28.5(1.12)	1.6(0.06)	8	22.4(0.88)
ANSI Class 600	209.6(8.25)	168.1(6.62)	130(5.12)	90(3.54)	38.2(1.50)	6.4(0.25)	8	22.4(0.88)
JPI Class 150	190(7.48)	152.4(6)	130(5.12)	90(3.54)	24(0.94)	1.6(0.06)	4	19(0.75)
JPI Class 300	210(8.27)	168.1(6.62)	130(5.12)	90(3.54)	28.5(1.12)	1.6(0.06)	8	22(0.87)
JPI Class 600	210(8.27)	168.1(6.62)	130(5.12)	90(3.54)	38.4(1.51)	6.4(0.25)	8	22(0.87)
DIN PN 10/16	200(7.78)	160(6.30)	130(5.12)	90(3.54)	20(0.79)	0	8	18(0.71)
DIN PN 25/40	200(7.78)	160(6.30)	130(5.12)	90(3.54)	24(0.94)	0	8	18(0.71)
DIN PN 64	215(8.46)	170(6.69)	130(5.12)	90(3.54)	28(1.10)	0	8	22(0.87)

Process flange size : 2 inch (50 mm)

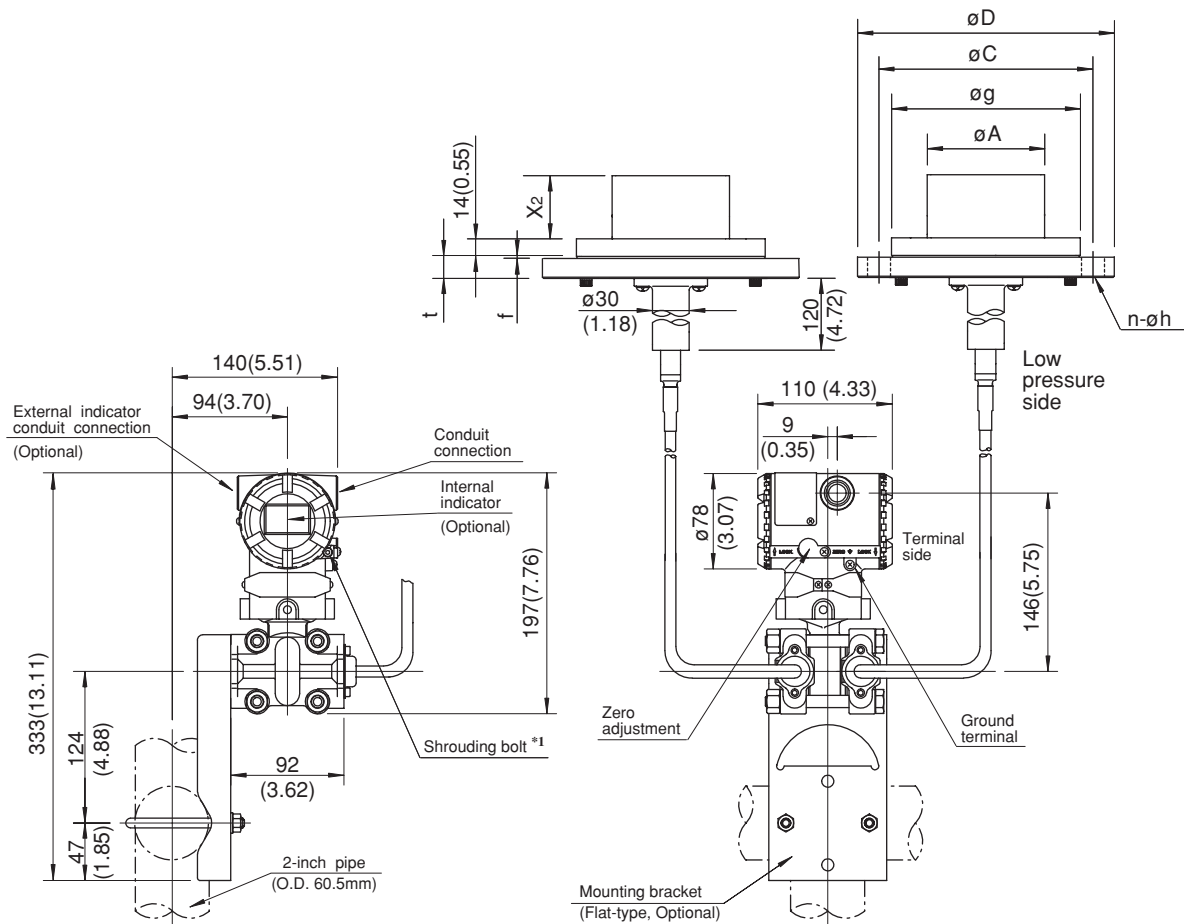
Flange Rating	ϕD	ϕC	ϕg	ϕd	t	f *	n	ϕh
JIS 10K	155(6.10)	120(4.72)	100(3.94)	61(2.40)	16(0.63)	0	4	19(0.75)
JIS 20K	155(6.10)	120(4.72)	100(3.94)	61(2.40)	18(0.71)	0	8	19(0.75)
JIS 40K	165(6.50)	130(5.12)	100(3.94)	61(2.40)	26(1.02)	0	8	19(0.75)
ANSI Class 150	152.4(6.00)	120.7(4.75)	100(3.94)	61(2.40)	19.1(0.75)	1.6(0.06)	4	19.1(0.75)
ANSI Class 300	165.1(6.50)	127.0(5.00)	100(3.94)	61(2.40)	22.4(0.88)	1.6(0.06)	8	19.1(0.75)
ANSI Class 600	165.1(6.50)	127.0(5.00)	100(3.94)	61(2.40)	31.8(1.25)	6.4(0.25)	8	19.1(0.75)
JPI Class 150	152(6.10)	120.6(4.75)	100(3.94)	61(2.40)	19.5(0.77)	1.6(0.06)	4	19(0.75)
JPI Class 300	165(6.50)	127.0(5.00)	100(3.94)	61(2.40)	22.5(0.89)	1.6(0.06)	8	19(0.75)
JPI Class 600	165(6.50)	127.0(5.00)	100(3.94)	61(2.40)	31.9(1.26)	6.4(0.25)	8	19(0.75)
DIN PN 10/16	165(6.50)	125(4.92)	100(3.94)	61(2.40)	18(0.71)	0	4	18(0.71)
DIN PN 25/40	165(6.50)	125(4.92)	100(3.94)	61(2.40)	20(0.78)	0	4	18(0.71)
DIN PN 64	180(7.09)	135(5.31)	100(3.94)	61(2.40)	26(1.02)	0	4	22(0.87)

* In case where process flange material is JIS S25C, value of f is 0.

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● Model EJA118N

Unit : mm (approx.inch)



*1: Applicable only for ATEX, IECEx, and TIS Flameproof type.

Diaphragm extension length code

2 : $X_2 = 50$ mm (2 inch)
 4 : $X_2 = 100$ mm (4 inch)
 6 : $X_2 = 150$ mm (6 inch)

Process flange size : 4 inch (100 mm)

Flange Rating	ϕD	ϕC	ϕg	ϕA	t	f *	n	ϕh
JIS 10K	210(8.72)	175(6.89)	155(6.10)	96 $\pm$ 0.5(3.78)	18(0.71)	0	8	19(0.75)
JIS 20K	225(8.86)	185(7.28)	155(6.10)	96 $\pm$ 0.5(3.78)	24(0.94)	0	8	23(0.91)
ANSI Class 150	228.6(9.00)	190.5(7.50)	155(6.10)	96 $\pm$ 0.5(3.78)	23.9(0.94)	1.6(0.06)	8	19.1(0.75)
ANSI Class 300	254(10.00)	200.2(7.88)	155(6.10)	96 $\pm$ 0.5(3.78)	31.8(1.25)	1.6(0.06)	8	22.4(0.88)
JPI Class 150	229(9.02)	190.5(7.50)	155(6.10)	96 $\pm$ 0.5(3.78)	24(0.94)	1.6(0.06)	8	19(0.75)
JPI Class 300	254(10.00)	200.2(7.88)	155(6.10)	96 $\pm$ 0.5(3.78)	32(1.26)	1.6(0.06)	8	22(0.87)
DIN PN 10/16	220(8.66)	180(7.09)	155(6.10)	96 $\pm$ 0.5(3.78)	20(0.79)	0	8	18(0.71)
DIN PN 25/40	235(9.25)	190(7.48)	155(6.10)	96 $\pm$ 0.5(3.78)	24(0.94)	0	8	22(0.87)

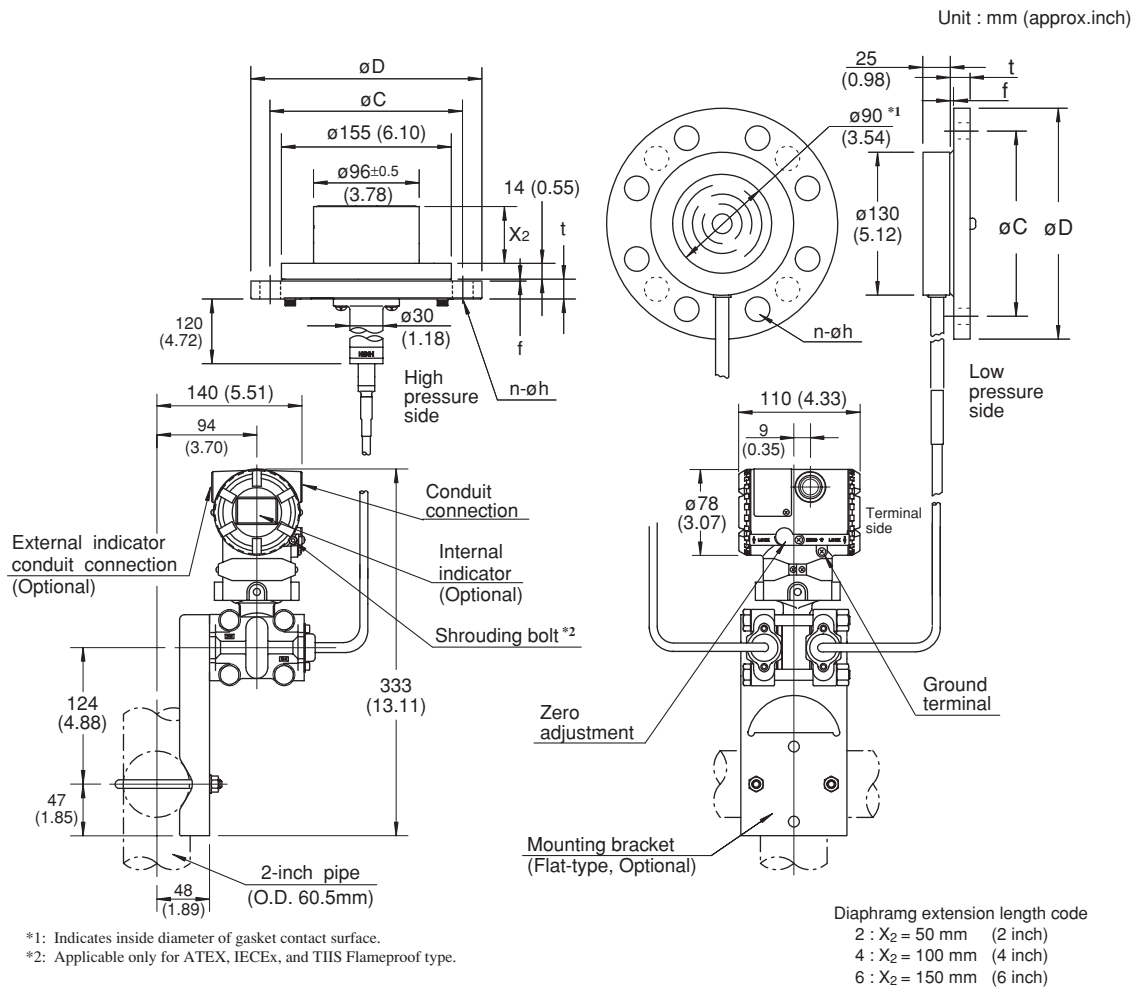
Process flange size : 3 inch (80 mm)

Flange Rating	ϕD	ϕC	ϕg	ϕA	t	f *	n	ϕh
JIS 10K	185(7.28)	150(5.91)	130(5.12)	71 $\pm$ 0.5(2.80)	18(0.71)	0	8	19(0.75)
JIS 20K	200(7.87)	160(6.30)	130(5.12)	71 $\pm$ 0.5(2.80)	22(0.87)	0	8	23(0.91)
ANSI Class 150	190.5(7.50)	152.4(6)	130(5.12)	71 $\pm$ 0.5(2.80)	23.9(0.94)	1.6(0.06)	4	19.1(0.75)
ANSI Class 300	209.6(8.25)	168.1(6.62)	130(5.12)	71 $\pm$ 0.5(2.80)	28.5(1.12)	1.6(0.06)	8	22.4(0.88)
JPI Class 150	190(7.48)	152.4(6)	130(5.12)	71 $\pm$ 0.5(2.80)	24(0.94)	1.6(0.06)	4	19(0.75)
JPI Class 300	210(8.27)	168.1(6.62)	130(5.12)	71 $\pm$ 0.5(2.80)	28.5(1.12)	1.6(0.06)	8	22(0.87)
DIN PN 10/16	200(7.78)	160(6.30)	130(5.12)	71 $\pm$ 0.5(2.80)	20(0.79)	0	8	18(0.71)
DIN PN 25/40	200(7.78)	160(6.30)	130(5.12)	71 $\pm$ 0.5(2.80)	24(0.94)	0	8	18(0.71)

* In case where process flange material is JIS S25C, value of f is 0.

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● Model EJA118Y



High pressure side Process flange size : 4 inch (100 mm)

Flange Rating	øD	øC	t	f *	n	øh
JIS 10K	210(8.72)	175(6.89)	18(0.71)	0	8	19(0.75)
JIS 20K	225(8.86)	185(7.28)	24(0.94)	0	8	23(0.91)
ANSI Class 150	228.6(9.00)	190.5(7.50)	23.9(0.94)	1.6(0.06)	8	19.1(0.75)
ANSI Class 300	254(10.00)	200.2(7.88)	31.8(1.25)	1.6(0.06)	8	22.4(0.88)
JPI Class 150	229(9.02)	190.5(7.50)	24(0.94)	1.6(0.06)	8	19(0.75)
JPI Class 300	254(10.00)	200.2(7.88)	32(1.26)	1.6(0.06)	8	22(0.87)
DIN PN 10/16	220(8.66)	180(7.09)	20(0.79)	0	8	18(0.71)
DIN PN 25/40	235(9.25)	190(7.48)	24(0.94)	0	8	22(0.87)

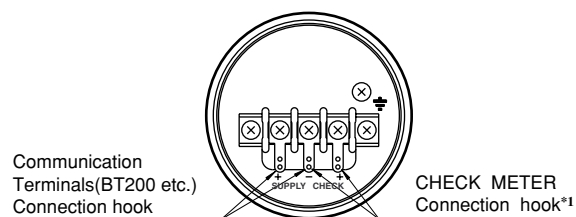
Low pressure side Process flange size : 3 inch (80 mm)

Flange Rating	øD	øC	t	f *	n	øh
JIS 10K	185(7.28)	150(5.91)	18(0.71)	0	8	19(0.75)
JIS 20K	200(7.87)	160(6.30)	22(0.87)	0	8	23(0.91)
ANSI Class 150	190.5(7.50)	152.4(6)	23.9(0.94)	1.6(0.06)	4	19.1(0.75)
ANSI Class 300	209.6(8.25)	168.1(6.62)	28.5(1.12)	1.6(0.06)	8	22.4(0.88)
JPI Class 150	190(7.48)	152.4(6)	24(0.94)	1.6(0.06)	4	19(0.75)
JPI Class 300	210(8.27)	168.1(6.62)	28.5(1.12)	1.6(0.06)	8	22(0.87)
DIN PN 10/16	200(7.78)	160(6.30)	20(0.79)	0	8	18(0.71)
DIN PN 25/40	200(7.78)	160(6.30)	24(0.94)	0	8	18(0.71)

* In case where process flange material is JIS S25C, value of f is 0.

F05E.EPS

● Terminal Configuration



● Terminal Wiring

SUPPLY $\begin{smallmatrix} + \\ - \end{smallmatrix}$	Power supply and output terminal
CHECK $\begin{smallmatrix} + \\ - \end{smallmatrix}$	External indicator(ammeter) terminal*1
$\text{---}\text{---}\text{---}$	Ground terminal

*1: When using an external indicator or a check meter, the internal resistance must be 10 Ω or less.
Not available for Fieldbus communication(Output signal code F and G).

F06E.EPS

Table 5. Calibration Units

Measurement Span and Range		Optional Code		
		D1 (psi Unit)	D3 (bar Unit)	D4 (kgf/cm ² Unit)
M	Span	10 to 400 inH ₂ O	25 to 1000 mbar	250 to 10000 mmH ₂ O
	Range	-400 to 400 inH ₂ O	-1000 to 1000 mbar	-10000 to 10000 mmH ₂ O
H	Span	100 to 2000 in H ₂ O	250 to 5000 mbar	0.25 to 5 kgf/cm ²
	Range	-2000 to 2000 in H ₂ O	-5000 to 5000 mbar	-5 to 5 kgf/cm ²

T18E.EPS

< Ordering Information >

Specify the following when ordering

1. Model, suffix codes, and optional codes
2. Calibration range and units:
 - 1) Calibration range can be specified with range value specifications up to 5 digits (excluding any decimal point) for low or high range limits within the range of -32000 to 32000.
 - 2) Specify only one unit from the table, 'Settings when shipped.'
3. Select linear or square root for output mode and display mode.

Note: If not specified, the instrument is shipped set for linear mode.
4. Select normal or reverse for operation mode

Note: If not specified, the instrument is shipped in normal operation mode.
5. Display scale and units (for transmitters equipped with integral indicator only)

Specify either 0 to 100 % or engineering unit scale and 'Range and Unit' for engineering units scale:
Scale range can be specified with range limit specifications up to 5 digits (excluding any decimal point) for low or high range limits within the range of -19999 to 19999.
6. Tag Number (if required)
7. Process fluid temperature for zero compensation (if required)

< Related Instruments >

Power Distributor: Refer to GS 01B04T01-02E or GS 01B04T02-02E
BRAIN TERMINAL: Refer to GS 01C00A11-00E

< Safety Barrier for TIIS Intrinsically Safe Type >

Supplier	Type	Model
MTL	Isolator	MTL3046B
		MTL4041B
P+F		KFD2-STC3-Ex 1
		KFD2-STV3-Ex 1-1, 2, 3

T001E.EPS

Note: Requirements of capacitance and inductance for cable wiring.

$$C_w \leq C_o - 11[\text{nF}]$$

$$L_w \leq L_o - 730[\mu\text{H}]$$

(Co: Max. external capacitance)
(Lo: Max. external inductance)

< Reference >

1. JIS SUS316L stainless steel; Equivalent to AISI 316L.
2. JIS SUS316 stainless steel; Equivalent to AISI 316.
3. JIS SUS304 stainless steel; Equivalent to AISI 304.
4. JIS S25C carbon steel; Equivalent to AISI 1025.
5. JIS SECC; Carbon steel.
6. Teflon; Trademark of E.I. DuPont de Nemours & Co.
7. JIS SUS630 stainless steel; Equivalent to ASTM 630.
8. Hastelloy; Trademark of Haynes International Inc.
9. JIS SCS14A stainless steel; Equivalent to JIS SUS316 cast stainless steel or ASTM CF-8M.
10. HART; Trademark of the HART Communication Foundation.
11. FOUNDATION; Trademark of Fieldbus Foundation.
12. PROFIBUS; Registered trademark of Profibus Nutzerorganisation e.v., Karlsruhe, Germany.
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