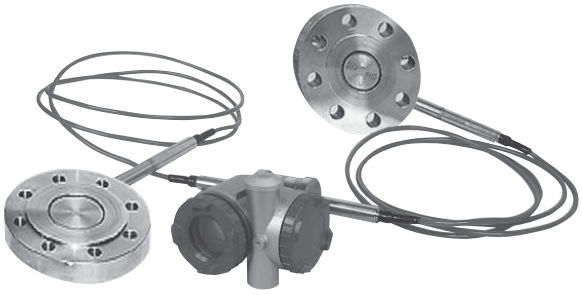
TECHNICAL GUIDANCE

FCX-AIII Series **FKD...5**

REMOTE SEAL TYPE DIFFERENTIAL PRESSURE TRANSMITTER

OUTLINE

The FCX–AIII differential pressure transmitter accurately measures differential pressure, liquid level or gauge pressure and transmits a proportional 4 to 20mA signal. The transmitter utilizes a unique micromachined capacitance silicon sensor with state-of-the-art microprocessor technology to provide exceptional performance and functionality. Totally welded construction of the seals assures excellent reliability in high temperature and highly corrosive process conditions.



FEATURES

1. High accuracy
   0.2% accuracy for all calibrated spans is a standard feature for all DP models covering 0.32kPa {3.2mbar} range to 500kPa {5bar} high differential pressure range. 0.1% accuracy is available as option.
2. Minimum environmental influence
   The "Advanced Floating Cell" design which protects the pressure sensor against changes in temperature, static pressure, and overpressure substantially reduces total measurement error in actual field applications.
3. HART® bilingual communications protocol
   FCX–AIII series transmitter offers bilingual communications to speak both proprietary protocol and HART®. Any HART® compatible devices can communicate with FCX–AIII.
4. Application flexibility
   Various options that render the FCX–AIII suitable for almost any process applications include:
   – Full range of hazardous area approvals
   – Built-in RFI filter and lightning arrester
   – 5-digit LCD meter with engineering unit
   – Stainless steel electronics housing
   – Wide selection of materials
   – High temperature, high vacuum seals
5. Programmable output Linearization Function
   In addition to Linear and Square Root, output signal can be freely programmable.
   (Up to 14 compensated points at approximation.)
6. Burnout current flexibility (Under Scale: 3.2 to 4.0mA, Over Scale: 20.0 to 22.5mA)
   Burnout signal level is adjustable using Model FXW Hand Held Communicator (HHC) to comply with NAMUR NE43.
7. Dry calibration without reference pressure
   Thanks to the best combination of unique construction of mechanical parts (Sensor unit) and high performance electronics circuit (Electronics unit), reliability of dry calibration without reference pressure is at equal level as wet calibration.

SPECIFICATIONS

Functional specifications

Service: Liquid, gas, or vapor

Static pressure, span, and range limit:

Type	Static pressure	Span limit [kPa] {m bar}		Range limit [kPa] {m bar}
		Min.	Max.	
FKD□□3	Up to flange rating	0.32 { 3.2 }	32 { 320 }	+/– 32 {+/– 320}
FKD□□5		1.3 { 13 }	130 { 1300 }	+/– 130 {+/– 1300}
FKD□□6		5 { 50 }	500 { 5000}	+/– 500 {+/– 5000}

Remark : To minimize environmental influence, span should be greater than 1/40 of the max. span in most applications.

Note: Refer to code symbols for the detail of span limit.

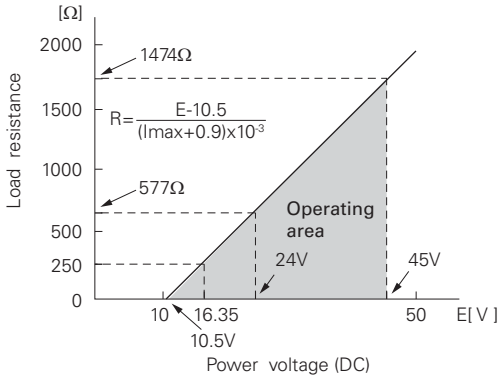
– Lower limit of static pressure (vacuum limit),
  Silicone fill sensor: See Fig. 1
  Fluorinated fill sensor: Atmospheric pressure
– The maximum span of each sensor can be converted to different units using factors as below.
  1MPa $=10^3$kPa=10bar=10.19716kgf/cm^2
  =145.0377psi
  1kPa=10mbar=101.976mmH_2O=4.01463H_2O

Overrange limit: To maximum static pressure limit

Output signal: 4 to 20mA DC (linear or square root) with digital signal superimposed on the 4 to 20mA signal

Power supply: Transmitter operates on 10.5V to 45V DC at transmitter terminals.
10.5V to 32V DC for the units with optional arrester.

Load limitations: see figure below



Note: For communication with HHC(1) (Model: FXW), min. of 250Ω is required.

Hazardous locations: TABLE 2

Zero/span adjustment:
Zero and span are adjustable from the HHC(1). Zero and span are also adjustable externally from the adjustment screw.

Damping: Adjustable from HHC or local configurator unit with LCD display.
The time constant is adjustable between 0.06 to 32 seconds.

Zero elevation/suppression:
−100% to +100% of URL

Normal/reverse action:
Selectable from HHC(1)

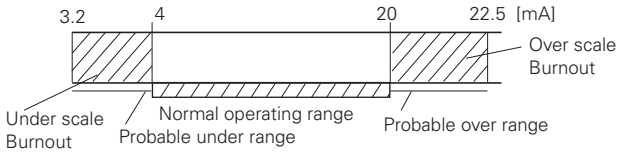
Indication: Analog indicator or 5-digit LCD meter, as specified.

Burnout direction: Selectable from HHC(1)
If self-diagnostic detect transmitter failure, the analog signal will be driven to either "Output Hold", "Output Overscale" or "Output Underscale" modes.

"Output Hold": Output signal is hold as the value just before failure happens.

"Output Overscale": Adjustable within the range 20.0mA to 22.5mA from HHC(1)

"Output Underscale": Adjustable within the range 3.2mA to 4.0mA from HHC(1)



Output limits conforming to NAMUR NE43 by order.

Loop-check output:
Transmitter can be configured to provide constant signal 3.2mA through 22.5mA by HHC(1).

Temperature limit:
Ambient: −40 to + 85°C
(−20 to + 80°C for LCD indicator)
(−40 to + 60°C for arrester option)
(−10 to + 60°C for fluorinated oil fill transmitter)
(−10 to + 85°C for silicone oil "U", "S", "K") *)
(+ 20 to + 85°C for silicone oil "X") *)
*) In case of capillary length is more than 7m, max temperature is +55°C.
For explosionproof units (flameproof or intrinsic safety), ambient temperature must be within the limits specified in each standard.

Process:

Fill fluid	Diaphragm seal 7th code	Process temperature	Lower limit of static press.
Fluorinated oil	W, A and D	−20 to 120°C	Atmospheric pressure
Silicone oil	U	−15 to 250°C	
	X	20 to 350°C	
	Y and G	−40 to 180°C	2.7kPa abs {20mmHg abs}
	S	−15 to 250°C	
	K	−15 to 200°C	0.13kPa abs {1mmHg abs} or more

Storage: −40 to +90°C

Humidity limit: 0 to 100% RH

Communication: With HHC(1) (Model FXW), following items can be remotely displayed or configured.
Note: HHC's version must be higher than 7.0 (or FXW □□□□1−□4), for FCX−AⅢ.

Local configurator with LCD display (option):
Local configurator with 3 push button and LCD display can support following items.

Items		By communication with FXW		By local configurator (with 3 push button)	
		Display	Set	Display	Set
Tag No.		v	v	v	v
Model No.		v	v	v	v
Serial No. & Software Version		v	—	v	—
Engineering unit		v	v	v	v
Range limit		v	—	v	—
Measuring range		v	v	v	v
Damping		v	v	v	v
Output mode	Linear	v	v	v	v
	Square root	v	v	v	v
Burnout direction		v	v	v	v
Calibration		v	v	v	v
Output adjust		—	v	—	v
Data		v	—	v	—
Self diagnoses		v	—	v	—
Printer (In case of FXW with printer option)		v	—	—	—
External switch lock		v	v	v	v
Transmitter display		v	v	v	v
Linearize		v	v	—	—
Rerange		v	v	v	v
Saturate current		v	v	v	v
Write protect		v	v	v	v
History – Calibration history – Ambient temperature history		 v v	 v —	 v v	 v —

Programmable output linearization function:
Output signal can be characterized with "14 points linear approximation function" from HHC(1).

(Note) (1) HHC: Hand Held Communicator

Performance specifications

Reference conditions, silicone oil fill, 316SS isolating diaphragms, 4 to 20mA analog output in linear mode.

Accuracy rating: (including linearity, hysteresis, and repeatability)

(Standard)

For spans greater than 1/10 of URL: 0.2% of span

For spans below 1/10 of URL:

$$\pm \left(0.1+0.1 \frac{0.1 \times \text{URL}}{\text{Span}} \right) \% \text{ of span}$$

(Option) (Code; 15th digit H, K, T, G)

For spans greater than 1/10 of URL: 0.1% of span

For spans below 1/10 of URL:

$$\pm \left(0.05+0.05 \frac{0.1 \times \text{URL}}{\text{Span}} \right) \% \text{ of span}$$

Stability: ±0.2% of upper range limit (URL) for 10 years.

Temperature effect (*):

Effects per 28°C change between the limits of −40°C and +85°C

(Standard) Zero shift: ±0.35% of URL

Total effect: ±0.5% of URL

(Option) (Code; 15th digit J, K, F, G)

Zero shift: ±0.3% of URL

Total effect: ±0.4% of URL

Note: * Excluding effect by temperature difference between the seals.

Static pressure effect:

Zero shift; 0.2% of URL / 1MPa

Span shift: −0.2% of calibrated span / 1MPa

Overrange effect: Zero shift; 0.1% of URL for flange rating pressure

Supply voltage effect:

Less than 0.005% of calibrated span per 1V

Update rate: 60 msec

Step response: (without electrical damping)

Dielectric strength:

Range code	Time constant (at 23°C)	Dead time
"3"	2 s	0.12 s
"5"	1.7 s	
"6"	1.7 s	

500V AC, 50/60Hz 1 min., between circuit and earth.

Insulation resistance:

More than 100MΩ at 500V DC.

Internal resistance for external field indicator:

12Ω or less

Physical specifications

Electrical connections:

G1/2, 1/2-14 NPT, Pg13.5, or M20 × 1.5 conduit, as specified.

Process connections:

JIS, ANSI, or DIN raised face flanges.

JIS: 10K80A, 10K100A, 30K80A, or 30K100A

ANSI: 150LB 3", 150LB 4", 300LB 3", or 300LB 4"

DIN: PN40 DN80 or PN16 DN100

See OUTLINE DIAGRAM for detailed dimensions.

Diaphragm extension:

0, 50, 100, 150, or 200mm as specified. (See model code. Extended diaphragm is available only with 316L stainless steel diaphragm)

Process-wetted parts material:

Diaphragm: 316L stainless steel, MA276, Monel, Tantalum, Titanium or Zirconium

Flange face: 316L stainless steel, MA276 lining

Monel lining, or Tantalum lining

Extension: 316 stainless steel

Non-wetted parts material:

Electronics housing: Low copper die-cast aluminum alloy or 316 stainless steel.

Capillary: PVC or stainless steel, as specified in 6th digit of diaphragm seal code.

Mounting flange: 316L stainless steel

Fill fluid: Silicone oil (standard) or fluorinated oil

Mounting bracket: 304 stainless steel

Environmental protection:

IEC IP67 and NEMA 6/6P

Mounting: On 60.5mm (JIS 50A) pipe using mounting bracket, direct wall mounting

Mass {weight}: Transmitter approximately 12 to 31kg without options.

Add; 0.5kg for mounting bracket

4.5kg for stainless steel housing option

1.5kg per 50mm extension of dia-phragm

Optional features

Indicator: A plug-in analog indicator (2.5% accuracy). An optional 5-digit LCD meter with engineering unit is also available.

Local configurator with LCD display:

An optional 5 digits LCD meter with 3 push buttons can support items as using communication with FXW.

Arrester: A built-in arrester protects the electronics from lightning surges.

Lightning surge immunity:

4kV (1.2 × 50μs)

Oxygen service: Special cleaning procedures are followed throughout the process to maintain all process wetted parts oil-free.

The fill fluid is fluorinated oil.

Chlorine service: Oil-free procedures as above. Includes fluorinated oil for fill.

Degreasing: Process-wetted parts are cleaned, but the fill fluid is standard silicone oil. Not for use on oxygen or chlorine measurement.

Vacuum service: Special silicone oil and filling procedure are applied.

See Fig. 1, Fig. 2.

Optional tag plate:

An extra stainless steel tag for customer tag data is wired to the transmitter.

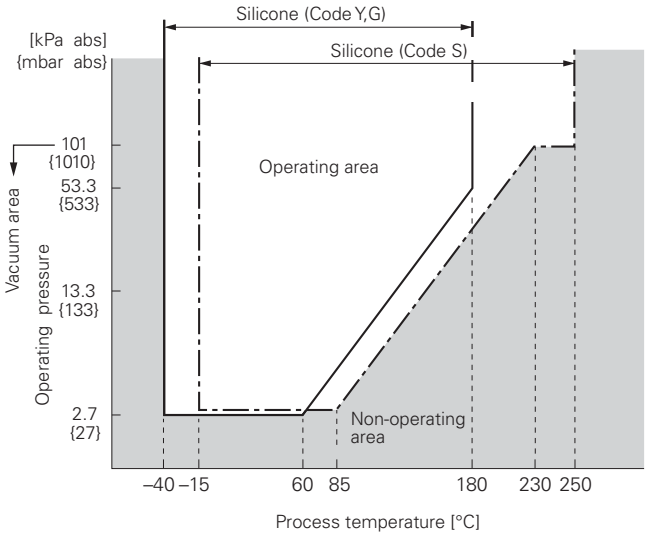
ACCESSORIES

Hand-held communicator: Model FXW

ORDERING INFORMATION

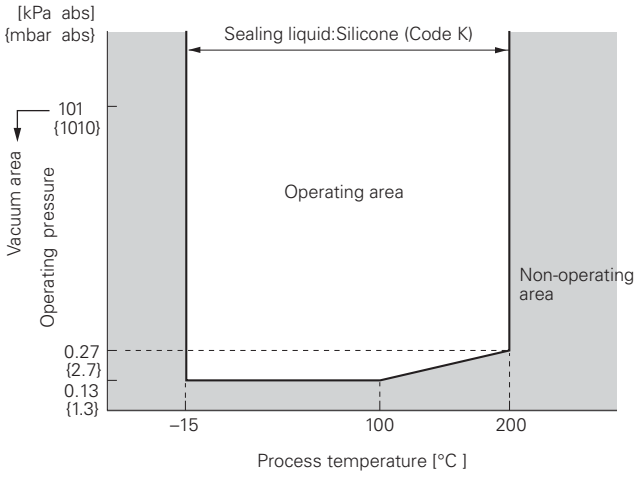
When ordering this instrument, specify:

1. CODE SYMBOLS
2. Measuring range
3. Output orientation (burnout direction) when abnormality is occurred in the transmitter.
   Hold / Overscale / Underscale
   Unless otherwise specified, output hold function is supplied.
4. Output mode (linear or square root output)
   Unless otherwise specified, output mode is linear.
5. Indication method (indicated value and unit) in case of the actual scale (code D, H, P, S ,2 ,5 on 9th digit).
6. Tag No. (up to 14 alphanumerical characters), if required.



Note: When using the transmitter in a vacuum area, locate it lower than the flange.

Fig. 1 Relation between process temperature and operating pressure



Note: When using the transmitter in a vacuum area, locate it lower than the flange.

Fig. 2 Relation between process temperature and operating pressure

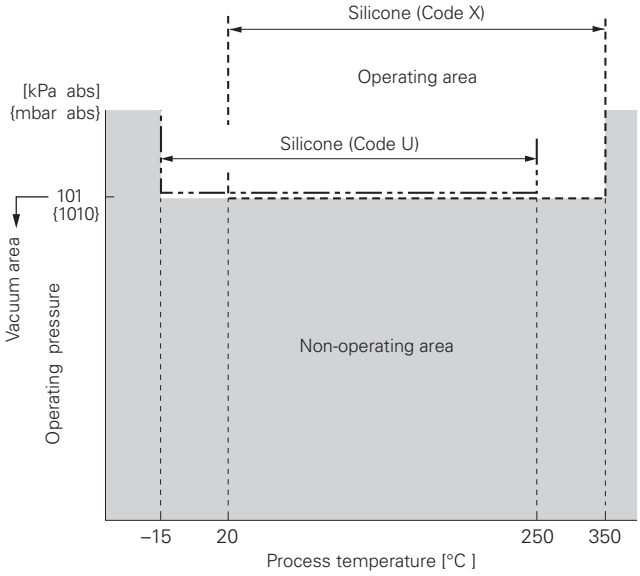


Fig. 3 Relation between process temperature and operating pressure

How to specify a model

1. Select codes for the base model and the diaphragm seal separately.
2. Base model code: FKD □ □ □ □ 5-□ □ □ □ □ □-□ □ ···15 digits
3. Diaphragm seal code: J □ □ □ □ □ □ ···7 digits, for JIS flange
   A/S □ □ □ □ □ □ ···7 digits, for ANSI/JPI · DIN flange
4. Join the two, adding a slash (/) between them.

Example: **FKDT43V5-1XC1Y-0*** / **SR4VYAY** / **SAR4VYAY**

Base model	HP side Diaphragm seal	LP side Diaphragm seal

<Base model>

Digit			
1st, 2nd, 3rd	Base model	FKD	Remote seal type differential pressure transmitter
4th	Amplifier case	T	L shape case, conduit connection NPT1/2
5th	Flange rating	4	Pressure standard 150LB
6th	Measurement span	3	Range 32 kPa
7th	Diaphragm material	(fixed to V) ····· To be specified in diaphragm seal code	
8th	Revision code	5	
|			
9th	Indicator	1	Local configurator with LCD display
10th	Approval for hazardous locations	X	ATEX flameproof
11th	Remote seal type	C	Capillary on HP & LP side
12th	Accessories	1	No stainless steel tag, no stainless housing
13th	Transmitter cell body filling oil	(Fixed to Y) ····· Silicone oil	
|			
14th	(Fixed)	0	
15th	(Fixed)	*	

<Hight pressure side>

1st	Diaphragm seal type	S	Diaphragm seal for ANSI/JPI standards
2nd	Capillary connection	R	Side capillary
3rd	Flange size and rating	4	ANSI/JPI 150LB 3B
4th	Flange material	V	316L SS
5th	Extension	Y	0mm
6th	Capillary length	A	1.5m
7th	Fill fluid	Y	Silicone oil

<Low pressure side>

1st	Diaphragm seal type	S	Diaphragm seal for ANSI/JPI standards
2nd	Capillary connection	R	Side capillary
3rd	Flange size and rating	4	ANSI/JPI 150LB 3B
4th	Flange material	V	316L SS
5th	Extension	Y	0mm
6th	Capillary length	A	1.5m
7th	Fill fluid	Y	Silicone oil

CODE SYMBOLS

Digit	Description	Note	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 ← Digit No. of code
			F K D [ ] [ ] [ ] V 5 - [ ] [ ] [ ] [ ] [ ] - [ ] [ ]
4	<AMP case>		
	<Conduit connection> <Case shape>		
	G1/2 T shape		5
	1/2-14NPT T shape		6
	Pg 13.5 T shape		7
	M20 × 1.5 T shape		8
	G1/2 L shape		S
	1/2-14NPT L shape		T
	Pg 13.5 L shape		V
	M20 × 1.5 L shape		W
5	<Flange size and rating>		
	ANSI/JPI 150 LB		4
	ANSI/JPI 300 LB		6
	ANSI/JPI 600 LB		L
	JIS 10K		0
	JIS 20K		1
	JIS 30K		3
	JIS 63K		7
	Screw type (316SS)		S
6	<Span limit (*1) [kPa]>	Note1	
	80A/3B or larger: 0.32... 32 / 50A/2B or smaller: 3.2... 32		3
	80A/3B or larger: 1.3... 130 / 50A/2B or smaller: 13... 130		5
	80A/3B or larger: 5 ..... 500 / 50A/2B or smaller: 50... 500		6
7	–		V
9	<Indicator> <Scale> <Arrester>		
	None – None		A
	Analog 0 to 100% linear scale None		B
	Analog 0 to 100% square root (*2) None	Note2	C
	Analog Custom scale None		D
	Analog Double scale (0 to 100% linear/0 to 100% sq. root) None		J
	None – Yes		E
	Analog 0 to 100% linear scale Yes		F
	Analog 0 to 100% square root (*2) Yes	Note2	G
	Analog Custom scale Yes		H
	Analog Double scale (0 to 100% linear/0 to 100% sq. root) Yes		K
	Digital 0 to 100% linear scale None		L
	Digital Custom scale None		P
	Digital 0 to 100% square root scale None		M
	Digital 0 to 100% linear scale Yes		Q
	Digital Custom scale Yes		S
	Digital 0 to 100% square root scale Yes		N
	Digital (Local configurator unit with LCD) 0 to 100% linear scale None		1
	Digital (Local configurator unit with LCD) Custom scale None		2
	Digital (Local configurator unit with LCD) 0 to 100% square root scale None		3
	Digital (Local configurator unit with LCD) 0 to 100% linear scale Yes		4
	Digital (Local configurator unit with LCD) Custom scale Yes		5
	Digital (Local configurator unit with LCD) 0 to 100% square root scale Yes		6
10	<Approvals for hazardous locations>		
	None (for ordinary location)		A
	TIIS Flameproof (Cable grand seal) (*3)	Note3	C
	TIIS Intrinsic safety		G
	FM Flameproof (or explosionproof) (*4)	Note4	D
	FM Intrinsic safety		H
	FM Combined of flameproof and intrinsic safety (*4)	Note4	V
	ATEX Flameproof	Note5	X
	ATEX Intrinsic safety		K
	ATEX Type n		P
	ATEX Combined of flameproof and intrinsic safety (*5)	Note5	M
	IECEx scheme, Flameproof (*5)	Note5	R
	IECEx scheme, Intrinsic safety		T
	CSA Flameproof (or explosionproof) (*4)	Note4	E
	CSA Intrinsic safety and nonincentive		J
11	<Mounting design>		
	Capillary on HP & LP side		C
	Rigid short design on HP & capillary on LP		E

Digit	Description		Note
12	**<Option>** <Extra SS tag plate>	<SS housing>	Note6
	None Yes None Yes	None None Yes Yes	Note7 Note7
13	-		
14	-		
15	<Fixed code> (*8)		Note8

1	2	3	4	5	6	7	8		9	10	11	12	13		14	15	← Digit No. of code
F	K	D					5	-					Y	-	0		
												1 2 3 4					
													Y				
															0		
																*	

Note 1: (*1) 100: 1 turn down is possible, but should be used at a span greater than 1/40 of the maximum span for better performance.
Note 2: (*2) During the square root output mode, square root scale is not available.
Note 3: (*3) Available for 4th digit code "S".
Note 4: (*4) Available for 4th digit code "6", "T".
Note 5: (*5) Available for 4th digit code "6", "8", "T", "W".
Note 6: (*6) Customer tag number can be engraved on standard stainless steel name plate. If extra tag plate is required, select "Yes".
Note 7: (*7) Not available for 10th digit code "C".
Note 8: (*8) In case of hazardous location type, tagplate is made by Fuji Electric Co., Ltd.

CODE SYMBOLS <Diaphragm seal for JIS>

1	2	3	4	5	6	7
J						

Digit	Description			Code	Note
1	<Capillary connection>	<Flange size and rating>			Note 1
2	Flanged axial diaphragm	JIS 10K 15A	With flange adapter	JAA	Note 2
3	seal connection (Center	JIS 20K 15A	With flange adapter	JAB	Note 2
	capillary)	JIS 30K 15A	With flange adapter	JAC	Note 2
		JIS 63K 15A	With flange adapter	JAE	Note 2
		JIS 10K 20A	With flange adapter	JAF	Note 2
		JIS 20K 20A	With flange adapter	JAG	Note 2
		JIS 30K 20A	With flange adapter	JAH	Note 2
		JIS 63K 20A	With flange adapter	JAL	Note 2
		JIS 10K 40A	With flange adapter	JAS	Note 2
		JIS 20K 40A	With flange adapter	JAT	Note 2
		JIS 30K 40A	With flange adapter	JAU	Note 2
		JIS 63K 40A	With flange adapter	JAW	Note 2
		JIS 10K 50A		JAX	
		JIS 20K 50A		JAY	
		JIS 30K 50A		JA1	
		JIS 63K 50A		JA3	
		JIS 10K 80A		JA4	
		JIS 20K 80A		JA5	
		JIS 30K 80A		JA6	
		JIS 10K 100A		JA7	
		JIS 20K 100A		JA8	
		JIS 30K 100A		JA9	
	<Capillary connection>	JIS 10K 50A		JRX	
	Flanged radial diaphragm	JIS 20K 50A		JRY	
	seal connection (Side	JIS 30K 50A		JR1	
	capillary)	JIS 63K 50A		JR3	
		JIS 10K 80A		JR4	
		JIS 20K 80A		JR5	
		JIS 30K 80A		JR6	
		JIS 10K 100A		JR7	
		JIS 20K 100A		JR8	
		JIS 30K 100A		JR9	
	<Capillary connection>	JIS 10K 50A		JWX	
	Wafer type	JIS 20K 50A		JWY	
		JIS 30K 50A		JW1	
		JIS 63K 50A		JW3	
		JIS 10K 80A		JW4	
		JIS 20K 80A		JW5	
		JIS 30K 80A		JW6	
		JIS 10K 100A		JW7	
		JIS 20K 100A		JW8	
		JIS 30K 100A		JW9	

Digit	Description				Code	Note
4	<Diaphragm seal material>					
	<Diaphragm>	<Flange face>	<Flange>			
	316L SS	316L SS	316L SS		V	
	Hastelloy-C	Hastelloy-C	316L SS		H	
	Monel	Monel	316L SS		B	
	Tantalum	Tantalum	316L SS		T	
	Titanium	Titanium	316L SS		P	Note 3
	Zirconium	Zirconium	316L SS		R	Note 3
	316L SS + Au coating	316L SS	316L SS		J	
5	<Diaphragm extension>					
	None				Y	
	50mm	4th digit code "V" only			A	Note 4
	100mm	4th digit code "V" only			B	Note 4
	150mm	4th digit code "V" only			C	Note 4
	200mm	4th digit code "V" only			D	Note 4
6	<Remote seal type>					
	<Mounting design>	<Capillary length>	<Capillary armor>	<Mounting bracket>		
	Capillary	1.5m	PVC	304L SS	A	Note 5
	Capillary	3m	PVC	304L SS	B	Note 5
	Capillary	6m	PVC	304L SS	C	Note 5
	Capillary	5m	PVC	304L SS	1	Note 5
	Capillary	7m	PVC	304L SS	2	Note 5
	Capillary	8m	PVC	304L SS	3	Note 5
	Capillary	10m	PVC	304L SS	4	Note 5
	Capillary	1.5m	SS	304L SS	G	Note 6
	Capillary	3m	SS	304L SS	H	Note 6
	Capillary	6m	SS	304L SS	K	Note 6
	Capillary	5m	SS	304L SS	5	Note 6
	Capillary	7m	SS	304L SS	6	Note 6
	Capillary	8m	SS	304L SS	7	Note 6
	Capillary	10m	SS	304L SS	8	Note 6
	Rigid short design on HP & capillary on LP *Available for base model 11th digit code "E". *For LP side, only the center capillary is available.				R	Note 7
7	<Treatment>		<Fill fluid>			Note 8
	None (Standard)		Silicone oil		Y	
	None (Standard)		Fluorinated oil		W	
	Degreasing		Silicone oil		G	
	Oxygen service		Fluorinated oil		A	Note 9
	Chlorine service		Fluorinated oil		D	Note 10
	High temp. (-15 to 250°C)		Silicone oil		U	Note 11
	High temp. (20 to 350°C)		Silicone oil		X	Note 12
	High temp and vacuum (-15 to 250°C)		Silicone oil		S	Note 13
	High temp and high vacuum (-15 to 200°C)		Silicone oil		K	Note 13

Note 1 (*1) Select the appropriate digit codes for 1st to 3rd digit codes, so that they correspond to the flange specified in the base model 5th digit code. For example, if base model 5th digit code is "0" (i.e. JIS10K), select JIS10K flange in 1st, 2nd, and 3rd digit codes for diaphragm seal.

Note 2: (*2) Available for 4rd digit code "V".

Note 3: (*3) Available for 3rd digit code "4", "5", "6".

Note 4: (*4) When 7th digit code is "S" or "K", 3rd digit code should be any of "7", "8", "9".

Note 5: (*5) Available for 7th digit code "Y", "W", "G", "A", "D".

Note 6: (*6) Available for all of 7th digit code.

Note 7: (*7) Select the specification of LP side capillary with the digit codes for LP side diaphragm seal.

Note 8: (*8) Select the same fill fluid for HP side and LP side.

Note 9: (*9) Available for 4th digit code "V".

Note 10: (*10) Available for 4th digit code "H", "T".

Note 11: (*11) Available for 4th digit code "V", "H".

Note 12: (*12) Available for 3rd digit code "4", "5", "6", "7", "8", "9", and for 4th digit code "V", "H".

Note 13: (*13) Available for 3rd digit code "4", "5", "6", "7", "8", "9", and for 4th digit code "V".

CODE SYMBOLS <Diaphragm seal for ANSI/JPI>

1	2	3	4	5	6	7
A/S						

Digit	Description				Note
1	<Capillary connection>	<Flange size and rating>			Note 1
2	Flanged axial diaphragm	ANSI/JPI 150LB 1/2B	With flange adapter	AAK	Note 2
3	seal connection (Center	ANSI/JPI 300LB 1/2B	With flange adapter	AAL	Note 2
	capillary)	ANSI/JPI 600LB 1/2B	With flange adapter	AAM	Note 2
		ANSI/JPI 150LB 3/4B	With flange adapter	AAN	Note 2
		ANSI/JPI 300LB 3/4B	With flange adapter	AAP	Note 2
		ANSI/JPI 600LB 3/4B	With flange adapter	AAQ	Note 2
		ANSI/JPI 150LB 1.5B	With flange adapter	SAE	Note 2
		ANSI/JPI 300LB 1.5B	With flange adapter	SAF	Note 2
		ANSI/JPI 600LB 1.5B	With flange adapter	AAU	Note 2
		ANSI/JPI 150LB 2B		SAH	
		ANSI/JPI 300LB 2B		SAJ	
		ANSI/JPI 600LB 2B		AAV	
		ANSI/JPI 150LB 3B		SA4	
		ANSI/JPI 300LB 3B		SA6	
		ANSI/JPI 600LB 3B		AAW	
		ANSI/JPI 150LB 4B		SA5	
		ANSI/JPI 300LB 4B		SA7	
		ANSI/JPI 600LB 4B		AAX	
		Screwed 1/2 NPT	With flange adapter	AA0	
		Screwed 3/4 NPT	With flange adapter	AA1	
		Screwed Rc1/2	With flange adapter	AA2	
		Screwed Rc3/4	With flange adapter	AA3	
	<Capillary connection>	ANSI/JPI 150LB 2B		SRH	
	Flanged radial	ANSI/JPI 300LB 2B		SRJ	
	diaphragm seal	ANSI/JPI 600LB 2B		ARV	
	connection (Side	ANSI/JPI 150LB 3B		SR4	
	capillary)	ANSI/JPI 300LB 3B		SR6	
		ANSI/JPI 600LB 3B		ARW	
		ANSI/JPI 150LB 4B		SR5	
		ANSI/JPI 300LB 4B		SR7	
		ANSI/JPI 600LB 4B		ARX	
	<Capillary connection>	ANSI/JPI 150LB 2B		SWH	
	Wafer type	ANSI/JPI 300LB 2B		SWJ	
		ANSI/JPI 600LB 2B		AWV	
		ANSI/JPI 150LB 3B		SW4	
		ANSI/JPI 300LB 3B		SW6	
		ANSI/JPI 600LB 3B		AWW	
		ANSI/JPI 150LB 4B		SW5	
		ANSI/JPI 300LB 4B		SW7	
		ANSI/JPI 600LB 4B		AWX	

Note 1: (*1) Select the appropriate digit codes for 1st to 3rd digit codes, so that they correspond to the flange specified in the base model 5th digit code. For example, if base model 5th digit code is "0" (i.e. JIS10K), select JIS10K flange in 1st, 2nd, and 3rd digit codes for diaphragm seal.

Note 2: (*2) Available for 4rd digit code "V".

Note 3: (*3) Available for 3rd digit code "4", "6", "W".

Note 4: (*4) When 7th digit code is "S" or "K", 3rd digit code should be any of "5", "7", "X".

Note 5: (*5) Available for 7th digit code "Y", "W", "G", "A", "D".

Note 6: (*6) Available for all of 7th digit code.

Note 7: (*7) Select the specification of LP side capillary with the digit codes for LP side diaphragm seal.

Note 8: (*8) Select the same fill fluid for HP side and LP side.

Note 9: (*9) Available for 4th digit code "V".

Note 10: (*10) Available for 4th digit code "H", "T".

Note 11: (*11) Available for 4th digit code "V", "H".

Note 12: (*12) Available for 3rd digit code "4", "5", "6", "7", "W", "X", and for 4th digit code "V", "H".

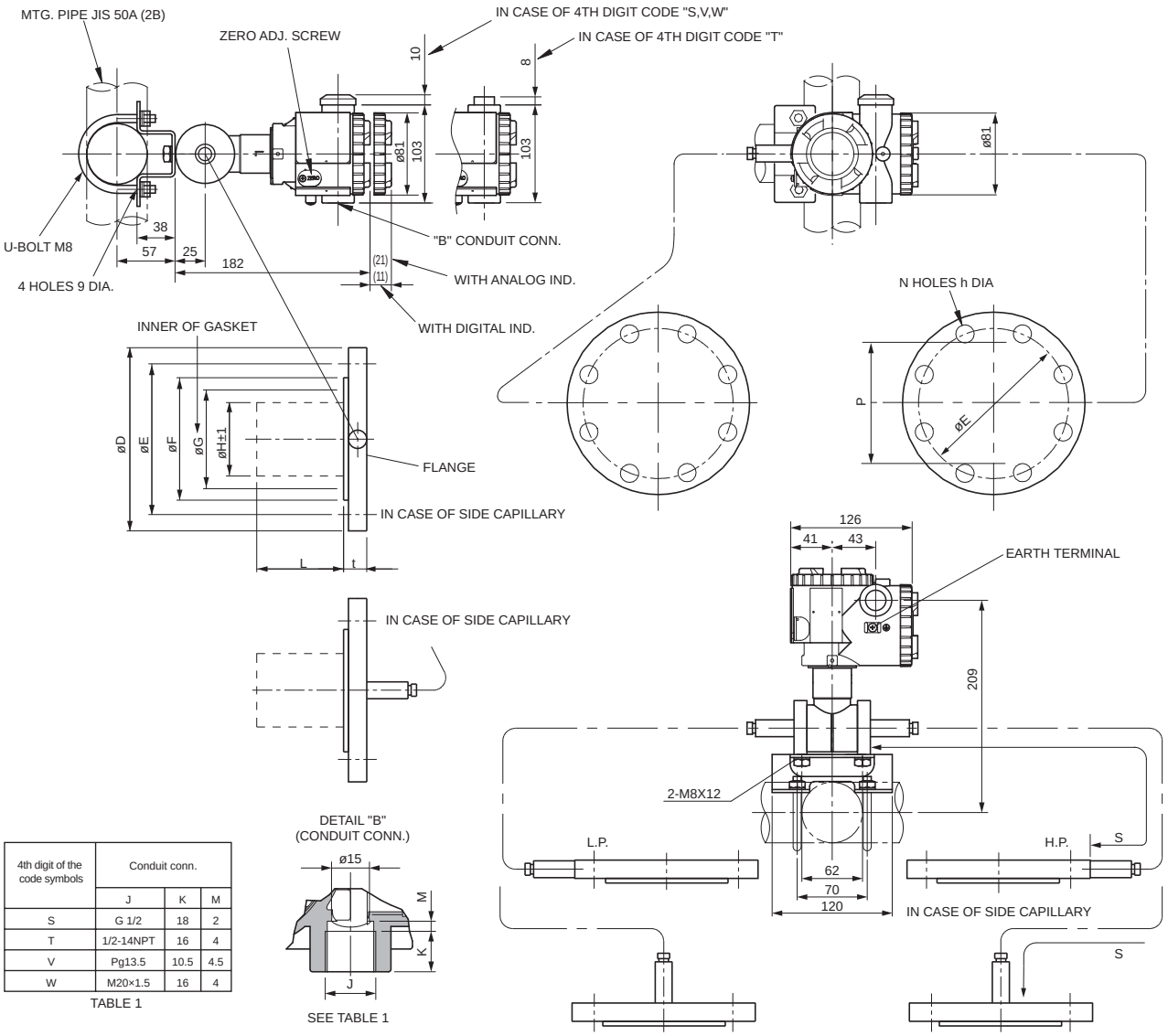
Note 13: (*13) Available for 3rd digit code "4", "5", "6", "7", "W", "X", and for 4th digit code "V".

Digit	Description				Code	Note
4	<Diaphragm seal material>					
	<Diaphragm>	<Flange face>	<Flange>			
	316L SS	316L SS	316L SS		V	
	Hastelloy-C	Hastelloy-C	316L SS		H	
	Monel	Monel	316L SS		B	
	Tantalum	Tantalum	316L SS		T	
	Titanium	Titanium	316L SS		P	Note 3
	Zirconium	Zirconium	316L SS		R	Note 3
	316L SS + Au coating	316L SS	316L SS		J	
5	<Diaphragm extension>					
	None				Y	
	50mm	4th digit code "V" only			A	Note 4
	100mm	4th digit code "V" only			B	Note 4
	150mm	4th digit code "V" only			C	Note 4
	200mm	4th digit code "V" only			D	Note 4
6	<Remote seal type>					
	<Mounting design>	<Capillary length>	<Capillary armor>	<Mounting bracket>		
	Capillary	1.5m	PVC	304L SS	A	Note 5
	Capillary	3m	PVC	304L SS	B	Note 5
	Capillary	6m	PVC	304L SS	C	Note 5
	Capillary	5m	PVC	304L SS	1	Note 5
	Capillary	7m	PVC	304L SS	2	Note 5
	Capillary	8m	PVC	304L SS	3	Note 5
	Capillary	10m	PVC	304L SS	4	Note 5
	Capillary	1.5m	SS	304L SS	G	Note 6
	Capillary	3m	SS	304L SS	H	Note 6
	Capillary	6m	SS	304L SS	K	Note 6
	Capillary	5m	SS	304L SS	5	Note 6
	Capillary	7m	SS	304L SS	6	Note 6
	Capillary	8m	SS	304L SS	7	Note 6
	Capillary	10m	SS	304L SS	8	Note 6
	Rigid short design on HP & capillary on LP *Available for base model 11th digit code "E". *For LP side, only the center capillary is available.				R	Note 7
7	<Treatment>		<Fill fluid>			Note 8
	None (Standard)		Silicone oil		Y	
	None (Standard)		Fluorinated oil		W	
	Degreasing		Silicone oil		G	
	Oxygen service		Fluorinated oil		A	Note 9
	Chlorine service		Fluorinated oil		D	Note 10
	High temp. (-15 to 250°C)		Silicone oil		U	Note 11
	High temp. (20 to 350°C)		Silicone oil		X	Note 12
	High temp and vacuum (-15 to 250°C)		Silicone oil		S	Note 13
	High temp and high vacuum (-15 to 200°C)		Silicone oil		K	Note 13

OUTLINE DIAGRAM (Unit:mm)

Flange size : JIS 50A, 80A, 100A
ANSI 2B, 3B, 4B

<AMP. case: L type> Flange type



4th digit of the code symbols	Conduit conn.		
	J	K	M
S	G 1/2	18	2
T	1/2-14NPT	16	4
V	Pg13.5	10.5	4.5
W	M20×1.5	16	4

TABLE 1

Diaphragm section 1st code	Diaphragm section 3rd code	øD	øE	øF	øG	øH±1	t *1	t *2	N-øh	FLANGE
J	X	155	120	96	49	48	16	24	4-19	JIS 10K 50A
J	Y	155	120	96	49	48	18	24	8-19	JIS 20K 50A
J	1	165	130	105	49	48	22	24	8-19	JIS 30K 50A
J	3	185	145	105	49	48	34	34	8-23	JIS 63K 50A
J	4	185	150	126	100	73	18	24	8-19	JIS 10K 80A
J	5	200	160	132	100	73	22	24	8-23	JIS 20K 80A
J	6	210	170	140	100	73	28	28	8-23	JIS 30K 80A
J	7	210	175	151	103	96	18	24	8-19	JIS 10K 100A
J	8	225	185	160	103	96	24	24	8-23	JIS 20K 100A
J	9	240	195	160	103	96	32	32	8-25	JIS 30K 100A
S	H	152	120.6	92.1	49	48	19	24	4-19	ANSI/JPI 150LB 2B
S	J	165	127	92.1	49	48	22.5	24	8-19	ANSI/JPI 300LB 2B
A	V	165	127	92.1	49	48	31.9	31.9	8-19	ANSI/JPI 600LB 2B
S	4	190	152.4	127	100	73	24	24	4-19	ANSI/JPI 150LB 3B
S	6	210	168.3	127	100	73	28.5	28.5	8-22.2	ANSI/JPI 300LB 3B
A	W	210	168.3	127	100	73	38.4	38.4	8-22.2	ANSI/JPI 600LB 3B
S	5	229	190.5	157.2	103	96	24	24	8-19	ANSI/JPI 150LB 4B
S	7	254	200	157.2	103	96	32	32	8-22.2	ANSI/JPI 300LB 4B
A	X	273	215.9	157.2	103	96	44.9	44.9	8-26	ANSI/JPI 600LB 4B

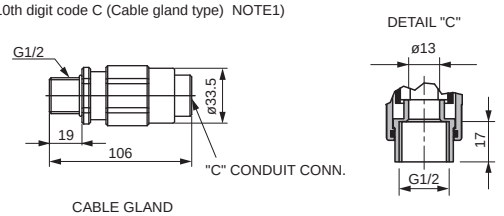
*1: In case of diaphragm seal section 2nd code "A" (center capillary).
*2: In case of diaphragm seal section 2nd code "R" (side capillary), "W" (wafer type).

Diaphragm section 5th code	L	MASS.APPROX (kg)
Y	0	12.7 - 18.2
A	50	13.7 - 29.2
B	100	14.2 - 29.7
C	150	14.7 - 30.2
D	200	15.2 - 30.7

Diaphragm section 6th code	S(m)
A, G	1.5
B, H	3
1, 5	5
C, K	6
2, 6	7
3, 7	8
4, 8	10

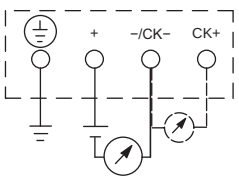
OPTION PARTS FOR FLAMEPROOF OF TIIS (JAPAN)

10th digit code C (Cable gland type) NOTE1)



NOTE1) IN CASE OF 10TH CODE "C", ø11 CABLE IS SUITBLE.

CONNECTION DIAGRAM



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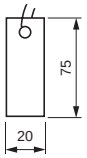
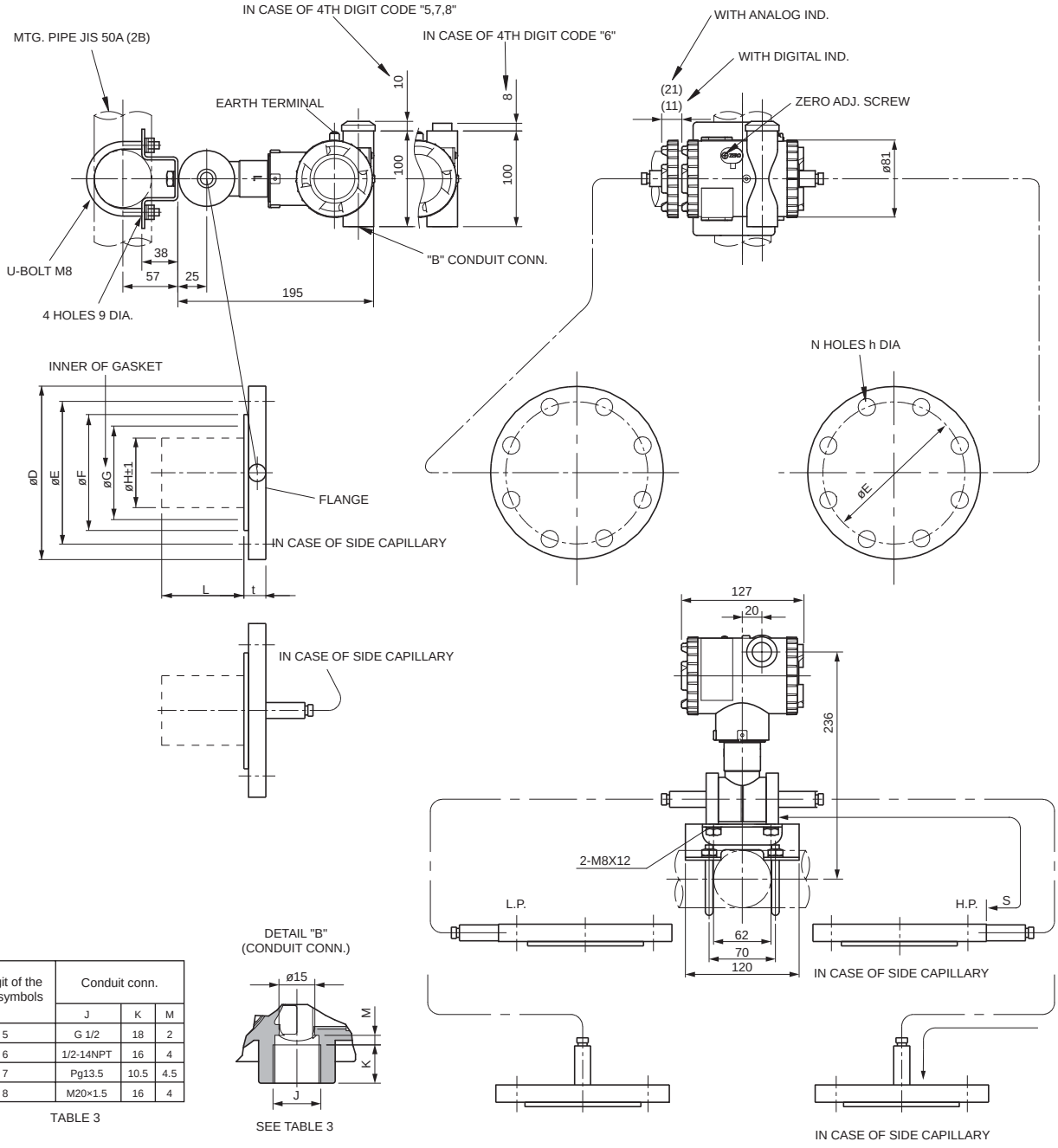


Flange size : JIS 50A, 80A, 100A
ANSI 2B, 3B, 4B

<AMP. case: T type> Flange type



4th digit of the code symbols	Conduit conn.		
	J	K	M
5	G 1/2	18	2
6	1/2-14NPT	16	4
7	Pg13.5	10.5	4.5
8	M20×1.5	16	4

TABLE 3

DETAIL "B"
(CONDUIT CONN.)

SEE TABLE 3

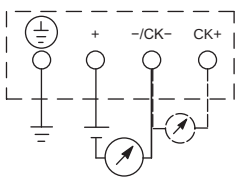
Diaphragm section 1st code	Diaphragm section 3rd code	øD	øE	øF	øG	øH±1	t *1	t *2	N-øh	FLANGE
J	X	155	120	96	49	48	16	24	4-19	JIS 10K 50A
J	Y	155	120	96	49	48	18	24	8-19	JIS 20K 50A
J	1	165	130	105	49	48	22	24	8-19	JIS 30K 50A
J	3	185	145	105	49	48	34	34	8-23	JIS 63K 50A
J	4	185	150	126	100	73	18	24	8-19	JIS 10K 80A
J	5	200	160	132	100	73	22	24	8-23	JIS 20K 80A
J	6	210	170	140	100	73	28	28	8-23	JIS 30K 80A
J	7	210	175	151	103	96	18	24	8-19	JIS 10K 100A
J	8	225	185	160	103	96	24	24	8-23	JIS 20K 100A
J	9	240	195	160	103	96	32	32	8-25	JIS 30K 100A
S	H	152	120.6	92.1	49	48	19	24	4-19	ANSI/JPI 150LB 2B
S	J	165	127	92.1	49	48	22.5	24	8-19	ANSI/JPI 300LB 2B
A	V	165	127	92.1	49	48	31.9	31.9	8-19	ANSI/JPI 600LB 2B
S	4	190	152.4	127	100	73	24	24	4-19	ANSI/JPI 150LB 3B
S	6	210	168.3	127	100	73	28.5	28.5	8-22.2	ANSI/JPI 300LB 3B
A	W	210	168.3	127	100	73	38.4	38.4	8-22.2	ANSI/JPI 600LB 3B
S	5	229	190.5	157.2	103	96	24	24	8-19	ANSI/JPI 150LB 4B
S	7	254	200	157.2	103	96	32	32	8-22.2	ANSI/JPI 300LB 4B
A	X	273	215.9	157.2	103	96	44.9	44.9	8-26	ANSI/JPI 600LB 4B

*1: In case of diaphragm seal section 2nd code "A" (center capillary).
*2: In case of diaphragm seal section 2nd code "R" (side capillary), "W" (wafer type).

Diaphragm section 5th code	L	MASS.APPROX (kg)
Y	0	12.7 - 18.2
A	50	13.7 - 29.2
B	100	14.2 - 29.7
C	150	14.7 - 30.2
D	200	15.2 - 30.7

Diaphragm section 6th code	S(m)
A, G	1.5
B, H	3
1, 5	5
C, K	6
2, 6	7
3, 7	8
4, 8	10

CONNECTION DIAGRAM



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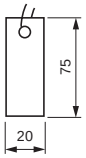
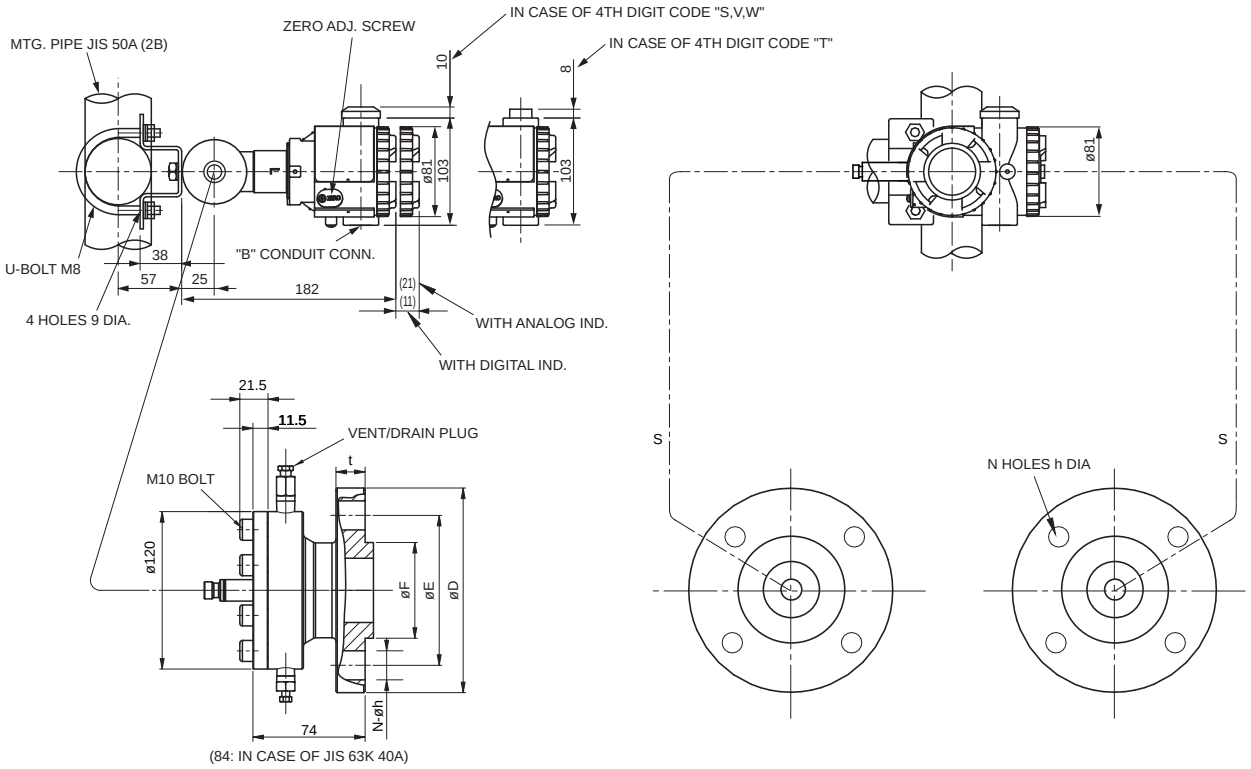


<AMP. case: L type>

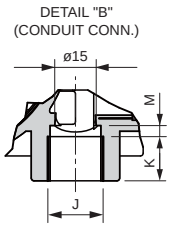
Flange adapter (Flange connection type)

Flange size : JIS 15A, 20A, 40A
ANSI 1/2B, 3/4B, 1.5B

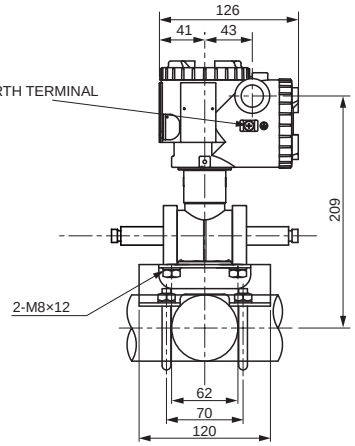


4th digit of the code symbols	Conduit conn.		
	J	K	M
S	G1/2	18	2
T	1/2-14NPT	16	4
V	Pg13.5	10.5	4.5
W	M20×1.5	16	4

TABLE 2



SEE TABLE 2

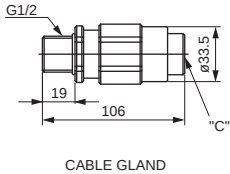


Diaphragm section 1st code	Diaphragm section 3rd code	øD	øE	øF	t	N-øh	FLANGE
J	A	95	70	51	12	4-15	JIS 10K 15A
J	B	95	70	51	14	4-15	JIS 20K 15A
J	C	115	80	55	18	4-19	JIS 30K 15A
J	E	120	85	55	23	4-19	JIS 63K 15A
J	F	100	75	56	14	4-15	JIS 10K 20A
J	G	100	75	56	16	4-15	JIS 20K 20A
J	H	120	85	60	18	4-19	JIS 30K 20A
J	L	135	95	60	25	4-23	JIS 63K 20A
J	S	140	105	81	16	4-19	JIS 10K 40A
J	T	140	105	81	18	4-19	JIS 20K 40A
J	U	160	120	90	22	4-23	JIS 30K 40A
J	W	175	130	90	32	4-25	JIS 63K 40A
A	K	89	60.3	34.9	11.5	4-16	ANSI/JPI 150LB 1/2B
A	L	95	66.7	34.9	14.5	4-16	ANSI/JPI 300LB 1/2B
A	M	95	66.7	34.9	20.9	4-16	ANSI/JPI 600LB 1/2B
A	N	98	69.9	42.9	13	4-16	ANSI/JPI 150LB 3/4B
A	P	117	82.5	42.9	16	4-20	ANSI/JPI 300LB 3/4B
A	Q	117	82.5	42.9	22.4	4-20	ANSI/JPI 600LB 3/4B
S	E	127	98.4	73	17.5	4-16	ANSI/JPI 150LB 1.5B
S	F	156	114.3	73	20.6	4-23	ANSI/JPI 300LB 1.5B
A	U	156	114.3	73	28.9	4-23	ANSI/JPI 600LB 1.5B

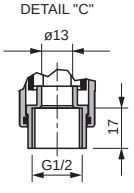
Diaphragm section 6th code	S (m)
A, G	1.5
B, H	3
1, 5	5
C, K	6
2, 6	7
3, 7	8
4, 8	10

OPTION PARTS FOR FLAMEPROOF OF TIIS (JAPAN)

10th digit code C (Cable gland type) NOTE1)

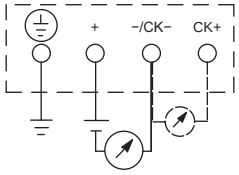


CABLE GLAND



NOTE1) IN CASE OF 10TH CODE "C", ø11 CABLE IS SUITBLE.

CONNECTION DIAGRAM



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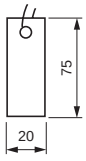
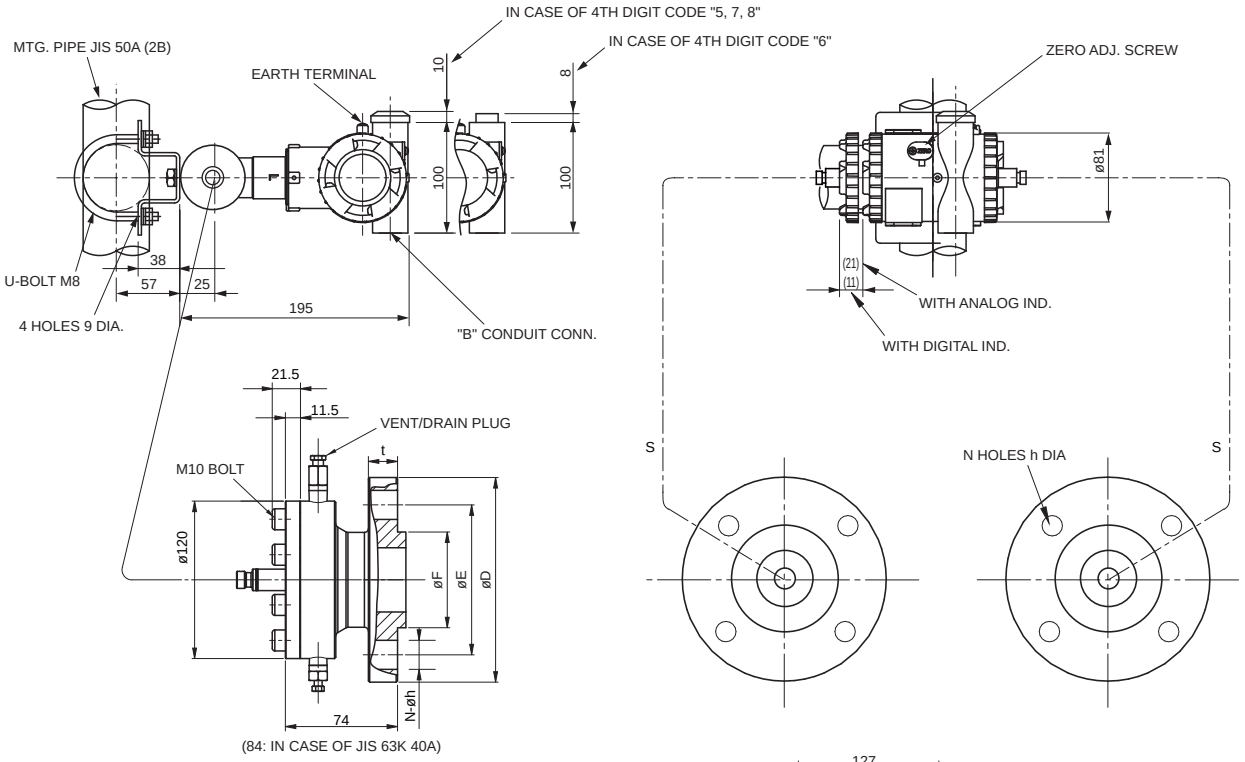
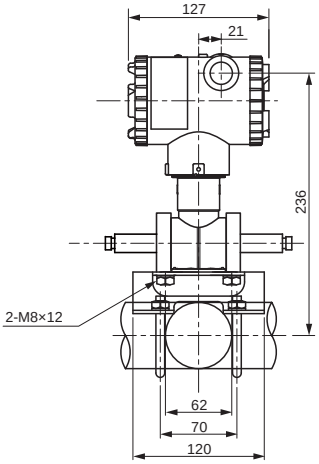


<AMP. case: T type>
Flange adapter (Flange connection type)

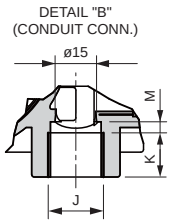
Flange size : JIS 15A, 20A, 40A
ANSI 1/2B, 3/4B, 1.5B





4th digit of the code symbols	Conduit conn.		
	J	K	M
5	G1/2	18	2
6	1/2-14NPT	16	4
7	Pg13.5	10.5	4.5
8	M20×1.5	16	4

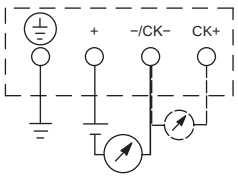
TABLE 3



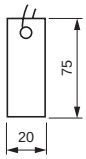
Diaphragm section 1st code	Diaphragm section 3rd code	øD	øE	øF	t	N-Øh	FLANGE
J	A	95	70	51	12	4-15	JIS 10K 15A
J	B	95	70	51	14	4-15	JIS 20K 15A
J	C	115	80	55	18	4-19	JIS 30K 15A
J	E	120	85	55	23	4-19	JIS 63K 15A
J	F	100	75	56	14	4-15	JIS 10K 20A
J	G	100	75	56	16	4-15	JIS 20K 20A
J	H	120	85	60	18	4-19	JIS 30K 20A
J	L	135	95	60	25	4-23	JIS 63K 20A
J	S	140	105	81	16	4-19	JIS 10K 40A
J	T	140	105	81	18	4-19	JIS 20K 40A
J	U	160	120	90	22	4-23	JIS 30K 40A
J	W	175	130	90	32	4-25	JIS 63K 40A
A	K	89	60.3	34.9	11.5	4-16	ANSI/JPI 150LB 1/2B
A	L	95	66.7	34.9	14.5	4-16	ANSI/JPI 300LB 1/2B
A	M	95	66.7	34.9	20.9	4-16	ANSI/JPI 600LB 1/2B
A	N	98	69.9	42.9	13	4-16	ANSI/JPI 150LB 3/4B
A	P	117	82.5	42.9	16	4-20	ANSI/JPI 300LB 3/4B
A	Q	117	82.5	42.9	22.4	4-20	ANSI/JPI 600LB 3/4B
S	E	127	98.4	73	17.5	4-16	ANSI/JPI 150LB 1.5B
S	F	156	114.3	73	20.6	4-23	ANSI/JPI 300LB 1.5B
A	U	156	114.3	73	28.9	4-23	ANSI/JPI 600LB 1.5B

Diaphragm section 6th code	S (m)
A, G	1.5
B, H	3
1, 5	5
C, K	6
2, 6	7
3, 7	8
4, 8	10

CONNECTION DIAGRAM

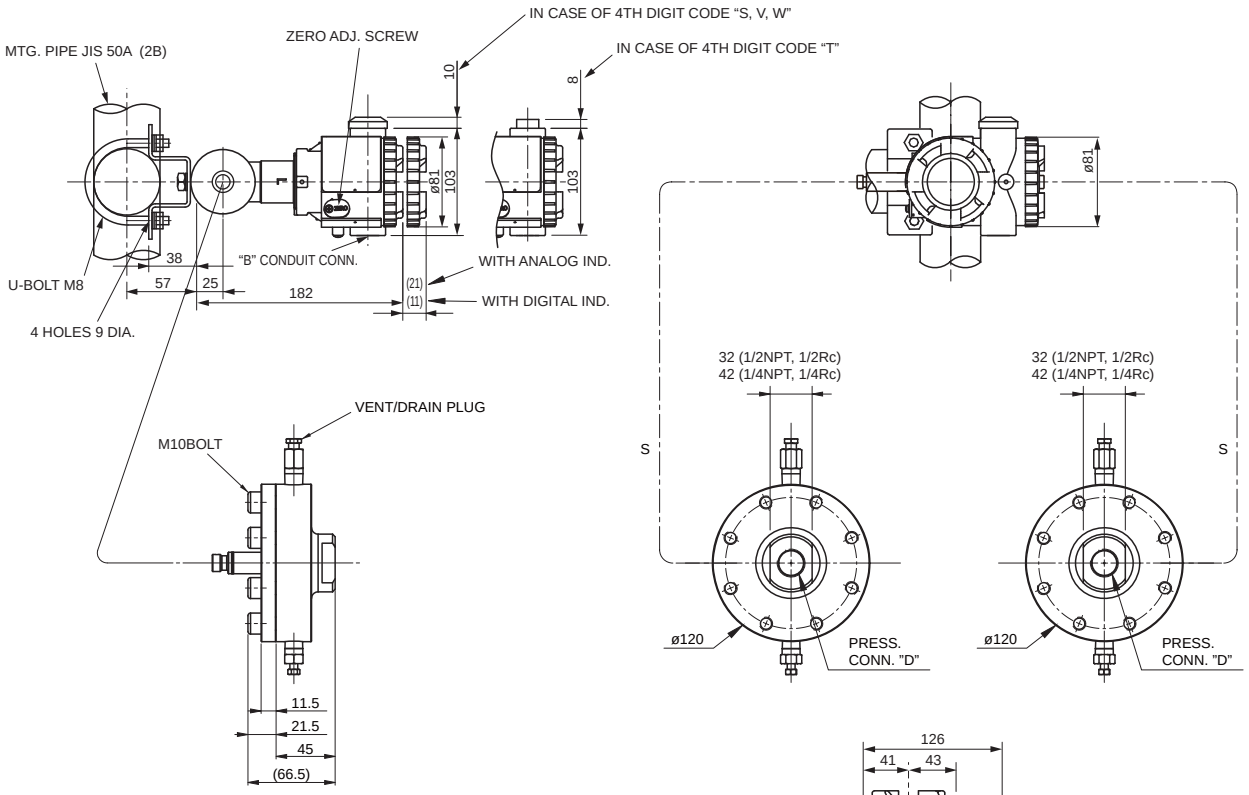


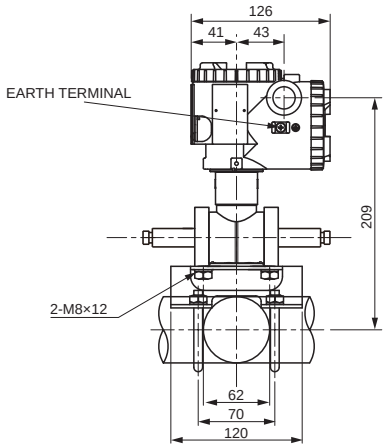
<SS TAG PLATE>



<AMP. case: L type>

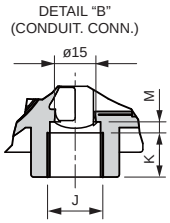
Flange adapter (Screw connection type)





4th digit of the code symbols	Conduit conn.		
	J	K	M
S	G1/2	18	2
T	1/2-14NPT	16	4
V	Pg13.5	10.5	4.5
W	M20×1.5	16	4

TABLE 2



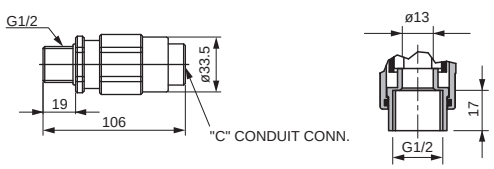
SEE TABLE 2

Diaphragm section 3rd code	Press. conn. "D"
2	Rc 1/2
0	1/2-14NPT
3	Rc 3/4
1	3/4-14NPT

Diaphragm section 6th code	S (m)
A, G	1.5
B, H	3
1, 5	5
C, K	6
2, 6	7
3, 7	8
4, 8	10

OPTION PARTS FOR FLAMEPROOF OF TIIS (JAPAN)

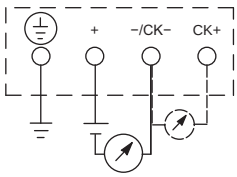
10th digit code C (Cable gland type) NOTE1)



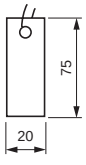
CABLE GLAND

NOTE1) IN CASE OF 10TH CODE "C", ø11 CABLE IS SUITBLE.

CONNECTION DIAGRAM

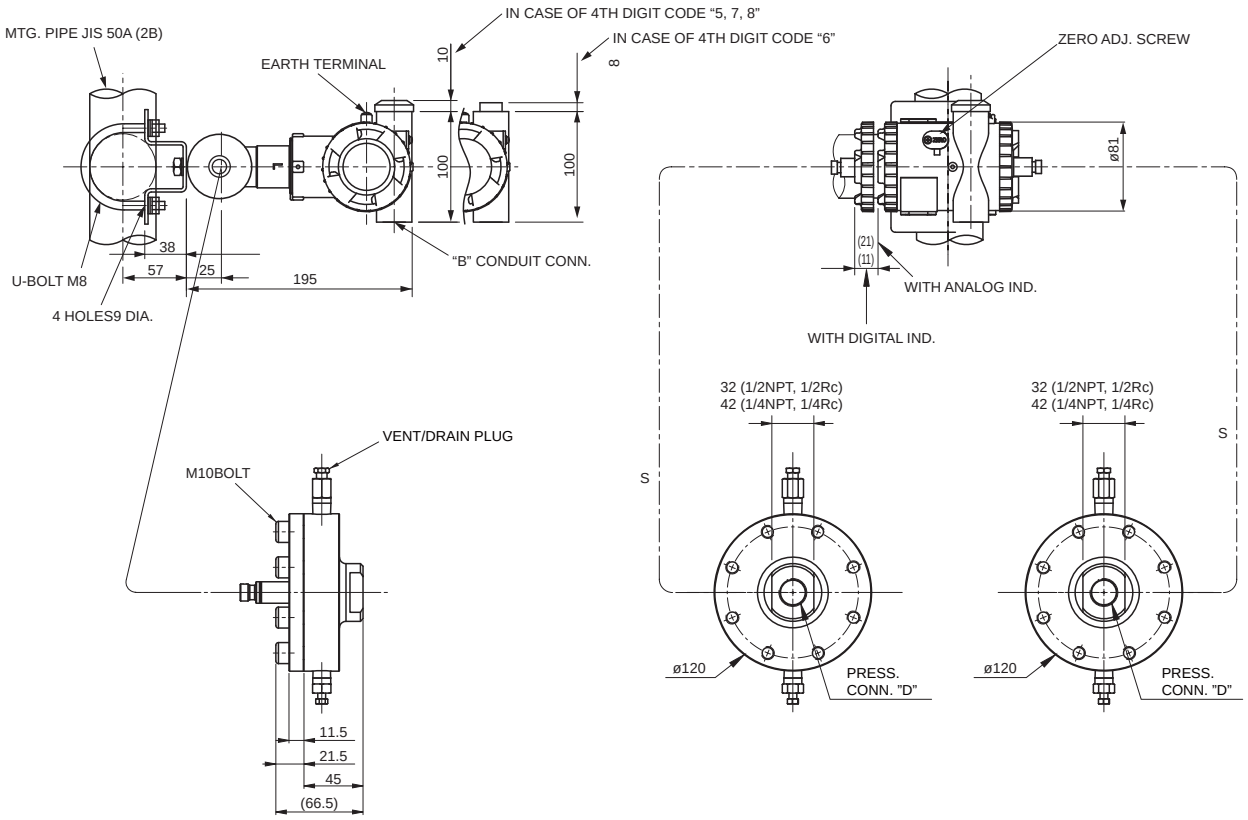


<SS TAG PLATE>



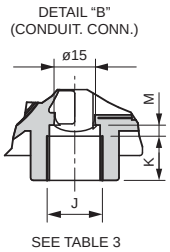
<AMP. case: T type>

Flange adapter (Screw connection type)

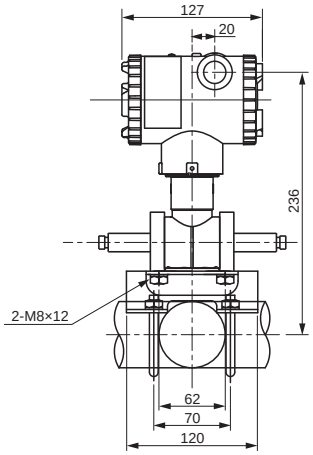


4th digit of the code symbols	Conduit conn.		
	J	K	M
5	G1/2	18	2
6	1/2-14NPT	16	4
7	Pg13.5	10.5	4.5
8	M20×1.5	16	4

TABLE 3



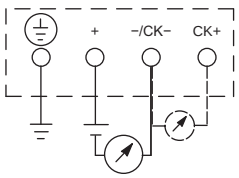
SEE TABLE 3



Diaphragm section 3rd code	Press. conn. "D"
2	Rc 1/2
0	1/2-14NPT
3	Rc 3/4
1	3/4-14NPT

Diaphragm section 6th code	S (m)
A, G	1.5
B, H	3
1, 5	5
C, K	6
2, 6	7
3, 7	8
4, 8	10

CONNECTION DIAGRAM



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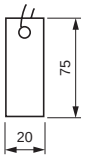
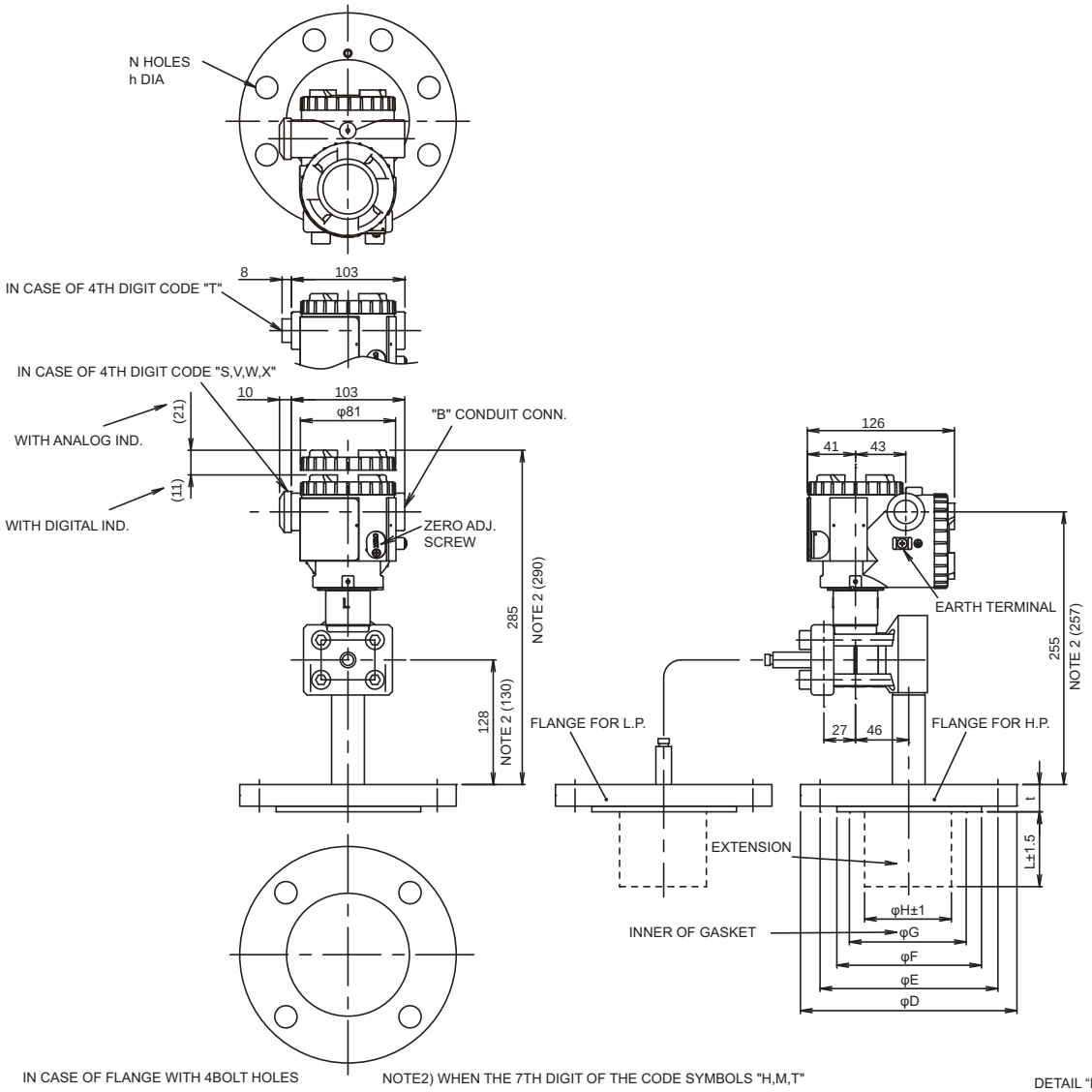


<AMP. case: L type>

<Flange type> Rigid short design on HP & capillary on LP

Flange size : JIS 50A, 80A, 100A
ANSI/JPI 2B, 3B, 4B



IN CASE OF FLANGE WITH 4BOLT HOLES

NOTE2) WHEN THE 7TH DIGIT OF THE CODE SYMBOLS "H,M,T"

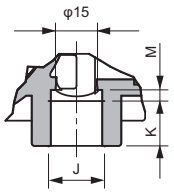
Diaphragm section 1st code	Diaphragm section 3rd code	øD	øE	øF	øG	øH±1	t *1	t *2	N-øh	FLANGE
J	X	155	120	96	49	48	16	24	4-19	JIS 10K 50A
J	Y	155	120	96	49	48	18	24	8-19	JIS 20K 50A
J	1	165	130	105	49	48	22	24	8-19	JIS 30K 50A
J	3	185	145	105	49	48	34	34	8-23	JIS 63K 50A
J	4	185	150	126	100	73	18	24	8-19	JIS 10K 80A
J	5	200	160	132	100	73	22	24	8-23	JIS 20K 80A
J	6	210	170	140	100	73	28	28	8-23	JIS 30K 80A
J	7	210	175	151	103	96	18	24	8-19	JIS 10K 100A
J	8	225	185	160	103	96	24	24	8-23	JIS 20K 100A
J	9	240	195	160	103	96	32	32	8-25	JIS 30K 100A
S	H	152	120.6	92.1	49	48	19	24	4-19	ANSI/JPI 150LB 2B
S	J	165	127	92.1	49	48	22.5	24	8-19	ANSI/JPI 300LB 2B
A	V	165	127	92.1	49	48	31.9	31.9	8-19	ANSI/JPI 600LB 2B
S	4	190	152.4	127	100	73	24	24	4-19	ANSI/JPI 150LB 3B
S	6	210	168.3	127	100	73	28.5	28.5	8-22.2	ANSI/JPI 300LB 3B
A	W	210	168.3	127	100	73	38.4	38.4	8-22.2	ANSI/JPI 600LB 3B
S	5	229	190.5	157.2	103	96	24	24	8-19	ANSI/JPI 150LB 4B
S	7	254	200	157.2	103	96	32	32	8-22.2	ANSI/JPI 300LB 4B
A	X	273	215.9	157.2	103	96	44.9	44.9	8-26	ANSI/JPI 600LB 4B

*1: In case of diaphragm seal section 2nd code "A" (center capillary).
*2: In case of diaphragm seal section 2nd code "R" (side capillary), "W" (wafer type).

4th digit of the code symbols	Conduit conn.		
	J	K	M
S	G 1/2	18	2
T	1/2-14NPT	16	4
V	Pg13.5	10.5	4.5
W	M20×1.5	16	4

TABLE 1

DETAIL "B"(CONDUIT. CONN.)



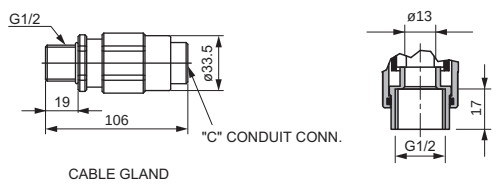
SEE TABLE1

Diaphragm section 5th code	L	MASS.APPROX (kg)
Y	0	12.7 - 18.2
A	50	13.7 - 29.2
B	100	14.2 - 29.7
C	150	14.7 - 30.2
D	200	15.2 - 30.7

Diaphragm section 6th code	S(m)
A, G	1.5
B, H	3
1, 5	5
C, K	6
2, 6	7
3, 7	8
4, 8	10

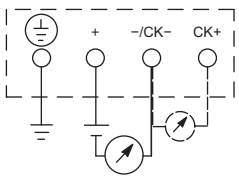
OPTION PARTS FOR FLAMEPROOF OF TIIS (JAPAN)

10th digit code C (Cable gland type) NOTE1)



NOTE1) IN CASE OF 10TH CODE "C", ø11 CABLE IS SUITBLE.

CONNECTION DIAGRAM



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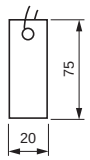
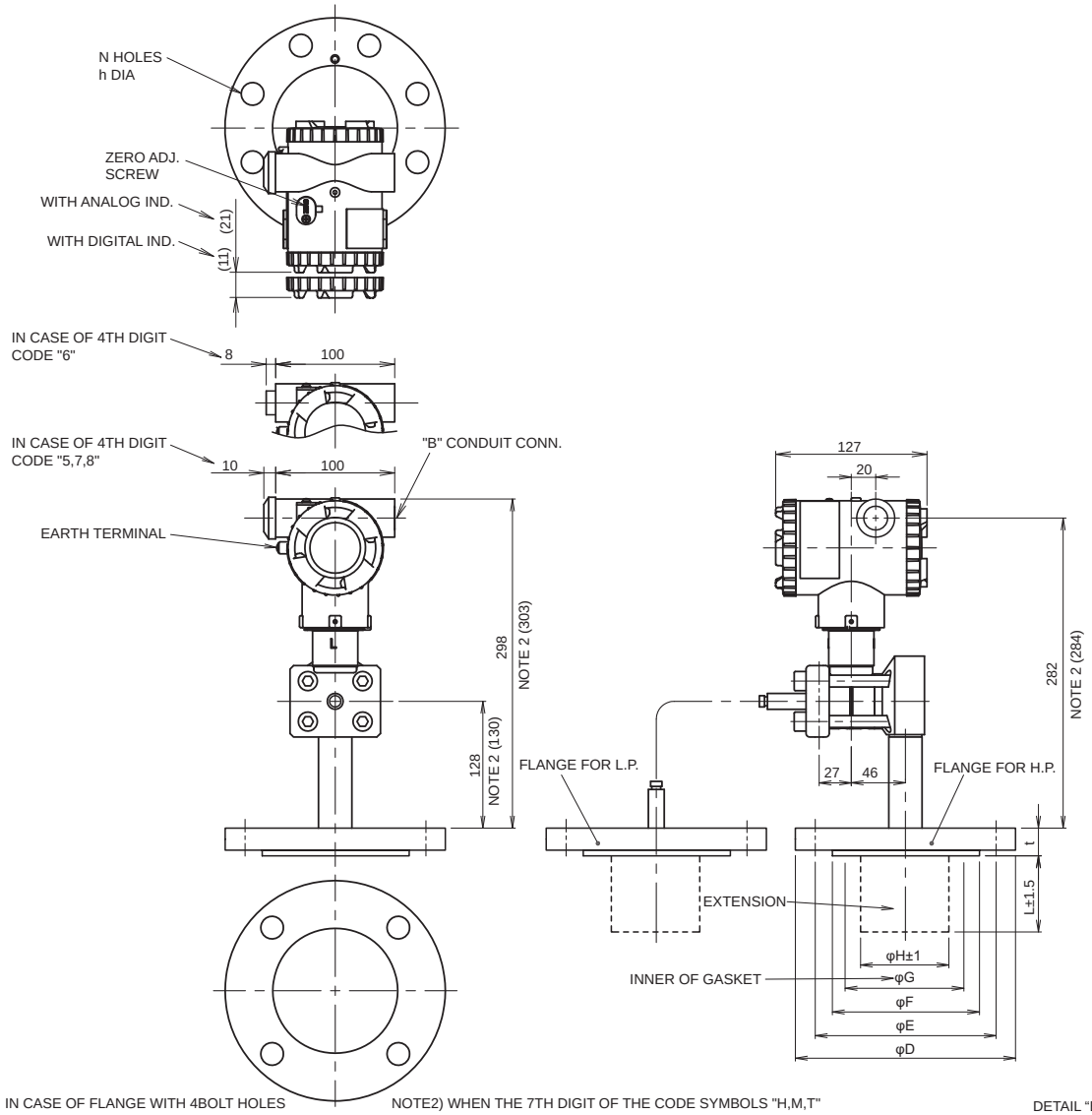


<AMP. case: T type>

<Flange type> Rigid short design on HP & capillary on LP

Flange size : JIS 50A, 80A, 100A
ANSI/JPI 2B, 3B, 4B



IN CASE OF FLANGE WITH 4BOLT HOLES

Diaphragm section 1st code	Diaphragm section 3rd code	øD	øE	øF	øG	øH±1	t *1	t *2	N-øh	FLANGE
J	X	155	120	96	49	48	16	24	4-19	JIS 10K 50A
J	Y	155	120	96	49	48	18	24	8-19	JIS 20K 50A
J	1	165	130	105	49	48	22	24	8-19	JIS 30K 50A
J	3	185	145	105	49	48	34	34	8-23	JIS 63K 50A
J	4	185	150	126	100	73	18	24	8-19	JIS 10K 80A
J	5	200	160	132	100	73	22	24	8-23	JIS 20K 80A
J	6	210	170	140	100	73	28	28	8-23	JIS 30K 80A
J	7	210	175	151	103	96	18	24	8-19	JIS 10K 100A
J	8	225	185	160	103	96	24	24	8-23	JIS 20K 100A
J	9	240	195	160	103	96	32	32	8-25	JIS 30K 100A
S	H	152	120.6	92.1	49	48	19	24	4-19	ANSI/JPI 150LB 2B
S	J	165	127	92.1	49	48	22.5	24	8-19	ANSI/JPI 300LB 2B
A	V	165	127	92.1	49	48	31.9	31.9	8-19	ANSI/JPI 600LB 2B
S	4	190	152.4	127	100	73	24	24	4-19	ANSI/JPI 150LB 3B
S	6	210	168.3	127	100	73	28.5	28.5	8-22.2	ANSI/JPI 300LB 3B
A	W	210	168.3	127	100	73	38.4	38.4	8-22.2	ANSI/JPI 600LB 3B
S	5	229	190.5	157.2	103	96	24	24	8-19	ANSI/JPI 150LB 4B
S	7	254	200	157.2	103	96	32	32	8-22.2	ANSI/JPI 300LB 4B
A	X	273	215.9	157.2	103	96	44.9	44.9	8-26	ANSI/JPI 600LB 4B

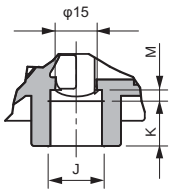
*1: In case of diaphragm seal section 2nd code "A" (center capillary).
*2: In case of diaphragm seal section 2nd code "R" (side capillary), "W" (wafer type).

NOTE2) WHEN THE 7TH DIGIT OF THE CODE SYMBOLS "H,M,T"

4th digit of the code symbols	Conduit conn.		
	J	K	M
5	G 1/2	18	2
6	1/2-14NPT	16	4
7	Pg13.5	10.5	4.5
8	M20×1.5	16	4

TABLE 1

DETAIL "B"(CONDUIT. CONN.)



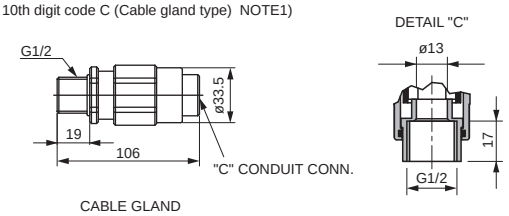
SEE TABLE1

Diaphragm section 5th code	L	MASS.APPROX (kg)
Y	0	12.7 - 18.2
A	50	13.7 - 29.2
B	100	14.2 - 29.7
C	150	14.7 - 30.2
D	200	15.2 - 30.7

Diaphragm section 6th code	S(m)
A, G	1.5
B, H	3
1, 5	5
C, K	6
2, 6	7
3, 7	8
4, 8	10

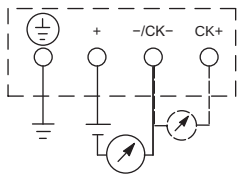
OPTION PARTS FOR FLAMEPROOF OF TIIS (JAPAN)

10th digit code C (Cable gland type) NOTE1)



NOTE1) IN CASE OF 10TH CODE "C", ø11 CABLE IS SUITBLE.

CONNECTION DIAGRAM



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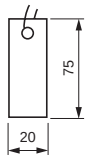

TABLE 2

<table>
<tr><th>Authorities</th><th>Intrinsic safety</th></tr>
<tr><td>ATEX</td><td>Ex II 1 G
Ex ia IIC T5 Tamb = –40°C to +50°C
Ex ia IIC T4 Tamb = –40°C to +70°C

Entity Parameters:
Ui=28V, Ii=94.3mA, Pi=0.66W,
Ci=26nF (Without Arrester), Li=0.6mH (Without analog indicator),
Ci=36nF (With Arrester), Li=0.7mH (With analog indicator)</td></tr>
<tr><td>Factory Mutual</td><td>Class I II III
Div.1 Groups A, B, C, D, E, F, G
T4 Entity Type 4X
<table>
<tr><th>Base model</th><th>Diaphragm</th><th rowspan="2">Temp</th></tr>
<tr><th>9th digit</th><th>7th digit</th></tr>
<tr><td>A,B,C,D</td><td>Y,G,U,X,S,K</td><td>–40°C to +85°C</td></tr>
<tr><td>L,M,P,1,2,3</td><td>Y,G,U,X,S,K</td><td>–20°C to +80°C</td></tr>
<tr><td>N,Q,S,4,5,6</td><td>Y,G,U,X,S,K</td><td>–20°C to +60°C</td></tr>
<tr><td>E,F,G,H</td><td>Y,G,U,X,S,K</td><td>–40°C to +60°C</td></tr>
<tr><td>–</td><td>W,A,D</td><td>–10°C to +60°C</td></tr>
</table>
Entity Parameters:
Vmax=28V, Imax=94.3mA, Pi=0.66W,
Ci=35.98nF, Li=0.694mH</td></tr>
<tr><td>CSA</td><td>Class I
Div.1 Groups A, B, C, D
Class II
Div.1 Groups E, F, G
Class III
Div.1
Temp Code T5 Tamb max = +50°C
Temp Code T4 Tamb max = +70°C
Entity Parameters:
Vmax=28V, Imax=94.3mA, Ci=25nF (Without Arrester),
Ci=36nF (With Arrester),Li=0.6mH (Without analog meter),
Li=0.7mH (With analog meter)</td></tr>
<tr><td>TIIS</td><td>Ex ia IIC T4
Tamb max = +60°C
Entity Parameters:
Ui=28V, Ii=94.3mA, Pi=0.66W,
Ci=40.92nF, Li=0.694mH</td></tr>
<tr><td>IECEx Scheme</td><td>Ex ia IIC T4
Tamb = –40°C to +70°C
Ex ia IIC T5
Tamb = –40°C to +50°C
Entity Parameters:
Ui=28V, Ii=94.3mA, Pi=0.66W,
Ci=26nF (Without Arrester), Li=0.6mH (Without analog indicator),
Ci=36nF (With Arrester), Li=0.7mH (With analog indicator)</td></tr>
</table>

<table>
<tr><th>Authorities</th><th>Flameproof</th></tr>
<tr><td>ATEX</td><td>Ex II 2 GD
Ex d IIC T6 IP66/67 T85°C
Tamb = –40°C to +65°C
Ex d IIC T5 IP66/67 T100°C
Tamb = –40°C to +85°C</td></tr>
<tr><td>Factory Mutual</td><td>Class I
Div.1 Groups B, C, D
T6 Type 4X
Class II III
Div.1 Groups E, F, G
T6 Type 4X
Tamb max = +60°C</td></tr>
<tr><td>CSA</td><td>Class I
Div.1 Groups C, D
Class II
Div.1 Groups E, F, G
Class III
Div.1

Note) “Seal Not Required” enclosure is allowed.</td></tr>
<tr><td>TIIS</td><td>Ex do IIB+H_2 T4
Tamb max = +60°C
Maximum process temp. = +120°C</td></tr>
<tr><td>IECEx Scheme</td><td>Ex d IIC T5 IP66/67
Tamb = –40°C to +85°C
Ex d IIC T6 IP66/67
Tamb = –40°C to +65°C</td></tr>
</table>

<table>
<tr><th>Authorities</th><th>Type n
Nonincendive</th></tr>
<tr><td>ATEX</td><td>Ex II 3 GD
EEx nL IIC T5 Tamb = –40°C to +50°C
EEx nL IIC T4 Tamb = –40°C to +70°C
Specific Parameters:
Model without arrester:
Ui=42.4V, Ii=113mA, Pi=1W,
Ci=25.18nF, Li=0.694mH
Model with arrester:
Ui=32V, Ii=113mA, Pi=1W,
Ci=35.98nF, Li=0.694mH

EEx nAL IIC T5 Tamb = –40°C to +50°C
EEx nAL IIC T4 Tamb = –40°C to +70°C
Specific Parameters:
Model without arrester:
Umax=42.4V, Imax=113mA, Pmax=1W
Model with arrester:
Umax=32V, Imax=113mA, Pmax=1W</td></tr>
<tr><td>Factory Mutual (pending)</td><td>Class I II III
Div.2 Groups A, B, C, D, F, G
T4 Entity Type 4X
<table>
<tr><th>Base model</th><th>Diaphragm</th><th rowspan="2">Temp</th></tr>
<tr><th>9th digit</th><th>7th digit</th></tr>
<tr><td>A,B,C,D</td><td>Y,G,U,X,S,K</td><td>–40°C to +85°C</td></tr>
<tr><td>L,M,P,1,2,3</td><td>Y,G,U,X,S,K</td><td>–20°C to +80°C</td></tr>
<tr><td>N,Q,S,4,5,6</td><td>Y,G,U,X,S,K</td><td>–20°C to +60°C</td></tr>
<tr><td>E,F,G,H</td><td>Y,G,U,X,S,K</td><td>–40°C to +60°C</td></tr>
<tr><td>–</td><td>W,A,D</td><td>–10°C to +60°C</td></tr>
</table></td></tr>
</table>

* Specification is subject to change without notice.

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