

Advanced Transmitter

Flange type of Differential Pressure Transmitter

Model GTX35F/GTX60F

OVERVIEW

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

It can also execute two-way communications between the communicator, thus facilitating self-diagnosis, range resetting, and automatic zero/span adjustment.

SFN, HART and FOUNDATION Fieldbus are available.

* Refer to SS2-GTX00Z-0100 for FOUNDATION Fieldbus type for the items marked with [★].

FEATURES

Excellent stability and high performance

- Long-term stability is proven in 500,000 installations worldwide.
- Unique characterization and composite semiconductor sensors realize excellent temperature and static pressure characteristics.

A diverse lineup

- A diverse flange lineup, ranging from 1 1/2 inch (40 mm) to 4 inches (100 mm), is available to meet user requirements.
- A wide variety of models, including those for standard differential pressure and high differential pressure, is available to meet user requirements.
- A wide variety of corrosion-resistant materials for wetted parts is also available.



Remote communication

- Two-way communication using digital output facilitates self-diagnosis, range resetting, automatic zero adjustment, and other operations.

PRODUCT APPROVALS [★]**FM Explosionproof for Division System/
Flameproof for Zone System (Code F1)**

Explosionproof for Class I, Division 1, Groups A, B, C and D; Class I, Zone 1, AEx d IIC

Dust-Ignitionproof for Class II, III, Division 1, Groups E, F and G

T5 $-40\text{ °C} \leq T_{amb} \leq +85\text{ °C}$

Hazardous locations

Indoor/Outdoor Type 4X, IP67

Factory sealed, conduit seal not required for Division applications

Caution - Use supply wires suitable for 5 °C above surrounding ambient

FM Intrinsic Safety (Code F2)

IS/I, II, III/1/ABCDEFGH/T4; $-40\text{ °C} \leq T_{amb} \leq +60\text{ °C}$; 80395278, 80395279, 80395280; Entity; TYPE 4X; IP67

I/0/AEx ia/IIC/T4; $-40\text{ °C} \leq T_{amb} \leq +60\text{ °C}$; 80395278, 80395279, 80395280; Entity; TYPE 4X; IP67

Entity Parameters: $V_{max} (U_i)=30\text{ Volts}$,

$I_{max} (I_i)=100\text{ mA}$,

$P_i=1\text{ W}$, $C_i=10\text{ nF}$, $L_i=0.5\text{ mH}$

FM Nonincendive (Code F5)

NI/I/2/ABCD/T4; $-40\text{ °C} \leq T_{amb} \leq +60\text{ °C}$; 80395494; NIFW; TYPE 4X; IP67

NI/I/2/IIC/T4; $-40\text{ °C} \leq T_{amb} \leq +60\text{ °C}$; 80395494; NIFW; TYPE 4X; IP67

S/II, III/1/EFG/T4; $-40\text{ °C} \leq T_{amb} \leq +60\text{ °C}$;

80395494; NIFW; TYPE 4X; P67

Nonincendive Field Wiring Parameters:

$V_{max} (U_i)=30\text{ Volts}$, $C_i=10\text{ nF}$, $L_i=0.5\text{ mH}$

Combination of F1, F2 and F5 (Code F6)**ATEX Flameproof and Dust Certifications****(Code A1)**

II 1/2 G Ex db IIC T6 Ga/Gb $-30\text{ °C} \leq T_{amb} \leq +75\text{ °C}$ $T_{process} \leq 85\text{ °C}$

II 1/2 G Ex db IIC T5 Ga/Gb $-30\text{ °C} \leq T_{amb} \leq +80\text{ °C}$ $T_{process} \leq 100\text{ °C}$

II 1/2 G Ex db IIC T4 Ga/Gb $-30\text{ °C} \leq T_{amb} \leq +80\text{ °C}$ $T_{process} \leq 110\text{ °C}$

II 2 D Ex tb IIIC T85 °C Db $-30\text{ °C} \leq T_{amb} \leq +75\text{ °C}$ $T_{process} \leq 85\text{ °C}$

II 2 D Ex tb IIIC T100 °C Db $-30\text{ °C} \leq T_{amb} \leq +75\text{ °C}$ $T_{process} \leq 100\text{ °C}$

II 2 D Ex tb IIIC T110 °C Db $-30\text{ °C} \leq T_{amb} \leq +75\text{ °C}$ $T_{process} \leq 110\text{ °C}$

Caution - Use supply wires suitable for 5 °C above surrounding ambient

ATEX Intrinsic Safety and Dust Certifications**(Code A2)**

II 1 G Ex ia IIC T4 Ga $-30\text{ °C} \leq T_{amb} \leq +60\text{ °C}$ $T_{process} = 105\text{ °C}$
IP66/IP67

ELECTRICAL PARAMETERS: $U_i=30\text{V}$, $I_i=93\text{mA}$, $P_i=1\text{W}$,
 $C_i=5\text{nF}$, $L_i=0.5\text{mH}$

II 1 D Ex ia IIIC T105 °C Da $-30\text{ °C} \leq T_{amb} \leq +60\text{ °C}$ $T_{process} = 105\text{ °C}$
IP66/IP67

II 3 G Ex ic IIC T4 Gc $-30\text{ °C} \leq T_{amb} \leq +60\text{ °C}$ $T_{process} = 110\text{ °C}$
IP66/IP67

ELECTRICAL PARAMETERS: $U_i=30\text{V}$, $C_i=5\text{nF}$, $L_i=0.5\text{mH}$

NEPSI Flameproof and Dust Certifications**(Code N1)**

Ex d IIC T6 Gb; Ex tD A21 IP66/IP67 T85 °C

$T_{process} = 80\text{ °C}$; $-30\text{ °C} \leq T_{amb} \leq +75\text{ °C}$

Ex d IIC T5 Gb; Ex tD A21 IP66/IP67 T100 °C

$T_{process} = 95\text{ °C}$; $-30\text{ °C} \leq T_{amb} \leq +80\text{ °C}$

Ex d IIC T4 Gb; Ex tD A21 IP66/IP67 T115 °C

$T_{process} = 110\text{ °C}$; $-30\text{ °C} \leq T_{amb} \leq +80\text{ °C}$

NEPSI Intrinsic Safety Certification (Code N2)

Ex ia IIC T4 Ga $-40\text{ °C} \leq T_{amb} \leq +60\text{ °C}$ $T_{process} = 105\text{ °C}$ IP66/IP67

Ex ic IIC T4 Gc $-40\text{ °C} \leq T_{amb} \leq +60\text{ °C}$ $T_{process} = 110\text{ °C}$ IP66/IP67

ELECTRICAL PARAMETERS: $U_i=30\text{V}$, $I_i=100\text{mA}$, $P_i=1\text{W}$,
 $C_i=13\text{nF}$, $L_i=0.5\text{mH}$

Use cable suitable for 5 °C above ambient temperature

**IECEx Flameproof and Dust
Certifications(Code E1)**

Certificate No. IECEx KEM 08.0001 X

Ex db IIC T6 Ga/Gb $-30\text{ °C} \leq T_{amb} \leq +75\text{ °C}$ $T_{process} \leq 85\text{ °C}$

Ex db IIC T5 Ga/Gb $-30\text{ °C} \leq T_{amb} \leq +80\text{ °C}$ $T_{process} \leq 100\text{ °C}$

Ex db IIC T4 Ga/Gb $-30\text{ °C} \leq T_{amb} \leq +80\text{ °C}$ $T_{process} \leq 110\text{ °C}$

Ex tb IIIC T85 °C Db $-30\text{ °C} \leq T_{amb} \leq +75\text{ °C}$ $T_{process} \leq 85\text{ °C}$

Ex tb IIIC T100 °C Db $-30\text{ °C} \leq T_{amb} \leq +75\text{ °C}$ $T_{process} \leq 100\text{ °C}$

Ex tb IIIC T110 °C Db $-30\text{ °C} \leq T_{amb} \leq +75\text{ °C}$ $T_{process} \leq 110\text{ °C}$

Caution - Use supply wires suitable for 5 °C above surrounding ambient

**IECEx Intrinsic Safety and Dust
Certifications(Code E2)**

Certificate No. IECEx KEM 07.0058 X

Ex ia IIC T4 Ga $-30\text{ °C} \leq T_{amb} \leq +60\text{ °C}$ $T_{process} = 105\text{ °C}$ IP66/IP67

ELECTRICAL PARAMETERS: $U_i=30\text{V}$, $I_i=93\text{mA}$, $P_i=1\text{W}$,
 $C_i=5\text{nF}$, $L_i=0.5\text{mH}$

Ex ia IIIC T105 °C Da $-30\text{ °C} \leq T_{amb} \leq +60\text{ °C}$ $T_{process} = 105\text{ °C}$
IP66/IP67

Ex ic IIC T4 Gc $-30\text{ °C} \leq T_{amb} \leq +60\text{ °C}$ $T_{process} = 110\text{ °C}$ IP66/IP67
ELECTRICAL PARAMETERS: $U_i=30\text{V}$, $C_i=5\text{nF}$, $L_i=0.5\text{mH}$

KCs Flameproof (Code K1)

11-AV4BO-0323 (without option YD)

20-AV4BO-0357X (with option YD)

Ex d IIC T6 -30 °C ≤ T_{amb} ≤ +75 °C T_{process} = 85 °C

Ex d IIC T5 -30 °C ≤ T_{amb} ≤ +80 °C T_{process} = 100 °C

Ex d IIC T4 -30 °C ≤ T_{amb} ≤ +80 °C T_{process} = 110 °C

18-AV4BO-0254X (without option YD)

20-AV4BO-0489X (with option YD)

Ex tD A21 T85 °C -30 °C ≤ T_{amb} ≤ +75 °C
-30 °C ≤ T_{process} ≤ 85 °C

Ex tD A21 T100 °C -30 °C ≤ T_{amb} ≤ +75 °C
-30 °C ≤ T_{process} ≤ 100 °C

Ex tD A21 T110 °C -30 °C ≤ T_{amb} ≤ +75 °C
-30 °C ≤ T_{process} ≤ 110 °C

TIIS Flameproof (Code J1)

Ex d IIC T4

Use cables with the maximum allowable temperature, 70° C in case ambient temperature excess 50° C

TAIWAN Flameproof (Code T1)

Certificate No.(2015)00113

Ex db IIC T6 Gb X -30° C ≤ T_{amb} ≤ +75° C T_{process} ≤ 85 °C

Ex db IIC T5 Gb X -30° C ≤ T_{amb} ≤ +80° C T_{process} ≤ 100 °C

Ex db IIC T4 Gb X -30° C ≤ T_{amb} ≤ +80° C T_{process} ≤ 110 °C

Caution - Use supply wires suitable for 5 °C above surrounding ambient

Please refer to specification, "SS2-GTX00Z-0100" for the Fieldbus code below.

FM Intrinsic safety ia/ic FISCO and Fieldbus(Code F4)

FM Fieldbus Nonincendive(Code F7)

ATEX Intrinsic safety ia FISCO and Fieldbus(Code A4)

ATEX Intrinsic safety ic FISCO and Fieldbus(Code A7)

IECEx Intrinsic safety ia FISCO and Fieldbus(Code E4)

IECEx Intrinsic safety ic FISCO and Fieldbus(Code E7)

EMC Conformity [★]

EN 61326-1 (industrial electromagnetic environment)
EN 61326-2-3

FUNCTIONAL SPECIFICATIONS

Type of protection

NEMA 3 and 4X
IEC IP66/67

Measuring span/Setting range/Working pressure range

Model	Measuring Span	Setting Range	Working Pressure Range
GTX 35F	2.5 to 100 kPa {0 to 400 inH ₂ O} {250 to 10160 mmH ₂ O}	-100 to +100 kPa {-400 to +400 inH ₂ O} {-10160 to +10160 mmH ₂ O}	Up to flange rating*
GTX 60F	35 to 3500 kPa {5.1 to 508 psi} {0.35 to 35 kgf/cm ² }	-100 to +3500 kPa {-14.5 to +508 psi} {-1 to +35 kgf/cm ² }	

Note) For negative pressures, see Figure 1 and Figure 2

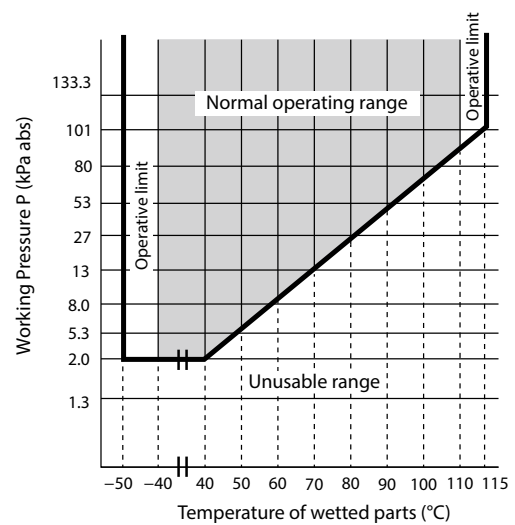


Figure 1. Working pressure and temperature of wetted parts section

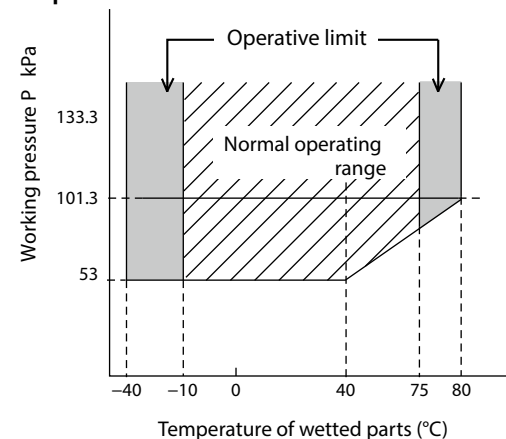


Figure 2. Working pressure and temperature of wetted parts section (for oxygen and chlorine service)

Power Supply [★]

12.5 to 42 V DC
Limited to 12.5 to 30 V DC for intrinsic safety, Nonincendive types

Power Supply voltage and load resistance characteristics [☆]

See Figure 3.

Limited to Load resistance: 250 to 1345 Ω for SFN or DE communication. 250 to 600 Ω for HART communication. Power supply voltage: 12.5 to 30 V DC for intrinsic safety, Nonincendive types

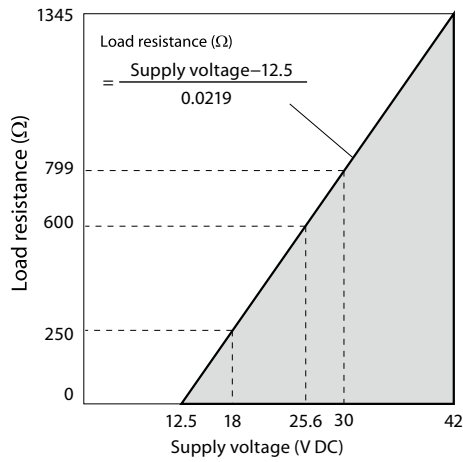


Figure 3. Supply voltage vs. load resistance characteristics

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

Output [☆]

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

Output signal [☆]

3.6 to 21.6 mA
 3.8 to 20.5 mA (NAMUR NE43 compliant)

Failure Alarm [☆]

Upper: 21.6 mA or more
 Lower: 3.6 mA or less

Ambient temperature limit

Unit: °C

		Ambient temperature limit (Operative limits)(*1)	Temperature ranges of wetted parts (Operative limits)	Transportation and storage conditions(*1)
GTX 35F, 60F	for code A of Fill fluid	-30 to +75 (-50 to 80)	-40 to +110 (-50 to +115)	-50 to +85
	for code J and H of Fill fluid	-10 to +75 (-40 to +80)	-10 to +75 (-40 to +80)	-50 to +85
All models	With digital indicators(*1)	-25 to +80 (-30 to +85)		-25 to +80
For explosion-proof type	Refer to the page on PRODUCT APPROVALS.			

Unit: °F

		Ambient temperature limit (Operative limits)(*1)	Temperature ranges of wetted parts (Operative limits)	Transportation and storage conditions(*1)
GTX 35F, 60F	for code A of Fill fluid	-22 to +167 (-58 to +176)	-40 to +230 (-58 to +239)	-58 to +185
	for code J and H of Fill fluid	14 to 167 (-40 to +176)	14 to 167 (-40 to +176)	-58 to +185
All models	With digital indicators(*1)	-13 to +176 (-22 to +185)		-13 to +176
For explosion-proof type	Refer to the page on PRODUCT APPROVALS.			

*1. For models with an indicator, compare the upper and lower limit temperatures with those of models without an indicator, and apply the lower value for the upper limit and the higher value for the lower limit.

Ambient humidity limits

5 to 100 % RH

Stability against supply voltage change

±0.005 % FS/V

Response time [☆]

Below 150 msec. (when damping time is set to 0 sec.)

Damping time [☆]

Selectable from 0 to 128 sec. (HART)
 Selectable from 0 to 32 sec. in ten stages (SFN)

Zero Stability

±0.2 % of URL per 10 year

Lightning protection [☆]

Applicable Standards; IEC 61000-4-5
 Peak value of current surge (80/20 μ sec.): 6000 A

Vibration characteristics

Amplitude: 0.42 mm / Frequency: 5 to 60 Hz
 Acceleration: 29.4 m/s² (3G)/60 to 200 Hz

Shock characteristics

Acceleration 9.8 m/s² (1G)

Indicator

The digital LCD indicator (optional) shows the output in percentage or in engineering units. Range for engineering unit is from -99999 to 99999 when set at the factory, and from -19999 to 19999 when using the communicator. Specify the following items when placing order with engineering units,

- Pressure range
- Engineering unit of pressure
- Method of display, either linear or square-root.

These data may be set or changed using the communicator.

OPTIONAL SPECIFICATIONS

FEP protective film

Use FEP protective films when corrosive fluids are used or to avoid metal ions contact.

Working temperature range

0 to 110 °C

Working pressure range

Atmospheric pressure to flange rating (up to JIS10K, ANSI/JPI 150) (Not usable under negative pressure)

Oil free finish

The transmitter is shipped with oil-free wetted parts.

External zero/span adjustment function

The transmitter can be easily adjusted to zero or span in the field.

Indicator must be selected to enable this option.

Fieldbus type does not have span adjustment.

Elbow

This is an adaptor for changing the electrical conduit connection port from the horizontal to the vertical direction, if required by wiring conditions in the field. One or two elbows may be used as needed.

Conformance to SI units

We deliver transmitters set to any SI units as specified.

Safety Transmitter

Select this option to be used as a component of Safety Instrument System (SIS).

GTX_ _ _ is complied with IEC61508, certified according to Safety Integrity Level 2 (SIL-2)

This option is not applicable for FOUNDATION Fieldbus type, DE communication type, external zero/span adjustment (option A2), and Alarm output (option Q7).

Alarm Output (contact output)

Contact output is prepared as alarm output when alarm (Output Alarm/Sensor Temp. Alarm) condition is detected.

It can be set to or Normally Close.

Contact output type : One open collector (NPN)

Contact rating: 30 V DC max., 30 mA DC max.

Residual voltage at output ON: 3.0 V max.

Operating mode: Normally Open (default)

Normally Close is not recommended.

When this option is selected, CHECK terminals for current check cannot be used.

This option is not applicable for FOUNDATION Fieldbus type, and with intrinsic safety, Nonincendive types.

Advanced diagnostics [★]

This option is applicable for FOUNDATION Fieldbus type. Refer to SS2-GTX00Z-0100.

Custom calibration

Calibrate for the specified pressure range at the factory.

Long vent drain:

Maintenance, process conditions, and safety are addressed by using a drain whose length (60 mm) is longer than the standard length (27 mm).

Moisture-free finish (including oil-free finish):

Shipped with water content and oil content removed from the wetted part. (A small amount of fluorine oil is applied to vent/drain plugs in order to prevent sticking.)

Test report:

Shows the results of having tested the appearance, input output characteristics, insulation resistance, dielectric strength, etc., of the transmitter.

Mill sheet:

Shows data related to the chemical composition, heat treatment condition, and mechanical properties of the wetted part material.

Test report (with traceability certificate):

Comprised of three documents: a traceability diagram, a calibration certificate, and a test report.

Withstand pressure and air tight test (general-purpose use):

Shows the results of the wetted part withstand pressure test (10 minutes) and air tight test (10 minutes).

Strength calculation sheet:

Shows the results of having calculated the strength of the meter body cover, flanges, and bolts.

calculated the strength of the meter

body cover, flanges, and bolts.

PHYSICAL SPECIFICATIONS

Materials

Fill fluid

Silicone oil for Regular type

Fluorine oil for oxygen and chlorine service

Center body

316 SST

Transmitter case

Aluminum alloy, CF8M (Equivalent to 316 SST)

Meter body cover flange

SCS14A (Equivalent to 316 SST) or 316 SST

Bolts and nuts (for fastening meter body cover)

Carbon steel (SNB7), 304 SST, 630 SST

O-ring

NBR

For Wetted parts**Adapter flange (option)**

SCS14A (equivalent to 316 SST)

Center body

316 SST (316L SST for diaphragm only), ASTM B575 (Hastelloy C-276 equivalent), Tantalum, 316L SST

Vents and plugs

316 SST

Gaskets

PTFE

Flange materials

304 SST, 316 SST, 316L SST

Paint

Standard: Baked acrylic paint

Corrosion-proof: Baked urethane paint

Color

Housing: Silver N-8.2

Cap: azbil bordeaux 2.5R 2.25/5

Weight

Approx. 5.9 kg (in case of ANSI 150# - 1-1/2 inches flange)

INSTALLATION**Electrical connection**

G 1/2 internal thread, 1/2 NPT internal thread, M20 internal thread.

Grounding

Resistance 100 Ω max.

Mounting

Direct mounting on the process side

Process connection**Measured pressure (liquid side)****Flush diaphragm**

JIS 10K, 20K, 30K and 63K: 40, 50 and 80 mm (RF) equivalents

ANSI/JPI 150, 300 and 600: 1.5, 2, 3 inches (RF) equivalents

Extended diaphragm

JIS 10K, 20K and 30K: 50, 80 and 100 mm (RF) equivalents

ANSI/JPI 150, 300 and 600: 2, 3 inches (RF) equivalents

ANSI/JPI 150 and 300: 4 inches (RF) equivalents

Flange standard

JIS; JIS B 2220 (2004)

ANSI; ANSI B 16.5 (1988)

JPI; JPI-7S-15-93

Standard pressure side

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

TRANSMITTER HANDLING NOTES

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

Transmitter installation notes**⚠ WARNING**

- When installing the transmitter, ensure that gaskets do not protrude from connecting points into the process (such as adapter flange connection points and connecting pipes and flanges). Failure to do so may cause a leak of process fluid, resulting in harm from burns, etc. In addition, if the process fluid contains toxic substances, take safety measures such as wearing goggles and a mask to prevent contact with the skin and eyes and to prevent inhalation.
- Use the transmitter within the operating ranges stated in the specifications (for explosion-proofing, pressure rating, temperature, humidity, voltage, vibration, shock, mounting direction, atmosphere, etc.). Using the transmitter outside the operating conditions may cause device failure or fire, resulting in a harmful physical risk of burning or the like.
- When performing wiring work in explosion-proof areas, follow the work method specified in the explosion-proof guidelines.

⚠ CAUTION

- After installation, do not use the transmitter as a foothold or put your weight on it. Doing so may cause damage.
- Be careful not to hit the glass indicator with tools etc. This could break the glass and cause injury.
- The transmitter is heavy. Wear safety shoes and take care when installing it.
- Impact to transmitter can damage sensor module.

Wiring notes**⚠ WARNING**

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

⚠ CAUTION

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

Precautions when using Flushing rings

If Flushing rings are used with this product, do not measure fluids such as toxic gas that have a harmful effect on human health if even a small amount leaks.

Handling precautions for HART specification devices

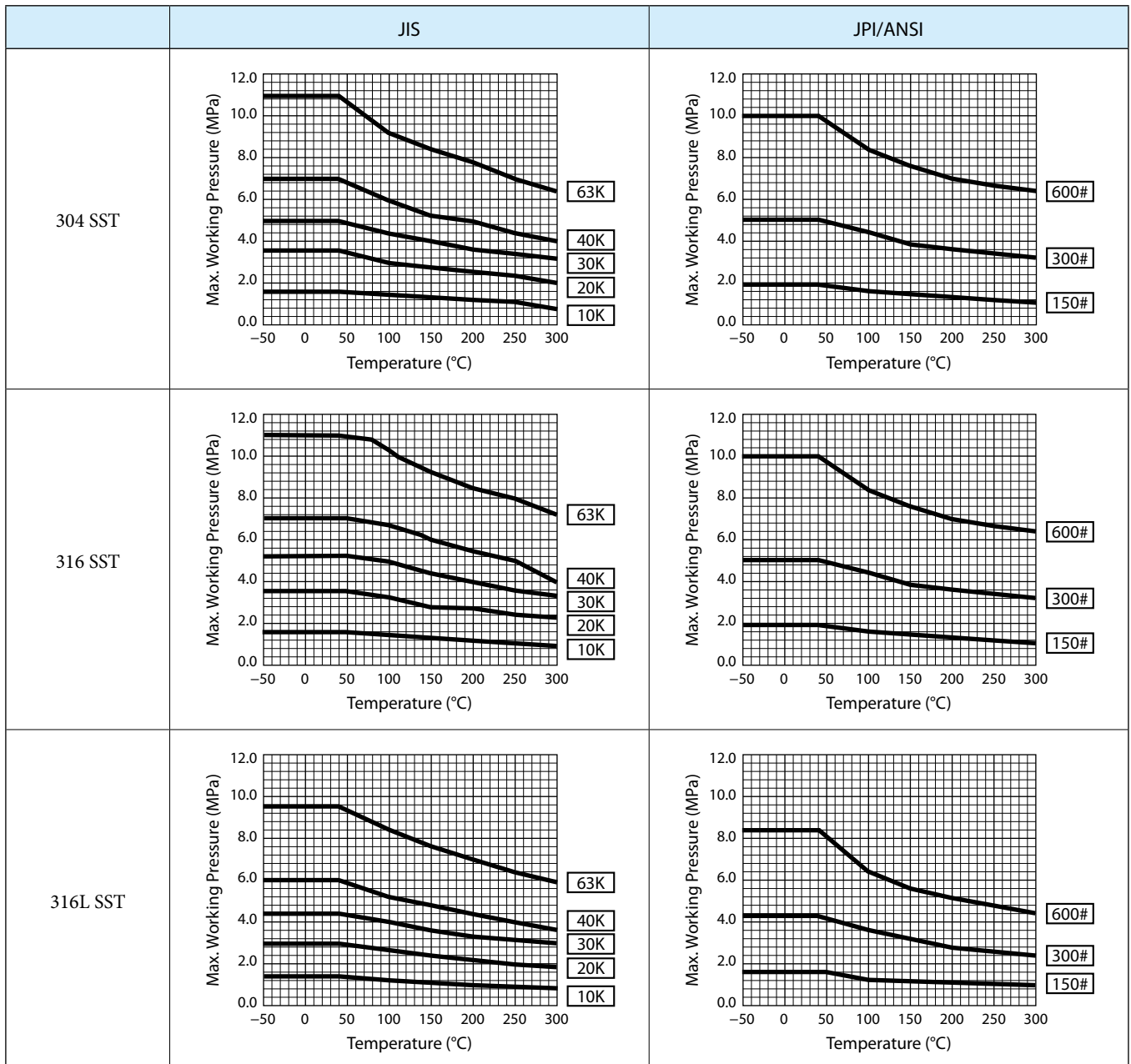
- If you need to operate with a secondary host (HART communicator, etc.), set the communication interval of the primary host (DCS, device management system) to 8 seconds or more, or suspend communication from the primary host. If the primary host repeats HART communication within 8 seconds, the request from the secondary host may not be received (communication may not be possible).
- If electrical noise in the environment prevents HART communications with the host, take countermeasures such as separating the signal cables from the source of the noise, improving the grounding, changing to shielded signal cables, etc. Even if noise interferes with HART communications, the 4–20 mA analog signal will be unaffected and can be used for control.
- If this product is being operated in multidrop mode, there is a limit to the number of devices that can be used. If you are using multidrop mode, please consult with us.

PERFORMANCE SPECIFICATIONS

Max working pressure

Note) 1. Max. working pressure depends on flange rating, flange materials and operating temperature. Please refer to the following data. Operating range of temperature depends on specification of transmitters.

2. In case of flange type (GTX60F), max working pressure depends on the smaller value of either 1.5 MPa or following data.



Reference accuracy

Shown for each item are the percentage ratio for x (kPa), which is the greatest value of either the upper range value (URV)*¹, the lower range value (LRV)*² or the span.

Model GTX35F

Material of Wetted Parts at Flange Side: 316 SST (Diaphragm; 316L SST), 316L SST,

Material of Wetted parts at reference side: 316 SST (Diaphragm; 316L SST)

Reference accuracy * ³	Linear output:	$\pm 0.2 \%$	(For $x \geq 12.5$ kPa {50 inH ₂ O})
		$\pm \left(0.05 + 0.15 \times \frac{12.5}{x} \right) \%$	(For $x < 12.5$ kPa {50 inH ₂ O})
Ambient Temperature effect (Shift from the set range) Change of 30 °C (Range from -5 to +55 °C)	Combined shift: (including zero and span shifts)	$\pm 1.45 \%$	(For $x \geq 12.5$ kPa {50 inH ₂ O})
		$\pm \left(0.35 + 1.1 \times \frac{12.5}{x} \right) \%$	(For $x < 12.5$ kPa {50 inH ₂ O})
Static pressure effect (Shift in respect to setting range) Change of 7 MPa {1,015 psi}	Zero shift:	$\pm \left(0.03 + 0.64 \times \frac{25}{x} \right) \%$	
	Combined shift: (including zero and span shifts)	$\pm 0.97 \%$	(For $x \geq 25$ kPa {100 inH ₂ O})
		$\pm \left(0.03 + 0.94 \times \frac{25}{x} \right) \%$	(For $x < 25$ kPa {100 inH ₂ O})

Model GTX35F (For option "M5", 0.1 mm thickness diaphragm)

Material of Wetted Parts at Flange Side: 316 SST (Diaphragm; 316L SST), 316L SST,

Material of Wetted parts at reference side: 316 SST (Diaphragm; 316L SST)

Reference accuracy * ³	Linear output:	$\pm 0.8 \%$	(For $x \geq 12.5$ kPa {50 inH ₂ O})
		$\pm \left(0.15 + 0.3 \times \frac{12.5}{x} \right) \%$	(For $x < 12.5$ kPa {50 inH ₂ O})
Ambient Temperature effect (Shift from the set range) Change of 30 °C (Range from -5 to +55 °C)	Combined shift: (including zero and span shifts)	$\pm \left(0.6 + 5.4 \times \frac{25}{x} \right) \%$	
Static pressure effect (Shift in respect to setting range) Change of 7 MPa {1,015 psi}	Zero shift:	$\pm \left(0.64 + 2.64 \times \frac{25}{x} \right) \%$	
	Combined shift: (including zero and span shifts)	$\pm \left(1.17 + 2.0 \times \frac{25}{x} \right) \%$	(For $x \geq 25$ kPa {100 inH ₂ O})
		$\pm \left(0.23 + 2.94 \times \frac{25}{x} \right) \%$	(For $x < 25$ kPa {100 inH ₂ O})

Model GTX35F

Material of Wetted Parts at Flange Side: ASTM B575 (Hastelloy C-276 equivalent), Tantalum,

Material of Wetted parts at reference side: 316 SST (Diaphragm; 316L SST)

Reference accuracy * ³	Linear output:	$\pm 0.4 \%$	(For $x \geq 12.5$ kPa {50 inH ₂ O})
		$\pm \left(0.25 + 0.15 \times \frac{12.5}{x} \right) \%$	(For $x < 12.5$ kPa {50 inH ₂ O})
Ambient Temperature effect (Shift from the set range) Change of 30 °C (Range from -5 to +55 °C)	Combined shift: (including zero and span shifts)	$\pm \left(0.6 + 2.4 \times \frac{25}{x} \right) \%$	
Static pressure effect (Shift in respect to setting range) Change of 7 MPa {1,015 psi}	Zero shift:	$\pm \left(0.03 + 1.64 \times \frac{25}{x} \right) \%$	
	Combined shift: (including zero and span shifts)	$\pm \left(1.07 + 1.0 \times \frac{25}{x} \right) \%$	(For $x \geq 25$ kPa {100 inH ₂ O})
		$\pm \left(0.13 + 1.94 \times \frac{25}{x} \right) \%$	(For $x < 25$ kPa {100 inH ₂ O})

*1. URV denotes the process value for 100 % (20 mA DC) output.

*2. LRV denotes the process value for 0 % (4 mA DC) output.

*3. Reference accuracy at calibrated condition.

Model GTX60F

Material of Wetted Parts at Flange Side: 316 SST (Diaphragm; 316L SST), 316L SST,

Material of Wetted parts at reference side: 316 SST (Diaphragm; 316L SST)

Reference accuracy *3 *4	Linear output:	$\pm 0.15 \%$	(For $x \geq 350$ kPa {50.8 psi})
		$\pm \left(0.05 + 0.1 \times \frac{350}{x} \right) \%$	(For $x < 350$ kPa {50.8 psi})
Ambient Temperature effect (Shift from the set range) Change of 30 °C *4 (Range from -5 to +55 °C)	Combined shift: (including zero and span shifts)	$\pm 0.75 \%$	(For $x \geq 350$ kPa {50.8 psi})
		$\pm \left(0.35 + 0.4 \times \frac{350}{x} \right) \%$	(For $x < 350$ kPa {50.8 psi})
Static pressure effect (Shift in respect to setting range)*4 Change of 7 MPa {1,015 psi}	Zero shift:	$\pm \left(0.03 + 7.5 \times \frac{350}{x} \right) \%$	
	Combined shift: (including zero and span shifts)	$\pm 9.00 \%$	(For $x \geq 350$ kPa {50.8 psi})
		$\pm \left(1.5 + 7.5 \times \frac{350}{x} \right) \%$	(For $x < 350$ kPa {50.8 psi})

Model GTX60F (For option "M5", 0.1 mm thickness diaphragm)

Material of Wetted Parts at Flange Side: 316 SST (Diaphragm; 316L SST), 316L SST,

Material of Wetted parts at reference side: 316 SST (Diaphragm; 316L SST)

Reference accuracy *3 *4	Linear output:	$\pm 0.6 \%$	(For $x \geq 350$ kPa {50.8 psi})
		$\pm \left(0.3 + 0.3 \times \frac{350}{x} \right) \%$	(For $x < 350$ kPa {50.8 psi})
Ambient Temperature effect (Shift from the set range) Change of 30 °C *4 (Range from -5 to +55 °C)	Combined shift: (including zero and span shifts)	$\pm \left(0.35 + 2.6 \times \frac{350}{x} \right) \%$	
Static pressure effect (Shift in respect to setting range) *4	Zero shift:	$\pm \left(0.03 + 9.5 \times \frac{350}{x} \right) \%$	
	Combined shift: (including zero and span shifts)	$\pm 9.0 \%$	(For $x \geq 350$ kPa {50.8 psi})
		$\pm \left(1.5 + 7.5 \times \frac{350}{x} \right) \%$	(For $x < 350$ kPa {50.8 psi})

Model GTX60F

Material of Wetted Parts at Flange Side: ASTM B575 (Hastelloy C-276 equivalent), Tantalum,

Material of Wetted parts at reference side: 316 SST (Diaphragm; 316L SST)

Reference accuracy *3 *4	Linear output:	$\pm 0.3 \%$	(For $x \geq 350$ kPa {50.8 psi})
		$\pm \left(0.15 + 0.15 \times \frac{350}{x} \right) \%$	(For $x < 350$ kPa {50.8 psi})
Ambient Temperature effect (Shift from the set range) Change of 30 °C *4 (Range from -5 to +55 °C)	Combined shift: (including zero and span shifts)	$\pm \left(0.35 + 0.65 \times \frac{350}{x} \right) \%$	
Static pressure effect (Shift in respect to setting range)*4 Change of 7 MPa {1,015 psi}	Zero shift:	$\pm \left(0.03 + 8.5 \times \frac{350}{x} \right) \%$	
	Combined shift: (including zero and span shifts)	$\pm 9.0 \%$	(For $x \geq 350$ kPa {50.8 psi})
		$\pm \left(1.5 + 7.5 \times \frac{350}{x} \right) \%$	(For $x < 350$ kPa {50.8 psi})

*3. Reference accuracy at calibrated condition.

*4. Within a range of URV ≥ 0 and LRV ≥ 0 .

MODEL SELECTION

Model GTX35F (Flange type for standard differential pressure)

Model GTX60F (Flange type for high differential pressure)

Model No.: GTX__F - Selection I (I II III IV V VI VII VIII IX X XI) - Selection II (I II III IV V VI) - Option

Basic Model No.

Measuring span	2.5 to 100 kPa {10 to 400 inH ₂ O}	GTX35F	Flush flange type
	35 to 3500 kPa {5.1 to 508 psi}	GTX60F	

Selection I

I	Output	4 to 20 mA (SFN Communication)		A	
		4 to 20 mA (HART5 Communication)		B	
		FOUNDATION Fieldbus communication *7 *8 *9		C	
		Digital output (DE communication) *5		D	
		4 to 20 mA (HART7 Communication)		F	
II	Fill fluid	Regular type (Silicone oil)		A	
		For oxygen service (Fluorine oil)		H	
		For chlorine service (Fluorine oil) *1		J	
III	Material (Meterbody cover, Vent/Drain plugs)	Meterbody cover	Vent/Drain plugs	A	
		SCS14A (Equivalent to 316 SST)	316 SST		
IV	Material (centerbody)	Reference side	Wetted part of flange side		
		316 SST	316 SST (Diaphragm: 316L SST)		A
		316 SST	ASTM B575		B
		316 SST	Tantalum *1		C
		316 SST	316L SST		D
V	Process connections of reference side	Rc 1/2, with adapter flange *4		A	
		Rc 1/4, with adapter flange *4		B	
		Rc 1/4, without adapter flange *4		C	
		1/2 NPT internal thread, with adapter flange *4		D	
		1/4 NPT internal thread, with adapter flange *4		E	
		1/4 NPT internal thread, without adapter flange *4		F	
		Open to atmosphere *3		H	
VI	Process installation of reference side	No connection *3		X	
		Vertical piping, top connection		A	
		Vertical piping, bottom connection		B	
VII	Flange rating	ANSI150		A1	
		ANSI300		A2	
		ANSI600		A3	
		JIS10K		J1	
		JIS20K		J3	
		JIS30K		J4	
		JIS63K		J6	
		JPI150 *9		P1	
		JPI300 *9		P2	
		JPI600 *9		P3	
		Flange rating for China (refer to Table 1) *10		-	
VIII	Flange size	1.5 in./40 A *2 *6		D	
		2 in./50 A		E	
		3 in./80 A		F	
IX	Flange type	Flush type		A	
X	Flange material/bolt and nut material	Flange	Bolt and nut		
		304 SST	304 SST		A
		304 SST	Carbon steel		D
		316 SST	304 SST		E
		316 SST	Carbon steel		H
		316L SST	304 SST		J
316L SST	Carbon steel		M		
XI	Gasket face finish	None, Standard JISRa3.2 (12.5S)		A	

- *1. In case code J is selected, code C “Tantalum”, wetted part material of flange side should be selected.
- *2. Not applicable for the combination with code J “For chlorine service” of Fill Fluid.
- *3. In case code H is selected, code X “No connection” of process installation of reference side should be selected.
- *4. Not applicable for the combination with code X “No connection” of Process installation of reference side.
- *5. Not applicable for the combination with code A2 “With external Zero/Span adjustment”, Q1 “Safety Transmitter”, and Q2 “NAMUR NE43 Compliant Output signal limits” of Option.
- *6. Not applicable for the combination with code C “Tantalum” of Material of wetted part of flange side.
- *7. Not applicable for the combination with code Q1 “Safety Transmitter” and Q2 “NAMUR NE43 Compliant Output signal limits” of Option.
- *8. In case code A of indicator is selected, code A2 of Option code should be selected.
- *9. Not applicable for the combination with code YB “Assembled in China (for use in China)” and YD “Assembled in China (for use outside of China)” of Option.
- *10. Code “YB” or “YD” of Option code should be selected.

Table 1. Flange rating for China

Flange rating	Code
GB PN1.0	G1
GB PN1.6	G2
GB PN2.5	G4
GB PN4.0	G5
GB PN6.3	G6
HG PN1.0	H1
HG PN1.6	H2
HG PN2.5	H4
HG PN4.0	H5
HG PN6.3	H6

Model GTX35F (Flange type for standard differential pressure)
Model GTX60F (Flange type for high differential pressure)

Model No.: GTX_ _F - Selection I (I II III IV V VI VII VIII IX X XI) - Selection II (I II III IV V VI) - Option

Basic Model No.

Measuring span	2.5 to 100 kPa {10 to 400 inH ₂ O}	GTX35F	Extended flange type
	35 to 3500 kPa {5.1 to 508 psi}	GTX60F	

Selection I

I	Output	4 to 20 mA (SFN Communication)	A	
		4 to 20 mA (HART5 Communication)	B	
		FOUNDATION Fieldbus communication *1 *7 *8	C	
		Digital output (DE communication) *4	D	
		4 to 20 mA (HART7 Communication)	F	
II	Fill fluid	Regular type (Silicone oil)	A	
		For oxygen service (Fluorine oil)	H	
III	Material (Meterbody cover, Vent/Drain plugs)	Meterbody cover	Vent/Drain plugs	
		SCS14A (Equivalent to 316 SST)	316 SST	A
IV	Material (centerbody)	Reference side	Wetted part of flange side	
		316 SST	316 SST (Diaphragm: 316L SST)	A
		316 SST	316L SST	D
V	Process connections of reference side	Rc 1/2, with adapter flange *3	A	
		Rc 1/4, with adapter flange *3	B	
		Rc 1/4, without adapter flange *3	C	
		1/2 NPT internal thread, with adapter flange *3	D	
		1/4 NPT internal thread, with adapter flange *3	E	
		1/4 NPT internal thread, without adapter flange *3	F	
VI	Process installation of reference side	No connection *2	X	
		Vertical piping, top connection	A	
		Vertical piping, bottom connection	B	
VII	Flange rating	ANSI150	A1	
		ANSI300	A2	
		JIS10K	J1	
		JIS20K	J3	
		JIS30K *5	J4	
		JPI150 *8	P1	
		JPI300 *8	P2	
Flange rating for China (refer to Table 2)	-			
VIII	Flange size	2 in./50 A	E	
		3 in./80 A	F	
		4 in./100 A	G	
IX	Flange type	Extended Length 50 mm	B	
		Extended Length 100 mm	C	
		Extended Length 150 mm	D	
		Extended Length 200 mm *6	E	
		Extended Length 250 mm *6	F	
		Extended Length 300 mm *5 *6	G	
X	Flange material/bolt and nut material	Flange	Bolt and nut	
		304 SST	304 SST	A
		304 SST	Carbon steel	D
		316 SST	304 SST	E
		316 SST	Carbon steel	H
		316L SST	304 SST	J
316L SST	Carbon steel	M		
XI	Gasket face finish	None, Standard JISRa3.2 (12.5S)	A	

- *1. Not applicable for the combination with code Q1 "Safety Transmitter" and Q2 "NAMUR NE43 Compliant Output signal limits" of Option.
- *2. In case code H is selected, code X "No connection" of process installation of reference side should be selected.
- *3. Not applicable for the combination with code X "No connection" of Process installation of reference side.
- *4. Not applicable for the combination with code A2 "With external Zero/Span adjustment", Q1 "Safety Transmitter", and Q2 "NAMUR NE43 Compliant Output signal limits" of Option.
- *5. In case flange rating "JIS30K" and wetted part of flange side "316L SST", not applicable for Extended Length: 300 mm.
- *6. This Extended Length can only be selected code G "4 in." of Flange size.
- *7. In case code A of indicator is selected, code A2 of Option code should be selected.
- *8. Not applicable for the combination with code YB "Assembled in China (for use in China)" and YD "Assembled in China (for use outside of China)" of Option.
- *9. Code "YB" or "YD" of Option code should be selected.

Table 2. Flange rating for China

Flange rating	Code
GB PN1.0	G1
GB PN1.6	G2
GB PN2.5	G4
HG PN1.0	H1
HG PN1.6	H2
HG PN2.5	H4

Model No.: GTX_ _F - Selection I (I II III IV V VI VII VIII IX X XI) - Selection II (I II III IV V VI) - Option

Selection II

		—	
I	Electrical connection	G1/2 *2 *13	1
		G1/2 TIIS explosion proof with 1 cable gland attached *3 *13	3
		G1/2 TIIS explosion proof with 2 cable gland attached *3 *13	4
		1/2 NPT, Watertight	A
		M20, Watertight *1	B
II	Explosion proof [★] *14 *15	None	XX
		FM Explosionproof for Division system/Flameproof for Zone system	F1
		FM Intrinsic safety	F2
		FM Intrinsic safety ia/ic FISCO and Fieldbus *8	F4
		FM Nonincendive	F5
		Combination of code F1, F2, and F5	F6
		FM Fieldbus Nonincendive *8	F7
		ATEX Flameproof	A1
		ATEX Intrinsic safety	A2
		ATEX Intrinsic safety ia FISCO and Fieldbus *8	A4
		ATEX Intrinsic safety ic FISCO and Fieldbus *8	A7
		IECEX Flameproof	E1
		IECEX Intrinsic safety	E2
		IECEX Intrinsic safety ia FISCO and Fieldbus *8	E4
		IECEX Intrinsic safety ic FISCO and Fieldbus *8	E7
		NEPSI Flameproof	N1
		NEPSI Intrinsic safety	N2
		TIIS Flameproof *5 *6	J1
KCs Flameproof *6	K1		
TAIWAN Flameproof	T1		
III	Indicator	None	X
		With indicator *7	A
IV	Paint *12	Standard	X
		None (316 stainless steel housing) *4	E
		Corrosion-proof (Urethane)	H
V	Failure alarm	Upper limit of output at abnormal condition	A
		Lower limit of output at abnormal condition	B
		None (for FOUNDATION Fieldbus) *8	X
VI	Mounting bracket	None	X

*1. Not applicable for the combination with code F1, F6 of Explosion proof.

*2. Code XX of Explosion proof should be selected.

*3. Code J1 of Explosion proof should be selected.

*4. Not applicable for combination with code 1,3,4 of Electrical connection.

*5. 3 or 4 of Electrical connection should be selected.

*6. Not applicable for the combination with code E of Paint.

*7. In case the code C “FOUNDATION Fieldbus communication” of output is selected, code A2 of Option code should be selected.

*8. In case this code is selected, code C of Output should be selected.

*12. In case code X or H is selected, the material of transmitter case is aluminum alloy.

*13. Not applicable for the combination with code YB “Assembled in China (for use in China)” and YD “Assembled in China (for use outside of China)” of Option.

*14. For FOUNDATION Fieldbus type. Refer to SS2-GTX00Z-0100.

*15. For option code YB “Assembled in China (for use in China)” and YD “Assembled in China (for use outside of China)” selected, only the following codes can be selected.

YB: XX, N1, N2

YD: XX, F1, F2, F5, F6, A1, A2, E1, E2, T1, K1

Model No.: GTX__F - Selection I (I II III IV V VI VII VIII IX X XI) - Selection II (I II III IV V VI) - Option

Option

		—
	No options	XX
	With external Zero/Span adjustment*8 *9	A2
	Long vent/drain plugs	G4
	Oil and water free finish	K1
	Oil free finish *1	K3
	Au Plating Diaphragm	L1
	0.1 mm thickness diaphragm *16 *17	M5
	FEP protective film *18	N1
	Safety Transmitter *2 *9 *14	Q1
	NAMUR NE43 Compliant Output Signal Limits: 3.8 to 20.5 mA (Output 21.6 mA/selected upper limit, 3.6 mA/selected lower limit) *9 *14	Q2
	Alarm Output (contact output) *10 *14	Q7
	Advanced diagnostics *15	Q8
	Custom calibration	R1
	Test report	T1
	Mill certificate	T2
	Traceability certificate *20	T4
	NACE certificate *6	T5
	Non SI Unit	W1
	Safety label for Taiwan	Y2
	Assembled in China (for use in China)	YB
	Assembled in China(for use outside of China)	YD

*1. No need to select when Fill Fluid code H, or J is selected.

*2. Not applicable for the combination with code A2, or Q7 of Option.

*3. Not applicable for the combination with code A, or B of Process installation.

*4. Not applicable for the combination with code F1, F6 of Explosion proof.

*5. Not applicable for any Explosion proof. Please select code XX "None" of Explosion proof.

*6. Applicable for "ASTM B575", code B of Material (center body).

*7. Not applicable for the combination with code B "M20, Watertight" electrical connection.

*8. Not applicable for the combination with code X "None" of Indicator. Please select "With indicator".

*9. Not applicable for the combination with code D "Digital output (DE communication)" of output.

*10. Not applicable for the combination with code F2, F5, F6, N2, C2, E2, and A2 of Explosion proof.

*14. Not applicable for the combination with code C "Digital output (FOUNDATION Fieldbus communication)" of output.

*15. Not applicable for the combination with code A "4 to 20 mA (SFN Communication)", B "4 to 20 mA (HART5 Communication)", and D "Digital output (DE communication)" of output.

*16. 0.1 mm thickness diaphragm option is only available for Material of Wetted parts: "316 SST" and "316L SST".

*17. 0.1 mm thickness diaphragm option is only available for 4 inches Extended Flange or 3 inches Flush Flange.

*18. Not applicable for the combination with Extended Flange Type.

*20. Not applicable for the combination with code YB "Assembled in China (for use in China)" and YD "Assembled in China(for use outside of China)" of Option.

Flushing Ring Models

Model No.

DV —

			I	II	III	IV	V	VI	—	VII	
I	Flushing Ring quantity	For Flushing Ring 1 piece	H								
II	Ring material	316 SST		2							
		316L SST		8							
III	Flange rating	JIS10K				A					
		JIS20K				C					
		JIS30K				D					
		JIS63K				F					
		ANSI 150				G					
		ANSI 300				H					
		ANSI 600				J					
		JPI 150				N					
		JPI 300				P					
		JPI 600				Q					
IV	Flange size	3 in / 80A Ring type				B					
		2 in. / 50A Ring type				C					
		1-1/2 in. / 40A Ring type				D					
V	Ring finish	None, Standard JISRa3.2 equivalent					X				
VI	Screw size	Rc1/4							1		
		1/4NPT							2		
									—		
VII	Options	Long Vent (60mm) ^{*1}								3	
		Oil and water finish ^{*2}								5	
		Oil free finish ^{*2}									6
		Mill certificate ^{*2}									7
		Strength calculation sheet ^{*2}									B
		Withstand pressure and air tight test (general-purpose use) ^{*2}									C
		Oil and water finish, high-grade ^{*2}									D

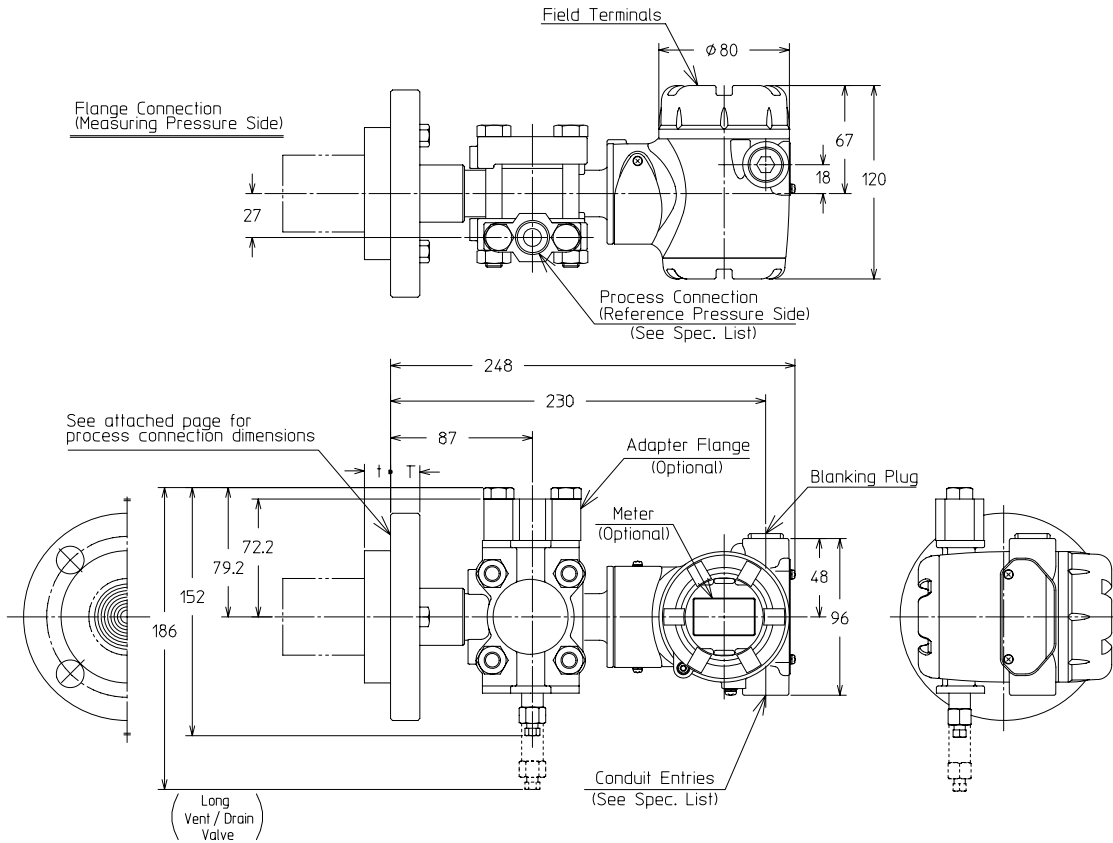
*1. Code 3:Long Vent (60mm) of Options must be selected.

*2. When this option is selected, the same option for transmitter must be selected.

DIMENSIONS

Model GTX35F/60F

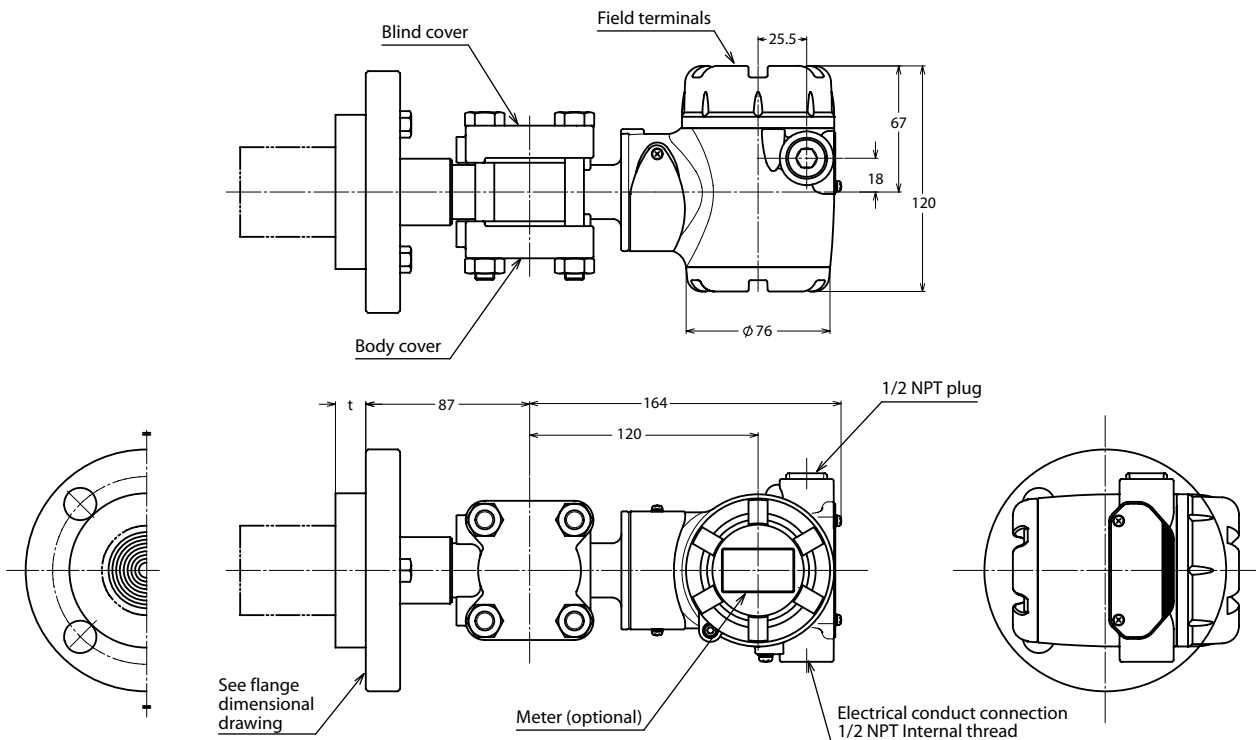
Unit: mm



- Note) 1) For the process pipe connection on the standard pressure side, choose either the upward or downward directions. When changing the connection, replace the adapter flange and the vent/drain plugs.
 2) Select a gasket that will not contact the diaphragm after it is tightened.

Model GTX35F/60F

Process connection of reference side: open to atmosphere



TERMINAL CONNECTION

(Not applicable for Fieldbus. See SS2-GTX00Z-0100 for Fieldbus.)

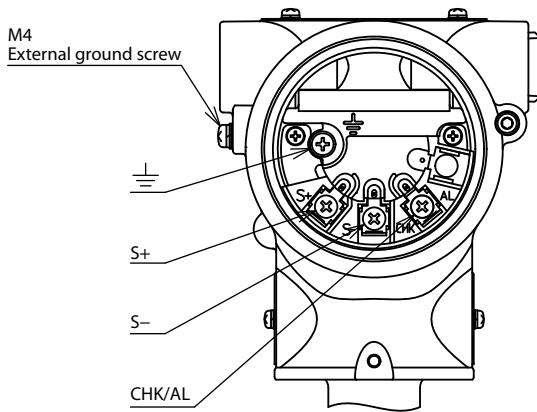


Table 1: Terminal connection

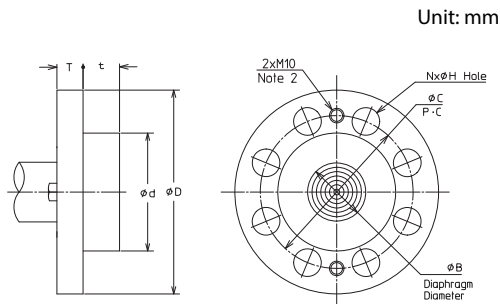
Symbol	Details
S+	Power supply and output signal +
S-	Power supply and output signal -/Check meter -
CHK/AL	Check meter +
⏏	Ground

Table 2: Terminal connection (option "07": Alarm output)

Symbol	Details
S+	Power supply and output signal +
S-	Power supply and output signal -
CHK/AL	Alarm +
⏏	Ground/Alarm -

Flush diaphragm flange

Wetted Parts Material:316SST,ASTM B575,316L SST

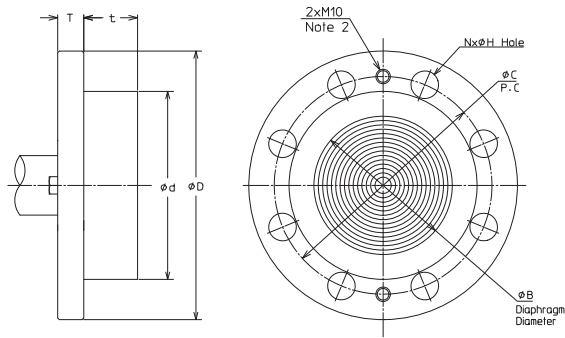


Note 1) Choose gaskets that do not touch diaphragm after installation.
2) M10 threaded holes for stainless steel flanges only.

Material of wetted parts	B
316 SST	40
316L SST	
ASTM B575 (Hastelloy C-276 equivalent)	43

Rating	Flange rating	D	T	C	N	H	d	t
1.5 inch/ 40 mm	JIS 10K - 40 mm	140	18	105	4	19	81	16
	JIS 20K - 40 mm	140	18	105	4	19		
	JIS 30K - 40 mm	160	25	120	4	23		
	ANSI 150 - 1 1/2 inch	127	18	98.6	4	16		
	ANSI 300 - 1 1/2 inch	155	25	114.3	4	22		
	ANSI 600 - 1 1/2 inch	155	32	114.3	4	22		
	JPI 150 - 1 1/2 inch	127	18	98.6	4	16		
	JPI 300 - 1 1/2 inch	155	25	114.3	4	22		
2 inches/ 50 mm	JIS 10K - 50 mm	155	16	120	4	19	99	19
	JIS 20K - 50 mm	155	18	120	8	19		
	JIS 30K - 50 mm	165	22	130	8	19		
	ANSI 150 - 2 inches	152	19.5	120.6	4	19		
	ANSI 300 - 2 inches	165	22.5	127	8	19		
	ANSI 600 - 2 inches	165	25.5	127	8	19		
	JPI 150 - 2 inches	152	19.5	120.6	4	19		
	JPI 300 - 2 inches	165	22.5	127	8	19		
3 inches/ 80 mm	JIS 10K - 80 mm	185	18	150	8	19	129.5	22
	JIS 20K - 80 mm	200	22	160	8	23		
	JIS 30K - 80 mm	210	28	170	8	23		
	ANSI 150 - 3 inches	190	24	152.4	4	19		
	ANSI 300 - 3 inches	210	28.5	168.1	8	22		
	ANSI 600 - 3 inches	210	32	168.1	8	22		
	JPI 150 - 3 inches	190	24	152.4	4	19		
	JPI 300 - 3 inches	210	28.5	168.1	8	22		
JPI 600 - 3 inches	210	32	168.1	8	22			

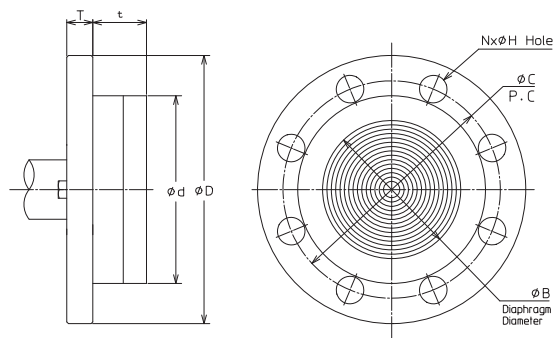
Flush diaphragm flange
Wetted Parts Material : Tantalum



Note 1) Choose gaskets that do not touch diaphragm after installation.
 2) M10 threaded holes for stainless steel flanges only.

Rating	Flange rating	D	T	C	N	H	d	t	B
2 inches/ 50 mm	JIS 10K - 80 mm	155	16	120	4	19	99	33	62
	JIS 20K - 80 mm	155	18	120	8	19			
	JIS 30K - 80 mm	165	22	130	8	19			
	ANSI 150 - 3 inches	152	19.5	120.6	4	19			
	ANSI 300 - 3 inches	165	22.5	127	8	19			
	ANSI 600 - 3 inches	165	25.5	127	8	19			
	JPI 150 - 3 inches	152	19.5	120.6	4	19			
	JPI 300 - 3 inches	165	22.5	127	8	19			
	JPI 600 - 3 inches	165	25.5	127	8	19			
3 inches/ 80 mm	JIS 10K - 80 mm	185	18	150	8	19	129.5	36	95
	JIS 20K - 80 mm	200	22	160	8	23			
	JIS 30K - 80 mm	210	28	170	8	23			
	ANSI 150 - 3 inches	190	24	152.4	4	19			
	ANSI 300 - 3 inches	210	28.5	168.1	8	22			
	ANSI 600 - 3 inches	210	32	168.1	8	22			
	JPI 150 - 3 inches	190	24	152.4	4	19			
	JPI 300 - 3 inches	210	28.5	168.1	8	22			
	JPI 600 - 3 inches	210	32	168.1	8	22			

Flush flange(Optional Code : M5)
0.1 mm thickness diaphragm

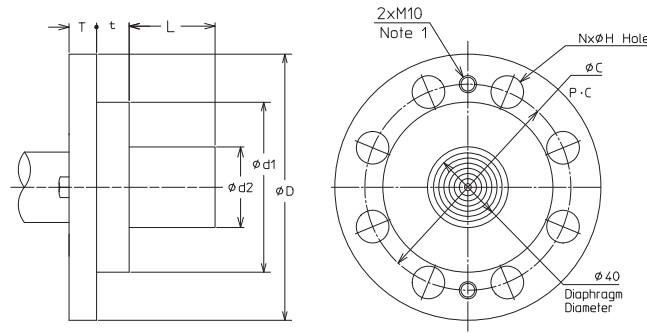


Note 1) Choose gaskets that do not touch diaphragm after installation.

Rating	Flange rating	D	T	C	N	H	d	t	B
3 inches/ 80 mm	JIS 10K - 80 mm	185	18	150	8	19	129.5	36	95
	JIS 20K - 80 mm	200	22	160	8	23			
	JIS 30K - 80 mm	210	28	170	8	23			
	ANSI 150 - 3 inches	190	24	152.4	4	19			
	ANSI 300 - 3 inches	210	28.5	168.1	8	22			
	ANSI 600 - 3 inches	210	32	168.1	8	22			
	JPI 150 - 3 inches	190	24	152.4	4	19			
	JPI 300 - 3 inches	210	28.5	168.1	8	22			
	JPI 600 - 3 inches	210	32	168.1	8	22			

Extended diaphragm flange

Unit: mm

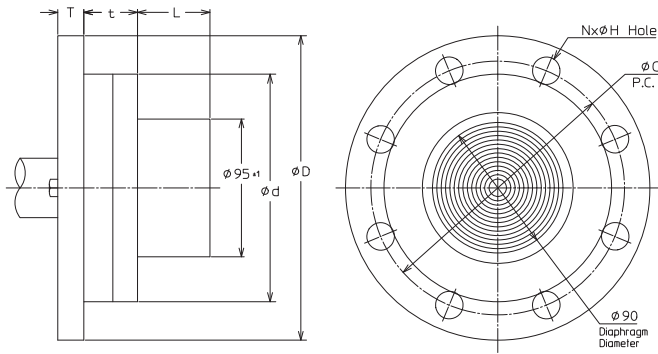


Note 1) M10 threaded holes for stainless steel flanges only.

Rating	Flange rating	D	T	C	N	H	d1	d2	t	B
2 inches/50 mm	JIS 10K - 50 mm	155	16	120	4	19	99	47±1	19	40
	JIS 20K - 50 mm	155	18	120	8	19				
	JIS 30K - 50 mm	165	22	130	8	19				
	ANSI 150 - 2 inches	152	19.5	120.6	4	19				
	ANSI 300 - 2 inches	165	22.5	127	8	19				
	ANSI 600 - 2 inches	165	25.5	127	8	19				
	JPI 150 - 2 inches	152	19.5	120.6	4	19				
	JPI 300 - 2 inches	165	22.5	127	8	19				
	JPI 600 - 2 inches	165	25.5	127	8	19				
3 inches/80 mm	JIS 10K - 80 mm	185	18	150	8	19	129.5	69±1	22	40
	JIS 20K - 80 mm	200	22	160	8	23				
	JIS 30K - 80 mm	210	28	170	8	23				
	ANSI 150 - 3 inches	190	24	152.4	4	19				
	ANSI 300 - 3 inches	210	28.5	168.1	8	22				
	ANSI 600 - 3 inches	210	32	168.1	8	22				
	JPI 150 - 3 inches	190	24	152.4	4	19				
	JPI 300 - 3 inches	210	28.5	168.1	8	22				
JPI 600 - 3 inches	210	32	168.1	8	22					
4 inches/100 mm	JIS 10K - 100 mm	210	18	175	8	19	157	95±1	23	40
	JIS 20K - 100 mm	225	24	185	8	23				
	JIS 30K - 100 mm	240	32	195	8	25				
	ANSI 150 - 4 inches	229	24	190.5	8	19				
	ANSI 300 - 4 inches	254	32	200.2	8	22				
	JPI 150 - 4 inches	229	24	190.5	8	19				
JPI 300 - 4 inches	254	32	200.2	8	22					

L
50
100
150
200
250
300

**Extended flange(Optional Code : M5)
0.1mm thickness diaphragm**



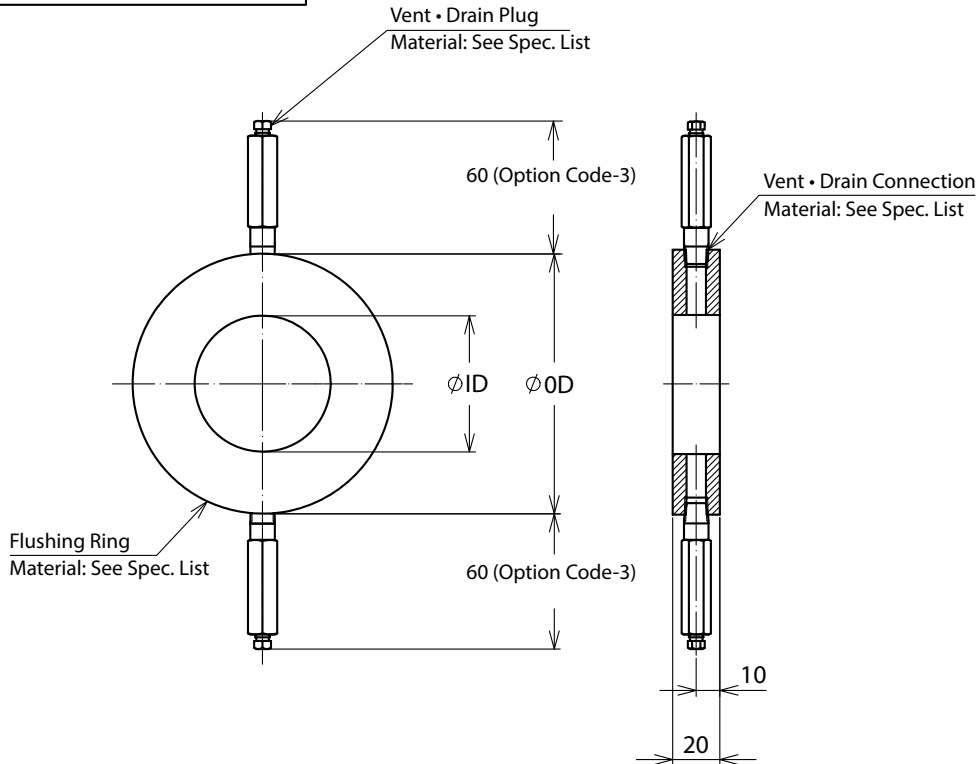
Note 1) Choose gaskets that do not touch diaphragm after installation.

Rating	Flange rating	D	T	C	N	H	d	t	L
4 inches/ 100 mm	JIS 10K - 100 mm	210	18	175	8	19	157	37	50
	JIS 20K - 100 mm	225	24	185	8	23			100
	JIS 30K - 100 mm	240	32	195	8	25			150
	ANSI 150 - 4 inches	229	24	190.5	8	19			200
	ANSI 300 - 4 inches	254	32	200.2	8	22			250
	JPI 150 - 4 inches	229	24	190.5	8	19			300
	JPI 300 - 4 inches	254	32	200.2	8	22			

Flushing Ring

DIMENSIONAL DRAWING

unit: mm



DIMENSIONS and WEIGHTS

Flange Size		Flange Type		OD	ID	Weight [kg]
Description	Code	Description	Code			
40A 1-1/2"	D	JIS10K/20K	A,C	89	45	0.8
		JIS30K	D	100		1.0
		JIS63K	F	108		1.2
		ANSI/JPI 150#	G,N	85		0.7
		ANSI/JPI 300#/600#	H,J,P,Q	94		0.9
50A 2"	C	JIS10K/20K ANSI/JPI 150#	A,C,G,N	104	65	0.9
		JIS30K	D	114		1.2
		JIS63K	F	125		1.5
		ANSI/JPI 300#/600#	H,J,P,Q	110		1.0
80A 3"	B	JIS10K ANSI/JPI 150#	A,G,N	135	100	1.1
		JIS20K	C	140		1.3
		JIS30K	D	150		1.6
		JIS63K	F	163		2.1
		ANSI/JPI 300#/600#	H,J,P,Q	148		1.5

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