

# General Specifications

## ADMAG TI Series AXG Magnetic Flowmeter



GS 01E22A01-01EN

### ■ GENERAL DESCRIPTION

The ADMAG TI (Total Insight) series AXG magnetic flowmeter is a high-quality and highly reliable product developed based on years of experience and achievement, such as enhancement of application by our proprietary dual frequency excitation method.

The AXG magnetic flowmeter is ideal for industrial process lines like oil & gas, chemical, pulp & paper, food & beverage, or metal & mining applications. With outstanding reliability and ease of operation and maintenance, developed on decades of field-proven experience, the AXG will increase user benefits while reducing total cost of ownership.

- Size: 2.5 to 500 mm (0.1 to 20 in.)
- Lining: Fluorocarbon PFA, Ceramics tube
- Process connection: ASME, EN, AS, and JIS

Note: For AXG1A remote transmitter, read general specifications (GS 01E22C01-01EN).  
For AXFA11G remote transmitter, read general specifications (GS 01E20C01-01E).

### ■ FEATURES

#### ●Stable Measurement

Our own dual frequency excitation method realizes stable flow measurement even under high flow noise in the fluid with highly concentrated slurry.

#### ●Multiple Inputs and Outputs

Maximum four inputs/outputs of current, pulse, and status signals can be selected. Mass or calorie calculation using temperature input is available.

#### ●Improved Operation and Monitoring Function

Operation authority level setting for ensuring safety, process data trend display, display backlight flashing (Squawk) function, and data store / restore function with display unit internal memory or microSD card are available.

#### ●Improved Maintainability

Diagnostic functions that contribute to preventive maintenance of the plant are installed. Diagnosis of the device (verification function) that can be executed without demounting from piping, detection of the process condition by monitoring the flow noise and electric conductivity of the fluid, electrode insulation deterioration diagnosis, electrode adhesion diagnosis, and wiring connection diagnosis are available.



Integral Flowmeter



Remote Transmitter



Remote Sensor

#### ●Compliance with IEC61508 (optional specification)

This product can be used in safety instrumented systems up to SIL2 in simplex configuration and SIL3 in redundant configuration.

#### ●Communication Protocol

HART, BRAIN, Modbus, FOUNDATION Fieldbus, PROFIBUS PA, EtherNet/IP

Refer to GS 01E21F02-01EN for FOUNDATION Fieldbus communication type

Refer to GS 01E21F02-02EN for EtherNet/IP Communication Type

Refer to GS 01E21F02-03EN for PROFIBUS PA communication type

Refer to GS 01E22A11-03EN for pulp & paper application type

Refer to GS 01E22A21-04EN for marine approval type

## ■ GENERAL

### Measuring Principle:

By applying the occurrence of electromotive force proportional to the flow velocity when fluid moves in the magnetic field, the flowmeter can measure the flow velocity of conductive liquid. It calculates the instantaneous flow rate, integrated flow rate, etc. from the measured flow velocity.

### System Configuration:

Basic configuration: Sensor, Transmitter, Cable

|             | Function                                                               |
|-------------|------------------------------------------------------------------------|
| Sensor      | Detects the flow velocity                                              |
| Transmitter | Amplifies a sensor and converts signals.                               |
| Cable (*)   | Signal cable (for flow signal), excitation cable (for coil excitation) |

\*: Necessary for Remote type with construction separated to a sensor and a transmitter.  
The excitation cable is to be supplied by customer except for Submersible-Use.

### Main Element of Sensor:

|                 | Function                                                                    |
|-----------------|-----------------------------------------------------------------------------|
| Wetted Part     | Lining (*1), Electrodes, Grounding Devices (*2), Adapters for hygienic.     |
| Non-wetted Part | Flanges, Housing, Excitation coil, Measuring pipe (excluding ceramics tube) |

\*1: including ceramics tube.

\*2: grounding ring plate, metal hat grounding ring, grounding ring for wafer type replacement model, grounding ring electrode, built-in grounding electrode

Note: Grounding devices are for taking the reference electric potential from the process fluid in measuring the electromotive force, and are fixed (or built-in) at two locations, upstream and downstream of the flow. They are unnecessary when the reference potential is taken from installed piping. For details of grounding, read "Cautions on Selection and Installation".

### Main Element of Transmitter:

Display unit, Setting keys, Amplifier unit (including I/Os and power supply unit)

## ■ CONSTRUCTION

### Use:

| Use                                             | Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General-purpose                                 | Non explosion protection for the use in non-hazardous area. Applicable to Integral Flowmeter, Remote Sensor, or Remote Transmitter.<br>IP Protection Grade: IP66/IP67, Type 4X (CSA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Submersible                                     | Temporary submersion is possible. Applicable to Remote Sensor only.<br>Note: Urethane resin potting is applied in the terminal box of a remote sensor. Signal and excitation cables (when optional code L### is not selected, cable length is each 30 m) are pre-wired and waterproof glands with union joints are attached at factory.<br>Performance:<br>Conforms to continuous immersion under the following test condition.<br>Test Condition:<br>1 month with fresh water and 50 m under the water surface (hydraulic pressure 0.5 MPa). However, adverse conditions such as sewage and seawater are excluded. Protect the cable by appropriate means, such as protected separately with conduit piping.<br>IP Protection Grade: IP68 |
| Explosion Protection                            | Explosion protection for the use in hazardous area. Applicable to Integral Flowmeter, Remote Sensor, or Remote Transmitter.<br>IP Protection Grade: Read "Explosion Protection".                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Hygienic                                        | Equipped with piping adapters following hygienic standards. Applicable to Integral Flowmeter, or Remote Sensor.<br>IP Protection Grade: IP66/IP67, Type 4X (CSA)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Hygienic with Explosion Protection              | Equipped with piping adapters following hygienic standards.<br>Explosion protection for the use in hazardous area. Applicable to Integral Flowmeter, or Remote Sensor. (Except optional code 3A.)<br>IP Protection Grade: Read "Explosion Protection".                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Blow line<br>Circulation/<br>extraction<br>line | These specifications are for pulp & paper application type. For details, please refer to GS 01E22A11-03EN.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

**Construction:**

Two types of Integral and Remote type.

| Type          | Construction                                                                                                          |
|---------------|-----------------------------------------------------------------------------------------------------------------------|
| Integral type | Integrated structure of a sensor and a transmitter.                                                                   |
| Remote type   | Separated structure of a sensor and a transmitter, which are connected by a signal cable and an excitation cable (*). |

\* : To be supplied by customer except for Submersible-Use.

**Combinable Transmitter:**

| Remote Sensor<br>Size            | Remote Transmitter    |
|----------------------------------|-----------------------|
| 2.5 to 400 mm<br>(0.1 to 16 in.) | AXG4A, AXG1A, AXFA11G |
| 500 mm<br>(20 in.)               | AXG1A, AXFA11G        |

Note 1: When changing the combined transmitter, readjustment of the meter factor by actual flow calibration is necessary to ensure accuracy.

Note 2: For AXG1A remote transmitter, read general specifications (GS 01E22C01-01EN).  
For AXFA11G remote transmitter, read general specifications (GS 01E20C01-01E).

Note 3: When combining explosion protection AXG remote sensor with general-purpose AXG4A remote transmitter, low conductivity detection may not perform properly.

Note 4: When selecting the optional code E21 for the AXG4A remote transmitter, unify either general-purpose or explosion protection for both of the AXG remote sensor and the AXG 4A remote transmitter.

Note 5: The remote sensor for Japan Flameproof can be connected only with a remote transmitter authorized by Yokogawa Electric Corporation.

**Maximum Cable Length:**

100 m (328 ft) for AXG4A remote transmitter

200 m (656 ft) for AXG1A and AXFA11G remote transmitter

5 m (16 ft) when using with Marine Approval Type

**Process Connection:**

Wafer, flange, union joint (screw type, welding type), clamp, union, and welded joint type are available. For the availability of lining and size range, read "MODEL AND SUFFIX CODE".

| Type            | Process connection                                                                                                                                                                                                                                                                                                                                        |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wafer           | ASME Class 150, Class 300<br>EN PN10, PN16, PN40<br>JIS F12, 10K, 20K<br>JPI Class 150                                                                                                                                                                                                                                                                    |
| Flange          | ASME Class 150, Class 300, Class 600<br>EN PN10, PN16, PN25, PN40<br>AS Table D, Table E<br>JIS F12, 10K, 20K<br>JPI Class 150                                                                                                                                                                                                                            |
| Union Joint     | <u>Screw Type:</u><br>1/4 NPT (size 2.5 to 5 mm / 0.1 to 0.2 in.)<br>3/8 NPT (size 10 mm / 0.4 in.)<br>R 1/4 (size 2.5 to 5 mm / 0.1 to 0.2 in.)<br>R 3/8 (size 10 mm / 0.4 in.)<br><u>Welding Type:</u><br>Outer Diameter of Welding Union Joint:<br>18.5 mm / 0.73 in. (size 2.5 to 5 mm / 0.1 to 0.2 in.)<br>22.5 mm / 0.89 in. (size 10 mm / 0.4 in.) |
| Clamp           | Tri-Clamp<br>DIN 32676 Clamp<br>ISO 2852 / SMS 3016 Clamp<br>ISO 2852 Clamp (for JIS G3447 Piping)                                                                                                                                                                                                                                                        |
| Union           | DIN 11851 Union<br>ISO 2853 Union<br>SMS 1145 Union (Open groove packing type)<br>ISO 2853 Union (for JIS G3447 Piping)                                                                                                                                                                                                                                   |
| Butt Weld Joint | DIN 11850 Piping Butt Weld Joint<br>ISO 2037 Piping Butt Weld Joint<br>JIS G3447 Piping Butt Weld Joint                                                                                                                                                                                                                                                   |

**Electrode Construction:**

|               |                                                               |
|---------------|---------------------------------------------------------------|
| PFA Lining    | External insertion type or internal insertion type (*)        |
| Ceramics Tube | Electrode integrally sintered type (Platinum- Alumina Cermet) |

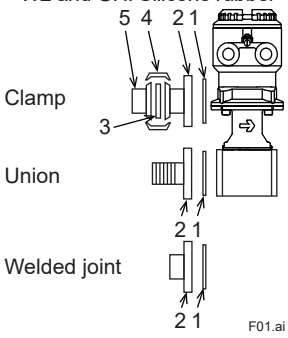
\* : Internal insertion type is for models with Hygienic or Hygienic Explosion Protection, size 500 mm (20 in.), or ASME Class 600 flange high pressure type.

**Grounding Device Construction:**

|                                                 |                                                                                          |
|-------------------------------------------------|------------------------------------------------------------------------------------------|
| Grounding Ring Plate                            | Ring flat plate with mounting bracket                                                    |
| Metal Hat Grounding Ring                        | Grounding ring with hat shape, with mounting bracket                                     |
| Grounding Ring For Wafer Type Replacement Model | Ring-shaped short pipe grounding ring, with mounting bracket                             |
| Grounding Ring Electrode                        | Electrode is inserted into ring-shaped short pipe with PFA lining, with mounting bracket |
| Built-in Grounding Electrode                    | Electrode is inserted on the inner surface of the measuring pipe                         |

**Wetted Part:**

| Wetted Part | Material                                                       |
|-------------|----------------------------------------------------------------|
| Lining      | Fluorocarbon PFA, Ceramics (*)<br>* : Alumina ceramics (99.8%) |

| Wetted Part      | Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electrode        | Stainless steel 316L, Nickel alloy (*), Platinum-Iridium, Tantalum, Titanium, Tungsten carbide, Platinum-Alumina cermet<br>*: ASTM B574 UNS N10276 or ASME SB-574 UNS N10276                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Grounding Device | <u>Grounding Ring Plate</u><br>Stainless steel 316L, Nickel alloy (*), Titanium<br>*: ASTM B575 UNS N10276 or ASME SB-575 UNS N10276<br><u>Metal Hat Grounding Ring</u><br>Stainless steel 316L<br><u>Grounding Ring For Wafer Type Replacement Model</u><br>Stainless steel F316L<br><u>Grounding Ring Electrode</u><br>Platinum-Iridium, Tantalum<br><u>Built-in Grounding Electrode</u><br>Platinum-Iridium, Tantalum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Gasket (Note)    | <u>PFA Lining</u><br>• General-purpose, Submersible, and Explosion Protection (excluding ASME Class 600 flange high pressure type)<br>Standard: None (not necessary)<br>Optional (for plastic piping):<br>GA: Fluororubber<br>GC: Acid-resistant fluororubber<br>GD: Alkali-resistant fluororubber<br>• ASME Class 600 flange high pressure type<br>Standard: Fluororubber (FKM) (O-ring)<br>• Hygienic, and Hygienic Explosion Protection<br>Gasket A: (See the figure below)<br>Standard: Ethylene propylene diene rubber (EPDM)<br>Optional:<br>GH: Silicone rubber<br>3A: Ethylene propylene diene rubber (EPDM)<br>Gasket B: (see the figure below)<br>Optional:<br>W2:<br>Size 15 to 100 mm / 0.5 to 4 in.:<br>Ethylene propylene diene rubber (EPDM)<br>Size 125 mm (5 in.):<br>Silicone rubber<br>W2 and GH: Silicone rubber<br><br>1: Gasket A      2: Adapter<br>When selecting optional code W2<br>3: Gasket B      4: Clamp<br>5: Ferrule<br><u>Ceramics Tube</u><br>Standard:<br>Fluororesin with ceramic fillers (Valqua #7020)<br>Optional (for plastic piping):<br>GA: Fluororubber<br>GC: Acid-resistant fluororubber<br>GD: Alkali-resistant fluororubber<br>Optional (for metal piping):<br>GF: Fluororesin with alkali-resistant carbons |

| Wetted Part                   | Material                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gasket (Note)                 | <u>Installed Pipe</u><br>Standard:<br>None (supplied by customer)<br>Optional (for wafer type, with bolts, nuts, and gaskets):<br>BSC: Chloroprene rubber (CR)<br>BSF: PTFE-sheathed non-asbestos joint sheet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Adapters for Hygienic         | <u>Process Connection (Clamp):</u><br>HJA: Stainless steel F304<br>Optional W2 (Hygienic Connection Parts):<br>Clamp: Stainless steel SCS13 (*1)<br>Ferrule:<br>Size 15 mm (0.5 in.): Stainless steel 316L<br>Size 25 to 125 mm (1 to 5 in.):<br>Stainless steel 304<br>HJB: Stainless steel F316L<br>Optional W2 (Hygienic Connection Parts):<br>Clamp: Stainless steel SCS13 (*1)<br>Ferrule: Stainless steel 316L<br>HAB, HDB, HKB: Stainless steel F316L<br><u>Process Connection (Union):</u><br>JJA: Stainless steel F304<br>JJB: Stainless steel F316L<br>JDB, JKB, JSB: Stainless steel F316L<br><u>Process Connection (Butt Weld Joint):</u><br>KJA: Stainless steel F304<br>KJB, KDB, KKB: Stainless steel F316L<br>*1: JIS standard casting material |
| Union Joint for Ceramics Tube | <u>Screw Union Joint:</u><br>GUN, GUR: Stainless steel F316L<br><u>Welding Union Joint:</u><br>GUW: Stainless steel F316L<br>Note: Contact YOKOGAWA office if plastic union joint is required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

Note: The description is about the material of gaskets supplied with flowmeter, to be used between the sensor pipe and grounding ring or the process flange. This includes whether gaskets are necessary, or whether gaskets should be supplied by customer. For details of gaskets, read "Cautions on Selection and Installation" and "Optional Code".

#### Non-wetted Part Material:

Sensor Terminal Box:

Low copper aluminum alloy EN AC-43400

Transmitter Housing:

Low copper aluminum alloy EN AC-43400

Sensor Housing:

| Size                          | Material                                 |
|-------------------------------|------------------------------------------|
| 2.5 to 15 mm (0.1 to 0.5 in.) | Stainless steel SCS11 (*1)               |
| 25 to 125 mm (1 to 5 in.)     | Stainless steel 304                      |
| 150 to 500 mm (6 to 20 in.)   | Carbon steel SPCC (*2) or its equivalent |

\*1: JIS standard casting material

\*2: JIS standard or JIS standard-based material

Mini-flange (subject to pressure in wafer type):

PFA Lining

| Size                       | Material               |
|----------------------------|------------------------|
| 150 to 200 mm (6 to 8 in.) | Carbon steel A105 (*3) |

Note: In the wafer type other than the above, there is no mini flange because the measuring pipe and the connecting part have a one-piece casting structure.

**Flange:**

| Process Connection Code | Material               |
|-------------------------|------------------------|
| B##                     | Stainless steel F304   |
| D##                     |                        |
| E##                     |                        |
| P##                     | Stainless steel F316   |
| C##                     | Carbon steel A105 (*3) |

\*3: ASTM standard forged material

**Measuring Pipe:**

- PFA Lining

General-purpose, Submersible, and Explosion Protection (excluding ASME Class 600 flange high pressure type):

| Size                          | Material                   |
|-------------------------------|----------------------------|
| 2.5 to 15 mm (0.1 to 0.5 in.) | Stainless steel SCS13 (*4) |
| 25 to 125 mm (1 to 5 in.)     | Stainless steel CF8 (*5)   |
| 150 to 500 mm (6 to 20 in.)   | Stainless steel 304        |

ASME Class 600 flange high pressure type

| Size                      | Material            |
|---------------------------|---------------------|
| 25 to 100 mm (1 to 4 in.) | Stainless steel 304 |

Hygienic and Hygienic Explosion Protection

| Size                         | Material                   |
|------------------------------|----------------------------|
| 15 to 25 mm (0.5 to 1 in.)   | Stainless steel SCS13 (*4) |
| 32 to 125 mm (1.25 to 5 in.) | Stainless steel CF8 (*5)   |

\*4: JIS standard casting material

\*5: ASME standard casting material

Note: Read "Lining Material" for ceramics tube, which is a wetted part material.

- Ceramics Tube  
For the ceramics tube which is also a wetted part, read "Lining" in "Wetted part".

**Coating:**

General-purpose, and Explosion Protection (Integral Flowmeter, Remote Sensor and Transmitter):

**Standard Coating:**

| Coated Part                                        | Coating Specification                                  |
|----------------------------------------------------|--------------------------------------------------------|
| Sensor housing                                     | Polyurethane resin solvent coating, or no coating (*1) |
| Sensor flanges (for flange type)                   |                                                        |
| Sensor terminal box (for remote type, incl. cover) | Polyester resin powder coating                         |
| Transmitter housing (incl. cover)                  |                                                        |

**Rugged Coating (\*2):**

| Coated Part                                        | Coating Specification                                            |
|----------------------------------------------------|------------------------------------------------------------------|
| Sensor housing                                     | Epoxy and polyurethane resin solvent coating, or no coating (*1) |
| Sensor flanges (for flange type)                   |                                                                  |
| Sensor terminal box (for remote type, incl. cover) | Epoxy and polyurethane resin solvent coating                     |
| Transmitter housing (incl. cover)                  |                                                                  |

Submersible (Remote Sensor):**Standard Coating:**

| Coated Part                       | Coating Specification               |
|-----------------------------------|-------------------------------------|
| Sensor housing                    | Non-tar epoxy resin solvent coating |
| Sensor flanges                    |                                     |
| Sensor terminal box (incl. cover) |                                     |

Hygienic, and Hygienic with Explosion Protection (Integral Flowmeter, and Remote Sensor):

**Standard Coating:**

| Coated Part                                        | Coating Specification          |
|----------------------------------------------------|--------------------------------|
| Sensor housing                                     | No coating                     |
| Adapter for piping                                 |                                |
| Sensor terminal box (for remote type, incl. cover) | Polyester resin powder coating |
| Transmitter housing (incl. cover)                  |                                |

\*1: No coating for General-purpose and Explosion Protection with stainless steel flanges in sizes 2.5 to 125 mm (0.1 to 5 in.). Coating is done to sizes 150 mm (6 in.) and more, or to carbon steel flanges.

\*2: Rugged coating is for applications which need salt tolerance resistance, alkali resistance, acid resistance, and/or weather resistance. Epoxy resin undercoating twice and polyurethane resin overcoating once are performed to the same area as standard coating.

**Coating Color:**

General-purpose, Explosion Protection, Hygienic, and Hygienic Explosion Protection:

Mint green (Munsell 5.6BG3.3/2.9 equivalent)

Submersible:

Black

**Cable Entry:**

JIS G1/2 female

ASME 1/2 NPT female

ISO M20 x 1.5 female

**Cable Entry Direction:**

For Integral Flowmeter and Remote Sensor, the cable entry direction can be specified from +90, +180, or -90 degree rotation when optional code RH is ordering, and also can be changed by customer after delivery. However, it can not be changed after delivery when submersible-use or optional code DHC (district heating and cooling / condensation proof use) is selected.

**Wiring Terminal:**

Intra-system Connection Part (\*1):

M4 Screw type

Extra-system Connection Part (\*2):

M4 Screw or Clamp type

\*1: Connections between Remote Sensor and Remote Transmitter for flow signal and excitation current.

\*2: Connections at Integral Flowmeter and Remote Transmitter for input/output signals and power supply.

**Mounting:**

Remote Transmitter: 2-inch pipe mounting

**Grounding:**

Grounding Resistance: 10 Ω or less

Note: When the built-in lightning protector as standard is not required, grounding resistance 100 Ω or less can be applied.

For grounding of explosion protection, appropriate construction is required according to the regulations of each country.



## ■ FUNCTIONS

Note: For AXG1A remote transmitter, read general specifications (GS 01E22C01-01EN).  
For AXFA11G remote transmitter, read general specifications (GS 01E20C01-01E).

### Display and Setting:

Display unit (3 infrared switches with LCD) enables the user to set the parameters without opening the display cover.

Note: Parameter setting by setting tool such as HHT (handheld terminal) and FieldMate (device adjustment / management software) is also possible.

#### Display:

Full dot matrix LCD, 64 × 128 dots, with backlight, dot reversal display available

#### Display Language (\*):

##### Display Code 1:

English, French, German, Italian, Spanish, Portuguese, Russian and Japanese. The display languages are selectable and can be changed by customer.

##### Display Code 2:

English and Chinese. The display languages are selectable and can be changed by customer.

##### Display Code 3:

English.

\*: The setting is English when shipped from factory.

#### Display Screen Configuration:

##### Display Screen Item:

Status display (icon), Time (necessary to set the time at power-on), Data display (max. four lines), Infrared switch operation status

##### Flow Rate Screen:

Measured Data Screen or Online Trend Screen is available. Update period selectable from 0.2, 0.4, 1, 2, 4, and 8 seconds.

##### Measured Data Screen:

Display up to 4 data points simultaneously with numbers, bar graphs, icons, or character strings. Specify up to 8 points of data and change display data with infrared switches or automatic scroll function (scroll period 2, 4, or 8 seconds).

##### Selectable Data in Measured Data Screen:

BRAIN, HART, Modbus, EtherNet/IP

Flow rate (%), Flow velocity, Volume flow rate, Mass flow rate, Calorie, Totalizer 1, Totalizer 2, Totalizer 3, Adhesion level, Current output 1, Current output 2, Flow noise level, Tag No., Communication protocol, Totalizer 1 count, Totalizer 2 count, Totalizer 3 count, Modbus info

Note: Calorie is available for Input/Output signal type H, J, or K.

Current output 2 is available for Input/Output signal type B, C, or H.

Modbus info is available for Modbus communication type.

##### FOUNDATION Fieldbus

Flow rate (%), Flow velocity, Volume flow rate, Mass flow rate, Calorie, Totalizer 1, Totalizer 2, Adhesion level, Flow noise level, PDtag, Communication protocol, Total 1 count, Total 2 count, AI1 Flow rate, AI1 Flow rate (%), AI1.OUT, AI2.OUT, AI3.OUT, AI4.OUT, IT1.OUT, IT2.OUT, AR.OUT

##### PROFIBUS PA

Flow rate (%), Flow velocity, Volume flow rate, Mass flow rate, Calorie, Totalizer 1, Totalizer 2, Totalizer 3, Adhesion level, Flow noise level, Tag number, Communication protocol, Total 1 count, Total 2 count, Total 3 count, AI1.OUT, AI2.OUT, TOT1.OUT, TOT2.OUT, TOT3.OUT

##### Online Trend Screen:

Display one data as trend graph. The display data can be changed with infrared switches or automatic scroll function (scroll period 2, 4, or 8 seconds) selecting up to four data.

##### Selectable Data in Online Trend Screen:

Flow rate (%), Flow velocity, Volume flow rate, Mass flow rate, Calorie, Totalizer 1, Totalizer 2, Totalizer 3, Current output 1, Current output 2

Note: Calorie is available for Input/Output signal type H, J, or K.

Current output 2 is available for Input/Output type B, C, or H.

Totalizer 3, Current output 1 and Current output 2 are not available for FOUNDATION Fieldbus or PROFIBUS PA.

##### Alarm Screen:

When an alarm occurs, the flow rate screen and the alarm screen are alternately displayed in the cycle (2, 4, or 8 seconds) linked with the flow rate screen update cycle. Select simple screen (single line display) or detail screen (with alarm countermeasure display).

##### NAMUR NE 107 Alarm Display Function:

Based on NAMUR NE 107, alarms are classified and displayed as follows. It can also be set to hide.

F: Failure

C: Function Check

S: Out of Specification

M: Maintenance Required

##### Offline Trend Screen (when optional code MC (microSD card) is selected):

Data stored by the data logging function can be displayed on the trend screen. The selectable data is the same as that for the Online Trend Screen.

##### Display Backlight Flashing (Squawk) Function:

Display backlight can be set to flash once or continuously at 4-second cycle to identify the device.

##### Display Operation Authority:

Display operation authority level against the parameters can be controlled by selecting from operator, maintenance, or specialist by passcode.

##### Operator:

Only parameters related to display setting can be set.

##### Maintenance:

Only parameters related to display setting and zero adjustment can be set.

##### Specialist:

All parameters can be set.

**Communication Function:****BRAIN:**

Communication Signal:  
 Superimposed on the Current Output 1  
 Communication Line Condition:  
 Load Resistance:  
 250 to 450  $\Omega$  (including cable resistance)  
 Load Capacitance: 0.22  $\mu$ F or less  
 Load Inductance: 3.3 mH or less  
 Input Impedance of Communicating Device:  
 10 k $\Omega$  or more (at 2.4 kHz)  
 Communication Distance:  
 Up to 1.5 km (0.93 miles), when polyethylene insulated PVC-sheathed cables (CEV cables) are used. Communication distance varies depending on the type of cable and wiring used.  
 Distance from Power Line:  
 15 cm (6 in.) or more. (Parallel wiring should be avoided)

**HART:**

Protocol Version: HART 7  
 Communication Signal:  
 Superimposed on the Current Output 1  
 Communication Line Condition:  
 Load Resistance:  
 230 to 600  $\Omega$  (including cable resistance)

**Modbus:**

Communication protocol:  
 2-wire half duplex RS-485 Modbus  
 Flow control: None  
 Baud rate [bps]: 1200, 2400, 4800, 9600, 19200\*, 38400, 57600, 115200  
 Start bit: 1 bit (Fixed)  
 Stop bit: 1 bit\*, 2 bits  
 Parity bit: Odd, Even\*, None  
 Transfer mode:  
 RTU (Remote Terminal Unit)  
 ASCII  
 Data length: 8 bits  
 LSB (Least Significant Bit sent first)  
 Slave address: 1\* to 247  
 Support function: See IM 01E21A02-05EN (Modbus communication type).  
 Bus termination:  
 Standard RS-485 bus termination  
 ON (bus end), OFF\* (not bus end)  
 \*: Factory default setting  
 Modbus cable  
 3-Wire cable (twisted pair (D0, D1) and Common) with shield should be used. Wire gauge should be AWG24 or wider.  
 The characteristic impedance of the cable higher than 100ohm may be preferred.  
 Line Termination  
 Modbus cable requires Line Termination at each of the two ends of the bus to minimize the reflections. For details, please refer to "Modbus over serial line specification and implementation guide V1.02".

**FOUNDATION Fieldbus:**

Output Signal:  
 Fieldbus communication signal conforming to the standard specifications (H1) of FOUNDATION Fieldbus.  
 Communication Requirements:  
 Supply Voltage: 9 to 32 V DC  
 Current Draw: 15 mA (maximum)  
 For details, please refer IM 01E21A02-03EN.  
 Note: I/O2 (Pulse/Status Output1) is intended only for the calibration use.

**PROFIBUS PA:**

Output Signal:  
 Fieldbus communication signal conforming to the standard specifications of PROFIBUS PA.  
 Communication Requirements:  
 Supply Voltage: 9 to 32 V DC  
 Current Draw: 15 mA (maximum)  
 For details, please refer IM 01E21A02-04EN.  
 Note: I/O2 (Pulse/Status Output1) is intended only for the calibration use.

**EtherNet/IP:**

Output:  
 Digital communication signal based on CIP (Common Industrial Protocol), adaptor.  
 Physical layer:  
 10BASE-T / 100BASE-TX  
 Transmission speed:  
 10 / 100 Mbps with auto negotiation  
 Functional Specifications:  
 - Device Level Ring (DLR)  
 - Cyclic data communication for flow, total and diagnostics  
 - Explicit message communication for flow, total, diagnostics and write protect  
 - Number of simultaneous connections (Explicit message): Maximum 6  
 - Number of simultaneous connections (Cyclic): Maximum 4  
 Displayed Language:  
 English  
 Ethernet communication:  
 - Maximum segment length: 100 m  
 - Web server: Real time monitoring, configuration change and operation for ADMAG TI is available from web browser  
 - DHCP client functionality  
 For details, please refer IM 01E21A02-06EN.  
 Note: No Pulse/Status Output is available.

**Input/Output Function:**

Input/Output Signal:

Input/Output up to four points can be selected from type A to K, P to T, 0, 2, 4, 6, F0, G0, P0 in the table.

**Input/Output (HART, BRAIN)**

| Type   | Input/Output Signal     |                               |                               |                                                          | Communication and I/O Code |        |
|--------|-------------------------|-------------------------------|-------------------------------|----------------------------------------------------------|----------------------------|--------|
|        | I/O1 Terminal           | I/O2 Terminal                 | I/O3 Terminal                 | I/O4 Terminal                                            | BRAIN                      | HART 7 |
| Type A | Current Output 1 Active | Pulse/Status Output 1 Passive | —                             | —                                                        | DA                         | JA     |
| Type B |                         |                               | Pulse/Status Output 2 Passive | Current Output 2 Active                                  | DB                         | JB     |
| Type C |                         |                               | Status Input (No-voltage)     | Current Output 2 Active                                  | DC                         | JC     |
| Type D |                         |                               | Status Output Passive         | Pulse/Status Output 2 Passive                            | DD                         | JD     |
| Type E |                         |                               | Status Input (No-voltage)     | Pulse/Status Output 2 Passive                            | DE                         | JE     |
| Type F |                         |                               | Status Input (No-voltage)     | Pulse/Status Output 2 Active (with internal resistor)    | DF                         | JF     |
| Type G |                         |                               | Status Input (No-voltage)     | Pulse/Status Output 2 Active (without internal resistor) | DG                         | JG     |
| Type H |                         |                               | Current Output 2 Passive      | Current Input Active                                     | DH                         | JH     |
| Type J |                         |                               | Pulse/Status Output 2 Passive | Current Input Active                                     | DJ                         | JJ     |
| Type K |                         |                               | Status Input (No-voltage)     | Current Input Active                                     | DK                         | JK     |

| Type   | Input/Output Signal      |                                       |                                       |                               | Communication and I/O Code |        |
|--------|--------------------------|---------------------------------------|---------------------------------------|-------------------------------|----------------------------|--------|
|        | I/O1 Terminal            | I/O2 Terminal                         | I/O3 Terminal                         | I/O4 Terminal                 | BRAIN                      | HART 7 |
| Type P | Current Output 1 Passive | Pulse/Status Output 1 Passive         | Current Output 2 Passive              | —                             | DP                         | JP     |
| Type Q |                          |                                       |                                       | Pulse/Status Output 2 Passive | DQ                         | JQ     |
| Type R |                          |                                       |                                       | —                             | DR                         | JR     |
| Type S |                          | Pulse/Status Output 1 Passive (NAMUR) | Pulse/Status Output 2 Passive (NAMUR) | DS                            | JS                         |        |
| Type T |                          | Pulse/Status Output 1 Passive         | —                                     | —                             | DT                         | JT     |

Note: "Active" means no external power supply, "Passive" means external power supply is required.

**Input/Output (Modbus)**

| Type   | Input/Output Signal     |                               |               |                  |               |              | Communication and I/O Code |
|--------|-------------------------|-------------------------------|---------------|------------------|---------------|--------------|----------------------------|
|        | I/O1 Terminal           | I/O2 Terminal                 | I/O3 Terminal |                  | I/O4 Terminal |              |                            |
|        |                         |                               | I/O3+         | I/O3-            | I/O4+         | I/O4-        |                            |
| Type 0 | —                       | Pulse/Status Output 1 Passive | —             | Modbus C(Common) | Modbus B(D1)  | Modbus A(D0) | M0                         |
| Type 2 | Current Input Active    |                               |               |                  |               |              | M2                         |
| Type 6 | Current Output 2 Active |                               |               |                  |               |              | M6                         |

Note: "Active" means no external power supply, "Passive" means external power supply is required.

**Input/Output (FOUNDATION Fieldbus)**

| Type    | Input/Output Signal |                                                                          |               |               | Communication and I/O code |
|---------|---------------------|--------------------------------------------------------------------------|---------------|---------------|----------------------------|
|         | I/O1 Terminal       | I/O2 Terminal                                                            | I/O3 Terminal | I/O4 Terminal |                            |
| Type F0 | Fieldbus Passive    | Pulse/Status Output 1 Passive<br>* Intended only for the calibration use | —             | —             | F0                         |

**Input/Output (PROFIBUS PA)**

| Type    | Input/Output Signal |                                                                        |               |               | Communication and I/O code |
|---------|---------------------|------------------------------------------------------------------------|---------------|---------------|----------------------------|
|         | I/O1 Terminal       | I/O2 Terminal                                                          | I/O3 Terminal | I/O4 Terminal |                            |
| Type G0 | Fieldbus Passive    | Pulse/Status Output Passive<br>* Intended only for the calibration use | —             | —             | G0                         |

**Input/Output (EtherNet/IP)**

| Type    | Input/Output Signal |             | Communication and I/O code |
|---------|---------------------|-------------|----------------------------|
|         | PORT1               | PORT2       |                            |
| Type P0 | EtherNet/IP         | EtherNet/IP | P0                         |



**Input Signal**

- **Current Input (Active) (Type H, J, K, 2)**  
4 to 20 mA DC temperature signal from two-wire type transmitter.  
Internal Power Supply: 24 V DC  $\pm 20$  %, Current Range: 2.4 to 21.6 mA
- **Status Input (Dry contact) (Type C, E, F, G, K)**  
Load Resistance:  
200  $\Omega$  or less (ON), 100 k $\Omega$  or more (OFF)

**Output Signal**

- **Current Output (Active) (Type A to K, 6)**  
4 to 20 mA DC signal  
Load Resistance:  
750  $\Omega$  maximum, including cable resistance
- **Current Output (Passive) (Type H)**  
4 to 20 mA DC signal  
External Power Supply: 10.5 to 32 V DC  
Load Resistance:  
911  $\Omega$  maximum, including cable resistance
- **Current Output (Passive) (Type P to T)**  
4 to 20 mA DC signal  
External Power Supply: 10.5 to 30 V DC  
Load Resistance:  
826  $\Omega$  maximum, including cable resistance
- **Pulse/Status Output (Passive) (Type A to K, P, Q, T, 0, 2, 6, F0, G0)**  
Transistor contact output (open collector)  
Contact Capacity: 30 V DC (OFF), 200 mA (ON)  
Pulse Rate:  
0.0001 to 10000 pps (pulse per second)  
Pulse Width:  
0.05, 0.1, 0.5, 1, 20, 33, 50, 100, 200, 330, 500, 1000, 2000 ms, or Duty cycle 50% (Maximum pulse width 5 minutes) configurable  
Frequency Output Range: 1 to 12500 Hz
- **Pulse/Status Output (Passive) NAMUR (Type R, S)**  
Refer to EN 60947-5-6.
- **Pulse/Status Output (Active) Without Internal Resistor (Type G)**
  - Driving Electronic Counter  
Load Resistance: 1 k $\Omega$  or more,  
Internal Power Supply: 24 V DC  $\pm 20$  %  
Pulse Rate:  
0.0001 to 10000 pps (pulse per second)  
Pulse Width:  
0.05, 0.1, 0.5, 1, 20, 33, 50, 100, 200, 330, 500, 1000, 2000 ms, or Duty cycle 50% (Maximum pulse width 5 minutes) configurable  
Frequency Output Range: 1 to 12500 Hz
  - Driving Electromechanical Counter  
Maximum Current: 150 mA,  
Internal Power Supply: 24 VDC  $\pm 20$  %  
Pulse Rate: 0.0001 to 2 pps (pulse per second)  
Pulse Width: 20, 33, 50, or 100 ms configurable
- **With Internal Resistor (Type F)**  
Internal resistor: 2.2 k $\Omega$ ,  
Internal Power Supply: 24 VDC  $\pm 20$  %  
Pulse Rate:  
0.0001 to 10000 pps (pulse per second)  
Pulse Width:  
0.05, 0.1, 0.5, 1, 20, 33, 50, 100, 200, 330, 500, 1000, 2000 ms, or Duty cycle 50% (Maximum pulse width 5 minutes) configurable

- **Digital communication (RS485 Modbus protocol) (Type 0, 2, 6)**  
2-wire half duplex RS-485 Modbus
- **Digital communication (FOUNDATION Fieldbus) (Type F0)**  
Fieldbus communication signal conforming to the standard specifications (H1) of FOUNDATION Fieldbus.
- **Digital communication (PROFIBUS PA) (Type G0)**  
Fieldbus communication signal conforming to the standard specifications of PROFIBUS PA.
- **Digital communication (EtherNet/IP) (Type P0)**  
Refer to GS 01E21F02-02EN.

**Temperature Input Processing Function:**

Input current signal as temperature difference or absolute temperature. It can be used for temperature check by parameter, mass flow calculation by density correction, and calorie calculation.

**Flow Calculation Function:**Excitation Method:

- Dual Frequency Excitation for sizes 2.5 to 400 mm (0.1 to 16 in.)
- Pulsed DC Excitation for size 500 mm (20 in.)  
Enhanced Dual Frequency Excitation for sizes 25 to 200 mm (1 to 8 in.). Optional code HF2.

Span Setting:

Span flow can be set in units such as volume flow rate, mass flow rate, time, and flow rate value. The velocity unit can also be set.

Volume Flow Rate Unit:

kcf, cf, mcf, Mgal (US), kgal (US), gal (US), mgal (US), kbbbl (US)\*, bbl (US)\*, mbbl (US)\*,  $\mu$ bbl (US)\*, MI (megaliter), m<sup>3</sup>, kl (kiloliter), l (liter), cm<sup>3</sup>  
\*: "US Oil" or "US Beer" can be selected.

Mass Flow Rate Unit:

klb (US), lb (US), t (ton), kg, g

Calorie Unit:

MJ, kJ, J, kcal, cal, BTU (Specific heat setting and temperature input required)

Velocity Unit: ft, m (meter)

Time Unit: s (second), min (minute), h (hour), d (day)

Mass Flow Rate Processing:

The mass flow rate  $V_m$  is obtained in the following expression.

$$V_m = V_f \times \rho$$

$V_m$ : Mass flow rate [kg/s]

$V_f$ : Volume flow rate [m<sup>3</sup>/s]

$\rho$ : Density [kg/m<sup>3</sup>]

Calorie Processing:

The calorie Q is obtained in the following expression.

$$Q = c \times V_m \times \Delta T$$

Q: Calorie [J/s]

C: Specific heat [J/kg·K]

$V_m$ : Mass flow rate [kg/s]

$\Delta T$ : Temperature difference [K]

**Damping Function (63% response):**

Can be set for each measurement value of flow velocity, volume flow rate, mass flow rate, calorie, flow noise.

**Output Damping:**

For each measured value, the time constant for instantaneous value output (0.1 to 200.0 seconds, shipped with 3.0 seconds) and the time constant for totalization / pulse output (0.0 to 200.0 seconds, shipped with 3.0 seconds) can be individually set. In the case of piston pump etc., it is possible to measure pulsatile flow up to 1 Hz with output damping 0.1 seconds. However, note that decreasing damping time generally increases output fluctuation.

**Display Damping:**

A common time constant can be set for each screen display value of each measurement value. Time constant 0.0 to 200.0 seconds (shipped with 0.0 seconds).

**Current Output:**

Current signal (4 to 20 mA DC) proportional to instantaneous flow rate is output.

**Pulse Output:**

The totalized value of the flow rate is converted into the number of pulses converted by the pulse rate, and is output.

**Frequency Output:**

Frequency signal (Duty 50%) proportional to the instantaneous value of the flow rate is output. Output terminal is shared with pulse output.

**Totalization Function:**

Three independent totalizers can be allocated independently, including the start and stop of integration, for each measured value of volume flow rate, mass flow rate, and calorie.

**Totalization Type:**

Forward / reverse difference flow totalization, Absolute value totalization, Forward direction totalization, Reverse direction totalization

**Totalization Display:**

Select from actual flow rate display or count value display scaled by counter conversion rate.

**Low-cut Function:**

For each current output, pulse output, or frequency output, the output signal below the set actual flow rate can be cut. (\*). It is independent for current output, common for pulse output and frequency output.

\*: When "Forward and Reverse Flow Measurement" or "Absolute Range" is used, the output signal below the set actual flow rate value against the absolute value of the measured one is cut.

**Output Processing Function:****Multi-range:**

Flow range can be switched to two ranges by status input or automatic switching. By status output, it is possible to identify in what range the measurement is being measured, and the status is also displayed on the display.

**Forward and Reverse Flow Measurement:**

Flow rate measurement in both forward and reverse directions is possible. By status output, it is possible to identify in which direction the measurement is being performed, and the status is also displayed on the display.

**Absolute Range:**

With 12 mA as flow rate zero, measurements in the forward (12 to 20 mA) and reverse (4 to 12 mA) directions are possible in a single range.

**Totalization Switch:**

Status signal is output when the totalized value becomes equal to or larger than the set value.

**Preset Totalization:**

By parameter setting or status input, the totalized value is preset to zero or a set value.

**0% Signal Lock:**

With status input, the current output is forcibly fixed to 0%. Mode is selectable whether to continue output processing for instantaneous flow rate display/ pulse output/ flow rate totalization or to fix flow rate at 0.

**Alarm Function:****Alarm Configuration:**

Alarms are classified into system alarm (device failure), process alarm, setting alarm, and warning. Alarm output availability can be selected for each item.

**Current Output at Alarm Occurrence:**

The current output at alarm occurrence is arbitrarily selected from 2.4 mA or less, 3.8 mA fixed, 4 mA fixed, 20.5 mA fixed, 21.6 mA or more, measured value, or HOLD.

**Alarm Countermeasure Indication:**

A specific countermeasure method can be displayed on the display when an alarm occurs.

**Alarm Type:****System Alarm:**

CPU failure, A/D converter failure, Sensor coil circuit break (open), Sensor coil short circuit

**Process Alarm:**

Input signal error (signal overflow), Sensor empty pipe, Electrode adhesion (of insulator)

**Setting Alarm:**

Detect inconsistency in parameter setting

**Warning:**

Warning in a state where measurement can be continued

**Alarm History:** Keep history of up to four alarms.

**Verification Function:**

Function to diagnose the soundness of the device itself. Diagnose the magnetic circuit, excitation circuit, arithmetic processing circuit, etc. offline (i.e. flow measurement function stopped) and display the result without demounting the device from piping.

**Data Management Function:****Store / Restore Function of Parameters:**

Main parameters can be stored and restored using nonvolatile memory of display unit. The restore can also be used for copying parameters to another device (except for parameters under unmatched specification for the devices). When optional code MC is selected, this function is also available by using microSD card.

#### Data Logging Function (when optional code MC (microSD card) is selected):

It is possible to log up to four process data at the same time. In addition to displaying the logged results on the trend screen, it is also possible to connect the microSD card to a PC and retrieve the data.

##### Logging Cycle:

1 second, 10 seconds, 30 seconds, 1 minute, 5 minutes, 30 minutes, 1 hour

##### Logging Time:

10 minutes, 30 minutes, 1 hour, 3 hours, 12 hours, 24 hours, 72 hours, 240 hours, 720 hours, 1440 hours

##### Logging Data:

Flow velocity, Volume flow rate, Mass flow rate, Calorie, Flow noise, Adhesion resistance, Electrode potential (A, B), Flow signal peak value

#### Data Security During Power Failure:

Protection of data, such as parameters and integrated values, by nonvolatile memory at power failure.

#### Factory Default Parameter Restore:

It is possible to restore the parameters to the values that were set at the time of factory shipment.

#### **Lightning Protection:**

Built-in lightning protector for excitation(\*), signal common(\*), input/output terminals, and power supply terminal.

Test Standard: IEC61000-4-5

##### Test Method:

Series mode 1 kV / Common mode 2 kV

Surge waveform 8/20 μS

\*: Integral Flowmeter is excluded.

## ■ CONFORMITY STANDARDS

If exporting the product, it must be fully complied with all applicable laws and regulations.

#### **Safety Requirements:**

EN61010-1

EN61010-2-030

CAN/CSA-C22.2 No.61010-1

CAN/CSA-C22.2 No.61010-2-30

CAN/CSA-C22.2 No.94.2

UL 61010-1

UL 61010-2-030

UL 50E

IEC 60529

Altitude at Installation Site:

Max. 2000 m above sea level

Installation Category (Overvoltage category): II

Micro Pollution Degree: 2

Macro Pollution Degree: 4

Protection Degree:

General-purpose: IP66/IP67, Type 4X (CSA)

Submersible: IP68\*

Explosion Protection: Read "Explosion Protection".

Hygienic: IP66/IP67, Type 4X (CSA)

Hygienic with Explosion Protection: Read "Explosion Protection".

\* Conforming to continuous dive under the test conditions as follows;

1 month with fresh water and 50 m under the water surface (hydraulic pressure 0.5 MPa). However, adverse conditions such as sewage and seawater are excluded.

Protect the cable by appropriate means, such as protected separately with conduit piping.

#### **EMC:**

EN61326-1 Class A, Table 2

EN61326-2-3

EN61326-2-5

(only for AXG integral type flow meter and AXG4A transmitter combined with AXG sensor)

EN61000-3-2 Class A

EN61000-3-3

#### **CE marking (optional code EC):**

CE marking is attached to non-Explosion protected type, ATEX Explosion protected type and IECEx Explosion protected type.

The product which is attaching CE marking is in conformity with the statutory requirements of the applicable EU Directives.

#### **EU RoHS Directive:**

Note: Only applicable when optional code EC (CE marking) is selected.

#### **Sanitary Standard:**

3-A Sanitary Certification\* (optional code 3A)

\*: Only for process connection code HAB (Tri-Clamp)

#### **Morocco conformity mark :**

This conformity mark indicates that the product complies with Moroccan safety and EMC requirements.

Note: Applicable for AXG002 to 500. Except INMETRO explosion protection type, code UF2.

#### **Functional safety standard:**

IEC 61508 (Parts 1 - 7: 2010; compliant with

Functional Safety of Electrical/Electronic/

Programmable Electronic Safety-related Systems)

This product can be used in safety instrumented systems up to SIL2 in simplex configuration and SIL3 in redundant configuration.

For details, please refer to IM01E21A21-02EN

(ADMAG TI Series AXG/AXW Magnetic Flowmeter Safety Manual).

**PED (Pressure Equipment Directive):**

Note: Applicable only when optional code EC (CE marking) is selected.

- **Technical Data**

Module: H

Type of Equipment: Piping

Type of Fluid: Liquid and Gas

Group of Fluid\*4: 1 and 2

- **General-purpose, Submersible, and Explosion Protection**

| MODEL  | PROCESS CONNECTION | DN*1<br>(mm) | PS*1  |       | PS•DN    |          | CATEGORY*2, *4                     |
|--------|--------------------|--------------|-------|-------|----------|----------|------------------------------------|
|        |                    |              | (bar) | (MPa) | (bar•mm) | (MPa•mm) |                                    |
| AXG002 | Wafer, Flange      | 2.5          | 40    | 4     | 100      | 10       | Sound Engineering Practice (SEP)*3 |
| AXG005 | Wafer, Flange      | 5            | 40    | 4     | 200      | 20       | Sound Engineering Practice (SEP)*3 |
| AXG010 | Wafer, Flange      | 10           | 40    | 4     | 400      | 40       | Sound Engineering Practice (SEP)*3 |
| AXG015 | Wafer, Flange      | 15           | 40    | 4     | 600      | 60       | Sound Engineering Practice (SEP)*3 |
| AXG025 | Wafer, Flange      | 25           | 40    | 4     | 1000     | 100      | Sound Engineering Practice (SEP)*3 |
| AXG032 | Wafer, Flange      | 32           | 40    | 4     | 1280     | 128      | II                                 |
| AXG040 | Wafer, Flange      | 40           | 40    | 4     | 1600     | 160      | II                                 |
| AXG050 | Wafer, Flange      | 50           | 40    | 4     | 2000     | 200      | II                                 |
| AXG065 | Wafer, Flange      | 65           | 40    | 4     | 2600     | 260      | II                                 |
| AXG080 | Wafer, Flange      | 80           | 40    | 4     | 3200     | 320      | II                                 |
| AXG100 | Wafer, Flange      | 100          | 40    | 4     | 4000     | 400      | III                                |
| AXG125 | Wafer              | 125          | 20    | 2     | 2500     | 250      | II                                 |
|        | Flange             | 125          | 40    | 4     | 5000     | 500      | III                                |
| AXG150 | Wafer              | 150          | 20    | 2     | 3000     | 300      | II                                 |
|        | Flange             | 150          | 40    | 4     | 6000     | 600      | III                                |
| AXG200 | Wafer              | 200          | 20    | 2     | 4000     | 400      | III                                |
|        | Flange             | 200          | 40    | 4     | 8000     | 800      | III                                |
| AXG250 | Flange             | 250          | 20    | 2     | 5000     | 500      | III                                |
| AXG300 | Flange             | 300          | 20    | 2     | 6000     | 600      | III                                |
| AXG350 | Flange             | 350          | 18    | 1.8   | 6300     | 630      | III                                |
| AXG400 | Flange             | 400          | 16    | 1.6   | 6400     | 640      | III                                |

- **Hygienic, and Hygienic Explosion Protection**

| MODEL  | DN*1<br>(mm) | PS*1  |       | PS•DN    |          | CATEGORY*2, *4                     |
|--------|--------------|-------|-------|----------|----------|------------------------------------|
|        |              | (bar) | (MPa) | (bar•mm) | (MPa•mm) |                                    |
| AXG015 | 15           | 10    | 1     | 150      | 15       | Sound Engineering Practice (SEP)*3 |
| AXG025 | 25           | 10    | 1     | 250      | 25       | Sound Engineering Practice (SEP)*3 |
| AXG032 | 32           | 10    | 1     | 320      | 32       | I                                  |
| AXG040 | 40           | 10    | 1     | 400      | 40       | I                                  |
| AXG050 | 50           | 10    | 1     | 500      | 50       | I                                  |
| AXG065 | 65           | 10    | 1     | 650      | 65       | I                                  |
| AXG080 | 80           | 10    | 1     | 800      | 80       | I                                  |
| AXG100 | 100          | 10    | 1     | 1000     | 100      | I                                  |
| AXG125 | 125          | 10    | 1     | 1250     | 125      | II                                 |

\*1: PS: Maximum allowable pressure for Pipe

PS indicates the allowable pressure for pipe of the Magnetic flowmeter at PED certification, and is different from the maximum working pressure as the Magnetic flowmeter.

DN: Nominal size

\*2: For details, refer to "Table 6 covered by ANNEX II of Directive 2014/68/EU".

\*3: Article 4, paragraph 3 of Directive 2014/68/EU

\*4: Models classified in categories I or II shall not be used for unstable gases of Group 1.

**CRN (Canadian Registration Number):**

Note: Applicable only when optional code CS (Canada domestic sales) is selected.

CRN is a registration number for pressure equipment, required to use it in each Canadian province or territory.

Integral flowmeter and Remote sensor (for size 2.5 to 400 mm) are registered by all provinces and territories in Canada.

## ■ HAZARDOUS AREA CLASSIFICATION

Select appropriate equipment in accordance with the laws and regulations of the relevant country/region, when it is used in a location where explosive atmospheres may be present.

### ATEX

Applicable Standard:  
EN IEC 60079-0, EN 60079-1, EN IEC 60079-7,  
EN 60079-11, EN 60079-31  
Certificate: FM 17ATEX0031X

### (Integral Flowmeter)

#### Flameproof (Explosion Protection Code: KF2)

##### Type of Gas Atmosphere Protection

Group: II  
Category: 2G  
Type of Protection:  
Ex db eb ia IIC T6...T3 Gb  
(Transmitter Wiring Terminal: M4 screw type)  
Ex db eb ia IIC T6...T3 Gb  
Terminal Compartment: Ex db or Ex eb  
(Transmitter Wiring Terminal: Clamp type)

##### Type of Dust Atmosphere Protection

Group: II  
Category: 2D  
Type of Protection:  
Ex tb IIIC T75°C...T130°C Db

Enclosure: IP66/IP67 in accordance with EN 60529

Maximum Surface Temperature:

See Table(a) and Table(b)

Ambient Temperature:

See Table(a) and Table(b)

Process Temperature:

See Table(a) and Table(b)

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.

Um: 250 V

Current I/O: 4 to 20 mA, 32 Vd.c. max.

Digital I/O: 30 Vd.c. max., 200 mA max.

Fieldbus I/O: 32 Vd.c. max., 15 mA max.

Modbus I/O: 5 Vd.c. typ.

#### Flameproof with Intrinsically Safe output (Explosion Protection Code: KJ2)

##### Type of Gas Atmosphere Protection:

Group: II  
Category: 2(1)G  
Type of Protection:  
Ex db eb ia [ia Ga] IIC T6...T3 Gb  
Terminal Compartment: Ex db or Ex eb  
(Transmitter Wiring Terminal: Clamp type)

##### Type of Dust Atmosphere Protection

Group: II  
Category: 2(1)D  
Type of Protection:  
Ex tb [ia Da] IIIC T75°C...T130°C Db

Enclosure: IP66/IP67 in accordance with EN 60529

Maximum Surface Temperature:

See Table(a) and Table(b)

Ambient Temperature:

See Table(a) and Table(b)

Process Temperature:

See Table(a) and Table(b)

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Iout1(+, -), Iout2(+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 4.84 nF, Li: 12 µH

Terminals: P/Sout1(+, -), P/Sout2(+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

#### Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus / PROFIBUS PA (Explosion Protection Code: KT2)

##### Type of Gas Atmosphere Protection:

Group: II  
Category: 2(1)G  
Type of Protection:  
Ex db eb ia [ia Ga] IIC T6...T3 Gb  
Terminal Compartment: Ex db or Ex eb  
(Transmitter Wiring Terminal: Clamp type)

##### Type of Dust Atmosphere Protection

Group: II  
Category: 2(1)D  
Type of Protection:  
Ex tb [ia Da] IIIC T75°C...T130°C Db

Enclosure: IP66/IP67 in accordance with EN 60529

Maximum Surface Temperature:

See Table(a) and Table(b)

Ambient Temperature:

See Table(a) and Table(b)

Process Temperature:

See Table(a) and Table(b)

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Fieldbus (+, -)

FISCO field device or

Ui: 30 V, Ii: 380 mA, Pi: 5.32 W, Ci: 5 nF, Li: 10 µH

Terminals: P/Sout1 (+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

### (Remote Sensor)

#### Flameproof (Explosion Protection Code: KF2)

##### Type of Gas Atmosphere Protection

Group: II  
Category: 2G  
Type of Protection:  
Ex db eb ia IIC T6...T3 Gb

##### Type of Dust Atmosphere Protection

Group: II  
Category: 2D  
Type of Protection:  
Ex tb IIIC T75°C...T150°C Db

Enclosure: IP66/IP67 in accordance with EN 60529

Maximum Surface Temperature:

See Table(a) and Table(b)

Ambient Temperature:

See Table(a) and Table(b)



Process Temperature:  
See Table(a) and Table(b)  
Um: 250 V

**(Remote Transmitter)**

**Flameproof (Explosion Protection Code: KF2)**

**Type of Gas Atmosphere Protection**

Group: II  
Category: 2G  
Type of Protection:  
Ex db IIC T6 Gb  
(Transmitter Wiring Terminal: M4 screw type)  
Ex db IIC T6 Gb or Ex db eb IIC T6 Gb  
(Transmitter Wiring Terminal: Clamp type)

**Type of Dust Atmosphere Protection**

Group: II  
Category: 2D  
Type of Protection:  
Ex tb IIIC T75°C Db

Enclosure: IP66/IP67 in accordance with EN 60529  
Maximum Surface Temperature: T75°C  
Ambient Temperature: -40°C to +60°C  
Power Supply:  
100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.  
Current I/O: 4 to 20 mA, 32 Vd.c. max.  
Digital I/O: 30 Vd.c. max., 200 mA max.  
Fieldbus I/O: 32 Vd.c max., 15 mA max.  
Modbus I/O: 5 Vd.c. typ.

**Flameproof with Intrinsically Safe output  
(Explosion Protection Code: KJ2)**

**Type of Gas Atmosphere Protection**

Group: II  
Category: 2(1)G  
Type of Protection:  
Ex db [ia Ga] IIC T6...T3 Gb or  
Ex db eb [ia Ga] IIC T6...T3 Gb  
(Transmitter Wiring Terminal: Clamp type)

**Type of Dust Atmosphere Protection**

Group: II  
Category: 2(1)D  
Type of Protection:  
Ex tb [ia Da] IIIC T75°C Db

Enclosure: IP66/IP67 in accordance with EN 60529  
Maximum Surface Temperature: T75°C  
Ambient Temperature: -40°C to +60°C  
Power Supply:  
100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.  
Electrical parameters:  
Terminals: L/+, N/-  
Um: 250 V  
Terminals: lout1(+, -), lout2(+, -)  
Ui: 30 V, li: 300 mA, Pi: 1.25 W, Ci: 4.84 nF, Li: 12 µH  
Terminals: P/Sout1(+, -), P/Sout2(+, -)  
Ui: 30 V, li: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

**Flameproof with Intrinsically Safe output for  
FOUNDATION Fieldbus / PROFIBUS PA  
(Explosion Protection Code: KT2)**

**Type of Gas Atmosphere Protection**

Group: II  
Category: 2(1)G  
Type of Protection:  
Ex db [ia Ga] IIC T6...T3 Gb or  
Ex db eb [ia Ga] IIC T6...T3 Gb  
(Transmitter Wiring Terminal: Clamp type)

**Type of Dust Atmosphere Protection**

Group: II  
Category: 2(1)D  
Type of Protection:  
Ex tb [ia Da] IIIC T75°C Db

Enclosure: IP66/IP67 in accordance with EN 60529  
Maximum Surface Temperature: T75°C  
Ambient Temperature: -40°C to +60°C  
Power Supply:  
100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.  
Electrical parameters:  
Terminals: L/+, N/-  
Um: 250 V  
Terminals: Fieldbus (+, -)  
FISCO field device or  
Ui: 30 V, li: 380 mA, Pi: 5.32 W, Ci: 5 nF, Li: 10 µH  
Terminals: P/Sout1 (+, -)  
Ui: 30 V, li: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

Table (a): Temperature Table (ATEX)

| Model                                                                                  | Size                          | Process Connection            | Lining        | Temperature Table* |               |
|----------------------------------------------------------------------------------------|-------------------------------|-------------------------------|---------------|--------------------|---------------|
|                                                                                        |                               |                               |               | Integral Flowmeter | Remote Sensor |
| AXG002, AXG005, AXG010, AXG015                                                         | 2.5 to 15 mm (0.1 to 0.5 in.) | Wafer, Flange                 | PFA Lining    | Table A            | Table C       |
| AXG025, AXG032, AXG040, AXG050, AXG065, AXG080, AXG100, AXG125                         | 25 to 125 mm (1 to 5 in.)     | Wafer, Flange                 | PFA Lining    | Table B            | Table D       |
| AXG150, AXG200, AXG250, AXG300, AXG350, AXG400                                         | 150 to 400 mm (6 to 16 in.)   | Wafer, Flange                 | PFA Lining    | Table A            | Table C       |
| AXG015, AXG025, AXG032, AXG040, AXG050, AXG065, AXG080, AXG100, AXG125                 | 15 to 125 mm (0.5 to 5 in.)   | Clamp, Union, Butt Weld Joint | PFA Lining    | Table E            | Table F       |
| AXG002, AXG005, AXG010, AXG015, AXG025, AXG040, AXG050, AXG080, AXG100, AXG150, AXG200 | 2.5 to 200 mm (0.1 to 8 in.)  | Wafer                         | Ceramics Tube | Table G            | Table H       |

\*: For details, see Table No. on Table (b).

Table (b): Ambient Temperature and Process Temperature (ATEX)

| Table No. | Ambient Temperature | Temperature Class | Maximum Surface Temperature | Process Temperature |
|-----------|---------------------|-------------------|-----------------------------|---------------------|
| A         | -40°C to +60°C      | T6                | T75°C                       | -40°C to +75°C      |
|           |                     | T5                | T90°C                       | -40°C to +90°C      |
|           |                     | T4                | T120°C                      | -40°C to +120°C     |
|           |                     | T3                | T130°C                      | -40°C to +130°C     |
| B         | -40°C to +45°C      | T6                | T75°C                       | -40°C to +50°C      |
|           | -40°C to +60°C      | T5                | T90°C                       | -40°C to +75°C      |
|           |                     | T4                | T120°C                      | -40°C to +120°C     |
|           |                     | T3                | T130°C                      | -40°C to +130°C     |
| C         | -40°C to +60°C      | T6                | T75°C                       | -40°C to +75°C      |
|           |                     | T5                | T90°C                       | -40°C to +90°C      |
|           |                     | T4                | T120°C                      | -40°C to +120°C     |
|           |                     | T3                | T150°C                      | -40°C to +150°C     |
| D         | -40°C to +45°C      | T6                | T75°C                       | -40°C to +50°C      |
|           | -40°C to +60°C      | T5                | T90°C                       | -40°C to +75°C      |
|           |                     | T4                | T120°C                      | -40°C to +120°C     |
|           |                     | T3                | T150°C                      | -40°C to +150°C     |
| E         | -10°C to +45°C      | T6                | T75°C                       | -10°C to +50°C      |
|           | -10°C to +60°C      | T5                | T90°C                       | -10°C to +75°C      |
|           |                     | T4                | T120°C                      | -10°C to +120°C     |
|           |                     | T3                | T130°C                      | -10°C to +130°C     |
| F         | -10°C to +45°C      | T6                | T75°C                       | -10°C to +50°C      |
|           | -10°C to +60°C      | T5                | T90°C                       | -10°C to +75°C      |
|           |                     | T4                | T120°C                      | -10°C to +120°C     |
|           |                     | T3                | T150°C                      | -10°C to +150°C     |
| G         | -10°C to +60°C      | T6                | T75°C                       | -10°C to +75°C      |
|           |                     | T5                | T90°C                       | -10°C to +90°C      |
|           |                     | T4                | T120°C                      | -10°C to +120°C     |
|           |                     | T3                | T130°C                      | -10°C to +130°C     |
| H         | -10°C to +60°C      | T6                | T75°C                       | -10°C to +75°C      |
|           |                     | T5                | T90°C                       | -10°C to +90°C      |
|           |                     | T4                | T120°C                      | -10°C to +120°C     |
|           |                     | T3                | T150°C                      | -10°C to +150°C     |

**IECEx**

Applicable Standard:  
IEC 60079-0, IEC 60079-1, IEC 60079-7,  
IEC 60079-11, IEC 60079-31  
Certificate: IECEx FMG 17.0014X

**(Integral Flowmeter)****Flameproof (Explosion Protection Code: SF2)****Type of Gas Atmosphere Protection**

Ex db eb ia IIC T6...T3 Gb  
(Transmitter Wiring Terminal: M4 screw type)  
Ex db eb ia IIC T6...T3 Gb  
Terminal Compartment: Ex db or Ex eb  
(Transmitter Wiring Terminal: Clamp type)

**Type of Dust Atmosphere Protection**

Ex tb IIIC T75°C...T130°C Db

Enclosure: IP66/IP67 in accordance with IEC 60529

Maximum Surface Temperature:

See Table(c) and Table(d).

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Um: 250 V

Current I/O: 4 to 20 mA, 32 Vd.c. max.

Digital I/O: 30 Vd.c. max., 200 mA max.

Fieldbus I/O: 32 Vd.c max., 15 mA max.

Modbus I/O: 5 Vd.c. typ.

**Flameproof with Intrinsically Safe output (Explosion Protection Code: SJ2)****Type of Gas Atmosphere Protection**

Ex db eb ia [ia Ga] IIC T6...T3 Gb  
Terminal Compartment: Ex db or Ex eb  
(Transmitter Wiring Terminal: Clamp type)

**Type of Dust Atmosphere Protection**

Ex tb [ia Da] IIIC T75°C...T130°C Db

Enclosure: IP66/IP67 in accordance with IEC 60529

Maximum Surface Temperature:

See Table(c) and Table(d).

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Iout1(+, -), Iout2(+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 4.84 nF, Li: 12 µH

Terminals: P/Sout1(+, -), P/Sout2(+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

**Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus / PROFIBUS PA (Explosion Protection Code: ST2)****Type of Gas Atmosphere Protection**

Ex db eb ia [ia Ga] IIC T6...T3 Gb  
Terminal Compartment: Ex db or Ex eb  
(Transmitter Wiring Terminal: Clamp type)

**Type of Dust Atmosphere Protection**

Ex tb [ia Da] IIIC T75°C...T130°C Db

Enclosure: IP66/IP67 in accordance with IEC 60529

Maximum Surface Temperature:

See Table(c) and Table(d).

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Fieldbus (+, -)

FISCO field device or

Ui: 30 V, Ii: 380 mA, Pi: 5.32 W, Ci: 5 nF, Li: 10 µH

Terminals: P/Sout1 (+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

**(Remote Sensor)****Flameproof (Explosion Protection Code: SF2)****Type of Gas Atmosphere Protection**

Ex db eb ia IIC T6...T3 Gb

**Type of Dust Atmosphere Protection**

Ex tb IIIC T75°C...T150°C Db

Enclosure: IP66/IP67 in accordance with IEC 60529

Maximum Surface Temperature:

See Table(c) and Table(d).

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Um: 250 V

**(Remote Transmitter)****Flameproof (Explosion Protection Code: SF2)****Type of Gas Atmosphere Protection**

Ex db IIC T6 Gb  
(Transmitter Wiring Terminal: M4 screw type)  
Ex db IIC T6 Gb or Ex db eb IIC T6 Gb  
(Transmitter Wiring Terminal: Clamp type)

**Type of Dust Atmosphere Protection**

Ex tb IIIC T75°C Db

Enclosure: IP66/IP67 in accordance with IEC 60529

Maximum Surface Temperature: T75°C

Ambient Temperature: -40°C to +60°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Current I/O: 4 to 20 mA, 32 Vd.c. max.

Digital I/O: 30 Vd.c. max., 200 mA max.

Fieldbus I/O: 32 Vd.c max., 15 mA max.

Modbus I/O: 5 Vd.c. typ.

### Flameproof with Intrinsically Safe output (Explosion Protection Code: SJ2)

#### Type of Gas Atmosphere Protection

Ex db [ia Ga] IIC T6...T3 Gb or  
Ex db eb [ia Ga] IIC T6...T3 Gb  
(Transmitter Wiring Terminal: Clamp type)

#### Type of Dust Atmosphere Protection

Ex tb [ia Da] IIIC T75°C Db

Enclosure: IP66/IP67 in accordance with IEC 60529

Maximum Surface Temperature: T75°C

Ambient Temperature: -40°C to +60°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Iout1(+, -), Iout2(+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 4.84 nF, Li: 12 µH

Terminals: P/Sout1(+, -), P/Sout2(+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

### Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus / PROFIBUS PA (Explosion Protection Code: ST2)

#### Type of Gas Atmosphere Protection

Ex db [ia Ga] IIC T6...T3 Gb or  
Ex db eb [ia Ga] IIC T6...T3 Gb  
(Transmitter Wiring Terminal: Clamp type)

#### Type of Dust Atmosphere Protection

Ex tb [ia Da] IIIC T75°C Db

Enclosure: IP66/IP67 in accordance with IEC 60529

Maximum Surface Temperature: T75°C

Ambient Temperature: -40°C to +60°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Fieldbus (+, -)

FISCO field device or

Ui: 30 V, Ii: 380 mA, Pi: 5.32 W, Ci: 5 nF, Li: 10 µH

Terminals: P/Sout1 (+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

### FM (USA)

Applicable Standard:

FM 3600, FM3610, FM3615, FM3616, FM3810,  
ANSI/UL 50E, NEMA 250, ANSI/UL 60079-0,  
ANSI/UL 60079-7, ANSI/UL 60079-11,  
ANSI/UL 60079-18, ANSI/UL 61010-1,  
ANSI/UL 61010-2-30

Certificate:

FM17US0140X

### (Integral Flowmeter)

### Flameproof (Explosion Protection Code: FF2)

#### Type of Protection:

Explosionproof and Special protection for Class I,  
Division 1, Groups A, B, C and D.

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

with Intrinsically Safe Electrodes for Class I,  
Division 1, Groups A, B, C and D.

Temperature Class T6...T3.

Enclosure: Type 4X

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Um: 250 V

Current I/O: 4 to 20 mA, 32 Vd.c. max.

Digital I/O: 30 Vd.c. max., 200 mA max.

Fieldbus I/O: 32 Vd.c. max., 15 mA max.

Modbus I/O: 5 Vd.c. typ.

### Flameproof with Intrinsically Safe output (Explosion Protection Code: FJ2)

#### Type of Protection:

Explosionproof and Special protection for Class I,  
Division 1, Groups A, B, C and D.

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

with Intrinsically Safe Electrodes for Class I,  
Division 1, Groups A, B, C and D.

Associated Apparatus for Class I,II,III, Division 1,  
Groups A, B, C, D, E, F and G.

Temperature Class T6...T3.

Enclosure: Type 4X

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Iout1(+, -), Iout2(+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 4.84 nF, Li: 12 µH

Terminals: P/Sout1(+, -), P/Sout2(+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

**Flameproof with Intrinsically Safe output for  
FOUNDATION Fieldbus / PROFIBUS PA  
(Explosion Protection Code: FT2)**

**Type of Protection:**

Explosionproof and Special protection for Class I,  
Division 1, Groups A, B, C and D.  
Dust-Ignitionproof for Class II,III, Division 1,  
Groups E, F and G.  
with Intrinsically Safe Electrodes for Class I,  
Division 1, Groups A, B, C and D.  
Associated Apparatus for Class I,II,III, Division 1,  
Groups A, B, C, D, E, F and G.  
Temperature Class T6...T3.

Enclosure: Type 4X

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Fieldbus (+, -)

FISCO field device or

Ui: 30 V, Ii: 380 mA, Pi: 5.32 W, Ci: 5 nF, Li: 10 µH

Terminals: P/Sout1 (+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

**(Remote Sensor)**

**Flameproof (Explosion Protection Code: FF2)**

**Type of Protection:**

Explosionproof and Special Protection for Class I,  
Division 1, Groups A, B, C and D.  
Dust-Ignitionproof for Class II,III, Division 1,  
Groups E, F and G.  
with Intrinsically Safe Electrodes for Class I,  
Division 1, Groups A, B, C and D.  
Temperature Class T6...T3.

Enclosure: Type 4X

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Um: 250 V

**(Remote Transmitter)**

**Flameproof (Explosion Protection Code: FF2)**

**Type of Protection:**

Explosionproof for Class I, Division 1, Groups A, B,  
C and D.  
Dust-Ignitionproof for Class II,III, Division 1,  
Groups E, F and G.  
Temperature Class T6.

Enclosure: Type 4X

Ambient Temperature: -40°C to +60°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Current I/O: 4 to 20 mA, 32 Vd.c. max.

Digital I/O: 30 Vd.c. max., 200 mA max.

Fieldbus I/O: 32 Vd.c max., 15 mA max.

Modbus I/O: 5 Vd.c. typ.

**Flameproof with Intrinsically Safe output  
(Explosion Protection Code: FJ2)**

**Type of Protection:**

Explosionproof for Class I, Division 1, Groups A, B,  
C and D.

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

Associated Apparatus for Class I,II,III, Division 1,  
Groups A, B, C, D, E, F and G.

Temperature Class T6.

Enclosure: Type 4X

Ambient Temperature: -40°C to +60°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Iout1(+, -), Iout2(+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 4.84 nF, Li: 12 µH

Terminals: P/Sout1(+, -), P/Sout2(+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

**Flameproof with Intrinsically Safe output for  
FOUNDATION Fieldbus / PROFIBUS PA  
(Explosion Protection Code: FT2)**

**Type of Protection:**

Explosionproof for Class I, Division 1, Groups A, B,  
C and D.

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

Associated Apparatus for Class I,II,III, Division 1,  
Groups A, B, C, D, E, F and G.

Temperature Class T6.

Enclosure: Type 4X

Ambient Temperature: -40°C to +60°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Fieldbus (+, -)

FISCO field device or

Ui: 30 V, Ii: 380 mA, Pi: 5.32 W, Ci: 5 nF, Li: 10 µH

Terminals: P/Sout1 (+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH



**Japan Flameproof****(Integral Flowmeter)**

Applicable Standard:

JNIOH-TR-46-1

JNIOH-TR-46-2

JNIOH-TR-46-5

JNIOH-TR-46-6

JNIOH-TR-46-9

Construction: Ex db eb ia IIC T4 Gb

Ex tb IIIC T120°C Db

Enclosure: IP66/IP67

Ambient Temperature:

-40°C to +60°C (PFA Lining)

-10°C to +60°C (Ceramics Tube)

Process Temperature:

-40°C to +120°C (PFA Lining)

-10°C to +120°C (Ceramics Tube)

Maximum Surface Temperature: +120°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Um=250 V

Current I/O: 4 to 20 mA, 32 Vd.c. max.

Digital I/O: 30 Vd.c. max., 200 mA max.

Excitation Circuit: 160 V max.

Power consumption: 13 W max.

**(Remote Sensor)**

Applicable Standard:

JNIOH-TR-46-1

JNIOH-TR-46-2

JNIOH-TR-46-5

JNIOH-TR-46-6

JNIOH-TR-46-9

Construction: Ex db eb ia IIC T4 Gb

Ex tb IIIC T120°C Db

Enclosure: IP66/IP67

Ambient Temperature:

-40°C to +60°C (PFA Lining)

-10°C to +60°C (Ceramics Tube)

Process Temperature:

-40°C to +120°C (PFA Lining)

-10°C to +120°C (Ceramics Tube)

Maximum Surface Temperature: +120°C

Um=250 V

Excitation Circuit: 160 V max, 13 W max.

**(Remote Transmitter)**

Applicable Standard:

JNIOH-TR-46-1

JNIOH-TR-46-2

JNIOH-TR-46-9

Construction: Ex db IIC T6 Gb

Ex tb IIIC T75°C Db

Enclosure: IP66/IP67

Ambient Temperature: -40°C to +60°C

Maximum Surface Temperature: +75°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Current I/O: 4 to 20 mA, 32 Vd.c. max.

Digital I/O: 30 Vd.c. max., 200 mA max.

Excitation Circuit: 160 V max.

Power consumption: 13 W max.

**Korea**

Applicable Standard:

Notice of Ministry of Labor No. 2016-54

Harmonized with IEC 60079-0, IEC 60079-1, IEC 60079-7, IEC 60079-11

Certificate:

19-KA4BO-0020X (Integral flowmeter)

19-KA4BO-0022X (Remote Sensor)

19-KA4BO-0021X (Remote Transmitter)

**(Integral Flowmeter)****Type of Gas Atmosphere Protection**

Ex d e ia IIC T6...T3

Enclosure: IP66/IP67 in accordance with IEC 60529

Maximum Surface Temperature:

See Table(c) and Table(d).

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Um: 250 V

Current I/O: 4 to 20 mA, 32 Vd.c. max.

Digital I/O: 30 Vd.c. max., 200 mA max.

**(Remote Sensor)****Type of Gas Atmosphere Protection**

Ex d e ia IIC T6...T3

Enclosure: IP66/IP67 in accordance with IEC 60529

Maximum Surface Temperature:

See Table(c) and Table(d).

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Um: 250 V

**(Remote Transmitter)****Type of Gas Atmosphere Protection**

Ex d IIC T6

Enclosure: IP66/IP67 in accordance with IEC 60529

Maximum Surface Temperature: T75°C

Ambient Temperature: -40°C to +60°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Current I/O: 4 to 20 mA, 32 Vd.c. max.

Digital I/O: 30 Vd.c. max., 200 mA max.

**INMETRO**

Applicable Standard:

ABNT NBR IEC 60079-0  
ABNT NBR IEC 60079-1  
ABNT NBR IEC 60079-7  
ABNT NBR IEC 60079-11  
ABNT NBR IEC 60079-31

Certificate: TÜV 18.3229 X

**(Integral Flowmeter)****Type of Gas Atmosphere Protection**

Ex db eb ia IIC T6...T3 Gb  
(Transmitter Wiring Terminal: M4 screw type)  
Ex db eb ia IIC T6...T3 Gb  
Terminal Compartment: Ex db or Ex eb  
(Transmitter Wiring Terminal: Clamp type)

**Type of Dust Atmosphere Protection**

Ex tb IIIC T75°C...T130°C Db

Enclosure: IP66/IP67 in accordance with IEC 60529

Maximum Surface Temperature:

See Table(c) and Table(d).

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.

Um: 250 V

Current I/O: 4 to 20 mA, 32 Vd.c. max.

Digital I/O: 30 Vd.c. max., 200 mA max.

**(Remote Sensor)****Type of Gas Atmosphere Protection**

Ex db eb ia IIC T6...T3 Gb

**Type of Dust Atmosphere Protection**

Ex tb IIIC T75°C...T150°C Db

Enclosure: IP66/IP67 in accordance with IEC 60529

Maximum Surface Temperature:

See Table(c) and Table(d).

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Um: 250 V

**(Remote Transmitter)****Type of Gas Atmosphere Protection**

Ex db IIC T6 Gb  
(Transmitter Wiring Terminal: M4 screw type)  
Ex db IIC T6 Gb or Ex db eb IIC T6 Gb  
(Transmitter Wiring Terminal: Clamp type)

**Type of Dust Atmosphere Protection**

Ex tb IIIC T75°C Db

Enclosure: IP66/IP67 in accordance with IEC 60529

Maximum Surface Temperature: T75°C

Ambient Temperature: -40°C to +60°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.

Current I/O: 4 to 20 mA, 32 Vd.c. max.

Digital I/O: 30 Vd.c. max., 200 mA max.

**EAC**

Applicable Standard:

ГОСТ 31610.0 (IEC 60079-0), ГОСТ IEC 60079-1,  
ГОСТ Р МЭК 60079-7, ГОСТ 31610.11 (IEC  
60079-11),  
ГОСТ Р МЭК 60079-27, ГОСТ IEC 60079-31  
Certificate: EA3C RU C-JP.AA87.B.00388/20

**(Integral Flowmeter)****Flameproof (Explosion Protection Code: GF2)****Type of Gas Atmosphere Protection**

1Ex db e ia IIC T6...T3 Gb X  
(Transmitter Wiring Terminal: M4 screw type)  
1Ex db e ia IIC T6...T3 Gb X  
Terminal Compartment: Ex db or Ex e  
(Transmitter Wiring Terminal: Clamp type)

**Type of Dust Atmosphere Protection**

Ex tb IIIC T75°C...T130°C Db X

Enclosure: IP66/IP67 in accordance with ГОСТ  
14254

Maximum Surface Temperature:

See Table(c) and Table(d).

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.

Um: 250 V

Current I/O: 4 to 20 mA, 32 Vd.c. max.

Digital I/O: 30 Vd.c. max., 200 mA max.

Fieldbus I/O: 32 Vd.c max., 15 mA max.

**Flameproof with Intrinsically Safe output  
(Explosion Protection Code: GJ2)****Type of Gas Atmosphere Protection**

1Ex db e ia [ia Ga] IIC T6...T3 Gb X  
Terminal Compartment: Ex db or Ex e  
(Transmitter Wiring Terminal: Clamp type)

**Type of Dust Atmosphere Protection**

Ex tb [ia Da] IIIC T75°C...T130°C Db X

Enclosure: IP66/IP67 in accordance with ГОСТ  
14254

Maximum Surface Temperature:

See Table(c) and Table(d).

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Iout1(+, -), Iout2(+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 4.84 nF, Li: 12 µH

Terminals: P/Sout1(+, -), P/Sout2(+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

## Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus

(Explosion Protection Code: GT2)

### Type of Gas Atmosphere Protection

1Ex db e ia [ia Ga] IIC T6...T3 Gb X  
Terminal Compartment: Ex db or Ex e  
(Transmitter Wiring Terminal: Clamp type)

### Type of Dust Atmosphere Protection

Ex tb [ia Da] IIIC T75°C...T130°C Db X

Enclosure: IP66/IP67 in accordance with GOCT 14254

Maximum Surface Temperature:

See Table(c) and Table(d).

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Fieldbus (+, -)

FISCO field device or

Ui: 30 V, Ii: 380 mA, Pi: 5.32 W, Ci: 5 nF, Li: 10 µH

Terminals: P/Sout1 (+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

## (Remote Sensor)

Flameproof (Explosion Protection Code: GF2)

### Type of Gas Atmosphere Protection

1Ex db e ia IIC T6...T3 Gb X

### Type of Dust Atmosphere Protection

Ex tb IIIC T75°C...T150°C Db X

Enclosure: IP66/IP67 in accordance with GOCT 14254

Maximum Surface Temperature:

See Table(c) and Table(d).

Ambient Temperature:

See Table(c) and Table(d).

Process Temperature:

See Table(c) and Table(d).

Um: 250 V

## (Remote Transmitter)

Flameproof (Explosion Protection Code: GF2)

### Type of Gas Atmosphere Protection

1Ex db IIC T6 Gb X

(Transmitter Wiring Terminal: M4 screw type)

1Ex db IIC T6 Gb X or 1Ex db e IIC T6 Gb X

(Transmitter Wiring Terminal: Clamp type)

### Type of Dust Atmosphere Protection

Ex tb IIIC T75°C Db X

Enclosure: IP66/IP67 in accordance with GOCT 14254

Maximum Surface Temperature: T75°C

Ambient Temperature: -40°C to +60°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Current I/O: 4 to 20 mA, 32 Vd.c. max.

Digital I/O: 30 Vd.c. max., 200 mA max.

Fieldbus I/O: 32 Vd.c max., 15 mA max.

## Flameproof with Intrinsically Safe output (Explosion Protection Code: GJ2)

### Type of Gas Atmosphere Protection

1Ex db [ia Ga] IIC T6 Gb X or

1Ex db e [ia Ga] IIC T6 Gb X

(Transmitter Wiring Terminal: Clamp type)

### Type of Dust Atmosphere Protection

Ex tb [ia Da] IIIC T75°C Db X

Enclosure: IP66/IP67 in accordance with GOCT 14254

Maximum Surface Temperature: T75°C

Ambient Temperature: -40°C to +60°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Iout1(+, -), Iout2(+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 4.84 nF, Li: 12 µH

Terminals: P/Sout1(+, -), P/Sout2(+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

## Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus

(Explosion Protection Code: GT2)

### Type of Gas Atmosphere Protection

1Ex db [ia Ga] IIC T6 Gb X or

1Ex db e [ia Ga] IIC T6 Gb X

(Transmitter Wiring Terminal: Clamp type)

### Type of Dust Atmosphere Protection

Ex tb [ia Da] IIIC T75°C Db X

Enclosure: IP66/IP67 in accordance with GOCT 14254

Maximum Surface Temperature: T75°C

Ambient Temperature: -40°C to +60°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.

24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Fieldbus (+, -)

FISCO field device or

Ui: 30 V, Ii: 380 mA, Pi: 5.32 W, Ci: 5 nF, Li: 10 µH

Terminals: P/Sout1 (+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

Table (c): Temperature Table (IECEX, FM (USA), Korea, INMETRO, EAC)

| Model                                                                                  | Size                          | Process Connection            | Lining        | Temperature Table*1 |                     |
|----------------------------------------------------------------------------------------|-------------------------------|-------------------------------|---------------|---------------------|---------------------|
|                                                                                        |                               |                               |               | Integral Flowmeter  | Remote Sensor       |
| AXG002, AXG005, AXG010, AXG015                                                         | 2.5 to 15 mm (0.1 to 0.5 in.) | Wafer, Flange                 | PFA Lining    | Table A             | Table C             |
| AXG025, AXG032, AXG040, AXG050, AXG065, AXG080, AXG100, AXG125                         | 25 to 125 mm (1 to 5 in.)     | Wafer, Flange                 | PFA Lining    | Table B [Table I]*2 | Table D [Table I]*2 |
| AXG150, AXG200, AXG250, AXG300, AXG350, AXG400                                         | 150 to 400 mm (6 to 16 in.)   | Wafer, Flange                 | PFA Lining    | Table A             | Table C             |
| AXG015, AXG025, AXG032, AXG040, AXG050, AXG065, AXG080, AXG100, AXG125                 | 15 to 125 mm (0.5 to 5 in.)   | Clamp, Union, Butt Weld Joint | PFA Lining    | Table E             | Table F             |
| AXG002, AXG005, AXG010, AXG015, AXG025, AXG040, AXG050, AXG080, AXG100, AXG150, AXG200 | 2.5 to 200 mm (0.1 to 8 in.)  | Wafer                         | Ceramics Tube | Table G             | Table H             |

\*1: For details, see Table No. on Table (d).

\*2: When process connection EA4 is specified, table specified inside [] is applied.  
Process connection EA4 can be applicable for AXG025, AXG040, AXG050, AXG080 and AXG100.

Table (d): Temperature Table (IECEX, FM (USA), Korea, INMETRO, EAC)

| Table No. | Ambient Temperature | Temperature Class | Maximum Surface Temperature | Process Temperature |
|-----------|---------------------|-------------------|-----------------------------|---------------------|
| A         | -40°C to +60°C      | T6                | T75°C                       | -40°C to +75°C      |
|           |                     | T5                | T90°C                       | -40°C to +90°C      |
|           |                     | T4                | T120°C                      | -40°C to +120°C     |
|           |                     | T3                | T130°C                      | -40°C to +130°C     |
| B         | -40°C to +45°C      | T6                | T75°C                       | -40°C to +50°C      |
|           | -40°C to +60°C      | T5                | T90°C                       | -40°C to +75°C      |
|           |                     | T4                | T120°C                      | -40°C to +120°C     |
|           |                     | T3                | T130°C                      | -40°C to +130°C     |
| C         | -40°C to +60°C      | T6                | T75°C                       | -40°C to +75°C      |
|           |                     | T5                | T90°C                       | -40°C to +90°C      |
|           |                     | T4                | T120°C                      | -40°C to +120°C     |
|           |                     | T3                | T150°C                      | -40°C to +150°C     |
| D         | -40°C to +45°C      | T6                | T75°C                       | -40°C to +50°C      |
|           | -40°C to +60°C      | T5                | T90°C                       | -40°C to +75°C      |
|           |                     | T4                | T120°C                      | -40°C to +120°C     |
|           |                     | T3                | T150°C                      | -40°C to +150°C     |
| E         | -10°C to +45°C      | T6                | T75°C                       | -10°C to +50°C      |
|           | -10°C to +60°C      | T5                | T90°C                       | -10°C to +75°C      |
|           |                     | T4                | T120°C                      | -10°C to +120°C     |
|           |                     | T3                | T130°C                      | -10°C to +130°C     |
| F         | -10°C to +45°C      | T6                | T75°C                       | -10°C to +50°C      |
|           | -10°C to +60°C      | T5                | T90°C                       | -10°C to +75°C      |
|           |                     | T4                | T120°C                      | -10°C to +120°C     |
|           |                     | T3                | T150°C                      | -10°C to +150°C     |
| G         | -10°C to +60°C      | T6                | T75°C                       | -10°C to +75°C      |
|           |                     | T5                | T90°C                       | -10°C to +90°C      |
|           |                     | T4                | T120°C                      | -10°C to +120°C     |
|           |                     | T3                | T130°C                      | -10°C to +130°C     |
| H         | -10°C to +60°C      | T6                | T75°C                       | -10°C to +75°C      |
|           |                     | T5                | T90°C                       | -10°C to +90°C      |
|           |                     | T4                | T120°C                      | -10°C to +120°C     |
|           |                     | T3                | T150°C                      | -10°C to +150°C     |
| I         | -10°C to +60°C      | T6                | T75°C                       | -10°C to +75°C      |
|           |                     | T5                | T90°C                       | -10°C to +90°C      |
|           |                     | T4                | T120°C                      | -10°C to +100°C     |
|           |                     | T3                | T150°C                      | -10°C to +100°C     |

**FM (Canada)**

Applicable Standard:

CAN/CSA-C22.2 No. 0, CAN/CSA-C22.2 No. 0.4, C22.2 No. 0.5, C22.2 No. 25, C22.2 No. 30, C22.2 No. 94.2, CAN/CSA-C22.2 No. 61010-1, CAN/CSA-C22.2 No. 61010-2-030, C22.2 No. 60079-0, CAN/CSA-C22.2 No. 60079-7, CAN/CSA-C22.2 No. 60079-11, CAN/CSA-C22.2 No. 60079-18, ANSI/ISA-12.27.01

Certificate:

FM 17CA0076X

**(Integral Flowmeter)****Explosionproof (Explosion Protection Code: CF2)**

Explosionproof and Ignition Protected Apparatus for Class I, Division 1, Groups B, C and D. Dust-Ignitionproof for Class II,III, Division 1, Groups E, F and G. with Intrinsically Safe Electrodes for Class I, Division 1, Groups A, B, C and D. Temperature Class T6...T3.

Enclosure: Type 4X

Ambient Temperature:

See Table (e) and Table (f).

Process Temperature:

See Table (e) and Table (f).

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.

Um: 250 V

Current I/O: 4 to 20 mA, 32 Vd.c. max.

Digital I/O: 30 Vd.c. max., 200 mA max.

Fieldbus I/O: 32 Vd.c. max., 15 mA max.

Modbus I/O: 5 Vd.c. typ.

Process Sealing: Dual seal

Primary Seal Failure Annunciation:

For the purpose of failure annunciation, the process fluid must be conductive. If the Primary Seal fails, a significant change of impedance occurs between the electrodes and the housing.

This is detected as:

- significant decrease of the flow rate output signal when the process fluid is flowing; or
- unusual fluctuation of the flow rate output signal when the process fluid is not flowing.

**Explosionproof with Intrinsically Safe output (Explosion Protection Code: CJ2)****Type of Protection:**

Explosionproof and Ignition Protected Apparatus for Class I, Division 1, Groups B, C and D. Dust-Ignitionproof for Class II,III, Division 1, Groups E, F and G. with Intrinsically Safe Electrodes for Class I, Division 1, Groups A, B, C and D. Associated Apparatus for Class I,II,III, Division 1, Groups A, B, C, D, E, F and G. Temperature Class T6...T3.

Enclosure: Type 4X

Ambient Temperature:

See Table (e) and Table (f).

Process Temperature:

See Table (e) and Table (f).

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Iout1 (+, -), Iout2 (+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 4.84 nF, Li: 12 µH

Terminals: P/Sout1 (+, -), P/Sout2 (+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

Process Sealing: Dual seal

Primary Seal Failure Annunciation:

For the purpose of failure annunciation, the process fluid must be conductive.

If the Primary Seal fails, a significant change of impedance occurs between the electrodes and the housing.

This is detected as:

- significant decrease of the flow rate output signal when the process fluid is flowing; or
- unusual fluctuation of the flow rate output signal when the process fluid is not flowing.

**Explosionproof with Intrinsically Safe output for FOUNDATION Fieldbus / PROFIBUS PA (Explosion Protection Code: CT2)****Type of Protection:**

Explosionproof and Ignition Protected Apparatus for Class I, Division 1, Groups B, C and D. Dust-Ignitionproof for Class II,III, Division 1, Groups E, F and G. with Intrinsically Safe Electrodes for Class I, Division 1, Groups A, B, C and D. Associated Apparatus for Class I,II,III, Division 1, Groups A, B, C, D, E, F and G. Temperature Class T6...T3.

Enclosure: Type 4X

Ambient Temperature:

See Table (e) and Table (f).

Process Temperature:

See Table (e) and Table (f).

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Fieldbus (+, -)

FISCO field device or

Ui: 30 V, Ii: 380 mA, Pi: 5.32 W, Ci: 5 nF, Li: 10 µH

Terminals: P/Sout1 (+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

Process Sealing: Dual seal

Primary Seal Failure Annunciation:

For the purpose of failure annunciation, the process fluid must be conductive.

If the Primary Seal fails, a significant change of impedance occurs between the electrodes and the housing.

This is detected as:

- significant decrease of the flow rate output signal when the process fluid is flowing; or
- unusual fluctuation of the flow rate output signal when the process fluid is not flowing.



**(Remote Sensor)****Explosionproof (Explosion Protection Code: CF2)****Type of Protection:**

Explosionproof and Ignition Protected Apparatus for Class I, Division 1, Groups B, C and D.  
Dust-Ignitionproof for Class II,III, Division 1, Groups E, F and G.  
with Intrinsically Safe Electrodes for Class I, Division 1, Groups A, B, C and D.  
Temperature Class T6...T3.

Enclosure: Type 4X

Ambient Temperature:

See Table (e) and Table (f).

Process Temperature:

See Table (e) and Table (f).

Um: 250 V

Process Sealing: Dual seal

Primary Seal Failure Annunciation:

For the purpose of failure annunciation, the process fluid must be conductive.  
If the Primary Seal fails, a significant change of impedance occurs between the electrodes and the housing.

This is detected as:

- significant decrease of the flow rate output signal when the process fluid is flowing; or
- unusual fluctuation of the flow rate output signal when the process fluid is not flowing.

**(Remote Transmitter)****Explosionproof (Explosion Protection Code: CF2)****Type of Protection:**

Explosionproof for Class I, Division 1, Groups A, B, C and D.  
Dust-Ignitionproof for Class II,III, Division 1, Groups E, F and G.  
Temperature Class T6.

Enclosure: Type 4X

Ambient Temperature: -40°C to +60°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.

Current I/O: 4 to 20 mA, 32 Vd.c. max.

Digital I/O: 30 Vd.c. max., 200 mA max.

Fieldbus I/O: 32 Vd.c. max., 15 mA max.

Modbus I/O: 5 Vd.c. typ.

**Explosionproof with Output IS Circuit****(Explosion Protection Code: CJ2)****Type of Protection:**

Explosionproof for Class I, Division 1, Groups A, B, C and D.  
Dust-Ignitionproof for Class II,III, Division 1, Groups E, F and G.  
Associated Apparatus for Class I,II,III, Division 1, Groups A, B, C, D, E, F and G.  
Temperature Class T6.

Enclosure: Type 4X

Ambient Temperature: -40°C to +60°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Iout1 (+, -), Iout2 (+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 4.84 nF, Li: 12 µH

Terminals: P/Sout1 (+, -), P/Sout2 (+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

**Explosionproof with Intrinsically Safe output for FOUNDATION Fieldbus / PROFIBUS PA (Explosion Protection Code: CT2)**

**Type of Protection:**

Explosionproof for Class I, Division 1, Groups A, B, C and D.  
Dust-Ignitionproof for Class II,III, Division 1, Groups E, F and G.  
Associated Apparatus for Class I,II,III, Division 1, Groups A, B, C, D, E, F and G.  
Temperature Class T6.

Enclosure: Type 4X

Ambient Temperature: -40°C to +60°C

Power Supply:

100 to 240 Va.c. (50/60 Hz) / 100 to 120 Vd.c.  
24 Va.c. (50/60 Hz) / 24 Vd.c.

Electrical parameters:

Terminals: L/+, N/-

Um: 250 V

Terminals: Fieldbus (+, -)

FISCO field device or

Ui: 30 V, Ii: 380 mA, Pi: 5.32 W, Ci: 5 nF, Li: 10 µH

Terminals: P/Sout1 (+, -)

Ui: 30 V, Ii: 300 mA, Pi: 1.25 W, Ci: 14.6 nF, Li: 12 µH

Table (e): Temperature Table (FM (Canada))

| Model                                                                  | Size                          | Process Connection            | Lining     | Temperature Table* |               |
|------------------------------------------------------------------------|-------------------------------|-------------------------------|------------|--------------------|---------------|
|                                                                        |                               |                               |            | Integral Flowmeter | Remote Sensor |
| AXG002, AXG005, AXG010, AXG015                                         | 2.5 to 15 mm (0.1 to 0.5 in.) | Wafer, Flange                 | PFA Lining | Table A            | Table C       |
| AXG025, AXG032, AXG040, AXG050, AXG065, AXG080, AXG100, AXG125         | 25 to 125 mm (1 to 5 in.)     | Wafer, Flange                 | PFA Lining | Table B            | Table D       |
| AXG150, AXG200, AXG250, AXG300, AXG350, AXG400                         | 150 to 400 mm (6 to 16 in.)   | Wafer, Flange                 | PFA Lining | Table A            | Table C       |
| AXG015, AXG025, AXG032, AXG040, AXG050, AXG065, AXG080, AXG100, AXG125 | 15 to 125 mm (0.5 to 5 in.)   | Clamp, Union, Butt Weld Joint | PFA Lining | Table E            | Table F       |

\*: For details, see Table No. on Table (f).

Table (f): Temperature Table (FM (Canada))

| Table No. | Ambient Temperature | Temperature Class | Maximum Surface Temperature | Process Temperature |
|-----------|---------------------|-------------------|-----------------------------|---------------------|
| A         | -40°C to +60°C      | T6                | T75°C                       | -40°C to +75°C      |
|           |                     | T5                | T90°C                       | -40°C to +90°C      |
|           |                     | T4                | T120°C                      | -40°C to +120°C     |
|           |                     | T3                | T130°C                      | -40°C to +130°C     |
| B         | -40°C to +45°C      | T6                | T75°C                       | -40°C to +50°C      |
|           | -40°C to +60°C      | T5                | T90°C                       | -40°C to +75°C      |
|           |                     | T4                | T120°C                      | -40°C to +120°C     |
|           |                     | T3                | T130°C                      | -40°C to +130°C     |
| C         | -40°C to +60°C      | T6                | T75°C                       | -40°C to +75°C      |
|           |                     | T5                | T90°C                       | -40°C to +90°C      |
|           |                     | T4                | T120°C                      | -40°C to +120°C     |
|           |                     | T3                | T150°C                      | -40°C to +150°C     |
| D         | -40°C to +45°C      | T6                | T75°C                       | -40°C to +50°C      |
|           | -40°C to +60°C      | T5                | T90°C                       | -40°C to +75°C      |
|           |                     | T4                | T120°C                      | -40°C to +120°C     |
|           |                     | T3                | T150°C                      | -40°C to +150°C     |
| E         | -10°C to +45°C      | T6                | T75°C                       | -10°C to +50°C      |
|           | -10°C to +60°C      | T5                | T90°C                       | -10°C to +75°C      |
|           |                     | T4                | T120°C                      | -10°C to +120°C     |
|           |                     | T3                | T130°C                      | -10°C to +130°C     |
| F         | -10°C to +45°C      | T6                | T75°C                       | -10°C to +50°C      |
|           | -10°C to +60°C      | T5                | T90°C                       | -10°C to +75°C      |
|           |                     | T4                | T120°C                      | -10°C to +120°C     |
|           |                     | T3                | T150°C                      | -10°C to +150°C     |

## ■ PERFORMANCE

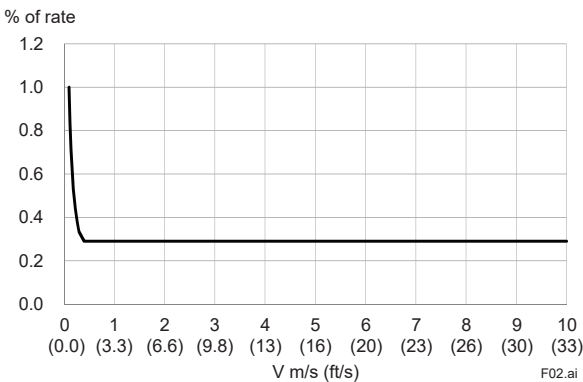
### Accuracy:

- **AXG Integral Flowmeter, or combination of AXG Remote Sensor and AXG4A Remote Transmitter (except optional code HF2)**

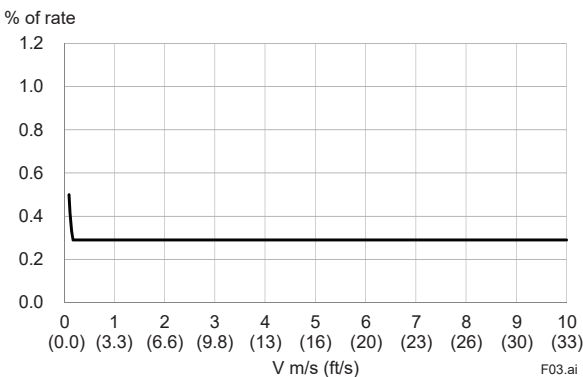
| Size<br>mm (in.)         | Flow Velocity<br>V m/s (ft/s)       | Standard Accuracy<br>(Accuracy Code B) |
|--------------------------|-------------------------------------|----------------------------------------|
| 2.5 to 15<br>(0.1) (0.5) | $V < 0.3$ (1)                       | $\pm 1.0$ mm/s                         |
|                          | $0.3 \leq V \leq 10$<br>(1) (33)    | $\pm 0.3$ % of rate                    |
| 25 to 400<br>(1) (16)    | $V < 0.15$ (0.5)                    | $\pm 0.5$ mm/s                         |
|                          | $0.15 \leq V \leq 10$<br>(0.5) (33) | $\pm 0.3$ % of rate                    |

| Size<br>mm (in.)     | Flow Velocity<br>V m/s (ft/s)    | High Grade Accuracy<br>(Accuracy Code C) |
|----------------------|----------------------------------|------------------------------------------|
| 25 to 200<br>(1) (8) | $V < 0.15$ (0.5)                 | $\pm 0.5$ mm/s                           |
|                      | $0.15 \leq V < 1$<br>(0.5) (3.3) | $\pm 0.18\%$ of rate $\pm 0.2$ mm/s      |
|                      | $1 \leq V \leq 10$<br>(3.3) (33) | $\pm 0.15\%$ of rate                     |

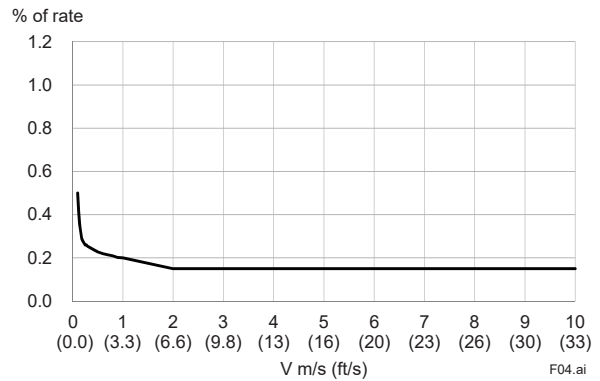
Sizes 2.5 to 15 mm (0.1 to 0.5 in.)  
Standard Accuracy (Accuracy Code B)



Sizes 25 to 400 mm (1 to 16 in.)  
Standard Accuracy (Accuracy Code B)



Sizes 25 to 200 mm (1 to 8 in.)  
High Grade Accuracy (Accuracy Code C)



- **AXG Integral Flowmeter, or combination of AXG Remote Sensor and AXG1A Remote Transmitter (except optional code HF2)**

| Size<br>mm (in.)         | Flow Velocity<br>V m/s (ft/s)       | Standard Accuracy<br>(Accuracy Code B) |
|--------------------------|-------------------------------------|----------------------------------------|
| 2.5 to 15<br>(0.1) (0.5) | $V < 0.3$ (1)                       | $\pm 1.0$ mm/s                         |
|                          | $0.3 \leq V \leq 10$<br>(1) (33)    | $\pm 0.3$ % of rate                    |
| 25 to 400<br>(1) (16)    | $V < 0.15$ (0.5)                    | $\pm 0.5$ mm/s                         |
|                          | $0.15 \leq V \leq 10$<br>(0.5) (33) | $\pm 0.3$ % of rate                    |
| 500<br>(20)              | $V < 0.3$ (1)                       | $\pm 2.0$ mm/s                         |
|                          | $0.3 \leq V \leq 10$<br>(1) (33)    | $\pm 0.35\%$ of rate $\pm 1.0$ mm/s    |

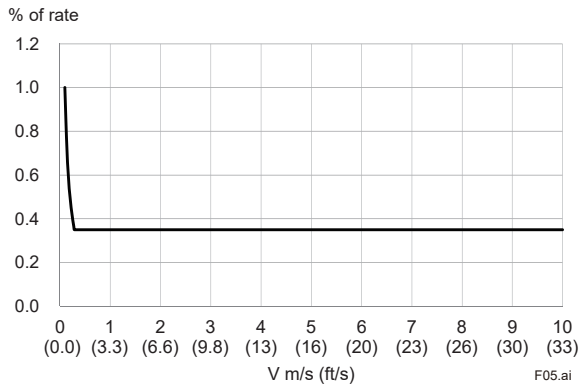
| Size<br>mm (in.)     | Flow Velocity<br>V m/s (ft/s)    | High Grade Accuracy<br>(Accuracy Code C) |
|----------------------|----------------------------------|------------------------------------------|
| 25 to 200<br>(1) (8) | $V < 0.15$ (0.5)                 | $\pm 0.5$ mm/s                           |
|                      | $0.15 \leq V < 1$<br>(0.5) (3.3) | $\pm 0.18\%$ of rate $\pm 0.2$ mm/s      |
|                      | $1 \leq V \leq 10$<br>(3.3) (33) | $\pm 0.15\%$ of rate                     |

- **Combination of AXG Remote Sensor and AXFA11 Remote Transmitter**

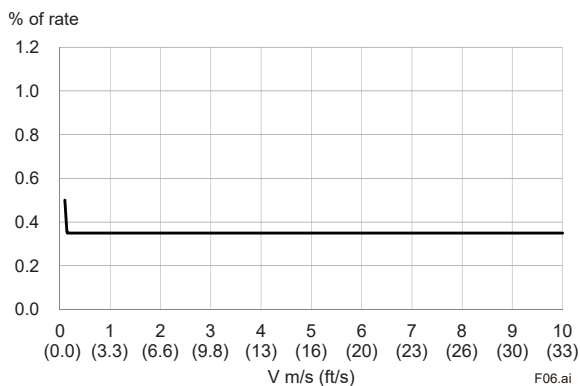
| Size<br>mm (in.)         | Flow Velocity<br>V m/s (ft/s)       | Standard Accuracy<br>(Accuracy Code B) |
|--------------------------|-------------------------------------|----------------------------------------|
| 2.5 to 15<br>(0.1) (0.5) | $V < 0.3$ (1)                       | $\pm 1.0$ mm/s                         |
|                          | $0.3 \leq V \leq 10$<br>(1) (33)    | $\pm 0.35$ % of rate                   |
| 25 to 400<br>(1) (16)    | $V < 0.15$ (0.5)                    | $\pm 0.5$ mm/s                         |
|                          | $0.15 \leq V \leq 10$<br>(0.5) (33) | $\pm 0.35$ % of rate                   |
| 500<br>(20)              | $V < 0.3$ (1)                       | $\pm 2.0$ mm/s                         |
|                          | $0.3 \leq V \leq 10$<br>(1) (33)    | $\pm 0.35\%$ of rate $\pm 1.0$ mm/s    |

| Size<br>mm (in.)     | Flow Velocity<br>V m/s (ft/s)    | High Grade Accuracy<br>(Accuracy Code C) |
|----------------------|----------------------------------|------------------------------------------|
| 25 to 200<br>(1) (8) | $V < 0.15$ (0.5)                 | $\pm 0.5$ mm/s                           |
|                      | $0.15 \leq V < 1$<br>(0.5) (3.3) | $\pm 0.18\%$ of rate $\pm 0.2$ mm/s      |
|                      | $1 \leq V \leq 10$<br>(3.3) (33) | $\pm 0.2\%$ of rate                      |

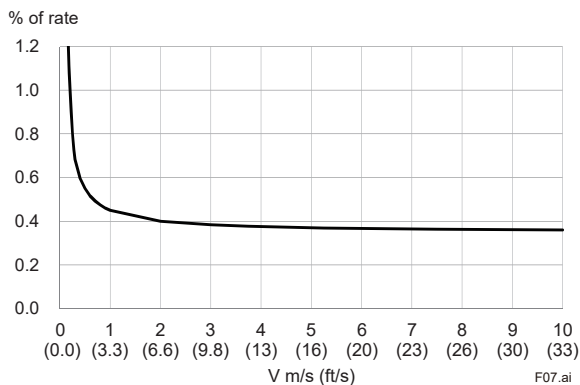
**Sizes 2.5 to 15 mm (0.1 to 0.5 in.)  
with AXFA11 Standard Accuracy (Accuracy Code B)**



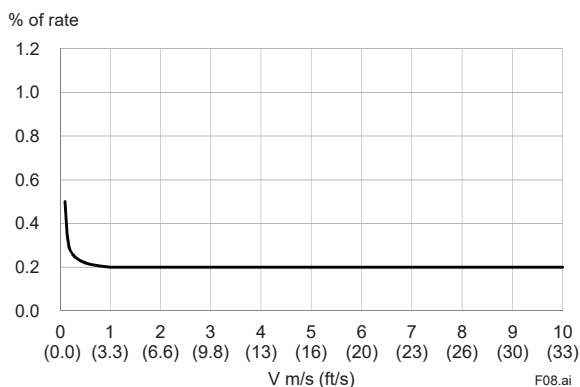
**Sizes 25 to 400 mm (1 to 16 in.)  
with AXFA11 Standard Accuracy (Accuracy Code B)**



**Size 500 mm (20 in.)  
with AXFA11 Standard Accuracy (Accuracy Code B)**



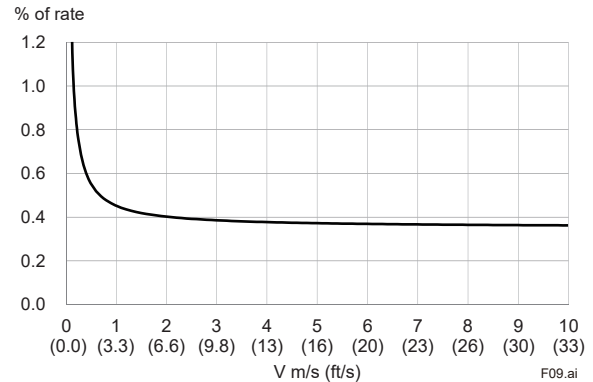
**Sizes 25 to 200 mm (1 to 8 in.)  
with AXFA11 High Grade Accuracy (Accuracy Code C)**



- **AXG Integral Flowmeter, combination of AXG Remote Sensor and AXG4A or AXG1A Remote Transmitter (combined with optional code HF2)**

| Size<br>mm (in.)     | Flow Velocity<br>V m/s (ft/s)    | Standard Accuracy<br>(Accuracy Code B) |
|----------------------|----------------------------------|----------------------------------------|
| 25 to 200<br>(1) (8) | $V < 0.15$<br>(0.5)              | $\pm 1.5$ mm/s                         |
|                      | $0.15 \leq V < 10$<br>(0.5) (33) | $\pm 0.35\%$ of rate $\pm 1$ mm/s      |

**Sizes 25 to 200 mm (1 to 8 in.)  
Combined with optional code HF2**



Note: The accuracy above is the result of calibration test at our water flow facility before shipment. It is defined by the integrated value of the pulse output. As for the current output accuracy, add  $\pm 8 \mu A$  ( $\pm 0.05\%$  of span) to the accuracy above. Calibration takes place at reference conditions as below.

Medium: Water  
Density: 0.9 to 1.1 kg/l  
Medium temperature: 10 to 35°C (50 to 95°F)  
(Average temperature 22.5°C (72.5°F))  
Ambient temperature: 10 to 35°C (50 to 95°F)  
Process pressure (absolute):  
0.1 to 0.2 MPa (15 to 29 psi)  
Reference Standards:  
JIS B 7554, ISO 4185, ISO 5168, ISO 20456,  
BS EN 29104

**Repeatability:**

For size 2.5 mm (0.1 in.) to 400 mm (16 in.)  
 $\pm 0.1\%$  of rate (Velocity 1 m/s (3.3 ft/s) or above)  
 $\pm 0.05\%$  of rate  $\pm 0.5$  mm/s (Velocity below 1 m/s (3.3 ft/s))  
Size 500 mm (20 in.)  
 $\pm 0.2\%$  of rate (Velocity 1 m/s (3.3 ft/s) or above)  
 $\pm 0.1\%$  of rate  $\pm 1$  mm/s (Velocity below 1 m/s (3.3 ft/s))

**Measurement Range:**

Minimum Span Velocity: 0.1 m/s (0.33 ft/s)  
0.5 m/s (1.64 ft/s) when option E21 is applied  
Maximum Span Velocity: 10 m/s (33 ft/s)

Note: For details of span flow rate, read "Sizing Data", and "Ordering Information".

**Power Consumption:**

Integral Type: 13 W

Remote Type:

13 W (with AXG4A Remote Transmitter)  
32 W (with AXG1A Remote Transmitter)  
20 W (with AXFA11 Remote Transmitter)

Note: The power consumption is the same as above regardless of the communication and I/O type.

**Insulation Resistance:****Integral Flowmeter:**

Between power supply terminals and ground terminal:

100 M $\Omega$ /500 V DC

Between power supply terminals and input/output terminals:

100 M $\Omega$ /500 V DC

Between ground terminal and input/output terminals:

20 M $\Omega$ /100 V DC or 125 V DC

Between input/output terminals\*:

20 M $\Omega$ /100 V DC or 125 V DC

\*: Not applicable for I/O3 and I/O4+ of Modbus

**Remote Sensor:**

Between signal terminals\*:

100 M $\Omega$ /500 V DC

Between signal terminals and common terminal\*:

100 M $\Omega$ /500 V DC

\*: Not applicable for Explosion protection type

Between excitation current terminal and signal / common terminals:

100 M $\Omega$ /500 V DC

**Remote Transmitter:**

Between power supply terminals and ground terminal:

100 M $\Omega$ /500 V DC

Between power supply terminals and input/output or excitation current terminals:

100 M $\Omega$ /500 V DC

Between ground terminal and input/output or excitation current terminals:

20 M $\Omega$ /100 V DC or 125 V DC

Between input/output\* and excitation current terminals:

20 M $\Omega$ /100 V DC or 125 V DC

\*: Not applicable for I/O3 and I/O4+ of Modbus

**Withstand Voltage:****Integral Flowmeter:**

Between power supply terminals and ground terminal:

1400 V AC for 2 seconds

Between power supply terminals and input/output terminals:

1400 V AC for 2 seconds

**Remote Sensor (Optional code WT1):**

Between excitation current terminal and ground terminal:

1000 V AC for 1 minute

**Remote Sensor (Optional code WT2):**

Between excitation current terminal and ground terminal:

1500 V AC for 1 minute

Between signal terminals and excitation current terminal:

1500 V AC for 1 minute

**Remote Sensor (Explosion protection type):**

Between excitation current terminal and ground terminal:

1500 V AC for 1 minute, or 1800 V AC for 0.2 second

Between signal terminals and excitation current terminal:

1500 V AC for 1 minute, or 1800 V AC for 0.2 second

**Remote Transmitter:**

Between power supply terminals and ground terminal:

1400 V AC for 2 seconds

Between power supply terminals and input/output terminals:

1400 V AC for 2 seconds

Between excitation current terminal and ground terminal:

160 V AC for 2 seconds

Between excitation current terminal and input/output terminals:

350 V AC for 2 seconds

**■ NORMAL OPERATING CONDITIONS****Ambient Temperature:**

−40 to 60°C (−40 to 140°F)

Note: Minimum value is limited according to minimum fluid temperature of sensor's specification. Read "Fluid Temperature and Pressure".

Display operating range is −20 to 60°C (−4 to 140°F).

Refer to the HAZARDOUS AREA CLASSIFICATION for Explosion protection type.

**Ambient Humidity:**

0 to 100%

Note: Lengthy continuous operation at 95% or more is not recommended.

**Power Supply:****Power Supply Code 1:**

AC Type:

Rated Power Supply: 100 to 240 V AC, 50/60 Hz

Operating Voltage Range: 80 to 264 V AC

DC Type:

Rated Power Supply: 100 to 120 V DC

Operating Voltage Range: 90 to 130 V DC

**Power Supply Code 2:**

AC Type:

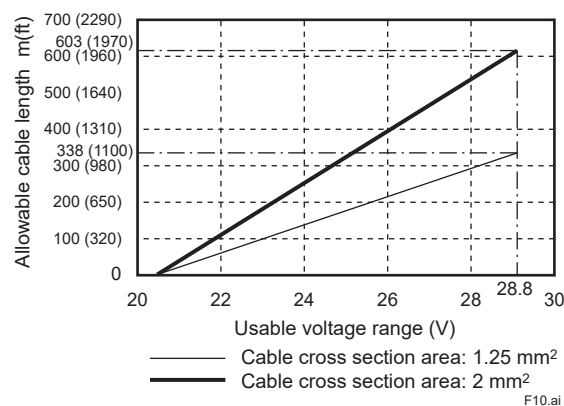
Rated Power Supply: 24 V AC, 50/60 Hz

Operating Voltage Range: 20.4 to 28.8 V AC

DC Type:

Rated Power Supply: 24 V DC

Operating Voltage Range: 20.4 to 28.8 V DC

**Supply Voltage and Power Supply Cable Length for Power Supply Code 2:**

Note: For AXG1A remote transmitter, read general specifications (GS 01E22C01-01EN).

**Fluid Conductivity:**

Size 2.5 to 10 mm (0.1 to 0.4 in.): 5  $\mu$ S/cm or larger

Size 15 to 125 mm (0.5 to 5 in.): 1  $\mu$ S/cm or larger

Size 150 to 400 mm (6 to 16 in.): 3  $\mu$ S/cm or larger

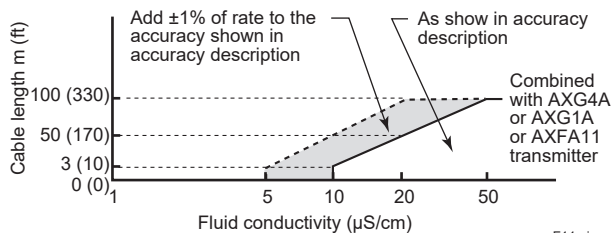
Size 500 mm (20 in.): 20  $\mu$ S/cm or larger

Note: For measuring low conductivity fluids, read "Cautions on Selection and Installation".



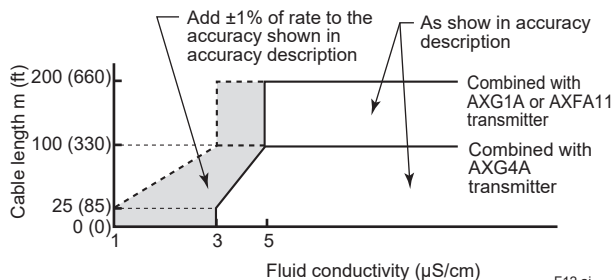
### Signal Cable Length and Fluid Conductivity (Remote Sensor):

#### Sizes 2.5 to 10 mm (0.1 to 0.4 in.)



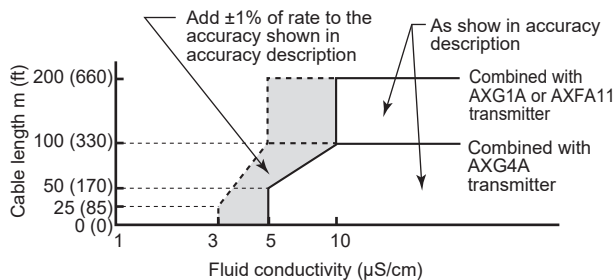
F11.ai

#### Sizes 15 to 125 mm (0.5 to 5 in.)



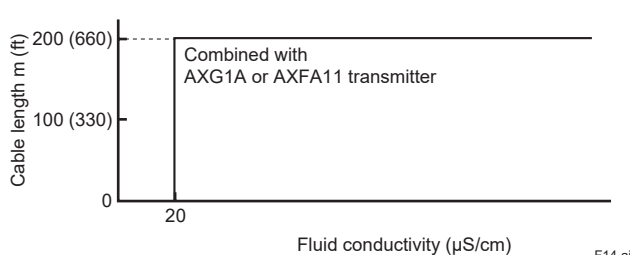
F12.ai

#### Sizes 150 to 400 mm (6 to 16 in.)



F13.ai

#### Size 500 mm (20 in.)



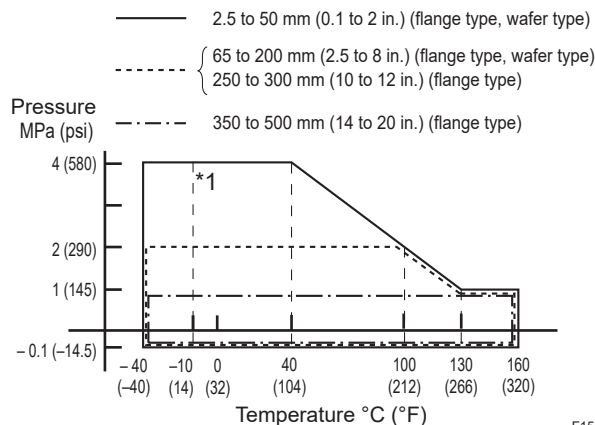
F14.ai

### Fluid Temperature and Pressure:

The following figure shows the usable temperature and pressure range of the sensor in each specification. It is also limited by the flange pressure rating of the process connection.

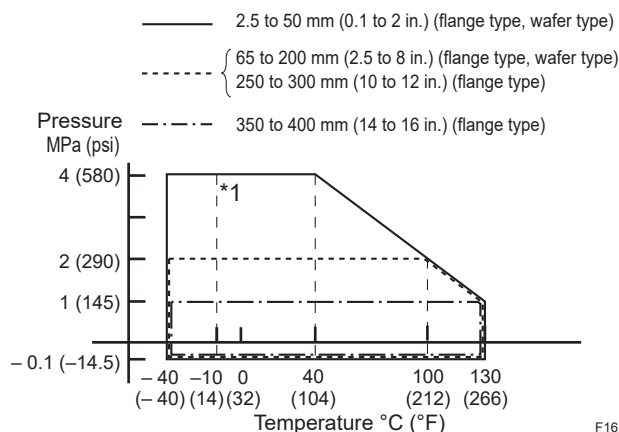
For fluid temperature of the Explosion Protection, read descriptions of "Explosion Protection".

#### PFA Lining, Remote Sensor (excluding high pressure type (ASME Class 600 flange) and Hygienic)



F15.ai

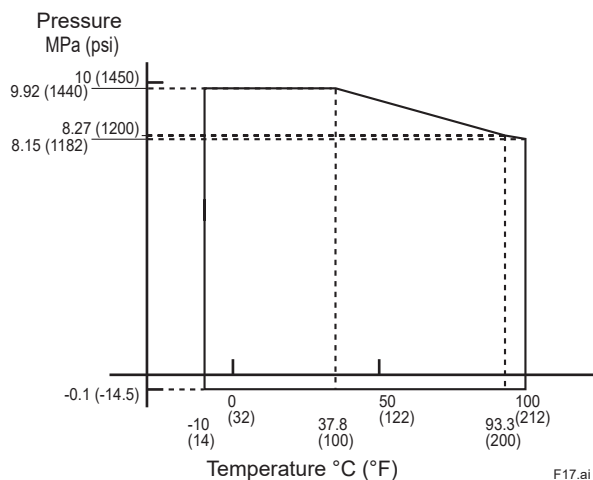
#### PFA Lining, Integral Flowmeter (excluding high pressure type (ASME Class 600 flange), and Hygienic)



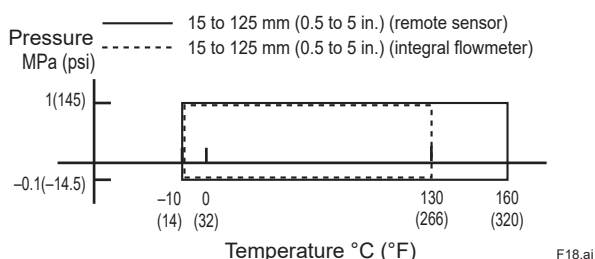
F16.ai

\*1: For wafer types of 150 to 200 mm (6 to 8 in.) or carbon steel flange types (process connection code: C##) of 50 to 500 mm (2 to 20 in.), the minimum temperature is -10°C (14°F).

### PFA Lining, Remote Sensor and Integral Flowmeter (high pressure type (ASME Class 600 flange))

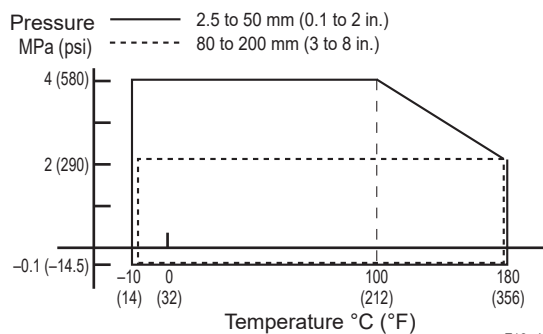


### PFA Lining, Remote Sensor and Integral Flowmeter (Hygienic)

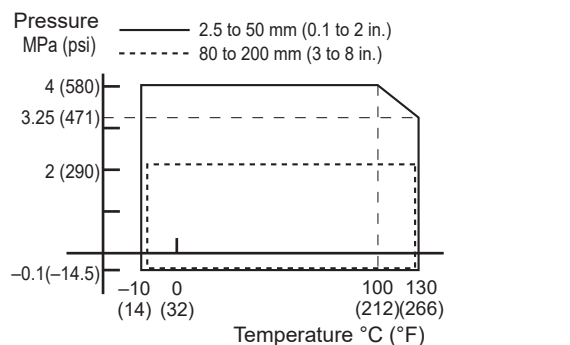


Note: For fluid temperature of 120°C (248°F) or more  
(Maximum: 160°C (320°F)), select optional code GH.

### Ceramics Tube, Remote Sensor

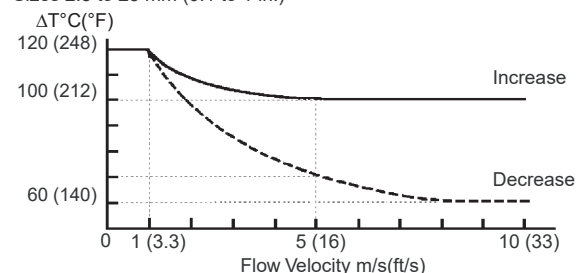


### Ceramics Tube, Integral Flowmeter

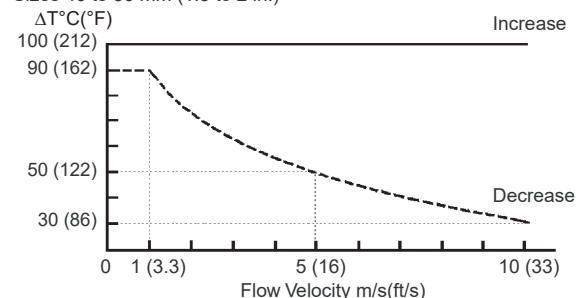


### Thermal Shock Temperature and Flow Velocity of Ceramics Tube:

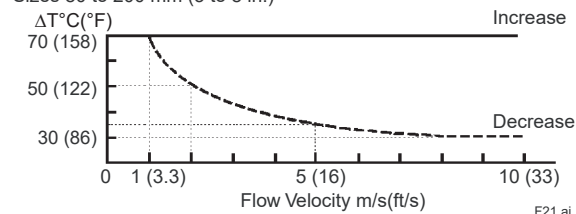
Sizes 2.5 to 25 mm (0.1 to 1 in.)



Sizes 40 to 50 mm (1.5 to 2 in.)



Sizes 80 to 200 mm (3 to 8 in.)



"Decrease" means that the temperature of a measured fluid drops rapidly, while "Increase" means that the temperature rises rapidly. The maximum allowable ranges in both cases are indicated by the curves shown in the diagrams, with the solid line indicating the maximum increase, and the broken line the maximum decrease.

$\Delta T$ : Change in temperature of measured fluid in one second

Flow velocity: Flow velocity of the measured fluid

### Allowable Conditions for Cleaning Lining (Hygienic, and Hygienic Explosion Protection):

Steam or hot water cleaning:

Max. temp. 150°C (302°F), time period 60 minutes or less

- When Use code -H (Hygienic) with Construction code D/E/G (Remote sensor) is specified, it can be cleaned at Max. temp 160°C (320°F).
- When Use code -J (Hygienic Explosion Protection) is specified, clean after the power is turned off.

### Vibration Conditions:

Integral Flowmeter:

19.6 m/s<sup>2</sup> - rms (5 to 2000 Hz)

Remote Sensor:

34.3 m/s<sup>2</sup> - rms (5 to 2000 Hz)

Remote Transmitter:

19.6 m/s<sup>2</sup> - rms (5 to 2000 Hz)

Note: Vibration conditions are based on IEC 60068-2-64.

Avoid installation in a place with much vibration (vibration frequency 2000 Hz or more). It may cause damage to the device.

## ■ CAUTIONS ON SELECTION AND INSTALLATION

### Combined Transmitter:

In the following cases, combine with AXG1A or AXFA11G remote transmitter. If it is considered that the flow noise in the fluid could be large because of low conductivity, or high concentration slurry, etc. and the size is 250 mm (10 in.) or more, it is recommended to combine with AXG1A or AXFA11G remote transmitter.

- When mounting remote transmitter to wall or panel
- When cable length exceeds 100 m
- When using 5 or more input/output terminals

### Wiring:

For the power code (-1 100-240 V AC / 100 - 120 V DC), don't bundle the power supply wire and other signal wire into the same wiring port.

### Lining:

PFA Lining:

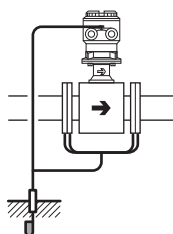
It is excellent in chemical resistance. We adopt the material approved by FDA (US Food and Drug Administration).

Ceramics Tube:

It is excellent in chemical resistance, heat resistance and abrasion resistance. Measuring pipe sintered with high purity alumina ceramics is a structure that also serves as a lining.

### Grounding Device:

The grounding device can be selected as an optional specification. It is unnecessary to use it for metal piping which has no lining. In that case, connect the piping and the sensor flange part (mini-flange or one-piece casting structured measuring pipe for wafer type) with grounding wire supplied by customer (see the figure below). Be sure to select the grounding device when installed at plastic or lining piping.



F22.ai

There are thin type (thickness 1 to 2 mm) and thick type (thickness 3 to 4 mm, or 8.5 to 10.5 mm for high pressure type) for grounding rings. If the flange is ASME Class 300, EN PN 40 etc. for high fluid pressure and the tightening torque is high, the thick type is recommended.

Grounding ring (electrode type) and built-in grounding electrode can not be used for permeable fluid (e.g. nitric acid, hydrofluoric acid, high temperature sodium hydroxide etc.).

The built-in grounding electrode (for sizes 150 to 400 mm, 6 to 16 in.) has fewer seals against fluid than the grounding ring, so leakage possibility will be less if the installed piping is plastic or lining one.

### Recommended Gasket (for installed piping flange):

Use compressed non-asbestos joint sheet gaskets, PTFE-sheathed non-asbestos joint sheet gaskets or gaskets which have equivalent elasticity. When selecting optional code GA, GC, or GD for plastic piping, use rubber gaskets or ones which have equivalent elasticity (such as PTFE-sheathed rubber gaskets).

Dimensions of the gasket should be determined with reference to the following table (by process connection and lining) and figure. If the inner diameter of the gasket is too large or the outer diameter is too small, liquid leakage may occur.

Unit: mm

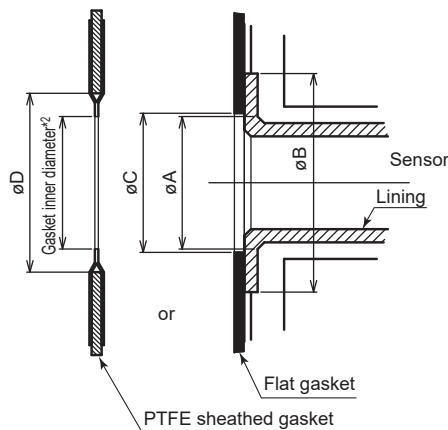
| Size | PFA Lining                                |                                           |                                                                                       |                                    |                                           |                                           |                                                                                       |                                    | Ceramics Tube                             |                                           |                                                                                       |                                    |    |
|------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------|----|
|      | Wafer                                     |                                           |                                                                                       |                                    | Flange                                    |                                           |                                                                                       |                                    | Wafer                                     |                                           |                                                                                       |                                    |    |
|      | Inner Diameter for Effective Sealing [øA] | Outer Diameter for Effective Sealing [øB] | Recommended Inner Diameter of Gasket<br>Flat Gasket [øC]<br>PTFE-sheathed Gasket [øD] | Minimum Inner Diameter of Gasket*2 | Inner Diameter for Effective Sealing [øA] | Outer Diameter for Effective Sealing [øB] | Recommended Inner Diameter of Gasket<br>Flat Gasket [øC]<br>PTFE-sheathed Gasket [øD] | Minimum Inner Diameter of Gasket*2 | Inner Diameter for Effective Sealing [øA] | Outer Diameter for Effective Sealing [øB] | Recommended Inner Diameter of Gasket<br>Flat Gasket [øC]<br>PTFE-sheathed Gasket [øD] | Minimum Inner Diameter of Gasket*2 |    |
| 2.5  | 15                                        | 38                                        | 17                                                                                    | 22                                 | 15                                        | 15                                        | 30                                                                                    | 17 [15]*1                          | 22 [19]*1                                 | 15                                        | —                                                                                     | —                                  | —  |
| 5    | 15                                        | 38                                        | 17                                                                                    | 22                                 | 15                                        | 15                                        | 30                                                                                    | 17 [15]*1                          | 22 [19]*1                                 | 15                                        | —                                                                                     | —                                  | —  |
| 10   | 15                                        | 38                                        | 17                                                                                    | 22                                 | 15                                        | 15                                        | 30                                                                                    | 17 [15]*1                          | 22 [19]*1                                 | 15                                        | —                                                                                     | —                                  | —  |
| 15   | 18                                        | 38                                        | 22                                                                                    | 22                                 | 15                                        | 22                                        | 34                                                                                    | 22                                 | 15                                        | 33                                        | 22                                                                                    | 22                                 | 15 |
| 25   | 32                                        | 54                                        | 35                                                                                    | 28                                 | 35                                        | 54                                        | 35                                                                                    | 29                                 | 27                                        | 50                                        | 35                                                                                    | 27                                 | —  |
| 32   | 37                                        | 58                                        | 43                                                                                    | 34                                 | 40                                        | 64                                        | 43                                                                                    | 34                                 | —                                         | —                                         | —                                                                                     | —                                  | —  |
| 40   | 45                                        | 71                                        | 49                                                                                    | 41                                 | 48                                        | 72                                        | 49                                                                                    | 41                                 | 40                                        | 68                                        | 49                                                                                    | 40                                 | —  |
| 50   | 58                                        | 84                                        | 61                                                                                    | 53                                 | 61                                        | 89                                        | 61                                                                                    | 53                                 | 52                                        | 82                                        | 61                                                                                    | 52                                 | —  |
| 65   | 69                                        | 103                                       | 84                                                                                    | 66                                 | 72                                        | 108                                       | 84                                                                                    | 66                                 | —                                         | —                                         | —                                                                                     | —                                  | —  |
| 80   | 81                                        | 114                                       | 90                                                                                    | 81                                 | 85                                        | 119                                       | 90                                                                                    | 81                                 | 81                                        | 112                                       | 90                                                                                    | 81                                 | —  |
| 100  | 106                                       | 140                                       | 115                                                                                   | 102                                | 110                                       | 146                                       | 115                                                                                   | 102                                | 98                                        | 134                                       | 115                                                                                   | 98                                 | —  |
| 125  | 131                                       | 165                                       | 141                                                                                   | 128                                | 136                                       | 173                                       | 141                                                                                   | 128                                | —                                         | —                                         | —                                                                                     | —                                  | —  |
| 150  | 164                                       | 190                                       | 167                                                                                   | 147                                | 164                                       | 209 [216]*1                               | 167                                                                                   | 150                                | 144                                       | 188                                       | 167                                                                                   | 144                                | —  |
| 200  | 218                                       | 240                                       | 218                                                                                   | 199                                | 218                                       | 259 [272]*1                               | 218                                                                                   | 201                                | 192                                       | 240                                       | 218                                                                                   | 192                                | —  |
| 250  | —                                         | —                                         | —                                                                                     | —                                  | 270                                       | 320 [332]*1                               | 270                                                                                   | 250                                | —                                         | —                                         | —                                                                                     | —                                  | —  |
| 300  | —                                         | —                                         | —                                                                                     | —                                  | 321                                       | 367 [392]*1                               | 321                                                                                   | 301                                | —                                         | —                                         | —                                                                                     | —                                  | —  |
| 350  | —                                         | —                                         | —                                                                                     | —                                  | 350                                       | 412                                       | 359                                                                                   | 330                                | —                                         | —                                         | —                                                                                     | —                                  | —  |
| 400  | —                                         | —                                         | —                                                                                     | —                                  | 401                                       | 475                                       | 410                                                                                   | 381                                | —                                         | —                                         | —                                                                                     | —                                  | —  |
| 500  | —                                         | —                                         | —                                                                                     | —                                  | 581                                       | 581 <606>*1                               | 513                                                                                   | 465                                | —                                         | —                                         | —                                                                                     | —                                  | —  |

Unit: inch

| Size | PFA Lining                                |                                           |                                                                                       |                                    |                                           |                                           |                                                                                       |                                    | Ceramics Tube                             |                                           |                                                                                       |                                    |   |
|------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------|------------------------------------|---|
|      | Wafer                                     |                                           |                                                                                       |                                    | Flange                                    |                                           |                                                                                       |                                    | Wafer                                     |                                           |                                                                                       |                                    |   |
|      | Inner Diameter for Effective Sealing [øA] | Outer Diameter for Effective Sealing [øB] | Recommended Inner Diameter of Gasket<br>Flat Gasket [øC]<br>PTFE-sheathed Gasket [øD] | Minimum Inner Diameter of Gasket*2 | Inner Diameter for Effective Sealing [øA] | Outer Diameter for Effective Sealing [øB] | Recommended Inner Diameter of Gasket<br>Flat Gasket [øC]<br>PTFE-sheathed Gasket [øD] | Minimum Inner Diameter of Gasket*2 | Inner Diameter for Effective Sealing [øA] | Outer Diameter for Effective Sealing [øB] | Recommended Inner Diameter of Gasket<br>Flat Gasket [øC]<br>PTFE-sheathed Gasket [øD] | Minimum Inner Diameter of Gasket*2 |   |
| 0.1  | 0.59                                      | 1.50                                      | 0.67                                                                                  | 0.87                               | 0.59                                      | 0.59                                      | 1.18                                                                                  | 0.67 [0.59]*1                      | 0.87 [0.75]*1                             | 0.59                                      | —                                                                                     | —                                  | — |
| 0.2  | 0.59                                      | 1.50                                      | 0.67                                                                                  | 0.87                               | 0.59                                      | 0.59                                      | 1.18                                                                                  | 0.67 [0.59]*1                      | 0.87 [0.75]*1                             | 0.59                                      | —                                                                                     | —                                  | — |
| 0.4  | 0.59                                      | 1.50                                      | 0.67                                                                                  | 0.87                               | 0.59                                      | 0.59                                      | 1.18                                                                                  | 0.67 [0.59]*1                      | 0.87 [0.75]*1                             | 0.59                                      | —                                                                                     | —                                  | — |
| 0.5  | 0.71                                      | 1.50                                      | 0.87                                                                                  | 0.87                               | 0.59                                      | 0.87                                      | 1.34                                                                                  | 0.87                               | 0.59                                      | 1.30                                      | 0.87                                                                                  | 0.59                               | — |
| 1.0  | 1.26                                      | 2.13                                      | 1.38                                                                                  | 1.10                               | 1.39                                      | 2.13                                      | 1.38                                                                                  | 1.14                               | 1.06                                      | 1.97                                      | 1.38                                                                                  | 1.06                               | — |
| 1.25 | 1.46                                      | 2.28                                      | 1.69                                                                                  | 1.34                               | 1.59                                      | 2.53                                      | 1.69                                                                                  | 1.34                               | —                                         | —                                         | —                                                                                     | —                                  | — |
| 1.5  | 1.76                                      | 2.80                                      | 1.93                                                                                  | 1.61                               | 1.89                                      | 2.83                                      | 1.93                                                                                  | 1.61                               | 1.57                                      | 2.68                                      | 1.93                                                                                  | 1.57                               | — |
| 2.0  | 2.26                                      | 3.31                                      | 2.40                                                                                  | 2.09                               | 2.39                                      | 3.50                                      | 2.40                                                                                  | 2.09                               | 2.05                                      | 3.23                                      | 2.40                                                                                  | 2.05                               | — |
| 2.5  | 2.73                                      | 4.06                                      | 3.31                                                                                  | 2.60                               | 2.84                                      | 4.25                                      | 3.31                                                                                  | 2.60                               | —                                         | —                                         | —                                                                                     | —                                  | — |
| 3.0  | 3.19                                      | 4.49                                      | 3.54                                                                                  | 3.19                               | 3.33                                      | 4.69                                      | 3.54                                                                                  | 3.19                               | 3.19                                      | 4.41                                      | 3.54                                                                                  | 3.19                               | — |
| 4.0  | 4.19                                      | 5.51                                      | 4.53                                                                                  | 4.02                               | 4.34                                      | 5.75                                      | 4.53                                                                                  | 4.02                               | 3.86                                      | 5.28                                      | 4.53                                                                                  | 3.86                               | — |
| 5.0  | 5.14                                      | 6.50                                      | 5.55                                                                                  | 5.04                               | 5.34                                      | 6.81                                      | 5.55                                                                                  | 5.04                               | —                                         | —                                         | —                                                                                     | —                                  | — |
| 6.0  | 6.46                                      | 7.48                                      | 6.57                                                                                  | 5.79                               | 6.46                                      | 8.23 [8.50]*1                             | 6.57                                                                                  | 5.91                               | 5.67                                      | 7.40                                      | 6.57                                                                                  | 5.67                               | — |
| 8.0  | 8.58                                      | 9.45                                      | 8.58                                                                                  | 7.83                               | 8.58                                      | 10.20 [10.71]*1                           | 8.58                                                                                  | 7.91                               | 7.56                                      | 9.45                                      | 8.58                                                                                  | 7.56                               | — |
| 10   | —                                         | —                                         | —                                                                                     | —                                  | 10.61                                     | 12.60 [13.07]*1                           | 10.63                                                                                 | 9.84                               | —                                         | —                                         | —                                                                                     | —                                  | — |
| 12   | —                                         | —                                         | —                                                                                     | —                                  | 12.64                                     | 14.44 [15.43]*1                           | 12.64                                                                                 | 11.85                              | —                                         | —                                         | —                                                                                     | —                                  | — |
| 14   | —                                         | —                                         | —                                                                                     | —                                  | 13.76                                     | 16.22                                     | 14.13                                                                                 | 12.99                              | —                                         | —                                         | —                                                                                     | —                                  | — |
| 16   | —                                         | —                                         | —                                                                                     | —                                  | 15.78                                     | 18.70                                     | 16.14                                                                                 | 15.00                              | —                                         | —                                         | —                                                                                     | —                                  | — |
| 20   | —                                         | —                                         | —                                                                                     | —                                  | 22.87                                     | 22.87 <23.86>*1                           | 20.20                                                                                 | 18.31                              | —                                         | —                                         | —                                                                                     | —                                  | — |

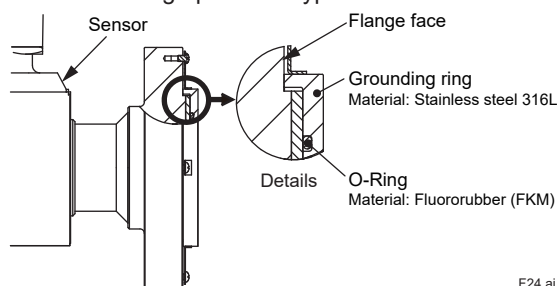
\*1: The value varies depending on the selection of process connection code:

DJ1, DJ2, DE4: Values in [ ].  
BA2, BJ2, CA2, CJ2, PA2: Values in { }.  
BE2, CE2: Values in < >.



\*2: To prevent the gasket from protruding into the flow path, make sure that this length is smaller than the minimum inner diameter of the gasket in the table.

For high pressure type (ASME Class 600 flange), use a flat gasket that matches the outer diameter and inner diameter of the grounding ring considering the dimensions of the seal structure of the flange. Do not use a spiral wound gasket. Also, be careful not to damage the flange surface of the sensor by excessive tightening. The structural figure of grounding ring with flange and the dimensions of inner and outer diameter of the grounding ring are shown below. Note that the grounding ring must be selected for high pressure type.



F24.ai

### Grounding Rings for High Pressure Type

Unit: mm (approx. in.)

| Size     | Outer Diameter | Inner Diameter |
|----------|----------------|----------------|
| 25 (1)   | 69 (2.72)      | 29.0 (1.14)    |
| 40 (1.5) | 92 (3.62)      | 35.4 (1.39)    |
| 50 (2)   | 108 (4.25)     | 46.5 (1.83)    |
| 80 (3)   | 147 (5.79)     | 70.9 (2.79)    |
| 100 (4)  | 185 (7.28)     | 93.0 (3.66)    |

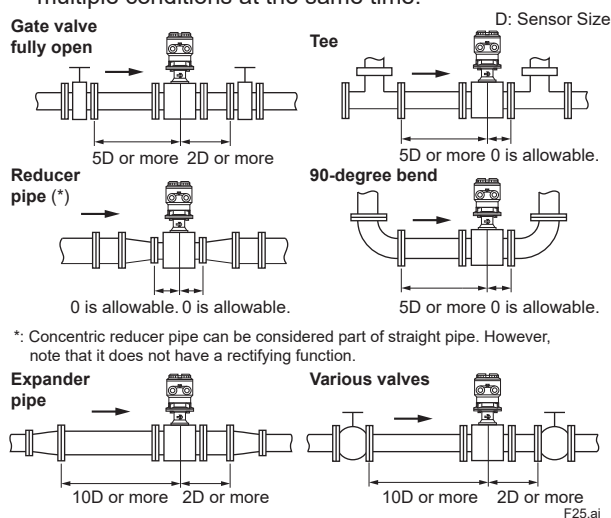
### Noise Avoidance:

The flowmeter should be installed away from electrical motors, transformers, and other power sources in order to avoid interference with measurement.

When installing two or more magnetic flowmeters, provide a distance of at least 5D (D is size of model code) each other. If diameters of them are different, let D be the larger one.

### Mounting of Flowmeters and Required Straight Pipe Length:

Based on JIS B 7554 "Magnetic Flowmeters" and our piping condition test data, we recommend the piping conditions as shown in the following figures. This is not always enough when the piping line incorporates multiple conditions at the same time.



F25.ai

### Required Straight Pipe Length

- Do not install anything in the vicinity that may interfere with the magnetic field, induced signal voltages, or flow velocity distributions of the flowmeter.
- A straight run may not be required on the downstream side of the flowmeter. However, if a downstream valve or other fitting causes irregularity or deviation in flows, provide a distance of 2D to 3D on the downstream side.
- The valves shall be mounted on the downstream side so that deviated flows do not occur in the sensor and to avoid startup from an empty condition.
- In case the piping conditions are compounded, install on the straight pipe section where the upstream part is sufficiently rectified.

### Maintaining Stable Fluid Conductivity:

Do not install the flowmeter where fluid conductivity tends to become uneven. If chemicals are fed near the upstream side of a magnetic flowmeter, they may affect the flow-rate's indications. To avoid this situation, it is recommended that the chemical feed ports be located on the downstream side of the flowmeter. If it is unavoidable that chemicals must be fed on the upstream side, provide a sufficient straight pipe length (approximately 50D or more) to ensure the proper mixture of fluids.

### Low Conductivity Fluid:

When used for fluids with high flow noise (pure water, low viscosity and low conductivity fluid such as alcohols), the output fluctuation increases and the measurement is affected. In that case, using the Magnetic flowmeter CA Series, vortex flowmeter, or Coriolis flowmeter is recommended.

### Permeable Fluid:

For use with permeable fluid (e.g. nitric acid, hydrofluoric acid, high-temperature sodium hydroxide, etc.), selecting a model with PFA lining, vent hole (optional code H), and grounding ring plate (thick type)(optional code GRN, GRJ, or GRW), or the Magnetic flowmeter CA Series is recommended.

### Adhesive Fluid of Insulator:

When measuring adhesive fluid of insulator, selecting mirror finished PFA lining or ceramics tube (optional code PM or CM), or the Magnetic flowmeter CA Series is recommended. Those help reduce the adhesion on the inner surface of the pipe.

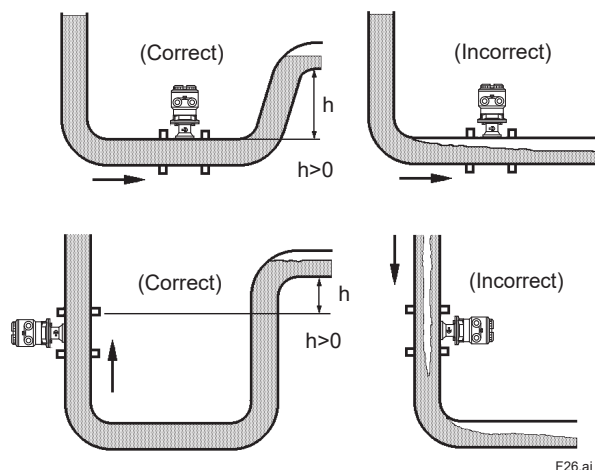
### Abrasive Slurry Fluid:

For abrasive slurry fluids mixed with minerals, earth and sand etc., install on vertical piping. This reduces uneven wear of the lining. For sizes 200 mm (8 in.) or less, the AXG magnetic flowmeter with ceramics tube, the Magnetic flowmeter CA Series, or the AXW magnetic flowmeter with natural soft rubber lining is recommended.



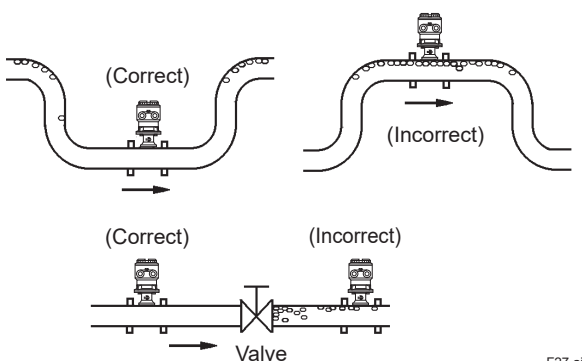
### Mounting Positions:

- Pipes must be fully filled with liquids. It is essential that pipes remain fully filled at all times, otherwise flow rate indications may be affected and measurement errors may be caused. Piping shall be designed so as to maintain the sensor filled with fluids. Vertical mounting is effective in such cases as when fluids tend to separate or solid matter may be precipitated. When employing vertical mounting, direct the fluids from the bottom to the top to ensure that the pipes remain fully filled.



Mounting Positions

- Avoiding Air Bubbles.** If air bubbles enter a measurement pipe, flow rate indications may be affected and measurement errors may be caused. In cases where fluids contain air bubbles, piping must be designed to prevent them from accumulating in the measurement pipe of a sensor. If a valve exists near the sensor, try to mount the sensor on the valve's upstream side in order to prevent a possible reduction of pressure inside the pipe, thereby avoiding the possibility of air bubbles.

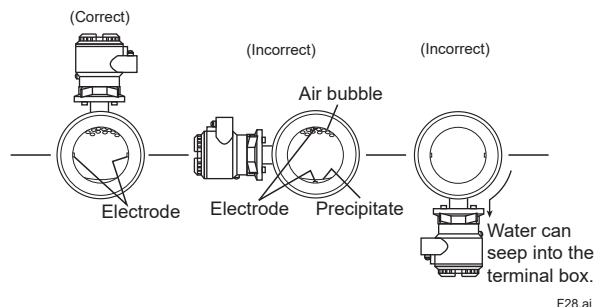


Avoiding Air Bubbles

### Mounting Orientation:

Install the magnetic flowmeter so that the electrodes position is not perpendicular to the ground. Otherwise it may cause the measuring errors because air bubbles at upper side or slurry at downside covers the electrode.

Mount the terminal box of a remote sensor and the transmitter of an integral flowmeter above the piping to prevent water from entering them.



Mounting Orientation

### Counter Flange Material:

For some specifications of the wafer type flowmeters (see the table), if carbon steel flange is used on the user-side to connect the flowmeter, a measurement error will be added to the guaranteed accuracy in this General Specifications. By setting the correction factor provided from us, it is possible to reduce the added measurement error to around  $\pm 0.5\%$ . If you want to avoid the measurement error caused by using carbon steel for the user-side flange, select the flange type.

|                    |                                            |
|--------------------|--------------------------------------------|
| Size               | 40 mm, 50 mm, 65 mm, 80 mm, 100 mm, 125 mm |
| Process Connection | A□□: Wafer Type                            |
| Lining             | A: PFA Lining                              |

\* This does not apply to products that include the following specifications.  
Gasket for plastic piping (/GA, /GC, /GD)  
Size of 40 mm, 50 mm, 65 mm using grounding ring electrode (/GRP, /GRT)

## ■ MODEL AND SUFFIX CODE

### Note:

- 1: There are some limitations on the combination of specifications. Read specification code table when selecting specification code.
- 2: For both wafer and flange type of 2.5 to 10 mm (0.1 to 0.4 in.), prepare 15 mm (0.5 in.) diameter nominal flanges on the process pipe side. However, for the flanges EN PN40, JIS 10K, JIS 20K, types for the nominal diameter 10 mm (0.4 in.) flange can also be selected (Process Connection Code DE4, DJ1, and DJ2). The process connection of ceramics tube sizes 2.5 to 10 mm (0.1 to 0.4 in.) is only Union Joint (Screw and Welding type).
- 3: For EN standard wafer and flange type of sizes 2.5 to 50 mm (0.1 to 2 in.), select PN40 even for lower pressure rating because the dimensions of mating faces for PN10, 16, and 40 are the same. For EN standard wafer and flange type of sizes 65 to 150 mm (2.5 to 6 in.), select PN16 even for lower pressure rating because the dimensions of mating faces for PN10 and 16 are the same.
- 4: The dimensions of mating faces are based on the following flange standards.  
JIS F12: JIS G 3443-2, JIS 10K, 20K: JIS B 2220 and JIS G 3443-2,  
ASME: ASME B 16.5, EN: EN 1092-1, JPI: JPI-7S-15, AS: AS2129  
Each flange standard has the specifications for the limitation on the available fluid temperature and pressure as well as the dimensions. Be sure that user's fluid conditions meet the specifications of each flange standard when selecting a process connection code.
- 5: The grounding device is selectable from none, grounding ring, or built-in grounding electrode. When selecting the grounding ring or the built-in grounding electrode, it is also necessary to select its type (material etc.) from the optional codes.
- 6: The lay length (face to face) of the flange type of PFA lining sizes 15 to 400 mm (0.5 to 16 in.) conforms to ISO standard (ISO 20456) except for ASME Class 600 flange high pressure type. The lay length for ceramics tube (wafer and union joint) and Hygienic are the same as those of the conventional model ADMAG AXF series (AXF standard lay length). The lay length depends on the presence or absence of the optional grounding rings or gaskets, so see the Dimensional Drawings.
- 7:  Lining, electrode, pipe connection adapter (for Hygienic, or Hygienic Explosion Protection), and grounding device (grounding ring plate, metal hat grounding ring, grounding ring electrode, built-in grounding electrode) are wetted parts.  
Users must consider the characteristics of selected wetted parts material and influence of process fluids. The use of inappropriate materials can result in the leakage of corrosive process fluids and cause injury to personnel and/or damage to plant facilities. It is also possible that the instrument itself can be damaged and that fragments from the instrument can contaminate the user's process fluids. Be very careful with highly corrosive process fluids such as hydrochloric acid, sulfuric acid, hydrogen sulfide, sodium hypochlorite, and high-temperature steam (150°C [302°F] or above). Contact Yokogawa for detailed information of the wetted parts material.
- 8: In the case of remote sensor, select "None (or Without)" for each specification code of "Power Supply", "Communication and I/O", "Transmitter Wiring Terminal" and "Display".
- 9: Select appropriate equipment in accordance with the laws and regulations of the relevant country/region, when it is used in a location where explosive atmospheres may be present.  
In the case that final destination is Taiwan or UAE and the explosion type is required, select IECEx explosion protection type.
- 10: Wafer type replacement model has the lay length compatible with previous models (ADMAG, YEW MAG series) by attaching grounding rings for wafer type replacement model(optional code GAN) to integral flow meter or remote sensor. For details on dimensions, please refer to the DIMENSIONAL DRAWINGS.
- 11: For wafer types with sizes ranging from 2.5 to 15 mm, the lay length of previous models (ADMAG and YEW MAG series) is the same as when grounding rings with optional codes GRN, GRP, and GRT are selected for the AXG standard lay length type. For details on dimensions, please refer to the the DIMENSIONAL DRAWINGS.

●General-purpose, Submersible, Explosionprotection, Wafer, Flange, PFA Lining (2.5 to 400 mm/0.1 to 16 in.)

| Model                | Suffix Code | Description                                                                                 | Limitation                                           |
|----------------------|-------------|---------------------------------------------------------------------------------------------|------------------------------------------------------|
| AXG002               |             | Magnetic Flowmeter (2.5 mm/0.1 in)                                                          |                                                      |
| AXG005               |             | Magnetic Flowmeter (5 mm/0.2 in)                                                            |                                                      |
| AXG010               |             | Magnetic Flowmeter (10 mm/0.4 in)                                                           |                                                      |
| AXG015               |             | Magnetic Flowmeter (15 mm/0.5 in)                                                           |                                                      |
| AXG025               |             | Magnetic Flowmeter (25 mm/1 in)                                                             |                                                      |
| AXG032               |             | Magnetic Flowmeter (32 mm/1.25 in)                                                          |                                                      |
| AXG040               |             | Magnetic Flowmeter (40 mm/1.5 in)                                                           |                                                      |
| AXG050               |             | Magnetic Flowmeter (50 mm/2 in)                                                             |                                                      |
| AXG065               |             | Magnetic Flowmeter (65 mm/2.5 in)                                                           |                                                      |
| AXG080               |             | Magnetic Flowmeter (80 mm/3 in)                                                             |                                                      |
| AXG100               |             | Magnetic Flowmeter (100 mm/4 in)                                                            |                                                      |
| AXG125               |             | Magnetic Flowmeter (125 mm/5 in)                                                            |                                                      |
| AXG150               |             | Magnetic Flowmeter (150 mm/6 in)                                                            |                                                      |
| AXG200               |             | Magnetic Flowmeter (200 mm/8 in)                                                            |                                                      |
| AXG250               |             | Magnetic Flowmeter (250 mm/10 in)                                                           |                                                      |
| AXG300               |             | Magnetic Flowmeter (300 mm/12 in)                                                           |                                                      |
| AXG350               |             | Magnetic Flowmeter (350 mm/14 in)                                                           |                                                      |
| AXG400               |             | Magnetic Flowmeter (400 mm/16 in)                                                           |                                                      |
| Use                  | -G          | General-purpose                                                                             |                                                      |
|                      | -C          | Explosion protection                                                                        |                                                      |
|                      | -W          | Submersible                                                                                 | 15 to 400 mm (0.5 to 16 in.), only for Remote sensor |
| Construction         | A           | Integral Flowmeter                                                                          |                                                      |
|                      | D           | Remote Sensor (for AXFA11)                                                                  |                                                      |
|                      | E           | Remote Sensor (for AXG1A)                                                                   |                                                      |
|                      | G           | Remote Sensor (for AXG4A)                                                                   |                                                      |
| Explosion Protection | 000         | Non Explosion Protection Approval                                                           |                                                      |
|                      | KF2         | ATEX Flameproof                                                                             | See Restriction for Explosion Protection type        |
|                      | KJ2         | ATEX Flameproof with Intrinsically Safe output                                              | See Restriction for Explosion Protection type        |
|                      | KT2         | ATEX Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus, PROFIBUS PA         | See Restriction for Explosion Protection type        |
|                      | SF2         | IECEx Flameproof                                                                            | See Restriction for Explosion Protection type        |
|                      | SJ2         | IECEx Flameproof with Intrinsically Safe output                                             | See Restriction for Explosion Protection type        |
|                      | ST2         | IECEx Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus, PROFIBUS PA        | See Restriction for Explosion Protection type        |
|                      | FF2         | FM Flameproof                                                                               | See Restriction for Explosion Protection type        |
|                      | FJ2         | FM Flameproof with Intrinsically Safe output                                                | See Restriction for Explosion Protection type        |
|                      | FT2         | FM Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus, PROFIBUS PA           | See Restriction for Explosion Protection type        |
|                      | CF2         | FMc Flameproof (Canada)                                                                     | See Restriction for Explosion Protection type        |
|                      | CJ2         | FMc Flameproof with Intrinsically Safe output (Canada)                                      | See Restriction for Explosion Protection type        |
|                      | CT2         | FMc Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus, PROFIBUS PA (Canada) | See Restriction for Explosion Protection type        |
|                      | GF2         | EAC Flameproof                                                                              | See Restriction for Explosion Protection type        |
|                      | GJ2         | EAC Flameproof with Intrinsically Safe output                                               | See Restriction for Explosion Protection type        |
|                      | GT2         | EAC Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus                       | See Restriction for Explosion Protection type        |
|                      | JF5         | Japan Flameproof                                                                            | See Restriction for Explosion Protection type        |

(Continued)

|                      |                               |     |                                         |                                                                                                |
|----------------------|-------------------------------|-----|-----------------------------------------|------------------------------------------------------------------------------------------------|
| Explosion Protection | PF2                           |     | Korea Flameproof                        | See Restriction for Explosion Protection type                                                  |
|                      | UF2                           |     | INMETRO Flameproof (Brazil)             | See Restriction for Explosion Protection type                                                  |
| Process Connection   | Wafer                         | AA1 | ASME Class 150 Wafer                    | 2.5 to 200 mm (0.1 to 8 in.)                                                                   |
|                      |                               | AA2 | ASME Class 300 Wafer                    | 2.5 to 200 mm (0.1 to 8 in.)                                                                   |
|                      |                               | AE1 | EN PN10 Wafer                           | 200 mm (8 in.)                                                                                 |
|                      |                               | AE2 | EN PN16 Wafer                           | 65 to 200 mm (2.5 to 8 in.)                                                                    |
|                      |                               | AE4 | EN PN40 Wafer                           | 2.5 to 50 mm (0.1 to 2 in.)                                                                    |
|                      |                               | AG1 | JIS F12 Wafer                           | 80 to 200 mm (3 to 8 in.)                                                                      |
|                      |                               | AJ1 | JIS 10K Wafer                           | 2.5 to 200 mm (0.1 to 8 in.)                                                                   |
|                      |                               | AJ2 | JIS 20K Wafer                           | 2.5 to 200 mm (0.1 to 8 in.)                                                                   |
|                      |                               | AP1 | JPI Class 150 Wafer                     | 2.5 to 200 mm (0.1 to 8 in.)<br>(32, 65, and 125 mm (1.25, 2.5, and 5 in.) are not available.) |
|                      | Stainless Steel Flange (F304) | BA1 | ASME Class 150 Flange                   |                                                                                                |
|                      |                               | BA2 | ASME Class 300 Flange                   | 2.5 to 300 mm (0.1 to 12 in.)                                                                  |
|                      |                               | BE1 | EN PN10 Flange                          | 200 to 400 mm (8 to 16 in.)                                                                    |
|                      |                               | BE2 | EN PN16 Flange                          | 65 to 300 mm (2.5 to 12 in.)                                                                   |
|                      |                               | BE3 | EN PN25 Flange                          | 80 to 400 mm (3 to 16 in.)                                                                     |
|                      |                               | BE4 | EN PN40 Flange                          | 2.5 to 50 mm (0.1 to 2 in.)                                                                    |
|                      |                               | BG1 | JIS F12 Flange                          | 80 to 400 mm (3 to 16 in.)                                                                     |
|                      |                               | BJ1 | JIS 10K Flange                          |                                                                                                |
|                      |                               | BJ2 | JIS 20K Flange                          | 2.5 to 300 mm (0.1 to 12 in.)                                                                  |
|                      |                               | BP1 | JPI Class 150 Flange                    | 32, 65, and 125 mm (1.25, 2.5, and 5 in.) are not available.                                   |
|                      |                               | DE4 | EN PN40 Flange (Nominal Diameter 10 mm) | 2.5 to 10 mm (0.1 to 0.4 in.)                                                                  |
|                      |                               | DJ1 | JIS 10K Flange (Nominal Diameter 10 mm) | 2.5 to 10 mm (0.1 to 0.4 in.)                                                                  |
|                      |                               | DJ2 | JIS 20K Flange (Nominal Diameter 10 mm) | 2.5 to 10 mm (0.1 to 0.4 in.)                                                                  |
| Process Connection   | Stainless Steel Flange (F316) | PA1 | ASME Class 150 Flange                   | 32, 65, and 125 mm (1.25, 2.5, and 5 in.) are not available.                                   |
|                      |                               | PA2 | ASME Class 300 Flange                   | 2.5 to 300 mm (0.1 to 12 in.) (32, 65, and 125 mm (1.25, 2.5, and 5 in.) are not available.)   |
|                      |                               | PE1 | EN PN10 Flange                          | 200 to 400 mm (8 to 16 in.)                                                                    |
|                      |                               | PE2 | EN PN16 Flange                          | 80 to 300 mm (3 to 12 in.) (125 mm (5 in.) is not available.)                                  |
|                      |                               | PE3 | EN PN25 Flange                          | 80 to 400 mm (3 to 16 in.)                                                                     |
|                      |                               | PE4 | EN PN40 Flange                          | 2.5 to 50 mm (0.1 to 2 in.) (32 mm (1.25 in.) is not available.)                               |
|                      |                               | PJ1 | JIS 10K Flange                          | 32, 65, and 125 mm (1.25, 2.5, and 5 in.) are not available.                                   |
|                      | Carbon Steel Flange           | CA1 | ASME Class 150 Flange                   | 50 to 400 mm (2 to 16 in.)                                                                     |
|                      |                               | CA2 | ASME Class 300 Flange                   | 50 to 300 mm (2 to 12 in.)                                                                     |
|                      |                               | CE1 | EN PN10 Flange                          | 200 to 400 mm (8 to 16 in.)                                                                    |
|                      |                               | CE2 | EN PN16 Flange                          | 65 to 300 mm (2.5 to 12 in.)                                                                   |
|                      |                               | CE4 | EN PN40 Flange                          | 50 mm (2 in.)                                                                                  |
|                      |                               | CG1 | JIS F12 Flange                          | 80 to 400 mm (3 to 16 in.)                                                                     |
|                      |                               | CJ1 | JIS 10K Flange                          | 50 to 400 mm (2 to 16 in.)                                                                     |
|                      |                               | CJ2 | JIS 20K Flange                          | 50 to 300 mm (2 to 12 in.)                                                                     |
|                      |                               | CS1 | AS Table D Flange                       | 50 to 400 mm (2 to 16 in.) (65, and 125 mm (2.5, and 5 in.) are not available.)                |
|                      |                               | CS2 | AS Table E Flange                       | 50 to 300 mm (2 to 12 in.) (65, and 125 mm (2.5, and 5 in.) are not available.)                |

(Continued)

|                             |           |                                                                                                        |                                                                                                    |
|-----------------------------|-----------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Lining                      | <b>A</b>  | PFA Lining                                                                                             |                                                                                                    |
| Electrode                   | <b>L</b>  | Stainless Steel 316L                                                                                   |                                                                                                    |
|                             | <b>P</b>  | Platinum-Iridium                                                                                       |                                                                                                    |
|                             | <b>H</b>  | Nickel Alloy                                                                                           |                                                                                                    |
|                             | <b>T</b>  | Tantalum                                                                                               |                                                                                                    |
|                             | <b>V</b>  | Titanium                                                                                               |                                                                                                    |
|                             | <b>W</b>  | Tungsten Carbide                                                                                       | 2.5 mm, 5 mm, 10 mm (0.1, 0.2, 0.4 in.) are not available                                          |
| Grounding Device            | <b>1</b>  | None                                                                                                   |                                                                                                    |
|                             | <b>2</b>  | Grounding Rings                                                                                        | Select an optional code                                                                            |
|                             | <b>3</b>  | Built-in Grounding Electrodes                                                                          | Select an optional code                                                                            |
| Housing and Coating         | <b>1</b>  | Standard Material with Standard Coating                                                                |                                                                                                    |
|                             | <b>2</b>  | Standard Material with Rugged Coating                                                                  | Not applicable for Submersible                                                                     |
| Cable Entry                 | <b>0</b>  | JIS G1/2 Female                                                                                        | See Restriction for Explosion Protection type                                                      |
|                             | <b>2</b>  | ASME 1/2 NPT Female                                                                                    | Not applicable for Submersible, See Restriction for Explosion Protection type                      |
|                             | <b>4</b>  | ISO M20×1.5 Female                                                                                     | Not applicable for Submersible, See Restriction for Explosion Protection type                      |
| Accuracy                    | <b>B</b>  | Standard                                                                                               |                                                                                                    |
|                             | <b>C</b>  | High Grade                                                                                             | 25 to 200 mm (1 to 8 in.)                                                                          |
| Power Supply                | <b>-1</b> | 100-240 V AC / 100-120 V DC                                                                            | Only for Integral Flowmeter                                                                        |
|                             | <b>-2</b> | 24 V AC / DC                                                                                           | Only for Integral Flowmeter                                                                        |
|                             | <b>-N</b> | None (Remote Sensor)                                                                                   | Only for Remote Sensor                                                                             |
| Communication and I/O       | <b>D#</b> | #: A, B, C, D, E, F, G, H, J, K, P, Q, R, S, T<br>BRAIN and I/O (Type A to K, P to T). See "Details".  | Only for Integral Flowmeter                                                                        |
|                             | <b>J#</b> | #: A, B, C, D, E, F, G, H, J, K, P, Q, R, S, T<br>HART 7 and I/O (Type A to K, P to T). See "Details". | Only for Integral Flowmeter                                                                        |
|                             | <b>M#</b> | #: 0, 2, 6<br>Modbus and I/O (Type 0, 2, 6). See "Details".                                            | Only for Integral Flowmeter                                                                        |
|                             | <b>F0</b> | FOUNDATION Fieldbus I/O                                                                                | Only for Integral Flowmeter                                                                        |
|                             | <b>G0</b> | PROFIBUS PA I/O                                                                                        | Only for Integral Flowmeter                                                                        |
|                             | <b>P0</b> | EtherNet/IP                                                                                            | Only for Integral Flowmeter<br>Only for Transmitter Wiring Terminal: 1<br>Only for Display: 3 or N |
|                             | <b>NN</b> | None (Remote Sensor)                                                                                   | Only for Remote Sensor                                                                             |
| Transmitter Wiring Terminal | <b>1</b>  | M4 Screw-type                                                                                          |                                                                                                    |
|                             | <b>2</b>  | Clamp Type                                                                                             |                                                                                                    |
|                             | <b>N</b>  | None (Remote Sensor)                                                                                   | Only for Remote Sensor                                                                             |
| Display                     | <b>1</b>  | With Display (English, Multi-language)                                                                 | Only for Integral Flowmeter                                                                        |
|                             | <b>2</b>  | With Display (English, Chinese)                                                                        | Only for Integral Flowmeter                                                                        |
|                             | <b>3</b>  | With Display (English)                                                                                 | Only for Integral Flowmeter<br>Only for Communication and I/O: P0                                  |
|                             | <b>N</b>  | Without Display/Remote Sensor                                                                          |                                                                                                    |
| Optional Specification      |           | /# Refer to optional specification table.                                                              |                                                                                                    |

**●General-purpose, Submersible, Flange, PFA Lining (500 mm/20 in.)**

| Model                       | Suffix Code                   |            | Description                               | Limitation                     |
|-----------------------------|-------------------------------|------------|-------------------------------------------|--------------------------------|
| <b>AXG500</b>               |                               |            | Magnetic Flowmeter (500 mm/20 in)         |                                |
| Use                         | <b>-G</b>                     |            | General-purpose                           |                                |
|                             | <b>-W</b>                     |            | Submersible                               |                                |
| Construction                | <b>D</b>                      |            | Remote Sensor (for AXFA11)                |                                |
|                             | <b>E</b>                      |            | Remote Sensor (for AXG1A)                 |                                |
| Explosion Protection        | <b>000</b>                    |            | Non Explosion Protection Approval         |                                |
| Process Connection          | Stainless Steel Flange (F304) | <b>BA1</b> | ASME Class 150 Flange                     |                                |
|                             |                               | <b>BE1</b> | EN PN10 Flange                            |                                |
|                             |                               | <b>BE2</b> | EN PN16 Flange                            |                                |
|                             | Carbon Steel Flange           | <b>CA1</b> | ASME Class 150 Flange                     |                                |
|                             |                               | <b>CE1</b> | EN PN10 Flange                            |                                |
|                             |                               | <b>CE2</b> | EN PN16 Flange                            |                                |
| Lining                      | <b>A</b>                      |            | PFA Lining                                |                                |
| Electrode                   | <b>L</b>                      |            | Stainless Steel 316L                      |                                |
|                             | <b>H</b>                      |            | Nickel Alloy                              |                                |
| Grounding Device            | <b>1</b>                      |            | None                                      |                                |
|                             | <b>2</b>                      |            | Grounding Rings                           | Select an optional code        |
| Housing and Coating         | <b>1</b>                      |            | Standard Material with Standard Coating   |                                |
|                             | <b>2</b>                      |            | Standard Material with Rugged Coating     | Not applicable for Submersible |
| Cable Entry                 | <b>0</b>                      |            | JIS G1/2 Female                           |                                |
|                             | <b>2</b>                      |            | ASME 1/2 NPT Female                       | Not applicable for Submersible |
|                             | <b>4</b>                      |            | ISO M20×1.5 Female                        | Not applicable for Submersible |
| Accuracy                    | <b>B</b>                      |            | Standard                                  |                                |
| Power Supply                | <b>-N</b>                     |            | None                                      |                                |
| Communication and I/O       | <b>NN</b>                     |            | None                                      |                                |
| Transmitter Wiring Terminal | <b>N</b>                      |            | None                                      |                                |
| Display                     | <b>N</b>                      |            | Remote Sensor                             |                                |
| Optional Specification      |                               |            | /# Refer to optional specification table. |                                |



●General-purpose, Submersible, Explosionprotection, Flange, PFA Lining (High Pressure Type, ASME Class 600)

| Model                 | Suffix Code                   |     | Description                                                                                        | Limitation                                                                    |
|-----------------------|-------------------------------|-----|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| AXG025                |                               |     | Magnetic Flowmeter (25 mm/1 in)                                                                    |                                                                               |
| AXG040                |                               |     | Magnetic Flowmeter (40 mm/1.5 in)                                                                  |                                                                               |
| AXG050                |                               |     | Magnetic Flowmeter (50 mm/2 in)                                                                    |                                                                               |
| AXG080                |                               |     | Magnetic Flowmeter (80 mm/3 in)                                                                    |                                                                               |
| AXG100                |                               |     | Magnetic Flowmeter (100 mm/4 in)                                                                   |                                                                               |
| Use                   | -G                            |     | General-purpose                                                                                    |                                                                               |
|                       | -C                            |     | Explosion protection                                                                               |                                                                               |
|                       | -W                            |     | Submersible                                                                                        |                                                                               |
| Construction          | A                             |     | Integral Flowmeter                                                                                 |                                                                               |
|                       | D                             |     | Remote Sensor (for AXFA11)                                                                         |                                                                               |
|                       | E                             |     | Remote Sensor (for AXG1A)                                                                          |                                                                               |
|                       | G                             |     | Remote Sensor (for AXG4A)                                                                          |                                                                               |
| Explosion Protection  | 000                           |     | Non Explosion Protection Approval                                                                  |                                                                               |
|                       | SF2                           |     | IECEX Flameproof                                                                                   | See Restriction for Explosion Protection type                                 |
|                       | SJ2                           |     | IECEX Flameproof with Intrinsically Safe output                                                    | See Restriction for Explosion Protection type                                 |
|                       | ST2                           |     | IECEX Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus, PROFIBUS PA               | See Restriction for Explosion Protection type                                 |
|                       | FF2                           |     | FM Flameproof                                                                                      | See Restriction for Explosion Protection type                                 |
|                       | FJ2                           |     | FM Flameproof with Intrinsically Safe output                                                       | See Restriction for Explosion Protection type                                 |
|                       | FT2                           |     | FM Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus, PROFIBUS PA                  | See Restriction for Explosion Protection type                                 |
|                       | GF2                           |     | EAC Flameproof                                                                                     | See Restriction for Explosion Protection type                                 |
|                       | GJ2                           |     | EAC Flameproof with Intrinsically Safe output                                                      | See Restriction for Explosion Protection type                                 |
|                       | GT2                           |     | EAC Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus                              | See Restriction for Explosion Protection type                                 |
|                       | PF2                           |     | Korea Flameproof                                                                                   | See Restriction for Explosion Protection type                                 |
|                       | UF2                           |     | INMETRO Flameproof (Brazil)                                                                        | See Restriction for Explosion Protection type                                 |
| Process Connection    | Stainless Steel Flange (F304) | EA4 | ASME Class 600 Flange (High Pressure)                                                              |                                                                               |
| Lining                | A                             |     | PFA Lining                                                                                         |                                                                               |
| Electrode             | L                             |     | Stainless Steel 316L                                                                               |                                                                               |
| Grounding device      | 2                             |     | Grounding Rings                                                                                    | Select an optional code                                                       |
| Housing and Coating   | 1                             |     | Standard Material with Standard Coating                                                            |                                                                               |
|                       | 2                             |     | Standard Material with Rugged Coating                                                              | Not applicable for Submersible                                                |
| Cable Entry           | 0                             |     | JIS G1/2 Female                                                                                    | See Restriction for Explosion Protection type                                 |
|                       | 2                             |     | ASME 1/2 NPT Female                                                                                | Not applicable for Submersible, See Restriction for Explosion Protection type |
|                       | 4                             |     | ISO M20×1.5 Female                                                                                 | Not applicable for Submersible, See Restriction for Explosion Protection type |
| Accuracy              | B                             |     | Standard                                                                                           |                                                                               |
| Power Supply          | -1                            |     | 100-240 V AC / 100-120 V DC                                                                        | Only for Integral Flowmeter                                                   |
|                       | -2                            |     | 24 V AC / DC                                                                                       | Only for Integral Flowmeter                                                   |
|                       | -N                            |     | None (Remote Sensor)                                                                               | Only for Remote Sensor                                                        |
| Communication and I/O | D#                            |     | #: A, B, C, D, E, F, G, H, J, K, P, Q, R, S, T BRAIN and I/O (Type A to K, P to T). See "Details". | Only for Integral Flowmeter                                                   |

(Continued)

|                             |           |                                                                                                        |                                                                                                       |
|-----------------------------|-----------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Communication and I/O       | <b>J#</b> | #: A, B, C, D, E, F, G, H, J, K, P, Q, R, S, T<br>HART 7 and I/O (Type A to K, P to T). See "Details". | Only for Integral Flowmeter                                                                           |
|                             | <b>M#</b> | #: 0, 2, 6<br>Modbus and I/O (Type 0, 2, 6). See "Details".                                            | Only for Integral Flowmeter                                                                           |
|                             | <b>F0</b> | FOUNDATION Fieldbus I/O                                                                                | Only for Integral Flowmeter                                                                           |
|                             | <b>G0</b> | PROFIBUS PA I/O                                                                                        | Only for Integral Flowmeter                                                                           |
|                             | <b>P0</b> | EtherNet/IP                                                                                            | Only for Integral Flowmeter<br>Only for Transmitter Wiring<br>Terminal: 1<br>Only for Display: 3 or N |
|                             | <b>NN</b> | None (Remote Sensor)                                                                                   | Only for Remote Sensor                                                                                |
| Transmitter Wiring Terminal | <b>1</b>  | M4 Screw-type                                                                                          |                                                                                                       |
|                             | <b>2</b>  | Clamp Type                                                                                             |                                                                                                       |
|                             | <b>N</b>  | None (Remote Sensor)                                                                                   | Only for Remote Sensor                                                                                |
| Display                     | <b>1</b>  | With Display (English, Multi-language)                                                                 | Only for Integral Flowmeter                                                                           |
|                             | <b>2</b>  | With Display (English, Chinese)                                                                        | Only for Integral Flowmeter                                                                           |
|                             | <b>3</b>  | With Display (English)                                                                                 | Only for Integral Flowmeter<br>Only for Communication<br>and I/O: P0                                  |
|                             | <b>N</b>  | Without Display/Remote Sensor                                                                          |                                                                                                       |
| Optional Specification      |           | /# Refer to optional specification table.                                                              |                                                                                                       |

#### ●General-purpose, Explosionprotection, Ceramics Tube

| Model                | Suffix Code | Description                                                                             | Limitation                                       |
|----------------------|-------------|-----------------------------------------------------------------------------------------|--------------------------------------------------|
| AXG002               |             | Magnetic Flowmeter (2.5 mm/0.1 in)                                                      |                                                  |
| AXG005               |             | Magnetic Flowmeter (5 mm/0.2 in)                                                        |                                                  |
| AXG010               |             | Magnetic Flowmeter (10 mm/0.4 in)                                                       |                                                  |
| AXG015               |             | Magnetic Flowmeter (15 mm/0.5 in)                                                       |                                                  |
| AXG025               |             | Magnetic Flowmeter (25 mm/1 in)                                                         |                                                  |
| AXG040               |             | Magnetic Flowmeter (40 mm/1.5 in)                                                       |                                                  |
| AXG050               |             | Magnetic Flowmeter (50 mm/2 in)                                                         |                                                  |
| AXG080               |             | Magnetic Flowmeter (80 mm/3 in)                                                         |                                                  |
| AXG100               |             | Magnetic Flowmeter (100 mm/4 in)                                                        |                                                  |
| AXG150               |             | Magnetic Flowmeter (150 mm/6 in)                                                        |                                                  |
| AXG200               |             | Magnetic Flowmeter (200 mm/8 in)                                                        |                                                  |
| Use                  | <b>-G</b>   | General-purpose                                                                         |                                                  |
|                      | <b>-C</b>   | Explosion protection                                                                    |                                                  |
| Construction         | <b>A</b>    | Integral Flowmeter                                                                      |                                                  |
|                      | <b>D</b>    | Remote Sensor (for AXFA11)                                                              |                                                  |
|                      | <b>E</b>    | Remote Sensor (for AXG1A)                                                               |                                                  |
|                      | <b>G</b>    | Remote Sensor (for AXG4A)                                                               |                                                  |
| Explosion Protection | <b>000</b>  | Non Explosion Protection Approval                                                       |                                                  |
|                      | <b>KF2</b>  | ATEX Flameproof                                                                         | See Restriction for<br>Explosion Protection type |
|                      | <b>KJ2</b>  | ATEX Flameproof with Intrinsically Safe output                                          | See Restriction for<br>Explosion Protection type |
|                      | <b>KT2</b>  | ATEX Flameproof with Intrinsically Safe output for<br>FOUNDATION Fieldbus, PROFIBUS PA  | See Restriction for<br>Explosion Protection type |
|                      | <b>SF2</b>  | IECEx Flameproof                                                                        | See Restriction for<br>Explosion Protection type |
|                      | <b>SJ2</b>  | IECEx Flameproof with Intrinsically Safe output                                         | See Restriction for<br>Explosion Protection type |
|                      | <b>ST2</b>  | IECEx Flameproof with Intrinsically Safe output for<br>FOUNDATION Fieldbus, PROFIBUS PA | See Restriction for<br>Explosion Protection type |
|                      | <b>FF2</b>  | FM Flameproof                                                                           | See Restriction for<br>Explosion Protection type |
|                      | <b>FJ2</b>  | FM Flameproof with Intrinsically Safe output                                            | See Restriction for<br>Explosion Protection type |
|                      | <b>FT2</b>  | FM Flameproof with Intrinsically Safe output for<br>FOUNDATION Fieldbus, PROFIBUS PA    | See Restriction for<br>Explosion Protection type |
|                      | <b>GF2</b>  | EAC Flameproof                                                                          | See Restriction for<br>Explosion Protection type |

(Continued)

|                       |                                    |     |                         |                                                                                                        |                                                                                      |
|-----------------------|------------------------------------|-----|-------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Explosion Protection  |                                    | GJ2 |                         | EAC Flameproof with Intrinsically Safe output                                                          | See Restriction for Explosion Protection type                                        |
|                       |                                    | GT2 |                         | EAC Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus                                  | See Restriction for Explosion Protection type                                        |
|                       |                                    | JF5 |                         | Japan Flameproof                                                                                       | See Restriction for Explosion Protection type                                        |
|                       |                                    | PF2 |                         | Korea Flameproof                                                                                       | See Restriction for Explosion Protection type                                        |
|                       |                                    | UF2 |                         | INMETRO Flameproof (Brazil)                                                                            | See Restriction for Explosion Protection type                                        |
| Process Connection    | Wafer                              | AA1 |                         | ASME Class 150 Wafer                                                                                   | 15 to 200 mm (0.5 to 8 in.) (125 mm (5 in.) is not available.)                       |
|                       |                                    | AA2 |                         | ASME Class 300 Wafer                                                                                   | 15 to 200 mm (0.5 to 8 in.) (125 mm (5 in.) is not available.)                       |
|                       |                                    | AE1 |                         | EN PN10 Wafer                                                                                          | 200 mm (8 in.)                                                                       |
|                       |                                    | AE2 |                         | EN PN16 Wafer                                                                                          | 80 to 200 mm (3 to 8 in.) (125 mm (5 in.) is not available.)                         |
|                       |                                    | AE4 |                         | EN PN40 Wafer                                                                                          | 15 to 50 mm (0.5 to 2 in.)                                                           |
|                       |                                    | AG1 |                         | JIS F12 Wafer                                                                                          | 80 to 200 mm (3 to 8 in.) (125 mm (5 in.) is not available.)                         |
|                       |                                    | AJ1 |                         | JIS 10K Wafer                                                                                          | 15 to 200 mm (0.5 to 8 in.) (125 mm (5 in.) is not available.)                       |
|                       |                                    | AJ2 |                         | JIS 20K Wafer                                                                                          | 15 to 200 mm (0.5 to 8 in.) (125 mm (5 in.) is not available.)                       |
|                       | Union Joint Stainless Steel (F316) | GUN |                         | Screw Union Joint                                                                                      | 2.5 to 5 mm (0.1 to 0.2 in.): 1/4 NPT<br>10 mm (0.4 in.): 3/8 NPT                    |
|                       |                                    | GUR |                         | Screw Union Joint                                                                                      | 2.5 to 5 mm (0.1 to 0.2 in.): R 1/4<br>10 mm (0.4 in.): R 3/8                        |
|                       |                                    | GUW |                         | Welding Union Joint                                                                                    | 2.5 to 10 mm (0.1 to 0.4 in.)                                                        |
| Lining                |                                    | C   | Ceramics Tube           |                                                                                                        |                                                                                      |
| Electrode             |                                    | E   | Platinum-alumina Cermet |                                                                                                        |                                                                                      |
| Grounding Device      |                                    |     | 1                       | None                                                                                                   |                                                                                      |
|                       |                                    |     | 2                       | Grounding Rings                                                                                        | 2.5 mm, 5 mm, 10 mm (0.1, 0.2, 0.4 in.) are not available<br>Select an optional code |
| Housing and Coating   |                                    |     | 1                       | Standard Material with Standard Coating                                                                |                                                                                      |
|                       |                                    |     | 2                       | Standard Material with Rugged Coating                                                                  |                                                                                      |
| Cable Entry           |                                    |     | 0                       | JIS G1/2 Female                                                                                        | See Restriction for Explosion Protection type                                        |
|                       |                                    |     | 2                       | ASME 1/2 NPT Female                                                                                    | See Restriction for Explosion Protection type                                        |
|                       |                                    |     | 4                       | ISO M20×1.5 Female                                                                                     | See Restriction for Explosion Protection type                                        |
| Accuracy              |                                    |     | B                       | Standard                                                                                               |                                                                                      |
|                       |                                    |     | C                       | High Grade                                                                                             | 25 to 200 mm (1 to 8 in.)                                                            |
| Power Supply          |                                    |     | -1                      | 100-240 V AC / 100-120 V DC                                                                            | Only for Integral Flowmeter                                                          |
|                       |                                    |     | -2                      | 24 V AC / DC                                                                                           | Only for Integral Flowmeter                                                          |
|                       |                                    |     | -N                      | None (Remote Sensor)                                                                                   | Only for Remote Sensor                                                               |
| Communication and I/O |                                    |     | D#                      | #: A, B, C, D, E, F, G, H, J, K, P, Q, R, S, T<br>BRAIN and I/O (Type A to K, P to T). See "Details".  | Only for Integral Flowmeter                                                          |
|                       |                                    |     | J#                      | #: A, B, C, D, E, F, G, H, J, K, P, Q, R, S, T<br>HART 7 and I/O (Type A to K, P to T). See "Details". | Only for Integral Flowmeter                                                          |
|                       |                                    |     | M#                      | #: 0, 2, 6<br>Modbus and I/O (Type 0, 2, 6). See "Details".                                            | Only for Integral Flowmeter                                                          |
|                       |                                    |     | F0                      | FOUNDATION Fieldbus I/O                                                                                | Only for Integral Flowmeter                                                          |
|                       |                                    |     | G0                      | PROFIBUS PA I/O                                                                                        | Only for Integral Flowmeter                                                          |

(Continued)

|                             |           |                                          |                                                                                                    |
|-----------------------------|-----------|------------------------------------------|----------------------------------------------------------------------------------------------------|
| Communication and I/O       | <b>P0</b> | EtherNet/IP                              | Only for Integral Flowmeter<br>Only for Transmitter Wiring Terminal: 1<br>Only for Display: 3 or N |
|                             | <b>NN</b> | None (Remote Sensor)                     | Only for Remote Sensor                                                                             |
| Transmitter Wiring Terminal | <b>1</b>  | M4 Screw-type                            |                                                                                                    |
|                             | <b>2</b>  | Clamp Type                               |                                                                                                    |
|                             | <b>N</b>  | None (Remote Sensor)                     | Only for Remote Sensor                                                                             |
| Display                     | <b>1</b>  | With Display (English, Multi-language)   | Only for Integral Flowmeter                                                                        |
|                             | <b>2</b>  | With Display (English, Chinese)          | Only for Integral Flowmeter                                                                        |
|                             | <b>3</b>  | With Display (English)                   | Only for Integral Flowmeter<br>Only for Communication and I/O: P0                                  |
|                             | <b>N</b>  | Without Display/Remote Sensor            |                                                                                                    |
| Optional Specification      |           | # Refer to optional specification table. |                                                                                                    |

### ●Hygienic, Hygienic Explosion protection, PFA Lining

| Model                | Suffix Code | Description                                                                                 | Limitation                                    |
|----------------------|-------------|---------------------------------------------------------------------------------------------|-----------------------------------------------|
| AXG015               |             | Magnetic Flowmeter (15 mm/0.5 in)                                                           |                                               |
| AXG025               |             | Magnetic Flowmeter (25 mm/1 in)                                                             |                                               |
| AXG032               |             | Magnetic Flowmeter (32 mm/1.25 in)                                                          |                                               |
| AXG040               |             | Magnetic Flowmeter (40 mm/1.5 in)                                                           |                                               |
| AXG050               |             | Magnetic Flowmeter (50 mm/2 in)                                                             |                                               |
| AXG065               |             | Magnetic Flowmeter (65 mm/2.5 in)                                                           |                                               |
| AXG080               |             | Magnetic Flowmeter (80 mm/3 in)                                                             |                                               |
| AXG100               |             | Magnetic Flowmeter (100 mm/4 in)                                                            |                                               |
| AXG125               |             | Magnetic Flowmeter (125 mm/5 in)                                                            |                                               |
| Use                  | <b>-H</b>   | Hygienic                                                                                    |                                               |
|                      | <b>-J</b>   | Hygienic Explosion Protection                                                               |                                               |
| Construction         | <b>A</b>    | Integral Flowmeter                                                                          |                                               |
|                      | <b>D</b>    | Remote Sensor (for AXFA11)                                                                  |                                               |
|                      | <b>E</b>    | Remote Sensor (for AXG1A)                                                                   |                                               |
|                      | <b>G</b>    | Remote Sensor (for AXG4A)                                                                   |                                               |
| Explosion Protection | <b>000</b>  | Non Explosion Protection Approval                                                           |                                               |
|                      | <b>KF2</b>  | ATEX Flameproof                                                                             | See Restriction for Explosion Protection type |
|                      | <b>KJ2</b>  | ATEX Flameproof with Intrinsically Safe output                                              | See Restriction for Explosion Protection type |
|                      | <b>KT2</b>  | ATEX Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus, PROFIBUS PA         | See Restriction for Explosion Protection type |
|                      | <b>SF2</b>  | IECEx Flameproof                                                                            | See Restriction for Explosion Protection type |
|                      | <b>SJ2</b>  | IECEx Flameproof with Intrinsically Safe output                                             | See Restriction for Explosion Protection type |
|                      | <b>ST2</b>  | IECEx Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus, PROFIBUS PA        | See Restriction for Explosion Protection type |
|                      | <b>FF2</b>  | FM Flameproof                                                                               | See Restriction for Explosion Protection type |
|                      | <b>FJ2</b>  | FM Flameproof with Intrinsically Safe output                                                | See Restriction for Explosion Protection type |
|                      | <b>FT2</b>  | FM Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus, PROFIBUS PA           | See Restriction for Explosion Protection type |
|                      | <b>CF2</b>  | FMc Flameproof (Canada)                                                                     | See Restriction for Explosion Protection type |
|                      | <b>CJ2</b>  | FMc Flameproof with Intrinsically Safe output (Canada)                                      | See Restriction for Explosion Protection type |
|                      | <b>CT2</b>  | FMc Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus, PROFIBUS PA (Canada) | See Restriction for Explosion Protection type |
|                      | <b>GF2</b>  | EAC Flameproof                                                                              | See Restriction for Explosion Protection type |
|                      | <b>GJ2</b>  | EAC Flameproof with Intrinsically Safe output                                               | See Restriction for Explosion Protection type |

(Continued)

|                       |                 |     |                                                                                                     |                                                                                                         |                                                                  |
|-----------------------|-----------------|-----|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Explosion Protection  |                 | GT2 |                                                                                                     | EAC Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus                                   | See Restriction for Explosion Protection type                    |
|                       |                 | JF5 |                                                                                                     | Japan Flameproof                                                                                        | See Restriction for Explosion Protection type                    |
|                       |                 | PF2 |                                                                                                     | Korea Flameproof                                                                                        | See Restriction for Explosion Protection type                    |
|                       |                 | UF2 |                                                                                                     | INMETRO Flameproof (Brazil)                                                                             | See Restriction for Explosion Protection type                    |
| Process Connection    | Clamp           | HAB |                                                                                                     | Tri-Clamp, Stainless Steel F316L                                                                        | 15 to 100 mm (0.5 to 4 in.) (32 mm (1.25 in.) is not available.) |
|                       |                 | HDB |                                                                                                     | DIN 32676 Clamp, Stainless Steel F316L                                                                  |                                                                  |
|                       |                 | HJA |                                                                                                     | ISO 2852 Clamp (for JIS G3447 Piping), Stainless Steel F304                                             |                                                                  |
|                       |                 | HJB |                                                                                                     | ISO 2852 Clamp (for JIS G3447 Piping), Stainless Steel F316L                                            |                                                                  |
|                       |                 | HKB |                                                                                                     | ISO 2852 / SMS 3016 Clamp, Stainless Steel F316L                                                        |                                                                  |
|                       | Union           | JDB |                                                                                                     | DIN 11851 Union, Stainless Steel F316L                                                                  |                                                                  |
|                       |                 | JJA |                                                                                                     | ISO 2853 Union (for JIS G3447 Piping), Stainless Steel F304                                             | 25 to 100 mm (1 to 4 in.)                                        |
|                       |                 | JJB |                                                                                                     | ISO 2853 Union (for JIS G3447 Piping), Stainless Steel F316L                                            | 25 to 100 mm (1 to 4 in.)                                        |
|                       |                 | JKB |                                                                                                     | ISO 2853 Union, Stainless Steel F316L                                                                   | 15 to 100 mm (0.5 to 4 in.)                                      |
|                       |                 | JSB |                                                                                                     | SMS 1145 Union (Open groove packing type), Stainless Steel F316L                                        | 25 to 100 mm (1 to 4 in.)                                        |
| Process Connection    | Butt Weld Joint | KDB |                                                                                                     | DIN 11850 Piping Butt Weld Joint, Stainless Steel F316L                                                 |                                                                  |
|                       |                 | KJA |                                                                                                     | JIS G3447 Piping Butt Weld Joint, Stainless Steel F304                                                  |                                                                  |
|                       |                 | KJB |                                                                                                     | JIS G3447 Piping Butt Weld Joint, Stainless Steel F316L                                                 |                                                                  |
|                       |                 | KKB |                                                                                                     | ISO 2037 Piping Butt Weld Joint, Stainless Steel F316L                                                  |                                                                  |
| Lining                |                 | A   | PFA Lining                                                                                          |                                                                                                         |                                                                  |
| Electrode             |                 | L   | Stainless Steel 316L                                                                                |                                                                                                         |                                                                  |
| Grounding Device      |                 | 1   | None                                                                                                |                                                                                                         |                                                                  |
| Housing and Coating   |                 | 1   | Standard Material with Standard Coating                                                             |                                                                                                         |                                                                  |
| Cable Entry           |                 | 0   | JIS G1/2 Female                                                                                     | See Restriction for Explosion Protection type                                                           |                                                                  |
|                       |                 | 2   | ASME 1/2 NPT Female                                                                                 | See Restriction for Explosion Protection type                                                           |                                                                  |
|                       |                 | 4   | ISO M20×1.5 Female                                                                                  | See Restriction for Explosion Protection type                                                           |                                                                  |
| Accuracy              |                 | B   | Standard                                                                                            |                                                                                                         |                                                                  |
|                       |                 | C   | High Grade                                                                                          | 25 to 125 mm (1 to 5 in.)                                                                               |                                                                  |
| Power Supply          |                 | -1  | 100-240 V AC / 100-120 V DC                                                                         | Only for Integral Flowmeter                                                                             |                                                                  |
|                       |                 | -2  | 24 V AC / DC                                                                                        | Only for Integral Flowmeter                                                                             |                                                                  |
|                       |                 | -N  | None (Remote Sensor)                                                                                | Only for Remote Sensor                                                                                  |                                                                  |
| Communication and I/O |                 | D#  | #: A, B, C, D, E, F, G, H, J, K, P, Q, R, S, T BRAIN and I/O (Type A to K, P to T). See "Details".  | Only for Integral Flowmeter                                                                             |                                                                  |
|                       |                 | J#  | #: A, B, C, D, E, F, G, H, J, K, P, Q, R, S, T HART 7 and I/O (Type A to K, P to T). See "Details". | Only for Integral Flowmeter                                                                             |                                                                  |
|                       |                 | M#  | #: 0, 2, 6 Modbus and I/O (Type 0, 2, 6). See "Details".                                            | Only for Integral Flowmeter                                                                             |                                                                  |
|                       |                 | F0  | FOUNDATION Fieldbus I/O                                                                             | Only for Integral Flowmeter                                                                             |                                                                  |
|                       |                 | G0  | PROFIBUS PA I/O                                                                                     | Only for Integral Flowmeter                                                                             |                                                                  |
|                       |                 | P0  | EtherNet/IP                                                                                         | Only for Integral Flowmeter<br>Only for Transmitter Wiring Terminal: 1<br>Only for Display code: 3 or N |                                                                  |
|                       |                 | NN  | None (Remote Sensor)                                                                                | Only for Remote Sensor                                                                                  |                                                                  |

(Continued)

|                             |          |                                           |                                                                      |
|-----------------------------|----------|-------------------------------------------|----------------------------------------------------------------------|
| Transmitter Wiring Terminal | <b>1</b> | M4 Screw-type                             |                                                                      |
|                             | <b>2</b> | Clamp Type                                |                                                                      |
|                             | <b>N</b> | None (Remote Sensor)                      | Only for Remote Sensor                                               |
| Display                     | <b>1</b> | With Display (English, Multi-language)    | Only for Integral Flowmeter                                          |
|                             | <b>2</b> | With Display (English, Chinese)           | Only for Integral Flowmeter                                          |
|                             | <b>3</b> | With Display (English)                    | Only for Integral Flowmeter<br>Only for Communication<br>and I/O: P0 |
|                             | <b>N</b> | Without Display/Remote Sensor             |                                                                      |
| Optional Specification      |          | /# Refer to optional specification table. |                                                                      |

●Replacement Model, General-purpose, Submersible, Explosionprotection, Wafer, PFA Lining

| Model                | Suffix Code |     | Description                                                                             | Limitation                                           |
|----------------------|-------------|-----|-----------------------------------------------------------------------------------------|------------------------------------------------------|
| AXG025               |             |     | Magnetic Flowmeter (25 mm/1 in)                                                         |                                                      |
| AXG040               |             |     | Magnetic Flowmeter (40 mm/1.5 in)                                                       |                                                      |
| AXG050               |             |     | Magnetic Flowmeter (50 mm/2 in)                                                         |                                                      |
| AXG080               |             |     | Magnetic Flowmeter (80 mm/3 in)                                                         |                                                      |
| AXG100               |             |     | Magnetic Flowmeter (100 mm/4 in)                                                        |                                                      |
| AXG150               |             |     | Magnetic Flowmeter (150 mm/6 in)                                                        |                                                      |
| AXG200               |             |     | Magnetic Flowmeter (200 mm/8 in)                                                        |                                                      |
| Use                  | -G          |     | General-purpose                                                                         |                                                      |
|                      | -C          |     | Explosion protection                                                                    |                                                      |
|                      | -W          |     | Submersible                                                                             | 25 to 200 mm (1 to 8 in.),<br>only for Remote sensor |
| Construction         | A           |     | Integral Flowmeter                                                                      |                                                      |
|                      | E           |     | Remote Sensor (for AXG1A)                                                               |                                                      |
|                      | G           |     | Remote Sensor (for AXG4A)                                                               |                                                      |
| Explosion Protection | 000         |     | Non Explosion Protection Approval                                                       |                                                      |
|                      | SF2         |     | IECEX Flameproof                                                                        | See Restriction for<br>Explosion Protection type     |
|                      | SJ2         |     | IECEX Flameproof with Intrinsically Safe output                                         | See Restriction for<br>Explosion Protection type     |
|                      | ST2         |     | IECEX Flameproof with Intrinsically Safe output for<br>FOUNDATION Fieldbus, PROFIBUS PA | See Restriction for<br>Explosion Protection type     |
|                      | FF2         |     | FM Flameproof                                                                           | See Restriction for<br>Explosion Protection type     |
|                      | FJ2         |     | FM Flameproof with Intrinsically Safe output                                            | See Restriction for<br>Explosion Protection type     |
|                      | FT2         |     | FM Flameproof with Intrinsically Safe output for<br>FOUNDATION Fieldbus, PROFIBUS PA    | See Restriction for<br>Explosion Protection type     |
|                      | JF5         |     | Japan Flameproof                                                                        | See Restriction for<br>Explosion Protection type     |
|                      | PF2         |     | Korea Flameproof                                                                        | See Restriction for<br>Explosion Protection type     |
|                      | UF2         |     | INMETRO Flameproof (Brazil)                                                             | See Restriction for<br>Explosion Protection type     |
| Process Connection   | Wafer       | AA1 | ASME Class 150 Wafer                                                                    | 25 to 200 mm (1 to 8 in.)                            |
|                      |             | AA2 | ASME Class 300 Wafer                                                                    | 25 to 200 mm (1 to 8 in.)                            |
|                      |             | AG1 | JIS F12 Wafer                                                                           | 80 to 200 mm (3 to 8 in.)                            |
|                      |             | AJ1 | JIS 10K Wafer                                                                           | 25 to 200 mm (1 to 8 in.)                            |
|                      |             | AJ2 | JIS 20K Wafer                                                                           | 25 to 200 mm (1 to 8 in.)                            |
| Lining               |             | A   | PFA Lining                                                                              |                                                      |
| Electrode            |             | L   | Stainless Steel 316L                                                                    |                                                      |
|                      |             | P   | Platinum-Iridium                                                                        |                                                      |
|                      |             | H   | Nickel Alloy                                                                            |                                                      |
|                      |             | T   | Tantalum                                                                                |                                                      |
|                      |             | V   | Titanium                                                                                |                                                      |
|                      |             | W   | Tungsten Carbide                                                                        |                                                      |
| Grounding Device     |             | 2   | Grounding Rings                                                                         | Select an optional code /<br>GAN                     |



(Continued)

|                             |           |                                                                                                        |                                                                                                    |
|-----------------------------|-----------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Housing and Coating         | <b>1</b>  | Standard Material with Standard Coating                                                                |                                                                                                    |
|                             | <b>2</b>  | Standard Material with Rugged Coating                                                                  | Not applicable for Submersible                                                                     |
| Cable Entry                 | <b>0</b>  | JIS G1/2 Female                                                                                        | See Restriction for Explosion Protection type                                                      |
|                             | <b>2</b>  | ASME 1/2 NPT Female                                                                                    | Not applicable for Submersible, See Restriction for Explosion Protection type                      |
|                             | <b>4</b>  | ISO M20×1.5 Female                                                                                     | Not applicable for Submersible, See Restriction for Explosion Protection type                      |
| Accuracy                    | <b>B</b>  | Standard                                                                                               |                                                                                                    |
| Power Supply                | <b>-1</b> | 100-240 V AC / 100-120 V DC                                                                            | Only for Integral Flowmeter                                                                        |
|                             | <b>-2</b> | 24 V AC / DC                                                                                           | Only for Integral Flowmeter                                                                        |
|                             | <b>-N</b> | None (Remote Sensor)                                                                                   | Only for Remote Sensor                                                                             |
| Communication and I/O       | <b>D#</b> | #: A, B, C, D, E, F, G, H, J, K, P, Q, R, S, T<br>BRAIN and I/O (Type A to K, P to T). See "Details".  | Only for Integral Flowmeter                                                                        |
|                             | <b>J#</b> | #: A, B, C, D, E, F, G, H, J, K, P, Q, R, S, T<br>HART 7 and I/O (Type A to K, P to T). See "Details". | Only for Integral Flowmeter                                                                        |
|                             | <b>M#</b> | #: 0, 2, 6<br>Modbus and I/O (Type 0, 2, 6). See "Details".                                            | Only for Integral Flowmeter                                                                        |
|                             | <b>F0</b> | FOUNDATION Fieldbus I/O                                                                                | Only for Integral Flowmeter                                                                        |
|                             | <b>G0</b> | PROFIBUS PA I/O                                                                                        | Only for Integral Flowmeter                                                                        |
|                             | <b>P0</b> | EtherNet/IP                                                                                            | Only for Integral Flowmeter<br>Only for Transmitter Wiring Terminal: 1<br>Only for Display: 3 or N |
|                             | <b>NN</b> | None (Remote Sensor)                                                                                   | Only for Remote Sensor                                                                             |
| Transmitter Wiring Terminal | <b>1</b>  | M4 Screw-type                                                                                          |                                                                                                    |
|                             | <b>2</b>  | Clamp Type                                                                                             |                                                                                                    |
|                             | <b>N</b>  | None (Remote Sensor)                                                                                   | Only for Remote Sensor                                                                             |
| Display                     | <b>1</b>  | With Display (English, Multi-language)                                                                 | Only for Integral Flowmeter                                                                        |
|                             | <b>2</b>  | With Display (English, Chinese)                                                                        | Only for Integral Flowmeter                                                                        |
|                             | <b>3</b>  | With Display (English)                                                                                 | Only for Integral Flowmeter<br>Only for Communication and I/O: P0                                  |
|                             | <b>N</b>  | Without Display/Remote Sensor                                                                          |                                                                                                    |
| Optional Specification      |           | /RW/GAN With Grounding Rings For Wafer Type Replacement Model                                          | Mandatory for Wafer Type Replacement Model                                                         |
|                             |           | /# Refer to optional specification table.                                                              |                                                                                                    |

**●General-purpose, Explosion protection. Remote Transmitter**

| Model                       | Suffix Code | Description                                                                                            | Limitation                                                               |
|-----------------------------|-------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| AXG4A                       |             | Magnetic Flowmeter Remote Transmitter                                                                  |                                                                          |
| Use                         | -G          | General-purpose                                                                                        |                                                                          |
|                             | -C          | Explosion Protection                                                                                   |                                                                          |
| Explosion Protection        | 000         | Non Explosion Protection Approval                                                                      |                                                                          |
|                             | KF2         | ATEX Flameproof                                                                                        | See Restriction for Explosion Protection type                            |
|                             | KJ2         | ATEX Flameproof with Intrinsically Safe output                                                         | See Restriction for Explosion Protection type                            |
|                             | KT2         | ATEX Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus, PROFIBUS PA                    | See Restriction for Explosion Protection type                            |
|                             | SF2         | IECEx Flameproof                                                                                       | See Restriction for Explosion Protection type                            |
|                             | SJ2         | IECEx Flameproof with Intrinsically Safe output                                                        | See Restriction for Explosion Protection type                            |
|                             | ST2         | IECEx Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus, PROFIBUS PA                   | See Restriction for Explosion Protection type                            |
|                             | FF2         | FM Flameproof                                                                                          | See Restriction for Explosion Protection type                            |
|                             | FJ2         | FM Flameproof with Intrinsically Safe output                                                           | See Restriction for Explosion Protection type                            |
|                             | FT2         | FM Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus, PROFIBUS PA                      | See Restriction for Explosion Protection type                            |
|                             | CF2         | FMc Flameproof (Canada)                                                                                | See Restriction for Explosion Protection type                            |
|                             | CJ2         | FMc Flameproof with Intrinsically Safe output (Canada)                                                 | See Restriction for Explosion Protection type                            |
|                             | CT2         | FMc Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus, PROFIBUS PA (Canada)            | See Restriction for Explosion Protection type                            |
|                             | GF2         | EAC Flameproof                                                                                         | See Restriction for Explosion Protection type                            |
|                             | GJ2         | EAC Flameproof with Intrinsically Safe output                                                          | See Restriction for Explosion Protection type                            |
|                             | GT2         | EAC Flameproof with Intrinsically Safe output for FOUNDATION Fieldbus                                  | See Restriction for Explosion Protection type                            |
|                             | JF5         | Japan Flameproof                                                                                       | See Restriction for Explosion Protection type                            |
|                             | PF2         | Korea Flameproof                                                                                       | See Restriction for Explosion Protection type                            |
|                             | UF2         | INMETRO Flameproof (Brazil)                                                                            | See Restriction for Explosion Protection type                            |
| Housing and Coating         | 1           | Standard Material with Standard Coating                                                                |                                                                          |
|                             | 2           | Standard Material with Rugged Coating                                                                  |                                                                          |
| Cable Entry                 | 0           | JIS G1/2 Female                                                                                        | See Restriction for Explosion Protection type                            |
|                             | 2           | ASME 1/2 NPT Female                                                                                    | See Restriction for Explosion Protection type                            |
|                             | 4           | ISO M20×1.5 Female                                                                                     | See Restriction for Explosion Protection type                            |
| Power Supply                | 1           | 100-240 V AC / 100-120 V DC                                                                            |                                                                          |
|                             | 2           | 24 V AC / DC                                                                                           |                                                                          |
| Communication and I/O       | D#          | #: A, B, C, D, E, F, G, H, J, K, P, Q, R, S, T<br>BRAIN and I/O (Type A to K, P to T). See "Details".  |                                                                          |
|                             | J#          | #: A, B, C, D, E, F, G, H, J, K, P, Q, R, S, T<br>HART 7 and I/O (Type A to K, P to T). See "Details". |                                                                          |
|                             | M#          | #: 0, 2, 6<br>Modbus and I/O (Type 0, 2, 6). See "Details".                                            |                                                                          |
|                             | F0          | FOUNDATION Fieldbus I/O                                                                                |                                                                          |
|                             | G0          | PROFIBUS PA I/O                                                                                        |                                                                          |
|                             | P0          | EtherNet/IP                                                                                            | Only for Transmitter Wiring Terminal: 1<br>Only for Display code: 3 or N |
| Transmitter Wiring Terminal | 1           | M4 Screw-type                                                                                          |                                                                          |
|                             | 2           | Clamp Type                                                                                             |                                                                          |

(Continued)

|                        |   |                                           |                                    |
|------------------------|---|-------------------------------------------|------------------------------------|
| Display                | 1 | With Display (English, Multi-language)    |                                    |
|                        | 2 | With Display (English, Chinese)           |                                    |
|                        | 3 | With Display (English)                    | Only for Communication and I/O: P0 |
|                        | N | Without Display                           |                                    |
| Optional Specification |   | /# Refer to optional specification table. |                                    |

### ●Signal Cable

| Model                   | Suffix Code | Optional Code | Description                                                          |
|-------------------------|-------------|---------------|----------------------------------------------------------------------|
| AX01C                   |             |               | Magnetic Flowmeter Signal Cable                                      |
| Cable Finish and Length | -A### (*1)  |               | Unfinished, Cable length ### m, Set of Finishing Parts for M4 Screws |
|                         | -B### (*1)  |               | Finished for AXG1A, Cable Length ### m                               |
|                         | -C### (*1)  |               | Finished for AXG4A, Cable Length ### m                               |
|                         | -D### (*1)  |               | Finished for AXFA11, Cable Length ### m                              |
| Finishing Parts         |             | /C# (*2)      | Finishing Parts (# sets)                                             |

\*1: Specify the cable length in the "###" with the numerical value three digits (001 to 200) as multiple of 1 meter (e.g. 001, 002, or 005) for a length up to 5 m, as multiple of 5 meters up to 100 m (e.g. 010, 020, or 100), or as multiple of 10 meters up to 200 m (e.g. 110, 120, or 200).

The maximum cable length: -A###: 200 m, -B###: 200 m, -C###: 100 m, -D###: 200 m  
5 m (16 ft) when using with Marine Approval Type

\*2: Specify the finishing parts quantity in the "#" with the numerical value one digit (1 to 9).

### ●Details: Communication and I/O (HART type, BRAIN type)

| Type   | Communication and I/O Code |    | Number of Input and Output |                             |                           |                       |                                                     |                                                        |                        |                      |
|--------|----------------------------|----|----------------------------|-----------------------------|---------------------------|-----------------------|-----------------------------------------------------|--------------------------------------------------------|------------------------|----------------------|
|        |                            |    | Current Output Active      | Pulse/Status Output Passive | Status Input (No-voltage) | Status Output Passive | Pulse/Status Output Active (with internal resistor) | Pulse/Status Output Active (without internal resistor) | Current Output Passive | Current Input Active |
| Type A | DA                         | JA | 1                          | 1                           | —                         | —                     | —                                                   | —                                                      | —                      | —                    |
| Type B | DB                         | JB | 2                          | 2                           | —                         | —                     | —                                                   | —                                                      | —                      | —                    |
| Type C | DC                         | JC | 2                          | 1                           | 1                         | —                     | —                                                   | —                                                      | —                      | —                    |
| Type D | DD                         | JD | 1                          | 2                           | —                         | 1                     | —                                                   | —                                                      | —                      | —                    |
| Type E | DE                         | JE | 1                          | 2                           | 1                         | —                     | —                                                   | —                                                      | —                      | —                    |
| Type F | DF                         | JF | 1                          | 1                           | 1                         | —                     | 1                                                   | —                                                      | —                      | —                    |
| Type G | DG                         | JG | 1                          | 1                           | 1                         | —                     | —                                                   | 1                                                      | —                      | —                    |
| Type H | DH                         | JH | 1                          | 1                           | —                         | —                     | —                                                   | —                                                      | 1                      | 1                    |
| Type J | DJ                         | JJ | 1                          | 2                           | —                         | —                     | —                                                   | —                                                      | —                      | 1                    |
| Type K | DK                         | JK | 1                          | 1                           | 1                         | —                     | —                                                   | —                                                      | —                      | 1                    |

### ●Details: Communication and I/O (IS Output)

| Type   | Communication and I/O Code |    | Number of Input and Output |                             |                                     |
|--------|----------------------------|----|----------------------------|-----------------------------|-------------------------------------|
|        |                            |    | Current Output Passive     | Pulse/Status Output Passive | Pulse/Status Output Passive (NAMUR) |
| Type P | DP                         | JP | 2                          | 1                           | —                                   |
| Type Q | DQ                         | JQ | 2                          | 2                           | —                                   |
| Type R | DR                         | JR | 2                          | —                           | 1                                   |
| Type S | DS                         | JS | 2                          | —                           | 2                                   |
| Type T | DT                         | JT | 1                          | 1                           | —                                   |

**●Details: Communication and I/O (Modbus type)**

| Type   | Communication and I/O Code | Number of Input and Output |                              |                      |
|--------|----------------------------|----------------------------|------------------------------|----------------------|
|        | Modbus                     | Current Output Active      | Pulse/ Status Output Passive | Current Input Active |
| Type 0 | M0                         | —                          | 1                            | —                    |
| Type 2 | M2                         | —                          | 1                            | 1                    |
| Type 6 | M6                         | 1                          | 1                            | —                    |

**●Details: Communication and I/O (FOUNDATION Fieldbus type)**

| Type    | Communication and I/O Code | Number of Input and Output |                              |                      |
|---------|----------------------------|----------------------------|------------------------------|----------------------|
|         | FOUNDATION Fieldbus        | Current Output Active      | Pulse/ Status Output Passive | Current Input Active |
| Type F0 | F0                         | —                          | 1                            | —                    |

**●Details: Communication and I/O (PROFIBUS PA type)**

| Type    | Communication and I/O code | Number of Input and Output |                             |                      |
|---------|----------------------------|----------------------------|-----------------------------|----------------------|
|         | PROFIBUS PA                | Current Output Active      | Pulse/Status Output Passive | Current Input Active |
| Type G0 | G0                         | —                          | 1                           | —                    |

**●Details: Communication and I/O (EtherNet/IP type)**

| Type    | Communication and I/O code | Number of Input and Output |                     |                      |
|---------|----------------------------|----------------------------|---------------------|----------------------|
|         | EtherNet/IP                | Current Output Active      | Pulse/Status Output | Current Input Active |
| Type P0 | P0                         | —                          | —                   | —                    |

**●Details: Restriction for Explosion protection type**

For Explosion protection type, the following combinations of suffix code or optional code are restricted. For other optional codes, see optional code tables.

| Item                                                                               | Code | Restriction of Combination                                                                                                                                     |                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                    |      | Mandatory                                                                                                                                                      | Not Available                                                                                                                                                                                                                                                                           |
| ATEX Flameproof                                                                    | KF2  | <ul style="list-style-type: none"> <li>Optional Code: EC</li> </ul>                                                                                            | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Process Connection: AG1, AJ#, AP1, BG1, BJ#, BP1, CG1, CJ#, CS#, DJ#, EA4, PJ1</li> <li>Cable Entry: 0 (JIS G1/2)</li> <li>Communication and I/O: Type P, Q, R, S, T, P0</li> <li>Optional Code: CS, RW, GAN</li> </ul> |
| ATEX Flameproof with Intrinsically Safe output                                     | KJ2  | <ul style="list-style-type: none"> <li>Communication and I/O: Type P, Q, R, S, T</li> <li>Optional Code: EC</li> <li>Transmitter Wiring Terminal: 2</li> </ul> | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Construction: D, E, G (Remote Sensor)</li> <li>Process Connection: AG1, AJ#, AP1, BG1, BJ#, BP1, CG1, CJ#, CS#, DJ#, EA4, PJ1</li> <li>Cable Entry: 0 (JIS G1/2)</li> <li>Optional Code: CS, RW, GAN</li> </ul>         |
| ATEX Flameproof with Intrinsically Safe output, FOUNDATION Fieldbus / PROFIBUS PA  | KT2  | <ul style="list-style-type: none"> <li>Communication and I/O: Type F0, G0</li> <li>Optional Code: EC</li> <li>Transmitter Wiring Terminal: 2</li> </ul>        | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Construction: D, E, G (Remote Sensor)</li> <li>Process Connection: AG1, AJ#, AP1, BG1, BJ#, BP1, CG1, CJ#, CS#, DJ#, EA4, PJ1</li> <li>Cable Entry: 0 (JIS G1/2)</li> <li>Optional Code: CS, RW, GAN</li> </ul>         |
| IECEx Flameproof                                                                   | SF2  | —                                                                                                                                                              | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Cable Entry: 0 (JIS G1/2)</li> <li>Communication and I/O: Type P, Q, R, S, T, P0</li> <li>Optional Code: EC (Excludes combination with optional code WCD)</li> </ul>                                                    |
| IECEx Flameproof with Intrinsically Safe output                                    | SJ2  | <ul style="list-style-type: none"> <li>Communication and I/O: Type P, Q, R, S, T</li> <li>Transmitter Wiring Terminal: 2</li> </ul>                            | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Construction: D, E, G (Remote Sensor)</li> <li>Cable Entry: 0 (JIS G1/2)</li> <li>Optional Code: EC</li> </ul>                                                                                                          |
| IECEx Flameproof with Intrinsically Safe output, FOUNDATION Fieldbus / PROFIBUS PA | ST2  | <ul style="list-style-type: none"> <li>Communication and I/O: Type F0, G0</li> <li>Transmitter Wiring Terminal: 2</li> </ul>                                   | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Construction: D, E, G (Remote Sensor)</li> <li>Cable Entry: 0 (JIS G1/2)</li> <li>Optional Code: EC</li> </ul>                                                                                                          |

(Continued)

|                                                                                           |     |                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FM Flameproof                                                                             | FF2 | <ul style="list-style-type: none"> <li>Cable Entry: 2 (ASME 1/2NPT)</li> </ul>                                                                                                                       | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Grounding Device: 3</li> <li>Communication and I/O: Type P, Q, R, S, T, P0</li> <li>Optional Code: EC</li> <li>Optional Code: GBP, GBT</li> </ul>                                                                                                |
| FM Flameproof with Intrinsically Safe output                                              | FJ2 | <ul style="list-style-type: none"> <li>Cable Entry: 2 (ASME 1/2NPT)</li> <li>Communication and I/O: Type P, Q, R, S, T</li> <li>Transmitter Wiring Terminal: 2</li> </ul>                            | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Construction: D, E, G (Remote Sensor)</li> <li>Grounding Device: 3</li> <li>Optional Code: EC</li> <li>Optional Code: GBP, GBT</li> </ul>                                                                                                        |
| FM Flameproof with Intrinsically Safe output, FOUNDATION Fieldbus / PROFIBUS PA           | FT2 | <ul style="list-style-type: none"> <li>Cable Entry: 2 (ASME 1/2NPT)</li> <li>Communication and I/O: Type F0, G0</li> <li>Transmitter Wiring Terminal: 2</li> </ul>                                   | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Construction: D, E, G (Remote Sensor)</li> <li>Grounding Device: 3</li> <li>Optional Code: GBP, GBT</li> <li>Optional Code: EC</li> </ul>                                                                                                        |
| FMc Flameproof (Canada)                                                                   | CF2 | <ul style="list-style-type: none"> <li>Cable Entry: 2 (ASME 1/2NPT)</li> <li>Optional Code: CS</li> </ul>                                                                                            | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Process Connection: EA4</li> <li>Lining: C</li> <li>Grounding Device: 3</li> <li>Communication and I/O: Type P, Q, R, S, T, P0</li> <li>Optional Code: EC</li> <li>Optional Code: GBP, GBT, RW, GAN</li> </ul>                                   |
| FMc Flameproof with Intrinsically Safe output (Canada)                                    | CJ2 | <ul style="list-style-type: none"> <li>Cable Entry: 2 (ASME 1/2NPT)</li> <li>Communication and I/O: Type P, Q, R, S, T</li> <li>Transmitter Wiring Terminal: 2</li> <li>Optional Code: CS</li> </ul> | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Construction: D, E, G (Remote Sensor)</li> <li>Process Connection: EA4</li> <li>Lining: C</li> <li>Grounding Device: 3</li> <li>Optional Code: EC</li> <li>Optional Code: GBP, GBT, RW, GAN</li> </ul>                                           |
| FMc Flameproof with Intrinsically Safe output, FOUNDATION Fieldbus / PROFIBUS PA (Canada) | CT2 | <ul style="list-style-type: none"> <li>Cable Entry: 2 (ASME 1/2NPT)</li> <li>Communication and I/O: Type F0, G0</li> <li>Transmitter Wiring Terminal: 2</li> <li>Optional Code: CS</li> </ul>        | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Construction: D, E, G (Remote Sensor)</li> <li>Process Connection: EA4</li> <li>Lining: C</li> <li>Grounding Device: 3</li> <li>Optional Code: EC</li> <li>Optional Code: GBP, GBT, RW, GAN</li> </ul>                                           |
| EAC Flameproof                                                                            | GF2 | <ul style="list-style-type: none"> <li>Optional Code: VE, VR</li> </ul>                                                                                                                              | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Cable Entry: 0 (JIS G1/2)</li> <li>Communication and I/O: Type P, Q, R, S, T, P0</li> <li>Optional Code: EC, CS, RW, GAN</li> </ul>                                                                                                              |
| EAC Flameproof with Intrinsically Safe output                                             | GJ2 | <ul style="list-style-type: none"> <li>Communication and I/O: Type P, Q, R, S, T</li> <li>Transmitter Wiring Terminal: 2</li> <li>Optional Code: VE, VR</li> </ul>                                   | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Construction: D, E, G (Remote Sensor)</li> <li>Cable Entry: 0 (JIS G1/2)</li> <li>Optional Code: EC, CS, RW, GAN</li> </ul>                                                                                                                      |
| EAC Flameproof with Intrinsically Safe output, FOUNDATION Fieldbus                        | GT2 | <ul style="list-style-type: none"> <li>Communication and I/O: Type F0</li> <li>Transmitter Wiring Terminal: 2</li> <li>Optional Code: VE, VR</li> </ul>                                              | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Construction: D, E, G (Remote Sensor)</li> <li>Cable Entry: 0 (JIS G1/2)</li> <li>Optional Code: EC, CS, RW, GAN</li> </ul>                                                                                                                      |
| Japan Flameproof                                                                          | JF5 | <ul style="list-style-type: none"> <li>Cable Entry: 4 (ISO M20)</li> <li>Optional Code: V5#</li> </ul>                                                                                               | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Process Connection: C##</li> <li>Cable Entry: 0 (JIS G1/2), 2 (ASME 1/2NPT)</li> <li>Communication and I/O: Type P, Q, R, S, T, P0</li> <li>Display (Integral Flowmeter, Transmitter): N (Without Display)</li> <li>Optional Code: EC</li> </ul> |
| Korea Flameproof                                                                          | PF2 | —                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Cable Entry: 0 (JIS G1/2)</li> <li>Communication and I/O: Type P, Q, R, S, T, P0</li> <li>Optional Code: EC</li> <li>Optional Code: JC</li> </ul>                                                                                                |
| INMETRO Flameproof (Brazil)                                                               | UF2 | —                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>Use: -G, -W, -H</li> <li>Cable Entry: 0 (JIS G1/2)</li> <li>Communication and I/O: Type P, Q, R, S, T, P0</li> <li>Optional Code: EC, CS, JC</li> </ul>                                                                                                                   |

## ■ OPTIONAL CODE

### ●Application, Usage, and Operating Function

●: Applicable ○: Applicable (except Explosion Protection) —: Not Applicable

| Item                                                                                     | Specification and Applicable Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Applicable Model                     |               |               |                                             |               |                                      | Code |
|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------|---------------|---------------------------------------------|---------------|--------------------------------------|------|
|                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | General-purpose Explosion protection |               | Submersible   | Hygienic Hygienic with Explosion protection |               | General-purpose Explosion protection |      |
|                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Integral Flowmeter                   | Remote Sensor | Remote Sensor | Integral Flowmeter                          | Remote Sensor | Remote Transmitter                   |      |
| Mirror Finished PFA (for adhesive fluid)                                                 | Finish the inner surface of the PFA lining (sizes 15 to 400 mm (0.5 to 16 in.), except for high pressure type) to a mirror finish. The Ra is average of measured values on several points.<br>Sizes 15 to 200 mm (0.5 to 8 in.) : Ra 0.05 to 0.15 μm<br>Sizes 250 to 400 mm (10 to 16 in.) : Ra 0.05 to 0.25 μm                                                                                                                                                                                                                                                                                                                                                | ●                                    | ●             | ●             | ●                                           | ●             | —                                    | PM   |
| Mirror Finished Ceramics (for adhesive fluid)                                            | Finish the inner surface of the ceramics tube (5 to 200 mm (0.2 to 8 in.)) to a mirror finish with Ra 0.1 μm or less. The Ra is average of measured values on several points.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ●                                    | ●             | —             | —                                           | —             | —                                    | CM   |
| Vent Hole (for permeable fluid)                                                          | For permeable fluid applications (e.g. nitric acid, hydrofluoric acid, high temperature sodium hydroxide, black liquor etc.). A vent hole is provided for letting fluid permeated between the lining and the measuring pipe escape.<br>Applicable for flange type of PFA lining except for high pressure type.                                                                                                                                                                                                                                                                                                                                                 | ●                                    | ●             | —             | —                                           | —             | —                                    | H    |
| DC Noise Cut Circuit (for electrolytic bath)                                             | Built-in DC noise cut circuit. It works effectively when the size is 15 mm (0.5 in.) or more and fluid conductivity is 50 μS/cm or more. Empty pipe detection, electrode adhesion diagnosis, electrode potential measurement, and wetted resistance measurement function can not be used. For remote transmitter, it must be combined with remote sensor of size 15 mm (0.5 in.) or more.                                                                                                                                                                                                                                                                      | ●                                    | —             | —             | ●                                           | —             | ●                                    | ELC  |
| Potting Terminal Box with Cable (For district heating and cooling or condensation-proof) | Urethane resin potting is applied in the terminal box of a remote sensor. Signal and excitation cables (when optional code L### is not selected, cable length is each 30 m) are pre-wired and waterproof glands with union joints are attached at factory. For cable entry, selection of JIS G1/2 female thread is necessary.<br>When optional code DHC is selected, the optional code of plastic and waterproof glands can not be selected.                                                                                                                                                                                                                   | —                                    | ○             | —             | —                                           | ○             | —                                    | DHC  |
| Signal and Excitation Cable Length                                                       | Change the length of signal cable and excitation cable pre-wired for a remote sensor of Submersible or one with optional code DHC. Specify the cable length in the "###" with the numerical value three digits (001 to 200) as multiple of 1 meter (e.g. 001, 002, or 005) for a length up to 5 m, as multiple of 5 meters up to 100 m (e.g. 010, 020, or 100), or as multiple of 10 meters up to 200 m (e.g. 110, 120, or 200).<br>The maximum cable length is 100 m in combination with the AXG4A transmitter, and 200 m in combination with the AXG1A or AXFA11 transmitter. When optional code L### is not selected, a 30-meter length cable is pre-wired. | —                                    | ○             | ●             | —                                           | ○             | —                                    | L### |
| Wafer Type Replacement Model                                                             | This specification provides AXG with the lay length that are compatible with previous models (ADMAG, YEW MAG Series) in wafer type. Please be sure to select the option code GAN at the same time. For details on dimensions, please refer to the DIMENSIONAL DRAWINGS.                                                                                                                                                                                                                                                                                                                                                                                        | ●                                    | ●             | ●             | —                                           | —             | —                                    | RW   |



**●Application, Usage, and Operating Function (Continued)**

●: Applicable ○: Applicable (except Explosion Protection) —: Not Applicable

| Item                                                    | Specification and Applicable Condition                                                                                                                                                                                                                                                                                                                                                                           | Applicable Model                        |                  |                  |                                                   |                  |                                                | Code |
|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------------|------------------|---------------------------------------------------|------------------|------------------------------------------------|------|
|                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                  | General-purpose<br>Explosion protection |                  | Submersible      | Hygienic<br>Hygienic with<br>Explosion protection |                  | General-<br>purpose<br>Explosion<br>protection |      |
|                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                  | Integral<br>Flowmeter                   | Remote<br>Sensor | Remote<br>Sensor | Integral<br>Flowmeter                             | Remote<br>Sensor | Remote<br>Transmitter                          |      |
| Oil Prohibited<br>Use                                   | Electrodes, linings, grounding devices (grounding rings plate type, metal hat grounding ring, grounding rings electrode type, built-in grounding electrodes), gaskets, and piping adapters and connection parts (for Hygienic) of sizes 2.5 to 400 mm (0.1 to 16 in.) are assembled and packed with polyethylene after being cleaned with water and acetone and dried with air. The label "OIL FREE" is affixed. | ●                                       | ●                | —                | ●                                                 | ●                | —                                              | K1   |
| Oil Prohibited<br>Use with<br>Dehydration               | Electrodes, linings, and grounding devices (grounding rings plate type, metal hat grounding ring, grounding rings electrode type, built-in grounding electrodes) of sizes 2.5 to 400 mm (0.1 to 16 in.) are assembled and packed with polyethylene including desiccants after being cleaned with water and acetone and dried with air. The label "OIL & WATER FREE" is affixed.                                  | ●                                       | ●                | —                | —                                                 | —                | —                                              | K5   |
| Mass Unit<br>Setting                                    | The flow rate calculation is performed in mass unit. In addition to fluid density, specify span flow rate, pulse weight, and totalization weight in mass unit. For specifying procedures, read "Ordering Information".<br>For remote sensor, specified parameters are set in the transmitter that is ordered in combination.                                                                                     | ●                                       | ●                | ●                | ●                                                 | ●                | —                                              | MU   |
| Signal Down<br>on Failure                               | The current output signal is set as follows when shipped.<br>Output signal at CPU failure or alarm occurrence:<br>2.4 mA (–10 %) or less<br>(The standard setting is 21.6 mA (110%) or more at CPU failure or alarm occurrence.)<br>Not with Communication and I/O code M0, M2, F0, G0, P0.                                                                                                                      | ●                                       | —                | —                | ●                                                 | —                | ●                                              | C1   |
| Signal Down<br>on Failure<br>(NAMUR NE<br>43 Compliant) | The current output signal is set as follows when shipped.<br>Output signal limits: 3.8 to 20.5 mA<br>Output signal at CPU failure or alarm occurrence:<br>Low: 2.4 mA (–10%) or less<br>Not with Communication and I/O code M#, F0, G0, P0.                                                                                                                                                                      | ●                                       | —                | —                | ●                                                 | —                | ●                                              | C2   |
| Signal Up<br>on Failure<br>(NAMUR NE<br>43 Compliant)   | The current output signal is set as follows when shipped.<br>Output signal limits: 3.8 to 20.5 mA<br>Output signal at CPU failure or alarm occurrence:<br>High: 21.6 mA (110%) or more<br>Not with Communication and I/O code M#, F0, G0, P0.                                                                                                                                                                    | ●                                       | —                | —                | ●                                                 | —                | ●                                              | C3   |

# •Application, Usage, and Operating Function (Continued)

●: Applicable ○: Applicable (except Explosion Protection) —: Not Applicable

| Item                                    | Specification and Applicable Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Applicable Model                     |               |               |                                             |               |                                      | Code |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------|---------------|---------------------------------------------|---------------|--------------------------------------|------|
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | General-purpose Explosion protection |               | Submersible   | Hygienic Hygienic with Explosion protection |               | General-purpose Explosion protection |      |
|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Integral Flowmeter                   | Remote Sensor | Remote Sensor | Integral Flowmeter                          | Remote Sensor | Remote Transmitter                   |      |
| Enhanced Dual Frequency Excitation Type | <p>The "Enhanced Dual Frequency Excitation Method" can be used. For difficult applications such as for high concentration slurries or low conductivity fluid, extremely stable measurements can be realized. The meter factor for the enhanced dual frequency excitation obtained by flow calibration is inscribed on the Integral Flow Meter or Remote Sensor name plate and set into the combined Remote Transmitter in addition to the meter factor for the standard dual frequency excitation.</p> <p>Applicable Specifications:</p> <ul style="list-style-type: none"> <li>Size: 25 to 200 mm (1 to 8 in.)</li> <li>Use: -G, -W, -H</li> <li>Construction: A, E, G</li> <li>Accuracy: B</li> <li>Communication and I/O: HART, BRAIN</li> </ul> <p>Not applicable with the following optional code:</p> <ul style="list-style-type: none"> <li>EC (CE Marking)</li> <li>JC (Flow Calibration in Japan)</li> </ul> <p>To use the Enhanced Dual Frequency Excitation with a remote type, HF2 must be added to both a Sensor and a Transmitter.</p> <p>*The AXG4A adds a Dual Frequency Excitation. When used in combination with a remote sensor for flow calibration, the transmitter is shipped with both meter factors for Dual Frequency Excitation and Enhanced Dual Frequency Excitation.</p> | ○                                    | ○             | ○             | ○                                           | ○             | ○                                    | HF2  |
| microSD Card                            | <p>A microSD card slot is added to the display unit, and a microSD card (capacity 1 GB, format FAT 16) is inserted when shipped.</p> <p>When using parameter store / restore function with microSD card, and/or data logging function, specify optional code MC. Be careful that the microSD card slot is not mounted unless optional code MC is specified.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ●                                    | —             | —             | ●                                           | —             | ●                                    | MC   |
| CE Marking                              | <p>CE marking is indicated on the nameplate. When a flowmeter is used in the countries where CE marking is required, specify optional code EC.</p> <p>Optional code EC cannot be applicable for AXG500.</p> <p>Applicable for the following process connection codes. AA#, AE#, BA#, BE#, CA#, CE#, DE#, GU#, H##(*), J##(*), K##, PA#, PE#</p> <p>*: It can not be combined with optional code W2.</p> <p>Not applicable with the following specifications:</p> <ul style="list-style-type: none"> <li>Optional code: 3A (3-A Sanitary Certification)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ●                                    | ●             | ●             | ●                                           | ●             | ●                                    | EC   |
| NAMUR NE21                              | <p>Compliant to NAMUR NE21 under span setting of 0.5 m/s or more in terms of flow velocity. For measurable span, read "Ordering Information".</p> <p>Combination with optional code EC (CE marking) is necessary.</p> <p>Not with Communication and I/O code M#, F0, G0, P0.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ●                                    | —             | —             | ●                                           | —             | ●                                    | E21  |
| Canada Domestic Sales                   | <p>Compliant to CSA standards.</p> <p>Integral flowmeter and remote sensor (for size 2.5 to 400 mm) are registered with CRN in Canada.</p> <p>When the product is used in Canada, it is mandatory to comply with these standards. Specify option code CS.</p> <p>Optional code CS cannot be applicable for AXG500.</p> <p>Applicable for the following process connection codes. AA#, BA#, CA#, EA4, H##(*), J##(*), K##, PA#</p> <p>*: It can not be combined with optional code W2.</p> <p>Not applicable with the following specifications:</p> <ul style="list-style-type: none"> <li>Lining: C (Ceramics Tube)</li> <li>Optional code: EC (CE Marking)</li> <li>Optional code: VR, VE (EAC Marking)</li> <li>Optional code: JC (Flow Calibration in Japan)</li> <li>Optional code: RW (Wafer Type Replacement Model)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ●                                    | ●             | ●             | ●                                           | ●             | ●                                    | CS   |

# •Application, Usage, and Operating Function (Continued)

●: Applicable ○: Applicable (except Explosion Protection) —: Not Applicable

| Item                                                          | Specification and Applicable Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Applicable Model                     |               |               |                                             |               |                                      | Code |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------|---------------|---------------------------------------------|---------------|--------------------------------------|------|
|                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | General-purpose Explosion protection |               | Submersible   | Hygienic Hygienic with Explosion protection |               | General-purpose Explosion protection |      |
|                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Integral Flowmeter                   | Remote Sensor | Remote Sensor | Integral Flowmeter                          | Remote Sensor | Remote Transmitter                   |      |
| Japan Domestic Sales                                          | Identifies the final destination as Japan. Mandatory when the final destination is Japan. Not applicable when the final destination is not in Japan.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ●                                    | ●             | ●             | ●                                           | ●             | ●                                    | PJ   |
| 3-A Sanitary Certification                                    | Compliant to 3-A sanitary standards. Use EPDM rubber gasket for 3-A standard. Process connection code: HAB For remote type, only AXG4A remote transmitter can be combined. Nominal size: 15 mm to 100 mm, except 32 mm Not applicable with the following specifications: <ul style="list-style-type: none"> <li>Optional code: EC (CE Marking)</li> <li>Optional code: VR, VE (EAC Marking)</li> <li>Optional code: JC (Flow Calibration in Japan)</li> </ul>                                                                                                                                                                                                           | —                                    | —             | —             | ○                                           | ○             | ○                                    | 3A   |
| EAC Approval and Russian Pattern Approval Marking             | EAC approval marking and Russian pattern approval marking are indicated on the nameplate. When the product is used in Russian Federation, specify optional code VR. Not applicable with the following specifications: <ul style="list-style-type: none"> <li>Size: 500 mm</li> <li>Communication and I/O: P0 (EtherNet/IP)</li> <li>Optional code: EC (CE Marking)</li> <li>Optional code: CS (Canada Domestic Sales)</li> <li>Optional code: 3A (3-A Sanitary Certification)</li> <li>Optional code: JC (Flow Calibration in Japan)</li> <li>Optional code: WCD (Marine Approval)</li> <li>Optional code: RW (Wafer Type Replacement Model)</li> </ul>                 | ●                                    | ●             | ●             | ●                                           | ●             | ●                                    | VR   |
| EAC Approval Marking without Russian Pattern Approval Marking | EAC approval marking is indicated on the nameplate. (no Russian pattern approval marking). When the product is used in EEU except for Russian Federation, specify optional code VE. Not applicable with the following specifications: <ul style="list-style-type: none"> <li>Size: 500 mm</li> <li>Communication and I/O: P0 (EtherNet/IP)</li> <li>Optional code: EC (CE Marking)</li> <li>Optional code: CS (Canada Domestic Sales)</li> <li>Optional code: 3A (3-A Sanitary Certification)</li> <li>Optional code: JC (Flow Calibration in Japan)</li> <li>Optional code: WCD (Marine Approval)</li> <li>Optional code: RW (Wafer Type Replacement Model)</li> </ul> | ●                                    | ●             | ●             | ●                                           | ●             | ●                                    | VE   |
| SIL Certification                                             | Compliant to the functional safety standard IEC61508. When the product is used in a safety instrumented system, specify optional code SL. This product can be used in safety instrumented systems up to SIL2 in simplex configuration and SIL3 in redundant configuration. Not applicable with the following specifications: <ul style="list-style-type: none"> <li>Communication and I/O: M#, F0, G0, P0</li> <li>Optional code: ELC (DC noise cut circuit)</li> </ul>                                                                                                                                                                                                 | ●                                    | —             | —             | ●                                           | —             | ●                                    | SL   |
| Marine Approval                                               | For details, refer to the general specifications (GS 01E22A21-04EN) Not applicable with the following specifications: <ul style="list-style-type: none"> <li>Optional code: RW (Wafer Type Replacement Model)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                | ●                                    | ●             | ●             | —                                           | —             | ●                                    | WCD  |

### ●Tag Plate and Mounting Bracket

●: Applicable ○: Applicable (except Explosion Protection) —: Not Applicable

| Item                             | Specification and Applicable Condition                                                                                                                                                                                                                                                 | Applicable Model                     |               |               |                                             |               |                                      | Code |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------|---------------|---------------------------------------------|---------------|--------------------------------------|------|
|                                  |                                                                                                                                                                                                                                                                                        | General-purpose Explosion protection |               | Submersible   | Hygienic Hygienic with Explosion protection |               | General-purpose Explosion protection |      |
|                                  |                                                                                                                                                                                                                                                                                        | Integral Flowmeter                   | Remote Sensor | Remote Sensor | Integral Flowmeter                          | Remote Sensor | Remote Transmitter                   |      |
| Stainless Steel Tag Plate        | The pendant type tag plate (stainless steel 304) is wired around the flowmeter neck. Select optional code SCT when necessary in addition to that on the nameplate, on which the Tag No. is inscribed.<br>Plate size (Height x Width):<br>Approx. 12.5 mm x 40 mm (4.92 in. x 15.7 in.) | ●                                    | ●             | ●             | ●                                           | ●             | ●                                    | SCT  |
| Stainless Steel Mounting Bracket | Change the material of the remote transmitter mounting bracket, from carbon steel to stainless steel 304.                                                                                                                                                                              | —                                    | —             | —             | —                                           | —             | ●                                    | SB   |

### ●Piping Parts

●: Applicable ○: Applicable (except Explosion Protection) —: Not Applicable

| Item                             | Specification and Applicable Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Applicable Model                     |               |               |                                             |               | Code |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------|---------------|---------------------------------------------|---------------|------|
|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | General-purpose Explosion protection |               | Submersible   | Hygienic Hygienic with Explosion protection |               |      |
|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Integral Flowmeter                   | Remote Sensor | Remote Sensor | Integral Flowmeter                          | Remote Sensor |      |
| Bolts, Nuts and Gaskets (Type C) | The mounting bolts, nuts and gaskets of wafer type (process connection code: AJ1, AJ2, AA1) are supplied. For PFA lining and ceramics tube, when adopting the optional code BSC together with the optional earth ring plate, there is a risk of liquid leakage due to the difference in elasticity, so between the detector and the earth ring, also using a gasket of hardness equivalent to chloroprene rubber is recommended.<br>Bolt: Stainless steel 304<br>Nut: Stainless steel 304<br>Gasket(*):<br>Chloroprene rubber (CR), thickness: 3 mm (0.12 in.)<br>*: The allowable temperature and pressure is equivalent to that of Valqua #2010 series. | ●                                    | ●             | ●             | —                                           | —             | BSC  |
| Bolts, Nuts and Gaskets (Type F) | The mounting bolts, nuts and gaskets of wafer type (process connection code: AJ1, AJ2, AA1) are supplied.<br>Bolt: Stainless steel 304<br>Nut: Stainless steel 304<br>Gasket(*):<br>PTFE-sheathed non-asbestos joint sheet, thickness: 3 mm (0.12 in.)<br>*: The allowable temperature and pressure is equivalent to that of Valqua #7030 (S) series.                                                                                                                                                                                                                                                                                                     | ●                                    | ●             | ●             | —                                           | —             | BSF  |
| Hygienic Connection Parts        | Connection parts for hygienic are supplied. Optional code W2 can be selected with the following process connection codes.<br>HJA:<br>Clamp: Stainless steel SCS13<br>Ferrule:<br>Size 15 mm (0.5 in.): Stainless steel 316L<br>Sizes 25 to 125 mm (1 to 5 in.): Stainless steel 304<br>Gasket: Ethylene propylene diene rubber (EPDM) (*)<br>HJB:<br>Clamp: Stainless steel SCS13<br>Ferrule: Stainless steel 316L<br>Gasket: Ethylene propylene diene rubber (EPDM) (*)<br>*: The gasket material is silicone rubber, when size 125 mm (5 in.) or optional code GH is selected.                                                                          | —                                    | —             | —             | ●                                           | ●             | W2   |

### ●Grounding Device

Grounding devices are attached at factory.

For the applicable condition of grounding devices and gaskets, see the separate table.

●: Applicable ○: Applicable (except Explosion Protection) —: Not Applicable

| Item                                                                               | Specification and Applicable Condition                                                                                                                                                                                                                                                                                                                                                         | Applicable Model                     |               |               |                                             |               | Code |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------|---------------|---------------------------------------------|---------------|------|
|                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                | General-purpose Explosion protection |               | Submersible   | Hygienic Hygienic with Explosion protection |               |      |
|                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                | Integral Flowmeter                   | Remote Sensor | Remote Sensor | Integral Flowmeter                          | Remote Sensor |      |
| Grounding Rings<br>(Plate Type L)                                                  | Material: Stainless Steel 316L, Thin Type(*).<br>Thickness:<br>1 mm (0.04 in.) for sizes 2.5 to 200 mm (0.1 to 8 in.)<br>2 mm (0.08 in.) for sizes 250 to 400 mm (10 to 16 in.)                                                                                                                                                                                                                | ●                                    | ●             | ●             | —                                           | —             | GRL  |
| Grounding Rings<br>(Plate Type N)                                                  | Material: Stainless Steel 316L, Thick Type(*).<br>Thickness:<br>Except for high pressure type (ASME Class 600 flange):<br>3 mm (0.12 in.) for sizes 2.5 to 400 mm (0.1 to 16 in.)<br>4 mm (0.16 in.) for size 500 mm (20 in.)<br>For high pressure type (ASME Class 600 flange):<br>8.5 mm (0.33 in.) for size 25 mm (1 in.)<br>10.5 mm (0.41 in.) for sizes 40 to 100 mm (1.5 to 4 in.).      | ●                                    | ●             | ●             | —                                           | —             | GRN  |
| Grounding Rings<br>(Plate Type H)                                                  | Material: Nickel Alloy, Thin Type(*).<br>Thickness:<br>1 mm (0.04 in.) for sizes 2.5 to 200 mm (0.1 to 8 in.)<br>2 mm (0.08 in.) for sizes 250 to 400 mm (10 to 16 in.)                                                                                                                                                                                                                        | ●                                    | ●             | ●             | —                                           | —             | GRH  |
| Grounding Rings<br>(Plate Type J)                                                  | Material: Nickel Alloy, Thick Type(*).<br>Thickness:<br>3 mm (0.12 in.) for sizes 2.5 to 400 mm (0.1 to 16 in.)<br>4 mm (0.16 in.) for size 500 mm (20 in.)                                                                                                                                                                                                                                    | ●                                    | ●             | ●             | —                                           | —             | GRJ  |
| Grounding Rings<br>(Plate Type V)                                                  | Material: Titanium, Thin Type(*).<br>Thickness:<br>1 mm (0.04 in.) for sizes 2.5 to 200 mm (0.1 to 8 in.)<br>2 mm (0.08 in.) for sizes 250 to 400 mm (10 to 16 in.)                                                                                                                                                                                                                            | ●                                    | ●             | ●             | —                                           | —             | GRV  |
| Grounding Rings<br>(Plate Type W)                                                  | Material: Titanium, Thick Type(*).<br>Thickness:<br>3 mm (0.12 in.) for sizes 2.5 to 400 mm (0.1 to 16 in.)                                                                                                                                                                                                                                                                                    | ●                                    | ●             | ●             | —                                           | —             | GRW  |
| Metal Hat Grounding Ring<br>(Upstream Side)<br>Grounding Ring<br>(Downstream Side) | Attach the metal hat grounding ring on upstream side and the grounding ring on downstream side.<br>Material: Stainless Steel 316L<br>Thickness:<br>3 mm (0.12 in.) for sizes 80 to 400 mm (3 to 16 in.)                                                                                                                                                                                        | ●                                    | ●             | ●             | —                                           | —             | GSN  |
| Metal Hat Grounding Rings<br>(Upstream and Downstream Side)                        | Attach the metal hat grounding rings on both upstream and downstream sides.<br>Material: Stainless Steel 316L<br>Thickness:<br>3 mm (0.12 in.) for sizes 80 to 400 mm (3 to 16 in.)                                                                                                                                                                                                            | ●                                    | ●             | ●             | —                                           | —             | GDN  |
| Grounding Ring For Wafer Type Replacement Model                                    | Attach the grounding rings for wafer type replacement model. This ensures the AXG have the lay length compatible with previous models (ADMAG, YEWMAG Series). Please be sure to select the option code RW at the same time.<br>For details on dimensions, please refer to the DIMENSIONAL DRAWINGS.<br><br>Material: Stainless Steel F316L<br>Thickness:please check the DIMENSIONAL DRAWINGS. | ●                                    | ●             | ●             | —                                           | —             | GAN  |
| Grounding Rings<br>(Electrode Type P)                                              | Material: Platinum-Iridium<br>Width:<br>14 mm (0.55 in.) for sizes 2.5 to 15 mm (0.1 to 0.5 in.), sizes 25 to 125 mm (1 to 5 in.) with process connection Wafer (A##).<br>14.5 mm (0.57 in.) for sizes 25 to 125 mm (1 to 5 in.) with process connection Flange (B##, C##, E##, P##).<br>17 mm (0.67 in.) for sizes 150 to 200 mm (6 to 8 in.)                                                 | ●                                    | ●             | ●             | —                                           | —             | GRP  |

## ●Grounding Device (Continued)

●: Applicable ○: Applicable (except Explosion Protection) —: Not Applicable

| Item                                   | Specification and Applicable Condition                                                                                                                                                                                                                                                                                               | Applicable Model                     |               |               |                                             |               | Code |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------|---------------|---------------------------------------------|---------------|------|
|                                        |                                                                                                                                                                                                                                                                                                                                      | General-purpose Explosion protection |               | Submersible   | Hygienic Hygienic with Explosion protection |               |      |
|                                        |                                                                                                                                                                                                                                                                                                                                      | Integral Flowmeter                   | Remote Sensor | Remote Sensor | Integral Flowmeter                          | Remote Sensor |      |
| Grounding Rings (Electrode Type T)     | Material: Tantalum<br>Width:<br>14 mm (0.55 in.) for sizes 2.5 to 15 mm (0.1 to 0.5 in.), sizes 25 to 125 mm (1 to 5 in.) with process connection Wafer (A##)<br>14.5 mm (0.57 in.) for sizes 25 to 125 mm (1 to 5 in.) with process connection Flange (B##, C##, E##, P##)<br>17 mm (0.67 in.) for sizes 150 to 200 mm (6 to 8 in.) | ●                                    | ●             | ●             | —                                           | —             | GRT  |
| Built-in Grounding Electrodes (Type P) | Material: Platinum-Iridium<br>For electrode material selected by the suffix code, selection of platinum-iridium is necessary.                                                                                                                                                                                                        | ●                                    | ●             | ●             | —                                           | —             | GBP  |
| Built-in Grounding Electrodes (Type T) | Material: Tantalum<br>For electrode material selected by the suffix code, selection of tantalum is necessary.                                                                                                                                                                                                                        | ●                                    | ●             | ●             | —                                           | —             | GBT  |

\*: Either thin type or thick type for the grounding rings can be selected when the material is Stainless Steel 316L, Nickel Alloy, or Titanium. If the flange pressure ratings is ASME Class 300, EN PN 40 etc. for high fluid pressure and the tightening torque is high, the thick type is recommended.

**Size Range by Grounding Device****Grounding Ring Plate:**

Stainless Steel 316L

2.5 to 500 mm, 0.1 to 20 in. (for PFA Lining)

15 to 200 mm, 0.5 to 8 in. (for Ceramics Tube)

Nickel Alloy

2.5 to 500 mm, 0.1 to 20 in. (for PFA Lining)

15 to 200 mm, 0.5 to 8 in. (for Ceramics Tube)

Titanium

2.5 to 400 mm, 0.1 to 16 in. (for PFA Lining)

15 to 200 mm, 0.5 to 8 in. (for Ceramics Tube)

**Metal Hat Grounding Ring:**

Stainless Steel 316L

80 to 400 mm, 3 to 16 in. (for PFA Lining, Flange type)

**Grounding Ring For Wafer Type Replacement Model:**

Stainless Steel F316L

25 to 200 mm, 1 to 8 in. (for PFA Lining)

**Grounding Ring Electrode:**

Platinum-Iridium

2.5 to 200 mm, 0.1 to 8 in. (for PFA Lining)

15 to 200 mm, 0.5 to 8 in. (for Ceramics Tube)

Tantalum

2.5 to 200 mm, 0.1 to 8 in. (for PFA Lining)

15 to 200 mm, 0.5 to 8 in. (for Ceramics Tube)

**Built-in Grounding Electrode:**

Platinum-Iridium

150 to 400 mm, 6 to 16 in. (for PFA Lining, Flange type)

Tantalum

150 to 400 mm, 6 to 16 in. (for PFA Lining, Flange type)



# **●Gasket**

Grounding devices are attached at factory.

For applicable condition of grounding devices and gaskets, see the separate table.

●: Applicable ○: Applicable (except Explosion Protection) —: Not Applicable

| Item                                            | Specification and Applicable Condition                                                                                                                                                                                                                                                                                                                                                | Applicable Model                        |                  |                  |                                                   |                  | Code |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------------|------------------|---------------------------------------------------|------------------|------|
|                                                 |                                                                                                                                                                                                                                                                                                                                                                                       | General-purpose<br>Explosion protection |                  | Submersible      | Hygienic<br>Hygienic with<br>Explosion protection |                  |      |
|                                                 |                                                                                                                                                                                                                                                                                                                                                                                       | Integral<br>Flowmeter                   | Remote<br>Sensor | Remote<br>Sensor | Integral<br>Flowmeter                             | Remote<br>Sensor |      |
| Plastic Pipe<br>Gaskets                         | Fluororubber gasket (Viton) for plastic piping such as PVC.<br>The allowable temperature and pressure range is the same as those of Valqua #4010 with no special formulation.                                                                                                                                                                                                         | ●                                       | ●                | ●                | —                                                 | —                | GA   |
| Plastic Pipe<br>Acid-resistant<br>Gaskets       | Acid-resistant fluororubber gasket (Viton) for plastic piping such as PVC.<br>The allowable temperature and pressure range is the same as those of Valqua #4010 with special formulation D2470.                                                                                                                                                                                       | ●                                       | ●                | ●                | —                                                 | —                | GC   |
| Plastic Pipe<br>Alkali-<br>resistant<br>Gaskets | Alkali-resistant fluororubber gasket (Viton) for plastic piping such as PVC.<br>The allowable temperature and pressure range is the same as those of Valqua #4010 with special formulation D0970.                                                                                                                                                                                     | ●                                       | ●                | ●                | —                                                 | —                | GD   |
| Metal Pipe<br>Alkali-<br>resistant<br>Gaskets   | Alkali-resistant (fluorocarbon resin containing carbon) gaskets for use with metal piping.<br>The allowable temperature and pressure range is the same as those of Valqua #7026.<br>Target specification<br>• Lining: C (Ceramics Tube)                                                                                                                                               | ●                                       | ●                | —                | —                                                 | —                | GF   |
| Hygienic<br>Use Silicone<br>Rubber<br>Gaskets   | For Hygienic (sizes 15 to 25, and 40 to 125 mm (0.5 to 1, and 1.5 to 5 in.)), change the material of the gasket fixed between the measuring pipe and piping connection adapter from ethylene propylene diene rubber (EPDM)) to silicone rubber. Select optional code GH, when the fluid temperature is 120 °C (248 °F) or more (Maximum: 160 °C (320 °F)), (Except optional code 3A.) | —                                       | —                | —                | ●                                                 | ●                | GH   |

### ●Details: Applicable Condition for Grounding Devices and Gaskets

●: Applicable —: Not Applicable

| Lining                     | PFA Lining                    |   |                       |                |                        |                |                          |                |                 |                |                          |                |                          |                                      |                         |    | Ceramics Tube             |    |                         |                      |
|----------------------------|-------------------------------|---|-----------------------|----------------|------------------------|----------------|--------------------------|----------------|-----------------|----------------|--------------------------|----------------|--------------------------|--------------------------------------|-------------------------|----|---------------------------|----|-------------------------|----------------------|
| Process Connection         | Flange                        |   |                       |                |                        |                |                          |                |                 |                |                          |                | Wafer                    | Clamp<br>Union<br>Butt Weld<br>Joint | Union Joint             |    | Wafer                     |    |                         |                      |
|                            | Except for High Pressure Type |   |                       |                |                        |                |                          |                |                 |                | High<br>Pressure<br>Type |                |                          |                                      |                         |    |                           |    |                         |                      |
| Size<br>mm (inch)          | 2.5 to 15<br>(0.1 to 0.5)     |   | 25 to 125<br>(1 to 5) |                | 150 to 200<br>(6 to 8) |                | 250 to 400<br>(10 to 16) |                | 500<br>(20)     |                | 25 to 100<br>(1 to 4)    |                | 2.5 to 200<br>(0.1 to 8) |                                      | 15 to 125<br>(0.5 to 5) |    | 2.5 to 10<br>(0.1 to 0.4) |    | 15 to 200<br>(0.5 to 8) |                      |
| Code<br>(Grounding Device) | Code<br>(Gasket)              |   | Not<br>selected       | GA<br>GC<br>GD | Not<br>selected        | GA<br>GC<br>GD | Not<br>selected          | GA<br>GC<br>GD | Not<br>selected | GA<br>GC<br>GD | Not<br>selected          | GA<br>GC<br>GD | Not<br>selected          | GA<br>GC<br>GD                       | Not<br>selected         | GH | Not<br>selected           | GF | Not<br>selected         | GA<br>GC<br>GD<br>GF |
| Not selected               | ●                             | — | ●                     | —              | ●                      | —              | ●                        | —              | ●               | —              | —                        | —              | ●                        | —                                    | ●                       | ●  | ●                         | ●  | ●                       | —                    |
| GRL                        | ●                             | — | ●                     | —              | ●                      | —              | ●*1                      | —              | —               | —              | —                        | —              | ●                        | —                                    | —                       | —  | —                         | —  | —                       | —                    |
| GRN                        | —                             | ● | ●                     | ●              | ●                      | ●              | ●*1                      | —              | ●               | —              | ●                        | —              | —                        | ●                                    | —                       | —  | —                         | —  | ●                       | ●                    |
| GRH                        | ●                             | — | ●                     | —              | ●                      | —              | ●*1                      | —              | —               | —              | —                        | —              | ●                        | —                                    | —                       | —  | —                         | —  | —                       | —                    |
| GRJ                        | —                             | ● | ●                     | ●              | ●                      | ●              | ●*1                      | —              | ●               | —              | —                        | —              | —                        | ●                                    | —                       | —  | —                         | —  | ●                       | ●                    |
| GRV                        | ●                             | — | ●                     | —              | ●                      | —              | ●*1                      | —              | —               | —              | —                        | —              | ●                        | —                                    | —                       | —  | —                         | —  | —                       | —                    |
| GRW                        | —                             | ● | ●                     | ●              | ●                      | ●              | ●*1                      | —              | —               | —              | —                        | —              | —                        | ●                                    | —                       | —  | —                         | —  | ●                       | ●                    |
| GRP                        | ●                             | ● | ●                     | ●              | ●                      | ●              | —                        | —              | —               | —              | —                        | —              | ●                        | ●                                    | —                       | —  | —                         | —  | ●                       | ●                    |
| GRT                        | ●                             | ● | ●                     | ●              | ●                      | ●              | —                        | —              | —               | —              | —                        | —              | ●                        | ●                                    | —                       | —  | —                         | —  | ●                       | ●                    |
| GBP*2                      | —                             | — | —                     | —              | ●                      | —              | ●*1                      | —              | —               | —              | —                        | —              | —                        | —                                    | —                       | —  | —                         | —  | —                       | —                    |
| GBT*2                      | —                             | — | —                     | —              | ●                      | —              | ●*1                      | —              | —               | —              | —                        | —              | —                        | —                                    | —                       | —  | —                         | —  | —                       | —                    |
| GSN                        | —                             | — | ●                     | —              | ●                      | —              | ●                        | —              | —               | —              | —                        | —              | —                        | —                                    | —                       | —  | —                         | —  | —                       | —                    |
| GDN                        | —                             | — | ●                     | —              | ●                      | —              | ●                        | —              | —               | —              | —                        | —              | —                        | —                                    | —                       | —  | —                         | —  | —                       | —                    |
| GAN                        | —                             | — | —                     | —              | —                      | —              | —                        | —              | —               | —              | —                        | —              | ●                        | ●                                    | —                       | —  | —                         | —  | —                       | —                    |

\*1: Not applicable for process connection code BE3, PE3 (EN PN25 flange) of sizes 350, 400 mm.

\*2: Not applicable for process connection code BE3, PE3 (EN PN25 flange).

### ●Direction of Cable Entry, Cable Glands

●: Applicable ○: Applicable (except Explosion Protection) —: Not Applicable

| Item                         | Specification and Applicable Condition                                                                                                                                                                            | Applicable Model                     |               |               |                                             |               |                                      | Code |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------|---------------|---------------------------------------------|---------------|--------------------------------------|------|
|                              |                                                                                                                                                                                                                   | General-purpose Explosion protection |               | Submersible   | Hygienic Hygienic with Explosion protection |               | General-purpose Explosion protection |      |
|                              |                                                                                                                                                                                                                   | Integral Flowmeter                   | Remote Sensor | Remote Sensor | Integral Flowmeter                          | Remote Sensor | Remote Transmitter                   |      |
| Cable Entry Direction Change | Rotate the transmitter of integral flowmeter or the terminal box of remote sensor and change the direction of the cable entry (+90, +180, or -90 degree). For specifying procedures, read "Ordering Information". | ●                                    | ●             | ●             | ●                                           | ●             | —                                    | RH   |
| Waterproof Glands (Type G)   | 2 pcs. of waterproof gland, and no blanking plug. Available only for cable entry code 0 (JIS G1/2 female thread).                                                                                                 | —                                    | ○             | —             | —                                           | ○             | —                                    | EG   |
| Waterproof Glands (Type G2)  | 2 pcs. of waterproof gland, and a blanking plug. Available only for cable entry code 0 (JIS G1/2 female thread).                                                                                                  | ○                                    | —             | —             | ○                                           | —             | —                                    | EG2  |
| Waterproof Glands (Type G3)  | 3 pcs. of waterproof gland, and no blanking plug. Available only for cable entry code 0 (JIS G1/2 female thread).                                                                                                 | ○                                    | —             | —             | ○                                           | —             | —                                    | EG3  |
| Waterproof Glands (Type G4)  | 4 pcs. of waterproof gland, and a blanking plug. Available only for cable entry code 0 (JIS G1/2 female thread).                                                                                                  | —                                    | —             | —             | —                                           | —             | ○                                    | EG4  |
| Waterproof Glands (Type G5)  | 5 pcs. of waterproof gland, and no blanking plug. Available only for cable entry code 0 (JIS G1/2 female thread).                                                                                                 | —                                    | —             | —             | —                                           | —             | ○                                    | EG5  |
| Waterproof Glands (Type U)   | 2 pcs. of waterproof gland with union joint, and no blanking plug. Available only for cable entry code 0 (JIS G1/2 female thread).                                                                                | —                                    | ○             | —             | —                                           | ○             | —                                    | EU   |
| Waterproof Glands (Type U2)  | 2 pcs. of waterproof gland with union joint, and a blanking plug. Available only for cable entry code 0 (JIS G1/2 female thread).                                                                                 | ○                                    | —             | —             | ○                                           | —             | —                                    | EU2  |

**●Direction of Cable Entry, Cable Glands (Continued)**

●: Applicable ○: Applicable (except Explosion Protection) —: Not Applicable

| Item                         | Specification and Applicable Condition                                                                                                                                                                           | Applicable Model                     |               |               |                                             |               |                                      | Code |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------|---------------|---------------------------------------------|---------------|--------------------------------------|------|
|                              |                                                                                                                                                                                                                  | General-purpose Explosion protection |               | Submersible   | Hygienic Hygienic with Explosion protection |               | General-purpose Explosion protection |      |
|                              |                                                                                                                                                                                                                  | Integral Flowmeter                   | Remote Sensor | Remote Sensor | Integral Flowmeter                          | Remote Sensor | Remote Transmitter                   |      |
| Waterproof Glands (Type U3)  | 3 pcs. of waterproof gland with union joint, and no blanking plug.<br>Available only for cable entry code 0 (JIS G1/2 female thread).                                                                            | ○                                    | —             | —             | ○                                           | —             | —                                    | EU3  |
| Waterproof Glands (Type U4)  | 4 pcs. of waterproof gland with union joint, and a blanking plug.<br>Available only for cable entry code 0 (JIS G1/2 female thread).                                                                             | —                                    | —             | —             | —                                           | —             | ○                                    | EU4  |
| Waterproof Glands (Type U5)  | 5 pcs. of waterproof gland with union joint, and no blanking plug.<br>Available only for cable entry code 0 (JIS G1/2 female thread).                                                                            | —                                    | —             | —             | —                                           | —             | ○                                    | EU5  |
| Plastic Glands (Type P)      | 2 pcs. of plastic gland, and no blanking plug.<br>Available only for cable entry code 0 (JIS G1/2 female thread).                                                                                                | —                                    | ○             | —             | —                                           | ○             | —                                    | EP   |
| Plastic Glands (Type P2)     | 2 pcs. of plastic gland, and a blanking plug.<br>Available only for cable entry code 0 (JIS G1/2 female thread).                                                                                                 | ○                                    | —             | —             | ○                                           | —             | —                                    | EP2  |
| Plastic Glands (Type P3)     | 3 pcs. of plastic gland, and no blanking plug.<br>Available only for cable entry code 0 (JIS G1/2 female thread).                                                                                                | ○                                    | —             | —             | ○                                           | —             | —                                    | EP3  |
| Plastic Glands (Type P4)     | 4 pcs. of plastic gland, and a blanking plug.<br>Available only for cable entry code 0 (JIS G1/2 female thread).                                                                                                 | —                                    | —             | —             | —                                           | —             | ○                                    | EP4  |
| Plastic Glands (Type P5)     | 5 pcs. of plastic gland, and no blanking plug.<br>Available only for cable entry code 0 (JIS G1/2 female thread).                                                                                                | —                                    | —             | —             | —                                           | —             | ○                                    | EP5  |
| Waterproof Glands (Type W)   | 2 pcs. of waterproof gland with JIS G3/4 female, and no blanking plug.<br>Available only for cable entry code 0 (JIS G1/2 female thread).                                                                        | —                                    | ○             | —             | —                                           | ○             | —                                    | EW   |
| Flameproof* gland<br>1 piece | 1 piece of Flameproof gland with JIS G1/2 female, and 2 blanking plugs.<br>Available only for cable entry code 4 (ISO M20×1.5 Female thread).                                                                    | ●                                    | —             | —             | ●                                           | —             | —                                    | V51  |
| Flameproof* gland<br>2 pcs.  | 2 pcs. of Flameproof gland with JIS G1/2 female and;<br>- Integral flowmeter: a blanking plug.<br>- Remote sensor: no blanking plug.<br>Available only for cable entry code 4 (ISO M20×1.5 Female thread).       | ●                                    | ●             | —             | ●                                           | ●             | —                                    | V52  |
| Flameproof* gland<br>3 pcs.  | 3 pcs. of Flameproof gland with JIS G1/2 female and;<br>- Remote transmitter: 2 blanking plugs.<br>- Integral flowmeter: no blanking plug.<br>Available only for cable entry code 4 (ISO M20×1.5 Female thread). | ●                                    | —             | —             | ●                                           | —             | ●                                    | V53  |
| Flameproof* gland<br>4 pcs.  | 4 pcs. of Flameproof gland with JIS G1/2 female, and a blanking plug.<br>Available only for cable entry code 4 (ISO M20×1.5 Female thread).                                                                      | —                                    | —             | —             | —                                           | —             | ●                                    | V54  |
| Flameproof* gland<br>5 pcs.  | 5 pcs. of Flameproof gland with JIS G1/2 female, and no blanking plug.<br>Available only for cable entry code 4 (ISO M20×1.5 Female thread).                                                                     | —                                    | —             | —             | —                                           | —             | ●                                    | V55  |

\*: The thread of connection between AXG and Flameproof gland is M20, and the thread of connection between Flameproof gland and CABLE is G1/2.

**•Certificate, Calibration, and Various Test**

●: Applicable ○: Applicable (except Explosion Protection) —: Not Applicable

| Item                                  | Specification and Applicable Condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Applicable Model                     |               |               |                                             |               |                                      | Code |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------|---------------|---------------------------------------------|---------------|--------------------------------------|------|
|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | General-purpose Explosion protection |               | Submersible   | Hygienic Hygienic with Explosion protection |               | General-purpose Explosion protection |      |
|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Integral Flowmeter                   | Remote Sensor | Remote Sensor | Integral Flowmeter                          | Remote Sensor | Remote Transmitter                   |      |
| Material Certificate                  | Material certificate is issued.<br>Target Parts:<br>PFA Lining:<br>Measuring Pipe, Electrodes, Grounding Devices (Grounding Rings Plate Type, Metal Hat Grounding Rings, Grounding Rings Electrode Type, or Built-in Grounding Electrodes),<br>Flanges (for flange type), Mini-flanges (for wafer type), Adapters for Hygienic Ceramics Tube:<br>Grounding Devices (Grounding Rings Plate Type, or Grounding Rings Electrode Type), Union Joint                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ●                                    | ●             | ●             | ●                                           | ●             | —                                    | M01  |
| Material Certificate (EN 10204-3.1)   | For sizes 2.5 to 400 mm (0.1 to 16 in.), except for high pressure type, material certificates according to EN 10204 Type 3.1 with a dedicated cover is issued. The target parts are the same as optional code M01.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ●                                    | ●             | ●             | ●                                           | ●             | —                                    | E01  |
| Calibration Certificate (Level 2)     | The Declaration and the Calibration Equipment List are issued.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ●                                    | ●             | ●             | ●                                           | ●             | ●                                    | L2   |
| Calibration Certificate (Level 3)     | The Declaration and the Primary Standard List are issued.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ●                                    | ●             | ●             | ●                                           | ●             | ●                                    | L3   |
| Calibration Certificate (Level 4)     | The Declaration and the Yokogawa Measuring Instruments Control System are issued.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ●                                    | ●             | ●             | ●                                           | ●             | ●                                    | L4   |
| Specified Span Five-point Calibration | With the customer's specified span, the actual flow inspection of 5 points around 0, 25, 50, 75, and 100% is performed. Instead of the flow inspection at the standard flow rate of 2 m/s (6.56 ft/s), the result of flow inspection with the customer specified span is described in a test certificate (QIC). For specifiable spans, read "Ordering Information".                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ●                                    | ●             | ●             | ●                                           | ●             | —                                    | SC   |
| Flow Calibration in Japan             | The actual flow inspection is performed at Yokogawa Manufacturing Kofu Factory in Japan. The result of that flow inspection is described in a test certificate (QIC). To perform the actual flow inspection regularly at Kofu factory, specify optional code JC.<br>For remote type, available only when the combination of the sensor and the transmitter is ordered. In this case, specify this optional code JC for both the sensor and the transmitter. Not available when the sensor or the transmitter is ordered alone.<br>Target Specifications:<br>• Size: 2.5 to 400 mm (0.1 to 16 in.)<br>• Lining: A (PFA Lining)<br>• Accuracy: B (Standard)<br>• Communication and I/O: D# (BRAIN), J# (HART), F0 (FOUNDATION Fieldbus)<br><br>Not applicable with the following specifications:<br>• Size: 500 mm<br>• Explosion Protection: PF2 (Korea Flameproof), UF2 (INMETRO Flameproof)<br>• Lining: C (Ceramics Tube)<br>• Accuracy: C (High Grade)<br>• Communication and I/O: G0 (PROFIBUS PA), P0 (EtherNet/IP)<br>• Optional code: 3A (3-A Sanitary Certification)<br>• Optional code: CS (Canada Domestic Sales)<br>• Optional code: VR, VE (EAC Marking) | ●                                    | ●             | ●             | ●                                           | ●             | ●                                    | JC   |

**•Certificate, Calibration, and Various Test (Continued)**

●: Applicable ○: Applicable (except Explosion Protection) —: Not Applicable

| Item                            | Specification and Applicable Condition                                                                                                                                                                                                                                                      | Applicable Model                        |                  |                  |                                                   |                  |                                                | Code |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------------|------------------|---------------------------------------------------|------------------|------------------------------------------------|------|
|                                 |                                                                                                                                                                                                                                                                                             | General-purpose<br>Explosion protection |                  | Submersible      | Hygienic<br>Hygienic with<br>Explosion protection |                  | General-<br>purpose<br>Explosion<br>protection |      |
|                                 |                                                                                                                                                                                                                                                                                             | Integral<br>Flowmeter                   | Remote<br>Sensor | Remote<br>Sensor | Integral<br>Flowmeter                             | Remote<br>Sensor | Remote<br>Transmitter                          |      |
| Hydrostatic Test                | The water pressure depending on the process connection is applied to the lining (measuring pipe) for 10 minutes to check that there is no leakage, and the result is described in a test certificate (QIC). For the test water pressure on each process connection, see the separate table. | ●                                       | ●                | ●                | —                                                 | —                | —                                              | T01  |
| Withstand Voltage Test (Type 1) | Withstand voltage test on remote sensor (sizes 2.5 to 400 mm (0.1 to 16 in.)) is performed, and the result is described in a test certificate (QIC).<br>WT1:<br>Between excitation current terminal and ground terminal:<br>1000 V AC for 1 minute                                          | —                                       | ○                | ●                | —                                                 | ○                | —                                              | WT1  |
| Withstand Voltage Test (Type 2) | WT2:<br>Between excitation current terminal and ground terminal:<br>1500 V AC for 1 minute<br>Between signal terminals and excitation current terminal:<br>1500 V AC for 1 minute                                                                                                           | —                                       | ○                | ●                | —                                                 | ○                | —                                              | WT2  |
| PMI Test (Type 1)               | Fluorescent X-ray analysis of nickel, chromium and molybdenum is performed on parts made of stainless steel or nickel alloy, and a test report is issued. For applicable condition, see the separate table.                                                                                 | ●                                       | ●                | ●                | —                                                 | —                | —                                              | PM1  |
| PMI Test (Type 2)               | Target Parts:<br>PM1: Grounding Rings (Plate Type), Metal Hat Grounding Rings                                                                                                                                                                                                               | ●                                       | ●                | ●                | —                                                 | —                | —                                              | PM2  |
| PMI Test (Type 3)               | PM2: Flange (Stainless steel only)<br>PM3: Measuring Pipe                                                                                                                                                                                                                                   | ●                                       | ●                | ●                | ●                                                 | ●                | —                                              | PM3  |
| Liquid Penetrant Test           | Liquid penetrant test on welded parts of flanges (for flange type) or mini-flanges (for wafer type) is performed and a test report is issued. For applicable condition, see the separate table.                                                                                             | ●                                       | ●                | ●                | —                                                 | —                | —                                              | PT   |

●Details: Water Pressure of Hydrostatic Test (Optional Code T01):

| Process connection code | Process connection | Size: mm (in.)         | Water pressure (MPa) |
|-------------------------|--------------------|------------------------|----------------------|
| #A1                     | ASME Class 150     | 2.5 to 300 (0.1 to 12) | 3.0                  |
|                         |                    | 350 to 500 (14 to 20)  | 1.5                  |
| #A2                     | ASME Class 300     | 2.5 to 50 (0.1 to 2)   | 6.0                  |
|                         |                    | 65 to 300 (2.5 to 12)  | 3.0                  |
| #A4                     | ASME Class 600     | 25 to 100 (1 to 4)     | 15.5                 |
| #E1                     | EN PN10            | 200 to 500 (8 to 20)   | 1.5                  |
| #E2                     | EN PN16            | 65 to 300 (2.5 to 12)  | 2.4                  |
|                         |                    | 500 (20)               | 1.5                  |
| #E3                     | EN PN25            | 80 to 300 (3 to 12)    | 3.0                  |
|                         |                    | 350 to 400 (14 to 16)  | 1.5                  |
| #E4                     | EN PN40            | 2.5 to 50 (0.1 to 2)   | 6.0                  |
| #G1                     | JIS F12            | 80 to 300 (3 to 12)    | 1.8                  |
|                         |                    | 350 to 400 (14 to 16)  | 1.5                  |
| #J1                     | JIS 10K            | 2.5 to 300 (0.1 to 12) | 2.1                  |
|                         |                    | 350 to 400 (14 to 16)  | 1.5                  |
| #J2                     | JIS 20K            | 2.5 to 50 (0.1 to 2)   | 6.0                  |
|                         |                    | 65 to 300 (2.5 to 12)  | 3.0                  |
| #P1                     | JPI Class 150      | 2.5 to 300 (0.1 to 12) | 3.0                  |
|                         |                    | 350 to 400 (14 to 16)  | 1.5                  |
| #S1                     | AS Table D         | 50 to 400 (2 to 16)    | 1.1                  |
| #S2                     | AS Table E         | 50 to 300 (2 to 12)    | 2.1                  |
| GU#                     | Union Joint        | 2.5 to 10 (0.1 to 0.4) | 6.0                  |

●Details: Applicable Condition for PMI Test

○Grounding Rings (Plate Type), Metal Hat Grounding Rings, Grounding Rings For Wafer Type Replacement Model (Optional Code PM1)

●: Applicable —: Not Applicable

| Lining                     |                   | PFA Lining                |                        |             |                           | Ceramics Tube                     |                           |                         |
|----------------------------|-------------------|---------------------------|------------------------|-------------|---------------------------|-----------------------------------|---------------------------|-------------------------|
| Process Connection         |                   | Flange                    |                        |             | Wafer                     | Clamp Union<br>Butt Weld<br>Joint | Union Joint               | Wafer                   |
| Code<br>(Grounding Device) | Size<br>mm (inch) | 2.5 to 65<br>(0.1 to 2.5) | 80 to 400<br>(3 to 16) | 500<br>(20) | 2.5 to 200<br>(0.1 to 16) | 15 to 125<br>(0.5 to 5)           | 2.5 to 10<br>(0.1 to 0.4) | 15 to 200<br>(0.5 to 8) |
|                            | Not selected      | —                         | —                      | —           | —                         | —                                 | —                         | —                       |
| GRL                        |                   | ●                         | ●                      | —           | ●                         | —                                 | —                         | —                       |
| GRN                        |                   | ●                         | ●                      | —           | ●                         | —                                 | —                         | ●                       |
| GRH                        |                   | ●                         | ●                      | —           | ●                         | —                                 | —                         | —                       |
| GRJ                        |                   | ●                         | ●                      | —           | ●                         | —                                 | —                         | ●                       |
| GRV                        |                   | —                         | —                      | —           | —                         | —                                 | —                         | —                       |
| GRW                        |                   | —                         | —                      | —           | —                         | —                                 | —                         | —                       |
| GSN                        |                   | —                         | ●                      | —           | —                         | —                                 | —                         | —                       |
| GDN                        |                   | —                         | ●                      | —           | —                         | —                                 | —                         | —                       |
| GAN                        |                   | —                         | —                      | —           | ●                         | —                                 | —                         | —                       |



## ○Flange (Optional Code PM2)

●: Applicable —: Not Applicable

| Lining             |                                 | PFA Lining |     |     |     |       |                                         | Ceramics Tube     |            |
|--------------------|---------------------------------|------------|-----|-----|-----|-------|-----------------------------------------|-------------------|------------|
| Process Connection |                                 | Flange     |     |     |     | Wafer | Clamp<br>Union<br>Butt<br>Weld<br>Joint | Union<br>Joint    | Wafer      |
| Size<br>mm (inch)  | Code<br>(Process<br>Connection) | B##        | C## | D## | E## | P##   | A##                                     | H##<br>J##<br>K## | G##<br>A## |
|                    |                                 |            |     |     |     |       |                                         |                   |            |
| 2.5 (0.1)          |                                 | ●          | —   | ●   | —   | ●     | —                                       | —                 | —          |
| 5 (0.2)            |                                 | ●          | —   | ●   | —   | ●     | —                                       | —                 | —          |
| 10 (0.4)           |                                 | ●          | —   | ●   | —   | ●     | —                                       | —                 | —          |
| 15 (0.5)           |                                 | ●          | —   | —   | —   | ●     | —                                       | —                 | —          |
| 25 (1)             |                                 | ●          | —   | —   | ●   | ●     | —                                       | —                 | —          |
| 32 (1.25)          |                                 | ●          | —   | —   | —   | —     | —                                       | —                 | —          |
| 40 (1.5)           |                                 | ●          | —   | —   | ●   | ●     | —                                       | —                 | —          |
| 50 (2)             |                                 | ●          | —   | —   | ●   | ●     | —                                       | —                 | —          |
| 65 (2.5)           |                                 | ●          | —   | —   | —   | —     | —                                       | —                 | —          |
| 80 (3)             |                                 | ●          | —   | —   | ●   | ●     | —                                       | —                 | —          |
| 100 (4)            |                                 | ●          | —   | —   | ●   | ●     | —                                       | —                 | —          |
| 125 (5)            |                                 | ●          | —   | —   | —   | —     | —                                       | —                 | —          |
| 150 (6)            |                                 | ●          | —   | —   | —   | ●     | —                                       | —                 | —          |
| 200 (8)            |                                 | ●          | —   | —   | —   | ●     | —                                       | —                 | —          |
| 250 (10)           |                                 | ●          | —   | —   | —   | ●     | —                                       | —                 | —          |
| 300 (12)           |                                 | ●          | —   | —   | —   | ●     | —                                       | —                 | —          |
| 350 (14)           |                                 | ●          | —   | —   | —   | ●     | —                                       | —                 | —          |
| 400 (16)           |                                 | ●          | —   | —   | —   | ●     | —                                       | —                 | —          |
| 500 (20)           |                                 | —          | —   | —   | —   | —     | —                                       | —                 | —          |

○Measuring Pipe (Optional Code PM3)

●: Applicable —: Not Applicable

| Size<br>mm (inch) | Lining             | PFA Lining |       |                             | Ceramics Tube |       |
|-------------------|--------------------|------------|-------|-----------------------------|---------------|-------|
|                   | Process Connection | Flange     | Wafer | Clamp Union Butt Weld Joint | Union Joint   | Wafer |
| 2.5 (0.1)         |                    | ●          | ●     | —                           | —             | —     |
| 5 (0.2)           |                    | ●          | ●     | —                           | —             | —     |
| 10 (0.4)          |                    | ●          | ●     | —                           | —             | —     |
| 15 (0.5)          |                    | ●          | ●     | ●                           | —             | —     |
| 25 (1)            |                    | ●          | ●     | ●                           | —             | —     |
| 32 (1.25)         |                    | ●          | ●     | ●                           | —             | —     |
| 40 (1.5)          |                    | ●          | ●     | ●                           | —             | —     |
| 50 (2)            |                    | ●          | ●     | ●                           | —             | —     |
| 65 (2.5)          |                    | ●          | ●     | ●                           | —             | —     |
| 80 (3)            |                    | ●          | ●     | ●                           | —             | —     |
| 100 (4)           |                    | ●          | ●     | ●                           | —             | —     |
| 125 (5)           |                    | ●          | ●     | ●                           | —             | —     |
| 150 (6)           |                    | ●          | ●     | —                           | —             | —     |
| 200 (8)           |                    | ●          | ●     | —                           | —             | —     |
| 250 (10)          |                    | ●          | —     | —                           | —             | —     |
| 300 (12)          |                    | ●          | —     | —                           | —             | —     |
| 350 (14)          |                    | ●          | —     | —                           | —             | —     |
| 400 (16)          |                    | ●          | —     | —                           | —             | —     |
| 500 (20)          |                    | —          | —     | —                           | —             | —     |

●Details: Applicable Condition for Liquid Penetrant Test (Optional Code PT)

●: Applicable —: Not Applicable

| Size<br>mm (inch) | Lining                    | PFA Lining |     |     |     |       |                             | Ceramics Tube     |            |
|-------------------|---------------------------|------------|-----|-----|-----|-------|-----------------------------|-------------------|------------|
|                   | Process Connection        | Flange     |     |     |     | Wafer | Clamp Union Butt Weld Joint | Union Joint       | Wafer      |
| Size<br>mm (inch) | Code (Process Connection) | B##        | C## | D## | E## | P##   | A##                         | H##<br>J##<br>K## | G##<br>A## |
|                   |                           |            |     |     |     |       |                             |                   |            |
| 2.5 (0.1)         |                           | —          | —   | —   | —   | —     | —                           | —                 | —          |
| 5 (0.2)           |                           | —          | —   | —   | —   | —     | —                           | —                 | —          |
| 10 (0.4)          |                           | —          | —   | —   | —   | —     | —                           | —                 | —          |
| 15 (0.5)          |                           | —          | —   | —   | —   | —     | —                           | —                 | —          |
| 25 (1)            |                           | ●          | —   | —   | ●   | ●     | —                           | —                 | —          |
| 32 (1.25)         |                           | ●          | —   | —   | —   | —     | —                           | —                 | —          |
| 40 (1.5)          |                           | ●          | —   | —   | ●   | ●     | —                           | —                 | —          |
| 50 (2)            |                           | ●          | ●   | —   | ●   | ●     | —                           | —                 | —          |
| 65 (2.5)          |                           | ●          | ●   | —   | —   | —     | —                           | —                 | —          |
| 80 (3)            |                           | ●          | ●   | —   | ●   | ●     | —                           | —                 | —          |
| 100 (4)           |                           | ●          | ●   | —   | ●   | ●     | —                           | —                 | —          |
| 125 (5)           |                           | ●          | ●   | —   | —   | —     | —                           | —                 | —          |
| 150 (6)           |                           | ●          | ●   | —   | —   | ●     | ●                           | —                 | —          |
| 200 (8)           |                           | ●          | ●   | —   | —   | ●     | ●                           | —                 | —          |
| 250 (10)          |                           | ●          | ●   | —   | —   | ●     | —                           | —                 | —          |
| 300 (12)          |                           | ●          | ●   | —   | —   | ●     | —                           | —                 | —          |
| 350 (14)          |                           | ●          | ●   | —   | —   | ●     | —                           | —                 | —          |
| 400 (16)          |                           | ●          | ●   | —   | —   | ●     | —                           | —                 | —          |
| 500 (20)          |                           | ●          | ●   | —   | —   | —     | —                           | —                 | —          |

## ■ ACCESSORIES

- Centering Device (wafer type only): 1 set
- Blanking Plug: 1 to 2 pcs.
- Gasket (sensor side): 2 sheets
- Mounting Bracket (transmitter only): 1 set

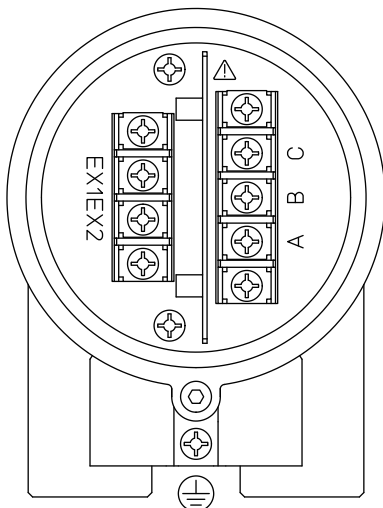
Note: Accessories differ depending on specifications to be selected.

## ■ TERMINAL CONFIGURATION

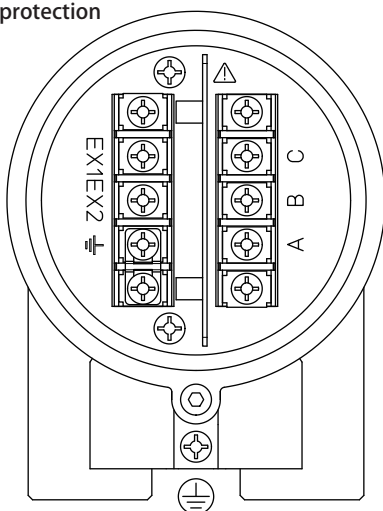
### Remote Sensor:

<To be wired to Remote Transmitter>

Non Explosion Protection



Explosion protection



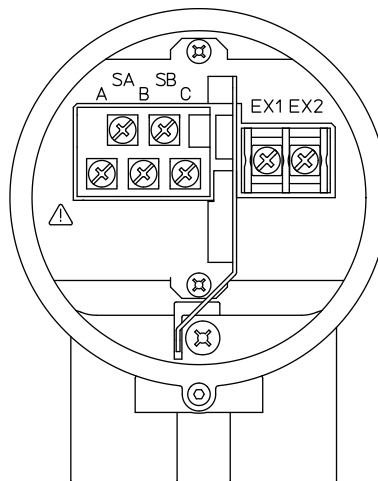
| Terminal Symbol | Description                                             |
|-----------------|---------------------------------------------------------|
| A<br>B<br>C     | Flow Signal Output                                      |
| EX1<br>EX2      | Excitation Current Input                                |
|                 | Protective Grounding<br>(Outside of the terminal box)   |
|                 | Functional grounding<br>(Only for explosion proof type) |

F29.ai

Note: When submersible use or optional code DHC is selected, waterproof glands with union joints and cables are attached.

### Remote Transmitter:

<To be wired to Remote Sensor>



| Terminal Symbol         | Description               |
|-------------------------|---------------------------|
| SA<br>SB<br>A<br>B<br>C | Flow Signal Input         |
| EX1<br>EX2              | Excitation Current Output |

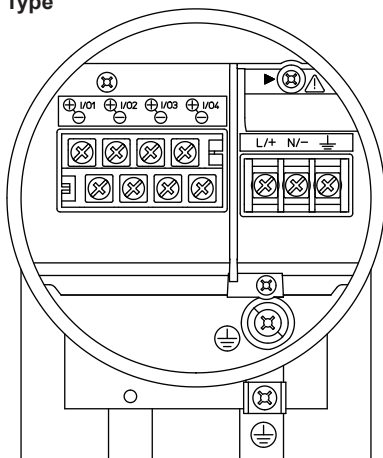
F30.ai

### Integral Flowmeter and Remote Transmitter:

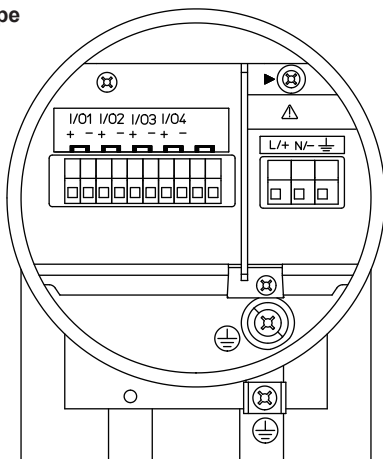
For Communication and I/O Suffix Code other than P0 (EtherNet/IP)

<To be wired to Power Supply and I/Os>

#### M4 Screw Type



#### Clamp Type



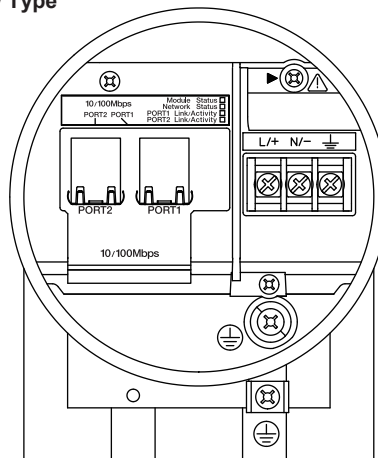
| Terminal Symbol                                                              | Description                                                      |
|------------------------------------------------------------------------------|------------------------------------------------------------------|
| ▶                                                                            | Shorting Screw<br>(Need to be fixed for normal operation)        |
| ⏏                                                                            | Functional Grounding                                             |
| N/-<br>L/+                                                                   | Power Supply                                                     |
| I/O4 -<br>I/O4 +<br>I/O3 -<br>I/O3 +<br>I/O2 -<br>I/O2 +<br>I/O1 -<br>I/O1 + | Selected Input/Output (Note)                                     |
| ⏏                                                                            | Protective Grounding<br>(Inside and outside of the terminal box) |

F31.ai

Note: Read "Functions" for the input/output signal terminals.

For Communication and I/O Suffix Code P0 (EtherNet/IP)  
<To be wired to Power Supply and PORTs>

#### M4 Screw Type



| Terminal Symbol | Description                                                      |
|-----------------|------------------------------------------------------------------|
| ▶               | Shorting Screw<br>(Need to be fixed for normal operation)        |
| ⏏               | Functional Grounding                                             |
| N/-<br>L/+      | Power Supply                                                     |
| PORT1<br>PORT2  | Ethernet port (RJ-45, 2 ports)                                   |
| ⏏               | Protective Grounding<br>(Inside and outside of the terminal box) |

F32.ai

For AXG4A FOUNDATION Fieldbus type remote transmitter, read general specifications (GS 01E21F02-01E).

For AXG4A EtherNet/IP type remote transmitter, read general specifications (GS 01E21F02-02EN).

For AXG4A PROFIBUS PA type remote transmitter, read general specifications (GS 01E21F02-03EN).

For AXG1A remote transmitter, read general specifications (GS 01E22C01-01EN).

For AXFA11G remote transmitter, read general specifications (GS 01E20C01-01E).

#### Recommended Cable for Excitation, Power and Input/Output:

JIS C 3401 control cable equivalent

JIS C 3312 power cable equivalent

14 AWG Belden 8720 equivalent

Outer Diameter:

Without gland:

ø6.5 to ø12 mm (ø0.26 to ø0.47 in.)

With waterproof gland (optional code EG, EG#, EU, EU#, EW):

For excitation cable:

ø10.5 or ø11.5 mm (ø0.41 or ø0.45 in.)

For power and input/output cable:

ø7.5 to ø12 mm (ø0.30 to ø0.47 in.)

With plastic gland (optional code EP, EP#):

ø6 to ø12 mm (ø0.24 to ø0.47 in.)

Nominal Cross Section:

Single wire: 0.5 to 2.5 mm<sup>2</sup>

Stranded wire: 0.5 to 1.5 mm<sup>2</sup>

#### Excitation Cable for Submersible Use and Optional Code DHC:

Heat resistant vinyl resin sheath cable

Outer diameter ø10.5 mm (ø0.41 in.)

## DIMENSIONAL DRAWINGS

### (1) Integral Flowmeter, Remote Sensor

#### • Wafer (PFA Lining)

Unit: mm (approx. in.)

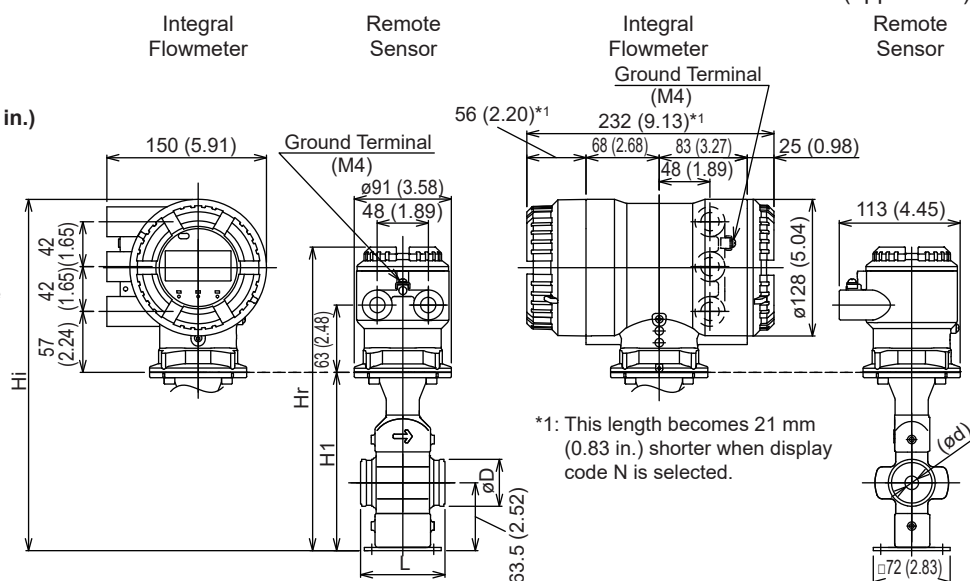
Size 2.5 to 15 mm (0.1 to 0.5 in.)

AXG002  
AXG005  
AXG010  
AXG015

Size Code

Process Connection Code

Lining Code



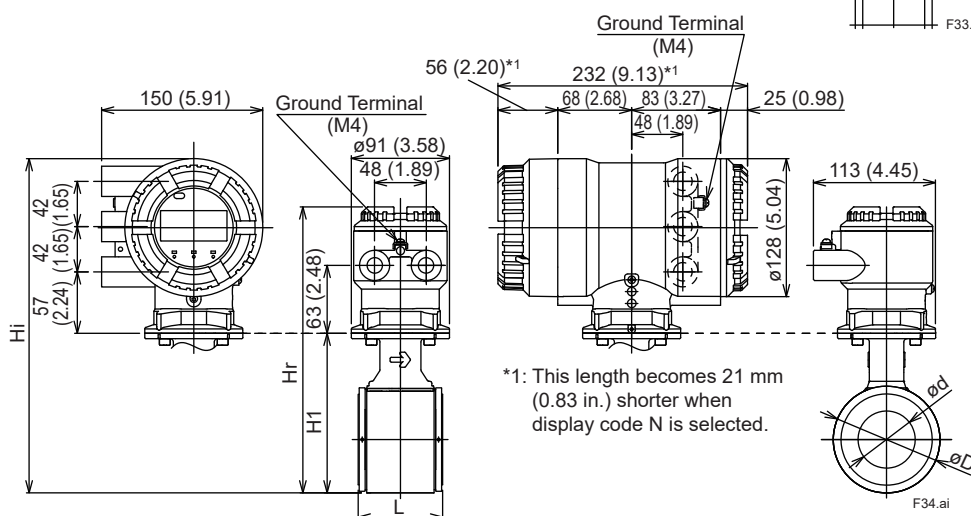
Size 25 to 125 mm (1 to 5 in.)

AXG025  
AXG032  
AXG040  
AXG050  
AXG065  
AXG080  
AXG100  
AXG125

Size Code

Process Connection Code

Lining Code



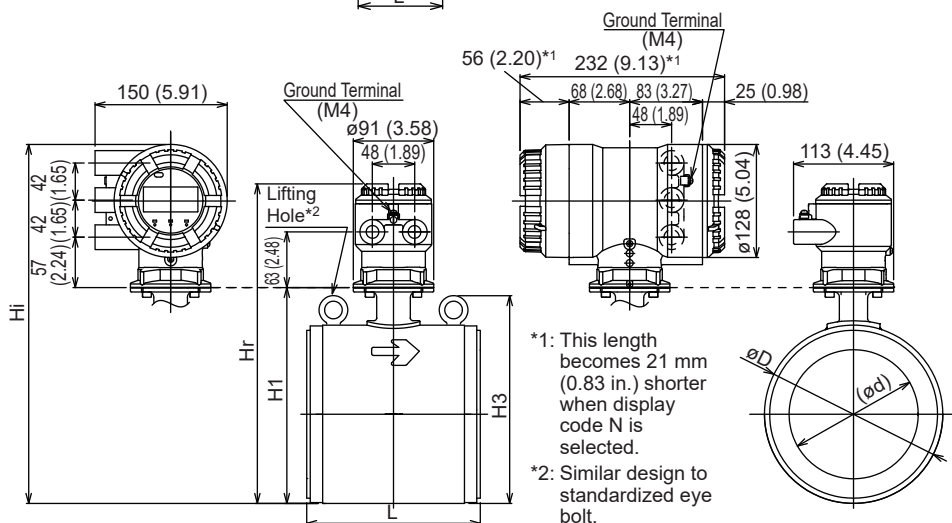
Size 150 to 200 mm (6 to 8 in.)

AXG150  
AXG200

Size Code

Process Connection Code

Lining Code



Unit: mm (approx. in.)

| Model                                                                                            | Process Connection Code            |            | AA1, AA2, AJ1, AJ2 |                |                |                |                |                |                |                |                |                |                |                | AA1, AJ1       | AA2, AJ2       | AA1, AJ1       | AA2, AJ2       |
|--------------------------------------------------------------------------------------------------|------------------------------------|------------|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                                                                                                  |                                    |            | AE4                |                |                |                |                |                | AE2            |                |                |                |                |                | AE2            | -              | AE2            | -              |
|                                                                                                  |                                    |            | -                  | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              |
|                                                                                                  |                                    |            | -                  | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              |
|                                                                                                  | AP1                                |            | AP1                |                | AP1            |                | AP1            |                | AP1            |                | AP1            |                | AG1            | AP1            | -              | AP1            | -              |                |
| Size Code                                                                                        | 002                                | 005        | 010                | 015            | 025            | 032            | 040            | 050            | 065            | 080            | 100            | 125            | 150            | 150            | 200            | 200            |                |                |
| Size                                                                                             | 2.5<br>(0.1)                       | 5<br>(0.2) | 10<br>(0.4)        | 15<br>(0.5)    | 25<br>(1)      | 32<br>(1.25)   | 40<br>(1.5)    | 50<br>(2)      | 65<br>(2.5)    | 80<br>(3)      | 100<br>(4)     | 125<br>(5)     | 150<br>(6)     | 150<br>(6)     | 200<br>(8)     | 200<br>(8)     |                |                |
| Lining Code                                                                                      | A                                  | A          | A                  | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              |                |                |
| Remote Sensor                                                                                    | Lay Length (*1)                    | L          | 79<br>(3.11)       | 79<br>(3.11)   | 79<br>(3.11)   | 79<br>(3.11)   | 58<br>(2.30)   | 68<br>(2.69)   | 68<br>(2.69)   | 78<br>(3.09)   | 98<br>(3.87)   | 118<br>(4.66)  | 148<br>(5.84)  | 198<br>(7.81)  | 197<br>(7.74)  | 197<br>(7.74)  | 247<br>(9.70)  | 247<br>(9.70)  |
|                                                                                                  | Outer Diameter                     | øD         | 44<br>(1.73)       | 44<br>(1.73)   | 44<br>(1.73)   | 44<br>(1.73)   | 68<br>(2.66)   | 73<br>(2.87)   | 86<br>(3.39)   | 99<br>(3.90)   | 117<br>(4.61)  | 129<br>(5.08)  | 155<br>(6.10)  | 183<br>(7.20)  | 202<br>(7.94)  | 202<br>(7.94)  | 252<br>(9.91)  | 252<br>(9.91)  |
|                                                                                                  | Lining Inner Diameter              | ød         | 2<br>(0.09)        | 5<br>(0.19)    | 8<br>(0.30)    | 13<br>(0.51)   | 24<br>(0.93)   | 29<br>(1.13)   | 37<br>(1.44)   | 49<br>(1.94)   | 61<br>(2.40)   | 73<br>(2.87)   | 97<br>(3.82)   | 121<br>(4.76)  | 145<br>(5.72)  | 145<br>(5.72)  | 194<br>(7.65)  | 194<br>(7.65)  |
|                                                                                                  | Height                             | H1         | 167<br>(6.57)      | 167<br>(6.57)  | 167<br>(6.57)  | 167<br>(6.57)  | 110<br>(4.33)  | 116<br>(4.57)  | 129<br>(5.08)  | 148<br>(5.83)  | 165<br>(6.50)  | 175<br>(6.89)  | 201<br>(7.91)  | 230<br>(9.06)  | 244<br>(9.62)  | 262<br>(10.31) | 294<br>(11.59) | 312<br>(12.28) |
|                                                                                                  | Height                             | H3         | -                  | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | 235<br>(9.26)  | 235<br>(9.26)  | 285<br>(11.22) | 285<br>(11.22) |
| Remote Sensor                                                                                    | Maximum Height                     | Hr         | 284<br>(11.18)     | 284<br>(11.18) | 284<br>(11.18) | 284<br>(11.18) | 227<br>(8.94)  | 233<br>(9.17)  | 246<br>(9.69)  | 265<br>(10.43) | 282<br>(11.10) | 292<br>(11.50) | 318<br>(12.52) | 347<br>(13.66) | 362<br>(14.24) | 380<br>(14.96) | 412<br>(16.21) | 430<br>(16.93) |
|                                                                                                  | Approx. Weight, Unit: kg (lb) (*2) |            | 2.7<br>(6.0)       | 2.7<br>(6.0)   | 2.7<br>(6.0)   | 2.7<br>(6.0)   | 2.2<br>(4.9)   | 2.4<br>(5.3)   | 2.6<br>(5.7)   | 3.2<br>(7.1)   | 3.9<br>(8.6)   | 4.6<br>(10.1)  | 6.3<br>(13.9)  | 10.5<br>(23.2) | 15<br>(33.1)   | 15<br>(33.1)   | 22<br>(48.6)   | 22<br>(48.6)   |
| Integral Flowmeter                                                                               | Maximum Height                     | Hi         | 329<br>(12.95)     | 329<br>(12.95) | 329<br>(12.95) | 329<br>(12.95) | 272<br>(10.71) | 278<br>(10.94) | 291<br>(11.46) | 310<br>(12.20) | 327<br>(12.87) | 337<br>(13.27) | 363<br>(14.29) | 392<br>(15.43) | 406<br>(16.00) | 424<br>(16.69) | 456<br>(17.97) | 474<br>(18.66) |
|                                                                                                  | Approx. Weight, Unit: kg (lb)      |            | 5.3<br>(11.7)      | 5.3<br>(11.7)  | 5.3<br>(11.7)  | 5.3<br>(11.7)  | 4.8<br>(10.6)  | 4.9<br>(10.8)  | 5.1<br>(11.2)  | 5.7<br>(12.6)  | 6.4<br>(14.1)  | 7.2<br>(15.9)  | 8.8<br>(19.4)  | 13.1<br>(28.9) | 17<br>(37.5)   | 17<br>(37.5)   | 25<br>(55.2)   | 25<br>(55.2)   |
| Gaskets (BSC, BSF) (*1)                                                                          |                                    |            | +6<br>(+0.24)      | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  |
| Grounding rings thin type (GRL, GRH, GRV) (*1)                                                   |                                    |            | +2<br>(+0.08)      | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  |
| Grounding rings thin type (GRL, GRH, GRV) and gaskets (BSC, BSF) (*1)                            |                                    |            | +8<br>(+0.31)      | +8<br>(+0.31)  | +8<br>(+0.31)  | +8<br>(+0.31)  | +8<br>(+0.31)  | +8<br>(+0.31)  | +8<br>(+0.31)  | +8<br>(+0.31)  | +8<br>(+0.31)  | +8<br>(+0.31)  | +8<br>(+0.31)  | +8<br>(+0.31)  | +8<br>(+0.31)  | +8<br>(+0.31)  | +8<br>(+0.31)  | +8<br>(+0.31)  |
| Grounding rings thick type (GRN) (*1)                                                            |                                    |            | +6<br>(+0.24)      | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              |
| Grounding rings thick type (GRN) with gaskets (BSC, BSF) (*1)                                    |                                    |            | +12<br>(+0.47)     | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              |
| Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1)                        |                                    |            | +8<br>(+0.31)      | +8<br>(+0.31)  | +8<br>(+0.31)  | +8<br>(+0.31)  | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) |
| Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) and gaskets (BSC, BSF) (*1) |                                    |            | +14<br>(+0.55)     | +14<br>(+0.55) | +14<br>(+0.55) | +14<br>(+0.55) | +16<br>(+0.63) | +16<br>(+0.63) | +16<br>(+0.63) | +16<br>(+0.63) | +16<br>(+0.63) | +16<br>(+0.63) | +16<br>(+0.63) | +18<br>(+0.71) | +18<br>(+0.71) | +18<br>(+0.71) | +18<br>(+0.71) | +18<br>(+0.71) |
| Grounding rings electrode type (GRP, GRT) (*1)                                                   |                                    |            | +28<br>(+1.10)     | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) |
| Grounding rings electrode type (GRP, GRT) and gaskets (BSC, BSF) (*1)                            |                                    |            | +34<br>(+1.34)     | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +40<br>(+1.57) | +40<br>(+1.57) | +40<br>(+1.57) | +40<br>(+1.57) | +40<br>(+1.57) |
| Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)                         |                                    |            | +30<br>(+1.18)     | +30<br>(+1.18) | +30<br>(+1.18) | +30<br>(+1.18) | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +40<br>(+1.57) | +40<br>(+1.57) | +40<br>(+1.57) | +40<br>(+1.57) | +40<br>(+1.57) |
| Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) and gaskets (BSC, BSF) (*1)  |                                    |            | +36<br>(+1.42)     | +36<br>(+1.42) | +36<br>(+1.42) | +36<br>(+1.42) | +38<br>(+1.50) | +38<br>(+1.50) | +38<br>(+1.50) | +38<br>(+1.50) | +38<br>(+1.50) | +38<br>(+1.50) | +38<br>(+1.50) | +46<br>(+1.81) | +46<br>(+1.81) | +46<br>(+1.81) | +46<br>(+1.81) | +46<br>(+1.81) |

\*1: Add the value above (which is the total of both ends) to the lay length "L" when selecting optional grounding rings with/without gaskets.

\*2: When submersible use or optional code DHC is selected, waterproof glands with union joints and cables are attached. When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.

#### Additional weight for FM (USA) Flameproof (FF2, FJ2, FT2) and FM (Canada) Flameproof (CF2, CJ2, CT2)

| Size                                     | 2.5 | 5 | 10 | 15 | 25            | 32            | 40            | 50            | 65            | 80            | 100           | 125           | 150         | 200         |
|------------------------------------------|-----|---|----|----|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------|-------------|
| Lining Code                              | A   | A | A  | A  | A             | A             | A             | A             | A             | A             | A             | A             | A           | A           |
| Wafer                                    | -   | - | -  | -  | 0.1<br>(0.22) | 0.1<br>(0.22) | 0.2<br>(0.44) | 0.3<br>(0.66) | 0.5<br>(1.10) | 0.8<br>(1.76) | 1.3<br>(2.87) | 1.8<br>(3.97) | 2<br>(4.41) | 4<br>(8.82) |
| Approx. Additional Weight, Unit: kg (lb) | -   | - | -  | -  | 0.1<br>(0.22) | 0.1<br>(0.22) | 0.2<br>(0.44) | 0.3<br>(0.66) | 0.5<br>(1.10) | 0.8<br>(1.76) | 1.3<br>(2.87) | 1.8<br>(3.97) | 2<br>(4.41) | 4<br>(8.82) |



• Flange (PFA Lining, excluding High Pressure Type)

Unit: mm (approx. in.)

Size 2.5 to 15 mm (0.1 to 0.5 in.)

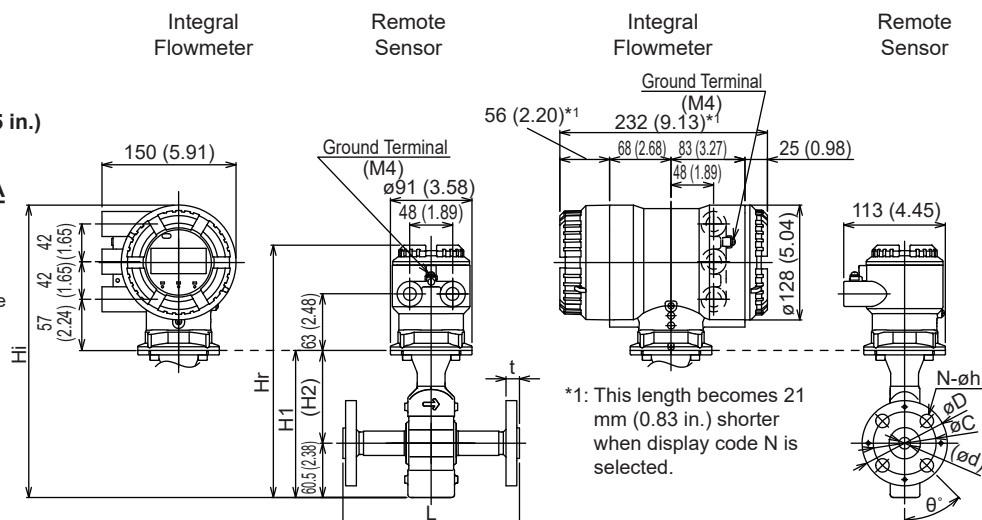
AXG002  
AXG005  
AXG010  
AXG015

Size Code

■=B, D, P

Process Connection Code

Lining Code



F36.ai

Size 25 to 125 mm (1 to 5 in.)

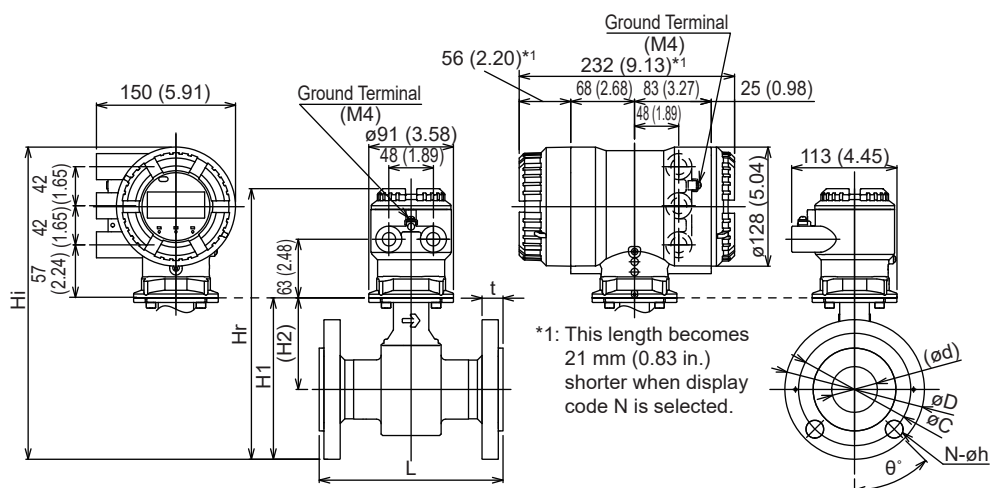
AXG025  
AXG032  
AXG040  
AXG050  
AXG065  
AXG080  
AXG100  
AXG125

Size Code

■=B, C, P

Process Connection Code

Lining Code



F37.ai

Size 150 to 200 mm (6 to 8 in.)

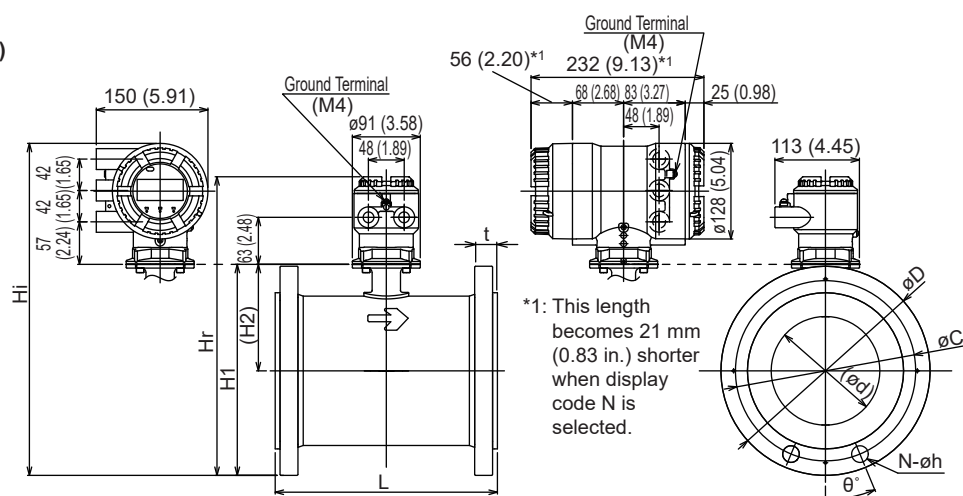
AXG150  
AXG200

Size Code

■=B, C, P

Process Connection Code

Lining Code



F38.ai

Unit: mm (approx. in.)

## Size 250 to 400 mm (10 to 16 in.)

AXG250

AXG300

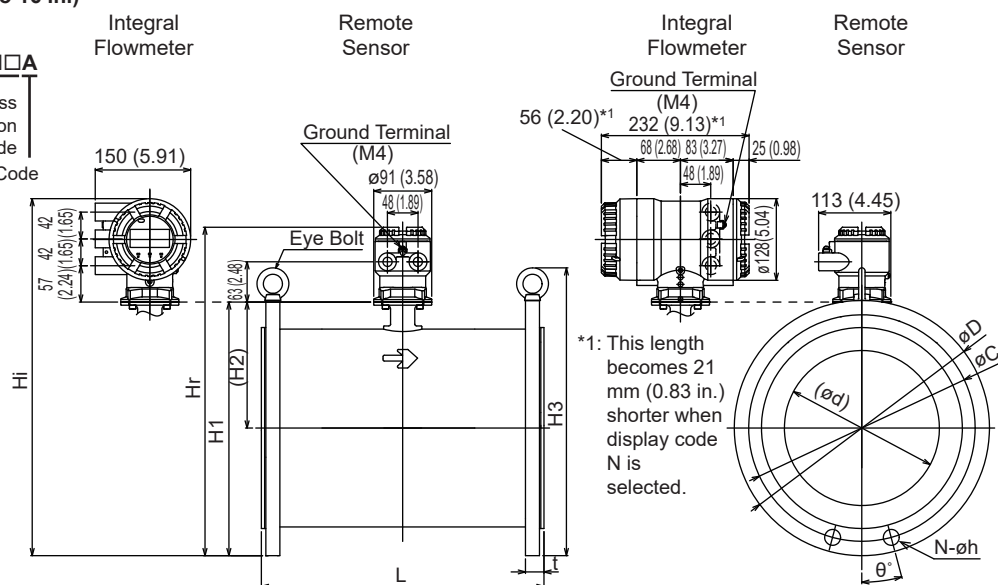
AXG350

AXG400

Size Code

■=B, C, P

□□□□□■□□A  
 Process  
 Connection  
 Code  
 Lining Code



F39.ai

## Size 500 mm (20 in.)

AXG500

AXG500

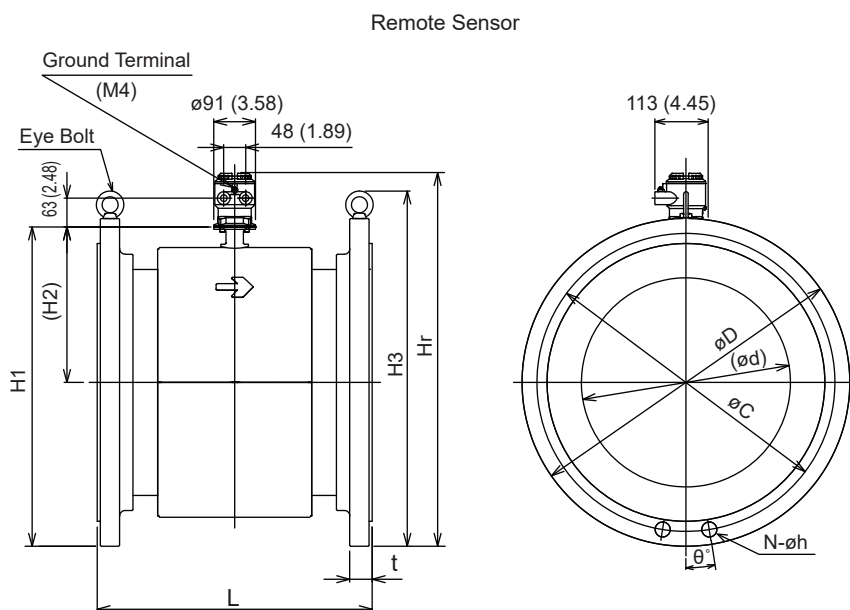
AXG500

AXG500

Size Code

■=B, C

□□□□□■□□A  
 Process  
 Connection  
 Code  
 Lining Code



F40.ai

## ○ Flange, ASME Class 150

Unit: mm (approx. in.)

| Model                                                                     | Process Connection Code               |       | BA1            |                |                |                |                |                |                |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |                  |                  |  |  |  |  |
|---------------------------------------------------------------------------|---------------------------------------|-------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|--|--|--|--|
|                                                                           |                                       |       | PA1            |                |                |                |                |                |                |                 |                 |                 | CA1             |                 |                 |                  |                  |                  |                  |                  |                  |  |  |  |  |
|                                                                           | PA1                                   |       |                |                |                | PA1            |                |                |                |                 | PA1             |                 |                 |                 |                 | PA1              |                  |                  |                  |                  |                  |  |  |  |  |
|                                                                           | Size Code                             | 002   | 005            | 010            | 015            | 025            | 032            | 040            | 050            | 065             | 080             | 100             | 125             | 150             | 200             | 250              | 300              | 350              | 400              | 500              |                  |  |  |  |  |
| Size                                                                      | (0.1)                                 | (0.2) | (0.4)          | (0.5)          | (1)            | (1.25)         | (1.5)          | (2)            | (2.5)          | (3)             | (4)             | (5)             | (6)             | (8)             | (10)            | (12)             | (14)             | (16)             | (20)             |                  |                  |  |  |  |  |
| Lining Code                                                               |                                       |       | A              | A              | A              | A              | A              | A              | A              | A               | A               | A               | A               | A               | A               | A                | A                | A                | A                | A                |                  |  |  |  |  |
| Remote Sensor                                                             | Lay Length (*1) (*3)                  | L     | 148<br>(5.83)  | 148<br>(5.83)  | 148<br>(5.83)  | 198<br>(7.80)  | 198<br>(7.78)  | 198<br>(7.78)  | 198<br>(7.78)  | 198<br>(7.78)   | 198<br>(7.78)   | 248<br>(9.74)   | 248<br>(9.74)   | 298<br>(11.71)  | 348<br>(13.68)  | 446<br>(17.54)   | 496<br>(19.51)   | 546<br>(21.48)   | 596<br>(23.44)   | 600<br>(23.62)   |                  |  |  |  |  |
|                                                                           | Flange Outer Diameter                 | øD    | 90<br>(3.54)   | 90<br>(3.54)   | 90<br>(3.54)   | 90<br>(3.54)   | 110<br>(4.33)  | 115<br>(4.53)  | 125<br>(4.92)  | 150<br>(5.91)   | 180<br>(7.09)   | 190<br>(7.48)   | 230<br>(9.06)   | 255<br>(10.04)  | 280<br>(11.02)  | 345<br>(13.58)   | 405<br>(15.94)   | 485<br>(19.09)   | 535<br>(21.06)   | 595<br>(23.43)   | 700<br>(27.56)   |  |  |  |  |
|                                                                           | Flange Thickness (incl. lining flare) | t     | 19.2<br>(0.76) | 19.2<br>(0.76) | 19.2<br>(0.76) | 16.2<br>(0.64) | 18.7<br>(0.74) | 19.3<br>(0.76) | 20.9<br>(0.82) | 22.5<br>(0.89)  | 25.7<br>(1.01)  | 27.3<br>(1.07)  | 27.3<br>(1.07)  | 30.4<br>(1.20)  | 33.5<br>(1.32)  | 35.6<br>(1.40)   | 37.2<br>(1.46)   | 40.9<br>(1.61)   | 42.5<br>(1.67)   | 48.6<br>(1.91)   |                  |  |  |  |  |
|                                                                           | Lining Inner Diameter                 | ød    | 2<br>(0.09)    | 5<br>(0.19)    | 8<br>(0.30)    | 13<br>(0.51)   | 24<br>(0.93)   | 29<br>(1.13)   | 37<br>(1.44)   | 49<br>(1.94)    | 61<br>(2.40)    | 73<br>(2.87)    | 97<br>(3.82)    | 121<br>(4.76)   | 145<br>(5.72)   | 194<br>(7.65)    | 243<br>(9.55)    | 292<br>(11.51)   | 323<br>(12.73)   | 374<br>(14.70)   | 459<br>(18.07)   |  |  |  |  |
|                                                                           | Bolt Circle Diameter                  | øC    | 60.3<br>(2.37) | 60.3<br>(2.37) | 60.3<br>(2.37) | 60.3<br>(2.37) | 79.4<br>(3.13) | 88.9<br>(3.50) | 98.4<br>(3.87) | 120.7<br>(4.75) | 139.7<br>(5.50) | 152.4<br>(6.00) | 190.5<br>(7.50) | 215.9<br>(8.50) | 241.3<br>(9.50) | 298.5<br>(11.75) | 362.0<br>(14.25) | 431.8<br>(17.00) | 476.3<br>(18.75) | 539.8<br>(21.25) | 635.0<br>(25.00) |  |  |  |  |
|                                                                           | Bolt Hole Interval                    | ø°    | 45             | 45             | 45             | 45             | 45             | 45             | 45             | 45              | 45              | 45              | 22.5            | 22.5            | 22.5            | 22.5             | 15               | 15               | 15               | 11.25            | 9                |  |  |  |  |
|                                                                           | Bolt Hole Diameter                    | øh    | 15.9<br>(0.63) | 15.9<br>(0.63) | 15.9<br>(0.63) | 15.9<br>(0.63) | 15.9<br>(0.63) | 15.9<br>(0.63) | 15.9<br>(0.63) | 19.1<br>(0.75)  | 19.1<br>(0.75)  | 19.1<br>(0.75)  | 19.1<br>(0.75)  | 22.2<br>(0.87)  | 22.3<br>(0.88)  | 22.3<br>(0.88)   | 25.4<br>(1.00)   | 25.4<br>(1.00)   | 28.6<br>(1.13)   | 28.6<br>(1.13)   | 31.8<br>(1.25)   |  |  |  |  |
|                                                                           | Number of Bolt Holes                  | N     | 4              | 4              | 4              | 4              | 4              | 4              | 4              | 4               | 4               | 4               | 8               | 8               | 8               | 8                | 12               | 12               | 12               | 16               | 20               |  |  |  |  |
|                                                                           | Height                                | H1    | 164<br>(6.46)  | 164<br>(6.46)  | 164<br>(6.46)  | 164<br>(6.46)  | 135<br>(5.31)  | 144<br>(5.67)  | 149<br>(5.87)  | 174<br>(6.85)   | 198<br>(7.80)   | 209<br>(8.23)   | 239<br>(9.41)   | 266<br>(10.47)  | 283<br>(11.12)  | 340<br>(13.39)   | 401<br>(15.78)   | 465<br>(18.32)   | 512<br>(20.14)   | 569<br>(22.41)   | 689<br>(27.12)   |  |  |  |  |
|                                                                           | Height                                | H2    | 104<br>(4.09)  | 104<br>(4.09)  | 104<br>(4.09)  | 104<br>(4.09)  | 80<br>(3.15)   | 86<br>(3.39)   | 86<br>(3.39)   | 99<br>(3.90)    | 108<br>(4.25)   | 114<br>(4.49)   | 124<br>(4.88)   | 138<br>(5.43)   | 143<br>(5.61)   | 168<br>(6.60)    | 198<br>(7.81)    | 223<br>(8.77)    | 244<br>(9.61)    | 272<br>(10.70)   | 339<br>(13.34)   |  |  |  |  |
|                                                                           | Height                                | H3    | -              | -              | -              | -              | -              | -              | -              | -               | -               | -               | -               | -               | -               | -                | 456<br>(17.95)   | 536<br>(21.10)   | 595<br>(23.43)   | 655<br>(25.79)   | 760<br>(29.92)   |  |  |  |  |
| Remote Sensor                                                             | Maximum Height                        | Hr    | 281<br>(11.06) | 281<br>(11.06) | 281<br>(11.06) | 281<br>(11.06) | 252<br>(9.92)  | 266<br>(10.28) | 291<br>(10.47) | 315<br>(12.40)  | 326<br>(12.83)  | 356<br>(14.02)  | 383<br>(15.08)  | 400<br>(15.74)  | 457<br>(18.01)  | 518<br>(20.40)   | 583<br>(22.94)   | 629<br>(24.76)   | 687<br>(27.03)   | 806<br>(31.74)   |                  |  |  |  |  |
|                                                                           | Approx. Weight, Unit: kg (lb) (*2)    |       | 3.6<br>(7.9)   | 3.6<br>(7.9)   | 3.6<br>(7.9)   | 3.8<br>(8.4)   | 4.2<br>(9.3)   | 4.8<br>(10.6)  | 5.5<br>(12.1)  | 7.4<br>(16.3)   | 10.8<br>(23.8)  | 13.0<br>(28.7)  | 18.2<br>(40.1)  | 22.8<br>(50.3)  | 31<br>(68.4)    | 50<br>(110.4)    | 79<br>(174.4)    | 109<br>(240.6)   | 136<br>(300.2)   | 233<br>(514.4)   |                  |  |  |  |  |
| Integral Flowmeter                                                        | Maximum Height                        | Hi    | 326<br>(12.83) | 326<br>(12.83) | 326<br>(12.83) | 326<br>(12.83) | 297<br>(11.69) | 306<br>(12.05) | 311<br>(12.24) | 336<br>(13.23)  | 360<br>(14.17)  | 371<br>(14.61)  | 401<br>(15.79)  | 428<br>(16.85)  | 502<br>(19.77)  | 563<br>(22.16)   | 627<br>(24.69)   | 674<br>(26.52)   | 731<br>(28.79)   | -                |                  |  |  |  |  |
|                                                                           | Approx. Weight, Unit: kg (lb)         |       | 6.1<br>(13.5)  | 6.1<br>(13.5)  | 6.1<br>(13.5)  | 6.4<br>(14.1)  | 6.7<br>(14.8)  | 7.3<br>(16.1)  | 8.0<br>(17.6)  | 9.9<br>(21.8)   | 13.7<br>(30.2)  | 15.5<br>(34.2)  | 20.7<br>(45.6)  | 25.4<br>(56.0)  | 34<br>(75.1)    | 52<br>(114.8)    | 82<br>(181.0)    | 111<br>(245.0)   | 138<br>(304.6)   | 175<br>(386.3)   |                  |  |  |  |  |
| Grounding rings thin type (GRL, GRH, GRV) (*1)                            |                                       |       | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)   | +2<br>(+0.08)   | +2<br>(+0.08)   | +2<br>(+0.08)   | +2<br>(+0.08)   | +2<br>(+0.08)   | +2<br>(+0.08)    | +2<br>(+0.08)    | +2<br>(+0.08)    | +2<br>(+0.08)    | +2<br>(+0.08)    | -                |  |  |  |  |
| Grounding rings thick type (GRN, GRJ, GRW) (*1)                           |                                       |       | -              | -              | -              | -              | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    | +8<br>(+0.31)    |  |  |  |  |
| Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1) |                                       |       | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39)  | +10<br>(+0.39)  | +10<br>(+0.39)  | +10<br>(+0.39)  | +10<br>(+0.39)  | +10<br>(+0.39)  | +12<br>(+0.47)   | -                | -                | -                | -                | -                |  |  |  |  |
| Metal hat grounding rings (GSN, GDN) (*1)                                 |                                       |       | -              | -              | -              | -              | -              | -              | -              | -               | -               | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    | -                |  |  |  |  |
| Grounding rings electrode type (GRP, GRT) (*1)                            |                                       |       | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14)  | +29<br>(+1.14)  | +29<br>(+1.14)  | +29<br>(+1.14)  | +29<br>(+1.14)  | +29<br>(+1.14)  | +34<br>(+1.34)   | -                | -                | -                | -                | -                |  |  |  |  |
| Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)  |                                       |       | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30)  | +33<br>(+1.30)  | +33<br>(+1.30)  | +33<br>(+1.30)  | +33<br>(+1.30)  | +33<br>(+1.30)  | +40<br>(+1.57)   | +40<br>(+1.57)   | -                | -                | -                | -                |  |  |  |  |

\*1: Add the value above (which is the total of both ends) to the lay length "L" when selecting optional grounding rings with/without gaskets.

\*2: When submersible use or optional code DHC is selected, waterproof glands with union joints and cables are attached. When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.

\*3: The limit deviation of the lay length "L" is as follows.  
 • Size 2.5 to 200 mm (0.1 to 8 in.): 0/-3 mm  
 • Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

## Additional weight for FM (USA) Flameproof (FF2, FJ2, FT2) and FM (Canada) Flameproof (CF2, CJ2, CT2)

| Size                                     | 2.5 | 5 | 10 | 15 | 25            | 32            | 40            | 50            | 65            | 80            | 100           | 125           | 150         | 200         | 250          | 300           | 350           | 400           |
|------------------------------------------|-----|---|----|----|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------|-------------|--------------|---------------|---------------|---------------|
| Lining Code                              | A   | A | A  | A  | A             | A             | A             | A             | A             | A             | A             | A             | A           | A           | A            | A             | A             | A             |
| Flange                                   | -   | - | -  | -  | 0.1<br>(0.22) | 0.2<br>(0.44) | 0.2<br>(0.44) | 0.3<br>(0.66) | 0.4<br>(0.88) | 0.4<br>(0.88) | 0.7<br>(1.54) | 0.7<br>(1.54) | 3<br>(6.61) | 4<br>(8.82) | 8<br>(17.64) | 10<br>(22.05) | 18<br>(39.68) | 25<br>(55.12) |
| Approx. Additional Weight, Unit: kg (lb) | -   | - | -  | -  | 0.1<br>(0.22) | 0.2<br>(0.44) | 0.2<br>(0.44) | 0.3<br>(0.66) | 0.4<br>(0.88) | 0.4<br>(0.88) | 0.7<br>(1.54) | 0.7<br>(1.54) | 3<br>(6.61) | 4<br>(8.82) | 8<br>(17.64) | 10<br>(22.05) | 18<br>(39.68) | 25<br>(55.12) |

## ○ Flange, ASME Class 300

Unit: mm (approx. in.)

| Model                                                                     | Process Connection Code               |    | BA2            |                |                |                |                |                |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  | CA2           |  |  |  |  |  |
|---------------------------------------------------------------------------|---------------------------------------|----|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|------------------|---------------|--|--|--|--|--|
|                                                                           |                                       |    | -              | -              | -              | -              | -              | -              | -               | -               | -               | -               | PA2             |                 | CA2              |                  | PA2              |                  |               |  |  |  |  |  |
|                                                                           | Size Code                             |    | 002            | 005            | 010            | 015            | 025            | 032            | 040             | 050             | 065             | 080             | 100             | 125             | 150              | 200              | 250              | 300              |               |  |  |  |  |  |
|                                                                           | Size                                  |    | 2.5<br>(0.1)   | 5<br>(0.2)     | 10<br>(0.4)    | 15<br>(0.5)    | 25<br>(1)      | 32<br>(1.25)   | 40<br>(1.5)     | 50<br>(2)       | 65<br>(2.5)     | 80<br>(3)       | 100<br>(4)      | 125<br>(5)      | 150<br>(6)       | 200<br>(8)       | 250<br>(10)      | 300<br>(12)      |               |  |  |  |  |  |
| Lining Code                                                               |                                       | A  | A              | A              | A              | A              | A              | A              | A               | A               | A               | A               | A               | A               | A                | A                | A                |                  |               |  |  |  |  |  |
| Remote Sensor                                                             | Lay Length (*1) (*3)                  | L  | 148<br>(5.83)  | 148<br>(5.83)  | 148<br>(5.83)  | 198<br>(7.80)  | 198<br>(7.78)  | 198<br>(7.78)  | 198<br>(7.78)   | 198<br>(7.78)   | 198<br>(7.78)   | 198<br>(7.78)   | 248<br>(9.74)   | 248<br>(9.74)   | 298<br>(11.71)   | 348<br>(13.68)   | 446<br>(17.54)   | 496<br>(19.51)   |               |  |  |  |  |  |
|                                                                           | Flange Outer Diameter                 | øD | 95<br>(3.74)   | 95<br>(3.74)   | 95<br>(3.74)   | 95<br>(3.74)   | 125<br>(4.92)  | 135<br>(5.31)  | 155<br>(6.10)   | 165<br>(6.50)   | 190<br>(7.48)   | 210<br>(8.27)   | 255<br>(10.04)  | 280<br>(11.02)  | 320<br>(12.60)   | 380<br>(14.96)   | 445<br>(17.52)   | 520<br>(20.47)   |               |  |  |  |  |  |
|                                                                           | Flange Thickness (incl. lining flare) | t  | 20.3<br>(0.80) | 20.3<br>(0.80) | 20.3<br>(0.80) | 17.3<br>(0.68) | 21.9<br>(0.86) | 22.5<br>(0.89) | 24.1<br>(0.95)  | 25.7<br>(1.01)  | 28.9<br>(1.14)  | 32.0<br>(1.26)  | 35.2<br>(1.39)  | 38.4<br>(1.51)  | 41.5<br>(1.63)   | 46.2<br>(1.82)   | 53.1<br>(2.09)   | 56.3<br>(2.22)   |               |  |  |  |  |  |
|                                                                           | Lining Inner Diameter                 | ød | 2<br>(0.09)    | 5<br>(0.19)    | 8<br>(0.30)    | 13<br>(0.51)   | 24<br>(0.93)   | 29<br>(1.13)   | 37<br>(1.44)    | 49<br>(1.94)    | 61<br>(2.40)    | 73<br>(2.87)    | 97<br>(3.82)    | 121<br>(4.76)   | 145<br>(5.72)    | 194<br>(7.65)    | 243<br>(9.55)    | 292<br>(11.51)   |               |  |  |  |  |  |
|                                                                           | Bolt Circle Diameter                  | øC | 66.7<br>(2.63) | 66.7<br>(2.63) | 66.7<br>(2.63) | 66.7<br>(2.63) | 88.9<br>(3.50) | 98.4<br>(3.87) | 114.3<br>(4.50) | 127.0<br>(5.00) | 149.2<br>(5.87) | 168.3<br>(6.63) | 200.0<br>(7.87) | 235.0<br>(9.25) | 269.9<br>(10.63) | 330.2<br>(13.00) | 387.4<br>(15.25) | 450.8<br>(17.75) |               |  |  |  |  |  |
|                                                                           | Bolt Hole Interval                    | θ° | 45             | 45             | 45             | 45             | 45             | 45             | 45              | 22.5            | 22.5            | 22.5            | 22.5            | 22.5            | 22.5             | 15               | 15               | 11.25            | 11.25         |  |  |  |  |  |
| Integral Flowmeter                                                        | Bolt Hole Diameter                    | øh | 15.9<br>(0.63) | 15.9<br>(0.63) | 15.9<br>(0.63) | 15.9<br>(0.63) | 19.1<br>(0.75) | 19.1<br>(0.75) | 22.2<br>(0.87)  | 22.2<br>(0.87)  | 22.2<br>(0.87)  | 22.2<br>(0.87)  | 22.2<br>(0.87)  | 22.2<br>(0.87)  | 22.3<br>(0.88)   | 25.4<br>(1.00)   | 28.6<br>(1.13)   | 31.8<br>(1.25)   |               |  |  |  |  |  |
|                                                                           | Number of Bolt Holes                  | N  | 4              | 4              | 4              | 4              | 4              | 4              | 4               | 8               | 8               | 8               | 8               | 8               | 12               | 12               | 16               | 16               |               |  |  |  |  |  |
|                                                                           | Height                                | H1 | 164<br>(6.46)  | 164<br>(6.46)  | 164<br>(6.46)  | 164<br>(6.46)  | 143<br>(5.63)  | 154<br>(6.06)  | 164<br>(6.46)   | 182<br>(7.17)   | 203<br>(7.99)   | 219<br>(8.62)   | 252<br>(9.92)   | 278<br>(10.94)  | 303<br>(11.91)   | 358<br>(14.08)   | 421<br>(16.57)   | 483<br>(19.01)   |               |  |  |  |  |  |
|                                                                           | Height                                | H2 | 104<br>(4.09)  | 104<br>(4.09)  | 104<br>(4.09)  | 104<br>(4.09)  | 80<br>(3.15)   | 86<br>(3.39)   | 86<br>(3.39)    | 99<br>(3.90)    | 108<br>(4.25)   | 114<br>(4.49)   | 124<br>(4.88)   | 138<br>(5.43)   | 143<br>(5.61)    | 168<br>(6.60)    | 198<br>(7.81)    | 223<br>(8.77)    |               |  |  |  |  |  |
| Remote Sensor                                                             | Height                                | H3 | -              | -              | -              | -              | -              | -              | -               | -               | -               | -               | -               | -               | -                | -                | 496<br>(19.53)   | 571<br>(22.48)   |               |  |  |  |  |  |
|                                                                           | Maximum Height                        | Hr | 281<br>(11.06) | 281<br>(11.06) | 281<br>(11.06) | 281<br>(11.06) | 260<br>(10.24) | 271<br>(10.67) | 281<br>(11.06)  | 299<br>(11.77)  | 320<br>(12.60)  | 336<br>(13.23)  | 369<br>(14.53)  | 395<br>(15.55)  | 420<br>(16.53)   | 475<br>(18.70)   | 538<br>(21.19)   | 600<br>(23.62)   |               |  |  |  |  |  |
|                                                                           | Approx. Weight, Unit: kg (lb) (*2)    |    | 3.9<br>(8.6)   | 3.9<br>(8.6)   | 3.9<br>(8.6)   | 4.0<br>(8.8)   | 5.2<br>(11.5)  | 6.2<br>(13.7)  | 8.0<br>(17.6)   | 9.3<br>(20.5)   | 13.2<br>(29.1)  | 17.2<br>(37.9)  | 26.7<br>(58.9)  | 35.5<br>(78.3)  | 47<br>(103.8)    | 71<br>(156.7)    | 112<br>(247.2)   | 152<br>(335.5)   |               |  |  |  |  |  |
| Integral Flowmeter                                                        | Maximum Height                        | Hi | 326<br>(12.83) | 326<br>(12.83) | 326<br>(12.83) | 326<br>(12.83) | 305<br>(12.01) | 316<br>(12.44) | 326<br>(12.83)  | 344<br>(13.54)  | 365<br>(14.37)  | 381<br>(15.00)  | 414<br>(16.30)  | 440<br>(17.32)  | 465<br>(18.29)   | 520<br>(20.46)   | 583<br>(22.95)   | 645<br>(25.38)   |               |  |  |  |  |  |
|                                                                           | Approx. Weight, Unit: kg (lb)         |    | 6.5<br>(14.3)  | 6.5<br>(14.3)  | 6.5<br>(14.3)  | 6.6<br>(14.6)  | 7.8<br>(17.2)  | 8.8<br>(19.4)  | 10.5<br>(23.2)  | 11.8<br>(26.0)  | 15.7<br>(34.6)  | 19.7<br>(43.4)  | 29.2<br>(64.4)  | 38.0<br>(83.8)  | 50<br>(110.4)    | 74<br>(163.4)    | 114<br>(251.7)   | 155<br>(342.2)   |               |  |  |  |  |  |
| Grounding rings thin type (GRL, GRH, GRV) (*1)                            |                                       |    | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)   | +2<br>(+0.08)   | +2<br>(+0.08)   | +2<br>(+0.08)   | +2<br>(+0.08)   | +2<br>(+0.08)   | +2<br>(+0.08)    | +2<br>(+0.08)    | +2<br>(+0.08)    | +4<br>(+0.16)    | +4<br>(+0.16) |  |  |  |  |  |
| Grounding rings thick type (GRN, GRJ, GRW) (*1)                           |                                       |    | -              | -              | -              | -              | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24) |  |  |  |  |  |
| Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1) |                                       |    | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39)  | +10<br>(+0.39)  | +10<br>(+0.39)  | +10<br>(+0.39)  | +10<br>(+0.39)  | +10<br>(+0.39)  | +10<br>(+0.39)   | +12<br>(+0.47)   | +12<br>(+0.47)   | -                | -             |  |  |  |  |  |
| Metal hat grounding rings (GSN, GDN) (*1)                                 |                                       |    | -              | -              | -              | -              | -              | -              | -               | -               | -               | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24) |  |  |  |  |  |
| Grounding rings electrode type (GRP, GRT) (*1)                            |                                       |    | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14)  | +29<br>(+1.14)  | +29<br>(+1.14)  | +29<br>(+1.14)  | +29<br>(+1.14)  | +29<br>(+1.14)  | +29<br>(+1.14)   | +34<br>(+1.34)   | +34<br>(+1.34)   | -                | -             |  |  |  |  |  |
| Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)  |                                       |    | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30)  | +33<br>(+1.30)  | +33<br>(+1.30)  | +33<br>(+1.30)  | +33<br>(+1.30)  | +33<br>(+1.30)  | +33<br>(+1.30)   | +40<br>(+1.57)   | +40<br>(+1.57)   | -                | -             |  |  |  |  |  |

\*1: Add the value above (which is the total of both ends) to the lay length "L" when selecting optional grounding rings with/without gaskets.

\*2: When submersible use or optional code DHC is selected, waterproof glands with union joints and cables are attached. When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.

\*3: The limit deviation of the lay length "L" is as follows.

- Size 2.5 to 200 mm (0.1 to 8 in.): 0/-3 mm
- Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

## Additional weight for FM (USA) Flameproof (FF2, FJ2, FT2) and FM (Canada) Flameproof (CF2, CJ2, CT2)

| Size                                     | 2.5 | 5 | 10 | 15 | 25            | 32            | 40            | 50            | 65            | 80            | 100           | 125           | 150         | 200         | 250          | 300           |
|------------------------------------------|-----|---|----|----|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------|-------------|--------------|---------------|
| Lining Code                              | A   | A | A  | A  | A             | A             | A             | A             | A             | A             | A             | A             | A           | A           | A            | A             |
| Flange                                   | -   | - | -  | -  | 0.1<br>(0.22) | 0.2<br>(0.44) | 0.2<br>(0.44) | 0.3<br>(0.66) | 0.4<br>(0.88) | 0.4<br>(0.88) | 0.7<br>(1.54) | 0.7<br>(1.54) | 3<br>(6.61) | 4<br>(8.82) | 8<br>(17.64) | 10<br>(22.05) |
| Approx. Additional Weight, Unit: kg (lb) | -   | - | -  | -  | 0.1<br>(0.22) | 0.2<br>(0.44) | 0.2<br>(0.44) | 0.3<br>(0.66) | 0.4<br>(0.88) | 0.4<br>(0.88) | 0.7<br>(1.54) | 0.7<br>(1.54) | 3<br>(6.61) | 4<br>(8.82) | 8<br>(17.64) | 10<br>(22.05) |

## ○ Flange, EN PN16, EN PN40

Unit: mm (approx. in.)

| Model                                                                     | Process Connection Code               | DE4        |                |                | BE4            |                |                |                |                |                |                |                |                |                | BE2            |                |                |                |                |                |                |                |  |  |
|---------------------------------------------------------------------------|---------------------------------------|------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--|--|
|                                                                           |                                       | -          | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | CE4            | -              | CE2            |                |                | CE2            |                |                | -              |                |  |  |
|                                                                           |                                       | -          | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | CE4            | -              | PE2            |                |                | -              | PE2            |                |                | -              |  |  |
|                                                                           |                                       | 002        | 005            | 010            | 002            | 005            | 010            | 015            | 025            | 032            | 040            | 050            | 065            | 080            | 100            | 125            | 150            | 200            | 250            | 300            | 500            |                |  |  |
| Size Code                                                                 | 2.5<br>(0.1)                          | 5<br>(0.2) | 10<br>(0.4)    | 2.5<br>(0.1)   | 5<br>(0.2)     | 10<br>(0.4)    | 15<br>(0.5)    | 25<br>(1)      | 32<br>(1.25)   | 40<br>(1.5)    | 50<br>(2)      | 65<br>(2.5)    | 80<br>(3)      | 100<br>(4)     | 125<br>(5)     | 150<br>(6)     | 200<br>(8)     | 250<br>(10)    | 300<br>(12)    | 500<br>(20)    |                |                |  |  |
| Lining Code                                                               | A                                     | A          | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              |                |                |  |  |
| Remote Sensor                                                             | Lay Length (*1) (*3)                  | L          | 148<br>(5.83)  | 148<br>(5.83)  | 148<br>(5.83)  | 148<br>(5.83)  | 148<br>(5.83)  | 198<br>(7.80)  | 198<br>(7.78)  | 198<br>(7.78)  | 198<br>(7.78)  | 198<br>(7.78)  | 198<br>(7.78)  | 248<br>(9.74)  | 248<br>(9.74)  | 298<br>(11.71) | 348<br>(13.68) | 446<br>(17.54) | 496<br>(19.51) | 600<br>(23.62) |                |                |  |  |
|                                                                           | Flange Outer Diameter                 | øD         | 90<br>(3.54)   | 90<br>(3.54)   | 90<br>(3.54)   | 95<br>(3.74)   | 95<br>(3.74)   | 95<br>(3.74)   | 115<br>(4.53)  | 140<br>(5.51)  | 150<br>(5.91)  | 165<br>(6.50)  | 185<br>(7.28)  | 200<br>(7.87)  | 220<br>(8.66)  | 250<br>(9.84)  | 285<br>(11.22) | 340<br>(13.39) | 405<br>(15.94) | 460<br>(18.11) | 715<br>(28.15) |                |  |  |
|                                                                           | Flange Thickness (incl. lining flare) | t          | 20.0<br>(0.79) | 20.0<br>(0.79) | 20.0<br>(0.79) | 20.0<br>(0.79) | 20.0<br>(0.79) | 20.0<br>(0.79) | 22.0<br>(0.90) | 21.0<br>(0.87) | 21.0<br>(0.83) | 23.0<br>(0.91) | 21.0<br>(0.83) | 23.0<br>(0.91) | 23.0<br>(0.91) | 25.0<br>(0.98) | 25.5<br>(1.00) | 27.5<br>(1.08) | 30.0<br>(1.18) | 31.0<br>(1.22) | 49.3<br>(1.94) |                |  |  |
|                                                                           | Lining Inner Diameter                 | ød         | 2<br>(0.09)    | 5<br>(0.19)    | 8<br>(0.30)    | 2<br>(0.09)    | 5<br>(0.19)    | 8<br>(0.30)    | 13<br>(0.51)   | 24<br>(0.93)   | 29<br>(1.13)   | 37<br>(1.44)   | 49<br>(1.94)   | 61<br>(2.40)   | 73<br>(2.87)   | 97<br>(3.82)   | 121<br>(4.76)  | 145<br>(5.72)  | 194<br>(7.65)  | 243<br>(9.55)  | 292<br>(11.51) | 459<br>(18.07) |  |  |
|                                                                           | Bolt Circle Diameter                  | øC         | 60<br>(2.36)   | 60<br>(2.36)   | 60<br>(2.36)   | 65<br>(2.56)   | 65<br>(2.56)   | 65<br>(2.56)   | 85<br>(3.35)   | 100<br>(3.94)  | 110<br>(4.33)  | 125<br>(4.92)  | 145<br>(5.71)  | 160<br>(6.30)  | 180<br>(7.09)  | 210<br>(8.27)  | 240<br>(9.45)  | 295<br>(11.61) | 355<br>(13.98) | 410<br>(16.14) | 650<br>(25.59) |                |  |  |
|                                                                           | Bolt Hole Interval                    | θ°         | 45             | 45             | 45             | 45             | 45             | 45             | 45             | 45             | 45             | 45             | 22.5           | 22.5           | 22.5           | 22.5           | 22.5           | 15             | 15             | 15             | 9              |                |  |  |
|                                                                           | Bolt Hole Diameter                    | øh         | 14<br>(0.55)   | 14<br>(0.55)   | 14<br>(0.55)   | 14<br>(0.55)   | 14<br>(0.55)   | 14<br>(0.55)   | 14<br>(0.55)   | 18<br>(0.71)   | 18<br>(0.71)   | 18<br>(0.71)   | 18<br>(0.71)   | 18<br>(0.71)   | 18<br>(0.71)   | 18<br>(0.71)   | 22<br>(0.87)   | 22<br>(0.87)   | 26<br>(1.02)   | 26<br>(1.02)   | 33<br>(1.30)   |                |  |  |
|                                                                           | Number of Bolt Holes                  | N          | 4              | 4              | 4              | 4              | 4              | 4              | 4              | 4              | 4              | 4              | 8              | 8              | 8              | 8              | 8              | 12             | 12             | 12             | 20             |                |  |  |
|                                                                           | Integral Flowmeter                    | Height     | H1             | 164<br>(6.46)  | 164<br>(6.46)  | 164<br>(6.46)  | 164<br>(6.46)  | 164<br>(6.46)  | 164<br>(6.46)  | 138<br>(5.43)  | 156<br>(6.14)  | 161<br>(6.34)  | 182<br>(7.17)  | 201<br>(7.91)  | 214<br>(8.43)  | 234<br>(9.21)  | 263<br>(10.35) | 285<br>(11.22) | 338<br>(13.29) | 401<br>(15.78) | 453<br>(17.82) | 696<br>(27.42) |  |  |
|                                                                           |                                       | Height     | H2             | 104<br>(4.09)  | 104<br>(4.09)  | 104<br>(4.09)  | 104<br>(4.09)  | 104<br>(4.09)  | 104<br>(4.09)  | 80<br>(3.15)   | 86<br>(3.39)   | 86<br>(3.39)   | 99<br>(3.90)   | 108<br>(4.25)  | 114<br>(4.49)  | 124<br>(4.88)  | 138<br>(5.43)  | 143<br>(5.61)  | 168<br>(6.60)  | 198<br>(7.81)  | 223<br>(8.77)  | 339<br>(13.34) |  |  |
| Height                                                                    |                                       | H3         | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | 456<br>(17.95) | 511<br>(20.12) | 786<br>(30.94) |                |  |  |
| Remote Sensor                                                             | Maximum Height                        | Hr         | 281<br>(11.06) | 281<br>(11.06) | 281<br>(11.06) | 281<br>(11.06) | 281<br>(11.06) | 281<br>(11.06) | 255<br>(10.04) | 273<br>(10.75) | 278<br>(10.94) | 299<br>(11.77) | 318<br>(12.52) | 331<br>(13.03) | 351<br>(13.82) | 380<br>(14.96) | 402<br>(15.84) | 455<br>(17.91) | 518<br>(20.40) | 570<br>(22.44) | 814<br>(32.04) |                |  |  |
|                                                                           | Approx. Weight, Unit: kg (lb) (*2)    |            | 3.9<br>(8.6)   | 3.9<br>(8.6)   | 3.9<br>(8.6)   | 4.1<br>(9.0)   | 4.1<br>(9.0)   | 4.1<br>(9.0)   | 4.2<br>(9.3)   | 4.8<br>(10.6)  | 6.4<br>(14.1)  | 7.1<br>(15.7)  | 8.9<br>(19.6)  | 9.9<br>(21.8)  | 12.4<br>(27.3) | 15.0<br>(33.1) | 20.7<br>(45.6) | 29<br>(64.0)   | 44<br>(97.1)   | 73<br>(161.2)  | 91<br>(200.9)  | 247<br>(545.3) |  |  |
| Integral Flowmeter                                                        | Maximum Height                        | Hi         | 326<br>(12.83) | 326<br>(12.83) | 326<br>(12.83) | 326<br>(12.83) | 326<br>(12.83) | 326<br>(12.83) | 300<br>(11.81) | 318<br>(12.52) | 323<br>(12.72) | 344<br>(13.54) | 363<br>(14.29) | 376<br>(14.80) | 396<br>(15.96) | 425<br>(16.73) | 447<br>(17.60) | 500<br>(19.67) | 563<br>(22.16) | 615<br>(24.20) | -              |                |  |  |
|                                                                           | Approx. Weight, Unit: kg (lb)         |            | 6.5<br>(14.3)  | 6.5<br>(14.3)  | 6.5<br>(14.3)  | 6.7<br>(14.8)  | 6.7<br>(14.8)  | 6.8<br>(15.0)  | 7.4<br>(16.3)  | 9.0<br>(19.8)  | 9.6<br>(21.2)  | 11.4<br>(25.1) | 12.4<br>(27.3) | 15.0<br>(33.1) | 17.6<br>(38.8) | 23.3<br>(51.4) | 31<br>(68.4)   | 46<br>(101.6)  | 75<br>(165.6)  | 93<br>(205.3)  | -              |                |  |  |
| Grounding rings thin type (GRL, GRH, GRV) (*1)                            |                                       |            | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +4<br>(+0.16)  | +4<br>(+0.16)  | -              |                |  |  |
| Grounding rings thick type (GRN, GRJ, GRW) (*1)                           |                                       |            | -              | -              | -              | -              | -              | -              | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +8<br>(+0.31)  | -              |                |  |  |
| Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1) |                                       |            | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +12<br>(+0.47) | +12<br>(+0.47) | -              |                |  |  |
| Metal hat grounding rings (GSN, GDN) (*1)                                 |                                       |            | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | -              | -              |                |  |  |
| Grounding rings electrode type (GRP, GRT) (*1)                            |                                       |            | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +34<br>(+1.34) | +34<br>(+1.34) | -              | -              |                |  |  |
| Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)  |                                       |            | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +40<br>(+1.57) | +40<br>(+1.57) | -              | -              |                |  |  |

\*1: Add the value above (which is the total of both ends) to the lay length "L" when selecting optional grounding rings with/without gaskets.

\*2: When submersible use or optional code DHC is selected, waterproof glands with union joints and cables are attached. When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.

\*3: The limit deviation of the lay length "L" is as follows.

- Size 2.5 to 200 mm (0.1 to 8 in.): 0/-3 mm
- Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

## Additional weight for FM (USA) Flameproof (FF2, FJ2, FT2)

| Size                                     | 2.5 | 5 | 10 | 15 | 25     | 32     | 40     | 50     | 65     | 80     | 100    | 125    | 150    | 200    | 250     | 300     |
|------------------------------------------|-----|---|----|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|
| Lining Code                              | A   | A | A  | A  | A      | A      | A      | A      | A      | A      | A      | A      | A      | A      | A       | A       |
| Flange                                   | -   | - | -  | -  | 0.1    | 0.2    | 0.2    | 0.3    | 0.4    | 0.4    | 0.7    | 0.7    | 3      | 4      | 8       | 10      |
| Approx. Additional Weight, Unit: kg (lb) | -   | - | -  | -  | (0.22) | (0.44) | (0.44) | (0.66) | (0.88) | (0.88) | (1.54) | (1.54) | (6.61) | (8.82) | (17.64) | (22.05) |

## ○ Flange, EN PN10, EN PN25

Unit: mm (approx. in.)

| Model                                                                        | Process Connection Code                  |                | BE3, PE3        |                 |                 |                |                |                |                 |                 |                 | BE1, CE1        |                |                |                |                 |                |                |
|------------------------------------------------------------------------------|------------------------------------------|----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|-----------------|----------------|----------------|
|                                                                              |                                          |                |                 |                 |                 |                |                |                |                 |                 |                 | PE1             |                |                |                |                 | -              |                |
|                                                                              | Size Code                                |                | 080             | 100             | 125             | 150            | 200            | 250            | 300             | 350             | 400             | 200             | 250            | 300            | 350            | 400             | 500            |                |
|                                                                              | Size                                     |                | 80              | 100             | 125             | 150            | 200            | 250            | 300             | 350             | 400             | 200             | 250            | 300            | 350            | 400             | 500            |                |
| Lining Code                                                                  |                                          |                | (3)             | (4)             | (5)             | (6)            | (8)            | (10)           | (12)            | (14)            | (16)            | (8)             | (10)           | (12)           | (14)           | (16)            | (20)           |                |
|                                                                              |                                          |                | A               | A               | A               | A              | A              | A              | A               | A               | A               | A               | A              | A              | A              | A               | A              |                |
| Remote Sensor<br>Integral Flowmeter                                          | Lay Length (*1) (*3)                     | L              | 198<br>(7.78)   | 248<br>(9.74)   | 248<br>(9.74)   | 298<br>(11.71) | 348<br>(13.68) | 446<br>(17.54) | 496<br>(19.51)  | 546<br>(21.48)  | 596<br>(23.44)  | 348<br>(13.68)  | 446<br>(17.54) | 496<br>(19.51) | 546<br>(21.48) | 596<br>(23.44)  | 600<br>(23.62) |                |
|                                                                              | Flange Outer Diameter                    | øD             | 200<br>(7.87)   | 235<br>(9.25)   | 270<br>(10.63)  | 300<br>(11.81) | 360<br>(14.17) | 425<br>(16.73) | 485<br>(19.09)  | 555<br>(21.85)  | 620<br>(24.41)  | 340<br>(13.39)  | 395<br>(15.55) | 445<br>(17.52) | 505<br>(19.88) | 565<br>(22.24)  | 670<br>(26.38) |                |
|                                                                              | Flange Thickness<br>(incl. lining flare) | t              | 27.0<br>(1.06)  | 29.0<br>(1.06)  | 29.0<br>(1.14)  | 31.5<br>(1.24) | 33.5<br>(1.32) | 36.0<br>(1.42) | 38.0<br>(1.50)  | 41.5<br>(1.63)  | 43.5<br>(1.71)  | 27.5<br>(1.08)  | 30.0<br>(1.18) | 29.0<br>(1.14) | 29.5<br>(1.16) | 29.5<br>(1.16)  | 33.3<br>(1.31) |                |
|                                                                              | Lining Inner Diameter                    | ød             | 73<br>(2.87)    | 97<br>(3.82)    | 121<br>(4.76)   | 145<br>(5.72)  | 194<br>(7.65)  | 243<br>(9.55)  | 292<br>(11.51)  | 323<br>(12.73)  | 374<br>(14.70)  | 394<br>(7.65)   | 423<br>(9.55)  | 454<br>(11.51) | 493<br>(12.73) | 543<br>(14.70)  | 600<br>(18.07) |                |
|                                                                              | Bolt                                     |                | 160<br>(6.30)   | 190<br>(7.48)   | 220<br>(8.66)   | 250<br>(9.84)  | 310<br>(12.20) | 370<br>(14.57) | 430<br>(16.93)  | 490<br>(19.29)  | 550<br>(21.65)  | 295<br>(11.61)  | 350<br>(13.78) | 400<br>(15.75) | 460<br>(18.11) | 515<br>(20.28)  | 620<br>(24.41) |                |
|                                                                              | Circle Diameter                          | øC             |                 |                 |                 |                |                |                |                 |                 |                 |                 |                |                |                |                 |                |                |
|                                                                              | Bolt Hole Interval                       | ø°             | 22.5<br>(0.71)  | 22.5<br>(0.87)  | 22.5<br>(1.02)  | 22.5<br>(1.02) | 15<br>(1.02)   | 15<br>(1.18)   | 11.25<br>(1.18) | 11.25<br>(1.30) | 11.25<br>(1.42) | 11.25<br>(1.42) | 22.5<br>(0.87) | 15<br>(0.87)   | 15<br>(0.87)   | 11.25<br>(0.87) | 9<br>(1.02)    |                |
|                                                                              | Bolt Hole Diameter                       | øh             | 18<br>(0.71)    | 22<br>(0.87)    | 26<br>(1.02)    | 26<br>(1.02)   | 26<br>(1.02)   | 30<br>(1.18)   | 30<br>(1.18)    | 33<br>(1.30)    | 36<br>(1.42)    | 36<br>(1.42)    | 22<br>(0.87)   | 22<br>(0.87)   | 22<br>(0.87)   | 22<br>(0.87)    | 26<br>(1.02)   |                |
|                                                                              | Number of Bolt Holes                     | N              | 8               | 8               | 8               | 8              | 12             | 12             | 16              | 16              | 16              | 16              | 8              | 12             | 12             | 16              | 16             |                |
|                                                                              | Height                                   | H1             | 214<br>(8.43)   | 242<br>(9.53)   | 273<br>(10.75)  | 293<br>(11.52) | 348<br>(13.69) | 411<br>(16.18) | 465<br>(18.32)  | 522<br>(20.53)  | 582<br>(22.91)  | 638<br>(25.12)  | 338<br>(13.29) | 396<br>(15.58) | 445<br>(17.53) | 497<br>(19.55)  | 554<br>(21.82) | 674<br>(26.53) |
|                                                                              | Height                                   | H2             | 114<br>(4.49)   | 124<br>(4.88)   | 138<br>(5.43)   | 143<br>(5.61)  | 168<br>(6.60)  | 198<br>(7.81)  | 223<br>(8.77)   | 244<br>(9.61)   | 272<br>(10.70)  | 294<br>(6.80)   | 316<br>(7.81)  | 343<br>(8.77)  | 373<br>(9.61)  | 404<br>(10.70)  | 438<br>(13.34) | 339<br>(10.34) |
|                                                                              | Height                                   | H3             | -               | -               | -               | -              | -              | 476<br>(18.74) | 536<br>(21.10)  | 615<br>(24.21)  | 680<br>(26.77)  | -               | 446<br>(17.56) | 496<br>(19.53) | 565<br>(22.24) | 625<br>(24.61)  | 730<br>(28.74) | 700<br>(27.94) |
|                                                                              | Remote Sensor                            | Maximum Height | Hr              | 331<br>(13.03)  | 359<br>(14.13)  | 390<br>(15.35) | 410<br>(16.13) | 465<br>(18.30) | 528<br>(20.79)  | 583<br>(22.94)  | 639<br>(25.15)  | 699<br>(27.52)  | 455<br>(17.91) | 513<br>(20.20) | 563<br>(22.15) | 614<br>(24.17)  | 672<br>(26.44) | 791<br>(31.15) |
| Approx. Weight,<br>Unit: kg (lb) (*2)                                        |                                          |                | 13.8<br>(30.42) | 18.8<br>(41.45) | 25.3<br>(55.78) | 35<br>(77.26)  | 54<br>(119.21) | 86<br>(189.85) | 110<br>(242.83) | 146<br>(322.30) | 189<br>(417.22) | 44<br>(97.1)    | 70<br>(154.5)  | 84<br>(185.4)  | 105<br>(231.8) | 132<br>(291.4)  | 189<br>(417.2) |                |
| Integral Flowmeter                                                           | Maximum Height                           | Hi             | 37.6<br>(14.80) | 404<br>(15.91)  | 435<br>(17.13)  | 455<br>(17.89) | 510<br>(20.06) | 573<br>(22.55) | 627<br>(24.69)  | 684<br>(26.91)  | 744<br>(29.28)  | 500<br>(19.67)  | 558<br>(23.91) | 607<br>(25.93) | 659<br>(28.20) | 716<br>(28.20)  | -              |                |
|                                                                              | Approx. Weight,<br>Unit: kg (lb)         |                | 16.4<br>(36.16) | 21.4<br>(47.18) | 27.9<br>(61.51) | 38<br>(83.89)  | 56<br>(123.62) | 89<br>(196.47) | 112<br>(247.24) | 148<br>(326.71) | 191<br>(421.63) | 47<br>(103.8)   | 72<br>(158.9)  | 87<br>(192.1)  | 108<br>(238.4) | 135<br>(298.0)  | -              |                |
| Grounding rings thin type (GRL, GRH, GRV) (*1)                               |                                          |                | +2<br>(+0.08)   | +2<br>(+0.08)   | +2<br>(+0.08)   | +2<br>(+0.08)  | +2<br>(+0.08)  | +4<br>(+0.16)  | +4<br>(+0.16)   | -               | -               | +2<br>(+0.08)   | +4<br>(+0.16)  | +4<br>(+0.16)  | +4<br>(+0.16)  | +4<br>(+0.16)   | -              |                |
| Grounding rings thick type (GRN, GRJ, GRW) (*1)                              |                                          |                | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)   | -               | -               | +6<br>(+0.24)   | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)   | +8<br>(+0.31)  |                |
| Grounding rings thick type (GRN, GRJ, GRW)<br>with gaskets (GA, GC, GD) (*1) |                                          |                | +12<br>(+0.47)  | +12<br>(+0.47)  | +12<br>(+0.47)  | +12<br>(+0.47) | +12<br>(+0.47) | -              | -               | -               | -               | +12<br>(+0.47)  | -              | -              | -              | -               | -              |                |
| Metal hat grounding rings (GSN, GDN) (*1)                                    |                                          |                | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)   | -              |                |
| Grounding rings electrode type (GRP, GRT) (*1)                               |                                          |                | +34<br>(+13.4)  | +34<br>(+13.4)  | +34<br>(+13.4)  | +34<br>(+13.4) | +34<br>(+13.4) | -              | -               | -               | -               | +34<br>(+13.4)  | -              | -              | -              | -               | -              |                |
| Grounding rings electrode type (GRP, GRT)<br>with gaskets (GA, GC, GD) (*1)  |                                          |                | +40<br>(+1.57)  | +40<br>(+1.57)  | +40<br>(+1.57)  | +40<br>(+1.57) | +40<br>(+1.57) | -              | -               | -               | -               | +40<br>(+1.57)  | -              | -              | -              | -               | -              |                |

\*1: Add the value above (which is the total of both ends) to the lay length "L" when selecting optional grounding rings with/without gaskets.

\*2: When submersible use or optional code DHC is selected, waterproof glands with union joints and cables are attached. When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.

\*3: The limit deviation of the lay length "L" is as follows.

- Size 2.5 to 200 mm (0.1 to 8 in.): 0/-3 mm
- Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

## Additional weight for FM (USA) Flameproof (FF2, FJ2, FT2)

| Size                                     | 80     | 100    | 125    | 150    | 200    | 250     | 300     | 350     | 400     |
|------------------------------------------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| Lining Code                              | A      | A      | A      | A      | A      | A       | A       | A       | A       |
| Flange                                   | 0.4    | 0.7    | 0.7    | 3      | 4      | 8       | 10      | 18      | 25      |
| Approx. Additional Weight, Unit: kg (lb) | (0.88) | (1.54) | (1.54) | (6.61) | (8.82) | (17.64) | (22.05) | (39.68) | (55.12) |



## ○ Flange, JIS F12

Unit: mm (approx. in.)

| Model                                                                        | Process Connection Code                  |                                  | BG1            |                |                |                |                |                |                |                |                |                |
|------------------------------------------------------------------------------|------------------------------------------|----------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                                                                              |                                          |                                  | CG1            |                |                |                |                |                |                |                |                |                |
|                                                                              | Size Code                                |                                  | 080            | 100            | 125            | 150            | 200            | 250            | 300            | 350            | 400            |                |
|                                                                              | Size                                     |                                  | 80<br>(3)      | 100<br>(4)     | 125<br>(5)     | 150<br>(6)     | 200<br>(8)     | 250<br>(10)    | 300<br>(12)    | 350<br>(14)    | 400<br>(16)    |                |
| Lining Code                                                                  |                                          |                                  | A              | A              | A              | A              | A              | A              | A              | A              | A              |                |
| Remote Sensor                                                                | Lay Length (*1) (*3)                     | L                                | 198<br>(7.78)  | 248<br>(9.74)  | 248<br>(9.74)  | 298<br>(11.71) | 348<br>(13.68) | 446<br>(17.54) | 496<br>(19.51) | 546<br>(21.48) | 596<br>(23.44) |                |
|                                                                              | Flange Outer Diameter                    | øD                               | 211<br>(8.31)  | 238<br>(9.37)  | 263<br>(10.35) | 290<br>(11.42) | 342<br>(13.46) | 410<br>(16.14) | 464<br>(18.27) | 530<br>(20.87) | 582<br>(22.91) |                |
|                                                                              | Flange Thickness<br>(incl. lining flare) | t                                | 23.0<br>(0.91) | 23.0<br>(0.91) | 25.0<br>(0.98) | 26.5<br>(1.04) | 26.5<br>(1.04) | 29.0<br>(1.14) | 28.0<br>(1.10) | 30.5<br>(1.20) | 30.5<br>(1.20) |                |
|                                                                              | Lining Inner Diameter                    | ød                               | 73<br>(2.87)   | 97<br>(3.82)   | 121<br>(4.76)  | 145<br>(5.72)  | 194<br>(7.65)  | 243<br>(9.55)  | 292<br>(11.51) | 323<br>(12.73) | 374<br>(14.70) |                |
|                                                                              | Bolt                                     | øC                               | 168<br>(6.61)  | 195<br>(7.68)  | 220<br>(8.66)  | 247<br>(9.72)  | 299<br>(11.77) | 360<br>(14.17) | 414<br>(16.30) | 472<br>(18.58) | 524<br>(20.63) |                |
|                                                                              | Circle Diameter                          | ø°                               | 45<br>(1.77)   | 45<br>(1.77)   | 30<br>(1.18)   | 30<br>(1.18)   | 22.5<br>(0.89) | 22.5<br>(0.89) | 18<br>(0.71)   | 18<br>(0.71)   | 15<br>(0.59)   |                |
|                                                                              | Bolt Hole Interval                       | ø°                               | 19<br>(0.75)   | 19<br>(0.75)   | 19<br>(0.75)   | 19<br>(0.75)   | 19<br>(0.75)   | 23<br>(0.91)   | 23<br>(0.91)   | 25<br>(0.98)   | 25<br>(0.98)   |                |
|                                                                              | Bolt Hole Diameter                       | øh                               | 19<br>(0.75)   | 19<br>(0.75)   | 19<br>(0.75)   | 19<br>(0.75)   | 19<br>(0.75)   | 23<br>(0.91)   | 23<br>(0.91)   | 25<br>(0.98)   | 25<br>(0.98)   |                |
|                                                                              | Number of Bolt Holes                     | N                                | 4              | 4              | 6              | 6              | 8              | 8              | 10             | 10             | 12             |                |
|                                                                              | Integral Flowmeter                       | Height                           | H1             | 220<br>(8.66)  | 243<br>(9.57)  | 270<br>(10.63) | 288<br>(11.32) | 339<br>(13.33) | 403<br>(15.88) | 455<br>(17.90) | 509<br>(20.04) | 563<br>(22.16) |
| Height                                                                       |                                          | H2                               | 114<br>(4.49)  | 124<br>(4.88)  | 138<br>(5.43)  | 143<br>(5.61)  | 168<br>(6.60)  | 198<br>(7.81)  | 223<br>(8.77)  | 244<br>(9.61)  | 272<br>(10.70) |                |
| Height                                                                       |                                          | H3                               | -              | -              | -              | -              | -              | 461<br>(18.15) | 515<br>(20.28) | 591<br>(23.27) | 643<br>(25.31) |                |
| Maximum Height                                                               |                                          | Hr                               | 337<br>(13.27) | 360<br>(14.17) | 387<br>(15.24) | 405<br>(15.94) | 456<br>(17.95) | 521<br>(20.50) | 572<br>(22.52) | 626<br>(24.66) | 680<br>(26.78) |                |
| Remote Sensor                                                                | Approx. Weight,<br>Unit: kg (lb) (*2)    |                                  | 12.8<br>(28.2) | 16.1<br>(35.5) | 21.2<br>(46.7) | 30<br>(66.2)   | 43<br>(94.9)   | 73<br>(161.2)  | 88<br>(194.3)  | 114<br>(251.7) | 140<br>(309.1) |                |
|                                                                              | Integral Flowmeter                       | Maximum<br>Height                | Hi             | 382<br>(15.04) | 405<br>(15.94) | 432<br>(17.01) | 450<br>(17.70) | 501<br>(19.71) | 565<br>(22.26) | 617<br>(24.28) | 671<br>(26.42) | 725<br>(28.54) |
|                                                                              |                                          | Approx. Weight,<br>Unit: kg (lb) |                | 15.3<br>(33.7) | 18.7<br>(41.2) | 23.6<br>(52.0) | 33<br>(72.9)   | 46<br>(101.6)  | 75<br>(165.6)  | 90<br>(198.7)  | 116<br>(256.1) | 142<br>(313.5) |
| Grounding rings thin type (GRL, GRH, GRV) (*1)                               |                                          |                                  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +4<br>(+0.16)  | +4<br>(+0.16)  | +4<br>(+0.16)  | +4<br>(+0.16)  |                |
| Grounding rings thick type (GRN, GRJ, GRW) (*1)                              |                                          |                                  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  |                |
| Grounding rings thick type (GRN, GRJ, GRW)<br>with gaskets (GA, GC, GD) (*1) |                                          |                                  | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +12<br>(+0.47) | +12<br>(+0.47) | -              | -              | -              | -              |                |
| Metal hat grounding rings (GSN, GDN) (*1)                                    |                                          |                                  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  |                |
| Grounding rings electrode type (GRP, GRT) (*1)                               |                                          |                                  | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +34<br>(+1.34) | +34<br>(+1.34) | -              | -              | -              | -              |                |
| Grounding rings electrode type (GRP, GRT)<br>with gaskets (GA, GC, GD) (*1)  |                                          |                                  | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +40<br>(+1.57) | +40<br>(+1.57) | -              | -              | -              | -              |                |

\*1: Add the value above (which is the total of both ends) to the lay length "L" when selecting optional grounding rings with/without gaskets.

\*2: When submersible use or optional code DHC is selected, waterproof glands with union joints and cables are attached. When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.

\*3: The limit deviation of the lay length "L" is as follows.

- Size 2.5 to 200 mm (0.1 to 8 in.): 0/-3 mm
- Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

## Additional weight for FM (USA) Flameproof (FF2, FJ2, FT2)

| Size                                     | 80            | 100           | 125           | 150         | 200         | 250          | 300           | 350           | 400           |
|------------------------------------------|---------------|---------------|---------------|-------------|-------------|--------------|---------------|---------------|---------------|
| Lining Code                              | A             | A             | A             | A           | A           | A            | A             | A             | A             |
| Flange                                   | 0.4<br>(0.88) | 0.7<br>(1.54) | 0.7<br>(1.54) | 3<br>(6.61) | 4<br>(8.82) | 8<br>(17.64) | 10<br>(22.05) | 18<br>(39.68) | 25<br>(55.12) |
| Approx. Additional Weight, Unit: kg (lb) |               |               |               |             |             |              |               |               |               |

\*1: Add the value above (which is the total of both ends) to the lay length "L" when selecting optional grounding rings with/without gaskets.

\*2: When submersible use or optional code DHC is selected, waterproof glands with union joints and cables are attached. When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.

\*3: The limit deviation of the lay length "L" is as follows.

- Size 2.5 to 200 mm (0.1 to 8 in.): 0/-3 mm
- Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

| Size                                                  | 2.5 | 5 | 10 | 15 | 25            | 32            | 40            | 50            | 65            | 80            | 100           | 125           | 150         | 200         | 250          | 300           | 350           | 400           |
|-------------------------------------------------------|-----|---|----|----|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------|-------------|--------------|---------------|---------------|---------------|
| Lining Code                                           | A   | A | A  | A  | A             | A             | A             | A             | A             | A             | A             | A             | A           | A           | A            | A             | A             | A             |
| Flange<br>Approx. Additional Weight,<br>Unit: kg (lb) | -   | - | -  | -  | 0.1<br>(0.22) | 0.2<br>(0.44) | 0.2<br>(0.44) | 0.3<br>(0.66) | 0.4<br>(0.88) | 0.4<br>(0.88) | 0.7<br>(1.54) | 0.7<br>(1.54) | 3<br>(6.61) | 4<br>(8.82) | 8<br>(17.64) | 10<br>(22.05) | 18<br>(39.68) | 25<br>(55.12) |

## ○ Flange, JIS 20K

Unit: mm (approx. in.)

| Model                                                                     | Process Connection Code                  |                | DJ2            |                |                |                |                |                | BJ2            |                |                |                |                |                |                |                |                |                |                |                |                |  |
|---------------------------------------------------------------------------|------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|--|
|                                                                           |                                          |                | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              |  |
|                                                                           | Size Code                                |                | 002            | 005            | 010            | 002            | 005            | 010            | 015            | 025            | 032            | 040            | 050            | 065            | 080            | 100            | 125            | 150            | 200            | 250            | 300            |  |
|                                                                           | Size                                     |                | 2.5<br>(0.1)   | 5<br>(0.2)     | 10<br>(0.4)    | 2.5<br>(0.1)   | 5<br>(0.2)     | 10<br>(0.4)    | 15<br>(0.5)    | 25<br>(1)      | 32<br>(1.25)   | 40<br>(1.5)    | 50<br>(2)      | 65<br>(2.5)    | 80<br>(3)      | 100<br>(4)     | 125<br>(5)     | 150<br>(6)     | 200<br>(8)     | 250<br>(10)    | 300<br>(12)    |  |
| Lining Code                                                               |                                          | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              | A              |  |
| Remote Sensor<br><br>Integral<br>Flowmeter                                | Lay Length (*1) (*3)                     | L              | 148<br>(5.83)  | 148<br>(5.83)  | 148<br>(5.83)  | 148<br>(5.83)  | 148<br>(5.83)  | 148<br>(5.83)  | 198<br>(7.80)  | 198<br>(7.78)  | 198<br>(7.78)  | 198<br>(7.78)  | 198<br>(7.78)  | 198<br>(7.78)  | 248<br>(9.74)  | 248<br>(9.74)  | 298<br>(11.71) | 348<br>(13.68) | 446<br>(17.54) | 496<br>(19.51) |                |  |
|                                                                           | Flange Outer Diameter                    | øD             | 90<br>(3.54)   | 90<br>(3.54)   | 90<br>(3.54)   | 95<br>(3.74)   | 95<br>(3.74)   | 95<br>(3.74)   | 125<br>(4.92)  | 135<br>(5.31)  | 140<br>(5.51)  | 155<br>(6.10)  | 175<br>(6.89)  | 200<br>(7.87)  | 225<br>(8.86)  | 270<br>(10.63) | 305<br>(12.01) | 350<br>(13.78) | 430<br>(16.93) | 480<br>(18.90) |                |  |
|                                                                           | Flange Thickness<br>(incl. lining flare) | t              | 18.0<br>(0.71) | 18.0<br>(0.71) | 18.0<br>(0.71) | 20.0<br>(0.79) | 20.0<br>(0.79) | 20.0<br>(0.79) | 17.0<br>(0.67) | 22.0<br>(0.87) | 23.0<br>(0.91) | 23.0<br>(0.91) | 25.0<br>(0.98) | 27.0<br>(1.06) | 29.0<br>(1.14) | 31.0<br>(1.22) | 32.5<br>(1.28) | 34.5<br>(1.36) | 39.0<br>(1.54) | 40.0<br>(1.57) |                |  |
|                                                                           | Lining Inner Diameter                    | ød             | 2<br>(0.09)    | 5<br>(0.19)    | 8<br>(0.30)    | 2<br>(0.09)    | 5<br>(0.19)    | 8<br>(0.30)    | 13<br>(0.51)   | 24<br>(0.93)   | 29<br>(1.13)   | 37<br>(1.44)   | 49<br>(1.94)   | 61<br>(2.40)   | 73<br>(2.87)   | 97<br>(3.82)   | 121<br>(4.76)  | 145<br>(5.72)  | 194<br>(7.65)  | 243<br>(9.55)  |                |  |
|                                                                           | Bolt                                     | øC             | 65<br>(2.56)   | 65<br>(2.56)   | 65<br>(2.56)   | 70<br>(2.76)   | 70<br>(2.76)   | 70<br>(2.76)   | 90<br>(3.54)   | 100<br>(3.94)  | 105<br>(4.13)  | 120<br>(4.72)  | 140<br>(5.51)  | 160<br>(6.30)  | 185<br>(7.28)  | 225<br>(8.86)  | 260<br>(10.24) | 305<br>(12.01) | 380<br>(14.96) | 430<br>(16.93) |                |  |
|                                                                           | Circle Diameter                          | ø*             | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   | 45<br>(1.77)   |  |
|                                                                           | Bolt Hole Interval                       | ø°             | 15<br>(0.59)   | 15<br>(0.59)   | 15<br>(0.59)   | 15<br>(0.59)   | 15<br>(0.59)   | 15<br>(0.59)   | 15<br>(0.59)   | 19<br>(0.75)   | 19<br>(0.75)   | 19<br>(0.75)   | 19<br>(0.75)   | 19<br>(0.75)   | 19<br>(0.75)   | 23<br>(0.91)   | 23<br>(0.91)   | 25<br>(0.98)   | 25<br>(0.98)   | 27<br>(1.06)   | 27<br>(1.06)   |  |
|                                                                           | Bolt Hole Diameter                       | øh             | 15<br>(0.59)   | 15<br>(0.59)   | 15<br>(0.59)   | 15<br>(0.59)   | 15<br>(0.59)   | 15<br>(0.59)   | 15<br>(0.59)   | 19<br>(0.75)   | 19<br>(0.75)   | 19<br>(0.75)   | 19<br>(0.75)   | 19<br>(0.75)   | 19<br>(0.75)   | 23<br>(0.91)   | 23<br>(0.91)   | 25<br>(0.98)   | 25<br>(0.98)   | 27<br>(1.06)   | 27<br>(1.06)   |  |
|                                                                           | Number of Bolt Holes                     | N              | 4              | 4              | 4              | 4              | 4              | 4              | 4              | 4              | 4              | 4              | 8              | 8              | 8              | 8              | 8              | 12             | 12             | 12             | 16             |  |
|                                                                           | Height                                   | H1             | 164<br>(6.46)  | 164<br>(6.46)  | 164<br>(6.46)  | 164<br>(6.46)  | 164<br>(6.46)  | 164<br>(6.46)  | 164<br>(6.46)  | 143<br>(5.63)  | 154<br>(6.06)  | 156<br>(6.14)  | 177<br>(6.97)  | 196<br>(7.72)  | 214<br>(8.43)  | 237<br>(9.33)  | 273<br>(10.75) | 295<br>(11.61) | 343<br>(13.49) | 413<br>(16.27) | 463<br>(18.22) |  |
|                                                                           | Height                                   | H2             | 104<br>(4.09)  | 104<br>(4.09)  | 104<br>(4.09)  | 104<br>(4.09)  | 104<br>(4.09)  | 104<br>(4.09)  | 104<br>(4.09)  | 80<br>(3.15)   | 86<br>(3.39)   | 86<br>(3.39)   | 99<br>(3.90)   | 108<br>(4.25)  | 114<br>(4.49)  | 124<br>(4.88)  | 138<br>(5.43)  | 143<br>(5.61)  | 168<br>(6.60)  | 198<br>(7.81)  | 223<br>(8.77)  |  |
|                                                                           | Height                                   | H3             | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | 481<br>(18.94) | 531<br>(20.91) |  |
|                                                                           | Remote Sensor                            | Maximum Height | Hr             | 281<br>(11.06) | 281<br>(11.06) | 281<br>(11.06) | 281<br>(11.06) | 281<br>(11.06) | 281<br>(11.06) | 280<br>(10.24) | 271<br>(10.67) | 273<br>(10.75) | 294<br>(11.57) | 313<br>(12.32) | 331<br>(13.03) | 354<br>(13.94) | 390<br>(15.35) | 412<br>(16.23) | 460<br>(18.11) | 531<br>(20.89) | 580<br>(22.84) |  |
| Approx. Weight,<br>Unit: kg (lb) (*2)                                     |                                          |                | 3.7<br>(8.2)   | 3.7<br>(8.2)   | 3.7<br>(8.2)   | 3.9<br>(8.6)   | 3.9<br>(8.6)   | 3.9<br>(8.6)   | 4.0<br>(8.8)   | 5.2<br>(11.5)  | 6.3<br>(13.9)  | 6.6<br>(14.6)  | 7.5<br>(16.5)  | 9.9<br>(21.8)  | 13.1<br>(28.9) | 17.7<br>(39.0) | 26.5<br>(58.4) | 36<br>(79.5)   | 51<br>(112.6)  | 90<br>(198.7)  |                |  |
| Integral<br>Flowmeter                                                     | Maximum Height                           | Hi             | 326<br>(12.83) | 326<br>(12.83) | 326<br>(12.83) | 326<br>(12.83) | 326<br>(12.83) | 326<br>(12.83) | 305<br>(12.01) | 316<br>(12.44) | 318<br>(12.52) | 339<br>(13.35) | 358<br>(14.09) | 376<br>(14.80) | 399<br>(15.71) | 435<br>(17.13) | 457<br>(17.99) | 505<br>(19.87) | 575<br>(22.65) | 625<br>(24.60) |                |  |
|                                                                           | Approx. Weight,<br>Unit: kg (lb)         |                | 6.3<br>(13.9)  | 6.3<br>(13.9)  | 6.3<br>(13.9)  | 6.5<br>(14.3)  | 6.5<br>(14.3)  | 6.5<br>(14.3)  | 6.6<br>(14.6)  | 7.7<br>(17.0)  | 8.8<br>(19.4)  | 9.2<br>(20.3)  | 10.0<br>(22.1) | 12.5<br>(27.6) | 15.6<br>(34.4) | 20.2<br>(44.5) | 29.1<br>(64.2) | 39<br>(86.1)   | 53<br>(117.0)  | 92<br>(203.1)  |                |  |
| Grounding rings thin type (GRL, GRH, GRV) (*1)                            |                                          |                | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +4<br>(+0.16)  |                |  |
| Grounding rings thick type (GRN, GRJ, GRW) (*1)                           |                                          |                | -              | -              | -              | -              | -              | -              | -              | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  |                |  |
| Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1) |                                          |                | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +12<br>(+0.47) | +12<br>(+0.47) | -              |                |  |
| Metal hat grounding rings (GSN, GDN) (*1)                                 |                                          |                | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | -              | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  |                |  |
| Grounding rings electrode type (GRP, GRT) (*1)                            |                                          |                | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +34<br>(+1.34) | +34<br>(+1.34) | -              |                |  |
| Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)  |                                          |                | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +40<br>(+1.57) | +40<br>(+1.57) | -              |                |  |

- \*1: Add the value above (which is the total of both ends) to the lay length "L" when selecting optional grounding rings with/without gaskets.
- \*2: When submersible use or optional code DHC is selected, waterproof glands with union joints and cables are attached. When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.
- \*3: The limit deviation of the lay length "L" is as follows.
- Size 2.5 to 200 mm (0.1 to 8 in.): 0/-3 mm
  - Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

## Additional weight for FM (USA) Flameproof (FF2, FJ2, FT2)

| Size                                     | 2.5 | 5 | 10 | 15 | 25            | 32            | 40            | 50            | 65            | 80            | 100           | 125           | 150         | 200         | 250          | 300           |
|------------------------------------------|-----|---|----|----|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|-------------|-------------|--------------|---------------|
| Lining Code                              | A   | A | A  | A  | A             | A             | A             | A             | A             | A             | A             | A             | A           | A           | A            | A             |
| Flange                                   | -   | - | -  | -  | 0.1<br>(0.22) | 0.2<br>(0.44) | 0.2<br>(0.44) | 0.3<br>(0.66) | 0.4<br>(0.88) | 0.4<br>(0.88) | 0.7<br>(1.54) | 0.7<br>(1.54) | 3<br>(6.61) | 4<br>(8.82) | 8<br>(17.64) | 10<br>(22.05) |
| Approx. Additional Weight, Unit: kg (lb) |     |   |    |    |               |               |               |               |               |               |               |               |             |             |              |               |

## ○ Flange, JPI Class 150

Unit: mm (approx. in.)

| Model                                                                     | Process Connection Code                  |    | BP1            |                |                |                |                |                |                 |                 |                 |                 |                  |                  |                  |                  |                  |  |
|---------------------------------------------------------------------------|------------------------------------------|----|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|------------------|------------------|--|
|                                                                           | Size Code                                |    | 002            | 005            | 010            | 015            | 025            | 040            | 050             | 080             | 100             | 150             | 200              | 250              | 300              | 350              | 400              |  |
|                                                                           | Size                                     |    | 2.5<br>(0.1)   | 5<br>(0.2)     | 10<br>(0.4)    | 15<br>(0.5)    | 25<br>(1)      | 40<br>(1.5)    | 50<br>(2)       | 80<br>(3)       | 100<br>(4)      | 150<br>(6)      | 200<br>(8)       | 250<br>(10)      | 300<br>(12)      | 350<br>(14)      | 400<br>(16)      |  |
|                                                                           | Lining Code                              |    | A              | A              | A              | A              | A              | A              | A               | A               | A               | A               | A                | A                | A                | A                | A                |  |
| Remote Sensor                                                             | Lay Length (*1) (*3)                     | L  | 148<br>(5.83)  | 148<br>(5.83)  | 148<br>(5.83)  | 198<br>(7.80)  | 198<br>(7.78)  | 198<br>(7.78)  | 198<br>(7.78)   | 248<br>(9.74)   | 298<br>(11.71)  | 348<br>(13.68)  | 446<br>(17.54)   | 496<br>(19.51)   | 546<br>(21.48)   | 596<br>(23.44)   |                  |  |
|                                                                           | Flange Outer Diameter                    | øD | 90<br>(3.54)   | 90<br>(3.54)   | 90<br>(3.54)   | 90<br>(3.54)   | 110<br>(4.33)  | 125<br>(4.92)  | 150<br>(5.91)   | 190<br>(7.48)   | 230<br>(9.06)   | 280<br>(11.02)  | 345<br>(13.58)   | 405<br>(15.94)   | 485<br>(19.09)   | 535<br>(21.06)   | 595<br>(23.43)   |  |
|                                                                           | Flange Thickness<br>(incl. lining flare) | t  | 19.2<br>(0.76) | 19.2<br>(0.76) | 19.2<br>(0.76) | 16.2<br>(0.64) | 20.3<br>(0.80) | 22.5<br>(0.89) | 24.1<br>(0.95)  | 28.9<br>(1.14)  | 28.9<br>(1.14)  | 30.4<br>(1.20)  | 33.5<br>(1.32)   | 35.6<br>(1.40)   | 37.2<br>(1.46)   | 40.9<br>(1.61)   | 42.5<br>(1.67)   |  |
|                                                                           | Lining Inner Diameter                    | ød | 2<br>(0.09)    | 5<br>(0.19)    | 8<br>(0.30)    | 13<br>(0.51)   | 24<br>(0.93)   | 37<br>(1.44)   | 49<br>(1.94)    | 73<br>(2.87)    | 97<br>(3.82)    | 145<br>(5.72)   | 194<br>(7.65)    | 243<br>(9.55)    | 292<br>(11.51)   | 323<br>(12.73)   | 374<br>(14.70)   |  |
|                                                                           | Bolt<br>Circle Diameter                  | øC | 60.3<br>(2.37) | 60.3<br>(2.37) | 60.3<br>(2.37) | 60.3<br>(2.37) | 79.4<br>(3.13) | 98.4<br>(3.87) | 120.7<br>(4.75) | 152.4<br>(6.00) | 190.5<br>(7.50) | 241.3<br>(9.50) | 298.5<br>(11.75) | 362.0<br>(14.25) | 431.8<br>(17.00) | 476.3<br>(18.75) | 539.8<br>(21.25) |  |
|                                                                           | Bolt Hole Interval                       | ø* | 45             | 45             | 45             | 45             | 45             | 45             | 45              | 45              | 22.5            | 22.5            | 22.5             | 15               | 15               | 15               | 11.25            |  |
|                                                                           | Bolt Hole Diameter                       | øh | 16<br>(0.63)   | 16<br>(0.63)   | 16<br>(0.63)   | 16<br>(0.63)   | 16<br>(0.63)   | 16<br>(0.63)   | 19<br>(0.75)    | 19<br>(0.75)    | 19<br>(0.75)    | 22<br>(0.87)    | 22<br>(0.87)     | 22<br>(1.02)     | 26<br>(1.02)     | 29<br>(1.14)     | 29<br>(1.14)     |  |
|                                                                           | Number of Bolt Holes                     | N  | 4              | 4              | 4              | 4              | 4              | 4              | 4               | 4               | 8               | 8               | 8                | 12               | 12               | 12               | 16               |  |
|                                                                           | Height                                   | H1 | 164<br>(6.46)  | 164<br>(6.46)  | 164<br>(6.46)  | 164<br>(6.46)  | 135<br>(5.31)  | 149<br>(5.87)  | 174<br>(6.85)   | 209<br>(8.23)   | 239<br>(9.41)   | 283<br>(11.12)  | 340<br>(13.39)   | 401<br>(15.78)   | 465<br>(18.32)   | 512<br>(20.14)   | 569<br>(22.41)   |  |
|                                                                           | Height                                   | H2 | 104<br>(4.09)  | 104<br>(4.09)  | 104<br>(4.09)  | 104<br>(4.09)  | 80<br>(3.15)   | 86<br>(3.39)   | 99<br>(3.90)    | 114<br>(4.49)   | 124<br>(4.88)   | 143<br>(5.61)   | 168<br>(6.60)    | 198<br>(7.81)    | 223<br>(8.77)    | 244<br>(9.61)    | 272<br>(10.70)   |  |
|                                                                           | Height                                   | H3 | -              | -              | -              | -              | -              | -              | -               | -               | -               | -               | -                | 456<br>(17.95)   | 536<br>(21.10)   | 595<br>(23.43)   | 655<br>(25.79)   |  |
| Remote Sensor                                                             | Maximum<br>Height                        | Hr | 281<br>(11.06) | 281<br>(11.06) | 281<br>(11.06) | 281<br>(11.06) | 252<br>(9.92)  | 266<br>(10.47) | 291<br>(11.46)  | 326<br>(12.83)  | 356<br>(14.02)  | 400<br>(15.74)  | 457<br>(18.01)   | 518<br>(20.40)   | 583<br>(22.94)   | 629<br>(24.76)   | 687<br>(27.03)   |  |
|                                                                           | Approx. Weight,<br>Unit: kg (lb) (*2)    |    | 3.7<br>(8.2)   | 3.7<br>(8.2)   | 3.7<br>(8.2)   | 3.8<br>(8.4)   | 4.3<br>(9.5)   | 5.7<br>(12.6)  | 7.7<br>(17.0)   | 13.2<br>(29.1)  | 18.4<br>(40.6)  | 31<br>(68.4)    | 50<br>(110.4)    | 79<br>(174.4)    | 109<br>(240.6)   | 135<br>(298.0)   | 172<br>(379.7)   |  |
| Integral<br>Flowmeter                                                     | Maximum<br>Height                        | Hi | 326<br>(12.83) | 326<br>(12.83) | 326<br>(12.83) | 326<br>(12.83) | 297<br>(11.69) | 311<br>(12.24) | 336<br>(13.23)  | 371<br>(14.61)  | 401<br>(15.79)  | 445<br>(17.50)  | 502<br>(19.77)   | 563<br>(22.16)   | 627<br>(24.69)   | 674<br>(26.52)   | 731<br>(28.79)   |  |
|                                                                           | Approx. Weight,<br>Unit: kg (lb)         |    | 6.1<br>(13.5)  | 6.1<br>(13.5)  | 6.1<br>(13.5)  | 6.2<br>(13.7)  | 6.8<br>(15.0)  | 8.2<br>(18.1)  | 10.1<br>(22.3)  | 15.7<br>(34.6)  | 20.8<br>(45.9)  | 34<br>(75.1)    | 52<br>(114.8)    | 81<br>(178.8)    | 111<br>(245.0)   | 138<br>(304.6)   | 175<br>(386.3)   |  |
| Grounding rings thin type (GRL, GRH, GRV) (*1)                            |                                          |    | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)   | +2<br>(+0.08)   | +2<br>(+0.08)   | +2<br>(+0.08)   | +2<br>(+0.08)    | +4<br>(+0.16)    | +4<br>(+0.16)    | +4<br>(+0.16)    | +4<br>(+0.16)    |  |
| Grounding rings thick type (GRN, GRJ, GRW) (*1)                           |                                          |    | -              | -              | -              | -              | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    |  |
| Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1) |                                          |    | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39)  | +10<br>(+0.39)  | +10<br>(+0.39)  | +12<br>(+0.47)  | +12<br>(+0.47)   | -                | -                | -                | -                |  |
| Metal hat grounding rings (GSN, GDN) (*1)                                 |                                          |    | -              | -              | -              | -              | -              | -              | -               | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    | +6<br>(+0.24)    |  |
| Grounding rings electrode type (GRP, GRT) (*1)                            |                                          |    | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14)  | +29<br>(+1.14)  | +29<br>(+1.14)  | +34<br>(+1.34)  | +34<br>(+1.34)   | -                | -                | -                | -                |  |
| Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)  |                                          |    | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +32<br>(+1.26) | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30)  | +33<br>(+1.30)  | +33<br>(+1.30)  | +40<br>(+1.57)  | +40<br>(+1.57)   | -                | -                | -                | -                |  |

\*1: Add the value above (which is the total of both ends) to the lay length "L" when selecting optional grounding rings with/without gaskets.

\*2: When submersible use or optional code DHC is selected, waterproof glands with union joints and cables are attached. When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.

\*3: The limit deviation of the lay length "L" is as follows.

- Size 2.5 to 200 mm (0.1 to 8 in.): 0/-3 mm
- Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

## Additional weight for FM (USA) Flameproof (FF2, FJ2, FT2)

| Size                                     | 2.5 | 5 | 10 | 15 | 25            | 40            | 50            | 80            | 100           | 150         | 200         | 250          | 300           | 350           | 400           |
|------------------------------------------|-----|---|----|----|---------------|---------------|---------------|---------------|---------------|-------------|-------------|--------------|---------------|---------------|---------------|
| Lining Code                              | A   | A | A  | A  | A             | A             | A             | A             | A             | A           | A           | A            | A             | A             | A             |
| Flange                                   | -   | - | -  | -  | 0.1<br>(0.22) | 0.2<br>(0.44) | 0.3<br>(0.66) | 0.4<br>(0.88) | 0.7<br>(1.54) | 3<br>(6.61) | 4<br>(8.82) | 8<br>(17.64) | 10<br>(22.05) | 18<br>(39.68) | 25<br>(55.12) |
| Approx. Additional Weight, Unit: kg (lb) | -   | - | -  | -  | 0.1<br>(0.22) | 0.2<br>(0.44) | 0.3<br>(0.66) | 0.4<br>(0.88) | 0.7<br>(1.54) | 3<br>(6.61) | 4<br>(8.82) | 8<br>(17.64) | 10<br>(22.05) | 18<br>(39.68) | 25<br>(55.12) |

## ○ Flange, AS Table D

Unit: mm (approx. in.)

| Model                                                                        | Process Connection Code                  |    | CS1            |                |                |                |                |                |                |                |                |
|------------------------------------------------------------------------------|------------------------------------------|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                                                                              | Size Code                                |    | 050            | 080            | 100            | 150            | 200            | 250            | 300            | 350            | 400            |
|                                                                              | Size                                     |    | 50<br>(2)      | 80<br>(3)      | 100<br>(4)     | 150<br>(6)     | 200<br>(8)     | 250<br>(10)    | 300<br>(12)    | 350<br>(14)    | 400<br>(16)    |
|                                                                              | Lining Code                              |    | A              | A              | A              | A              | A              | A              | A              | A              | A              |
| Remote Sensor<br><br>Integral Flowmeter                                      | Lay Length (*1) (*3)                     | L  | 198<br>(7.78)  | 198<br>(7.78)  | 248<br>(9.74)  | 298<br>(11.71) | 348<br>(13.68) | 446<br>(17.54) | 496<br>(19.51) | 546<br>(21.48) | 596<br>(23.44) |
|                                                                              | Flange Outer Diameter                    | øD | 150<br>(5.91)  | 185<br>(7.28)  | 215<br>(8.46)  | 280<br>(11.02) | 335<br>(13.19) | 405<br>(15.94) | 455<br>(17.91) | 525<br>(20.67) | 580<br>(22.83) |
|                                                                              | Flange Thickness<br>(incl. lining flare) | t  | 13.0<br>(0.51) | 15.0<br>(0.59) | 15.0<br>(0.59) | 17.9<br>(0.70) | 17.9<br>(0.70) | 21.4<br>(0.84) | 24.4<br>(0.96) | 27.9<br>(1.10) | 27.9<br>(1.10) |
|                                                                              | Lining Inner Diameter                    | ød | 49<br>(1.94)   | 73<br>(2.87)   | 97<br>(3.82)   | 145<br>(5.72)  | 194<br>(7.65)  | 243<br>(9.55)  | 292<br>(11.51) | 323<br>(12.73) | 374<br>(14.70) |
|                                                                              | Bolt<br>Circle Diameter                  | øC | 114<br>(4.49)  | 146<br>(5.75)  | 178<br>(7.01)  | 235<br>(9.25)  | 292<br>(11.50) | 356<br>(14.02) | 406<br>(15.98) | 470<br>(18.50) | 521<br>(20.51) |
|                                                                              | Bolt Hole Interval                       | θ° | 45             | 45             | 45             | 22.5           | 22.5           | 22.5           | 15             | 15             | 15             |
|                                                                              | Bolt Hole Diameter                       | øh | 18<br>(0.71)   | 18<br>(0.71)   | 18<br>(0.71)   | 18<br>(0.71)   | 18<br>(0.71)   | 22<br>(0.87)   | 22<br>(0.87)   | 26<br>(1.02)   | 26<br>(1.02)   |
|                                                                              | Number of Bolt Holes                     | N  | 4              | 4              | 4              | 8              | 8              | 8              | 12             | 12             | 12             |
|                                                                              | Height                                   | H1 | 174<br>(6.85)  | 207<br>(8.15)  | 232<br>(9.13)  | 283<br>(11.12) | 335<br>(13.19) | 401<br>(15.78) | 450<br>(17.73) | 507<br>(19.94) | 562<br>(22.12) |
|                                                                              | Height                                   | H2 | 99<br>(3.90)   | 114<br>(4.49)  | 124<br>(4.88)  | 143<br>(5.61)  | 168<br>(6.60)  | 198<br>(7.81)  | 223<br>(8.77)  | 244<br>(9.61)  | 272<br>(10.70) |
|                                                                              | Height                                   | H3 | -              | -              | -              | -              | -              | 438<br>(17.26) | 497<br>(19.55) | 576<br>(22.68) | 631<br>(24.84) |
| Remote Sensor                                                                | Maximum<br>Height                        | Hr | 291<br>(11.46) | 324<br>(12.76) | 349<br>(13.74) | 400<br>(15.74) | 452<br>(17.81) | 518<br>(20.40) | 568<br>(22.34) | 624<br>(24.56) | 679<br>(26.74) |
|                                                                              | Approx. Weight,<br>Unit: kg (lb) (*2)    |    | 5.5<br>(12.1)  | 8.7<br>(19.2)  | 11.8<br>(26.0) | 25<br>(55.2)   | 37<br>(81.7)   | 65<br>(143.5)  | 80<br>(176.6)  | 105<br>(231.8) | 131<br>(289.2) |
| Integral Flowmeter                                                           | Maximum<br>Height                        | Hi | 336<br>(13.23) | 369<br>(14.53) | 394<br>(15.51) | 445<br>(17.50) | 497<br>(19.57) | 563<br>(22.16) | 612<br>(24.10) | 669<br>(26.32) | 724<br>(28.50) |
|                                                                              | Approx. Weight,<br>Unit: kg (lb)         |    | 7.9<br>(17.4)  | 11.1<br>(24.5) | 14.2<br>(31.3) | 27<br>(59.6)   | 39<br>(86.1)   | 67<br>(147.9)  | 82<br>(181.0)  | 107<br>(236.2) | 133<br>(293.6) |
| Grounding rings thin type (GRL, GRH, GRV) (*1)                               |                                          |    | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +4<br>(+0.16)  | +4<br>(+0.16)  | +4<br>(+0.16)  | +4<br>(+0.16)  |
| Grounding rings thick type (GRN, GRJ, GRW) (*1)                              |                                          |    | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  |
| Grounding rings thick type (GRN, GRJ, GRW)<br>with gaskets (GA, GC, GD) (*1) |                                          |    | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +12<br>(+0.47) | +12<br>(+0.47) | -              | -              | -              | -              |
| Metal hat grounding rings (GSN, GDN) (*1)                                    |                                          |    | -              | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  |
| Grounding rings electrode type (GRP, GRT) (*1)                               |                                          |    | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +34<br>(+1.34) | +34<br>(+1.34) | -              | -              | -              | -              |
| Grounding rings electrode type (GRP, GRT)<br>with gaskets (GA, GC, GD) (*1)  |                                          |    | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +40<br>(+1.57) | +40<br>(+1.57) | -              | -              | -              | -              |

- \*1: Add the value above (which is the total of both ends) to the lay length "L" when selecting optional grounding rings with/without gaskets.
- \*2: When submersible use or optional code DHC is selected, waterproof glands with union joints and cables are attached. When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.
- \*3: The limit deviation of the lay length "L" is as follows.
- Size 2.5 to 200 mm (0.1 to 8 in.): 0/-3 mm
  - Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

## Additional weight for FM (USA) Flameproof (FF2, FJ2, FT2)

| Size                                     | 50     | 80     | 100    | 150    | 200    | 250     | 300     | 350     | 400     |
|------------------------------------------|--------|--------|--------|--------|--------|---------|---------|---------|---------|
| Lining Code                              | A      | A      | A      | A      | A      | A       | A       | A       | A       |
| Flange                                   | 0.3    | 0.4    | 0.7    | 3      | 4      | 8       | 10      | 18      | 25      |
| Approx. Additional Weight, Unit: kg (lb) | (0.66) | (0.88) | (1.54) | (6.61) | (8.82) | (17.64) | (22.05) | (39.68) | (55.12) |

## ○ Flange, AS Table E

Unit: mm (approx. in.)

| Model                                                                        | Process Connection Code                  |    | CS2            |                |                |                |                |                |                |
|------------------------------------------------------------------------------|------------------------------------------|----|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                                                                              | Size Code                                |    | 050            | 080            | 100            | 150            | 200            | 250            | 300            |
|                                                                              | Size                                     |    | 50<br>(2)      | 80<br>(3)      | 100<br>(4)     | 150<br>(6)     | 200<br>(8)     | 250<br>(10)    | 300<br>(12)    |
|                                                                              | Lining Code                              |    | A              | A              | A              | A              | A              | A              | A              |
| Remote Sensor<br>Integral Flowmeter                                          | Lay Length (*1) (*3)                     | L  | 198<br>(7.78)  | 198<br>(7.78)  | 248<br>(9.74)  | 298<br>(11.71) | 348<br>(13.68) | 446<br>(17.54) | 496<br>(19.51) |
|                                                                              | Flange Outer Diameter                    | øD | 150<br>(5.91)  | 185<br>(7.28)  | 215<br>(8.46)  | 280<br>(11.02) | 335<br>(13.19) | 405<br>(15.94) | 455<br>(17.91) |
|                                                                              | Flange Thickness<br>(incl. lining flare) | t  | 15.0<br>(0.59) | 16.0<br>(0.63) | 18.0<br>(0.71) | 21.9<br>(0.86) | 23.9<br>(0.94) | 27.4<br>(1.08) | 30.4<br>(1.20) |
|                                                                              | Lining Inner Diameter                    | ød | 49<br>(1.94)   | 73<br>(2.87)   | 97<br>(3.82)   | 145<br>(5.72)  | 194<br>(7.65)  | 243<br>(9.55)  | 292<br>(11.51) |
|                                                                              | Bolt<br>Circle Diameter                  | øC | 114<br>(4.49)  | 146<br>(5.75)  | 178<br>(7.01)  | 235<br>(9.25)  | 292<br>(11.50) | 356<br>(14.02) | 406<br>(15.98) |
|                                                                              | Bolt Hole Interval                       | ø* | 45             | 45             | 22.5           | 22.5           | 22.5           | 15             | 15             |
|                                                                              | Bolt Hole Diameter                       | øh | 18<br>(0.71)   | 18<br>(0.71)   | 18<br>(0.71)   | 22<br>(0.87)   | 22<br>(0.87)   | 22<br>(0.87)   | 26<br>(1.02)   |
|                                                                              | Number of Bolt Holes                     | N  | 4              | 4              | 8              | 8              | 8              | 12             | 12             |
|                                                                              | Height                                   | H1 | 174<br>(6.85)  | 207<br>(8.15)  | 232<br>(9.13)  | 283<br>(11.12) | 335<br>(13.19) | 401<br>(15.78) | 450<br>(17.73) |
|                                                                              | Height                                   | H2 | 99<br>(3.90)   | 114<br>(4.49)  | 124<br>(4.88)  | 143<br>(5.61)  | 168<br>(6.60)  | 198<br>(7.81)  | 223<br>(8.77)  |
|                                                                              | Height                                   | H3 | -              | -              | -              | -              | -              | 456<br>(17.95) | 506<br>(19.92) |
|                                                                              | Maximum<br>Height                        | Hr | 291<br>(11.46) | 324<br>(12.76) | 349<br>(13.74) | 400<br>(15.74) | 452<br>(17.81) | 518<br>(20.40) | 568<br>(22.34) |
| Remote Sensor                                                                | Approx. Weight,<br>Unit: kg (lb) (*2)    |    | 5.9<br>(13.0)  | 8.9<br>(19.6)  | 12.5<br>(27.6) | 28<br>(61.8)   | 42<br>(92.7)   | 72<br>(158.9)  | 89<br>(196.5)  |
| Integral Flowmeter                                                           | Maximum<br>Height                        | Hi | 336<br>(13.23) | 369<br>(14.53) | 394<br>(15.51) | 445<br>(17.50) | 497<br>(19.57) | 563<br>(22.16) | 612<br>(24.10) |
|                                                                              | Approx. Weight,<br>Unit: kg (lb)         |    | 8.3<br>(18.3)  | 11.3<br>(24.9) | 15.0<br>(33.1) | 30<br>(66.2)   | 44<br>(97.1)   | 74<br>(163.4)  | 91<br>(200.9)  |
| Grounding rings thin type (GRL, GRH, GRV) (*1)                               |                                          |    | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +2<br>(+0.08)  | +4<br>(+0.16)  | +4<br>(+0.16)  |
| Grounding rings thick type (GRN, GRJ, GRW) (*1)                              |                                          |    | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  |
| Grounding rings thick type (GRN, GRJ, GRW)<br>with gaskets (GA, GC, GD) (*1) |                                          |    | +10<br>(+0.39) | +10<br>(+0.39) | +10<br>(+0.39) | +12<br>(+0.47) | +12<br>(+0.47) | -              | -              |
| Metal hat grounding rings (GSN, GDN) (*1)                                    |                                          |    | -              | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  |
| Grounding rings electrode type (GRP, GRT) (*1)                               |                                          |    | +29<br>(+1.14) | +29<br>(+1.14) | +29<br>(+1.14) | +34<br>(+1.34) | +34<br>(+1.34) | -              | -              |
| Grounding rings electrode type (GRP, GRT)<br>with gaskets (GA, GC, GD) (*1)  |                                          |    | +33<br>(+1.30) | +33<br>(+1.30) | +33<br>(+1.30) | +40<br>(+1.57) | +40<br>(+1.57) | -              | -              |

- \*1: Add the value above (which is the total of both ends) to the lay length "L" when selecting optional grounding rings with/without gaskets.
- \*2: When submersible use or optional code DHC is selected, waterproof glands with union joints and cables are attached. When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.
- \*3: The limit deviation of the lay length "L" is as follows.
- Size 2.5 to 200 mm (0.1 to 8 in.): 0/-3 mm
  - Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

## Additional weight for FM (USA) Flameproof (FF2, FJ2, FT2)

| Size                                     | 50     | 80     | 100    | 150    | 200    | 250     | 300     |
|------------------------------------------|--------|--------|--------|--------|--------|---------|---------|
| Lining Code                              | A      | A      | A      | A      | A      | A       | A       |
| Flange                                   | 0.3    | 0.4    | 0.7    | 3      | 4      | 8       | 10      |
| Approx. Additional Weight, Unit: kg (lb) | (0.66) | (0.88) | (1.54) | (6.61) | (8.82) | (17.64) | (22.05) |





## ○ Flange, ASME Class 600

Unit: mm (approx. in.)

| Model                               | Process Connection Code                  |    | EA4             |                 |                 |                 |                  |
|-------------------------------------|------------------------------------------|----|-----------------|-----------------|-----------------|-----------------|------------------|
|                                     | Size Code                                |    | 025             | 040             | 050             | 080             | 100              |
|                                     | Size                                     |    | 25<br>(1)       | 40<br>(1.5)     | 50<br>(2)       | 80<br>(3)       | 100<br>(4)       |
|                                     | Lining Code                              |    | A               | A               | A               | A               | A                |
| Remote Sensor<br>Integral Flowmeter | Lay Length (*1) (*3)                     | L  | 211<br>(8.31)   | 263<br>(10.35)  | 263<br>(10.35)  | 263<br>(10.35)  | 313<br>(12.32)   |
|                                     | Flange Outer Diameter                    | øD | 124.0<br>(4.88) | 155.5<br>(6.12) | 165.1<br>(6.50) | 209.6<br>(8.25) | 273.1<br>(10.75) |
|                                     | Flange Thickness<br>(incl. lining flare) | t  | 29.0<br>(1.14)  | 34.4<br>(1.35)  | 37.4<br>(1.47)  | 43.8<br>(1.72)  | 50.1<br>(1.97)   |
|                                     | Lining Inner Diameter                    | ød | 24<br>(0.93)    | 29<br>(1.16)    | 41<br>(1.59)    | 64<br>(2.52)    | 87<br>(3.43)     |
|                                     | Bolt<br>Circle Diameter                  | øC | 88.9<br>(3.50)  | 114.3<br>(4.50) | 127.0<br>(5.00) | 168.1<br>(6.62) | 215.9<br>(8.50)  |
|                                     | Bolt Hole Interval                       | θ° | 45              | 45              | 22.5            | 22.5            | 22.5             |
|                                     | Bolt Hole Diameter                       | øh | 19.1<br>(0.75)  | 22.4<br>(0.88)  | 19.1<br>(0.75)  | 22.4<br>(0.88)  | 25.4<br>(1.00)   |
|                                     | Number of Bolt Holes                     | N  | 4               | 4               | 8               | 8               | 8                |
|                                     | Height                                   | H1 | 148<br>(5.83)   | 167<br>(6.57)   | 185<br>(7.28)   | 222<br>(8.74)   | 265<br>(10.43)   |
|                                     | Height                                   | H2 | 86<br>(3.38)    | 90<br>(3.53)    | 103<br>(4.05)   | 117<br>(4.61)   | 129<br>(5.07)    |
|                                     | Height                                   | H3 | -               | -               | -               | 243<br>(9.57)   | 306<br>(12.05)   |
|                                     | Maximum<br>Height                        | Hr | 265<br>(10.43)  | 284<br>(11.18)  | 302<br>(11.89)  | 339<br>(13.35)  | 382<br>(15.04)   |
| Remote Sensor                       | Approx. Weight,<br>Unit: kg (lb) (*2)    |    | 5.8<br>(12.8)   | 9.2<br>(20.3)   | 11.0<br>(24.3)  | 19.4<br>(42.8)  | 36.9<br>(81.4)   |
| Integral Flowmeter                  | Maximum<br>Height                        | Hi | 310<br>(12.20)  | 329<br>(12.95)  | 347<br>(13.66)  | 384<br>(15.12)  | 427<br>(16.81)   |
|                                     | Approx. Weight,<br>Unit: kg (lb)         |    | 8.2<br>(18.1)   | 11.6<br>(25.6)  | 13.4<br>(29.5)  | 21.9<br>(48.3)  | 39.3<br>(86.6)   |

\*1: The lay length "L" includes the thickness of the grounding rings (GRN) which always needs to be selected.

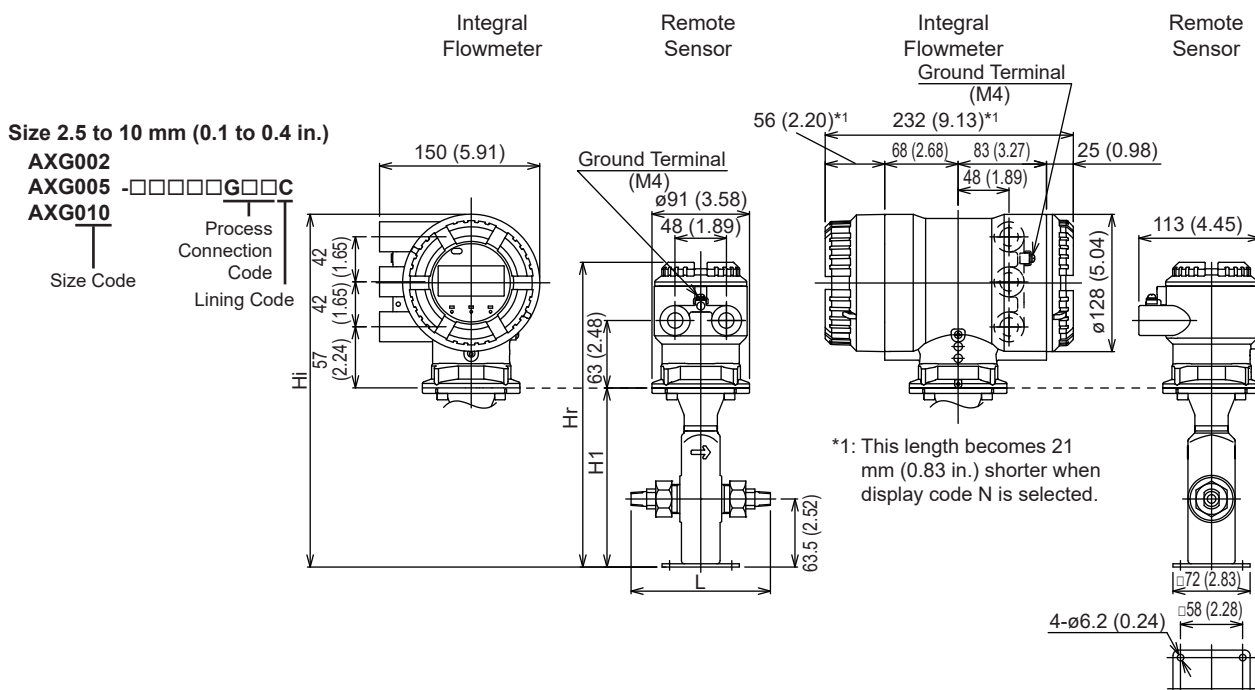
\*2: When submersible use or optional code DHC is selected, waterproof glands with union joints and cables are attached.  
When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.

\*3: The limit deviation of the lay length "L" is as follows.

- Size 25 mm (1 in.): 0/-4 mm
- Size 40 to 100 mm (1.5 to 4 in.): 0/-5 mm

# Ceramics Tube (Union Joint)

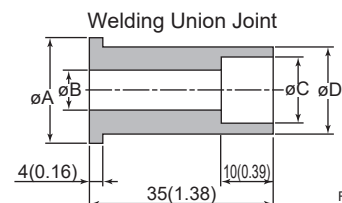
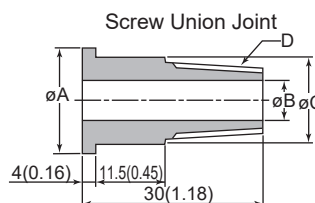
Unit: mm (approx. in.)



F43.ai

| Model              | Process Connection Code            |    | GUN, GUR: Screw Union Joint |            |             | GUW: Welding Union Joint |            |             |
|--------------------|------------------------------------|----|-----------------------------|------------|-------------|--------------------------|------------|-------------|
|                    | Size Code                          |    | 002                         | 005        | 010         | 002                      | 005        | 010         |
|                    | Size                               |    | 2.5<br>(0.1)                | 5<br>(0.2) | 10<br>(0.4) | 2.5<br>(0.1)             | 5<br>(0.2) | 10<br>(0.4) |
|                    | Lining Code                        |    | C                           | C          | C           | C                        | C          | C           |
| Remote Sensor      | Lay Length                         | L  | 130<br>(5.12)               |            |             | 140<br>(5.51)            |            |             |
| Integral Flowmeter | Height                             | H1 | 167<br>(6.57)               |            |             | 167<br>(6.57)            |            |             |
| Remote Sensor      | Maximum Height                     | Hr | 284<br>(11.18)              |            |             | 284<br>(11.18)           |            |             |
|                    | Approx. Weight, Unit: kg (lb) (*1) |    | 2.7<br>(6.0)                |            |             | 2.7<br>(6.0)             |            |             |
| Integral Flowmeter | Maximum Height                     | Hi | 329<br>(12.95)              |            |             | 329<br>(12.95)           |            |             |
|                    | Approx. Weight, Unit: kg (lb)      |    | 5.2<br>(11.5)               |            |             | 5.2<br>(11.5)            |            |             |

\*1: When optional code DHC is selected, waterproof glands with union joints and cables are attached. When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.



F44.ai

| Process Connection Code | GUN: Screw Union Joint |            |            |
|-------------------------|------------------------|------------|------------|
| Size                    | 2.5(0.1)               | 5(0.2)     | 10(0.4)    |
| øA                      | 22(0.87)               | 22(0.87)   | 25(0.98)   |
| øB                      | 8(0.31)                | 8(0.31)    | 10(0.39)   |
| øC                      | 18.5(0.73)             | 18.5(0.73) | 22.5(0.89) |
| D                       | NPT1/4                 | NPT1/4     | NPT3/8     |

| Process Connection Code | GUR: Screw Union Joint |            |            |
|-------------------------|------------------------|------------|------------|
| Size                    | 2.5(0.1)               | 5(0.2)     | 10(0.4)    |
| øA                      | 22(0.87)               | 22(0.87)   | 25(0.98)   |
| øB                      | 8(0.31)                | 8(0.31)    | 10(0.39)   |
| øC                      | 18.5(0.73)             | 18.5(0.73) | 22.5(0.89) |
| D                       | R1/4                   | R1/4       | R3/8       |

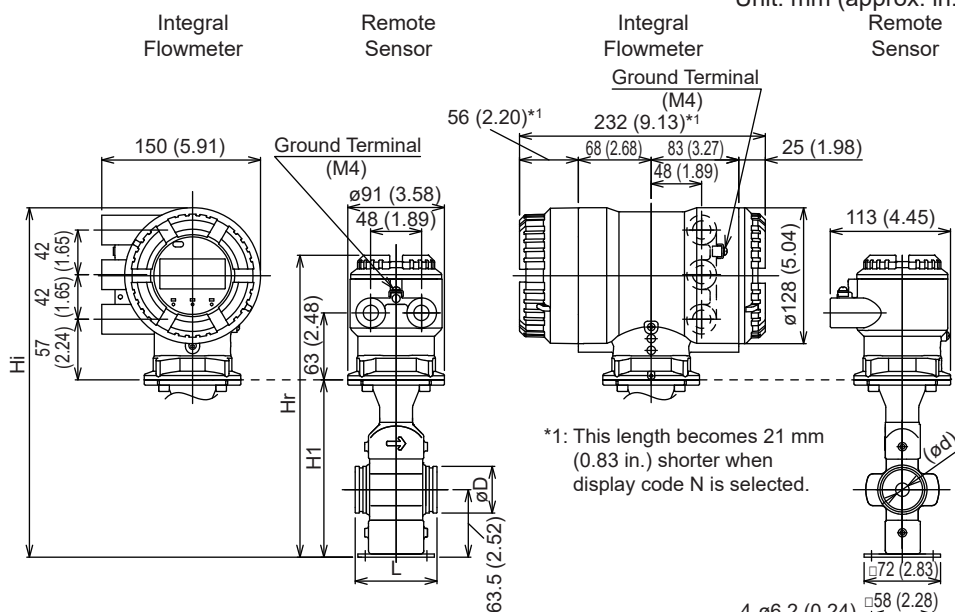
| Process Connection Code | GUW: Welding Union Joint |            |            |
|-------------------------|--------------------------|------------|------------|
| Size                    | 2.5(0.1)                 | 5(0.2)     | 10(0.4)    |
| øA                      | 22(0.87)                 | 22(0.87)   | 25(0.98)   |
| øB                      | 8(0.31)                  | 8(0.31)    | 10(0.39)   |
| øC                      | 14.3(0.56)               | 14.3(0.56) | 17.8(0.70) |
| øD                      | 18.5(0.73)               | 18.5(0.73) | 22.5(0.89) |

● Ceramics Tube (Wafer)

Unit: mm (approx. in.)  
Remote Sensor

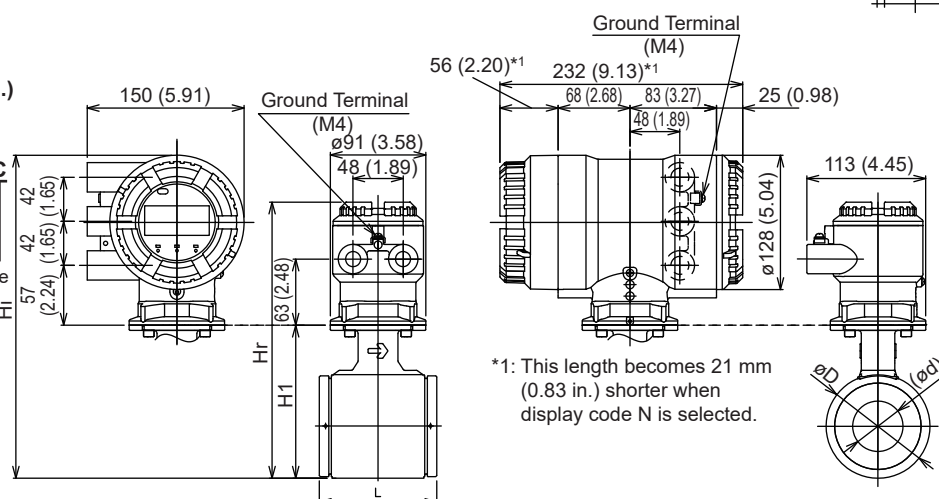
Size 15 mm (0.5 in.)

**AXG015** -□□□□□**A**□□**C**  
Size Code      Process Connection Code      Lining Code



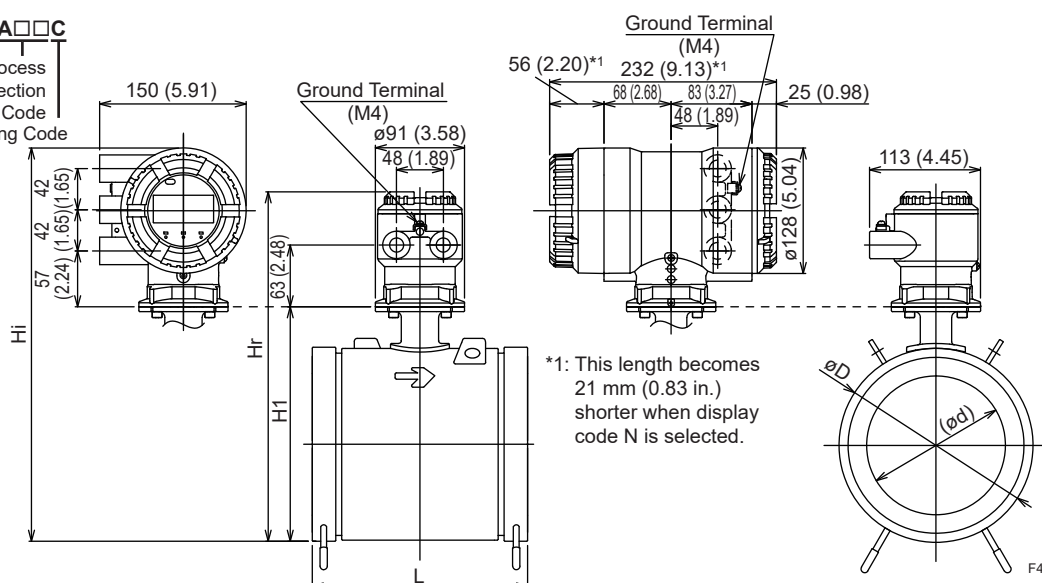
Size 25 to 100 mm (1 to 4 in.)

**AXG025**  
**AXG040**  
**AXG050** -□□□□□**A**□□**C**  
**AXG080**  
**AXG100**  
Size Code      Process Connection Code      Lining Code



Size 150 to 200 mm (6 to 8 in.)

**AXG150**  
**AXG200** -□□□□□**A**□□**C**  
Size Code      Process Connection Code      Lining Code



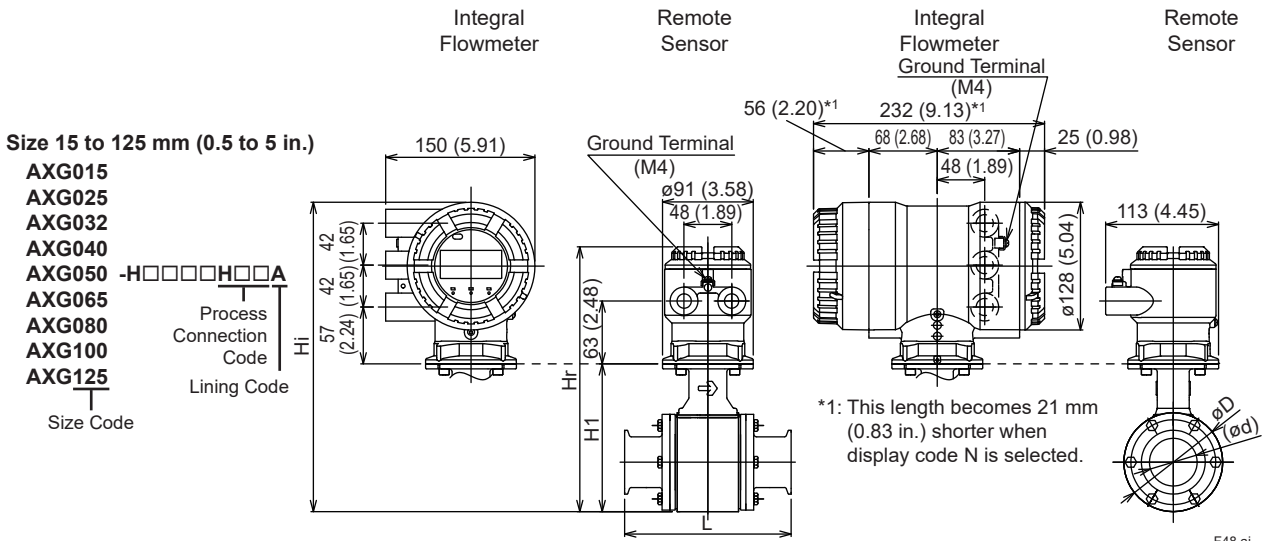
Unit: mm (approx. in.)

| Model                                                                                                     | Process Connection Code            |    | AA1, AA2, AJ1, AJ2 |                |                |                |                |                | AA1, AJ1       | AA2, AJ2       | AA1, AJ1       | AA2, AJ2       |
|-----------------------------------------------------------------------------------------------------------|------------------------------------|----|--------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                                                                                                           |                                    |    | AE4                |                |                |                | AE2            |                | AE2            | -              | AE2            | -              |
|                                                                                                           |                                    |    | -                  | -              | -              | -              | -              | -              | -              | -              | AE1            | -              |
|                                                                                                           |                                    |    | -                  | -              | -              | -              | AG1            |                | AG1            | -              | AG1            | -              |
| Size Code                                                                                                 | Size                               |    | 015                | 025            | 040            | 050            | 080            | 100            | 150            | 150            | 200            | 200            |
|                                                                                                           | Size                               |    | 15                 | 25             | 40             | 50             | 80             | 100            | 150            | 150            | 200            | 200            |
|                                                                                                           |                                    |    | (0.5)              | (1)            | (1.5)          | (2)            | (3)            | (4)            | (6)            | (6)            | (8)            | (8)            |
| Lining Code                                                                                               |                                    |    | C                  | C              | C              | C              | C              | C              | C              | C              | C              | C              |
| Remote Sensor                                                                                             | Lay Length (*1)                    | L  | 79<br>(3.11)       | 87<br>(3.43)   | 100<br>(3.94)  | 114<br>(4.49)  | 154<br>(6.06)  | 174<br>(6.85)  | 226<br>(8.90)  | 226<br>(8.90)  | 296<br>(11.65) | 296<br>(11.65) |
|                                                                                                           | Outer Diameter                     | øD | 44<br>(1.73)       | 67.5<br>(2.66) | 86<br>(3.39)   | 99<br>(3.90)   | 129<br>(5.08)  | 155<br>(6.10)  | 214<br>(8.43)  | 214<br>(8.43)  | 264<br>(10.39) | 264<br>(10.39) |
| Integral Flowmeter                                                                                        | Pipe Inner Diameter                | ød | 13<br>(0.51)       | 23<br>(0.91)   | 36<br>(1.42)   | 48<br>(1.89)   | 73<br>(2.87)   | 93<br>(3.66)   | 141<br>(5.55)  | 141<br>(5.55)  | 187<br>(7.36)  | 187<br>(7.36)  |
|                                                                                                           | Height                             | H1 | 167<br>(6.57)      | 110<br>(4.33)  | 129<br>(5.08)  | 148<br>(5.83)  | 175<br>(6.89)  | 201<br>(7.91)  | 255<br>(10.04) | 273<br>(10.75) | 305<br>(12.02) | 323<br>(12.72) |
| Remote Sensor                                                                                             | Maximum Height                     | Hr | 284<br>(11.18)     | 227<br>(8.94)  | 246<br>(9.69)  | 265<br>(10.43) | 292<br>(11.50) | 318<br>(12.52) | 372<br>(14.66) | 390<br>(15.35) | 423<br>(16.63) | 441<br>(17.36) |
|                                                                                                           | Approx. Weight, Unit: kg (lb) (*3) |    | 2.7<br>(6.0)       | 2.7<br>(6.0)   | 3.6<br>(7.9)   | 4.5<br>(9.9)   | 7.2<br>(15.9)  | 10.1<br>(22.3) | 21<br>(46.4)   | 21<br>(46.4)   | 34<br>(75.1)   | 34<br>(75.1)   |
| Integral Flowmeter                                                                                        | Maximum Height                     | Hi | 329<br>(12.95)     | 272<br>(10.71) | 291<br>(11.46) | 310<br>(12.20) | 337<br>(13.27) | 363<br>(14.29) | 417<br>(16.42) | 435<br>(17.13) | 467<br>(18.39) | 485<br>(19.09) |
|                                                                                                           | Approx. Weight, Unit: kg (lb)      |    | 5.2<br>(11.5)      | 5.2<br>(11.5)  | 6.1<br>(13.5)  | 7.0<br>(15.4)  | 9.7<br>(21.4)  | 12.6<br>(27.8) | 23<br>(50.8)   | 23<br>(50.8)   | 36<br>(79.5)   | 36<br>(79.5)   |
| Gaskets (BSC, BSF) (*1)                                                                                   |                                    |    | +6<br>(+0.24)      | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  |
| Grounding rings thick type (GRN, GRJ, GRW) (*1)                                                           |                                    |    | +6<br>(+0.24)      | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  |
| Grounding rings thick type (GRN, GRJ, GRW) and gaskets (BSC, BSF) (*1)                                    |                                    |    | +12<br>(+0.47)     | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) |
| Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD, GF) (*1) (*2)                        |                                    |    | +6<br>(+0.24)      | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  |
| Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD, GF) and gaskets (BSC, BSF) (*1) (*2) |                                    |    | +12<br>(+0.47)     | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) | +12<br>(+0.47) |
| Grounding rings electrode type (GRP, GRT) (*1)                                                            |                                    |    | +28<br>(+1.10)     | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +36<br>(+1.42) | +36<br>(+1.42) | +36<br>(+1.42) | +36<br>(+1.42) |
| Grounding rings electrode type (GRP, GRT) and gaskets (BSC, BSF) (*1)                                     |                                    |    | +34<br>(+1.34)     | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +42<br>(+1.65) | +42<br>(+1.65) | +42<br>(+1.65) | +42<br>(+1.65) |
| Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD, GF) (*1) (*2)                         |                                    |    | +28<br>(+1.10)     | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +28<br>(+1.10) | +36<br>(+1.42) | +36<br>(+1.42) | +36<br>(+1.42) | +36<br>(+1.42) |
| Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD, GF) and gaskets (BSC, BSF) (*1) (*2)  |                                    |    | +34<br>(+1.34)     | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +34<br>(+1.34) | +42<br>(+1.65) | +42<br>(+1.65) | +42<br>(+1.65) | +42<br>(+1.65) |

- \*1: The lay length "L" includes the thickness of two gaskets which are supplied with the flowmeter. Be sure to always use the supplied gaskets. Add the value above (which is the total of both ends including the supplied two gaskets) to the lay length "L" when selecting optional grounding rings with/without gaskets.
- \*2: When the optional code GA, GC, GD, or GF is selected, two gaskets which are supplied with the flowmeter are changed to the gaskets selected by the optional code.
- \*3: When optional code DHC is selected, waterproof glands with union joints and cables are attached. When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.

• Hygienic Use (Clamp, PFA Lining)

Unit: mm (approx. in.)



F48.ai

Unit: mm (approx. in.)

| Model                                   | Process Connection Code            |             | HAB: Tri-Clamp (not applicable for size code 032 and 125)<br>HDB: DIN 32676 Clamp<br>HKB: ISO 2852 / SMS 3016 Clamp<br>HJA, HJB: ISO 2852 Clamp (for JIS G3447 Piping) |                |                |                |                |                |                |                |                |
|-----------------------------------------|------------------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                                         |                                    |             | 015                                                                                                                                                                    | 025            | 032            | 040            | 050            | 065            | 080            | 100            | 125            |
|                                         | Size Code                          | 15<br>(0.5) | 25<br>(1)                                                                                                                                                              | 32<br>(1.25)   | 40<br>(1.5)    | 50<br>(2)      | 65<br>(2.5)    | 80<br>(3)      | 100<br>(4)     | 125<br>(5)     |                |
|                                         | Lining Code                        | A           | A                                                                                                                                                                      | A              | A              | A              | A              | A              | A              | A              |                |
| Remote Sensor<br><br>Integral Flowmeter | Lay Length                         | L           | 166<br>(6.54)                                                                                                                                                          | 166<br>(6.54)  | 166<br>(6.54)  | 166<br>(6.54)  | 176<br>(6.93)  | 196<br>(7.72)  | 216<br>(8.50)  | 246<br>(9.69)  | 316<br>(12.44) |
|                                         | Outer Diameter                     | øD          | 73<br>(2.87)                                                                                                                                                           | 73<br>(2.87)   | 73<br>(2.87)   | 86<br>(3.39)   | 99<br>(3.90)   | 117<br>(4.61)  | 129<br>(5.08)  | 155<br>(6.10)  | 183<br>(7.20)  |
|                                         | Height                             | H1          | 116<br>(4.57)                                                                                                                                                          | 116<br>(4.57)  | 116<br>(4.57)  | 129<br>(5.08)  | 149<br>(5.87)  | 166<br>(6.54)  | 176<br>(6.93)  | 202<br>(7.95)  | 230<br>(9.06)  |
| Remote Sensor                           | Maximum Height                     | Hr          | 233<br>(9.17)                                                                                                                                                          | 233<br>(9.17)  | 233<br>(9.17)  | 246<br>(9.69)  | 266<br>(10.47) | 283<br>(11.14) | 293<br>(11.54) | 319<br>(12.56) | 347<br>(13.66) |
|                                         | Approx. Weight, Unit: kg (lb) (*1) |             | 3.1<br>(6.8)                                                                                                                                                           | 2.9<br>(6.4)   | 3.0<br>(6.6)   | 3.3<br>(7.3)   | 4.1<br>(9.0)   | 5.4<br>(11.9)  | 6.4<br>(14.1)  | 9.1<br>(20.1)  | 13.5<br>(29.8) |
| Integral Flowmeter                      | Maximum Height                     | Hi          | 278<br>(10.94)                                                                                                                                                         | 278<br>(10.94) | 278<br>(10.94) | 291<br>(11.46) | 311<br>(12.24) | 328<br>(12.91) | 338<br>(13.31) | 364<br>(14.33) | 392<br>(15.43) |
|                                         | Approx. Weight, Unit: kg (lb)      |             | 5.6<br>(12.4)                                                                                                                                                          | 5.4<br>(11.9)  | 5.5<br>(12.1)  | 5.8<br>(12.8)  | 6.7<br>(14.8)  | 7.9<br>(17.4)  | 8.9<br>(19.6)  | 11.7<br>(25.8) | 16.1<br>(35.5) |

\*1: When optional code DHC is selected, waterproof glands with union joints and cables are attached.  
When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.

**Additional weight for FM (USA) Flameproof (FF2, FJ2, FT2) and FM (Canada) Flameproof (CF2, CJ2, CT2)**

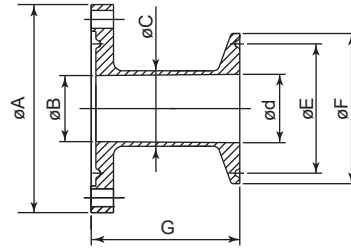
| Size                                              | 15            | 25            | 32            | 40            | 50            | 65            | 80            | 100           | 125           |
|---------------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Lining Code                                       | A             | A             | A             | A             | A             | A             | A             | A             | A             |
| Hygienic Approx. Additional Weight, Unit: kg (lb) | 0.1<br>(0.22) | 0.1<br>(0.22) | 0.1<br>(0.22) | 0.2<br>(0.44) | 0.3<br>(0.66) | 0.5<br>(1.10) | 0.8<br>(1.76) | 1.3<br>(2.87) | 1.8<br>(3.97) |

# ○ Clamp Connection Adapter

Unit: mm (approx. in.)

| Process Connection Code | HAB: Tri-Clamp |                |                |                |                |                |                 |
|-------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Size Code               | 015            | 025            | 040            | 050            | 065            | 080            | 100             |
| Size                    | 15<br>(0.5)    | 25<br>(1)      | 40<br>(1.5)    | 50<br>(2)      | 65<br>(2.5)    | 80<br>(3)      | 100<br>(4)      |
| øA                      | 70<br>(2.76)   | 70<br>(2.76)   | 83<br>(3.27)   | 96<br>(3.78)   | 114<br>(4.49)  | 126<br>(4.96)  | 152<br>(5.98)   |
| øB                      | 16.0<br>(0.63) | 22.2<br>(0.87) | 34.6<br>(1.36) | 47.6<br>(1.87) | 59.5<br>(2.34) | 72.3<br>(2.85) | 97.0<br>(3.82)  |
| øC                      | 19.2<br>(0.76) | 25.4<br>(1.00) | 38.1<br>(1.50) | 50.8<br>(2.00) | 63.5<br>(2.50) | 76.2<br>(3.00) | 101.6<br>(4.00) |
| ød                      | 15.7<br>(0.62) | 22.1<br>(0.87) | 34.8<br>(1.37) | 47.5<br>(1.87) | 60.2<br>(2.37) | 72.9<br>(2.87) | 97.4<br>(3.83)  |
| øE                      | -              | 43.6<br>(1.72) | 43.6<br>(1.72) | 56.3<br>(2.22) | 70.6<br>(2.78) | 83.3<br>(3.28) | 110.3<br>(4.34) |
| øF                      | 25.0<br>(0.98) | 50.4<br>(1.98) | 50.4<br>(1.98) | 64.0<br>(2.52) | 77.4<br>(3.05) | 91.0<br>(3.58) | 118.9<br>(4.68) |
| G                       | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)    |
| Parts No.<br>(HAB)      | F9811<br>HU    | F9811<br>HV    | F9811<br>HX    | F9811<br>HY    | F9811<br>HZ    | F9811<br>JA    | F9811<br>JB     |

HAB, HDB, HKB, HJA, HJB



F49.ai

Clamp Connection Adapter

Unit: mm (approx. in.)

| Process Connection Code | HDB: DIN 32676 Clamp |                |                |                |                |                |                 |                 |                 |
|-------------------------|----------------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|
| Size Code               | 015                  | 025            | 032            | 040            | 050            | 065            | 080             | 100             | 125             |
| Size                    | 15<br>(0.5)          | 25<br>(1)      | 32<br>(1.25)   | 40<br>(1.5)    | 50<br>(2)      | 65<br>(2.5)    | 80<br>(3)       | 100<br>(4)      | 125<br>(5)      |
| øA                      | 70<br>(2.76)         | 70<br>(2.76)   | 70<br>(2.76)   | 83<br>(3.27)   | 96<br>(3.78)   | 114<br>(4.49)  | 126<br>(4.96)   | 152<br>(5.98)   | 180<br>(7.09)   |
| øB                      | 16.0<br>(0.63)       | 22.2<br>(0.87) | 29.4<br>(1.16) | 34.6<br>(1.36) | 47.6<br>(1.87) | 59.5<br>(2.34) | 72.3<br>(2.85)  | 97.0<br>(3.82)  | 121.0<br>(4.76) |
| øC                      | 20.0<br>(0.79)       | 30.0<br>(1.18) | 36.0<br>(1.42) | 42.0<br>(1.65) | 54.0<br>(2.13) | 70.0<br>(2.76) | 85.0<br>(3.35)  | 104.0<br>(4.09) | 129.0<br>(5.08) |
| ød                      | 16.0<br>(0.63)       | 26.0<br>(1.02) | 32.0<br>(1.26) | 38.0<br>(1.50) | 50.0<br>(1.97) | 66.0<br>(2.60) | 81.0<br>(3.19)  | 100.0<br>(3.94) | 125.0<br>(4.92) |
| øE                      | 27.5<br>(1.08)       | 43.5<br>(1.71) | 43.5<br>(1.71) | 43.5<br>(1.71) | 56.5<br>(2.22) | 83.5<br>(3.29) | 97.0<br>(3.82)  | 110.0<br>(4.33) | 146.0<br>(5.75) |
| øF                      | 34.0<br>(1.34)       | 50.5<br>(1.99) | 50.5<br>(1.99) | 50.5<br>(1.99) | 64.0<br>(2.52) | 91.0<br>(3.58) | 106.0<br>(4.17) | 119.0<br>(4.69) | 155.0<br>(6.10) |
| G                       | 50<br>(1.97)         | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)    | 50<br>(1.97)    | 60<br>(2.36)    |
| Parts No.<br>(HDB)      | F9811<br>JD          | F9811<br>JE    | F9811<br>JF    | F9811<br>JG    | F9811<br>JH    | F9811<br>JJ    | F9811<br>JK     | F9811<br>JL     | F9870<br>ZD     |

Unit: mm (approx. in.)

| Process Connection Code | HKB: ISO 2852 / SMS 3016 Clamp |                |                |                |                |                |                |                 |                 |
|-------------------------|--------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|
| Size Code               | 015                            | 025            | 032            | 040            | 050            | 065            | 080            | 100             | 125             |
| Size                    | 15<br>(0.5)                    | 25<br>(1)      | 32<br>(1.25)   | 40<br>(1.5)    | 50<br>(2)      | 65<br>(2.5)    | 80<br>(3)      | 100<br>(4)      | 125<br>(5)      |
| øA                      | 70<br>(2.76)                   | 70<br>(2.76)   | 70<br>(2.76)   | 83<br>(3.27)   | 96<br>(3.78)   | 114<br>(4.49)  | 126<br>(4.96)  | 152<br>(5.98)   | 180<br>(7.09)   |
| øB                      | 16.0<br>(0.63)                 | 22.2<br>(0.87) | 29.4<br>(1.16) | 34.6<br>(1.36) | 47.6<br>(1.87) | 59.5<br>(2.34) | 72.3<br>(2.85) | 97.0<br>(3.82)  | 121.0<br>(4.76) |
| øC                      | 18.0<br>(0.71)                 | 25.6<br>(1.01) | 34.3<br>(1.35) | 38.6<br>(1.52) | 51.6<br>(2.03) | 64.1<br>(2.52) | 76.7<br>(3.02) | 102.5<br>(4.04) | 141.2<br>(5.56) |
| ød                      | 15.2<br>(0.60)                 | 22.6<br>(0.89) | 31.3<br>(1.23) | 35.6<br>(1.40) | 48.6<br>(1.91) | 60.3<br>(2.37) | 72.9<br>(2.87) | 97.6<br>(3.84)  | 135.7<br>(5.34) |
| øE                      | 27.5<br>(1.08)                 | 43.5<br>(1.71) | 43.5<br>(1.71) | 43.5<br>(1.71) | 56.5<br>(2.22) | 70.5<br>(2.78) | 83.5<br>(3.29) | 110.0<br>(4.33) | 146.0<br>(5.75) |
| øF                      | 34.0<br>(1.34)                 | 50.5<br>(1.99) | 50.5<br>(1.99) | 50.5<br>(1.99) | 64.0<br>(2.52) | 77.5<br>(3.05) | 91.0<br>(3.58) | 119.0<br>(4.69) | 155.0<br>(6.10) |
| G                       | 50<br>(1.97)                   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)    | 60<br>(2.36)    |
| Parts No.<br>(HKB)      | F9811<br>JN                    | F9811<br>JP    | F9811<br>JQ    | F9811<br>JR    | F9811<br>JS    | F9811<br>JT    | F9811<br>JU    | F9811<br>JV     | F9870<br>ZE     |

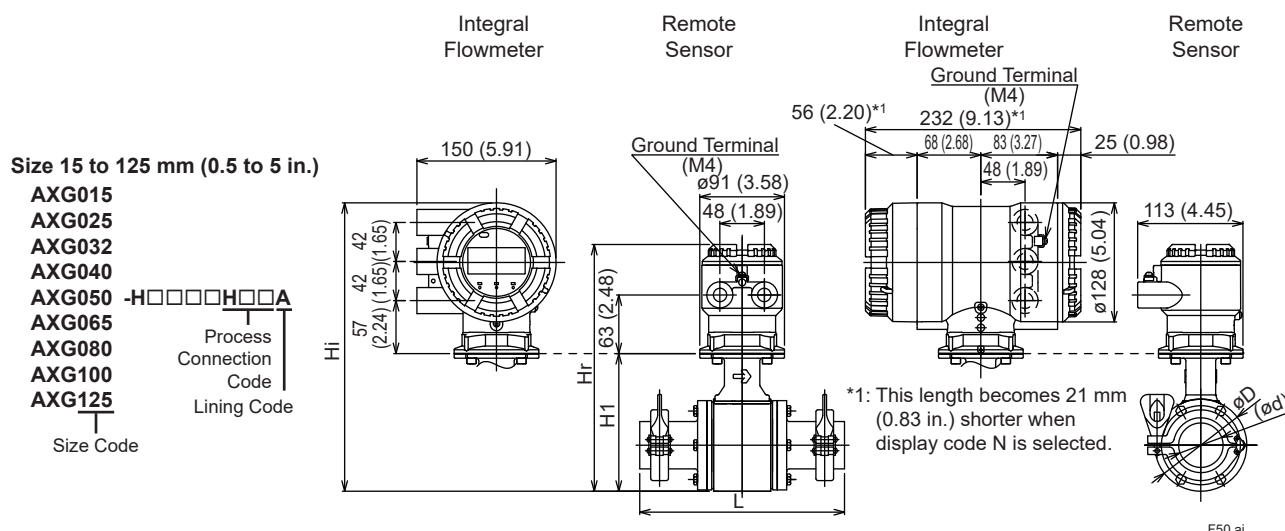
Unit: mm (approx. in.)

| Process Connection Code | HJA, HJB: ISO 2852 Clamp (for JIS G3447 Piping) |                |                |                |                |                |                |                 |                 |
|-------------------------|-------------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|
| Size Code               | 015                                             | 025            | 032            | 040            | 050            | 065            | 080            | 100             | 125             |
| Size                    | 15<br>(0.5)                                     | 25<br>(1)      | 32<br>(1.25)   | 40<br>(1.5)    | 50<br>(2)      | 65<br>(2.5)    | 80<br>(3)      | 100<br>(4)      | 125<br>(5)      |
| øA                      | 70<br>(2.76)                                    | 70<br>(2.76)   | 70<br>(2.76)   | 83<br>(3.27)   | 96<br>(3.78)   | 114<br>(4.49)  | 126<br>(4.96)  | 152<br>(5.98)   | 180<br>(7.09)   |
| øB                      | 16.0<br>(0.63)                                  | 22.2<br>(0.87) | 29.4<br>(1.16) | 34.6<br>(1.36) | 47.6<br>(1.87) | 59.5<br>(2.34) | 72.3<br>(2.85) | 97.0<br>(3.82)  | 121.0<br>(4.76) |
| øC                      | 21.7<br>(0.85)                                  | 25.4<br>(1.00) | 31.8<br>(1.25) | 38.1<br>(1.50) | 50.8<br>(2.00) | 63.5<br>(2.50) | 76.3<br>(3.00) | 101.6<br>(4.00) | 139.8<br>(5.50) |
| ød                      | 17.5<br>(0.69)                                  | 23.0<br>(0.91) | 29.4<br>(1.16) | 35.7<br>(1.41) | 47.8<br>(1.88) | 59.5<br>(2.34) | 72.3<br>(2.85) | 97.6<br>(3.84)  | 133.8<br>(5.27) |
| øE                      | 27.5<br>(1.08)                                  | 43.5<br>(1.71) | 43.5<br>(1.71) | 43.5<br>(1.71) | 56.5<br>(2.22) | 70.5<br>(2.78) | 83.5<br>(3.29) | 110.0<br>(4.33) | 146.0<br>(5.75) |
| øF                      | 34.0<br>(1.34)                                  | 50.5<br>(1.99) | 50.5<br>(1.99) | 50.5<br>(1.99) | 64.0<br>(2.52) | 77.5<br>(3.05) | 91.0<br>(3.58) | 119.0<br>(4.69) | 155.0<br>(6.10) |
| G                       | 50<br>(1.97)                                    | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)    | 60<br>(2.36)    |
| Parts No.<br>(HJA)      | F9811<br>HA                                     | F9811<br>HB    | F9811<br>HC    | F9811<br>HD    | F9811<br>HE    | F9811<br>HF    | F9811<br>HG    | F9811<br>HH     | F9870<br>ZA     |
| Parts No.<br>(HJB)      | F9811<br>HK                                     | F9811<br>HL    | F9811<br>HM    | F9811<br>HN    | F9811<br>HP    | F9811<br>HQ    | F9811<br>HR    | F9811<br>HS     | F9870<br>ZB     |



- **Hygienic Use (Clamp, PFA Lining) with Connection Parts for HJA and HJB (Optional code W2)**

Unit: mm (approx. in.)



E50 ai

Unit: mm (approx. in.)

| Model              | Process Connection Code            |    | HJA, HJB: ISO 2852 Clamp (for JIS G3447 Piping) |                |                |                |                |                |                |                |                 |
|--------------------|------------------------------------|----|-------------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
|                    | Size Code                          |    | 015                                             | 025            | 032            | 040            | 050            | 065            | 080            | 100            | 125             |
|                    | Size                               |    | 15                                              | 25             | 32             | 40             | 50             | 65             | 80             | 100            | 125             |
|                    |                                    |    | (0.5)                                           | (1)            | (1.25)         | (1.5)          | (2)            | (2.5)          | (3)            | (4)            | (5)             |
| Lining Code        |                                    |    | A                                               | A              | A              | A              | A              | A              | A              | A              | A               |
| Remote Sensor      | Lay Length                         | L  | 204<br>(8.03)                                   | 211<br>(8.31)  | 204<br>(8.03)  | 211<br>(8.31)  | 221<br>(8.70)  | 241<br>(9.49)  | 261<br>(10.28) | 291<br>(11.46) | 374<br>(14.72)  |
|                    | Outer Diameter                     | øD | 73<br>(2.87)                                    | 73<br>(2.87)   | 73<br>(2.87)   | 86<br>(3.39)   | 99<br>(3.90)   | 117<br>(4.61)  | 129<br>(5.08)  | 155<br>(6.10)  | 183<br>(7.20)   |
| Integral Flowmeter | Inner Diameter                     | ød | 17.5<br>(0.69)                                  | 23.0<br>(0.91) | 29.4<br>(1.16) | 35.7<br>(1.41) | 47.8<br>(1.88) | 59.5<br>(2.34) | 72.3<br>(2.85) | 97.6<br>(3.84) | 133.8<br>(5.27) |
|                    | Height                             | H1 | 116<br>(4.57)                                   | 116<br>(4.57)  | 116<br>(4.57)  | 129<br>(5.08)  | 149<br>(5.87)  | 166<br>(6.54)  | 176<br>(6.93)  | 202<br>(7.95)  | 230<br>(9.06)   |
| Remote Sensor      | Maximum Height                     | Hr | 233<br>(9.17)                                   | 233<br>(9.17)  | 233<br>(9.17)  | 246<br>(9.69)  | 266<br>(10.47) | 283<br>(11.14) | 293<br>(11.54) | 319<br>(12.56) | 347<br>(13.66)  |
|                    | Approx. Weight, Unit: kg (lb) (*1) |    | 3.0<br>(6.6)                                    | 2.7<br>(6.0)   | 2.9<br>(6.4)   | 3.2<br>(7.1)   | 3.9<br>(8.6)   | 5.1<br>(11.2)  | 5.9<br>(13.0)  | 8.1<br>(17.9)  | 12.3<br>(27.1)  |
| Integral Flowmeter | Maximum Height                     | Hi | 278<br>(10.94)                                  | 278<br>(10.94) | 278<br>(10.94) | 291<br>(11.46) | 311<br>(12.24) | 328<br>(12.91) | 338<br>(13.31) | 364<br>(14.33) | 392<br>(15.43)  |
|                    | Approx. Weight, Unit: kg (lb)      |    | 5.5<br>(12.1)                                   | 5.2<br>(11.5)  | 5.4<br>(11.9)  | 5.7<br>(12.6)  | 6.5<br>(14.3)  | 7.6<br>(16.8)  | 8.5<br>(18.7)  | 10.7<br>(23.6) | 14.9<br>(32.9)  |

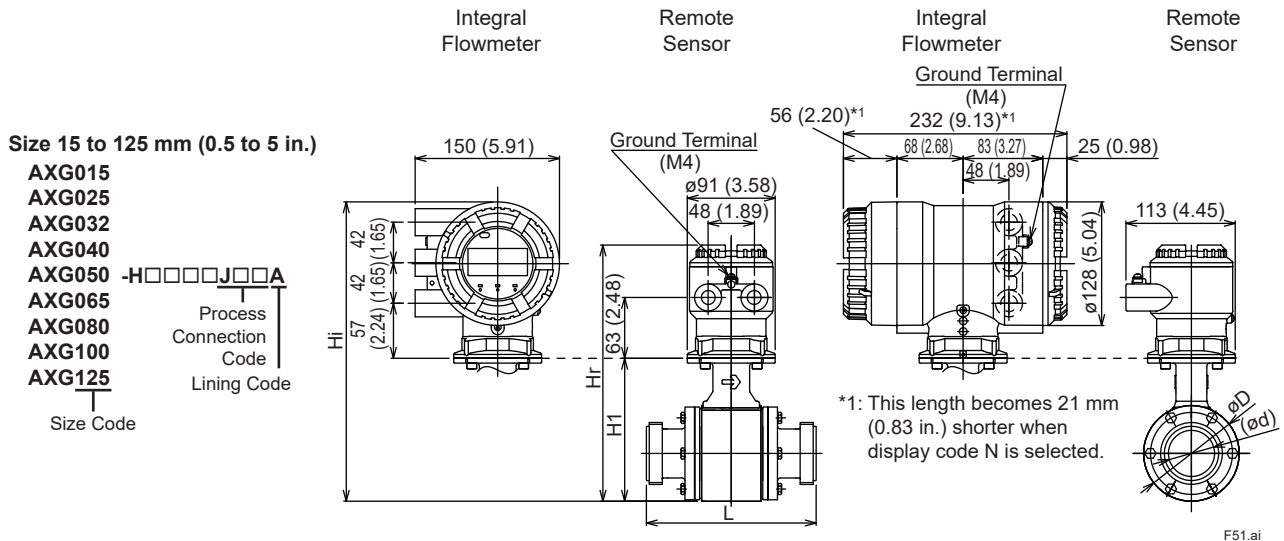
\*1 When optional code DHC is selected, waterproof glands with union joints and cables are attached.  
When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.

**Additional weight for FM (USA) Flameproof (FF2, FJ2, FT2)**

| Size                                     | 15     | 25     | 32     | 40     | 50     | 65     | 80     | 100    | 125    |
|------------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Lining Code                              | A      | A      | A      | A      | A      | A      | A      | A      | A      |
| Hygienic                                 | 0.1    | 0.1    | 0.1    | 0.2    | 0.3    | 0.5    | 0.8    | 1.3    | 1.8    |
| Approx. Additional Weight, Unit: kg (lb) | (0.22) | (0.22) | (0.22) | (0.44) | (0.66) | (1.10) | (1.76) | (2.87) | (3.97) |

• Hygienic Use (Union, PFA Lining)

Unit: mm (approx. in.)



Unit: mm (approx. in.)

| Model              | Process Connection Code               |    | JDB: DIN 11851 Union |                |                |                |                |                |                |                |                |
|--------------------|---------------------------------------|----|----------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                    | Size Code                             |    | 015                  | 025            | 032            | 040            | 050            | 065            | 080            | 100            | 125            |
|                    | Size                                  |    | 15<br>(0.5)          | 25<br>(1)      | 32<br>(1.25)   | 40<br>(1.5)    | 50<br>(2)      | 65<br>(2.5)    | 80<br>(3)      | 100<br>(4)     | 125<br>(5)     |
|                    | Lining Code                           |    | A                    | A              | A              | A              | A              | A              | A              | A              | A              |
| Remote Sensor      | Lay Length                            | L  | 166<br>(6.54)        | 166<br>(6.54)  | 166<br>(6.54)  | 166<br>(6.54)  | 176<br>(6.93)  | 196<br>(7.72)  | 236<br>(9.29)  | 266<br>(10.47) | 326<br>(12.83) |
|                    | Outer Diameter                        | øD | 73<br>(2.87)         | 73<br>(2.87)   | 73<br>(2.87)   | 86<br>(3.39)   | 99<br>(3.90)   | 117<br>(4.61)  | 129<br>(5.08)  | 155<br>(6.10)  | 183<br>(7.20)  |
|                    | Height                                | H1 | 116<br>(4.57)        | 116<br>(4.57)  | 116<br>(4.57)  | 129<br>(5.08)  | 149<br>(5.87)  | 166<br>(6.54)  | 176<br>(6.93)  | 202<br>(7.95)  | 230<br>(9.06)  |
| Remote Sensor      | Maximum Height                        | Hr | 233<br>(9.17)        | 233<br>(9.17)  | 233<br>(9.17)  | 246<br>(9.69)  | 266<br>(10.47) | 283<br>(11.14) | 293<br>(11.54) | 319<br>(12.56) | 347<br>(13.66) |
|                    | Approx. Weight,<br>Unit: kg (lb) (*1) |    | 3.0<br>(6.6)         | 3.0<br>(6.6)   | 3.1<br>(6.8)   | 3.4<br>(7.5)   | 4.3<br>(9.5)   | 5.5<br>(12.1)  | 6.5<br>(14.3)  | 9.2<br>(20.3)  | 14.3<br>(31.5) |
| Integral Flowmeter | Maximum Height                        | Hi | 278<br>(10.94)       | 278<br>(10.94) | 278<br>(10.94) | 291<br>(11.46) | 311<br>(12.24) | 328<br>(12.91) | 338<br>(13.31) | 364<br>(14.33) | 392<br>(15.43) |
|                    | Approx. Weight,<br>Unit: kg (lb)      |    |                      | 5.5<br>(12.1)  | 5.5<br>(12.1)  | 5.6<br>(12.3)  | 5.9<br>(13.0)  | 6.9<br>(15.2)  | 8.0<br>(17.6)  | 9.1<br>(20.1)  | 11.8<br>(26.0) |

Unit: mm (approx. in.)

| Model              | Process Connection Code            |    | JKB: ISO 2853 Union |                |                |                |                |                |                |                |
|--------------------|------------------------------------|----|---------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                    | Size Code                          |    | 015                 | 025            | 032            | 040            | 050            | 065            | 080            | 100            |
|                    | Size                               |    | 15<br>(0.5)         | 25<br>(1)      | 32<br>(1.25)   | 40<br>(1.5)    | 50<br>(2)      | 65<br>(2.5)    | 80<br>(3)      | 100<br>(4)     |
|                    | Lining Code                        |    | A                   | A              | A              | A              | A              | A              | A              | A              |
| Remote Sensor      | Lay Length                         | L  | 166<br>(6.54)       | 166<br>(6.54)  | 166<br>(6.54)  | 166<br>(6.54)  | 176<br>(6.93)  | 196<br>(7.72)  | 216<br>(8.50)  | 246<br>(9.69)  |
|                    | Outer Diameter                     | øD | 73<br>(2.87)        | 73<br>(2.87)   | 73<br>(2.87)   | 86<br>(3.39)   | 99<br>(3.90)   | 117<br>(4.61)  | 129<br>(5.08)  | 155<br>(6.10)  |
|                    | Height                             | H1 | 116<br>(4.57)       | 116<br>(4.57)  | 116<br>(4.57)  | 129<br>(5.08)  | 149<br>(5.87)  | 166<br>(6.54)  | 176<br>(6.93)  | 202<br>(7.95)  |
| Remote Sensor      | Maximum Height                     | Hr | 233<br>(9.17)       | 233<br>(9.17)  | 233<br>(9.17)  | 246<br>(9.69)  | 266<br>(10.47) | 283<br>(11.14) | 293<br>(11.54) | 319<br>(12.56) |
|                    | Approx. Weight, Unit: kg (lb) (*1) |    | 3.0<br>(6.6)        | 3.0<br>(6.6)   | 3.1<br>(6.8)   | 3.4<br>(7.5)   | 4.3<br>(9.5)   | 5.5<br>(12.1)  | 6.5<br>(14.3)  | 9.2<br>(20.3)  |
|                    | Maximum Height                     | Hi | 278<br>(10.94)      | 278<br>(10.94) | 278<br>(10.94) | 291<br>(11.46) | 311<br>(12.24) | 328<br>(12.91) | 338<br>(13.31) | 364<br>(14.33) |
| Integral Flowmeter | Approx. Weight, Unit: kg (lb)      |    | 5.5<br>(12.1)       | 5.5<br>(12.1)  | 5.6<br>(12.3)  | 5.9<br>(13.0)  | 6.9<br>(15.2)  | 8.0<br>(17.6)  | 9.1<br>(20.1)  | 11.8<br>(26.0) |

\*1: When optional code DHC is selected, waterproof glands with union joints and cables are attached.  
When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.

Additional weight for FM (USA) Flameproof (FF2, FJ2, FT2) and FM (Canada) Flameproof (CF2, CJ2, CT2)

| Size                                     | 15            | 25            | 32            | 40            | 50            | 65            | 80            | 100           | 125           |
|------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Lining Code                              | A             | A             | A             | A             | A             | A             | A             | A             | A             |
| Hygienic                                 | 0.1<br>(0.22) | 0.1<br>(0.22) | 0.1<br>(0.22) | 0.2<br>(0.44) | 0.3<br>(0.66) | 0.5<br>(1.10) | 0.8<br>(1.76) | 1.3<br>(2.87) | 1.8<br>(3.97) |
| Approx. Additional Weight, Unit: kg (lb) |               |               |               |               |               |               |               |               |               |

Unit: mm (approx. in.)

| Model              | Process Connection Code               |    | JJA, JJB: ISO 2853 Union (for JIS G3447 Piping) |                |                |                |                |                |
|--------------------|---------------------------------------|----|-------------------------------------------------|----------------|----------------|----------------|----------------|----------------|
|                    | Size Code                             |    | 025                                             | 032            | 040            | 050            | 065            | 080            |
|                    | Size                                  |    | 25                                              | 32             | 40             | 50             | 65             | 80             |
|                    | Lining Code                           |    | A                                               | A              | A              | A              | A              | A              |
| Remote Sensor      | Lay Length                            | L  | 166<br>(6.54)                                   | 166<br>(6.54)  | 166<br>(6.54)  | 176<br>(6.93)  | 196<br>(7.72)  | 216<br>(8.50)  |
|                    | Outer Diameter                        | øD | 73<br>(2.87)                                    | 73<br>(2.87)   | 86<br>(3.39)   | 99<br>(3.90)   | 117<br>(4.61)  | 129<br>(5.08)  |
| Integral Flowmeter | Height                                | H1 | 116<br>(4.57)                                   | 116<br>(4.57)  | 129<br>(5.08)  | 149<br>(5.87)  | 166<br>(6.54)  | 202<br>(7.95)  |
|                    | Maximum Height                        | Hr | 233<br>(9.17)                                   | 233<br>(9.17)  | 246<br>(9.69)  | 266<br>(10.47) | 283<br>(11.14) | 319<br>(12.56) |
| Remote Sensor      | Approx. Weight,<br>Unit: kg (lb) (*1) |    | 3.0<br>(6.6)                                    | 3.1<br>(6.8)   | 3.4<br>(7.5)   | 4.3<br>(9.5)   | 5.5<br>(12.1)  | 6.5<br>(14.3)  |
|                    | Maximum Height                        | Hi | 278<br>(10.94)                                  | 278<br>(10.94) | 291<br>(11.46) | 311<br>(12.24) | 328<br>(12.91) | 364<br>(14.33) |
| Integral Flowmeter | Approx. Weight,<br>Unit: kg (lb)      |    | 5.5<br>(12.1)                                   | 5.6<br>(12.3)  | 5.9<br>(13.0)  | 6.9<br>(15.2)  | 8.0<br>(17.6)  | 9.1<br>(20.1)  |
|                    | Maximum Height                        |    |                                                 |                |                |                |                |                |

Unit: mm (approx. in.)

| Model              | Process Connection Code               |    | JSB: SMS 1145 Union (Open groove packing type) |                |                |                |                |                |
|--------------------|---------------------------------------|----|------------------------------------------------|----------------|----------------|----------------|----------------|----------------|
|                    | Size Code                             |    | 025                                            | 032            | 040            | 050            | 065            | 080            |
|                    | Size                                  |    | 25                                             | 32             | 40             | 50             | 65             | 80             |
|                    | Lining Code                           |    | A                                              | A              | A              | A              | A              | A              |
| Remote Sensor      | Lay Length                            | L  | 166<br>(6.54)                                  | 166<br>(6.54)  | 166<br>(6.54)  | 176<br>(6.93)  | 196<br>(7.72)  | 216<br>(8.50)  |
|                    | Outer Diameter                        | øD | 73<br>(2.87)                                   | 73<br>(2.87)   | 86<br>(3.39)   | 99<br>(3.90)   | 117<br>(4.61)  | 129<br>(5.08)  |
| Integral Flowmeter | Height                                | H1 | 116<br>(4.57)                                  | 116<br>(4.57)  | 129<br>(5.08)  | 149<br>(5.87)  | 166<br>(6.54)  | 202<br>(7.95)  |
|                    | Maximum Height                        | Hr | 233<br>(9.17)                                  | 233<br>(9.17)  | 246<br>(9.69)  | 266<br>(10.47) | 283<br>(11.14) | 319<br>(12.56) |
| Remote Sensor      | Approx. Weight,<br>Unit: kg (lb) (*1) |    | 3.0<br>(6.6)                                   | 3.1<br>(6.8)   | 3.4<br>(7.5)   | 4.3<br>(9.5)   | 5.5<br>(12.1)  | 6.5<br>(14.3)  |
|                    | Maximum Height                        | Hi | 278<br>(10.94)                                 | 278<br>(10.94) | 291<br>(11.46) | 311<br>(12.24) | 328<br>(12.91) | 364<br>(14.33) |
| Integral Flowmeter | Approx. Weight,<br>Unit: kg (lb)      |    | 5.5<br>(12.1)                                  | 5.6<br>(12.3)  | 5.9<br>(13.0)  | 6.9<br>(15.2)  | 8.0<br>(17.6)  | 9.1<br>(20.1)  |
|                    | Maximum Height                        |    |                                                |                |                |                |                |                |

\*1: When optional code DHC is selected, waterproof glands with union joints and cables are attached.  
When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.

## ○ Union Connection Adapter

Unit: mm (approx. in.)

| Process Connection Code | JDB: DIN 11851 Union |                |                |                |                |                |                 |                 |                 |
|-------------------------|----------------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|
| Size Code               | 015                  | 025            | 032            | 040            | 050            | 065            | 080             | 100             | 125             |
| Size                    | 15<br>(0.5)          | 25<br>(1)      | 32<br>(1.25)   | 40<br>(1.5)    | 50<br>(2)      | 65<br>(2.5)    | 80<br>(3)       | 100<br>(4)      | 125<br>(5)      |
| øA                      | 70<br>(2.76)         | 70<br>(2.76)   | 70<br>(2.76)   | 83<br>(3.27)   | 96<br>(3.78)   | 114<br>(4.49)  | 126<br>(4.96)   | 152<br>(5.98)   | 180<br>(7.09)   |
| øB                      | 16.0<br>(0.63)       | 22.2<br>(0.87) | 29.4<br>(1.16) | 34.6<br>(1.36) | 47.6<br>(1.87) | 59.5<br>(2.34) | 72.3<br>(2.85)  | 97.0<br>(3.82)  | 121.0<br>(4.76) |
| øC                      | 20.0<br>(0.79)       | 30.0<br>(1.18) | 36.0<br>(1.42) | 42.0<br>(1.65) | 54.0<br>(2.13) | 70.0<br>(2.76) | 85.0<br>(3.35)  | 104.0<br>(4.09) | 129.0<br>(5.08) |
| ød                      | 16.0<br>(0.63)       | 26.0<br>(1.02) | 32.0<br>(1.26) | 38.0<br>(1.50) | 50.0<br>(1.97) | 66.0<br>(2.60) | 81.0<br>(3.19)  | 100.0<br>(3.94) | 125.0<br>(4.92) |
| øE                      | 18.0<br>(0.71)       | 30.0<br>(1.18) | 36.0<br>(1.42) | 42.0<br>(1.65) | 54.0<br>(2.13) | 71.0<br>(2.80) | 85.0<br>(3.35)  | 104.0<br>(4.09) | 130.0<br>(5.12) |
| øF                      | 25.8<br>(1.02)       | 39.8<br>(1.57) | 45.8<br>(1.80) | 51.8<br>(2.04) | 63.8<br>(2.51) | 80.8<br>(3.18) | 94.8<br>(3.73)  | 113.8<br>(4.48) | 141.8<br>(5.58) |
| G                       | RD34<br>x 1/8"       | RD52<br>x 1/6" | RD58<br>x 1/6" | RD65<br>x 1/6" | RD78<br>x 1/6" | RD95<br>x 1/6" | RD110<br>x 1/4" | RD130<br>x 1/4" | RD160<br>x 1/4" |
| H                       | 50<br>(1.97)         | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 60<br>(2.36)    | 60<br>(2.36)    | 65<br>(2.56)    |
| Parts No.<br>(JDB)      | F9811<br>KR          | F9811<br>KS    | F9811<br>KT    | F9811<br>KU    | F9811<br>KV    | F9811<br>KW    | F9811<br>KX     | F9811<br>KY     | F9870<br>ZH     |

Unit: mm (approx. in.)

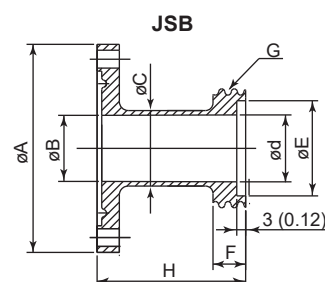
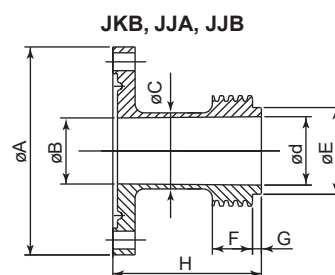
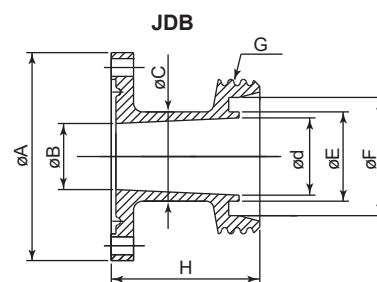
| Process Connection Code | JKB: ISO 2853 Union |                |                |                |                |                |                |                 |
|-------------------------|---------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Size Code               | 015                 | 025            | 032            | 040            | 050            | 065            | 080            | 100             |
| Size                    | 15<br>(0.5)         | 25<br>(1)      | 32<br>(1.25)   | 40<br>(1.5)    | 50<br>(2)      | 65<br>(2.5)    | 80<br>(3)      | 100<br>(4)      |
| øA                      | 70<br>(2.76)        | 70<br>(2.76)   | 70<br>(2.76)   | 83<br>(3.27)   | 96<br>(3.78)   | 114<br>(4.49)  | 126<br>(4.96)  | 152<br>(5.98)   |
| øB                      | 16.0<br>(0.63)      | 22.2<br>(0.87) | 29.4<br>(1.16) | 34.6<br>(1.36) | 47.6<br>(1.87) | 59.5<br>(2.34) | 72.3<br>(2.85) | 97.0<br>(3.82)  |
| øC                      | 18.0<br>(0.71)      | 25.6<br>(1.01) | 34.3<br>(1.35) | 38.6<br>(1.52) | 51.6<br>(2.03) | 64.1<br>(2.52) | 76.7<br>(3.02) | 102.5<br>(4.04) |
| ød                      | 15.2<br>(0.60)      | 22.6<br>(0.89) | 31.3<br>(1.23) | 35.6<br>(1.40) | 48.6<br>(1.91) | 60.3<br>(2.37) | 72.9<br>(2.87) | 97.6<br>(3.84)  |
| øE                      | 21.2<br>(0.83)      | 29.2<br>(1.15) | 38.2<br>(1.50) | 42.7<br>(1.68) | 56.2<br>(2.21) | 69.9<br>(2.75) | 82.6<br>(3.25) | 108.7<br>(4.28) |
| F                       | 13.5<br>(0.53)      | 13.5<br>(0.53) | 13.5<br>(0.53) | 13.5<br>(0.53) | 13.5<br>(0.53) | 13.5<br>(0.53) | 13.5<br>(0.53) | 13.5<br>(0.53)  |
| G                       | 3<br>(0.12)         | 3<br>(0.12)    | 3<br>(0.12)    | 3<br>(0.12)    | 3<br>(0.12)    | 3<br>(0.12)    | 3<br>(0.12)    | 3<br>(0.12)     |
| H                       | 50<br>(1.97)        | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)    |
| Parts No.<br>(JKB)      | F9811<br>LA         | F9811<br>LB    | F9811<br>LC    | F9811<br>LD    | F9811<br>LE    | F9811<br>LF    | F9811<br>LG    | F9811<br>LH     |

Unit: mm (approx. in.)

| Process Connection Code | JJA, JJB: ISO 2853 Union (for JIS G3447 Piping) |                |                |                |                |                |                 |
|-------------------------|-------------------------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Size Code               | 025                                             | 032            | 040            | 050            | 065            | 080            | 100             |
| Size                    | 25<br>(1)                                       | 32<br>(1.25)   | 40<br>(1.5)    | 50<br>(2)      | 65<br>(2.5)    | 80<br>(3)      | 100<br>(4)      |
| øA                      | 70<br>(2.76)                                    | 70<br>(2.76)   | 83<br>(3.27)   | 96<br>(3.78)   | 114<br>(4.49)  | 126<br>(4.96)  | 152<br>(5.98)   |
| øB                      | 22.2<br>(0.87)                                  | 29.4<br>(1.16) | 34.6<br>(1.36) | 47.6<br>(1.87) | 59.5<br>(2.34) | 72.3<br>(2.85) | 97.0<br>(3.82)  |
| øC                      | 25.6<br>(1.01)                                  | 31.8<br>(1.25) | 38.0<br>(1.50) | 51.0<br>(2.01) | 63.5<br>(2.50) | 76.3<br>(3.00) | 101.6<br>(4.00) |
| ød                      | 23.0<br>(0.91)                                  | 29.4<br>(1.16) | 35.6<br>(1.40) | 47.8<br>(1.88) | 59.5<br>(2.34) | 72.3<br>(2.85) | 97.6<br>(3.84)  |
| øE                      | 29.2<br>(1.15)                                  | 35.7<br>(1.41) | 42.7<br>(1.68) | 56.2<br>(2.21) | 69.9<br>(2.75) | 82.6<br>(3.25) | 108.7<br>(4.28) |
| F                       | 13.5<br>(0.53)                                  | 10.0<br>(0.39) | 13.5<br>(0.53) | 13.5<br>(0.53) | 13.5<br>(0.53) | 13.5<br>(0.53) | 18.0<br>(0.71)  |
| G                       | 3<br>(0.12)                                     | 2.5<br>(0.10)  | 3<br>(0.12)    | 3<br>(0.12)    | 3<br>(0.12)    | 3<br>(0.12)    | 3<br>(0.12)     |
| H                       | 50<br>(1.97)                                    | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)    |
| Parts No.<br>(JJA)      | F9811<br>JY                                     | F9811<br>JZ    | F9811<br>KA    | F9811<br>KB    | F9811<br>KC    | F9811<br>KD    | F9811<br>KE     |
| Parts No.<br>(JJB)      | F9811<br>KH                                     | F9811<br>KJ    | F9811<br>KK    | F9811<br>KL    | F9811<br>KM    | F9811<br>KN    | F9811<br>KP     |

Unit: mm (approx. in.)

| Process Connection Code | JSB: SMS 1145 Union (Open groove packing type) |                |                |                |                |                |                 |
|-------------------------|------------------------------------------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Size Code               | 025                                            | 032            | 040            | 050            | 065            | 080            | 100             |
| Size                    | 25<br>(1)                                      | 32<br>(1.25)   | 40<br>(1.5)    | 50<br>(2)      | 65<br>(2.5)    | 80<br>(3)      | 100<br>(4)      |
| øA                      | 70<br>(2.76)                                   | 70<br>(2.76)   | 83<br>(3.27)   | 96<br>(3.78)   | 114<br>(4.49)  | 126<br>(4.96)  | 152<br>(5.98)   |
| øB                      | 22.2<br>(0.87)                                 | 29.4<br>(1.16) | 34.6<br>(1.36) | 47.6<br>(1.87) | 59.5<br>(2.34) | 72.3<br>(2.85) | 97.0<br>(3.82)  |
| øC                      | 25.4<br>(1.00)                                 | 32.0<br>(1.26) | 38.1<br>(1.50) | 51.0<br>(2.01) | 63.5<br>(2.50) | 76.2<br>(3.00) | 102.5<br>(4.04) |
| ød                      | 22.5<br>(0.89)                                 | 29.6<br>(1.17) | 35.5<br>(1.40) | 48.5<br>(1.91) | 60.5<br>(2.38) | 72.9<br>(2.87) | 97.6<br>(3.84)  |
| øE                      | 32.0<br>(1.26)                                 | 40.0<br>(1.57) | 48.0<br>(1.89) | 61.0<br>(2.40) | 73.5<br>(2.89) | 86.0<br>(3.39) | 120.0<br>(4.72) |
| F                       | 11<br>(0.43)                                   | 13<br>(0.51)   | 15<br>(0.59)   | 15<br>(0.59)   | 19<br>(0.75)   | 19<br>(0.75)   | 30<br>(1.18)    |
| G                       | RD40<br>x 1/6"                                 | RD48<br>x 1/6" | RD60<br>x 1/6" | RD70<br>x 1/6" | RD85<br>x 1/6" | RD98<br>x 1/6" | RD132<br>x 1/6" |
| H                       | 50<br>(1.97)                                   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 50<br>(1.97)   | 65<br>(2.56)    |
| Parts No.<br>(JSB)      | F9811<br>LK                                    | F9811<br>LL    | F9811<br>LM    | F9811<br>LN    | F9811<br>LP    | F9811<br>LQ    | F9811<br>LR     |

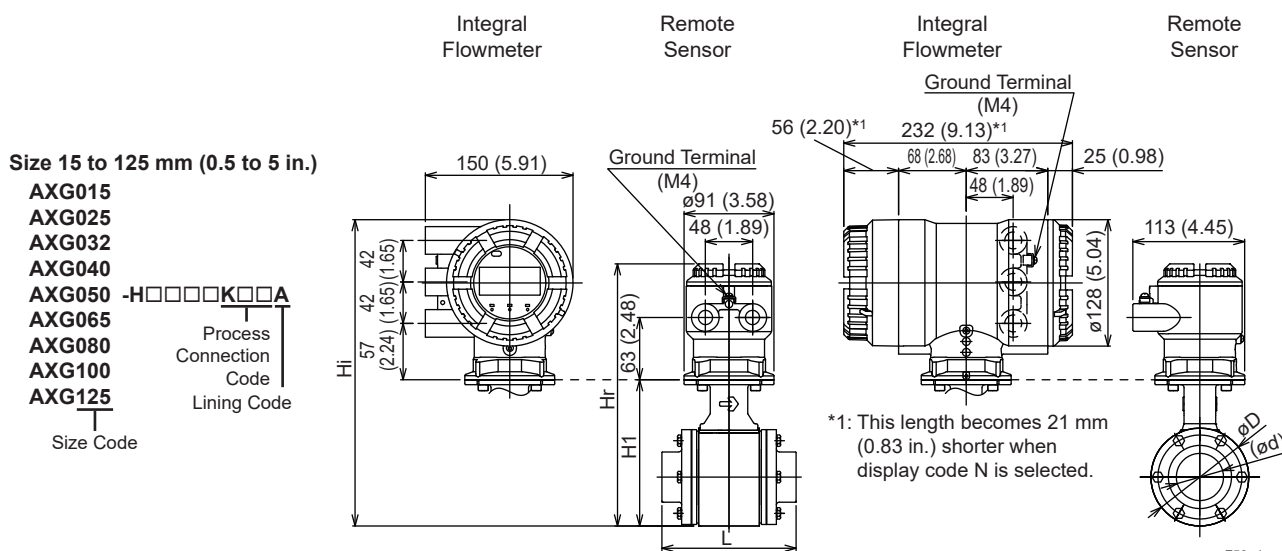


F52.ai

## Union Connection Adapter

• Hygienic Use (Butt Weld Joint, PFA Lining)

Unit: mm (approx. in.)



Unit: mm (approx. in.)

| Model              | Process Connection Code            |    | KDB: DIN 11850 Piping Butt Weld Joint<br>KKB: ISO 2037 Piping Butt Weld Joint<br>KJA, KJB: JIS G3447 Piping Butt Weld Joint |                |                |                |                |                |                |                |                |
|--------------------|------------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|                    | Size Code                          |    | 015                                                                                                                         | 025            | 032            | 040            | 050            | 065            | 080            | 100            | 125            |
|                    | Size                               |    | 15<br>(0.5)                                                                                                                 | 25<br>(1)      | 32<br>(1.25)   | 40<br>(1.5)    | 50<br>(2)      | 65<br>(2.5)    | 80<br>(3)      | 100<br>(4)     | 125<br>(5)     |
|                    | Lining Code                        |    | A                                                                                                                           | A              | A              | A              | A              | A              | A              | A              | A              |
| Remote Sensor      | Lay Length                         | L  | 126<br>(4.96)                                                                                                               | 126<br>(4.96)  | 126<br>(4.96)  | 126<br>(4.96)  | 136<br>(5.35)  | 156<br>(6.14)  | 176<br>(6.93)  | 206<br>(8.11)  | 276<br>(10.87) |
|                    | Outer Diameter                     | øD | 73<br>(2.87)                                                                                                                | 73<br>(2.87)   | 73<br>(2.87)   | 86<br>(3.39)   | 99<br>(3.90)   | 117<br>(4.61)  | 129<br>(5.08)  | 155<br>(6.10)  | 183<br>(7.20)  |
| Integral Flowmeter | Height                             | H1 | 116<br>(4.57)                                                                                                               | 116<br>(4.57)  | 116<br>(4.57)  | 129<br>(5.08)  | 149<br>(5.87)  | 166<br>(6.54)  | 176<br>(6.93)  | 202<br>(7.95)  | 230<br>(9.06)  |
| Remote Sensor      | Maximum Height                     | Hr | 233<br>(9.17)                                                                                                               | 233<br>(9.17)  | 233<br>(9.17)  | 246<br>(9.69)  | 266<br>(10.47) | 283<br>(11.14) | 293<br>(11.54) | 319<br>(12.56) | 347<br>(13.66) |
|                    | Approx. Weight, Unit: kg (lb) (*1) |    | 3.0<br>(6.6)                                                                                                                | 2.7<br>(6.0)   | 2.9<br>(6.4)   | 3.2<br>(7.1)   | 3.9<br>(8.6)   | 5.1<br>(11.2)  | 5.9<br>(13.0)  | 8.1<br>(17.9)  | 12.3<br>(27.1) |
| Integral Flowmeter | Maximum Height                     | Hi | 278<br>(10.94)                                                                                                              | 278<br>(10.94) | 278<br>(10.94) | 291<br>(11.46) | 311<br>(12.24) | 328<br>(12.91) | 338<br>(13.31) | 364<br>(14.33) | 392<br>(15.43) |
|                    | Approx. Weight, Unit: kg (lb)      |    | 5.5<br>(12.1)                                                                                                               | 5.2<br>(11.5)  | 5.4<br>(11.9)  | 5.7<br>(12.6)  | 6.5<br>(14.3)  | 7.6<br>(16.8)  | 8.5<br>(18.7)  | 10.7<br>(23.6) | 14.9<br>(32.9) |

\*1: When optional code DHC is selected, waterproof glands with union joints and cables are attached.  
When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.

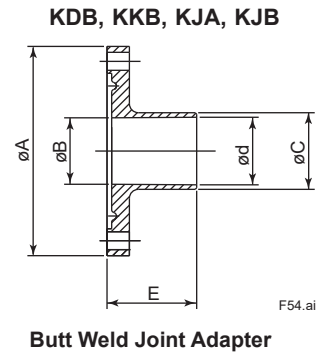
Additional weight for FM (USA) Flameproof (FF2, FJ2, FT2) and FM (Canada) Flameproof (CF2, CJ2, CT2)

| Size                                     | 15            | 25            | 32            | 40            | 50            | 65            | 80            | 100           | 125           |
|------------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Lining Code                              | A             | A             | A             | A             | A             | A             | A             | A             | A             |
| Hygienic                                 | 0.1<br>(0.22) | 0.1<br>(0.22) | 0.1<br>(0.22) | 0.2<br>(0.44) | 0.3<br>(0.66) | 0.5<br>(1.10) | 0.8<br>(1.76) | 1.3<br>(2.87) | 1.8<br>(3.97) |
| Approx. Additional Weight, Unit: kg (lb) |               |               |               |               |               |               |               |               |               |

## ○ Butt Weld Joint Adapter

Unit: mm (approx. in.)

| Process Connection Code | KDB: DIN 11850 Piping Butt Weld Joint |                |                |                |                |                |                |                 |                 |
|-------------------------|---------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|
| Size Code               | 015                                   | 025            | 032            | 040            | 050            | 065            | 080            | 100             | 125             |
| Size                    | 15                                    | 25             | 32             | 40             | 50             | 65             | 80             | 100             | 125             |
|                         | (0.5)                                 | (1)            | (1.25)         | (1.5)          | (2)            | (2.5)          | (3)            | (4)             | (5)             |
| øA                      | 70<br>(2.76)                          | 70<br>(2.76)   | 70<br>(2.76)   | 83<br>(3.27)   | 96<br>(3.78)   | 114<br>(4.49)  | 126<br>(4.96)  | 152<br>(5.98)   | 180<br>(7.09)   |
| øB                      | 16.0<br>(0.63)                        | 22.2<br>(0.87) | 29.4<br>(1.16) | 34.6<br>(1.36) | 47.6<br>(1.87) | 59.5<br>(2.34) | 72.3<br>(2.85) | 97.0<br>(3.82)  | 121.0<br>(4.76) |
| øC                      | 20.0<br>(0.79)                        | 30.0<br>(1.18) | 36.0<br>(1.42) | 42.0<br>(1.65) | 54.0<br>(2.13) | 70.0<br>(2.76) | 85.0<br>(3.35) | 104.0<br>(4.09) | 129.0<br>(5.08) |
| ød                      | 16.0<br>(0.63)                        | 26.0<br>(1.02) | 32.0<br>(1.26) | 38.0<br>(1.50) | 50.0<br>(1.97) | 66.0<br>(2.60) | 81.0<br>(3.19) | 100.0<br>(3.94) | 125.0<br>(4.92) |
| E                       | 30<br>(1.18)                          | 30<br>(1.18)   | 30<br>(1.18)   | 30<br>(1.18)   | 30<br>(1.18)   | 30<br>(1.18)   | 30<br>(1.18)   | 30<br>(1.18)    | 40<br>(1.57)    |
| Parts No. (KDB)         | F9811 ND                              | F9811 NE       | F9811 NF       | F9811 NG       | F9811 NH       | F9811 NJ       | F9811 NK       | F9811 NL        | F9870 ZP        |



Unit: mm (approx. in.)

| Process Connection Code | KKB: ISO 2037 Piping Butt Weld Joint |                |                |                |                |                |                |                 |                 |
|-------------------------|--------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|
| Size Code               | 015                                  | 025            | 032            | 040            | 050            | 065            | 080            | 100             | 125             |
| Size                    | 15                                   | 25             | 32             | 40             | 50             | 65             | 80             | 100             | 125             |
|                         | (0.5)                                | (1)            | (1.25)         | (1.5)          | (2)            | (2.5)          | (3)            | (4)             | (5)             |
| øA                      | 70<br>(2.76)                         | 70<br>(2.76)   | 70<br>(2.76)   | 83<br>(3.27)   | 96<br>(3.78)   | 114<br>(4.49)  | 126<br>(4.96)  | 152<br>(5.98)   | 180<br>(7.09)   |
| øB                      | 16.0<br>(0.63)                       | 22.2<br>(0.87) | 29.4<br>(1.16) | 34.6<br>(1.36) | 47.6<br>(1.87) | 59.5<br>(2.34) | 72.3<br>(2.85) | 97.0<br>(3.82)  | 121.0<br>(4.76) |
| øC                      | 18.0<br>(0.71)                       | 25.6<br>(1.01) | 34.3<br>(1.35) | 38.6<br>(1.52) | 51.6<br>(2.03) | 64.1<br>(2.52) | 76.7<br>(3.02) | 102.5<br>(4.04) | 141.2<br>(5.56) |
| ød                      | 15.2<br>(0.60)                       | 22.6<br>(0.89) | 31.3<br>(1.23) | 35.6<br>(1.40) | 48.6<br>(1.91) | 60.3<br>(2.37) | 72.9<br>(2.87) | 97.6<br>(3.84)  | 135.7<br>(5.34) |
| E                       | 30<br>(1.18)                         | 30<br>(1.18)   | 30<br>(1.18)   | 30<br>(1.18)   | 30<br>(1.18)   | 30<br>(1.18)   | 30<br>(1.18)   | 30<br>(1.18)    | 40<br>(1.57)    |
| Parts No. (KKB)         | F9811 NN                             | F9811 NP       | F9811 NQ       | F9811 NR       | F9811 NS       | F9811 NT       | F9811 NU       | F9811 NV        | F9870 ZQ        |

Unit: mm (approx. in.)

| Process Connection Code | KJA, KJB: JIS G3447 Piping Butt Weld Joint |                |                |                |                |                |                |                 |                 |
|-------------------------|--------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|-----------------|
| Size Code               | 015                                        | 025            | 032            | 040            | 050            | 065            | 080            | 100             | 125             |
| Size                    | 15                                         | 25             | 32             | 40             | 50             | 65             | 80             | 100             | 125             |
|                         | (0.5)                                      | (1)            | (1.25)         | (1.5)          | (2)            | (2.5)          | (3)            | (4)             | (5)             |
| øA                      | 70<br>(2.76)                               | 70<br>(2.76)   | 70<br>(2.76)   | 83<br>(3.27)   | 96<br>(3.78)   | 114<br>(4.49)  | 126<br>(4.96)  | 152<br>(5.98)   | 180<br>(7.09)   |
| øB                      | 16.0<br>(0.63)                             | 22.2<br>(0.87) | 29.4<br>(1.16) | 34.6<br>(1.36) | 47.6<br>(1.87) | 59.5<br>(2.34) | 72.3<br>(2.85) | 97.0<br>(3.82)  | 121.0<br>(4.76) |
| øC                      | 21.7<br>(0.85)                             | 25.4<br>(1.00) | 31.8<br>(1.25) | 38.1<br>(1.50) | 50.8<br>(2.00) | 63.5<br>(2.50) | 76.3<br>(3.00) | 101.6<br>(4.00) | 139.8<br>(5.50) |
| ød                      | 17.5<br>(0.69)                             | 23.0<br>(0.91) | 29.4<br>(1.16) | 35.7<br>(1.41) | 47.8<br>(1.88) | 59.5<br>(2.34) | 72.3<br>(2.85) | 97.6<br>(3.84)  | 133.8<br>(5.27) |
| E                       | 30<br>(1.18)                               | 30<br>(1.18)   | 30<br>(1.18)   | 30<br>(1.18)   | 30<br>(1.18)   | 30<br>(1.18)   | 30<br>(1.18)   | 30<br>(1.18)    | 40<br>(1.57)    |
| Parts No. (KJA)         | F9811 MA                                   | F9811 MB       | F9811 MC       | F9811 MD       | F9811 ME       | F9811 MF       | F9811 MG       | F9811 MH        | F9870 ZL        |
| Parts No. (KJB)         | F9811 MK                                   | F9811 ML       | F9811 MM       | F9811 MN       | F9811 MP       | F9811 MQ       | F9811 MR       | F9811 MS        | F9870 ZM        |

- **Replacement Model Wafer (PFA Lining)**

Unit: mm (approx. in.)

**Size 25 to 100 mm (1 to 4 in.)**

**AXG025**

**AXG040**

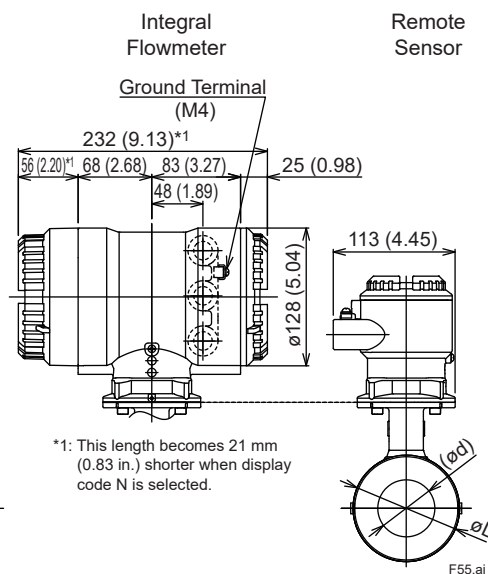
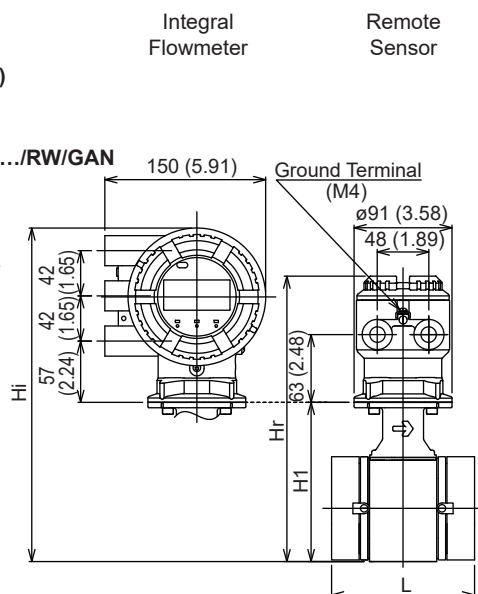
**AXG050 -□□□□□A□□A.../RW/GAN**

**AXG080**

## AXG100

Size Code

| Process<br>Connection<br>Code | Lining Code |
|-------------------------------|-------------|
| 1                             | 1           |
| 2                             | 2           |
| 3                             | 3           |
| 4                             | 4           |
| 5                             | 5           |
| 6                             | 6           |
| 7                             | 7           |
| 8                             | 8           |
| 9                             | 9           |
| 10                            | 10          |
| 11                            | 11          |
| 12                            | 12          |
| 13                            | 13          |
| 14                            | 14          |
| 15                            | 15          |
| 16                            | 16          |
| 17                            | 17          |
| 18                            | 18          |
| 19                            | 19          |
| 20                            | 20          |
| 21                            | 21          |
| 22                            | 22          |
| 23                            | 23          |
| 24                            | 24          |
| 25                            | 25          |
| 26                            | 26          |
| 27                            | 27          |
| 28                            | 28          |
| 29                            | 29          |
| 30                            | 30          |
| 31                            | 31          |
| 32                            | 32          |
| 33                            | 33          |
| 34                            | 34          |
| 35                            | 35          |
| 36                            | 36          |
| 37                            | 37          |
| 38                            | 38          |
| 39                            | 39          |
| 40                            | 40          |
| 41                            | 41          |
| 42                            | 42          |
| 43                            | 43          |
| 44                            | 44          |
| 45                            | 45          |
| 46                            | 46          |
| 47                            | 47          |
| 48                            | 48          |
| 49                            | 49          |
| 50                            | 50          |
| 51                            | 51          |
| 52                            | 52          |
| 53                            | 53          |
| 54                            | 54          |
| 55                            | 55          |
| 56                            | 56          |
| 57                            | 57          |
| 58                            | 58          |
| 59                            | 59          |
| 60                            | 60          |
| 61                            | 61          |
| 62                            | 62          |
| 63                            | 63          |
| 64                            | 64          |
| 65                            | 65          |
| 66                            | 66          |
| 67                            | 67          |
| 68                            | 68          |
| 69                            | 69          |
| 70                            | 70          |
| 71                            | 71          |
| 72                            | 72          |
| 73                            | 73          |
| 74                            | 74          |
| 75                            | 75          |
| 76                            | 76          |
| 77                            | 77          |
| 78                            | 78          |
| 79                            | 79          |
| 80                            | 80          |
| 81                            | 81          |
| 82                            | 82          |
| 83                            | 83          |
| 84                            | 84          |
| 85                            | 85          |
| 86                            | 86          |
| 87                            | 87          |
| 88                            | 88          |
| 89                            | 89          |
| 90                            | 90          |
| 91                            | 91          |
| 92                            | 92          |
| 93                            | 93          |
| 94                            | 94          |
| 95                            | 95          |
| 96                            | 96          |
| 97                            | 97          |
| 98                            | 98          |
| 99                            | 99          |
| 100                           | 100         |



\*1: This length becomes 21 mm (0.83 in.) shorter when display code N is selected.

F55.ai

**Size 150 to 200 mm (6 to 8 in.)**

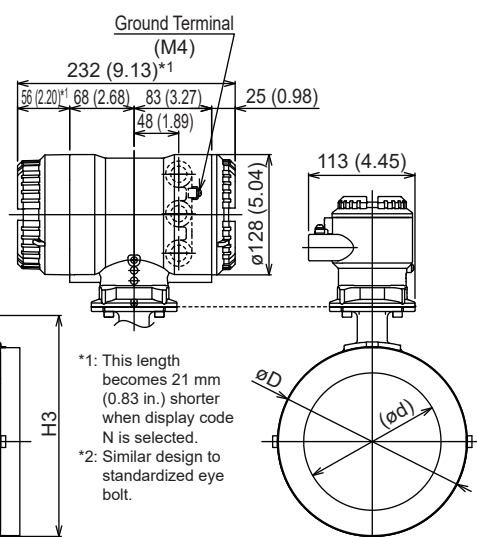
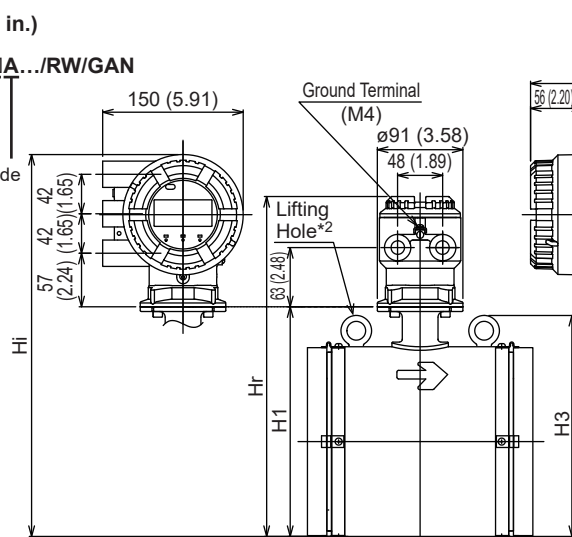
## AXG150

## AXG200

-□□□□□A□□A.../RW/GAN

Size Code

Process  
Connection  
Code



\*1: This length becomes 21 mm (0.83 in.) shorter when display code N is selected.

\*2: Similar design to standardized eye bolt.

F56.ai



Unit: mm (approx. in.)

| Model                                               | Process Connection Code                                               |    | AA1, AA2, AJ1, AJ2 |                |                |                |                 | AA1, AJ1        | AA2, AJ2        | AA1, AJ1        | AA2, AJ2        |
|-----------------------------------------------------|-----------------------------------------------------------------------|----|--------------------|----------------|----------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                                     |                                                                       |    | -                  | -              | -              | AG1            |                 | AG1             | -               | AG1             | -               |
|                                                     | Size Code                                                             |    | 025                | 040            | 050            | 080            | 100             | 150             | 150             | 200             | 200             |
|                                                     | Size                                                                  |    | 25<br>(1)          | 40<br>(1.5)    | 50<br>(2)      | 80<br>(3)      | 100<br>(4)      | 150<br>(6)      | 150<br>(6)      | 200<br>(8)      | 200<br>(8)      |
| Remote Sensor<br>Integral Flowmeter                 | Lining Code                                                           |    | A                  | A              | A              | A              | A               | A               | A               | A               | A               |
|                                                     | Lay Length (*1)<br>(Including The Thickness<br>Of The Grounding Ring) | L  | 93<br>(3.66)       | 106<br>(4.17)  | 120<br>(4.72)  | 160<br>(6.30)  | 180<br>(7.09)   | 230<br>(9.06)   | 230<br>(9.06)   | 300<br>(11.81)  | 300<br>(11.81)  |
|                                                     | Outer Diameter                                                        | øD | 68<br>(2.66)       | 86<br>(3.39)   | 99<br>(3.90)   | 129<br>(5.08)  | 155<br>(6.10)   | 202<br>(7.94)   | 202<br>(7.94)   | 252<br>(9.91)   | 252<br>(9.91)   |
|                                                     | Grounding Ring<br>Inner Diameter                                      | ød | 27<br>(1.06)       | 40<br>(1.57)   | 52<br>(2.05)   | 81<br>(3.19)   | 102<br>(4.02)   | 147.3<br>(5.80) | 147.3<br>(5.80) | 198.9<br>(7.83) | 198.9<br>(7.83) |
|                                                     | Height                                                                | H1 | 110<br>(4.33)      | 129<br>(5.08)  | 148<br>(5.83)  | 175<br>(6.89)  | 201<br>(7.91)   | 244<br>(9.62)   | 262<br>(10.31)  | 294<br>(11.59)  | 312<br>(12.28)  |
|                                                     | Height                                                                | H3 | -                  | -              | -              | -              | -               | 235<br>(9.26)   | 235<br>(9.26)   | 285<br>(11.22)  | 285<br>(11.22)  |
| Remote Sensor                                       | Maximum<br>Height                                                     | Hr | 227<br>(8.94)      | 246<br>(9.69)  | 265<br>(10.43) | 292<br>(11.50) | 318<br>(12.52)  | 362<br>(14.24)  | 380<br>(14.96)  | 412<br>(16.21)  | 430<br>(16.93)  |
|                                                     | Approx. Weight,<br>Unit: kg (lb) (*2)                                 |    | 2.9<br>(6.39)      | 3.8<br>(8.38)  | 4.9<br>(10.80) | 7.0<br>(15.43) | 8.8<br>(19.40)  | 19<br>(41.89)   | 19<br>(41.89)   | 30<br>(66.14)   | 30<br>(66.14)   |
| Integral Flowmeter                                  | Maximum<br>Height                                                     | Hi | 272<br>(10.71)     | 291<br>(11.46) | 310<br>(12.20) | 337<br>(13.27) | 363<br>(14.29)  | 406<br>(16.00)  | 424<br>(16.69)  | 456<br>(17.97)  | 474<br>(18.66)  |
|                                                     | Approx. Weight,<br>Unit: kg (lb)                                      |    | 5.5<br>(12.13)     | 6.3<br>(13.89) | 7.4<br>(16.31) | 9.6<br>(21.16) | 11.3<br>(24.91) | 21<br>(46.30)   | 21<br>(46.30)   | 33<br>(72.75)   | 33<br>(72.75)   |
| Gaskets (BSC, BSF) (*1)                             |                                                                       |    | +6<br>(+0.24)      | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)  | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   | +6<br>(+0.24)   |
| Gaskets (GA, GC, GD) (*1)                           |                                                                       |    | +2<br>(0.08)       | +2<br>(0.08)   | +2<br>(0.08)   | +2<br>(0.08)   | +2<br>(0.08)    | +3<br>(0.12)    | +3<br>(0.12)    | +3<br>(0.12)    | +3<br>(0.12)    |
| Gaskets (GA, GC, GD) and<br>Gaskets (BSC, BSF) (*1) |                                                                       |    | +8<br>(0.31)       | +8<br>(0.31)   | +8<br>(0.31)   | +8<br>(0.31)   | +8<br>(0.31)    | +9<br>(0.35)    | +9<br>(0.35)    | +9<br>(0.35)    | +9<br>(0.35)    |

\*1: Add the value above (which is the total of both ends) to the lay length "L" when selecting optional gaskets.

\*2: When submersible use or optional code DHC is selected, waterproof glands with union joints and cables are attached.  
When the cable length is 30-meters, add 9.5 kg (20.9 lb) to the weight in the table.**Additional weight for FM (USA) Flameproof (FF2, FJ2, FT2)**

| Size                                     | 25     | 40     | 50     | 80     | 100    | 150    | 200    |
|------------------------------------------|--------|--------|--------|--------|--------|--------|--------|
| Lining Code                              | A      | A      | A      | A      | A      | A      | A      |
| Wafer                                    | 0.1    | 0.2    | 0.3    | 0.8    | 1.3    | 2      | 4      |
| Approx. Additional Weight, Unit: kg (lb) | (0.22) | (0.44) | (0.66) | (1.76) | (2.87) | (4.41) | (8.82) |

Unit: mm (approx. in.)

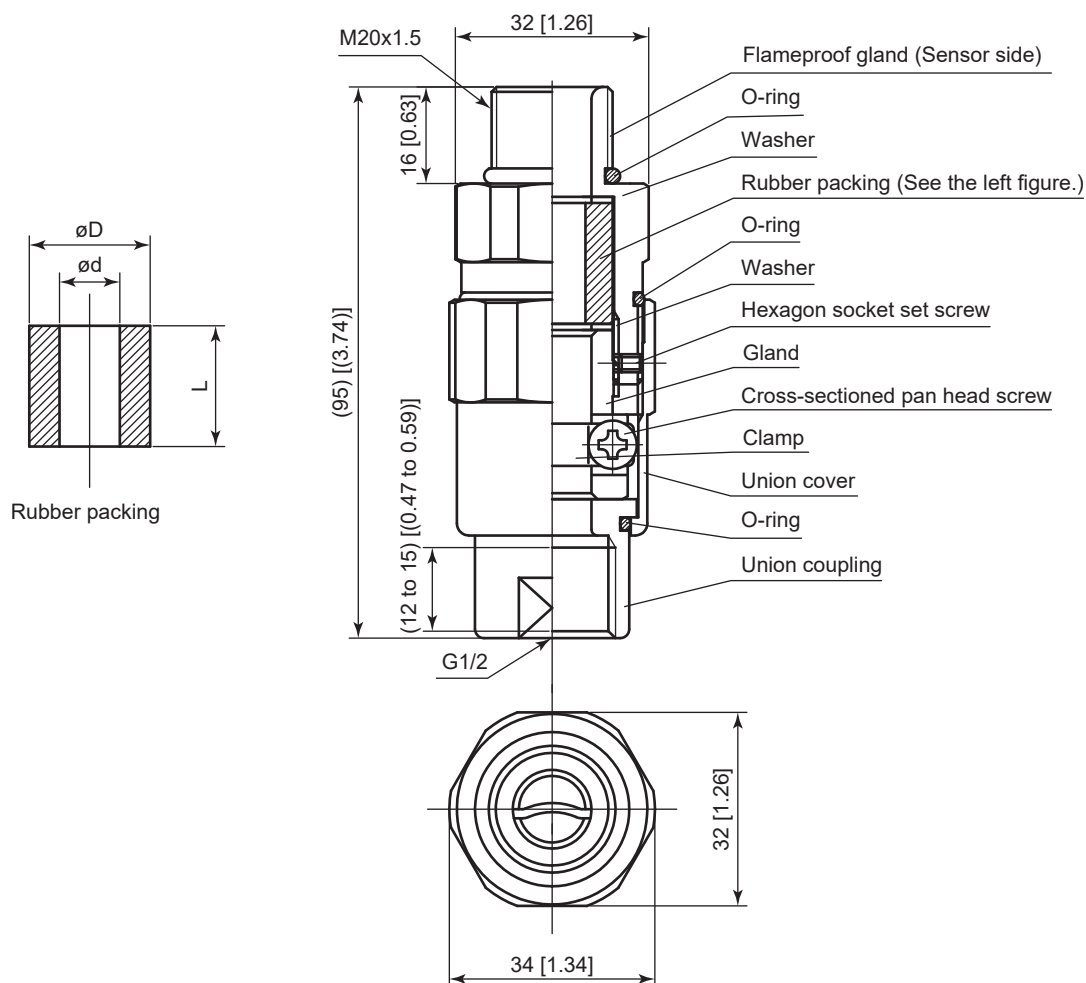
| L<br>[m]  | Limit Deviation |       |
|-----------|-----------------|-------|
|           | Lower           | Upper |
| 1 to 9    | 0               | +2 %  |
| 10 to 200 | 0               | +1 %  |

Unit: mm (approx. in.)

| L<br>[m]   | Limit Deviation |       |
|------------|-----------------|-------|
|            | Lower           | Upper |
| 1 to 9     | 0               | +4 %  |
| 10 to 100  | 0               | +2 %  |
| 101 to 200 | 0               | +1 %  |

#### (4) Flameproof Packing Adapter (Optional code V5#: #=1 to 5)

Unit: mm ([ ]: approx.inch)



Unit: mm ([ ]: approx.inch)

| Dimensions of rubber packing (before compression) |                  |                  | Identification mark of rubber packing | Cable outer diameter |                    |
|---------------------------------------------------|------------------|------------------|---------------------------------------|----------------------|--------------------|
| L                                                 | $\phi D$         | $\phi d$         |                                       | Min.                 | Max.               |
| 20 [0.79]                                         | $\phi 20$ [0.79] | $\phi 10$ [0.39] | $\phi 10$ [0.39]                      | $\phi 8.0$ [0.31]    | $\phi 10.0$ [0.39] |
| 20 [0.79]                                         | $\phi 20$ [0.79] | $\phi 12$ [0.47] | $\phi 12$ [0.47]                      | $\phi 10.0$ [0.39]   | $\phi 12.0$ [0.47] |

F58.ai

## (5) Limit Deviation

Unless otherwise specified, size limit deviation in the drawings are as shown in the following table.

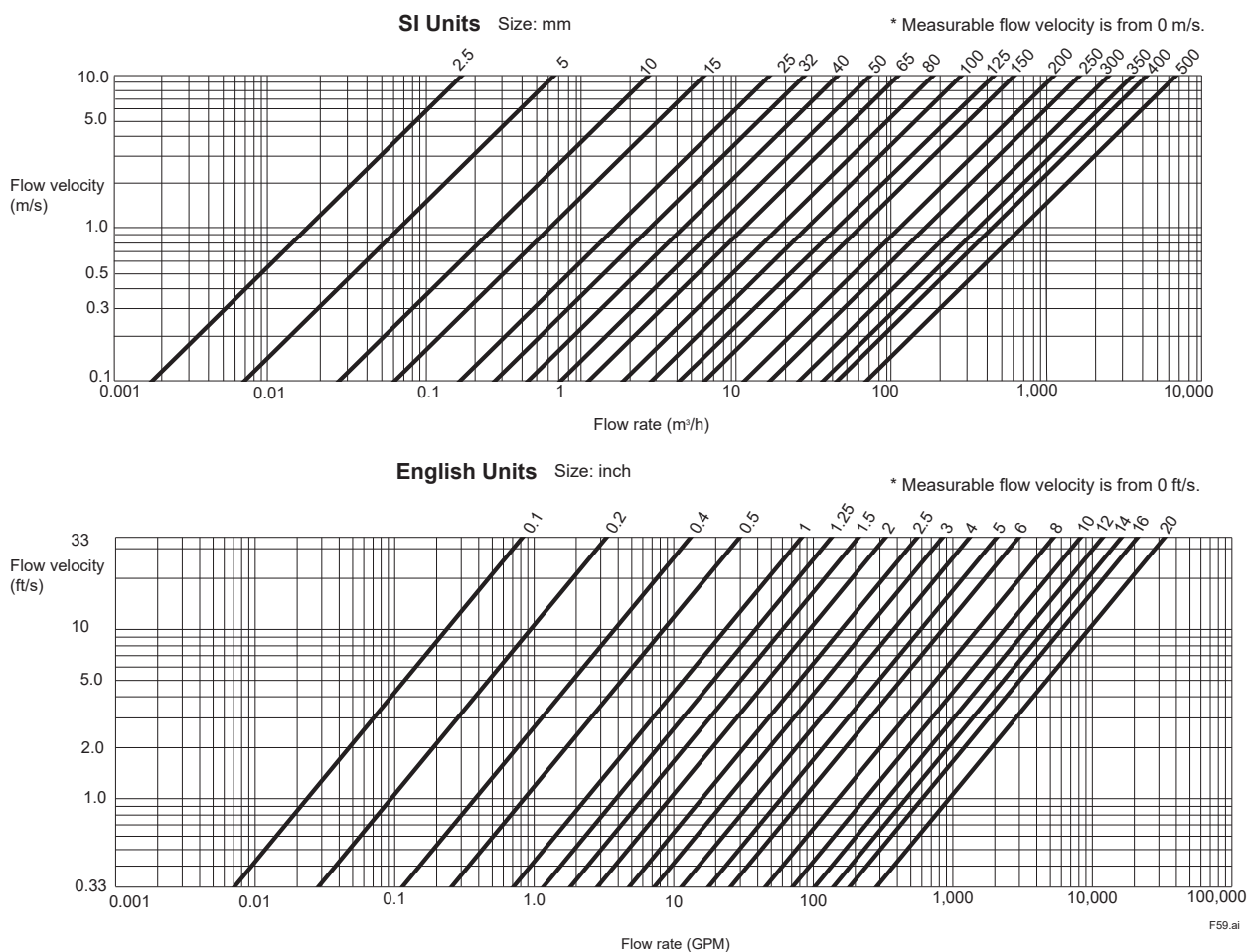
### General limit deviation in the dimensional outline drawing.

Unit: mm (approx. in.)

| Category of basic size |                | Limit deviation       | Category of basic size |                | Limit deviation       |
|------------------------|----------------|-----------------------|------------------------|----------------|-----------------------|
| Above                  | Equal or below |                       | Above                  | Equal or below |                       |
|                        | 3 (0.12)       | $\pm 0.7 (\pm 0.03)$  | 500 (19.69)            | 630 (24.80)    | $\pm 5.5 (\pm 0.22)$  |
| 3 (0.12)               | 6 (0.24)       | $\pm 0.9 (\pm 0.04)$  | 630 (24.80)            | 800 (31.50)    | $\pm 6.25 (\pm 0.25)$ |
| 6 (0.24)               | 10 (0.39)      | $\pm 1.1 (\pm 0.04)$  | 800 (31.50)            | 1000 (39.37)   | $\pm 7.0 (\pm 0.28)$  |
| 10 (0.39)              | 18 (0.71)      | $\pm 1.35 (\pm 0.05)$ | 1000 (39.37)           | 1250 (49.21)   | $\pm 8.25 (\pm 0.32)$ |
| 18 (0.71)              | 30 (1.18)      | $\pm 1.65 (\pm 0.06)$ | 1250 (49.21)           | 1600 (62.99)   | $\pm 9.75 (\pm 0.38)$ |
| 30 (1.18)              | 50 (1.97)      | $\pm 1.95 (\pm 0.08)$ | 1600 (62.99)           | 2000 (78.74)   | $\pm 11.5 (\pm 0.45)$ |
| 50 (1.97)              | 80 (3.15)      | $\pm 2.3 (\pm 0.09)$  | 2000 (78.74)           | 2500 (98.43)   | $\pm 14.0 (\pm 0.55)$ |
| 80 (3.15)              | 120 (4.72)     | $\pm 2.7 (\pm 0.11)$  | 2500 (98.43)           | 3150 (124.02)  | $\pm 16.5 (\pm 0.65)$ |
| 120 (4.72)             | 180 (7.09)     | $\pm 3.15 (\pm 0.12)$ |                        |                |                       |
| 180 (7.09)             | 250 (9.84)     | $\pm 3.6 (\pm 0.14)$  |                        |                |                       |
| 250 (9.84)             | 315 (12.40)    | $\pm 4.05 (\pm 0.16)$ |                        |                |                       |
| 315 (12.40)            | 400 (15.75)    | $\pm 4.45 (\pm 0.18)$ |                        |                |                       |
| 400 (15.75)            | 500 (19.69)    | $\pm 4.85 (\pm 0.19)$ |                        |                |                       |

Remarks: The numeric is based on criteria of standard tolerance grade IT18 in JIS B 0401-1.

## ■ SIZING DATA



## ■ ORDERING INFORMATION

**Note 1:** When ordering, the span flow rate, unit, output pulse weight, and totalizer display pulse weight can be specified. These parameters will be set before shipment. In the case of remote type, specify combination information of sensor and transmitter. These parameters will be set in the combined transmitter. When ordering of a remote sensor alone or a remote transmitter alone, these parameters cannot be specified. Custom configuration request is necessary for setting these parameters out of regular setting range.

**Note 2:** Some options, if ordered, require the relevant specifications to be input when ordering.

**Note 3:** For AXG4A FOUNDATION Fieldbus type remote transmitter, read general specifications (GS 01E21F02-01EN). For AXG4A EtherNet/IP type remote transmitter, read general specifications (GS 01E21F02-02EN). For AXG4A PROFIBUS PA type remote transmitter, read general specifications (GS 01E21F02-03EN). For AXG1A remote transmitter, read general specifications (GS 01E22C01-01EN). For AXFA11G remote transmitter, read general specifications (GS 01E20C01-01E). The contents and conditions of ordering informations are different.

1. Model, Suffix Code and Optional Code
2. Combination

This is necessary when ordering combination of remote sensor and transmitter. Specify the combination of a sensor and a transmitter one by one by their model name, specification code, or Tag No. etc. On the nameplate of each sensor and transmitter, the serial number of the specified combination partner is described when shipped.

3. Tag No.

The Tag No. can be specified by a combination of the characters shown in the following table.

|                       |                                                                              |              |   |                    |   |                     |
|-----------------------|------------------------------------------------------------------------------|--------------|---|--------------------|---|---------------------|
| Symbol                | -                                                                            | Hyphen-minus | . | Period             |   | Space (*1)          |
|                       | _                                                                            | Underscore   | = | Equal sign         | + | Plus sign           |
|                       | /                                                                            | Slash        | ( | Left round bracket | ) | Right round bracket |
|                       | :                                                                            | Colon        | # | Hash mark          | ! | Exclamation mark    |
| Number                | 0, 1, 2, 3, 4, 5, 6, 7, 8, 9                                                 |              |   |                    |   |                     |
| Uppercase letter      | A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z |              |   |                    |   |                     |
| Lowercase letter (*2) | a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, q, r, s, t, u, v, w, x, y, z |              |   |                    |   |                     |

\*1: Leading and trailing space characters are deleted and left-justified, then printed on the name plate/ tag plate and written to the amplifier memory.

\*2: When Communication and I/O code J# (HART communication) is specified, the lowercase letters are converted to uppercase and written to the parameter "Tag". For parameter "Long Tag", they are written in lowercase as is.

Tag No. can be "described on the nameplate and stainless steel tag plate (optional code SCT)" and "set to the memory in the transmitter". Refer to the table below for the item to be specified.

| Described/ Setting Destination                                  | Items to be Specified                         | Maximum Number of Characters                                                               |
|-----------------------------------------------------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------|
| • Name plate<br>• Stainless steel tag plate (Optional code SCT) | TAG NO                                        | 30 (*)                                                                                     |
| • Amplifier memory (Integral flowmeter and remote transmitter)  |                                               | 30 (*)<br>There are restrictions on the write destination parameters. Read the next table. |
|                                                                 | SOFTWARE TAG (Overrides "TAG NO" designation) | Read the next table                                                                        |

\*: For AXFA11G remote transmitter, the maximum number of characters for "TAG NO" is 16.

For integral flowmeter and remote transmitter, the characters specified by "TAG NO" are also written to the memory (parameter) in the amplifier. If it is necessary to specify a different tag number only for the amplifier memory, specify "SOFTWARE TAG". It is also possible to specify only "SOFTWARE TAG". Names of the parameter to be written and the maximum number of characters are as shown in the table below. If the number of specified characters exceed the maximum number, the characters from the beginning up to the maximum number is written.

| Tag No. in Amplifier Memory |                     |                |                              |
|-----------------------------|---------------------|----------------|------------------------------|
| Items to be Specified       | Communication       | Parameter Name | Maximum Number of Characters |
| TAG NO or SOFTWARE TAG      | BRAIN               | TAG NO         | 16                           |
|                             | HART                | Long Tag       | 32 (*)                       |
|                             |                     | Tag            | 8                            |
|                             | Modbus              | Long Tag       | 32                           |
|                             |                     | Tag            | 16                           |
|                             | FOUNDATION Fieldbus | PDTag          | 32                           |
|                             | PROFIBUS PA         | PB.TAG_DESC    | 32                           |
|                             | EtherNet/IP         | Long Tag       | 32                           |
|                             |                     | Tag            | 16                           |

\*: For AXFA11G remote transmitter, the maximum number of characters for "TAG NO" is 16. And as its HART protocol is HART 5, the "Long Tag" is not available.

4. Range and Unit of Flowrate Span

Specify the range of span flow rate in the range of 0.0001 to 999999000000.0000 (the number of significant digits in operation is the upper six digits). Up to four digits below the decimal point that can be specified (by 0.0001 unit). However, if the transmitter is BRAIN communication type, specify so that it is within the range of 0.0001 to 32000, it is up to four digits below the decimal point when it is included, and the numerical value excluding the decimal point is within 32000.

Specify units in the unit described in "Flow Calculation Function". This span flow rate is set to the positive first range. Be sure to specify the range and unit of flowrate span when selecting the Mass Unit Setting (optional code MU), or Specified Span Five-point Calibration (optional code SC). When selecting the NAMUR NE21 (optional code E21), specify the span flow rate of 0.5 m/s or more in terms of flow velocity.

Unless specified, it is set as the following when shipped.

- Integral Flowmeter, or combined with AXG4A or AXG1A Remote Transmitter span flow rate (unit  $\text{m}^3/\text{h}$ ) equivalent to flow velocity 1 m/s
- Combined with AXFA11 Remote Transmitter flow velocity 1 m/s

The measurement flow range (minimum and maximum of span flow rate) is shown below (in the case of flow rate unit  $\text{m}^3/\text{h}$  and GPM). Specify the span flow within this range. The range specifying different unit must also fall into the same flow rate (flow velocity) range after conversion.

### Measurable Flow Rate Range

#### (1) Integral Flowmeter, or combined with AXG4A Remote Transmitter

SI Units (Size: mm, Flow rate:  $\text{m}^3/\text{h}$ )

| Size (mm) | 0 to Min. Span Flow Rate<br>$\text{m}^3/\text{h}$ (0.1 m/s) | 0 to Min. Span Flow Rate<br>$\text{m}^3/\text{h}$ (0.5 m/s) | 0 to Max. Span Flow Rate<br>$\text{m}^3/\text{h}$ (10 m/s) |
|-----------|-------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------|
| 2.5       | 0 to 0.0018                                                 | 0 to 0.0089                                                 | 0 to 0.1767                                                |
| 5         | 0 to 0.0071                                                 | 0 to 0.0354                                                 | 0 to 0.7068                                                |
| 10        | 0 to 0.0283                                                 | 0 to 0.1414                                                 | 0 to 2.8274                                                |
| 15        | 0 to 0.0637                                                 | 0 to 0.3181                                                 | 0 to 6.3617                                                |
| 25        | 0 to 0.1768                                                 | 0 to 0.8836                                                 | 0 to 17.6714                                               |
| 32        | 0 to 0.2896                                                 | 0 to 1.4477                                                 | 0 to 28.9529                                               |
| 40        | 0 to 0.4524                                                 | 0 to 2.2620                                                 | 0 to 45.2389                                               |
| 50        | 0 to 0.7069                                                 | 0 to 3.5343                                                 | 0 to 70.6858                                               |
| 65        | 0 to 1.1946                                                 | 0 to 5.9730                                                 | 0 to 119.459                                               |
| 80        | 0 to 1.8096                                                 | 0 to 9.0478                                                 | 0 to 180.955                                               |
| 100       | 0 to 2.8275                                                 | 0 to 14.1372                                                | 0 to 282.743                                               |
| 125       | 0 to 4.4179                                                 | 0 to 22.0894                                                | 0 to 441.786                                               |
| 150       | 0 to 6.3618                                                 | 0 to 31.8087                                                | 0 to 636.172                                               |
| 200       | 0 to 11.3098                                                | 0 to 56.5487                                                | 0 to 1130.97                                               |
| 250       | 0 to 17.6715                                                | 0 to 88.3573                                                | 0 to 1767.14                                               |
| 300       | 0 to 25.4470                                                | 0 to 127.235                                                | 0 to 2544.69                                               |
| 350       | 0 to 34.6361                                                | 0 to 173.181                                                | 0 to 3463.60                                               |
| 400       | 0 to 45.2390                                                | 0 to 226.195                                                | 0 to 4523.89                                               |

English Units (Size: in., Flow rate: GPM)

| Size (in.) | 0 to Min. Span Flow Rate<br>GPM (0.33 ft/s) | 0 to Min. Span Flow Rate<br>GPM (1.64 ft/s) | 0 to Max. Span Flow Rate<br>GPM (33 ft/s) |
|------------|---------------------------------------------|---------------------------------------------|-------------------------------------------|
| 0.1        | 0 to 0.0078                                 | 0 to 0.0389                                 | 0 to 0.7780                               |
| 0.2        | 0 to 0.0312                                 | 0 to 0.1557                                 | 0 to 3.1122                               |
| 0.4        | 0 to 0.1245                                 | 0 to 0.6225                                 | 0 to 12.4488                              |
| 0.5        | 0 to 0.2801                                 | 0 to 1.4005                                 | 0 to 28.0098                              |
| 1          | 0 to 0.7781                                 | 0 to 3.8903                                 | 0 to 77.8050                              |
| 1.25       | 0 to 1.2748                                 | 0 to 6.3738                                 | 0 to 127.475                              |
| 1.5        | 0 to 1.9919                                 | 0 to 9.9591                                 | 0 to 199.181                              |
| 2          | 0 to 3.1123                                 | 0 to 15.5611                                | 0 to 311.220                              |
| 2.5        | 0 to 5.2597                                 | 0 to 26.2982                                | 0 to 525.962                              |
| 3          | 0 to 7.9673                                 | 0 to 39.8363                                | 0 to 796.724                              |
| 4          | 0 to 12.4489                                | 0 to 62.2441                                | 0 to 1244.88                              |
| 5          | 0 to 19.4513                                | 0 to 97.2564                                | 0 to 1945.12                              |
| 6          | 0 to 28.0099                                | 0 to 140.049                                | 0 to 2800.98                              |
| 8          | 0 to 49.7953                                | 0 to 248.977                                | 0 to 4979.52                              |
| 10         | 0 to 77.8051                                | 0 to 389.026                                | 0 to 7780.5                               |
| 12         | 0 to 112.040                                | 0 to 560.197                                | 0 to 11203.9                              |
| 14         | 0 to 152.498                                | 0 to 762.490                                | 0 to 15249.7                              |
| 16         | 0 to 199.182                                | 0 to 995.906                                | 0 to 19918.1                              |

#### (2) Combined with AXG1A Remote Transmitter

SI Units (Size: mm, Flow rate:  $\text{m}^3/\text{h}$ )

| Size (mm) | 0 to Min. Span Flow Rate<br>$\text{m}^3/\text{h}$ (0.1 m/s) | 0 to Min. Span Flow Rate<br>$\text{m}^3/\text{h}$ (0.5 m/s) | 0 to Max. Span Flow Rate<br>$\text{m}^3/\text{h}$ (10 m/s) |
|-----------|-------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------|
| 2.5       | 0 to 0.0018                                                 | 0 to 0.0089                                                 | 0 to 0.1767                                                |
| 5         | 0 to 0.0071                                                 | 0 to 0.0354                                                 | 0 to 0.7068                                                |
| 10        | 0 to 0.0283                                                 | 0 to 0.1414                                                 | 0 to 2.8274                                                |
| 15        | 0 to 0.0637                                                 | 0 to 0.3181                                                 | 0 to 6.3617                                                |
| 25        | 0 to 0.1768                                                 | 0 to 0.8836                                                 | 0 to 17.6714                                               |
| 32        | 0 to 0.2896                                                 | 0 to 1.4477                                                 | 0 to 28.9529                                               |
| 40        | 0 to 0.4524                                                 | 0 to 2.2620                                                 | 0 to 45.2389                                               |
| 50        | 0 to 0.7069                                                 | 0 to 3.5343                                                 | 0 to 70.6858                                               |
| 65        | 0 to 1.1946                                                 | 0 to 5.9730                                                 | 0 to 119.459                                               |
| 80        | 0 to 1.8096                                                 | 0 to 9.0478                                                 | 0 to 180.955                                               |
| 100       | 0 to 2.8275                                                 | 0 to 14.1372                                                | 0 to 282.743                                               |
| 125       | 0 to 4.4179                                                 | 0 to 22.0894                                                | 0 to 441.786                                               |
| 150       | 0 to 6.3618                                                 | 0 to 31.8087                                                | 0 to 636.172                                               |
| 200       | 0 to 11.3098                                                | 0 to 56.5487                                                | 0 to 1130.97                                               |
| 250       | 0 to 17.6715                                                | 0 to 88.3573                                                | 0 to 1767.14                                               |
| 300       | 0 to 25.4470                                                | 0 to 127.235                                                | 0 to 2544.69                                               |
| 350       | 0 to 34.6361                                                | 0 to 173.181                                                | 0 to 3463.60                                               |
| 400       | 0 to 45.2390                                                | 0 to 226.195                                                | 0 to 4523.89                                               |
| 500       | 0 to 70.69                                                  | 0 to 353                                                    | 0 to 7068                                                  |

English Units (Size: in., Flow rate: GPM)

| Size (in.) | 0 to Min. Span Flow Rate<br>GPM (0.33 ft/s) | 0 to Min. Span Flow Rate<br>GPM (1.64 ft/s) | 0 to Max. Span Flow Rate<br>GPM (33 ft/s) |
|------------|---------------------------------------------|---------------------------------------------|-------------------------------------------|
| 0.1        | 0 to 0.0078                                 | 0 to 0.0389                                 | 0 to 0.7780                               |
| 0.2        | 0 to 0.0312                                 | 0 to 0.1557                                 | 0 to 3.1122                               |
| 0.4        | 0 to 0.1245                                 | 0 to 0.6225                                 | 0 to 12.4488                              |
| 0.5        | 0 to 0.2801                                 | 0 to 1.4005                                 | 0 to 28.0098                              |
| 1          | 0 to 0.7781                                 | 0 to 3.8903                                 | 0 to 77.8050                              |
| 1.25       | 0 to 1.2748                                 | 0 to 6.3738                                 | 0 to 127.475                              |
| 1.5        | 0 to 1.9919                                 | 0 to 9.9591                                 | 0 to 199.181                              |
| 2          | 0 to 3.1123                                 | 0 to 15.5611                                | 0 to 311.220                              |
| 2.5        | 0 to 5.2597                                 | 0 to 26.2982                                | 0 to 525.962                              |
| 3          | 0 to 7.9673                                 | 0 to 39.8363                                | 0 to 796.724                              |
| 4          | 0 to 12.4489                                | 0 to 62.2441                                | 0 to 1244.88                              |
| 5          | 0 to 19.4513                                | 0 to 97.2564                                | 0 to 1945.12                              |
| 6          | 0 to 28.0099                                | 0 to 140.049                                | 0 to 2800.98                              |
| 8          | 0 to 49.7953                                | 0 to 248.977                                | 0 to 4979.52                              |
| 10         | 0 to 77.8051                                | 0 to 389.026                                | 0 to 7780.5                               |
| 12         | 0 to 112.040                                | 0 to 560.197                                | 0 to 11203.9                              |
| 14         | 0 to 152.498                                | 0 to 762.490                                | 0 to 15249.7                              |
| 16         | 0 to 199.182                                | 0 to 995.906                                | 0 to 19918.1                              |
| 20         | 0 to 311.3                                  | 0 to 1556                                   | 0 to 31122                                |



## (3) Combined with AXFA11 Remote Transmitter

SI Units (Size: mm, Flow rate: m<sup>3</sup>/h)

| Size (mm) | 0 to Min. Span Flow Rate<br>m <sup>3</sup> /h (0.1 m/s) | 0 to Max. Span Flow Rate<br>m <sup>3</sup> /h (10 m/s) |
|-----------|---------------------------------------------------------|--------------------------------------------------------|
| 2.5       | 0 to 0.0018                                             | 0 to 0.1767                                            |
| 5         | 0 to 0.0071                                             | 0 to 0.7068                                            |
| 10        | 0 to 0.0283                                             | 0 to 2.8274                                            |
| 15        | 0 to 0.0637                                             | 0 to 6.361                                             |
| 25        | 0 to 0.1768                                             | 0 to 17.671                                            |
| 32        | 0 to 0.2896                                             | 0 to 28.952                                            |
| 40        | 0 to 0.4524                                             | 0 to 45.23                                             |
| 50        | 0 to 0.7069                                             | 0 to 70.68                                             |
| 65        | 0 to 1.1946                                             | 0 to 119.45                                            |
| 80        | 0 to 1.8096                                             | 0 to 180.95                                            |
| 100       | 0 to 2.8275                                             | 0 to 282.74                                            |
| 125       | 0 to 4.418                                              | 0 to 441.7                                             |
| 150       | 0 to 6.362                                              | 0 to 636.1                                             |
| 200       | 0 to 11.310                                             | 0 to 1130.9                                            |
| 250       | 0 to 17.672                                             | 0 to 1767.1                                            |
| 300       | 0 to 25.447                                             | 0 to 2544.6                                            |
| 350       | 0 to 34.64                                              | 0 to 3463                                              |
| 400       | 0 to 45.24                                              | 0 to 4523                                              |
| 500       | 0 to 70.69                                              | 0 to 7068                                              |

English Units (Size: in., Flow rate: GPM)

| Size (in.) | 0 to Min. Span Flow Rate<br>GPM (0.33 ft/s) | 0 to Max. Span Flow Rate<br>GPM (33 ft/s) |
|------------|---------------------------------------------|-------------------------------------------|
| 0.1        | 0 to 0.0078                                 | 0 to 0.7780                               |
| 0.2        | 0 to 0.0312                                 | 0 to 3.112                                |
| 0.4        | 0 to 0.1245                                 | 0 to 12.44                                |
| 0.5        | 0 to 0.1946                                 | 0 to 19.45                                |
| 1          | 0 to 0.7781                                 | 0 to 77.80                                |
| 1.25       | 0 to 1.216                                  | 0 to 121.5                                |
| 1.5        | 0 to 1.751                                  | 0 to 175.0                                |
| 2          | 0 to 3.113                                  | 0 to 311.2                                |
| 2.5        | 0 to 4.863                                  | 0 to 486.2                                |
| 3          | 0 to 7.003                                  | 0 to 700.2                                |
| 4          | 0 to 12.45                                  | 0 to 1244                                 |
| 5          | 0 to 19.46                                  | 0 to 1945                                 |
| 6          | 0 to 28.01                                  | 0 to 2800                                 |
| 8          | 0 to 49.80                                  | 0 to 4979                                 |
| 10         | 0 to 77.81                                  | 0 to 7780                                 |
| 12         | 0 to 112.1                                  | 0 to 11203                                |
| 14         | 0 to 152.5                                  | 0 to 15249                                |
| 16         | 0 to 199.2                                  | 0 to 19918                                |
| 20         | 0 to 311.3                                  | 0 to 31122                                |

## 5. Output Pulse Weight (Pulse Status Output 1)

Specify the volume flow per pulse, after specifying the span flow rate. This output pulse weight is set to the Pulse Status Output 1. For unit, specify "unit/p" which means "(the same unit as the flow rate span)/p".

(Example: When "m<sup>3</sup>" is selected for "Span Flow Rate", "unit/p" means "m<sup>3</sup>/p".)

The specifiable numerical digit and range is the same as that for "4. Range and Unit of Flowrate Span".

Unless specified, it is set as the following when shipped.

- Integral Flowmeter, or combined with AXG4A or AXG1A Remote Transmitter 0 [span unit/p]
- Combined with AXFA11 Remote Transmitter 0 pulse/s

Not applicable for EtherNet/IP communication type.

## 6. Totalizer Display Pulse Weight (Totalizer 1)

Specify the volume flow per pulse, after specifying the span flow rate. This totalizer display pulse weight is set to the Totalizer 1. For unit, specify "unit/p" which means "(the same unit as the flow rate span)/p".

(Example: When "m<sup>3</sup>" is selected for "Span Flow Rate", "unit/p" means "m<sup>3</sup>/p".)

The specifiable numerical digit and range is the same as that for "4. Range and Unit of Flowrate Span".

Unless specified, it is set as the following when shipped.

- Integral Flowmeter, or combined with AXG4A or AXG1A Remote Transmitter 1 [span unit/p]
- Combined with AXFA11 Remote Transmitter 0 pulse/s

## 7. Mass Unit (optional code MU)

The flow rate calculation is performed in mass unit. In addition to fluid density, specify span flow rate, output pulse weight, and totalizer display pulse weight in mass unit.

The specifiable numerical digit and range is the same as that for "4. Range and Unit of Flowrate Span".

## (1) Density

Numerical Value:

Specify within six digits (up to three digits below the decimal point) in the range of 500 to 2000 kg/m<sup>3</sup> (4.2 to 16.7 lb/gal, 31.2 to 124.8 lb/cf). If BRAIN communication type is selected, specify so that the numerical value excluding the decimal point is within 32000.

Unit:

kg/m<sup>3</sup>, lb/gal, lb/cf

The density of water is about 1000 kg/m<sup>3</sup>. Then specify "1000 kg/m<sup>3</sup>" in this case.

However, as the density varies with temperature, specify the density at the time of flow measurement.

## (2) Flowrate Span

Numerical Value:

When setting the mass span flow rate, calculate the volume span flow rate from the "density" and it must be within the measurable flow rate range. The settable numerical range for the mass span flow rate is the same as that for the volume span flow rate.

Unit:

Mass Unit: t, kg, g, klb, lb

Time Unit: /d, /h, /min, /s

## (3) Output Pulse Weight, Totalizer Display Pulse Weight

For unit, specify "unit/p" which means "(the same unit as the flow rate span)/p".



## 8. Specified Span Five-point Calibration (optional code SC)

A flow test at the five points around 0, 25, 50, 75, 100% of the customer specified span is performed. In the test certificate (QIC), the result for the customer specified span is recorded instead of that for the standard flow rate of 2 m/s (6.56 ft/s). Corresponding flow velocity of the selectable span lies between 0.5 to 10 m/s (1.64 to 33 ft/s) or 0.8 to 10 m/s (2.62 to 33 ft/s). The latter is applied when the size is 32, 65, or 125 mm (1.25, 2.5, or 5 in.). It is also limited by the capacity of our flow test facility. Specify it within the following range. The specifiable numerical digit and range is the same as that for "4. Range and Unit of FLOWrate Span.

### Selectable Range of Flow Rate Span

SI Units (Size: mm, Flow rate: m<sup>3</sup>/h)

| Size (mm) | Min. Span Flow Rate<br>m <sup>3</sup> /h (m/s) | Max. Span Flow Rate<br>m <sup>3</sup> /h (m/s) |
|-----------|------------------------------------------------|------------------------------------------------|
| 2.5       | 0.009 (0.5)                                    | 0.05 (2.83)                                    |
| 5         | 0.036 (0.5)                                    | 0.20 (2.83)                                    |
| 10        | 0.15 (0.5)                                     | 0.96 (3.40)                                    |
| 15        | 0.32 (0.5)                                     | 2.80 (4.40)                                    |
| 25        | 0.89 (0.5)                                     | 11.0 (6.22)                                    |
| 32        | 2.32 (0.8)                                     | 28.9 (9.98)                                    |
| 40        | 2.27 (0.5)                                     | 28.0 (6.19)                                    |
| 50        | 3.54 (0.5)                                     | 56.0 (7.92)                                    |
| 65        | 9.56 (0.8)                                     | 80.0 (6.70)                                    |
| 80        | 9.05 (0.5)                                     | 126 (6.96)                                     |
| 100       | 14.2 (0.5)                                     | 190 (6.72)                                     |
| 125       | 35.4 (0.8)                                     | 300 (6.79)                                     |
| 150       | 31.9 (0.5)                                     | 380 (5.97)                                     |
| 200       | 56.6 (0.5)                                     | 670 (5.92)                                     |
| 250       | 88.4 (0.5)                                     | 1000 (5.66)                                    |
| 300       | 128 (0.5)                                      | 1200 (4.72)                                    |
| 350       | 174 (0.5)                                      | 1200 (3.46)                                    |
| 400       | 227 (0.5)                                      | 1350 (2.98)                                    |
| 500       | 354 (0.5)                                      | 7068 (10.0)                                    |

English Units (Size: in., Flow rate: GPM)

| Size (in.) | Min. Span Flow Rate<br>GPM (ft/s) | Max. Span Flow Rate<br>GPM (ft/s) |
|------------|-----------------------------------|-----------------------------------|
| 0.1        | 0.039 (1.64)                      | 0.2201 (9.28)                     |
| 0.2        | 0.1557 (1.64)                     | 0.8805 (9.28)                     |
| 0.4        | 0.6225 (1.64)                     | 4.2267 (11.1)                     |
| 0.5        | 1.4005 (1.64)                     | 12.328 (14.4)                     |
| 1          | 3.8903 (1.64)                     | 48.4315 (20.4)                    |
| 1.25       | 10.1981 (2.62)                    | 127.242 (32.7)                    |
| 1.5        | 9.9591 (1.64)                     | 123.280 (20.3)                    |
| 2          | 15.5611 (1.64)                    | 246.560 (25.9)                    |
| 2.5        | 42.0770 (2.62)                    | 352.229 (21.9)                    |
| 3          | 39.8363 (1.64)                    | 554.761 (22.8)                    |
| 4          | 62.2441 (1.64)                    | 836.544 (22.0)                    |
| 5          | 156.052 (2.62)                    | 1320.86 (22.2)                    |
| 6          | 140.050 (1.64)                    | 1673.08 (19.5)                    |
| 8          | 248.977 (1.64)                    | 2949.92 (19.4)                    |
| 10         | 389.026 (1.64)                    | 4402.86 (18.5)                    |
| 12         | 560.197 (1.64)                    | 5283.44 (15.4)                    |
| 14         | 762.490 (1.64)                    | 5283.44 (11.3)                    |
| 16         | 995.906 (1.64)                    | 5943.87 (9.78)                    |
| 20         | 1556.11 (1.64)                    | 31119.4 (32.8)                    |

## 9. Direction of Cable Entry (optional code RH)

Rotate the transmitter of integral flowmeter or the terminal box of remote sensor and change the direction of the cable entry. See the table below and specify either +90, +180, or -90 degree. When the direction of cable entry is not changed, optional code RH is not necessary.

|                    | Direction of Cable Entry |                     |                      |                     |
|--------------------|--------------------------|---------------------|----------------------|---------------------|
|                    | Standard (0 degree)      | +90 degree rotation | +180 degree rotation | -90 degree rotation |
| Integral Flowmeter |                          |                     |                      |                     |
| Remote Sensor      |                          |                     |                      |                     |

## 10. Direction of Display

When the specification "With Display" is selected for the integral flowmeter or the remote transmitter, specify direction of the display. For the integral flowmeter, specify according to the horizontal or vertical direction of the installation piping. For the remote transmitter, specify according to the positional relation of mounting bracket or mounting pipe.

|                    | Direction of Display |          | Without Display |
|--------------------|----------------------|----------|-----------------|
|                    | Horizontal           | Vertical |                 |
| Integral Flowmeter |                      |          |                 |
| Remote Transmitter |                      |          |                 |

## 11. Fluid Name

## 12. Modbus Protocol parameters

Specify the following parameters for Modbus communication.

| Parameter to be specified | Selectable value                                     |
|---------------------------|------------------------------------------------------|
| Baud rate [bps]           | 1200, 2400, 4800, 9600, 19200*, 38400, 57600, 115200 |
| Stop bit                  | 1 bit*, 2 bits                                       |
| Parity bit                | Odd, Even*, None                                     |
| Slave address             | 1* to 247 (decimal value.)                           |

\*: Factory default setting. If the parameter is not specified at ordering, these settings are applied to the parameter for Modbus communication.

## 13. EtherNet/IP communication parameters

The following parameters can be set at factory.

| Parameter to be specified | Value            |
|---------------------------|------------------|
| DHCP enable               | Disable*, Enable |
| IP address                | 192.168.1.210*   |
| Subnet mask               | 255.255.255.0*   |
| Default gateway           | (empty)*         |

\*: Factory default setting. If the parameter is not specified at ordering, these settings are applied to the parameter for EtherNet/IP communication.

## ■ RELATED INSTRUMENTS

| Product                                                                            | Document Number  |
|------------------------------------------------------------------------------------|------------------|
| AM012 Calibrator for Magnetic Flowmeter                                            | GS 1E6K2-E       |
| BT200 BRAIN TERMINAL                                                               | GS 01C00A11-00EN |
| AXFA11G Magnetic Flowmeter Remote Converter                                        | GS 01E20C01-01E  |
| AXG1A Magnetic Flowmeter Remote Transmitter                                        | GS 01E22C01-01EN |
| Magnetic Flowmeter CA Series                                                       | GS 01E40A01-01EN |
| ADMAG CA Capacitance Magnetic Flowmeter                                            | GS 01E08B01-00E  |
| FieldMate Versatile Device Management Wizard                                       | GS 01R01A01-01E  |
| ADMAG TI Series<br>AXW Magnetic Flowmeter<br>[Size: 25 to 400 mm (1 to 16 in.)]    | GS 01E24A01-01EN |
| ADMAG TI Series<br>AXW Magnetic Flowmeter<br>[Size: 500 to 1800 mm (20 to 72 in.)] | GS 01E25D11-01EN |
| ADMAG TI Series FOUNDATION Fieldbus                                                | GS 01E21F02-01EN |
| ADMAG TI Series EtherNet/IP                                                        | GS 01E21F02-02EN |
| ADMAG TI Series PROFIBUS PA                                                        | GS 01E21F02-03EN |
| FSA130 ADMAG TI Verification Tool                                                  | GS 01E21A04-01EN |

## ■ REFERENCE STANDARD

Design and Test on Magnetic Flowmeters:

JIS B 7554(1997), ISO 20456(2017),  
NAMUR NE70(2006), ASME MFC-16-2014

## ■ SECURITY

For EtherNet/IP communication type, The device can be supported as a range of warranty only when the device is installed and used in Control and Field network.

Operator must have the responsible for IT security of equipment that is connected with the device, and this device must not connect with IT network.

In addition, parameter configuration can be locked by hardware switch.

## ■ TRADEMARKS

HART is a registered trademark of FieldComm Group.

Viton is a registered trademark of DuPont.

Tri-Clamp is a registered trademark of Alfa Laval.

Modbus is a registered trademark of AEDG Schneider.

"FOUNDATION" in "FOUNDATION Fieldbus" is a registered trademark of FieldComm Group.

PROFIBUS is a registered trademark of Profibus Nutzerorganisation e.v., Karlsruhe, Germany.

"EtherNet/IP", "CIP" and "ODVA" are trademarks or registered trademarks of ODVA Inc.

3-A is a registered trademark of 3-A Sanitary Standards Inc.

Det Norske Veritas is a registered trademark of Det Norske Veritas Group.

ADMAG, AXG, AXW, BRAIN TERMINAL, and FieldMate are registered trademarks of Yokogawa Electric Corporation.

All other company and product names mentioned in this document are trade names, trademarks or registered trademarks of their respective companies.

In this document, trademarks or registered trademarks are not marked with <sup>TM</sup> or <sup>®</sup>.

Note: The terms "transmitter" and "sensor" in this document are used in the same manner as "converter" and "flowtube" respectively which are used for our previous magnetic flowmeter models.

### <Information on EU WEEE Directive>

EU WEEE (Waste Electrical and Electronic Equipment) Directive is only valid in the EU.

This instrument is intended to be sold and used only as a part of equipment which is excluded from WEEE Directive, such as large-scale stationary industrial tools, a large-scale fixed installation and so on, and, therefore, subjected to the exclusion from the scope of the WEEE Directive. The instrument should be disposed of in accordance with local and national legislation/regulations.