

General Specifications

ADMAG TI Series AXG Magnetic Flowmeter



GS 01E22A01-01EN

■ GENERAL DESCRIPTION

The ADMAG TI 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 / 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.

The sizes are available from 2.5 mm to 500 mm (0.1 to 20 in.). For lining, fluorocarbon PFA or ceramics tube which can be applied to severe applications can be selected. Process connection also supports various specifications such as ASME, EN, AS, and JIS.

■ FEATURES

● Stable Measurement

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

● Multiple Inputs and Outputs

Maximum four inputs/outputs of current, pulse, and status signals can be equipped. 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 equipped. Diagnosis of the device (built-in 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 Type Flowmeter



Remote Transmitter



Remote Sensor

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■ GENERAL

Measuring Principal:

By applying the occurrence of electromotive force proportional to the flow velocity when fluid moves in the magnetic field, the meter 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:

The meter consists of a sensor that detects the flow rate and a transmitter that amplifies, converts, and transmits the signal. Structurally, there is an integral type of sensor and transmitter, and a separate type which is separated. In the separated type, the signal cable for the flow signal and the excitation cable for the coil excitation are added to the constituent elements.

The sensor part and the transmitter part for the integral type are simply referred to as a sensor and a transmitter respectively. The integral type is also called as an integral type flowmeter. As for the components of separate type, they are also called as a remote sensor and a remote transmitter.

Main Element of Sensor:

Wetted Part:

Lining (including ceramics tube), Electrodes, Grounding devices (Grounding rings plate type, Grounding rings electrode type, Built-in grounding electrodes), Piping adapters (for hygienic use)

Note: Grounding devices are to take the reference electric potential from the process fluid to measure the electromotive force from the process fluid, and they are fixed (or built in) at two locations upstream and downstream of the flow. They are unnecessary when taking the reference potential from customer piping. Please also refer to "Cautions on Selection and Installation".

Non-wetted Part:

Flanges, Housing, Excitation coil, Measuring tube (excluding ceramics tube)

Main Element of Transmitter:

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

■ CONSTRUCTION

Use:

There are some types of constructions available for different purposes as shown in the table below.

Use	Specification
General-purpose	Non explosion protection for the use in non-hazardous area. Integral or Remote type available. IP Protection Grade: IP66/67, Type 4X (CSA)
Submersible	Temporary submersion is possible. Applicable to Remote Sensor only. Note: Signal and excitation cables, 30 m (98 ft) length as standard, are wired, fixed with union-joint waterproof glands and urethane-potted in the terminal box of remote sensor when shipped. Performance: Conforms to continuous immersion under the following test condition. Test Condition: 50 m below the surface of the water, equivalent to 0.5 MPa hydraulic pressure, for one month. In case of bad condition such as sewage and seawater, this does not apply. Also, please waterproof and protect the cable separately by conduit piping, etc.
Hygienic	Integrated piping adapters with hygienic or sanitary standards, Integral or Remote type available. IP Protection Grade: IP66/67, Type 4X (CSA)

Construction:

Integral Type:

A flowmeter in integrated structure of a sensor and a transmitter.

Remote Type:

A flowmeter in separated structure of a sensor and a transmitter, which are connected by a signal cable and an excitation cable. The excitation cable is to be supplied by customer except for submersible type.

Combined Transmitter (*1) (*2):

AXG Remote Sensor sizes 2.5 to 400 mm (0.1 to 16 in.) to be combined with (i) or (ii), and size 500 mm (20 in.) to be combined with (ii).

(i) AXG4A Remote Transmitter

(ii) AXFA11G Remote Transmitter

*1: When changing the combination transmitter from (i) to (ii) or vice versa, readjustment of the meter factor by actual flow calibration is necessary to ensure accuracy.

*2: For AXFA11G, please refer to GS 01E20C01-01E. Also, please read "Cautions on Selection and Installation" in this document.

Maximum Cable Length:

100 m (328 ft) for AXG4A

200 m (656 ft) for AXFA11G

Process Connection:

Available connections are wafer, flange, union joint (screw type, welding type), clamp, union, and welded joint type. The specifications of each connection are shown below. For the linings and size ranges that can be combined with these connections, refer to "Limitations on Specification Selection" in this document.

Wafer:

ASME Class 150, Class 300
EN PN10, PN16, PN40
JIS F12, 10K, 20K
JPI Class 150

Flange:

ASME Class 150, Class 300, Class 600
EN PN10, PN16, PN40
JIS F12, 10K, 20K
JPI Class 150
AS Table D, Table E

Union Joint:**Screw Type:**

1/4 NPT (for sizes 2.5, 5 mm (0.1, 0.2 in.))
3/8 NPT (for size 10 mm (0.4 in.))
R 1/4 (for sizes 2.5, 5 mm (0.1, 0.2 in.))
R 3/8 (for size 10 mm (0.4 in.))

Welding Type:

Outer Diameter of Welding Union Joint:
18.5 mm / 0.73 in. (for sizes 2.5, 5 mm (0.1, 0.2 in.))
22.5 mm / 0.89 in. (for size 10 mm (0.4 in.))

Clamp:

Tri-Clamp
DIN 32676 Clamp
ISO 2852 / SMS 3016 Clamp
ISO 2852 Clamp (for JIS G3447 Piping)

Union:

DIN 11851 Union
ISO 2853 Union
SMS 1145 Union (Open groove packing type)
ISO 2853 Union (for JIS G3447 Piping)

Butt Weld Joint:

DIN 11850 Piping Butt Weld Joint
ISO 2037 Piping Butt Weld Joint
JIS G3447 Piping Butt Weld Joint

Lining Material:

Fluorocarbon PFA Lining, Ceramics Tube (*)

*: Alumina ceramics (99.8%)

Electrode Material:

Stainless steel 316L, Nickel alloy (*), Platinum-Iridium, Tantalum, Titanium, Tungsten carbide, Platinum-Alumina cermet

*: ASTM B574 UNS N10276 or ASME SB-574 UNS N10276

Electrode Construction:**Fluorocarbon PFA Lining:**

External insertion type or internal insertion type (*)

*: Internal insertion type is for models with hygienic use, size 500 mm, or process connection ASME Class 600.

Ceramics Tube:

Electrode integrally sintered type (Platinum-Alumina Cermet)

Grounding Device Material:**Grounding Ring Plate:**

Stainless steel 316L, Nickel alloy (*), Titanium
*: ASTM B575 UNS N10276 or ASME SB-575 UNS N10276

Grounding Ring Electrode:

Platinum-Iridium, Tantalum

Built-in Grounding Electrode:

Platinum-Iridium, Tantalum

Grounding Device Construction:**Grounding Ring Plate:**

Ring flat plate, with mounting bracket

Grounding Ring Electrode:

Electrode is inserted into ring-shaped short pipe with PFA lining, with mounting bracket

Built-in Grounding Electrode:

Insert electrodes on the inner surface of the measuring pipe

Gasket Material:

Note: The following is a description of the material of gaskets, which are supplied with flowmeter, to be used between the lining sensor pipe and grounding rings, or the customer pipe flanges. This includes if the gaskets are necessary or not, or if some gaskets should be supplied by customer. Please also refer to "Cautions on Selection and Installation" for recommended gaskets and "Optional Specification Code" for optional gaskets.

For PFA Lining:

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

Standard:

None (not necessary, or supplied by customer)

Optional (for plastic piping):

GA: Fluororubber
GC: Acid-resistant fluororubber
GD: Alkali-resistant fluororubber

ASME Class 600 flange high pressure type:

Standard: Fluororubber (FKM) (O-ring)

Hygienic Use:**Standard:**

Ethylene propylene diene rubber (EPDM)

Optional:

GH: Silicone rubber

Note: EPDM gasket for ferrule or sleeve when selecting option W2. Silicone rubber when selecting a size 125 mm (5 in.) or option GH.

For Ceramics Tube:**Standard:**

Fluororesin with ceramic fillers (Valqua #7020)

Optional (for plastic piping):

GA: Fluororubber
GC: Acid-resistant fluororubber
GD: Alkali-resistant fluororubber

Optional (for metal piping):

GF: Fluororesin with alkali-resistant carbons

For Customer Pipe:**Standard:**

None (supplied by customer)

Optional (*):

BSC: Chloroprene rubber (CR)
BSF: PTFE-sheathed non-asbestos

*: For wafer type only, with bolts and nuts.

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)

*1: JIS standard material

*2: JIS standard or JIS standard-based material

Mini-flange (subject to pressure in wafer connection):
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 (excluding Hygienic Use)

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

PFA Lining (for Hygienic Use)

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

Coating:

Coating specification depends on "Use" specification. For "General-purpose Use", either Standard Coating (Coating code 1) or Rugged Coating (Coating code 2) can be selected. Standard Coating for "Submersible Use" is for its own specification.

For General-purpose Use (Integral type flowmeter / Remote sensor and transmitter):

Standard Coating (Coating code 1):

Coated Part	Coating Specification
Sensor housing	Polyurethane resin solvent coating, or no coating(*1)
Sensor flanges (for flange type)	
Terminal box (for remote sensor, incl. cover)	Urethane curing type polyester resin powder coating
Transmitter housing (incl. cover)	

Rugged Coating (Coating code 2) (*2):

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

For Submersible Use (Remote sensor):

Standard Coating (Coating code 1):

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

For Hygienic Use (Integral type flowmeter / Remote sensor):

Standard Coating (code 1):

Coated Part	Coating Specification
Sensor housing	No coating (*1)
Adapter for piping	
Terminal box (for remote sensor, incl. cover)	Urethane curing type polyester resin powder coating
Transmitter housing (incl. cover)	

*1: No coating for General-purpose Use with stainless steel flanges in sizes 2.5 to 125 mm, and also for Hygienic Use (stainless steel material). Coating is done for sizes 150 mm and more, or for carbon steel flanges.

*2: Rugged coating is for applications which need salt tolerance resistance, alkali resistance, acid resistance, and/or weather resistance. Three-layer coating (polyurethane coating on two-layer epoxy resin coating) against the same part as that for the standard coating.

Coating Color:

Mint green (RAL color number 190 30 15) for both Standard and Rugged Coating except for Submersible Use

Black (close to RAL color number 9011) for Submersible Use

Cable Entry:

JIS G1/2 female, ASME 1/2 NPT female, ISO M20 x 1.5 female

Cable Entry Direction:

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

Wiring Terminal:

Intra-system Connection Part (*1):

M4 Screw type

Extra-system Connection Part (*2):

M4 Screw type or Clamp type (specified by "Transmitter Wiring Terminal" code)

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

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

Installation Work:

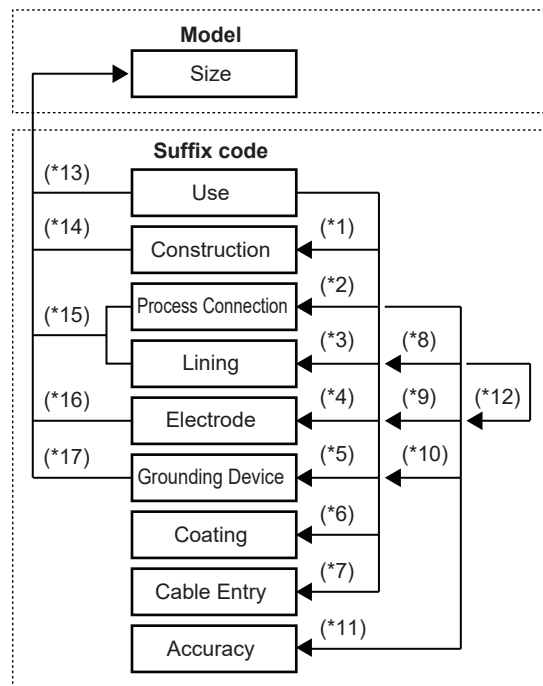
Mounting of Remote Transmitter: 2-inch pipe

Grounding Resistance: 10 Ω or less

Note: When lightning protection performance by the built-in lightning protectors is not required, grounding resistance 100 Ω or less can be applied.

Limitations on Specification Selection:

Selectable structural specifications are limited between Use, Construction, Process Connection, Lining, Electrode, Grounding Device, Coating, Cable Entry, and Accuracy specifications. In addition, the selectable sizes are determined by each specification of Use, Construction, combination of Lining and Process Connection, Electrode, and Grounding Device. Please check the following items. Please also refer to "Cautions on Selection and Installation" in this document.



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- *1: Use and Construction: For Submersible use, Remote Sensor only.
- *2: Use and Process Connection: For Hygienic use, Clamp, Union, Butt Weld Joint only. For General-purpose and Submersible use, Clamp, Union, Butt Weld Joint can not be selected.
- *3: Use and Lining: For Submersible and Hygienic use, PFA only.
- *4: Use and Electrode: For Hygienic use, stainless steel 316L only.
- *5: Use and Grounding Device: For Hygienic use, Grounding Device can not be selected.
- *6: Use and Coating: For Submersible and Hygienic use, Standard Coating (code 1) only.
- *7: Use and Cable Entry: For Submersible use, JIS G 1/2 only.
- *8: Process Connection and Lining: For Flange, Clamp, Union, and Butt Weld Joint, PFA only. For screw type and welding type Union Joint, Ceramics Tube only.
- *9: Process Connection and Electrode: For ASME Class 600 Flange, stainless steel 316L electrode only.
- *10: Process Connection and Grounding Device: For ASME Class 600 Flange, Grounding Device code GRN must be always selected. For, Clamp, Union, and Butt Weld Joint, Grounding Device can not be selected.
- *11: Process Connection and Accuracy: For ASME Class 600 Flange, High Grade Accuracy can not be selected.
- *12: Lining and Electrode: For PFA, Platinum-Alumina Cermet can not be selected. For Ceramics Tube, Platinum-Alumina Cermet only.
- *13: Size Range by Use:
General-purpose:
2.5 to 500 mm (0.1 to 20 in.)
Submersible:
15 to 500 mm (0.5 to 20 in.)
Hygienic:
15 to 125 mm (0.5 to 5 in.)
- *14: Size Range by Construction:
Integral Type:
2.5 to 400 mm (0.1 to 16 in.)
Remote Type:
2.5 to 500 mm (0.1 to 20 in.)

*15: Size Range by Lining and Process Connection:
PFA lining:

Process Connection	Size Range	Connection Code
Wafer:		
ASME Class 150	2.5 to 200 mm (0.1 to 8 in.)	AA1
ASME Class 300	2.5 to 200 mm (0.1 to 8 in.)	AA2
EN PN10	200 mm (8 in.)	AE1
EN PN16	65 to 200 mm (2.5 to 8 in.)	AE2
EN PN40	2.5 to 50 mm (0.1 to 2 in.)	AE4
JIS F12	80 to 200 mm (3 to 8 in.)	AG1
JIS 10K	2.5 to 200 mm (0.1 to 8 in.)	AJ1
JIS 20K	2.5 to 200 mm (0.1 to 8 in.)	AJ2
JPI Class 150	2.5 to 200 mm (32 mm, 65 mm, and 125 mm not available) (0.1 to 8 in. (1.25 in., 2.5 in., and 5 in. not available))	AP1
Flange (Stainless Steel F304):		
ASME Class 150	2.5 to 500 mm (0.1 to 20 in.)	BA1
ASME Class 300	2.5 to 300 mm (0.1 to 12 in.)	BA2
ASME Class 600	25 to 100 mm (32 mm and 65 mm not available) (0.1 to 4 in. (1.25 in. and 2.5 in. not available))	EA4
EN PN10	200 to 500 mm (8 to 20 in.)	BE1
EN PN16	65 to 300 mm, 500 mm (2.5 to 12 in., 20 in.)	BE2
EN PN40	2.5 to 50 mm (0.1 to 2 in.)	BE4
JIS F12	80 to 400 mm (3 to 16 in.)	BG1
JIS 10K	2.5 to 400 mm (0.1 to 16 in.)	BJ1
JIS 20K	2.5 to 300 mm (0.1 to 12 in.)	BJ2
JPI Class 150	2.5 to 400 mm (32 mm, 65 mm, and 125 mm not available) (0.1 to 16 in. (1.25 in., 2.5 in., and 5 in. not available))	BP1
EN PN40 (Nominal Size 10 mm)	2.5 to 10 mm (0.1 to 0.4 in.)	DE4
JIS 10K (Nominal Size 10 mm)	2.5 to 10 mm (0.1 to 0.4 in.)	DJ1
JIS 20K (Nominal Size 10 mm)	2.5 to 10 mm (0.1 to 0.4 in.)	DJ2
Flange (Stainless Steel F316):		
ASME Class 150	2.5 to 400 mm (32 mm, 65 mm, and 125 mm not available) (0.1 to 16 in. (1.25 in., 2.5 in., and 5 in. not available))	PA1
ASME Class 300	2.5 to 300 mm (32 mm, 65 mm, and 125 mm not available) (0.1 to 12 in. (1.25 in., 2.5 in., and 5 in. not available))	PA2
EN PN10	200 to 400 mm (8 to 16 in.)	PE1
EN PN16	80 to 300 mm (125 mm not available) (3 to 12 in. (5 in. not available))	PE2

Process Connection	Size Range	Connection Code
Flange (Stainless Steel F316): (continued)		
EN PN40	2.5 to 50 mm (32 mm not available) (0.1 to 2 in. (1.25 in. not available))	PE4
JIS 10K	2.5 to 400 mm (32 mm, 65 mm, and 125 mm not available) (0.1 to 16 in. (1.25 in., 2.5 in., and 5 in. not available))	PJ1
Flange (Carbon Steel):		
ASME Class 150	50 to 500 mm (2 to 20 in.)	CA1
ASME Class 300	50 to 300 mm (2 to 12 in.)	CA2
EN PN10	200 to 500 mm (8 to 20 in.)	CE1
EN PN16	65 to 300 mm, 500 mm (2.5 to 12 in., 20 in.)	CE2
EN PN40	50 mm (2 in.)	CE4
JIS F12	80 to 400 mm (3 to 16 in.)	CG1
JIS 10K	50 to 400 mm (2 to 16 in.)	CJ1
JIS 20K	50 to 300 mm (2 to 12 in.)	CJ2
AS Table D	50 to 400 mm (65 mm and 125 mm not available) (2 to 16 in. (2.5 in. and 5 in. not available))	CS1
AS Table E	50 to 300 mm (65 mm and 125 mm not available) (2 to 12 in. (2.5 in. and 5 in. not available))	CS2
Clamp (Stainless Steel F304):		
ISO 2852 Clamp (for JIS G3447 Piping)	15 to 125 mm (0.5 to 5 in.)	HJA
Clamp (Stainless Steel F316L):		
ISO 2852 Clamp (for JIS G3447 Piping)	15 to 125 mm (0.5 to 5 in.)	HJB
Tri-Clamp	15 to 100 mm (32 mm not available) (0.5 to 4 in. (1.25 in. not available))	HAB
DIN 32676 Clamp	15 to 125 mm (0.5 to 5 in.)	HDB
ISO 2852 / SMS 3016 Clamp	15 to 125 mm (0.5 to 5 in.)	HKB
Union (Stainless Steel F304):		
ISO 2853 Union (for JIS G3447 Piping)	25 to 100 mm (1 to 4 in.)	JJA
Union (Stainless Steel F316L):		
DIN 11851 Union	15 to 125 mm (0.5 to 5 in.)	JDB
ISO 2853 Union (for JIS G3447 Piping)	25 to 100 mm (1 to 4 in.)	JJB
ISO 2853 Union	15 to 100 mm (0.5 to 4 in.)	JKB
SMS 1145 Union	25 to 100 mm (1 to 4 in.)	JSB
Butt Weld Joint (Stainless Steel F304):		
JIS G3447 Piping Butt Weld Joint	15 to 125 mm (0.5 to 5 in.)	KJA
Butt Weld Joint (Stainless Steel F316L):		
JIS G3447 Piping Butt Weld Joint	15 to 125 mm (0.5 to 5 in.)	KJB
DIN 11850 Piping Butt Weld Joint	15 to 125 mm (0.5 to 5 in.)	KDB
ISO 2037 Piping Butt Weld Joint	15 to 125 mm (0.5 to 5 in.)	KKB

Ceramics Tube:

Process Connection	Size Range	Connection Code
Wafer:		
ASME Class 150	15 to 200 mm (32 mm, 65 mm, and 125 mm not available) (0.5 to 8 in. (1.25 in., 2.5 in., and 5 in. not available))	AA1
ASME Class 300	15 to 200 mm (32 mm, 65 mm, and 125 mm not available) (0.5 to 8 in. (1.25 in., 2.5 in., and 5 in. not available))	AA2
EN PN10	200 mm (8 in.)	AE1
EN PN16	80 to 200 mm (125 mm not available) (3 to 8 in. (5 in. not available))	AE2
EN PN40	15 to 50 mm (32 mm not available) (0.5 to 2 in. (1.25 in. not available))	AE4
JIS F12	80 to 200 mm (125 mm not available) (3 to 8 in. (5 in. not available))	AG1
JIS 10K	15 to 200 mm (32 mm, 65 mm, and 125 mm not available) (0.5 to 8 in. (1.25 in., 2.5 in., and 5 in. not available))	AJ1
JIS 20K	15 to 200 mm (32 mm, 65 mm, and 125 mm not available) (0.5 to 8 in. (1.25 in., 2.5 in., and 5 in. not available))	AJ2
Union Joint:		
Screw Union Joint	2.5 mm, 5 mm (0.1 in., 0.2 in.) (1/4 NPT), 10 mm (0.4 in.) (3/8 NPT)	GUN
	2.5 mm, 5 mm (0.1 in., 0.2 in.) (R 1/4), 10 mm (0.4 in.) (R 3/8)	GUR
Welding Union Joint	2.5 to 10 mm (0.1 to 0.4 in.)	GUW

*16: Size Range by Electrode Material

Stainless Steel 316L
2.5 to 500 mm, 0.1 to 20 in. (for PFA Lining)
Nickel Alloy
2.5 to 500 mm, 0.1 to 20 in. (for PFA Lining)
Platinum-Iridium
2.5 to 400 mm, 0.1 to 16 in. (for PFA Lining)
Tantalum
2.5 to 400 mm, 0.1 to 16 in. (for PFA Lining)
Titanium
2.5 to 400 mm, 0.1 to 16 in. (for PFA Lining)
Tungsten Carbide
15 to 400 mm, 0.5 to 16 in. (for PFA Lining)
Platinum-Alumina Cermet
2.5 to 200 mm, 0.1 to 8 in. (for Ceramics Tube)

*17: Size Range by Grounding Device

Grounding Ring:

Note: Grounding rings are not applicable to Ceramics Tube models with sizes 2.5 to 10 mm (0.1 to 0.4 in.) for its structure. They are not applicable to Hygienic Use models (sizes 15 to 125 mm, 0.5 to 5 in.) for its structure as well.

Plate Type (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)

Electrode Type (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)

■ FUNCTIONS

Note: For functional specifications in case of remote type with AXFA11G, please refer to GS 01E20C01-01E.

Display and Setting:

Parameter setting is possible through LCD display with three infrared switches without opening the cover of the display.

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

Display:

Construction: 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.

*: 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 (*1) or Online Trend Screen (*2) available. Update period selectable from 0.2, 0.4, 1, 2, 4, and 8 seconds

*1: 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:

Flow rate (%), Flow velocity, Volumetric flow rate, Mass flow rate, Calorie flow rate, Totalizer 1, Totalizer 2, Totalizer 3, Adhesion level, Current output 1, Current output 2, Flow noise level, Tag number (maximum 32 characters), Communication protocol

Note: Calorie flow rate is available for Input / Output signal types H, J, and K, and Current output 2 for types B, C, and H.

*2: 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:

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

Note: Calorie flow rate is available for Input / Output signal types H, J, and K, and Current output 2 for types B, C, and H.

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

microSD Screen:

Available when optional microSD is selected.

Offline Trend Screen:

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 Blinking (Squawk) Function:

Display backlight can be set to blink 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:

Communication Signal:

Superimposed on the Current Output 1

Communication Line Condition:

Load Resistance:

250 to 450Ω (including cable resistance)

Load Capacitance:

0.22 μF or less

Load Inductance:

3.3 mH or less

Input Impedance of Communicating Device:

10 kΩ 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 Communication:

Protocol Version: HART 7

Communication Signal:

Superimposed on the Current Output 1

Communication Line Condition:

Load Resistance:

230 to 600Ω (including cable resistance)

Input/Output Function:

Input/Output Signal:

Input/Output up to four points can be selected from ten types, type A to K in the table.

Input/Output Table: AXG Integral Type Flowmeter / AXG4A Remote Transmitter

Type	Input/Output Signal for each Terminal				Code	
	I/O1	I/O2	I/O3	I/O4	BRAIN	HART 7
Type A	Current Output 1 (Active)	Pulse/Status Output 1 (Passive)	None	None	DA	JA
Type B	Current Output 1 (Active)	Pulse/Status Output 1 (Passive)	Pulse/Status Output 2 (Passive)	Current Output 2 (Active)	DB	JB
Type C	Current Output 1 (Active)	Pulse/Status Output 1 (Passive)	Status Input (No-voltage)	Current Output 2 (Active)	DC	JC
Type D	Current Output 1 (Active)	Pulse/Status Output 1 (Passive)	Status Output (Passive)	Pulse/Status Output 2 (Passive)	DD	JD
Type E	Current Output 1 (Active)	Pulse/Status Output 1 (Passive)	Status Input (No-voltage)	Pulse/Status Output 2 (Passive)	DE	JE
Type F	Current Output 1 (Active)	Pulse/Status Output 1 (Passive)	Status Input (No-voltage)	Pulse/Status Output 2 (Active, with internal resistor)	DF	JF
Type G	Current Output 1 (Active)	Pulse/Status Output 1 (Passive)	Status Input (No-voltage)	Pulse/Status Output 2 (Active, without internal resistor)	DG	JG
Type H	Current Output 1 (Active)	Pulse/Status Output 1 (Passive)	Current Output 2 (Passive)	Current Input (Active)	DH	JH
Type J	Current Output 1 (Active)	Pulse/Status Output 1 (Passive)	Pulse/Status Output 2 (Passive)	Current Input (Active)	DJ	JJ
Type K	Current Output 1 (Active)	Pulse/Status Output 1 (Passive)	Status Input (No-voltage)	Current Input (Active)	DK	JK

Input Signal:**Current Input (Active):**

4 to 20 mA DC temperature signal from two-wire type transmitter.

Current Range: 2.4 to 21.6 mA

Internal Power Supply: 24 V DC $\pm 20\%$

Status Input: Dry contact**Load Resistance:**

200 Ω or less (ON), 100 k Ω or more (OFF)

Output Signal:**Current Output (Active):**

4 to 20 mA DC signal

Load Resistance:

750 Ω maximum, including cable resistance

Current Output (Passive):

4 to 20 mA DC signal

External Power Supply:

10.5 to 32 V DC

Load Resistance:

911 Ω maximum, including cable resistance

Pulse / Status Output (Passive):

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, or 2000 ms configurable

Frequency Output Range:

1 to 12500 Hz

Pulse / Status Output (Active):

Without Internal Resistor:

- For Driving Electronic Counter

Load Resistance: 1 k Ω 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, or 2000 ms configurable

Frequency Output Range: 1 to 12500 Hz

- For 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:

Internal resistor: 2.2 k Ω

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, or 2000 ms configurable

Temperature Input Processing Function:

Input current signal as temperature difference or absolute temperature. It can be used for temperature monitor, 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.)

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)*, μ bbl (US)*, MI (megaliter), m³, kl (kiloliter), l (liter), cm³

*: "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 (sec), min, h (hour), d (day)

Damping Function (63% response):

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

- **Output Damping:**

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

Pulse Output:

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

Frequency Output:

Frequency signal (Duty 50%) proportional to the instantaneous value of the flow rate is outputted. 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 flow rate.

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(*):

Cut below the set actual flow rate value for each flow rate of current output, pulse output, and frequency output. It is independent for current output, common for pulse output and frequency output.

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

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

Flow range can be switched to 2 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 outputted 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%. Instantaneous flow rate display, pulse output, and flow rate totalization continue.

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 less than 2.4 mA, 3.8 mA fixed, 4 mA fixed, 20.5 mA fixed, more than 21.6 mA, 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 (coil insulation degradation tendency, electrode insulation deterioration tendency, flow noise (air bubbles, slurry incorporation), fluid conductivity decrease, etc.)

Alarm History: Keep history of up to 4 alarms.

Verification Function:

Function to check the soundness of the device itself. Check 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 of Parameters:**

Main parameters can be stored and restored using nonvolatile memory of display unit or optional microSD card. The restore can also be used for copying parameters to another device (except for parameters under unmatched specification for the devices).

Data Logging Function:

By using an optional microSD card, it is possible to log up to 4 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

Logging Data:

Flow velocity, Volume flow rate, Mass flow rate, Calorie flow rate, Flow noise, Adhesion level, 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 μ S

■ CONFORMITY STANDARDS

Note: The size 500 mm (20 in.) is not applicable.

Safety Requirements:

EN61010-1
EN61010-2-030
CAN/CSA-C22.2 No.61010-1-12
CAN/CSA-C22.2 No.61010-2-30-12
CAN/CSA-C22.2 No.94.02-07
UL 61010-1 (3rd Edition)
UL 61010-2-030 (1st Edition)
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: IP66/67, Type 4X (CSA)

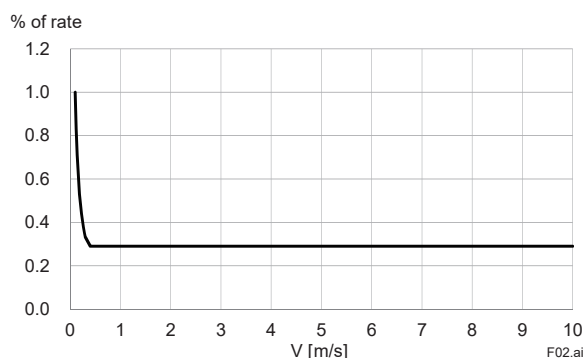
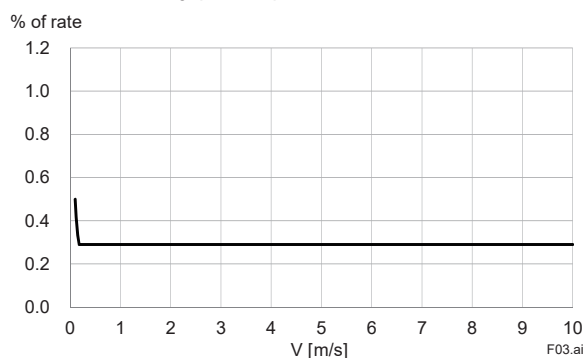
EMC:

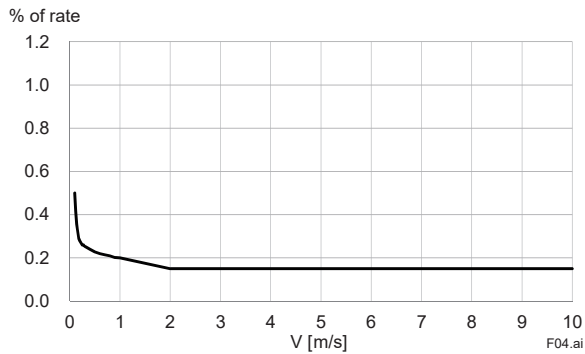
EN61326-1 Class A, Table 2 (For use in industrial locations)
EN61326-2-3
EN61000-3-2 Class A
EN61000-3-3

■ PERFORMANCE**Accuracy:****(1) AXG Integral Type Flowmeter, or the combination of AXG Remote Sensor and AXG4A Remote Transmitter**

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

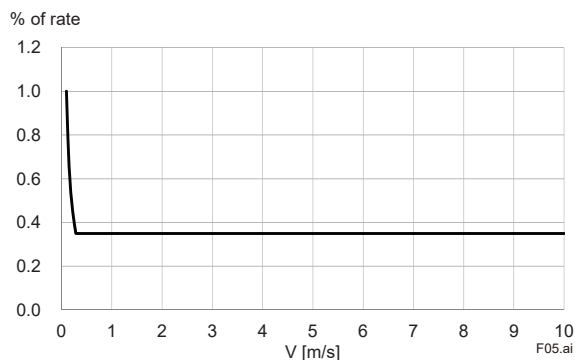
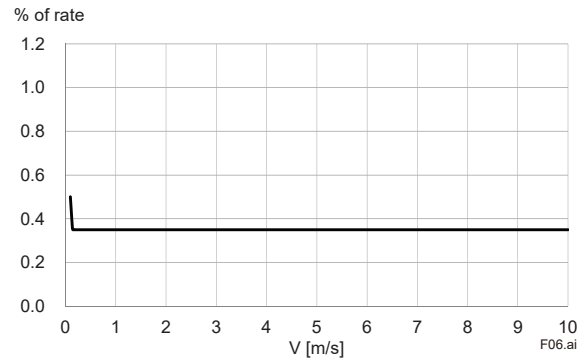
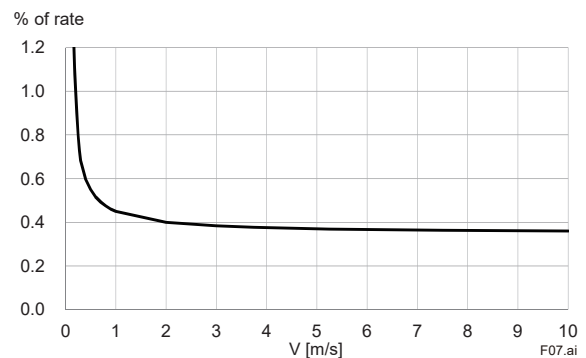
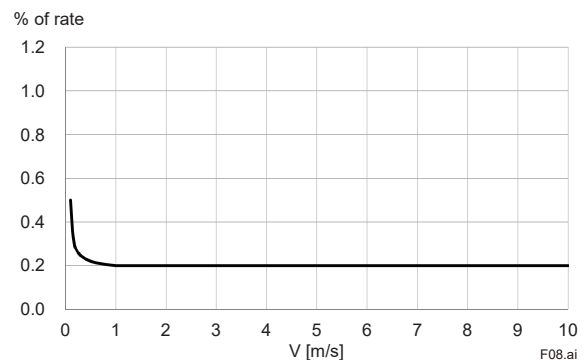
Size mm (in.)	Flow Velocity V m/s (ft/s)	High Grade Accuracy (Code C)
25 to 200 (1) (8)	$V < 0.15$ (0.5)	± 0.5 mm/s
	$0.15 \leq V < 1$ (0.5) (3.3)	± 0.18 % of rate ± 0.2 mm/s
	$1 \leq V \leq 10$ (3.3) (33)	± 0.15 % of rate

**Sizes 2.5 to 15 mm (0.1 to 0.5 in.)
Standard Accuracy (Code B)****Sizes 25 to 400 mm (1 to 16 in.)
Standard Accuracy (Code B)**

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

**(2) Combination of AXG Remote Sensor and AXFA11
Remote Transmitter**

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

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

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

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

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

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


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 $\pm 8 \mu\text{A}$ ($\pm 0.05\%$ 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 9104, BS EN 29104

Measurement Range:

Minimum Span Velocity: 0.1 m/s

Maximum Span Velocity: 10 m/s

Note: Please refer to the chart in "Sizing Data", and description on the Span Flow Rate in "Ordering Information".

Repeatability: $\pm 0.1\%$ of rate (Velocity 1m/s (3.3 ft/s) or above) $\pm 0.05\%$ of rate ± 0.5 mm/s (Velocity below 1m/s (3.3 ft/s))**Power Consumption:**

Integral Type: 13 W

Remote Type: 13 W (with AXG4A Transmitter)

20 W (with AXFA11 Transmitter)

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

Insulation Resistance:

Integral Type:

Between power supply terminals and ground terminal:

100 M Ω /500 V DC

Between power supply terminals and input/output terminals:

100 M Ω /500 V DC

Between ground terminal and input/output terminals:

20 M Ω /100 V DC or 125 V DC

Between input/output terminals:

20 M Ω /100 V DC or 125 V DC

Remote Sensor:

Between signal terminals:

100 M Ω /500 V DC

Between signal terminals and common terminal:

100 M Ω /500 V DC

Between excitation current terminal and signal / common terminals:

100 M Ω /500 V DC

Remote Transmitter:

Between power supply terminals and ground terminal:

100 M Ω /500 V DC

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

100 M Ω /500 V DC

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

20 M Ω /100 V DC or 125 V DC

Between input/output and excitation current terminals:

20 M Ω /100 V DC or 125 V DC**Withstand Voltage:**

Integral Type:

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 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 temperature should also be limited according to minimum fluid temperature of sensor's specification. Refer to description of "Fluid Temperature and Pressure". Display operating range is –20 to +60°C (–4 to +140°F).

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

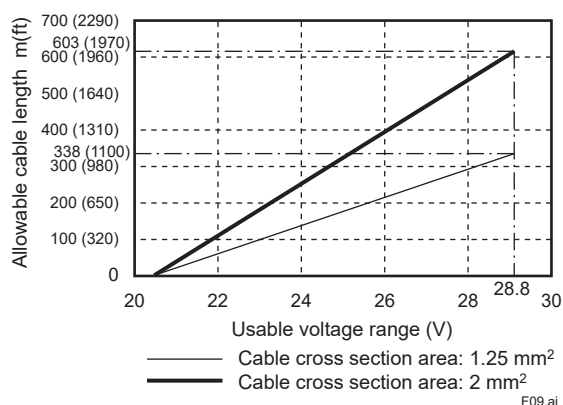
Operating Voltage Range: 20.4 to 28.8 V AC

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:



Fluid Conductivity:

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

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

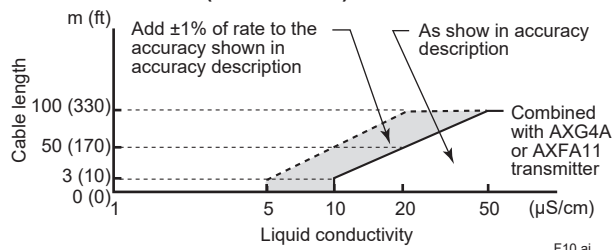
Size 150 to 400 mm (6 to 16 in.): 3 μ S/cm or larger

Size 500 mm (20 in.): 20 μ S/cm or larger

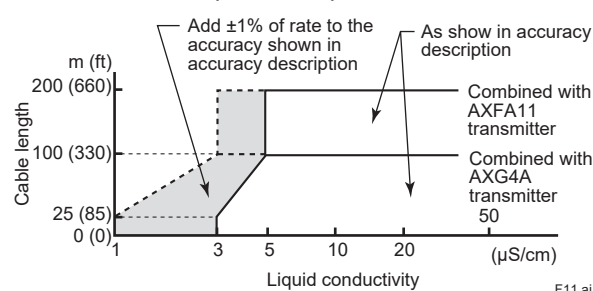
Note: Regarding low conductivity fluids, please read "Cautions on Selection and Installation".

Signal Cable Length and Fluid Conductivity (Remote Sensor):

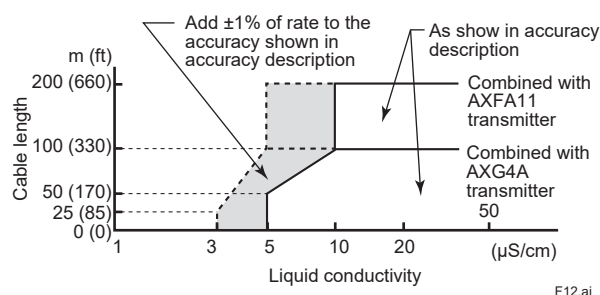
Size 2.5 to 10 mm (0.1 to 0.4 in.)



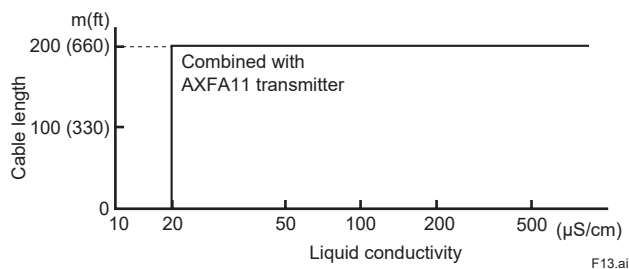
Size 15 to 125 mm (0.5 to 5 in.)



Size 150 to 400 mm (6 to 16 in.)



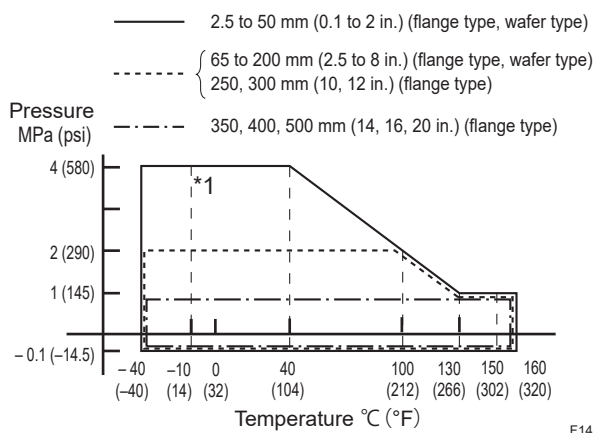
Size 500 mm (20 in.)



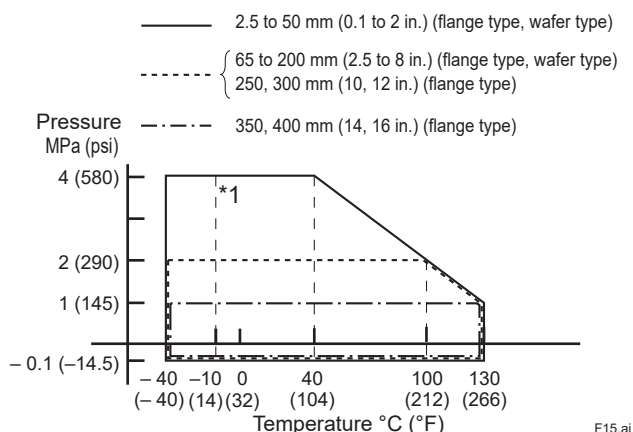
Fluid Temperature and Pressure:

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

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

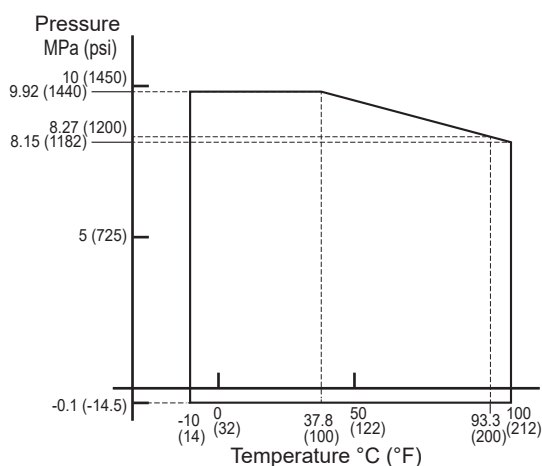


PFA Lining, Integral Type Flowmeter (excluding high pressure type (ASME Class 600 flange) and Hygienic Use)



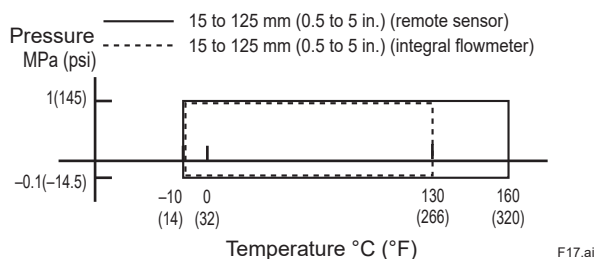
F15.ai

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



F16.ai

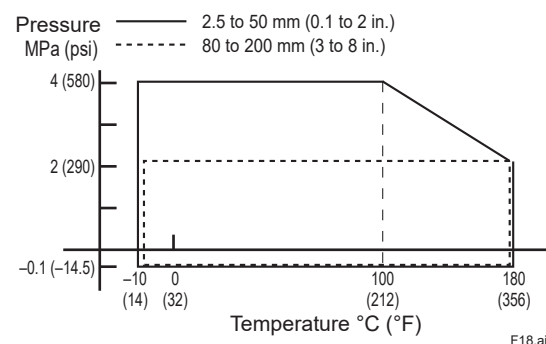
PFA Lining, Hygienic Use Flowmeter (Remote Sensor and Integral Type)



F17.ai

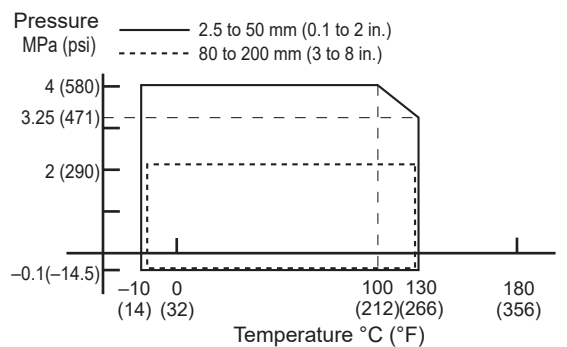
Note: In case of 120 to 160°C (248 to 320°F) of fluid temperature, select optional code GH.

Ceramics Tube, Remote Sensor



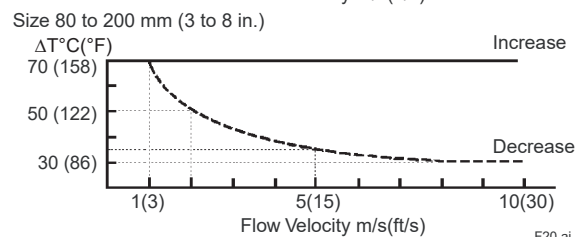
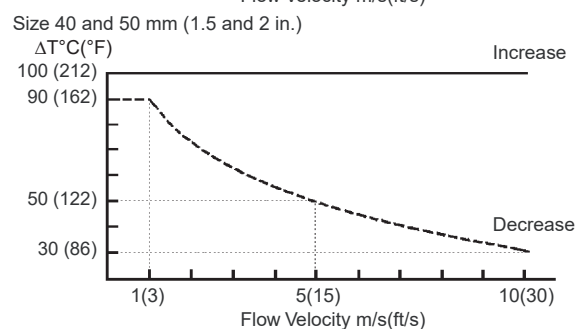
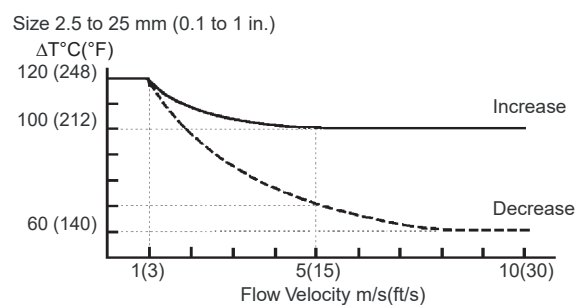
F18.ai

Ceramics Tube, Integral Type Flowmeter



F19.ai

Thermal Shock Temperature and Flow Velocity of Ceramics Tube:



F20.ai

“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.

ΔT : Change in temperature of measured fluid in one second

Flow velocity: Flow velocity of the measured fluid

Allowable Conditions for Cleaning Hygienic Use

Lining:

Steam or hot water cleaning:

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

Vibration Conditions:

Integral Type:

19.6 m/s² - rms (5 to 2000 Hz)

Remote Sensor:

34.3 m/s² - rms (5 to 2000 Hz)

Remote Transmitter:

19.6 m/s² - 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:

If it is considered that the flow noise in the fluid could be large because of low conductivity, conductivity nonuniformity, or high concentration slurry, etc. and the meter size is 250 mm or more, it is recommended to use a remote sensor in combination with AXFA11G (refer to GS 01E20C01-01E).

Lining:

PFA Lining:

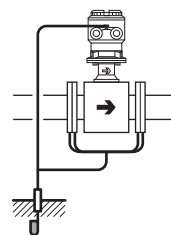
It is excellent in chemical resistance. We adopt the material approved by FDA (US Food and Drug Administration).

Ceramics Tube:

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

Selection of Grounding Device:

The grounding device is optional. It is unnecessary to use it for metal piping which has no lining. In that case, please 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 resin or lining piping.



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There are thin type (thickness 1 or 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 from 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 customer piping is resin or lining one.

Recommended Gasket (for customer piping flange):

Use compressed non-asbestos fiber gaskets, PTFE sheathed rubber 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 (approx. in.)

Wafer, PFA Lining					
Size	Inner diameter for effective sealing [øA]	Outer diameter for effective sealing [øB]	Recommended inner diameter of gasket		Minimum inner diameter of gasket
			Flat gasket [øC]	PTFE-sheathed gasket [øD]	
2.5 (0.1)	15 (0.59)	38 (1.50)	17 (0.67)	22 (0.87)	15 (0.59)
5 (0.2)	15 (0.59)	38 (1.50)	17 (0.67)	22 (0.87)	15 (0.59)
10 (0.4)	15 (0.59)	38 (1.50)	17 (0.67)	22 (0.87)	15 (0.59)
15 (0.5)	18 (0.71)	38 (1.50)		22 (0.87)	15 (0.59)
25 (1)	32 (1.26)	54 (2.13)		35 (1.38)	28 (1.10)
32 (1.25)	37 (1.46)	58 (2.28)		43 (1.69)	34 (1.34)
40 (1.5)	45 (1.76)	71 (2.80)		49 (1.93)	41 (1.61)
50 (2)	58 (2.26)	84 (3.31)		61 (2.40)	53 (2.09)
65 (2.5)	69 (2.73)	103 (4.06)		84 (3.31)	66 (2.60)
80 (3)	81 (3.19)	114 (4.49)		90 (3.54)	81 (3.19)
100 (4)	106 (4.19)	140 (5.51)		115 (4.53)	102 (4.02)
125 (5)	131 (5.14)	165 (6.50)		141 (5.55)	128 (5.04)
150 (6)	164 (6.46)	190 (7.48)		167 (6.57)	147 (5.79)
200 (8)	218 (8.58)	240 (9.45)		218 (8.58)	199 (7.83)

Unit: mm (approx. in.)

Flange, PFA Lining					
Size	Inner diameter for effective sealing [øA]	Outer diameter for effective sealing [øB]	Recommended inner diameter of gasket		Minimum inner diameter of gasket
			Flat gasket [øC]	PTFE-sheathed gasket [øD]	
2.5 (0.1)	15 (0.59)	30 (1.18)	17[15]*1 (0.67[0.59])	22[19]*1 (0.87[0.75])	15 (0.59)
5 (0.2)	15 (0.59)	30 (1.18)	17[15]*1 (0.67[0.59])	22[19]*1 (0.87[0.75])	15 (0.59)
10 (0.4)	15 (0.59)	30 (1.18)	17[15]*1 (0.67[0.59])	22[19]*1 (0.87[0.75])	15 (0.59)
15 (0.5)	22 (0.87)	34 (1.34)		22 (0.87)	15 (0.59)
25 (1)	35 (1.39)	54 (2.13)		35 (1.38)	29 (1.14)
32 (1.25)	40 (1.59)	64 (2.53)		43 (1.69)	34 (1.34)
40 (1.5)	48 (1.89)	72 (2.83)		49 (1.93)	41 (1.61)
50 (2)	61 (2.39)	89 (3.50)		61 (2.40)	53 (2.09)
65 (2.5)	72 (2.84)	108 (4.25)		84 (3.31)	66 (2.60)
80 (3)	85 (3.33)	119 (4.69)		90 (3.54)	81 (3.19)
100 (4)	110 (4.34)	146 (5.75)		115 (4.53)	102 (4.02)
125 (5)	136 (5.34)	173 (6.81)		141 (5.55)	128 (5.04)
150 (6)	164 (6.46)	209 [216]*1 (8.23 [8.50])		167 (6.57)	150 (5.91)
200 (8)	218 (8.58)	259 [272]*1 (10.20 [10.71])		218 (8.58)	201 (7.91)
250 (10)	270 (10.61)	320 [332]*1 (12.60 [13.07])		270 (10.63)	250 (9.84)
300 (12)	321 (12.64)	367 [392]*1 (14.44 [15.43])		321 (12.64)	301 (11.85)
350 (14)	350 (13.76)	412 (16.22)		359 (14.13)	330 (12.99)
400 (16)	401 (15.78)	475 (18.70)		410 (16.14)	381 (15.00)
500 (20)	581 (22.87)	581 <606>*1 (22.87 <23.86>)		513 (20.20)	465 (18.31)

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

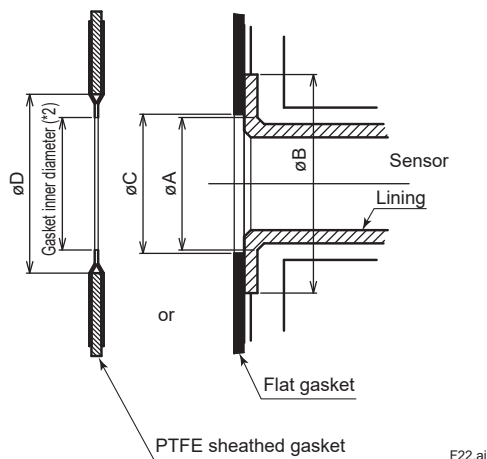
In case of the code DJ1, DJ2, or DE4: Value in []

In case of the code BA2, BJ2, CA2, CJ2, or PA2: Value in { }

In case of the code BE2 or CE2: Value in < >

Unit: mm (approx. in.)

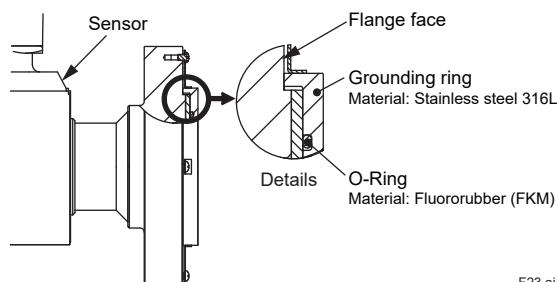
Wafer, Ceramics Tube					
Size	Inner diameter for effective sealing [øA]	Outer diameter for effective sealing [øB]	Recommended inner diameter of gasket		Minimum inner diameter of gasket
			Flat gasket [øC]	PTFE-sheathed gasket [øD]	
15 (0.5)	15 (0.59)	33 (1.30)		22 (0.87)	15 (0.59)
25 (1)	27 (1.06)	50 (1.97)		35 (1.38)	27 (1.06)
40 (1.5)	40 (1.57)	68 (2.68)		49 (1.93)	40 (1.57)
50 (2)	52 (2.05)	82 (3.23)		61 (2.40)	52 (2.05)
80 (3)	81 (3.19)	112 (4.41)		90 (3.54)	81 (3.19)
100 (4)	98 (3.86)	134 (5.28)		115 (4.53)	98 (3.86)
150 (6)	144 (5.67)	188 (7.40)		167 (6.57)	144 (5.67)
200 (8)	192 (7.56)	240 (9.45)		218 (8.58)	192 (7.56)



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*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 always selected for high pressure type.



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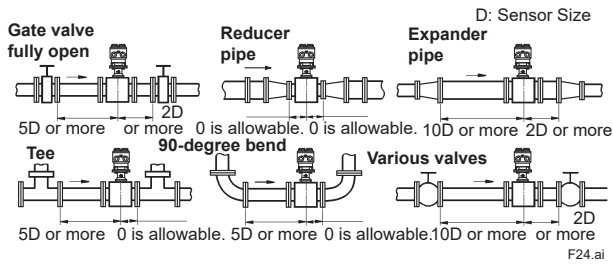
Grounding Rings for High Pressure Type

Unit: mm (approx. in.)

Size	Outer diameter	Inner diameter
25 (1)	69 (2.72)	29 (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 (3.66)

Mounting of Flowmeters and Required Lengths of Straight Runs:

Based on JIS B 7554 "Electromagnetic 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. When installing two or more magnetic flowmeters on a single pipe, provide a run of at least 5D between them.



Required straight runs

- *1: Do not install anything in the vicinity that may interfere with the magnetic field, induced signal voltages, or flow velocity distributions of the flowmeter.
- *2: 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 straight run of 2D to 3D on the downstream side.
- *3: 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.
- *4: 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 length of straight run (approximately 50D) 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 capacitance magnetic flowmeter ADMAG CA, 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, GRW), or the capacitance magnetic flowmeter ADMAG CA is recommended. Those help reduce the adhesion on the inner surface of the pipe.

Adhesive Fluid of Insulator:

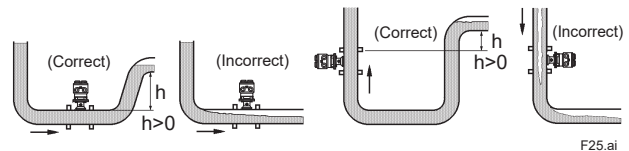
When measuring adhesive fluid of insulator, selecting optional code PM or CM (mirror finished PFA lining or Ceramics Tube), or the capacitance magnetic flowmeter ADMAG CA is recommended.

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 capacitance magnetic flowmeter ADMAG CA, or the AXW magnetic flowmeter with natural soft rubber lining is recommended.

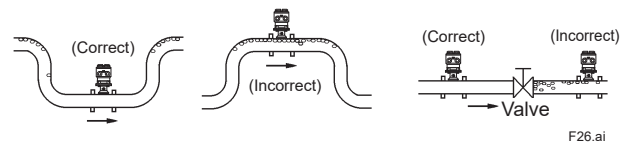
Mounting Positions:

- 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.



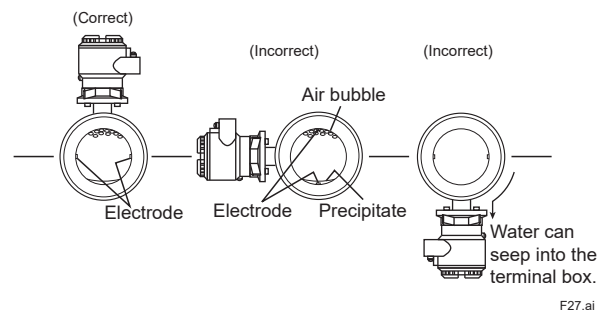
Mounting Positions

- 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. If electrodes are perpendicular to the ground, air bubbles near the top or precipitates at the bottom may cause measurement errors. Ensure that the terminal box of a remote sensor and transmitter of an integral type flowmeter are mounted above the piping to prevent water from entering them.



Mounting Orientation

■ MODEL AND SUFFIX CODE

MODEL AND SUFFIX CODE	
General-purpose, Wafer, PFA	P.20
General-purpose, Flange, PFA	P.22
General-purpose, Flange, PFA (High Pressure Type, ASME Class 600)	P.24
General-purpose, Ceramics Tube	P.25
Submersible, Wafer, PFA	P.26
Submersible, Flange, PFA	P.27
Submersible, Flange, PFA (High Pressure Type, ASME Class 600)	P.28
Hygienic	P.29
Remote Transmitter	P.30
Signal Cable	P.30
Details: Communication and I/O	P.31
OPTIONAL SPECIFICATION CODE	
Application, Usage, and Operating Function	P.32
Tag Plate and Mounting Bracket	P.33
Piping Parts	P.33
Grounding Device	P.34
Gasket	P.34
Direction of Cable Entry / Cable Gland	P.35
Certificate / Test Report on Material, Calibration, Hydrostatic Test, etc.	P.37

Note:

- 1: There are some limitations on the combination of selectable specifications. Please refer to "Limitations on Specification Selection" 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 flange can also be selected (specification code DE4, DJ1, DJ2). The process connection of ceramics tube sizes 2.5 to 10 mm is only Union Joint (Screw and Welding type).
- 3: For EN standard wafer and flange type of sizes 50 mm (2 in.) or less, select PN40 even for lower pressure rating because the dimensions of mating faces for PN10, 16, and 40 are the same. Likewise, for the 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 as well.
- 4: The dimensions of mating faces are based on the following flange standards. The usable range is also limited by fluid temperature and pressure conditions.
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-15-1999, AS: AS2129
- 5: The grounding device is selectable from none (code 1), grounding ring (code 2), or built-in grounding electrode (code 3). When selecting the grounding ring (cord 2) or the built-in earth electrode (cord 3), it is also necessary to select its type (material etc.) from the additional specifications.
- 6: The lay length (face to face) of the flange type of PFA lining sizes 25 to 400 mm (1 to 16 in.) conforms to ISO standard (ISO 13359) except for high pressure type with ASME Class 600 flanges. The lay length for ceramics tube (wafer and union joint) and hygienic use are the same as those of the conventional model ADMAG AXF series (AXF standard lay length). The lay length increases with the optional grounding rings or gaskets, so please check the tables in the Dimensional Drawings.
- 7:  Lining, electrode, pipe connection adapter (for hygienic use), and grounding device (grounding ring plate, 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".

●General-purpose, Wafer, PFA

Model	Suffix Code		Description
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)
Use	-G		General-purpose
Construction	A		Integral Type Flowmeter
		D	Remote Sensor (for AXFA11)
		G	Remote Sensor (for AXG4A)
Explosion Protection	000		Non Explosion Protection Approval
Process Connection	Wafer	AA1	ASME Class 150 Wafer
		AA2	ASME Class 300 Wafer
		AE1	EN PN10 Wafer
		AE2	EN PN16 Wafer
		AE4	EN PN40 Wafer
		AG1	JIS F12 Wafer
		AJ1	JIS 10K Wafer
		AJ2	JIS 20K Wafer
		AP1	JPI Class 150 Wafer
Lining	A		Fluorocarbon PFA Lining
Electrode		L	Stainless Steel 316L
		P	Platinum-Iridium
		H	Nickel Alloy
		T	Tantalum
		V	Titanium
		W	Tungsten Carbide
Grounding Device		1	None
		2	Grounding Rings (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
		2	ASME 1/2 NPT Female
		4	ISO M20 x 1.5 Female
Accuracy		B	Standard
		C	High Grade
Power Supply		-1	100-240 V AC / 100-120 V DC
		-2	24 V AC / DC
		-N	None (Remote Sensor)
Communication and I/O		D□	□: A, B, C, D, E, F, G, H, J, K BRAIN and I/O (Type A to K, See separate table)
		J□	□: A, B, C, D, E, F, G, H, J, K HART 7 and I/O (Type A to K, See separate table)
		NN	None (Remote Sensor)
Transmitter Wiring Terminal		1	M4 Screw-type
		2	Clamp Type
		N	None (Remote Sensor)

(Continued)

Display	1	With Display (English, Multi-language)
	2	With Display (English, Chinese)
	N	Without Display/Remote Sensor
Optional Specification		☐ Refer to optional specification table.

●General-purpose, Flange, PFA

Model	Suffix Code		Description
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)
AXG500			Magnetic Flowmeter (500 mm/20 in)
Use	-G		General-purpose
Construction	A		Integral Type Flowmeter
	D		Remote Sensor (for AXFA11)
	G		Remote Sensor (for AXG4A)
Explosion Protection	000		Non Explosion Protection Approval
Process Connection	Stainless Steel Flange (F304)	BA1	ASME Class 150 Flange
		BA2	ASME Class 300 Flange
		BE1	EN PN10 Flange
		BE2	EN PN16 Flange
		BE4	EN PN40 Flange
		BG1	JIS F12 Flange
		BJ1	JIS 10K Flange
		BJ2	JIS 20K Flange
		BP1	JPI Class 150 Flange
		DE4	EN PN40 Flange (Nominal Diameter 10 mm)
		DJ1	JIS 10K Flange (Nominal Diameter 10 mm)
		DJ2	JIS 20K Flange (Nominal Diameter 10 mm)
	Stainless Steel Flange (F316)	PA1	ASME Class 150 Flange
		PA2	ASME Class 300 Flange
		PE1	EN PN10 Flange
		PE2	EN PN16 Flange
		PE4	EN PN40 Flange
		PJ1	JIS 10K Flange
	Carbon Steel Flange	CA1	ASME Class 150 Flange
		CA2	ASME Class 300 Flange
		CE1	EN PN10 Flange
		CE2	EN PN16 Flange
		CE4	EN PN40 Flange
		CG1	JIS F12 Flange
		CJ1	JIS 10K Flange
		CJ2	JIS 20K Flange
		CS1	AS Table D Flange
		CS2	AS Table E Flange
Lining	A		Fluorocarbon PFA Lining

(Continued)

Electrode	L	Stainless Steel 316L
	P	Platinum-Iridium
	H	Nickel Alloy
	T	Tantalum
	V	Titanium
	W	Tungsten Carbide
Grounding Device	1	None
	2	Grounding Rings (Select an optional code)
	3	Built-in Grounding Electrodes (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
	2	ASME 1/2 NPT Female
	4	ISO M20 x 1.5 Female
Accuracy	B	Standard
	C	High Grade
Power Supply	-1	100-240 V AC / 100-120 V DC
	-2	24 V AC / DC
	-N	None (Remote Sensor)
Communication and I/O	D□	□: A, B, C, D, E, F, G, H, J, K BRAIN and I/O (Type A to K, See separate table)
	J□	□: A, B, C, D, E, F, G, H, J, K HART 7 and I/O (Type A to K, See separate table)
	NN	None (Remote Sensor)
Transmitter Wiring Terminal	1	M4 Screw-type
	2	Clamp Type
	N	None (Remote Sensor)
Display	1	With Display (English, Multi-language)
	2	With Display (English, Chinese)
	N	Without Display/Remote Sensor
Optional Specification		/□ Refer to optional specification table.

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

Model	Suffix Code		Description
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
Construction	A		Integral Type Flowmeter
	D		Remote Sensor (for AXFA11)
	G		Remote Sensor (for AXG4A)
Explosion Protection	000		Non Explosion Protection Approval
Process Connection	Stainless Steel Flange (F304)	EA4	ASME Class 600 Flange (High Pressure)
Lining	A		Fluorocarbon PFA Lining
Electrode	L		Stainless Steel 316L
Grounding Device	2		Grounding Rings (Always select the optional code GRN)
Housing and Coating	1		Standard Material with Standard Coating
	2		Standard Material with Rugged Coating
Cable Entry	0		JIS G1/2 Female
	2		ASME 1/2 NPT Female
	4		ISO M20 x 1.5 Female
Accuracy	B		Standard
Power Supply	-1		100-240 V AC / 100-120 V DC
	-2		24 V AC / DC
	-N		None (Remote Sensor)
Communication and I/O	D□		□: A, B, C, D, E, F, G, H, J, K BRAIN and I/O (Type A to K, See separate table)
	J□		□: A, B, C, D, E, F, G, H, J, K HART 7 and I/O (Type A to K, See separate table)
	NN		None (Remote Sensor)
Transmitter Wiring Terminal	1		M4 Screw-type
	2		Clamp Type
	N		None (Remote Sensor)
Display	1		With Display (English, Multi-language)
	2		With Display (English, Chinese)
	N		Without Display/Remote Sensor
Optional Specification			/□ Refer to optional specification table.

●General-purpose, Ceramics Tube

Model	Suffix Code		Description
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	-G		General-purpose
Construction	A	D	Integral Type Flowmeter
		D	Remote Sensor (for AXFA11)
		G	Remote Sensor (for AXG4A)
Explosion Protection	000		Non Explosion Protection Approval
Process Connection	Wafer	AA1	ASME Class 150 Wafer
		AA2	ASME Class 300 Wafer
		AE1	EN PN10 Wafer
		AE2	EN PN16 Wafer
		AE4	EN PN40 Wafer
		AG1	JIS F12 Wafer
		AJ1	JIS 10K Wafer
		AJ2	JIS 20K Wafer
	Union Joint	GUN (Stainless Steel 316L)	Screw Union Joint
		GUR (Stainless Steel 316L)	Screw Union Joint
		GUW (Stainless Steel 316L)	Welding Union Joint
Lining	C		Ceramics Tube
Electrode	E		Platinum-alumina Cermet
Grounding Device	1		None
	2		Grounding Rings (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
	2		ASME 1/2 NPT Female
	4		ISO M20 x 1.5 Female
Accuracy	B		Standard
	C		High Grade
Power Supply	-1		100-240 V AC / 100-120 V DC
	-2		24 V AC / DC
	-N		None (Remote Sensor)
Communication and I/O	D ☐		☐ : A, B, C, D, E, F, G, H, J, K BRAiN and I/O (Type A to K, See separate table)
	J ☐		☐ : A, B, C, D, E, F, G, H, J, K HART 7 and I/O (Type A to K, See separate table)
	NN		None (Remote Sensor)
Transmitter Wiring Terminal	1		M4 Screw-type
	2		Clamp Type
	N		None (Remote Sensor)
Display	1		With Display (English, Multi-language)
	2		With Display (English, Chinese)
	N		Without Display/Remote Sensor
Optional Specification			/ ☐ Refer to optional specification table.

●Submersible, Wafer, PFA

Model	Suffix Code		Description
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)
Use	-W		Submersible
Construction	D		Remote Sensor (for AXFA11)
	G		Remote Sensor (for AXG4A)
Explosion Protection	000		Non Explosion Protection Approval
Process Connection	Wafer	AA1	ASME Class 150 Wafer
		AA2	ASME Class 300 Wafer
		AE1	EN PN10 Wafer
		AE2	EN PN16 Wafer
		AE4	EN PN40 Wafer
		AG1	JIS F12 Wafer
		AJ1	JIS 10K Wafer
		AJ2	JIS 20K Wafer
		AP1	JPI Class 150 Wafer
Lining	A		Fluorocarbon PFA Lining
Electrode		L	Stainless Steel 316L
		P	Platinum-Iridium
		H	Nickel Alloy
		T	Tantalum
		V	Titanium
		W	Tungsten Carbide
Grounding Device	1		None
	2		Grounding Rings (Select an optional code)
Housing and Coating	1		Standard Material with Standard Coating
Cable Entry	0		JIS G1/2 Female
Accuracy	B		Standard
	C		High Grade
Power Supply	-N		None (Remote Sensor)
Communication and I/O	NN		None (Remote Sensor)
Transmitter Wiring Terminal	N		None (Remote Sensor)
Display	N		Without Display/Remote Sensor
Optional Specification			/□ Refer to optional specification table.

●Submersible, Flange, PFA

Model	Suffix Code		Description
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)
AXG500			Magnetic Flowmeter (500 mm/20 in)
Use	-W		Submersible
Construction	D		Remote Sensor (for AXFA11)
	G		Remote Sensor (for AXG4A)
Explosion Protection	000		Non Explosion Protection Approval
Process Connection	Stainless Steel Flange (F304)	BA1	ASME Class 150 Flange
		BA2	ASME Class 300 Flange
		BE1	EN PN10 Flange
		BE2	EN PN16 Flange
		BE4	EN PN40 Flange
		BG1	JIS F12 Flange
		BJ1	JIS 10K Flange
		BJ2	JIS 20K Flange
		BP1	JPI Class 150 Flange
	Stainless Steel Flange (F316)	PA1	ASME Class 150 Flange
		PA2	ASME Class 300 Flange
		PE1	EN PN10 Flange
		PE2	EN PN16 Flange
		PE4	EN PN40 Flange
		PJ1	JIS 10K Flange
	Carbon Steel Flange	CA1	ASME Class 150 Flange
		CA2	ASME Class 300 Flange
		CE1	EN PN10 Flange
		CE2	EN PN16 Flange
		CE4	EN PN40 Flange
		CG1	JIS F12 Flange
		CJ1	JIS 10K Flange
		CJ2	JIS 20K Flange
		CS1	AS Table D Flange
		CS2	AS Table E Flange
Lining	A		Fluorocarbon PFA Lining
Electrode	L		Stainless Steel 316L
	P		Platinum-Iridium
	H		Nickel Alloy
	T		Tantalum
	V		Titanium
	W		Tungsten Carbide
Grounding Device	1		None
	2		Grounding Rings (Select an optional code)
	3		Built-in Grounding Electrodes (Select an optional code)
Housing and Coating	1		Standard Material with Standard Coating

(Continued)

Cable Entry	0	JIS G1/2 Female
Accuracy	B	Standard
	C	High Grade
Power Supply	-N	None (Remote Sensor)
Communication and I/O	NN	None (Remote Sensor)
Transmitter Wiring Terminal	N	None (Remote Sensor)
Display	N	Without Display/Remote Sensor
Optional Specification	/□ Refer to optional specification table.	

●Submersible, Flange, PFA (High Pressure Type, ASME Class 600)

Model	Suffix Code		Description
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	-W		Submersible
Construction	D		Remote Sensor (for AXFA11)
	G		Remote Sensor (for AXG4A)
Explosion Protection	000		Non Explosion Protection Approval
Process Connection	Stainless Steel Flange (F304)	EA4	ASME Class 600 Flange (High Pressure)
Lining	A		Fluorocarbon PFA Lining
Electrode	L		Stainless Steel 316L
Grounding Device	2		Grounding Rings (Select always the optional code GRN)
Housing and Coating	1		Standard Material with Standard Coating
Cable Entry	0		JIS G1/2 Female
Accuracy	B		Standard
Power Supply	-N		None (Remote Sensor)
Communication and I/O	NN		None (Remote Sensor)
Transmitter Wiring Terminal	N		None (Remote Sensor)
Display	N		Without Display/Remote Sensor
Optional Specification	/□ Refer to optional specification table.		

●Hygienic

Model	Suffix Code		Description
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	-H		Hygienic
Construction	A		Integral Type Flowmeter
		D	Remote Sensor (for AXFA11)
		G	Remote Sensor (for AXG4A)
Explosion Protection	000	Non Explosion Protection Approval	
Process Connection	Clamp	HAB (Stainless Steel F316L)	Tri-Clamp
		HDB (Stainless Steel F316L)	DIN 32676 Clamp
		HKB (Stainless Steel F316L)	ISO 2852 / SMS 3016 Clamp
		HJA (Stainless Steel F304)	ISO 2852 Clamp (for JIS G3447 Piping)
		HJB (Stainless Steel F316L)	ISO 2852 Clamp (for JIS G3447 Piping)
	Union	JDB (Stainless Steel F316L)	DIN 11851 Union
		JKB (Stainless Steel F316L)	ISO 2853 Union
		JSB (Stainless Steel F316L)	SMS 1145 Union (Open groove packing type)
		JJA (Stainless Steel F304)	ISO 2853 Union (for JIS G3447 Piping)
		JJB (Stainless Steel F316L)	ISO 2853 Union (for JIS G3447 Piping)
	Butt Weld Joint	KDB (Stainless Steel F316L)	DIN 11850 Piping Butt Weld Joint
		KKB (Stainless Steel F316L)	ISO 2037 Piping Butt Weld Joint
		KJA (Stainless Steel F304)	JIS G3447 Piping Butt Weld Joint
KJB (Stainless Steel F316L)		JIS G3447 Piping Butt Weld Joint	
Lining	A		Fluorocarbon 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
	2		ASME 1/2 NPT Female
	4		ISO M20 x 1.5 Female
Accuracy	B		Standard
	C		High Grade
Power Supply	-1		100-240 V AC / 100-120 V DC
	-2		24 V AC / DC
	-N		None (Remote Sensor)
Communication and I/O	D□		□: A, B, C, D, E, F, G, H, J, K BRAIN and I/O (Type A to K, See separate table)
	J□		□: A, B, C, D, E, F, G, H, J, K HART 7 and I/O (Type A to K, See separate table)
	NN		None (Remote Sensor)
Transmitter Wiring Terminal	1		M4 Screw-type
	2		Clamp Type
	N		None (Remote Sensor)
Display	1		With Display (English, Multi-language)
	2		With Display (English, Chinese)
	N		Without Display/Remote Sensor
Optional Specification	/□ Refer to optional specification table.		

●Remote Transmitter

Model	Suffix Code	Description
AXG4A		Magnetic Flowmeter Remote Transmitter
Use	-G	General-purpose
Explosion Protection	000	Non Explosion Protection Approval
Housing and Coating	1	Standard Material with Standard Coating
	2	Standard Material with Rugged Coating
Cable Entry	0	JIS G1/2 Female
	2	ASME 1/2 NPT Female
	4	ISO M20 x 1.5 Female
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 BRAIN and I/O (Type A to K, See separate table)
	J□	□: A, B, C, D, E, F, G, H, J, K HART 7 and I/O (Type A to K, See separate table)
Transmitter Wiring Terminal	1	M4 Screw-type
	2	Clamp Type
Display	1	With Display (English, Multi-language)
	2	With Display (English, Chinese)
	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
	-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 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

-C□□□: 100 m (for combined use with AXG4A)

-D□□□: 200 m (for combined use with AXFA11)

*2: Specify the quantity of sets in one digit from 1 to 9.

●Details: Communication and I/O

Communication and I/O Code	Specification	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)
☐ A	☐ =D: BRAIN and I/O (Type A) ☐ =J: HART 7 and I/O (Type A)	1	1	—	—	—	—	—	—
☐ B	☐ =D: BRAIN and I/O (Type B) ☐ =J: HART 7 and I/O (Type B)	2	2	—	—	—	—	—	—
☐ C	☐ =D: BRAIN and I/O (Type C) ☐ =J: HART 7 and I/O (Type C)	2	1	1	—	—	—	—	—
☐ D	☐ =D: BRAIN and I/O (Type D) ☐ =J: HART 7 and I/O (Type D)	1	2	—	1	—	—	—	—
☐ E	☐ =D: BRAIN and I/O (Type E) ☐ =J: HART 7 and I/O (Type E)	1	2	1	—	—	—	—	—
☐ F	☐ =D: BRAIN and I/O (Type F) ☐ =J: HART 7 and I/O (Type F)	1	1	1	—	1	—	—	—
☐ G	☐ =D: BRAIN and I/O (Type G) ☐ =J: HART 7 and I/O (Type G)	1	1	1	—	—	1	—	—
☐ H	☐ =D: BRAIN and I/O (Type H) ☐ =J: HART 7 and I/O (Type H)	1	1	—	—	—	—	1	1
☐ J	☐ =D: BRAIN and I/O (Type J) ☐ =J: HART 7 and I/O (Type J)	1	2	—	—	—	—	—	1
☐ K	☐ =D: BRAIN and I/O (Type K) ☐ =J: HART 7 and I/O (Type K)	1	1	1	—	—	—	—	1

■ OPTIONAL SPECIFICATIONS CODE

●Application, Usage, and Operating Function

Item	Specification	Applicable Condition	Code
Mirror Finished PFA (for adhesive fluid)	Finish the inner surface of the PFA lining to a mirror finish. The Ra is average of measured values on several points. Size 15 to 200 mm (0.5 to 8 in.) : Ra 0.05 to 0.15 μ m Size 250 to 400 mm (10 to 16 in.) : Ra 0.05 to 0.25 μ m	Applicable for sizes 15 to 400 mm (0.5 to 16 in.). Not applicable for high pressure type (ASME Class 600 flange).	PM
Mirror Finished Ceramics (for adhesive fluid)	Finish the inner surface of the ceramics tube to a mirror finish with Ra 0.1 μ m or less. The Ra is average of measured values on several points.	Applicable for ceramics tube sizes 5 to 200 mm (0.2 to 8 in.).	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 to let the vaporized fluid permeated between the lining and the measuring pipe escape.	Applicable for flange type of PFA lining except for Submersible Use, Hygienic Use, and high pressure type (ASME Class 600 flange).	H
DC Noise Cut Circuit (for electrolytic bath)	Built-in DC noise cut circuit. It works effectively when the size is 15 mm or above and fluid conductivity is 50 μ S/cm or more. Empty pipe detection, electrode adhesion diagnosis, electrode potential measurement, and wetted resistance measurement function can not be used.	Applicable for integral type (sizes 15 to 400 mm) and remote transmitter (size of combined sensor should be 15 mm or above).	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. 30-meter length signal and excitation cables are pre-wired and waterproof glands with union joints are attached at factory.	Applicable for General-purpose Use and Hygienic Use of remote sensor. For cable entry, selection of JIS G1/2 female thread is necessary. Note: Optional waterproof glands are not necessary to be selected, or can not be selected, including other types of optional glands.	DHC
Signal and Excitation Cable Length (□□□ m)	Change the length of signal cable and excitation cable pre-wired for a remote sensor of Submersible Use or one with optional code DHC. Specify the cable length in the "□□□" part with the numerical value 3 digits. It is 1 m unit up to 5 m (001, 002, 003 ...), 5 m units for 5 m or more (005, 010, 015 ...), and 10 m units for 100 m or more (100, 110, 120 ...). The maximum cable length is 100 m in combination with the AXG4A transmitter, and 200 m in combination with the AXFA11 transmitter. If not with this optional code, a 30-meter length cable as standard is pre-wired.	Applicable for Submersible Use of remote sensor. Also applicable for General-purpose Use or Hygienic Use of remote sensor with optional code DHC.	L□□□
Oil Prohibited Use	Electrodes, linings, grounding devices (grounding rings plate type, grounding rings electrode type, built-in grounding electrodes), gaskets, and piping adapters and connection parts (for Hygienic Use) are assembled and packed with polyethylene after being cleaned with water and acetone and dried with air. The label 'OIL FREE' is affixed.	Applicable for General-purpose Use and Hygienic Use of integral type and remote sensor, except for size 500 mm.	K1
Oil Prohibited Use with Dehydration	Electrodes, linings, and grounding devices (grounding rings plate type, grounding rings electrode type, built-in grounding electrodes) 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.	Applicable for General-purpose Use of integral type and remote sensor, except for size 500 mm.	K5
Mass Unit 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, please refer to "Ordering Information".	Applicable for integral type and remote sensor. For remote sensor, specified parameters are set in the transmitter that is ordered in combination.	MU
Signal Down on Failure	Set the current output signal as follows when shipped. Output signal at CPU failure or alarm occurrence: 2.4 mA (–10 %) or less Note: The standard setting is 21.6 mA (110%) or more at CPU failure or alarm occurrence.	Applicable for integral type and remote transmitter.	C1
Signal Down on Failure (NAMUR NE 43 Compliant)	Set the current output signal range as follows when shipped. - Output signal limits: 3.8 to 20.5 mA - Output signal at CPU failure or alarm occurrence: 2.4 mA (–10%) or less	Applicable for integral type and remote transmitter.	C2

Item	Specification	Applicable Condition	Code
Signal Up on Failure (NAMUR NE 43 Compliant)	Set the current output signal range as follows when shipped. - Output signal limits: 3.8 to 20.5 mA - Output signal at CPU failure or alarm occurrence: 21.6 mA (110%) or more	Applicable for integral type and remote transmitter.	C3
microSD Card	A microSD card slot is added to the display unit, and a microSD card (capacity 1 GB, format FAT 16) is inserted. Select this option when using parameter store / restore function, and/or data logging function.	Applicable for integral type and remote transmitter.	MC

●Tag Plate and Mounting Bracket

Item	Specification	Applicable Condition	Code
Stainless Steel Tag Plate	Hang the pendant type tag plate (stainless steel 304) from the neck (for integral type and remote sensor), or screw it (for remote transmitter). Select this option when necessary in addition to that on the nameplate, on which the Tag No. is inscribed as standard. Plate size (Height x Width): Approx. 12.5 x 40 mm (4.92 x 15.7 in.)	Applicable for integral type, remote sensor, and remote transmitter.	SCT
Mounting Bracket	Change the material of accessory mounting bracket for remote transmitter to stainless steel 304, where the standard material is carbon steel.	Applicable for remote transmitter.	SB

●Piping Parts

Item	Specification	Applicable Condition	Code
Bolts, Nuts and Gaskets (Type C)	Wafer mounting bolts, nuts and gaskets are supplied (material as below). Bolt: Stainless steel 304 Nut: Stainless steel 304 Gasket: Chloroprene rubber (CR) (*) * The allowable temperature and pressure range of chloroprene rubber gasket is equivalent to that of Valqua #2010.	Applicable for wafer type JIS 10K, JIS 20K, and ASME Class 150. For PFA lining and ceramics tube, there is a risk of liquid leakage due to the difference in elasticity from chloroprene rubber gasket, so it is recommended to select an optional code GA, GC, or GD together.	BSC
Bolts, Nuts and Gaskets (Type F)	Wafer mounting bolts, nuts and gaskets are supplied (material as below). Bolt: Stainless steel 304 Nut: Stainless steel 304 Gasket: PTFE-sheathed non-asbestos joint sheet (*) * The allowable temperature and pressure range of PTFE-sheathed non-asbestos joint sheet is equivalent to that of Valqua #7030 (S) series.	Applicable for wafer type JIS 10K, JIS 20K, and ASME Class 150.	BSF
Hygienic Connection Parts	Parts for connection are supplied for the following hygienic process connection. ISO 2852 clamp for JIS pipe connection (optional code HJA, HJB): Clamp, ferrule, ethylene propylene diene rubber (EPDM) gasket (*) ISO 2853 union for JIS pipe connection (optional code JJA, JJB): Nut, sleeve, ethylene propylene diene rubber (EPDM) gasket (*) * Silicone rubber gasket when 125 mm diameter or optional specification GH is selected.	Applicable for the hygienic process connections on the left (optional code HJA, HJB, JJA, JJB).	W2

●Grounding Device

Item	Specification	Applicable Condition	Code
Grounding Rings (Plate Type L)	Stainless Steel 316L, Thin Type. Thickness: 1 mm (0.04 in.) for sizes 2.5 to 200 mm (0.1 to 8 in.) 2 mm (0.08 in.) for sizes 250 to 400 mm (10 to 16 in.)	Applicable for sizes 2.5 to 400 mm (0.1 to 16 in.), except for high pressure type (ASME Class 600 flange).	GRL
Grounding Rings (Plate Type N)	Stainless Steel 316L, Thick Type. Thickness: Except for high pressure type (ASME Class 600 flange): 3 mm (0.12 in.) for sizes 2.5 to 400 mm (0.1 to 16 in.) 4 mm (0.16 mm) for size 500 mm (20 in.) For high pressure type: 8.5 mm (0.33 in.) for size 25 mm (1 in.) 10.5 mm (0.41 in.) for sizes 40 to 100 mm (1.6 to 4 in.)	Applicable for PFA lining sizes 2.5 to 500 mm (0.1 to 20 in.), and ceramic tube sizes 15 to 200 mm (0.5 to 8 in.). For PFA lining of wafer type, it is necessary to combine with optional gaskets (GA, GC, GD). Always select this for high pressure type (ASME Class 600 flange).	GRN
Grounding Rings (Plate Type H)	Nickel Alloy, Thin Type. Thickness: 1 mm (0.04 in.) for sizes 2.5 to 200 mm (0.1 to 8 in.) 2 mm (0.08 in.) for sizes 250 to 400 mm (10 to 16 in.)	Applicable for PFA lining sizes 2.5 to 400 mm (0.1 to 16 in.)	GRH
Grounding Rings (Plate Type J)	Nickel Alloy, Thick Type. Thickness: 3 mm (0.12 in.) for sizes 2.5 to 400 mm (0.1 to 16 in.) 4 mm (0.16 mm) for size 500 mm (20 in.)	Applicable for PFA lining of flange type sizes 2.5 to 500 mm (0.1 to 20 in.), and ceramic tube sizes 15 to 200 mm (0.5 to 8 in.).	GRJ
Grounding Rings (Plate Type V)	Titanium, Thin Type. Thickness: 1 mm (0.04 in.) for sizes 2.5 to 200 mm (0.1 to 8 in.) 2 mm (0.08 in.) for sizes 250 to 400 mm (10 to 16 in.)	Applicable for PFA lining sizes 2.5 to 400 mm (0.1 to 16 in.)	GRV
Grounding Rings (Plate Type W)	Titanium, Thick Type. Thickness: 3 mm (0.12 in.)	Applicable for PFA lining of flange type sizes 2.5 to 400 mm (0.1 to 16 in.) and ceramics tube sizes 15 to 200 mm (0.5 to 8 in.).	GRW
Grounding Rings (Electrode Type P)	Platinum-Iridium Thickness (Width): 14 mm (0.55 in.) for sizes 2.5 to 125 mm (0.1 to 5 in.) 16 mm (0.63 in.) for sizes 150 and 200 mm (6 and 8 in.)	Applicable for PFA lining sizes 2.5 to 200 mm (0.1 to 8 in.) and ceramics tube sizes 15 to 200 mm (0.5 to 8 in.).	GRP
Grounding Rings (Electrode Type T)	Tantalum Thickness (Width): 14 mm (0.55 in.) for sizes 2.5 to 125 mm (0.1 to 5 in.) 16 mm (0.63 in.) for sizes 150 and 200 mm (6 and 8 in.)		GRT
Built-in Grounding Electrodes (Type P)	Platinum-Iridium	Applicable for PFA lining of flange type sizes 150 to 400 mm (6 to 16 in.). The material of the built-in grounding electrodes is limited to the same material as the electrode material for flow measurement selected by the suffix code.	GBP
Built-in Grounding Electrodes (Type T)	Tantalum		GBT

●Gasket

Note: Below are the gaskets between sensor flange and grounding ring

Item	Specification	Applicable Condition	Code
Plastic Pipe Gaskets	Fluoro rubber gasket (Viton) for resin piping such as PVC. The allowable temperature and pressure range is the same as those of Valqua #4010 with no special formulation.	Applicable for PFA lining sizes 2.5 to 200 mm (0.1 to 8 in.) and ceramics tube sizes 15 to 200 mm (0.5 to 8 in.), except for hygienic use and high pressure type (ASME Class 600 flange). Necessary to be combined with thick grounding rings plate type (N, J, W) or grounding rings electrode type (P, T).	GA
Plastic Pipe Acid-resistant Gaskets	Fluoro rubber gasket (Viton) for resin piping such as PVC. The allowable temperature and pressure range is the same as those of Valqua #4010 with special formulation D2470.		GC
Plastic Pipe Alkali-resistant Gaskets	Fluoro rubber gasket (Viton) for resin piping such as PVC. The allowable temperature and pressure range is the same as those of Valqua #4010 with special formulation D0970.		GD

(Continued)

Item	Specification	Applicable Condition	Code
Metal Pipe Alkali-resistant Gaskets	Alkali resistant (fluorocarbon resin containing carbon) gasket for metal piping. The allowable temperature and pressure range is the same as those of Valqua #7026.	Applicable for ceramics tube. Union joint type (sizes 10 mm or less) can be selected without limitation. In case of wafer type (sizes 15 to 200 mm), it is necessary to be combined with thick grounding rings plate type (N, J, W) or grounding rings electrode type (P, T).	GF
Hygienic Use Silicone Rubber Gaskets	Change the gasket (Standard: Ethylene propylene diene rubber EPDM) fixed between the measuring pipe and piping connection adapter to silicone rubber gasket. Select this option when the fluid temperature is 120 to 160°C (248 to 320 °F).	Applicable for Hygienic Use, except for size 32 mm (1.25 in.).	GH

●Direction of Cable Entry / Cable Gland

Item	Specification	Applicable Condition	Code
Cable Entry Direction Change	Rotate the transmitter part of integral type or the terminal box of remote sensor and change the direction of the cable entry. Specify + 90 °, + 180 °, or -90 °. For specifying procedures, please refer to "Ordering Information".	Applicable for integral type and remote sensor.	RH
Waterproof Glands (Type G)	2 pcs. of waterproof gland	Applicable for General-purpose Use and Hygienic Use of remote sensor. For cable entry, selection of JIS G1/2 female thread is necessary.	EG
Waterproof Glands (Type G2)	2 pcs. of waterproof gland, and a blanking plug	Applicable for General-purpose Use and Hygienic Use of integral type. For cable entry, selection of JIS G1/2 female thread is necessary.	EG2
Waterproof Glands (Type G3)	3 pcs. of waterproof gland		EG3
Waterproof Glands (Type G4)	4 pcs. of waterproof gland, and a blanking plug		EG4
Waterproof Glands (Type G5)	5 pcs. of waterproof gland	Applicable for remote transmitter. For cable entry, selection of JIS G1/2 female thread is necessary.	EG5
Waterproof Glands (Type U)	2 pcs. of waterproof gland with union joint	Applicable for General-purpose Use and Hygienic Use of remote sensor. For cable entry, selection of JIS G1/2 female thread is necessary.	EU
Waterproof Glands (Type U2)	2 pcs. of waterproof gland with union joint, and a blanking plug	Applicable for General-purpose Use and Hygienic Use of integral type. For cable entry, selection of JIS G1/2 female thread is necessary.	EU2
Waterproof Glands (Type U3)	3 pcs. of waterproof gland with union joint		EU3
Waterproof Glands (Type U4)	4 pcs. of waterproof gland with union joint, and a blanking plug	Applicable for remote transmitter. For cable entry, selection of JIS G1/2 female thread is necessary.	EU4
Waterproof Glands (Type U5)	5 pcs. of waterproof gland with union joint		EU5
Plastic Glands (Type P)	2 pcs. of plastic gland	Applicable for General-purpose Use and Hygienic Use of remote sensor. For cable entry, selection of JIS G1/2 female thread is necessary.	EP
Plastic Glands (Type P2)	2 pcs. of plastic gland, and a blanking plug	Applicable for General-purpose Use and Hygienic Use of integral type. For cable entry, selection of JIS G1/2 female thread is necessary.	EP2
Plastic Glands (Type P3)	3 pcs. of plastic gland		EP3
Plastic Glands (Type P4)	4 pcs. of plastic gland, and a blanking plug	Applicable for remote transmitter. For cable entry, selection of JIS G1/2 female thread is necessary.	EP4
Plastic Glands (Type P5)	5 pcs. of plastic gland		EP5
Waterproof Glands (Type W)	2 pcs. of waterproof gland for G3/4 conduit or flexible tube	Applicable for General-purpose Use and Hygienic Use of remote sensor. For cable entry, selection of JIS G1/2 female thread is necessary.	EW

Applicable Models for the Waterproof and Plastic Gland Options:

○: Available —: Not Available

Specification	Optional Code	Applicable Model		
		Integral Type	Remote Sensor	AXG4A Transmitter
Waterproof Glands (Type G)	EG	—	○	—
Waterproof Glands (Type G2)	EG2	○	—	—
Waterproof Glands (Type G3)	EG3	○	—	—
Waterproof Glands (Type G4)	EG4	—	—	○
Waterproof Glands (Type G5)	EG5	—	—	○
Waterproof Glands (Type U)	EU	—	○	—
Waterproof Glands (Type U2)	EU2	○	—	—
Waterproof Glands (Type U3)	EU3	○	—	—
Waterproof Glands (Type U4)	EU4	—	—	○
Waterproof Glands (Type U5)	EU5	—	—	○
Plastic Glands (Type P)	EP	—	○	—
Plastic Glands (Type P2)	EP2	○	—	—
Plastic Glands (Type P3)	EP3	○	—	—
Plastic Glands (Type P4)	EP4	—	—	○
Plastic Glands (Type P5)	EP5	—	—	○
Waterproof Glands (Type W)	EW	—	○	—

●Certificate / Test Report on Material, Calibration, Hydrostatic Test, etc.

Item	Specification	Applicable Condition	Code
Material Certificate	Material certificates for measuring tube, electrodes, grounding devices (grounding ring plate type, grounding ring electrode type, or built-in grounding electrodes), flanges (for flange type), mini flanges (for wafer type), and connection adapters (for Hygienic Use) are reproduced. For ceramics tube type models, only grounding devices (or union joints) are targeted parts.	Applicable for integral type and remote sensor.	M01
Material Certificate (EN 10204-3.1)	Material certificates according to EN 10204 Type 3.1 with a dedicated cover. The target parts are the same as the above (Optional code M01).	Applicable for integral type and remote sensor, except for high pressure type (ASME Class 600 flange) and size 500 mm.	E01
Calibration Certificate (Level 2)	Level 2: The Declaration and the Calibration Equipment List are issued.	Applicable for integral type, remote sensor, and remote transmitter.	L2
Calibration Certificate (Level 3)	Level 3: The Declaration and the Primary Standard List are issued.		L3
Calibration Certificate (Level 4)	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, the result of flow inspection with the customer specified span is described in a test certificate (QIC). For specifiable spans, please refer to "Ordering Information".	Applicable for integral type and remote sensor.	SC
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). Refer to the separate table for the test water pressure on each process connection.	Applicable for integral type and remote sensor, except for Hygienic Use.	T01
Withstand Voltage Test (Type 1)	A voltage of 1000 V AC for 1 minute is applied between the excitation current terminal and the ground terminal, and the result is described in a test certificate (QIC).	Applicable for remote sensor, except for size 500 mm.	WT1
Withstand Voltage Test (Type 2)	A voltage of 1500 V AC for 1 minute is applied between the excitation current terminal and the ground terminal, between the signal terminal and the excitation current terminal, and the result is described in a test certificate (QIC).		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. Test Part: Grounding Rings (Plate Type) Note: The optional code for the grounding rings is necessary to be selected.	Applicable for integral type and remote sensor, except for ceramics tube model with union joints which has no target parts. For Hygienic Use, only Type 3 (PM3) is applicable. Not applicable for size 500 mm, neither.	PM1
PMI Test (Type 2)	The same as above. Test Part: Stainless steel flanges (for flange type)		PM2
PMI Test (Type 3)	The same as above. Test Part: Sensor Pipe (Ceramics Tube not applicable)		PM3
Liquid Penetration Test	Liquid penetrating test on welded parts of flanges (for flange type) or mini-flanges (for wafer type) is performed and a test report is issued.	Followings have no welded parts and are not applicable. - Wafer type of sizes 2.5 to 125 mm - Flange type of sizes 2.5 to 15 mm - Hygienic Use - Ceramics Tube	PT

Test Water Pressure for Hydrostatic Test (Optional Code T01):

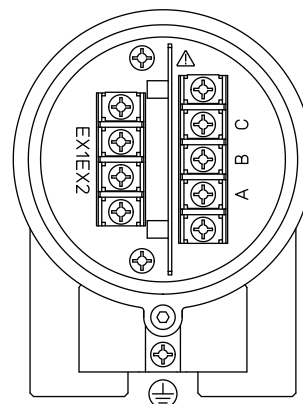
Process connection code	Process connection	Size: mm (in.)	Water pressure (MPa)
□A1	ASME Class 150	2.5 to 15 (0.1 to 0.5)	3.0
		25 to 50 (1 to 2)	3.0
		65 to 125 (2.5 to 5)	3.0
		150 to 300 (6 to 12)	3.0
		350, 400 (14, 16)	1.5
		500 (20)	1.5
□A2	ASME Class 300	2.5 to 15 (0.1 to 0.5)	6.0
		25 to 50 (1 to 2)	6.0
		65 to 125 (2.5 to 5)	3.0
		150 to 300 (6 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
□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, 400 (14, 16)	1.5
□J1	JIS 10K	2.5 to 300 (0.1 to 12)	2.1
		350, 400 (14, 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, 400 (14, 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

■ ACCESSORIES

Centering device (wafer type only): 1 pc.

■ TERMINAL CONFIGURATION AND WIRING**Remote Sensor:**

<To be wired to Remote Transmitter>



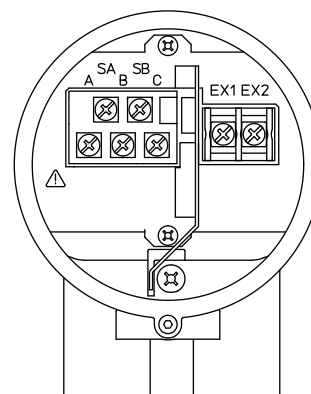
Terminal Symbol	Description
A B C	Flow Signal Output
EX1 EX2	Excitation Current Input
	Protective Grounding (Outside of the terminal box)

F28.ai

Note: When Submersible Use or optional code DHC is selected, waterproof glands with union joints and a 30-meter length cable as standard are attached.

Remote Transmitter:

<To be wired to Remote Sensor>

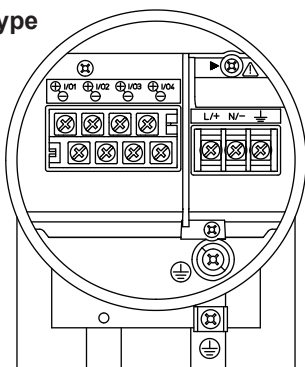
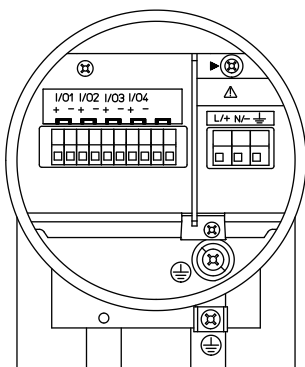


Terminal Symbol	Description
SA SB A B C	Flow Signal Input
EX1 EX2	Excitation Current Output

F29.ai

Integral Type Flowmeter / Remote Transmitter:

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

M4 Screw Type**Clamp Type****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:

With no gland option:

6.5 to 12 mm (0.26 to 0.47 in.)

With waterproof gland option (code EG, EG□, EU, EU□, EW):

For excitation cable:

10.5 or 11.5 mm (0.41 or 0.45 in.)

For power and output cable:

7.5 to 12 mm (0.3 to 0.47 in.)

With plastic gland option (code EP, EP□):

6 to 12 mm (0.24 to 0.47 in.)

Nominal Cross Section:

Single wire: 0.5 to 2.5 mm²Stranded wire: 0.5 to 1.5 mm²**Excitation Cable for Submersible Use and Optional Code DHC:**

Heat resistant vinyl resin sheath cable

Outer diameter ø 10.5 mm

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

F30.ai

■ DIMENSIONAL DRAWINGS

List of Drawings	
(1) Integral Type Flowmeter, Remote Sensor	P.41
Wafer (PFA Lining)	P.41
Flange (PFA Lining, excluding High Pressure Type)	P.43
- ASME Class 150	P.45
- ASME Class 300	P.46
- EN PN16/PN40	P.47
- EN PN10	P.48
- JIS F12	P.49
- JIS 10K	P.50
- JIS 20K	P.51
- JPI Class 150	P.52
- AS Table D	P.53
- AS Table E	P.54
Flange (PFA Lining, High Pressure Type)	P.55
- ASME Class 600	P.56
Ceramics Tube (Union Joint)	P.57
Ceramics Tube (Wafer)	P.58
Hygienic Use (Clamp, PFA Lining)	P.60
Hygienic Use (Union, PFA Lining)	P.63
Hygienic Use (Butt Weld Joint, PFA Lining)	P.67
(2) Remote Transmitter AXG4A	P.68
(3) Signal Cable AX01C	P.69
(4) Dimensional Tolerance	P.69

- **Wafer (PFA Lining)**

Integral Type Flowmeter

Remote
Sensor

Integral Type Flowmeter

Remote
Sensor

AXG002
AXG005
AXG010
AXG015

-□□□□□**A**□□**A**
 |
 Process
 Connection
 Code
 |
 Lining Code

[illegible]

Ground Terminal (M4)

232 (9.13)*1

56 (2.2)*1 68 (2.68) 83 (3.27) 25 (0.98)

48 (1.89)

113 (4.45)

128 (5.04)

64 (2.52)

72 (2.83)

58 (2.28)

4-ø6.2

*1: This length becomes 21 mm (0.83 in.) shorter when display code N is selected.

*1: This length becomes 21 mm (0.83 in.) shorter when display code N is selected.

- E31.ai

AXG025
AXG032
AXG040
AXG050
AXG065
AXG080
AXG100
AXG125

-□□□□□A□□A

Process
Connection
Code
Lining Code

[illegible]

Technical drawing of the F32 air conditioning unit, showing front and side views with dimensions in mm and inches.

Front View Dimensions:

- Overall width: 232 (9.13)*1
- Left mounting bracket width: 56 (2.2)*1
- Distance from left bracket to center: 68 (2.68)
- Distance between center holes: 83 (3.27)
- Distance from center to right bracket: 25 (0.98)
- Distance from left bracket to right hole: 48 (1.89)
- Right mounting bracket width: 25 (0.98)
- Overall height: 128 (5.04)
- Bottom flange diameter: $\phi 128$

Side View Dimensions:

- Overall height: 113 (4.45)
- Bottom flange diameter: ϕd
- Bottom flange outer diameter: ϕf

Notes:

- *1: This length becomes 21 mm (0.83 in.) shorter when display code N is selected.

*1: This length becomes 21 mm (0.83 in.) shorter when display code N is selected.

E32 ai

AXG150
AXG200

-□□□□□**A**□□**A**

Process
Connection
Code
Lining Code

Technical drawing of the M4 Ground Terminal (M4) showing front and side views with dimensions.

Front View Dimensions:

- Overall Width: 150 (5.91)
- Overall Height: 57 (2.24)
- Top Flange Height: 42 (1.65)
- Bottom Flange Height: 42 (1.65)

Side View Dimensions:

- Overall Height: 137 (5.39)
- Top Flange Height: 48 (1.89)
- Ground Terminal (M4) Diameter: $\varnothing 91$ (3.58)
- Lifting Hole $\varnothing 2$ Diameter: 2
- Base Height: 33 (1.30)
- Base Width: 150 (5.91)

Other Labels:

- Ground Terminal (M4)
- Lifting Hole $\varnothing 2$
- Base

Ground Terminal (M4)

232 (9.13)*1

56 (2.2)*1 68 (2.68) 83 (3.27) 48 (1.89) 25 (0.98)

128 (5.04)

113 (4.45)

*1: This length becomes 21 mm (0.83 in.) shorter when display code N is selected.

*2: Similar design to standardized eye bolt.

*1: This length becomes 21 mm (0.83 in.) shorter when display code N is selected.

*2: Similar design to standardized eye bolt.

F33.ai

○ Wafer (PFA Lining)

Unit: mm (approx. in.)

Model	Process Connection Code		AA1, AA2, AJ1, AJ2													
			AE4							AE2						
			-	-	-	-	-	-	-	-	-	-	-	-	-	AE1
			-	-	-	-	-	-	-	-	-	-	-	-	-	-
			AP1							AP1						
Size Code			002	005	010	015	025	032	040	050	065	080	100	125	150	200
Size			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)
Lining Code			A	A	A	A	A	A	A	A	A	A	A	A	A	A
Remote Sensor	Lay Length (*1)	L	79 (3.11)	79 (3.11)	79 (3.11)	79 (3.11)	58 (2.30)	68 (2.69)	68 (2.69)	78 (3.09)	98 (3.87)	118 (4.66)	148 (5.84)	198 (7.81)	197 (7.74)	247 (9.70)
	Outer Diameter	øD	44 (1.73)	44 (1.73)	44 (1.73)	44 (1.73)	68 (2.66)	73 (2.87)	86 (3.39)	99 (3.90)	117 (4.61)	129 (5.08)	155 (6.10)	183 (7.20)	202 (7.94)	252 (9.91)
	Lining Inner Diameter	ød	2 (0.09)	5 (0.19)	8 (0.30)	13 (0.51)	24 (0.93)	29 (1.13)	37 (1.44)	49 (1.94)	61 (2.40)	73 (2.87)	97 (3.82)	121 (4.76)	145 (5.72)	194 (7.65)
	Height	H1	167 (6.57)	167 (6.57)	167 (6.57)	167 (6.57)	110 (4.33)	116 (4.57)	129 (5.08)	148 (5.83)	165 (6.50)	175 (6.89)	201 (7.91)	230 (9.06)	244 (9.62)	294 (11.59)
	Height	H3	-	-	-	-	-	-	-	-	-	-	-	-	235 (9.26)	285 (11.22)
Remote Sensor	Maximum Height	Hr	284 (11.18)	284 (11.18)	284 (11.18)	284 (11.18)	227 (8.94)	233 (9.17)	246 (9.69)	265 (10.43)	282 (11.10)	292 (11.50)	318 (12.52)	347 (13.66)	362 (14.24)	412 (16.21)
	Approx. Weight, Unit: kg (lb) (*2)		2.7 (6.0)	2.7 (6.0)	2.7 (6.0)	2.7 (6.0)	2.2 (4.9)	2.4 (5.3)	2.6 (5.7)	3.2 (7.1)	3.9 (8.6)	4.6 (10.1)	6.3 (13.9)	10.5 (23.2)	15 (33.1)	22 (48.6)
Integral Type Flowmeter	Maximum Height	Hi	329 (12.95)	329 (12.95)	329 (12.95)	329 (12.95)	272 (10.71)	278 (10.94)	291 (11.46)	310 (12.20)	327 (12.87)	337 (13.27)	363 (14.29)	392 (15.43)	406 (16.00)	456 (17.97)
	Approx. Weight, Unit: kg (lb)		5.3 (11.7)	5.3 (11.7)	5.3 (11.7)	5.3 (11.7)	4.8 (10.6)	4.9 (10.8)	5.1 (11.2)	5.7 (12.6)	6.4 (14.1)	7.2 (15.9)	8.8 (19.4)	13.1 (28.9)	17 (37.5)	25 (55.2)
Grounding rings thin type (GRL, GRH, GRV) (*1)			+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)
Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1)			+8 (+0.31)	+8 (+0.31)	+8 (+0.31)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+12 (+0.47)	+12 (+0.47)
Grounding rings electrode type (GRP, GRT) (*1)			+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+32 (+1.26)	+32 (+1.26)
Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)			+30 (+1.18)	+30 (+1.18)	+30 (+1.18)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+38 (+1.50)	+38 (+1.50)

*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 and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

● Flange (PFA Lining, excluding High Pressure Type)

Unit: mm (approx. in.)

Size 2.5 to 15 mm

AXG002
AXG005
AXG010
AXG015

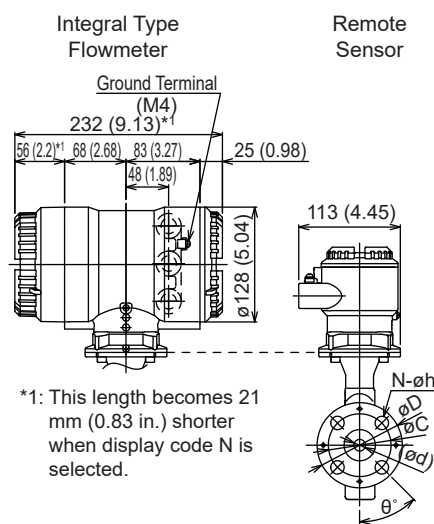
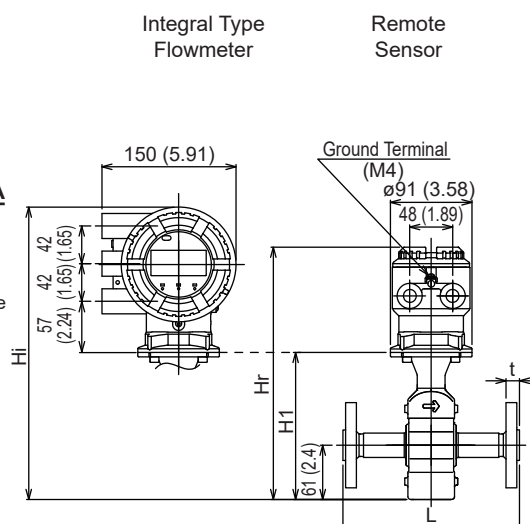
Size Code

■=B, D, P

□□□□□■□□A

Process Connection Code

Lining Code



F34.ai

Size 25 to 125 mm

AXG025
AXG032
AXG040
AXG050
AXG065
AXG080
AXG100
AXG125

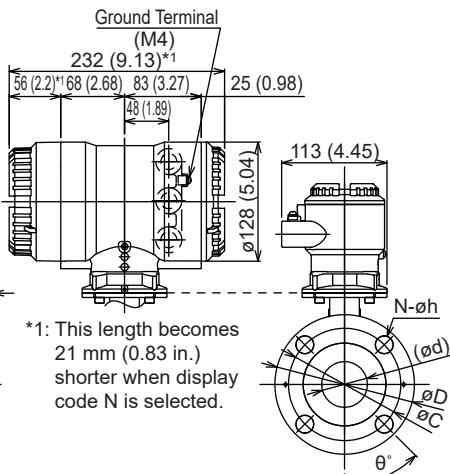
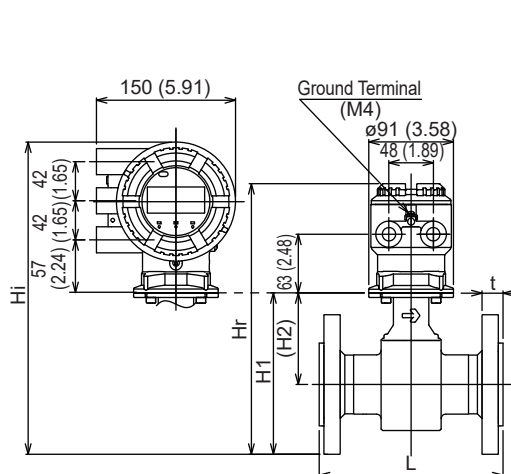
Size Code

■=B, P, C

□□□□□■□□A

Process Connection Code

Lining Code



F35.ai

Size 150, 200 mm

AXG150
AXG200

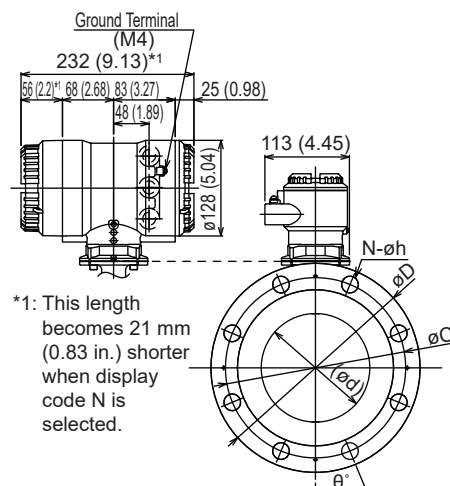
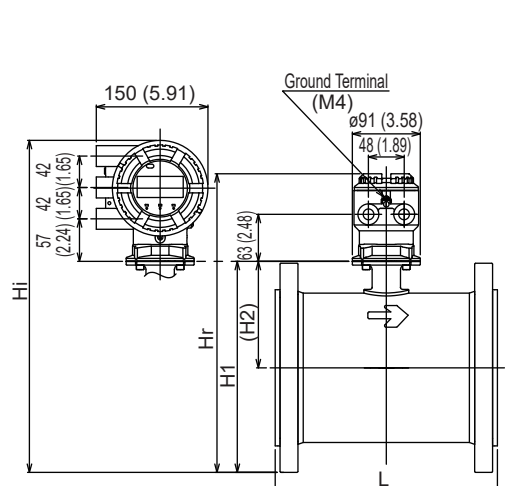
Size Code

■=B, P, C

□□□□□■□□A

Process Connection Code

Lining Code



F36.ai

Unit: mm (approx. in.)

Size 250 to 400 mm

AXG250

AXG300

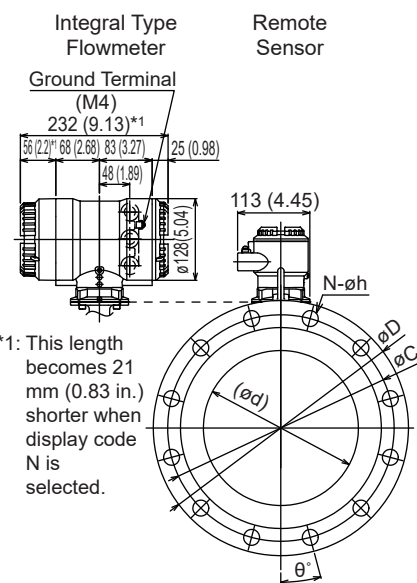
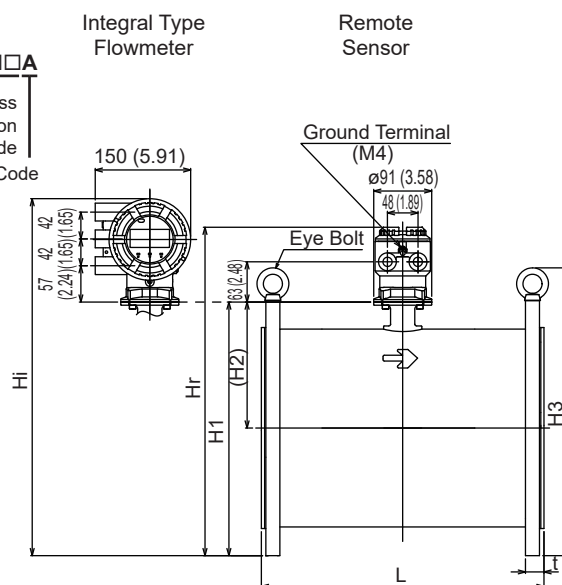
AXG350

AXG400

Size Code

■=B, P, C

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



F37.ai

Size 500 mm

AXG500

AXG500

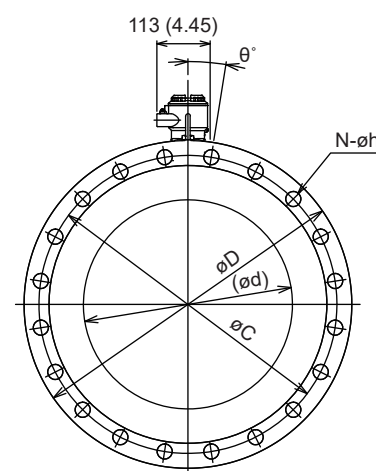
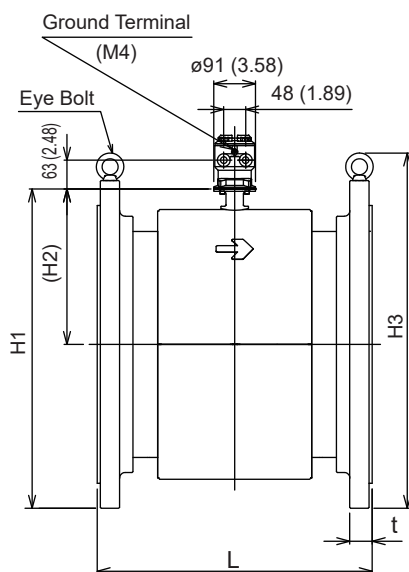
AXG500

AXG500

Size Code

■=B, C

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



F38.ai

○ Flange, ASME Class 150

Unit: mm (approx. in.)

Model	Process Connection Code		BA1																		
			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	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)		
Lining Code	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		
Remote sensor	Lay Length (*1)	L	148 (5.83)	148 (5.83)	148 (5.83)	198 (7.80)	198 (7.78)	198 (7.78)	198 (7.78)	198 (7.78)	198 (7.78)	248 (9.74)	248 (9.74)	298 (11.71)	348 (13.68)	446 (17.54)	496 (19.51)	546 (21.48)	596 (23.44)	600 (23.62)	
	Flange Outer Diameter	øD	90 (3.54)	90 (3.54)	90 (3.54)	90 (3.54)	110 (4.33)	115 (4.53)	125 (4.92)	150 (5.91)	180 (7.09)	190 (7.48)	230 (9.06)	255 (10.02)	280 (11.02)	345 (13.58)	405 (15.94)	485 (19.09)	535 (21.06)	595 (23.43)	700 (27.56)
	Flange Thickness (incl. lining flare)	t	19.2 (0.76)	19.2 (0.76)	19.2 (0.76)	16.2 (0.64)	18.7 (0.74)	19.3 (0.76)	20.9 (0.82)	22.5 (0.89)	25.7 (1.01)	27.3 (1.07)	27.3 (1.07)	27.3 (1.07)	30.4 (1.20)	33.5 (1.32)	35.6 (1.40)	37.2 (1.46)	40.9 (1.61)	42.5 (1.67)	48.6 (1.91)
	Lining Inner Diameter	ød	2 (0.09)	5 (0.19)	8 (0.30)	13 (0.51)	24 (0.93)	29 (1.13)	37 (1.44)	49 (1.94)	61 (2.40)	73 (2.87)	97 (3.82)	121 (4.76)	145 (5.72)	194 (7.65)	243 (9.55)	292 (11.51)	323 (12.73)	374 (14.70)	459 (18.07)
	Bolt Circle Diameter	øC	60.3 (2.37)	60.3 (2.37)	60.3 (2.37)	60.3 (2.37)	79.4 (3.13)	88.9 (3.50)	98.4 (3.87)	120.7 (4.75)	139.7 (5.50)	152.4 (6.00)	190.5 (7.50)	215.9 (8.50)	241.3 (9.50)	298.5 (11.75)	362.0 (14.25)	431.8 (17.00)	476.3 (18.75)	539.8 (21.25)	635.0 (25.00)
	Bolt Hole Interval	θ°	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 (0.63)	15.9 (0.63)	15.9 (0.63)	15.9 (0.63)	15.9 (0.63)	15.9 (0.63)	15.9 (0.63)	19.1 (0.75)	19.1 (0.75)	19.1 (0.75)	19.1 (0.75)	22.2 (0.87)	22.2 (0.88)	22.3 (0.88)	25.4 (1.00)	25.4 (1.00)	28.6 (1.13)	28.6 (1.13)	31.8 (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 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	135 (5.31)	144 (5.67)	149 (5.87)	174 (6.85)	198 (7.80)	209 (8.23)	239 (9.41)	266 (10.47)	283 (11.12)	340 (13.39)	401 (15.78)	465 (18.32)	512 (20.14)	569 (22.41)	689 (27.12)
	Height	H2	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	80 (3.15)	86 (3.39)	86 (3.39)	99 (3.90)	108 (4.25)	114 (4.49)	124 (4.88)	138 (5.43)	143 (5.61)	168 (6.60)	198 (7.81)	223 (8.77)	244 (9.61)	272 (10.70)	339 (13.34)
	Height	H3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	456 (17.95)	536 (21.10)	595 (23.43)	655 (25.79)	760 (29.92)
	Remote sensor	Maximum Height	Hr	281 (11.06)	281 (11.06)	281 (11.06)	281 (11.06)	252 (9.92)	261 (10.28)	266 (10.47)	291 (11.46)	315 (12.40)	326 (12.83)	356 (14.02)	383 (15.08)	400 (15.74)	457 (18.01)	518 (20.40)	583 (22.94)	629 (24.76)	687 (27.03)
Approx. Weight, Unit: kg (lb) (*2)			3.6 (7.9)	3.6 (7.9)	3.6 (7.9)	3.8 (8.4)	4.2 (9.3)	4.8 (10.6)	5.5 (12.1)	7.4 (16.3)	10.8 (23.8)	13.0 (28.7)	18.2 (40.1)	22.8 (50.3)	31 (68.4)	50 (110.4)	79 (174.4)	109 (240.6)	136 (300.2)	173 (381.9)	233 (514.4)
Integral type flowmeter	Maximum Height	Hi	326 (12.83)	326 (12.83)	326 (12.83)	326 (12.83)	297 (11.69)	306 (12.05)	311 (12.24)	336 (13.23)	360 (14.17)	371 (14.61)	401 (15.79)	428 (16.85)	445 (17.50)	502 (19.77)	563 (22.16)	627 (24.69)	674 (26.52)	731 (28.79)	-
	Approx. Weight, Unit: kg (lb)		6.1 (13.5)	6.1 (13.5)	6.1 (13.5)	6.4 (14.1)	6.7 (14.8)	7.3 (16.1)	8.0 (17.6)	9.9 (21.8)	13.7 (30.2)	15.5 (34.2)	20.7 (45.6)	25.4 (56.0)	34 (75.1)	52 (114.8)	82 (181.0)	111 (245.0)	138 (304.6)	175 (386.3)	-
Grounding rings thin type (GRL, GRH, GRV) (*1)			+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+4 (+0.16)	+4 (+0.16)	+4 (+0.16)	+4 (+0.16)	-
Grounding rings thick type (GRN, GRJ, GRW) (*1)			+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+8 (+0.31)
Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1)			+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+12 (+0.47)	+12 (+0.47)				
Grounding rings electrode type (GRP, GRT) (*1)			+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+34 (+1.34)	+34 (+1.34)				
Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)			+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+40 (+1.57)	+40 (+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 and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

○ Flange, ASME Class 300

Unit: mm (approx. in.)

Model	Process Connection Code		BA2																
			PA2				-	PA2				-	PA2				PA2		
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Size Code	002	005	010	015	025	032	040	050	065	080	100	125	150	200	250	300		
Size	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)			
Lining Code	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A		
Remote sensor Integral type flowmeter	Lay Length (*1)	L	148 (5.83)	148 (5.83)	148 (5.83)	198 (7.80)	198 (7.78)	198 (7.78)	198 (7.78)	198 (7.78)	198 (7.78)	248 (9.74)	248 (9.74)	298 (11.71)	348 (13.68)	446 (17.54)	496 (19.51)		
	Flange Outer Diameter	øD	95 (3.74)	95 (3.74)	95 (3.74)	95 (3.74)	125 (4.92)	135 (5.31)	155 (6.10)	165 (6.50)	190 (7.48)	210 (8.27)	255 (10.04)	280 (11.02)	320 (12.60)	380 (14.96)	445 (17.52)	520 (20.47)	
	Flange Thickness (incl. lining flare)	t	20.3 (0.80)	20.3 (0.80)	20.3 (0.80)	17.3 (0.68)	21.9 (0.86)	22.5 (0.89)	24.1 (0.95)	25.7 (1.01)	28.9 (1.14)	32.0 (1.26)	35.2 (1.39)	38.4 (1.51)	41.5 (1.63)	46.2 (1.82)	53.1 (2.09)	56.3 (2.22)	
	Lining Inner Diameter	ød	2 (0.09)	5 (0.19)	8 (0.30)	13 (0.51)	24 (0.93)	29 (1.13)	37 (1.44)	49 (1.94)	61 (2.40)	73 (2.87)	97 (3.82)	121 (4.76)	145 (5.72)	194 (7.65)	243 (9.55)	292 (11.51)	
	Bolt Circle Diameter	øC	66.7 (2.63)	66.7 (2.63)	66.7 (2.63)	66.7 (2.63)	88.9 (3.50)	98.4 (3.87)	114.3 (4.50)	127.0 (5.00)	149.2 (5.87)	168.3 (6.63)	200.0 (7.87)	235.0 (9.25)	269.9 (10.63)	330.2 (13.00)	387.4 (15.25)	450.8 (17.75)	
	Bolt Hole Interval	θ°	45	45	45	45	45	45	22.5	22.5	22.5	22.5	22.5	22.5	15	15	11.25	11.25	
	Bolt Hole Diameter	øh	15.9 (0.63)	15.9 (0.63)	15.9 (0.63)	15.9 (0.63)	19.1 (0.75)	19.1 (0.75)	22.2 (0.87)	22.2 (0.75)	22.2 (0.87)	22.2 (0.87)	22.2 (0.87)	22.2 (0.87)	22.2 (0.87)	25.4 (1.00)	28.6 (1.13)	31.8 (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 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	143 (5.63)	154 (6.06)	164 (6.46)	182 (7.17)	203 (7.99)	219 (8.62)	252 (9.92)	278 (10.94)	303 (11.91)	358 (14.08)	421 (16.57)	483 (19.01)	
	Height	H2	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	80 (3.15)	86 (3.39)	99 (3.90)	108 (4.25)	114 (4.49)	124 (4.88)	138 (5.43)	143 (5.61)	168 (6.60)	198 (7.81)	223 (8.77)		
	Height	H3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	496 (19.53)	571 (22.48)	
	Remote sensor	Maximum Height	Hr	281 (11.06)	281 (11.06)	281 (11.06)	281 (11.06)	260 (10.24)	271 (10.67)	281 (11.06)	299 (11.77)	320 (12.60)	336 (13.23)	369 (14.53)	395 (15.55)	420 (16.53)	475 (18.70)	538 (21.19)	600 (23.62)
		Approx. Weight, Unit: kg (lb) (*2)		3.9 (8.6)	3.9 (8.6)	3.9 (8.6)	4.0 (8.8)	5.2 (11.5)	6.2 (13.7)	8.0 (17.6)	9.3 (20.5)	13.2 (29.1)	17.2 (37.9)	26.7 (58.9)	35.5 (78.3)	47 (103.8)	71 (156.7)	112 (247.2)	152 (335.5)
	Integral type flowmeter	Maximum Height	Hi	326 (12.83)	326 (12.83)	326 (12.83)	326 (12.83)	305 (12.01)	316 (12.44)	326 (12.83)	344 (13.54)	365 (14.37)	381 (15.00)	414 (16.30)	440 (17.32)	465 (18.29)	520 (20.46)	583 (22.95)	645 (25.38)
Approx. Weight, Unit: kg (lb)			6.5 (14.3)	6.5 (14.3)	6.5 (14.3)	6.6 (14.6)	7.8 (17.2)	8.8 (19.4)	10.5 (23.2)	11.8 (26.0)	15.7 (34.6)	19.7 (43.4)	29.2 (64.4)	38.0 (83.8)	50 (110.4)	74 (163.4)	114 (251.7)	155 (342.2)	
Grounding rings thin type (GRL, GRH, GRV) (*1)			+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+4 (+0.16)	+4 (+0.16)	
Grounding rings thick type (GRN, GRJ, GRW) (*1)			+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	
Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1)			+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+12 (+0.47)	+12 (+0.47)		
Grounding rings electrode type (GRP, GRT) (*1)			+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+34 (+1.34)	+34 (+1.34)		
Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)			+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+40 (+1.57)	+40 (+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 and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

○ Flange, EN PN16/PN40

Unit: mm (approx. in.)

Model	Process Connection Code		DE4			BE4										BE2									
			-	-	-	PE4					-	PE4			-	PE2		-	PE2					-	
	Size Code		002	005	010	002	005	010	015	025	032	040	050	065	080	100	125	150	200	250	300	500			
	Size		2.5 (0.1)	5 (0.2)	10 (0.4)	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)	500 (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)	L	148 (5.83)	148 (5.83)	148 (5.83)	148 (5.83)	148 (5.83)	148 (5.83)	198 (7.80)	198 (7.78)	198 (7.78)	198 (7.78)	198 (7.78)	198 (7.78)	248 (9.74)	248 (9.74)	298 (11.71)	348 (13.68)	446 (17.54)	496 (19.51)	600 (23.62)				
	Flange Outer Diameter	øD	90 (3.54)	90 (3.54)	90 (3.54)	95 (3.74)	95 (3.74)	95 (3.74)	95 (3.74)	115 (4.53)	140 (5.51)	150 (5.91)	165 (6.50)	185 (7.28)	200 (7.87)	220 (8.66)	250 (9.84)	285 (11.22)	340 (13.39)	405 (15.94)	460 (18.11)	715 (28.15)			
	Flange Thickness (incl. lining flare)	t	20.0 (0.79)	20.0 (0.79)	20.0 (0.79)	20.0 (0.79)	20.0 (0.79)	20.0 (0.79)	19.0 (0.75)	22.0 (0.87)	21.0 (0.83)	21.0 (0.83)	23.0 (0.91)	21.0 (0.83)	23.0 (0.91)	23.0 (0.91)	25.0 (0.98)	25.5 (1.00)	27.5 (1.08)	30.0 (1.18)	31.0 (1.22)	49.3 (1.94)			
	Lining Inner Diameter	ød	2 (0.09)	5 (0.19)	8 (0.30)	2 (0.09)	5 (0.19)	8 (0.30)	13 (0.51)	24 (0.93)	29 (1.13)	37 (1.44)	49 (1.94)	61 (2.40)	73 (2.87)	97 (3.82)	121 (4.76)	145 (5.72)	194 (7.65)	243 (9.55)	292 (11.51)	459 (18.07)			
	Bolt	øC	60 (2.36)	60 (2.36)	60 (2.36)	65 (2.56)	65 (2.56)	65 (2.56)	65 (2.56)	85 (3.35)	100 (3.94)	110 (4.33)	125 (4.92)	145 (5.71)	160 (6.30)	180 (7.09)	210 (8.27)	240 (9.45)	295 (11.61)	355 (13.98)	410 (16.14)	650 (25.59)			
	Circle Diameter		60 (2.36)	60 (2.36)	60 (2.36)	65 (2.56)	65 (2.56)	65 (2.56)	65 (2.56)	85 (3.35)	100 (3.94)	110 (4.33)	125 (4.92)	145 (5.71)	160 (6.30)	180 (7.09)	210 (8.27)	240 (9.45)	295 (11.61)	355 (13.98)	410 (16.14)	650 (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 (0.55)	14 (0.55)	14 (0.55)	14 (0.55)	14 (0.55)	14 (0.55)	14 (0.55)	14 (0.55)	18 (0.71)	18 (0.71)	18 (0.71)	18 (0.71)	18 (0.71)	18 (0.71)	18 (0.71)	18 (0.71)	22 (0.87)	26 (1.02)	26 (1.02)	33 (1.30)			
	Number of Bolt Holes	N	4	4	4	4	4	4	4	4	4	4	4	8	8	8	8	8	12	12	12	20			
	Integral type flowmeter	Height	H1	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	138 (5.43)	156 (6.14)	161 (6.34)	182 (7.17)	201 (7.91)	214 (8.43)	234 (9.21)	263 (10.35)	285 (11.22)	338 (13.29)	401 (15.78)	453 (17.82)	696 (27.42)		
		Height	H2	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	80 (3.15)	86 (3.39)	86 (3.39)	99 (3.90)	108 (4.25)	114 (4.49)	124 (4.88)	138 (5.43)	143 (5.61)	168 (6.60)	198 (7.81)	223 (8.77)	339 (13.34)		
		Height	H3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	456 (17.95)	511 (20.12)	786 (30.94)		
		Maximum Height	Hr	281 (11.06)	281 (11.06)	281 (11.06)	281 (11.06)	281 (11.06)	281 (11.06)	281 (11.06)	255 (10.04)	273 (10.75)	278 (10.94)	299 (11.77)	318 (12.52)	331 (13.03)	351 (13.82)	380 (14.96)	402 (15.84)	455 (17.91)	518 (20.40)	570 (22.44)	814 (32.04)		
	Remote sensor	Approx. Weight, Unit: kg (lb) (*2)		3.9 (8.6)	3.9 (8.6)	3.9 (8.6)	4.1 (9.0)	4.1 (9.0)	4.1 (9.0)	4.2 (9.3)	4.8 (10.6)	6.4 (14.1)	7.1 (15.7)	8.9 (19.6)	9.9 (21.8)	12.4 (27.3)	15.0 (33.1)	20.7 (45.6)	29 (64.0)	44 (97.1)	73 (161.2)	91 (200.9)	247 (545.3)		
Maximum Height		Hi	326 (12.83)	326 (12.83)	326 (12.83)	326 (12.83)	326 (12.83)	326 (12.83)	326 (12.83)	300 (11.81)	318 (12.52)	323 (12.72)	344 (13.54)	376 (14.29)	396 (15.59)	425 (16.73)	447 (17.60)	500 (19.67)	563 (22.16)	615 (24.20)	-	-			
Approx. Weight, Unit: kg (lb)		6.5 (14.3)	6.5 (14.3)	6.5 (14.3)	6.7 (14.8)	6.7 (14.8)	6.7 (14.8)	6.7 (14.8)	7.4 (16.3)	7.4 (16.3)	9.0 (19.8)	9.6 (21.2)	11.4 (25.1)	12.4 (27.3)	15.0 (33.1)	17.6 (38.8)	23.3 (51.4)	31 (68.4)	46 (101.6)	75 (165.6)	93 (205.3)	-			
Grounding rings thin type (GRL, GRH, GRV) (*1)			+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+4 (+0.16)	+4 (+0.16)	-		
Grounding rings thick type (GRN, GRJ, GRW) (*1)			+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+8 (+0.31)		
Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1)			+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+12 (+0.47)	+12 (+0.47)	-	-		
Grounding rings electrode type (GRP, GRT) (*1)			+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+34 (+1.34)	+34 (+1.34)	-	-		
Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)			+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+40 (+1.57)	+40 (+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 and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

○ Flange, EN PN10

Unit: mm (approx. in.)

Model	Process Connection Code		BE1					
			PE1				-	
	Size Code		200	250	300	350	400	500
	Size		200 (8)	250 (10)	300 (12)	350 (14)	400 (16)	500 (20)
Lining Code		A	A	A	A	A	A	
Remote sensor Integral type flowmeter	Lay Length (*1)	L	348 (13.68)	446 (17.54)	496 (19.51)	546 (21.48)	596 (23.44)	600 (23.62)
	Flange Outer Diameter	øD	340 (13.39)	395 (15.55)	445 (17.52)	505 (19.88)	565 (22.24)	670 (26.38)
	Flange Thickness (incl. lining flare)	t	27.5 (1.08)	30.0 (1.18)	29.0 (1.14)	29.5 (1.16)	29.5 (1.16)	33.3 (1.31)
	Lining Inner Diameter	ød	194 (7.65)	243 (9.55)	292 (11.51)	323 (12.73)	374 (14.70)	459 (18.07)
	Bolt	øC	295 (11.61)	350 (13.78)	400 (15.75)	460 (18.11)	515 (20.28)	620 (24.41)
	Circle Diameter	ø°	22.5	15	15	11.25	11.25	9
	Bolt Hole Interval	θ°	22 (0.87)	22 (0.87)	22 (0.87)	22 (0.87)	26 (1.02)	26 (1.02)
	Bolt Hole Diameter	øh	8	12	12	16	16	20
	Number of Bolt Holes	N	338 (13.29)	396 (15.58)	445 (17.53)	497 (19.55)	554 (21.82)	674 (26.53)
	Height	H1	168 (6.60)	198 (7.81)	223 (8.77)	244 (9.61)	272 (10.70)	339 (13.34)
	Height	H2	-	446 (17.56)	496 (19.53)	565 (22.24)	625 (24.61)	730 (28.74)
	Height	H3	455 (17.91)	513 (20.20)	563 (22.15)	614 (24.17)	672 (26.44)	791 (31.15)
	Maximum Height	Hr	44 (97.1)	70 (154.5)	84 (185.4)	105 (231.8)	132 (291.4)	189 (417.2)
	Approx. Weight, Unit: kg (lb) (*2)		500 (19.67)	558 (21.96)	607 (23.91)	659 (25.93)	716 (28.20)	-
Integral type flowmeter	Maximum Height	Hi	47 (103.8)	72 (158.9)	87 (192.1)	108 (238.4)	135 (298.0)	-
	Approx. Weight, Unit: kg (lb)		+2 (+0.08)	+4 (+0.16)	+4 (+0.16)	+4 (+0.16)	+4 (+0.16)	-
Grounding rings thin type (GRL, GRH, GRV) (*1)			+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+8 (+0.31)
Grounding rings thick type (GRN, GRJ, GRW) (*1)			+12 (+0.47)					
Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1)			+34 (+1.34)					
Grounding rings electrode type (GRP, GRT) (*1)			+40 (+1.57)					
Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)								

*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 and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

○ 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 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)	300 (12)	350 (14)	400 (16)
Lining Code			A	A	A	A	A	A	A	A	A
Remote sensor	Lay Length (*1)	L	198 (7.78)	248 (9.74)	248 (9.74)	298 (11.71)	348 (13.68)	446 (17.54)	496 (19.51)	546 (21.48)	596 (23.44)
	Flange Outer Diameter	øD	211 (8.31)	238 (9.37)	263 (10.35)	290 (11.42)	342 (13.46)	410 (16.14)	464 (18.27)	530 (20.87)	582 (22.91)
	Flange Thickness (incl. lining flare)	t	23.0 (0.91)	23.0 (0.91)	25.0 (0.98)	26.5 (1.04)	26.5 (1.04)	29.0 (1.14)	28.0 (1.10)	30.5 (1.20)	30.5 (1.20)
	Lining Inner Diameter	ød	73 (2.87)	97 (3.82)	121 (4.76)	145 (5.72)	194 (7.65)	243 (9.55)	292 (11.51)	323 (12.73)	374 (14.70)
	Bolt	øC	168 (6.61)	195 (7.68)	220 (8.66)	247 (9.72)	299 (11.77)	360 (14.17)	414 (16.30)	472 (18.58)	524 (20.63)
	Circle Diameter										
	Bolt Hole Interval	ø°	45	45	30	30	22.5	22.5	18	18	15
	Bolt Hole Diameter	øh	19 (0.75)	19 (0.75)	19 (0.75)	19 (0.75)	19 (0.75)	23 (0.91)	23 (0.91)	25 (0.98)	25 (0.98)
	Number of Bolt Holes	N	4	4	6	6	8	8	10	10	12
	Height	H1	220 (8.66)	243 (9.57)	270 (10.63)	288 (11.32)	339 (13.33)	403 (15.88)	455 (17.90)	509 (20.04)	563 (22.16)
Integral type flowmeter	Height	H2	114 (4.49)	124 (4.88)	138 (5.43)	143 (5.61)	168 (6.60)	198 (7.81)	223 (8.77)	198 (7.81)	223 (8.77)
	Height	H3	-	-	-	-	-	461 (18.15)	515 (20.28)	581 (22.87)	633 (24.92)
	Maximum Height	Hr	337 (13.27)	360 (14.17)	387 (15.24)	405 (15.94)	456 (17.95)	521 (20.50)	572 (22.52)	626 (24.66)	680 (26.78)
	Approx. Weight, Unit: kg (lb) (*2)		12.8 (28.2)	16.1 (35.5)	21.2 (46.7)	30 (66.2)	43 (94.9)	73 (161.2)	88 (194.3)	114 (251.7)	140 (309.1)
	Maximum Height	Hi	382 (15.04)	405 (15.94)	432 (17.01)	450 (17.70)	501 (19.71)	565 (22.26)	617 (24.28)	671 (26.42)	725 (28.54)
Remote sensor	Approx. Weight, Unit: kg (lb)		15.3 (33.7)	18.7 (41.2)	23.6 (52.0)	33 (72.9)	46 (101.6)	75 (165.6)	90 (198.7)	116 (256.1)	142 (313.5)
	Grounding rings thin type (GRL, GRH, GRV) (*1)			+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+4 (+0.16)	+4 (+0.16)	+4 (+0.16)
Grounding rings thick type (GRN, GRJ, GRW) (*1)			+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)
Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1)			+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+12 (+0.47)	+12 (+0.47)				
Grounding rings electrode type (GRP, GRT) (*1)			+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+34 (+1.34)	+34 (+1.34)				
Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)			+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+40 (+1.57)	+40 (+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 and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

○ Flange, JIS 10K

Unit: mm (approx. in.)

Model	Process Connection Code	DJ1			PJ1										BJ1														
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Size Code	002	005	010	002	005	010	015	025	032	040	050	065	080	100	125	150	200	250	300	350	400	002	005	010	015	025	
Size	2.5	5	10	2.5	5	10	15	25	32	40	50	65	80	100	125	150	200	250	300	350	400	2.5	5	10	15	25			
Lining Code	A	A	A	A	A	A	A	A	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)	L	148 (5.83)	148 (5.83)	148 (5.83)	148 (5.83)	148 (5.83)	148 (5.83)	198 (7.80)	198 (7.78)	198 (7.78)	198 (7.78)	198 (7.78)	198 (7.78)	248 (9.74)	248 (9.74)	298 (11.71)	348 (13.68)	446 (17.54)	496 (19.51)	546 (21.48)	596 (23.4)	148 (5.83)	148 (5.83)	148 (5.83)	198 (7.80)	198 (7.78)		
	Flange Outer Diameter	øD	90 (3.54)	90 (3.54)	90 (3.54)	95 (3.74)	95 (3.74)	95 (3.74)	95 (3.74)	125 (4.92)	135 (5.31)	140 (5.16)	155 (6.09)	175 (6.89)	185 (7.28)	210 (8.27)	250 (9.84)	280 (11.02)	330 (12.99)	400 (15.75)	445 (17.52)	490 (19.29)	560 (22.05)	90 (3.54)	90 (3.54)	90 (3.54)	95 (3.74)	95 (3.74)	
	Flange Thickness (incl. lining flare)	t	18.0 (0.71)	18.0 (0.71)	18.0 (0.71)	18.0 (0.71)	18.0 (0.71)	18.0 (0.71)	15.0 (0.59)	20.0 (0.79)	21.0 (0.83)	21.0 (0.83)	23.0 (0.83)	23.0 (0.91)	23.0 (0.91)	25.0 (0.91)	26.5 (1.04)	26.5 (1.04)	29.0 (1.14)	28.0 (1.10)	30.5 (1.20)	32.5 (1.28)	18.0 (0.71)	18.0 (0.71)	18.0 (0.71)	15.0 (0.59)	20.0 (0.79)		
	Lining Inner Diameter	ød	2 (0.09)	5 (0.19)	8 (0.30)	2 (0.09)	5 (0.19)	8 (0.30)	13 (0.51)	24 (0.93)	29 (1.13)	37 (1.44)	49 (1.94)	61 (2.40)	73 (2.87)	97 (3.82)	121 (4.76)	145 (5.72)	194 (7.65)	243 (9.55)	292 (11.51)	323 (12.73)	374 (14.70)	2 (0.09)	5 (0.19)	8 (0.30)	13 (0.51)	24 (0.93)	
	Bolt		65	65	65	70	70	70	70	90	100	105	120	140	150	175	210	240	290	355	400	445	510	65	65	65	70	70	
	Circle Diameter	øC	(2.56)	(2.56)	(2.56)	(2.76)	(2.76)	(2.76)	(2.76)	(3.54)	(3.94)	(4.13)	(4.72)	(5.51)	(5.91)	(6.89)	(8.27)	(9.45)	(11.42)	(13.98)	(15.75)	(17.52)	(20.08)	(2.56)	(2.56)	(2.56)	(2.76)	(2.76)	
	Bolt Hole Interval	ø°	45	45	45	45	45	45	45	45	45	45	45	45	22.5	22.5	22.5	22.5	15	15	11.25	11.25	11.25	45	45	45	45	45	
	Bolt Hole Diameter	øh	15 (0.59)	15 (0.59)	15 (0.59)	15 (0.59)	15 (0.59)	15 (0.59)	15 (0.59)	19 (0.75)	19 (0.75)	19 (0.75)	19 (0.75)	19 (0.75)	19 (0.75)	19 (0.75)	23 (0.91)	23 (0.91)	23 (0.91)	25 (0.98)	25 (0.98)	25 (0.98)	27 (1.06)	15 (0.59)	15 (0.59)	15 (0.59)	15 (0.59)	19 (0.75)	
	Number of Bolt Holes	N	4	4	4	4	4	4	4	4	4	4	4	4	8	8	8	8	12	12	16	16	16	4	4	4	4	4	
	Height	H1	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	143 (5.63)	154 (6.06)	156 (6.14)	177 (6.97)	196 (7.72)	207 (8.15)	229 (9.02)	263 (10.35)	283 (11.12)	333 (13.10)	398 (15.68)	445 (17.53)	489 (19.25)	552 (21.72)	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	
	Height	H2	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	80 (3.15)	86 (3.39)	86 (3.39)	99 (3.90)	108 (4.25)	114 (4.48)	124 (4.88)	138 (5.43)	143 (5.61)	168 (6.60)	198 (7.81)	223 (8.77)	244 (9.61)	272 (10.7)	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	
	Height	H3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	451 (17.78)	496 (19.53)	550 (21.65)	620 (24.41)	-	-	-	-	-	
Remote sensor	Maximum Height	Hr	281 (11.06)	281 (11.06)	281 (11.06)	281 (11.06)	281 (11.06)	281 (11.06)	260 (10.24)	271 (10.67)	273 (10.71)	294 (11.57)	313 (12.32)	324 (12.76)	346 (13.62)	380 (14.96)	400 (15.74)	450 (17.71)	516 (20.30)	563 (22.15)	606 (23.87)	669 (26.34)	281 (11.06)	281 (11.06)	281 (11.06)	281 (11.06)	281 (11.06)		
	Approx. Weight, Unit: kg (lb) (*2)		3.6 (7.9)	3.6 (7.9)	3.6 (7.9)	3.7 (8.2)	3.7 (8.2)	3.7 (8.2)	3.8 (8.4)	4.8 (10.6)	5.9 (13.0)	6.1 (13.5)	7.3 (16.1)	9.6 (21.2)	10.2 (22.5)	13.0 (28.7)	19.1 (42.1)	27 (59.6)	39 (86.1)	67 (147.9)	78 (172.2)	95 (209.7)	126 (278.2)	3.6 (7.9)	3.6 (7.9)	3.6 (7.9)	3.7 (8.2)	3.7 (8.2)	
Integral type flowmeter	Maximum Height	Hi	326 (12.83)	326 (12.83)	326 (12.83)	326 (12.83)	326 (12.83)	326 (12.83)	305 (12.01)	316 (12.44)	318 (12.52)	339 (13.35)	358 (14.09)	369 (14.53)	391 (15.39)	425 (16.73)	445 (19.47)	495 (22.06)	560 (23.91)	607 (25.63)	651 (28.10)	714 (28.10)	326 (12.83)	326 (12.83)	326 (12.83)	326 (12.83)	326 (12.83)		
	Approx. Weight, Unit: kg (lb)		6.2 (13.7)	6.2 (13.7)	6.2 (13.7)	6.3 (13.9)	6.3 (13.9)	6.3 (13.9)	6.4 (14.1)	7.3 (16.1)	8.4 (18.5)	8.7 (19.2)	9.8 (21.6)	12.1 (26.7)	12.7 (28.0)	15.6 (34.4)	21.6 (47.6)	30 (66.2)	41 (90.5)	69 (152.3)	80 (176.6)	97 (214.1)	129 (284.8)	6.2 (13.7)	6.2 (13.7)	6.2 (13.7)	6.3 (13.9)	6.3 (13.9)	
Grounding rings thin type (GRL, GRH, GRV) (*1)			+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+4 (+0.16)	+4 (+0.16)	+4 (+0.16)	+4 (+0.16)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	
Grounding rings thick type (GRN, GRJ, GRW) (*1)			+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	
Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1)			+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+12 (+0.47)	+12 (+0.47)			+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	
Grounding rings electrode type (GRP, GRT) (*1)			+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+34 (+1.34)	+34 (+1.34)			+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	
Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)			+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+40 (+1.57)	+40 (+1.57)			+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	

*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 and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

○ 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 (0.1)	5 (0.2)	10 (0.4)	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)	
Lining Code			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
Remote sensor	Lay Length (*1)		L	148 (5.83)	148 (5.83)	148 (5.83)	148 (5.83)	148 (5.83)	148 (5.83)	198 (7.80)	198 (7.78)	198 (7.78)	198 (7.78)	198 (7.78)	198 (7.78)	248 (9.74)	248 (9.74)	298 (11.71)	348 (13.68)	446 (17.54)	496 (19.51)	
	Flange Outer Diameter		øD	90 (3.54)	90 (3.54)	90 (3.54)	95 (3.74)	95 (3.74)	95 (3.74)	95 (3.74)	125 (4.92)	135 (5.31)	140 (5.51)	155 (6.10)	175 (6.89)	200 (7.87)	225 (8.86)	270 (10.63)	305 (12.01)	350 (13.78)	430 (16.93)	480 (18.90)
	Flange Thickness (incl. lining flare)		t	18.0 (0.71)	18.0 (0.71)	18.0 (0.71)	20.0 (0.79)	20.0 (0.79)	20.0 (0.79)	17.0 (0.67)	22.0 (0.87)	23.0 (0.91)	23.0 (0.91)	23.0 (0.91)	25.0 (0.98)	27.0 (1.06)	29.0 (1.14)	31.0 (1.22)	32.5 (1.28)	34.5 (1.36)	39.0 (1.54)	40.0 (1.57)
	Lining Inner Diameter		ød	2 (0.09)	5 (0.19)	8 (0.30)	2 (0.09)	5 (0.19)	8 (0.30)	13 (0.51)	24 (0.93)	29 (1.13)	37 (1.44)	49 (1.94)	61 (2.40)	73 (2.87)	97 (3.82)	121 (4.76)	145 (5.72)	194 (7.65)	243 (9.55)	292 (11.51)
	Bolt		øC	65 (2.56)	65 (2.56)	65 (2.56)	70 (2.76)	70 (2.76)	70 (2.76)	70 (2.76)	90 (3.54)	100 (3.94)	105 (4.13)	120 (4.72)	140 (5.51)	160 (6.30)	185 (7.28)	225 (8.86)	260 (10.24)	305 (12.01)	380 (14.96)	430 (16.93)
	Circle Diameter		øC	65 (2.56)	65 (2.56)	65 (2.56)	70 (2.76)	70 (2.76)	70 (2.76)	70 (2.76)	90 (3.54)	100 (3.94)	105 (4.13)	120 (4.72)	140 (5.51)	160 (6.30)	185 (7.28)	225 (8.86)	260 (10.24)	305 (12.01)	380 (14.96)	430 (16.93)
	Bolt Hole Interval		θ°	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)	45 (1.77)
	Bolt Hole Diameter		øh	15 (0.59)	15 (0.59)	15 (0.59)	15 (0.59)	15 (0.59)	15 (0.59)	15 (0.59)	19 (0.75)	19 (0.75)	19 (0.75)	19 (0.75)	19 (0.75)	19 (0.75)	23 (0.91)	23 (0.91)	25 (0.98)	25 (0.98)	27 (1.06)	27 (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 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	143 (5.63)	154 (6.06)	156 (6.14)	177 (6.97)	196 (7.72)	214 (8.43)	237 (9.33)	273 (10.75)	295 (11.61)	343 (13.49)	413 (16.27)	463 (18.22)
	Height		H2	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	80 (3.15)	86 (3.39)	86 (3.39)	99 (3.90)	108 (4.25)	114 (4.48)	124 (4.88)	138 (5.43)	143 (5.61)	168 (6.60)	198 (7.81)	223 (8.77)
	Height		H3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	481 (18.94)	531 (20.91)
	Remote sensor	Maximum Height		Hr	281 (11.06)	281 (11.06)	281 (11.06)	281 (11.06)	281 (11.06)	281 (11.06)	260 (10.24)	271 (10.67)	273 (10.75)	294 (11.57)	313 (12.32)	331 (13.03)	354 (13.94)	390 (15.35)	412 (16.23)	460 (18.11)	531 (20.89)	580 (22.84)
Approx. Weight, Unit: kg (lb) (*2)			3.7 (8.2)	3.7 (8.2)	3.7 (8.2)	3.9 (8.6)	3.9 (8.6)	3.9 (8.6)	4.0 (8.8)	5.2 (11.5)	6.3 (13.9)	6.6 (14.6)	7.5 (16.5)	9.9 (21.8)	13.1 (28.9)	17.7 (39.0)	26.5 (58.4)	36 (79.5)	51 (112.6)	90 (198.7)	108 (238.4)	
Integral type flowmeter	Maximum Height		Hi	326 (12.83)	326 (12.83)	326 (12.83)	326 (12.83)	326 (12.83)	326 (12.83)	305 (12.01)	316 (12.44)	318 (12.52)	339 (13.35)	358 (14.09)	376 (14.80)	399 (15.71)	435 (17.13)	457 (17.99)	505 (19.87)	575 (22.65)	625 (24.60)	
	Approx. Weight, Unit: kg (lb)			6.3 (13.9)	6.3 (13.9)	6.3 (13.9)	6.5 (14.3)	6.5 (14.3)	6.5 (14.3)	6.6 (14.6)	7.7 (17.0)	8.8 (19.4)	9.2 (20.3)	10.0 (22.1)	12.5 (27.6)	15.6 (34.4)	20.2 (44.5)	29.1 (64.2)	39 (86.1)	53 (117.0)	92 (203.1)	111 (245.0)
Grounding rings thin type (GRL, GRH, GRV) (*1)			+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+4 (+0.16)	+4 (+0.16)	
Grounding rings thick type (GRN, GRJ, GRW) (*1)			+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	
Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1)			+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+12 (+0.47)	+12 (+0.47)		
Grounding rings electrode type (GRP, GRT) (*1)			+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+34 (+1.34)	+34 (+1.34)		
Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)			+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+40 (+1.57)	+40 (+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 and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

○ 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 (0.1)	5 (0.2)	10 (0.4)	15 (0.5)	25 (1)	40 (1.5)	50 (2)	80 (3)	100 (4)	150 (6)	200 (8)	250 (10)	300 (12)	350 (14)	400 (16)	
	Lining Code		A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	
Remote sensor	Lay Length (*1)	L	148 (5.83)	148 (5.83)	148 (5.83)	198 (7.80)	198 (7.78)	198 (7.78)	198 (7.78)	198 (7.78)	248 (9.74)	298 (11.71)	348 (13.68)	446 (17.54)	496 (19.51)	546 (21.48)	596 (23.44)	
	Flange Outer Diameter	øD	90 (3.54)	90 (3.54)	90 (3.54)	90 (3.54)	110 (4.33)	125 (4.92)	150 (5.91)	190 (7.48)	230 (9.06)	280 (11.02)	345 (13.58)	405 (15.94)	485 (19.09)	535 (21.06)	595 (23.43)	
	Flange Thickness (incl. lining flare)	t	19.2 (0.76)	19.2 (0.76)	19.2 (0.76)	16.2 (0.64)	20.3 (0.80)	22.5 (0.89)	24.1 (0.95)	28.9 (1.14)	28.9 (1.14)	30.4 (1.20)	33.5 (1.32)	35.6 (1.40)	37.2 (1.46)	40.9 (1.61)	42.5 (1.67)	
	Lining Inner Diameter	ød	2 (0.09)	5 (0.19)	8 (0.30)	13 (0.51)	24 (0.93)	37 (1.44)	49 (1.94)	73 (2.87)	97 (3.82)	145 (5.72)	194 (7.65)	243 (9.55)	292 (11.51)	323 (12.73)	374 (14.70)	
	Bolt	øC	60.3 (2.37)	60.3 (2.37)	60.3 (2.37)	60.3 (2.37)	79.4 (3.13)	98.4 (3.87)	120.7 (4.75)	152.4 (6.00)	190.5 (7.50)	241.3 (9.50)	298.5 (11.75)	362.0 (14.25)	431.8 (17.00)	476.3 (18.75)	539.8 (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 (0.63)	16 (0.63)	16 (0.63)	16 (0.63)	16 (0.63)	16 (0.63)	19 (0.75)	19 (0.75)	19 (0.75)	22 (0.87)	22 (0.87)	22 (0.87)	26 (1.02)	26 (1.02)	29 (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 (6.46)	164 (6.46)	164 (6.46)	164 (6.46)	135 (5.31)	149 (5.87)	174 (6.85)	209 (8.23)	239 (9.41)	283 (11.12)	340 (13.39)	401 (15.78)	465 (18.32)	512 (20.14)	569 (22.41)	
	Height	H2	104 (4.09)	104 (4.09)	104 (4.09)	104 (4.09)	80 (3.15)	86 (3.39)	99 (3.90)	114 (4.49)	124 (4.88)	143 (5.61)	168 (6.60)	198 (7.81)	223 (8.77)	244 (9.61)	272 (10.70)	
	Height	H3	-	-	-	-	-	-	-	-	-	-	-	-	456 (17.95)	536 (21.10)	595 (23.43)	655 (25.79)
Remote sensor	Maximum Height	Hr	281 (11.06)	281 (11.06)	281 (11.06)	281 (11.06)	252 (9.92)	266 (10.47)	291 (11.46)	326 (12.83)	356 (14.02)	400 (15.74)	457 (18.01)	518 (20.40)	583 (22.94)	629 (24.76)	687 (27.03)	
	Approx. Weight, Unit: kg (lb) (*2)		3.7 (8.2)	3.7 (8.2)	3.7 (8.2)	3.8 (8.4)	4.3 (9.5)	5.7 (12.6)	7.7 (17.0)	13.2 (29.1)	18.4 (40.6)	31 (68.4)	50 (110.4)	79 (174.4)	109 (240.6)	135 (298.0)	172 (379.7)	
Integral type flowmeter	Maximum Height	Hi	326 (12.83)	326 (12.83)	326 (12.83)	326 (12.83)	297 (11.69)	311 (12.24)	336 (13.23)	371 (14.61)	401 (15.79)	445 (17.50)	502 (19.77)	563 (22.16)	627 (24.69)	674 (26.52)	731 (28.79)	
	Approx. Weight, Unit: kg (lb)		6.1 (13.5)	6.1 (13.5)	6.1 (13.5)	6.2 (13.7)	6.8 (15.0)	8.2 (18.1)	10.1 (22.3)	15.7 (34.6)	20.8 (45.9)	34 (75.1)	52 (114.8)	81 (178.8)	111 (245.0)	138 (304.6)	175 (386.3)	
Grounding rings thin type (GRL, GRH, GRV) (*1)			+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.16)	+2 (+0.16)	+2 (+0.16)	+2 (+0.16)	
Grounding rings thick type (GRN, GRJ, GRW) (*1)			+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	
Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1)			+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+12 (+0.47)	+12 (+0.47)					
Grounding rings electrode type (GRP, GRT) (*1)			+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+34 (+1.34)	+34 (+1.34)				
Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)			+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+32 (+1.26)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+40 (+1.57)	+40 (+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 and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

○ 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 (2)	80 (3)	100 (4)	150 (6)	200 (8)	250 (10)	300 (12)	350 (14)	400 (16)
	Lining Code		A	A	A	A	A	A	A	A	A
Remote sensor Integral type flowmeter	Lay Length (*1)	L	198 (7.78)	198 (7.78)	248 (9.74)	298 (11.71)	348 (13.68)	446 (17.54)	496 (19.51)	546 (21.48)	596 (23.44)
	Flange Outer Diameter	øD	150 (5.91)	185 (7.28)	215 (8.46)	280 (11.02)	335 (13.19)	405 (15.94)	455 (17.91)	525 (20.67)	580 (22.83)
	Flange Thickness (incl. lining flare)	t	13.0 (0.51)	15.0 (0.59)	15.0 (0.59)	17.9 (0.70)	17.9 (0.70)	21.4 (0.84)	24.4 (0.96)	27.9 (1.10)	27.9 (1.10)
	Lining Inner Diameter	ød	49 (1.94)	73 (2.87)	97 (3.82)	145 (5.72)	194 (7.65)	243 (9.55)	292 (11.51)	323 (12.73)	374 (14.70)
	Bolt Circle Diameter	øC	114 (4.49)	146 (5.75)	178 (7.01)	235 (9.25)	292 (11.50)	356 (14.02)	406 (15.98)	470 (18.50)	521 (20.51)
	Bolt Hole Interval	θ°	45	45	45	22.5	22.5	22.5	15	15	15
	Bolt Hole Diameter	øh	18 (0.71)	18 (0.71)	18 (0.71)	18 (0.71)	18 (0.71)	22 (0.87)	22 (0.87)	26 (1.02)	26 (1.02)
	Number of Bolt Holes	N	4	4	4	8	8	8	12	12	12
	Height	H1	174 (6.85)	207 (8.15)	232 (9.13)	283 (11.12)	335 (13.19)	401 (15.78)	450 (17.73)	507 (19.94)	562 (22.12)
	Height	H2	99 (3.90)	114 (4.49)	124 (4.88)	143 (5.61)	168 (6.60)	198 (7.81)	223 (8.77)	244 (9.61)	272 (10.70)
	Height	H3	-	-	-	-	-	447 (17.58)	497 (19.55)	576 (22.68)	631 (24.84)
Remote sensor	Maximum Height	Hr	291 (11.46)	324 (12.76)	349 (13.74)	400 (15.74)	452 (17.81)	518 (20.40)	568 (22.34)	624 (24.56)	679 (26.74)
	Approx. Weight, Unit: kg (lb) (*2)		5.5 (12.1)	8.7 (19.2)	11.8 (26.0)	25 (55.2)	37 (81.7)	65 (143.5)	80 (176.6)	105 (231.8)	131 (289.2)
Integral type flowmeter	Maximum Height	Hi	336 (13.23)	369 (14.53)	394 (15.51)	445 (17.50)	497 (19.57)	563 (22.16)	612 (24.10)	669 (26.32)	724 (28.50)
	Approx. Weight, Unit: kg (lb)		7.9 (17.4)	11.1 (24.5)	14.2 (31.3)	27 (59.6)	39 (86.1)	67 (147.9)	82 (181.0)	107 (236.2)	133 (293.6)
Grounding rings thin type (GRL, GRH, GRV) (*1)			+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+4 (+0.16)	+4 (+0.16)	+4 (+0.16)	+4 (+0.16)
Grounding rings thick type (GRN, GRJ, GRW) (*1)			+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)
Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1)			+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+12 (+0.47)	+12 (+0.47)				
Grounding rings electrode type (GRP, GRT) (*1)			+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+34 (+1.34)	+34 (+1.34)				
Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)			+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+40 (+1.57)	+40 (+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 and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

○ Flange, AS Table E

Unit: mm (approx. in.)

Model	Process Connection Code		CS2						
	Size Code		050	080	100	150	200	250	300
	Size		50	80	100	150	200	250	300
			(2)	(3)	(4)	(6)	(8)	(10)	(12)
Lining Code			A	A	A	A	A	A	A
Remote sensor	Lay Length (*1)	L	198 (7.78)	198 (7.78)	248 (9.74)	298 (11.71)	348 (13.68)	446 (17.54)	496 (19.51)
	Flange Outer Diameter	øD	150 (5.91)	185 (7.28)	215 (8.46)	280 (11.02)	335 (13.19)	405 (15.94)	455 (17.91)
	Flange Thickness (incl. lining flare)	t	15.0 (0.59)	16.0 (0.63)	18.0 (0.71)	21.9 (0.86)	23.9 (0.94)	27.4 (1.08)	30.4 (1.20)
	Lining Inner Diameter	ød	49 (1.94)	73 (2.87)	97 (3.82)	145 (5.72)	194 (7.65)	243 (9.55)	292 (11.51)
	Bolt		114	146	178	235	292	356	406
	Circle Diameter	øC	4.49	5.75	7.01	9.25	11.50	14.02	15.98
	Bolt Hole Interval	θ°	45	45	22.5	22.5	22.5	15	15
	Bolt Hole Diameter	øh	18 (0.71)	18 (0.71)	18 (0.71)	22 (0.87)	22 (0.87)	22 (0.87)	26 (1.02)
	Number of Bolt Holes	N	4	4	8	8	8	12	12
	Height	H1	174 (6.85)	207 (8.15)	232 (9.13)	283 (11.12)	335 (13.19)	401 (15.78)	450 (17.73)
	Height	H2	99 (3.90)	114 (4.49)	124 (4.88)	143 (5.61)	168 (6.60)	198 (7.81)	223 (8.77)
	Height	H3	-	-	-	-	-	456 (17.95)	506 (19.92)
Remote sensor	Maximum Height	Hr	291 (11.46)	324 (12.76)	349 (13.74)	400 (15.74)	452 (17.81)	518 (20.40)	568 (22.34)
	Approx. Weight, Unit: kg (lb) (*2)		5.9 (13.0)	8.9 (19.6)	12.5 (27.6)	28 (61.8)	42 (92.7)	72 (158.9)	89 (196.5)
Integral type flowmeter	Maximum Height	Hi	336 (13.23)	369 (14.53)	394 (15.51)	445 (17.50)	497 (19.57)	563 (22.16)	612 (24.10)
	Approx. Weight, Unit: kg (lb)		8.3 (18.3)	11.3 (24.9)	15.0 (33.1)	30 (66.2)	44 (97.1)	74 (163.4)	91 (200.9)
Grounding rings thin type (GRL, GRH, GRV) (*1)			+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+2 (+0.08)	+4 (+0.16)	+4 (+0.16)
Grounding rings thick type (GRN, GRJ, GRW) (*1)			+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)
Grounding rings thick type (GRN, GRJ, GRW) with gaskets (GA, GC, GD) (*1)			+10 (+0.39)	+10 (+0.39)	+10 (+0.39)	+12 (+0.47)	+12 (+0.47)		
Grounding rings electrode type (GRP, GRT) (*1)			+29 (+1.14)	+29 (+1.14)	+29 (+1.14)	+34 (+1.34)	+34 (+1.34)		
Grounding rings electrode type (GRP, GRT) with gaskets (GA, GC, GD) (*1)			+33 (+1.30)	+33 (+1.30)	+33 (+1.30)	+40 (+1.57)	+40 (+1.57)		

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

*2: When submersible use or optional code DHC is selected, waterproof glands and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

Unit: mm (approx. in.)



○ Flange, ASME Class 600

Unit: mm (approx. in.)

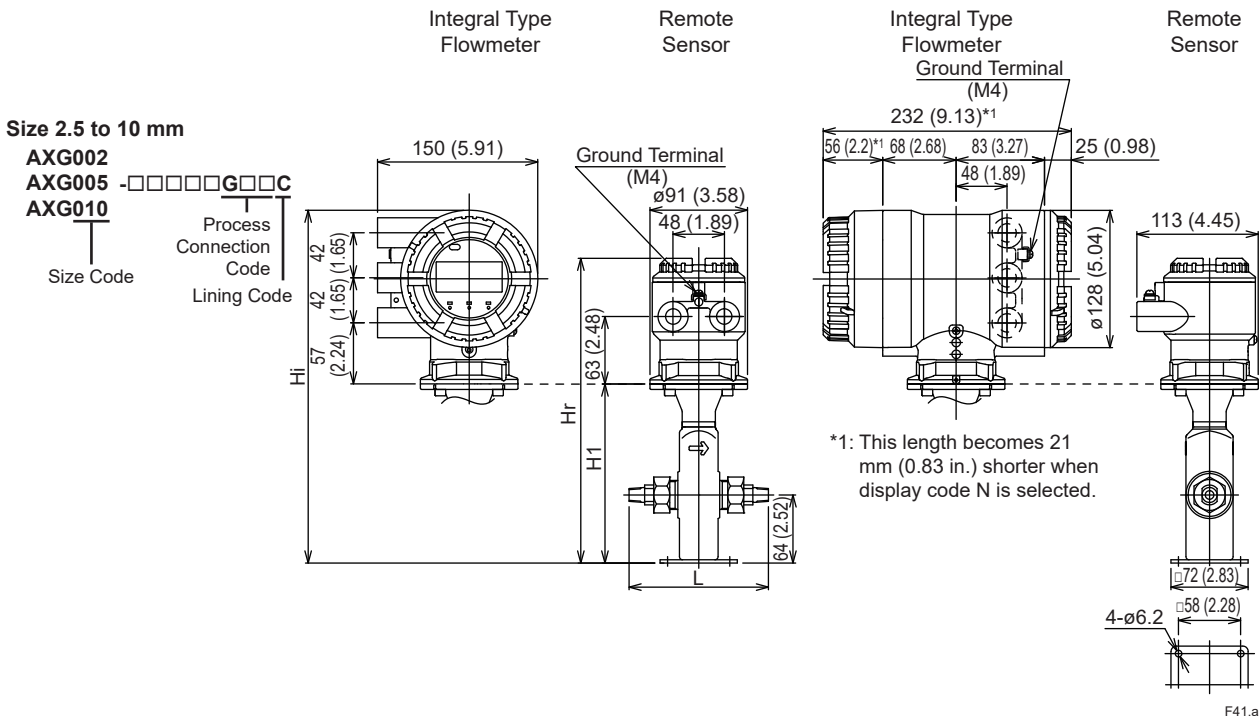
Model	Process Connection Code		EA4				
	Size Code		025	040	050	080	100
	Size		25 (1)	40 (1.5)	50 (2)	80 (3)	100 (4)
	Lining Code		A	A	A	A	A
Remote sensor Integral type flowmeter	Lay Length (*1)	L	209 (8.23)	261 (10.28)	261 (10.28)	261 (10.28)	311 (12.24)
	Flange Outer Diameter	øD	124 (4.88)	155.5 (6.12)	165.1 (6.50)	209.6 (8.25)	273.1 (10.75)
	Flange Thickness (incl. lining flare)	t	29.0 (1.14)	34.4 (1.35)	37.4 (1.47)	43.8 (1.72)	50.1 (1.97)
	Lining Inner Diameter	ød	24 (0.93)	29 (1.16)	41 (1.59)	64 (2.52)	87 (3.43)
	Bolt Circle Diameter	øC	88.9 (3.50)	114.3 (4.50)	127.0 (5.00)	168.1 (6.62)	215.9 (8.50)
	Bolt Hole Interval	θ°	45	45	22.5	22.5	22.5
	Bolt Hole Diameter	øh	19.1 (0.75)	22.4 (0.88)	19.1 (0.75)	22.4 (0.88)	25.4 (1.00)
	Number of Bolt Holes	N	4	4	8	8	8
	Height	H1	148 (5.83)	167 (6.57)	185 (7.28)	222 (8.74)	265 (10.43)
	Height	H2	86 (3.38)	90 (3.53)	103 (4.05)	117 (4.61)	129 (5.07)
	Height	H3	-	-	-	243 (9.57)	306 (12.05)
	Maximum Height	Hr	265 (10.43)	284 (11.18)	302 (11.89)	339 (13.35)	382 (15.04)
Remote sensor	Approx. Weight, Unit: kg (lb) (*2)		5.8 (12.8)	9.2 (20.3)	11.0 (24.3)	19.4 (42.8)	36.9 (81.4)
Integral type flowmeter	Maximum Height	Hi	310 (12.20)	329 (12.95)	347 (13.66)	384 (15.12)	427 (16.81)
	Approx. Weight, Unit: kg (lb)		8.2 (18.1)	11.6 (25.6)	13.4 (29.5)	21.9 (48.3)	39.3 (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 and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

● Ceramics Tube (Union Joint)

Unit: mm (approx. in.)

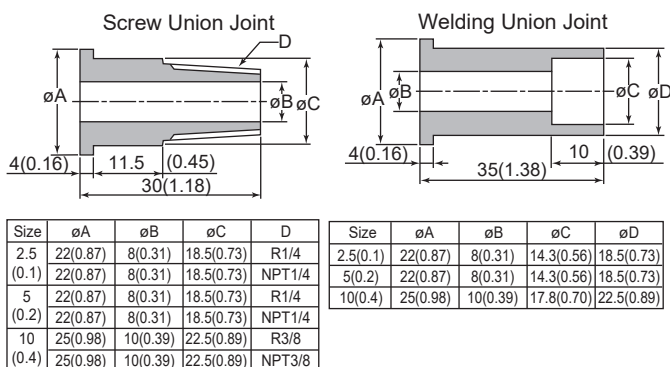


○ Ceramics Tube, Union Joint

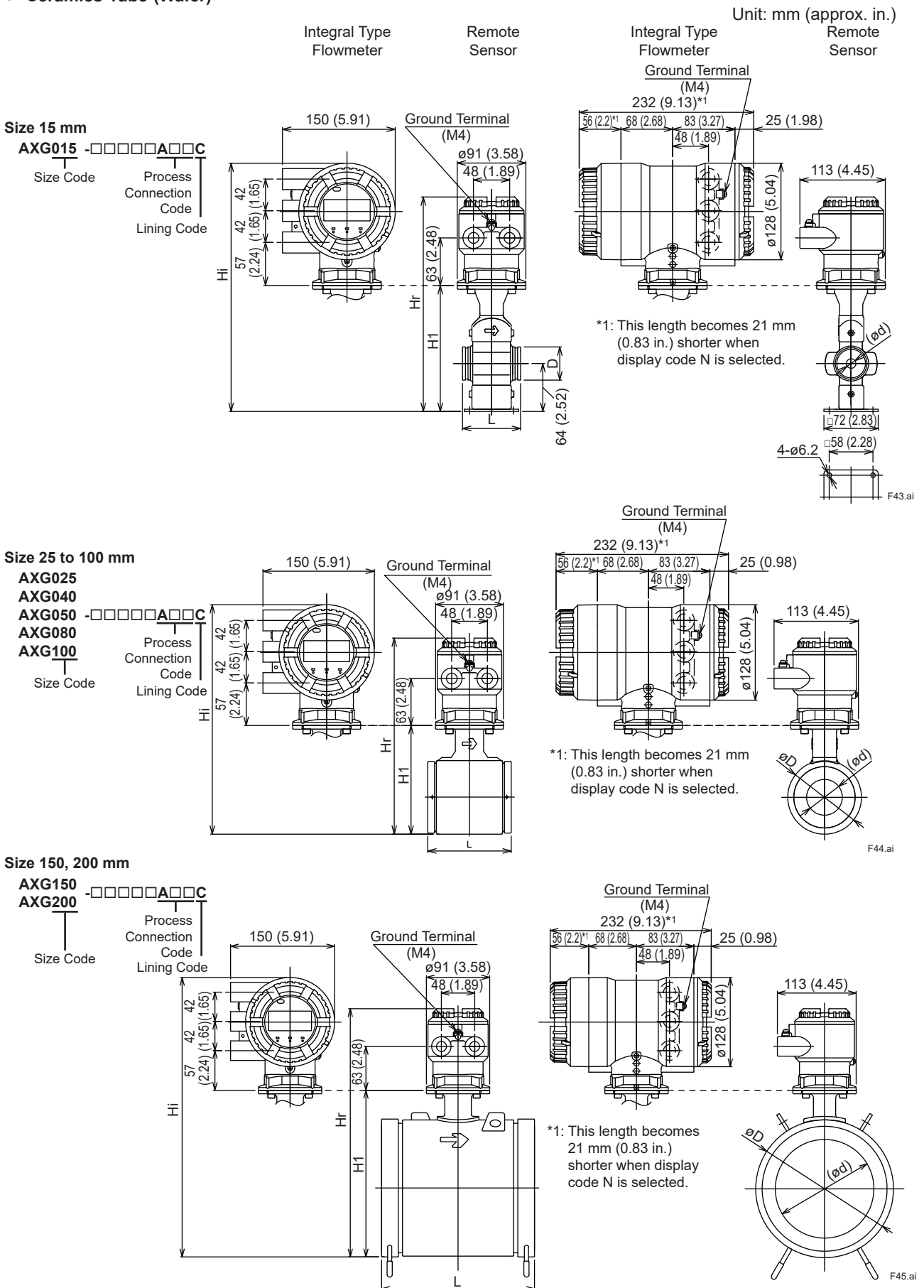
Unit: mm (approx. in.)

Model	Process Connection Code		GUN/GUR (Screw Union Joint)			GUW (Welding Union Joint)		
	Size Code		002	005	010	002	005	010
	Size		2.5 (0.1)	5 (0.2)	10 (0.4)	2.5 (0.1)	5 (0.2)	10 (0.4)
	Lining Code		C	C	C	C	C	C
Remote Sensor	Lay Length	L	130 5.12			140 5.51		
Integral Type Flowmeter	Height	H1	167 6.57			167 6.57		
Remote Sensor	Maximum Height	Hr	284 11.18			284 11.18		
Integral Type Flowmeter	Approx. Weight, Unit: kg (lb) (*1)		2.7 5.95			2.7 5.95		
	Maximum Height	Hi	329 12.95			329 12.95		
	Approx. Weight, Unit: kg (lb)		5.2 11.46			5.2 11.46		

*1: When optional code DHC is selected, waterproof glands and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.



• Ceramics Tube (Wafer)



○ Ceramics Tube, Wafer

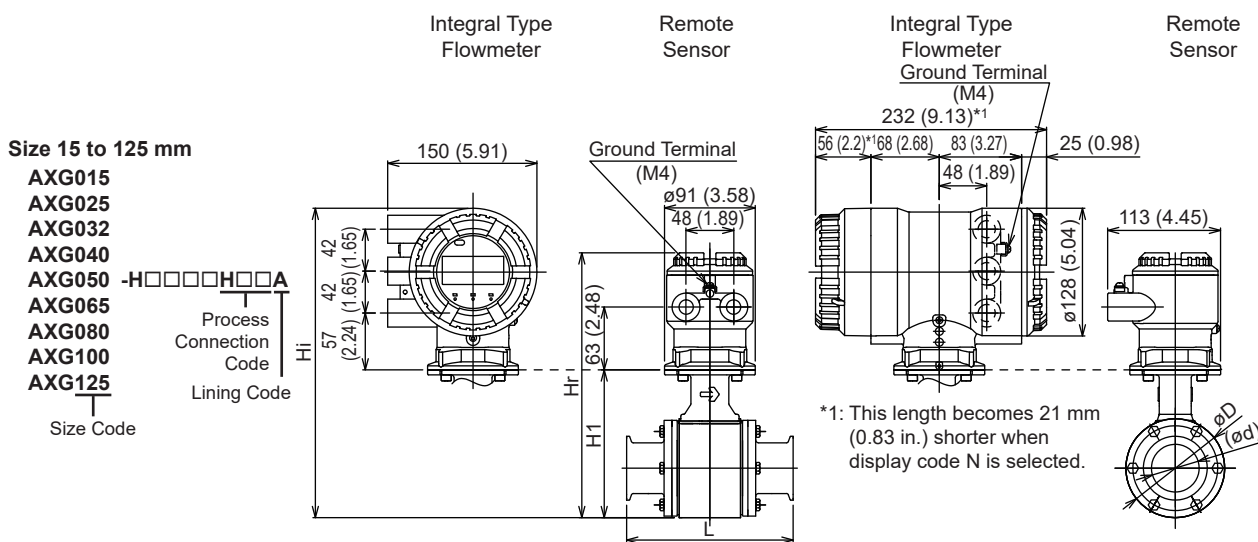
Unit: mm (approx. in.)

Model	Process Connection Code		AA1, AA2, AJ1, AJ2							
			AE4				AE2			
			-	-	-	-	-	-	-	AE1
			-	-	-	-	AG1		-	-
Size Code	Size Code		015	025	040	050	080	100	150	200
	Size		15 (0.5)	25 (1)	40 (1.5)	50 (2)	80 (3)	100 (4)	150 (6)	200 (8)
	Lining Code		C	C	C	C	C	C	C	C
Remote Sensor	Lay Length	L (*1)	79 (3.11)	87 (3.43)	100 (3.94)	114 (4.49)	154 (6.06)	174 (6.85)	226 (8.90)	296 (11.65)
	Outer Diameter	øD	44 (1.73)	67.5 (2.66)	86 (3.39)	99 (3.90)	129 (5.08)	155 (6.10)	214 (8.43)	264 (10.39)
	Pipe Inner Diameter	ød	13 (0.51)	23 (0.91)	36 (1.42)	48 (1.89)	73 (2.87)	93 (3.66)	141 (5.55)	187 (7.36)
	Height	H1	167 (6.57)	110 (4.33)	129 (5.08)	148 (5.83)	175 (6.89)	201 (7.91)	255 (10.04)	305 (12.02)
Remote Sensor	Maximum Height	Hr	284 (11.18)	227 (8.94)	246 (9.69)	265 (10.43)	292 (11.50)	318 (12.52)	372 (14.66)	423 (16.63)
	Approx. Weight, Unit: kg (lb) (*2)		2.7 (6.0)	2.7 (6.0)	3.6 (7.9)	4.5 (9.9)	7.2 (15.9)	10.1 (22.3)	21 (46.4)	34 (75.1)
Integral Type Flowmeter	Maximum Height	Hi	329 (12.95)	272 (10.71)	291 (11.46)	310 (12.20)	337 (13.27)	363 (14.29)	417 (16.42)	467 (18.39)
	Approx. Weight, Unit: kg (lb)		5.2 (11.5)	5.2 (11.5)	6.1 (13.5)	7.0 (15.4)	9.7 (21.4)	12.6 (27.8)	23 (50.8)	36 (79.5)
Grounding rings thick type (GRN, GRJ, GRW) (*1)			+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)
Grounding rings electrode type (GRP, GRT) (*1)			+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+28 (+1.10)	+36 (+1.42)	+36 (+1.42)

- *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.
- *2: When optional code DHC is selected, waterproof glands and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

● Hygienic Use (Clamp, PFA Lining)

Unit: mm (approx. in.)

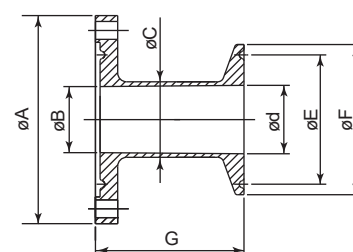


○ Hygienic, Clamp Connection

Unit: mm (approx. in.)

Model	Process Connection		HAB: Tri-Clamp (not applicable for size code 032 and 125) HDB: DIN 32676 Clamp HKB: ISO 2852 / SMS 3016 Clamp HJA/HJB: ISO 2852 Clamp (for JIS G3447 Piping)								
			015	025	032	040	050	065	080	100	125
	Size Code	15 (0.5)	25 (1)	32 (1.25)	40 (1.5)	50 (2)	65 (2.5)	80 (3)	100 (4)	125 (5)	
	Lining Code	A	A	A	A	A	A	A	A	A	
Remote Sensor Integral Type Flowmeter	Lay Length	L	166 (6.54)	166 (6.54)	166 (6.54)	166 (6.54)	176 (6.93)	196 (7.72)	216 (8.50)	246 (9.69)	316 (12.44)
	Outer Diameter	øD	73 (2.87)	73 (2.87)	73 (2.87)	86 (3.39)	99 (3.90)	117 (4.61)	129 (5.08)	155 (6.10)	183 (7.20)
	Inner Diameter	ød	17.5 (0.69)	23.0 (0.91)	29.4 (1.16)	35.7 (1.41)	47.8 (1.88)	59.5 (2.34)	72.3 (2.85)	97.6 (3.84)	133.8 (5.27)
	Height	H1	116 (4.57)	116 (4.57)	116 (4.57)	129 (5.08)	149 (5.87)	166 (6.54)	176 (6.93)	202 (7.95)	230 (9.06)
Remote Sensor	Maximum Height	Hr	233 (9.17)	233 (9.17)	233 (9.17)	246 (9.69)	266 (10.47)	283 (11.14)	293 (11.54)	319 (12.56)	347 (13.66)
	Approx. Weight, Unit: kg (lb) (*1)		3.1 (6.83)	2.9 (6.39)	3.0 (6.61)	3.3 (7.28)	4.1 (9.04)	5.4 (11.90)	6.4 (14.11)	9.1 (20.06)	13.5 (29.76)
Integral Type Flowmeter	Maximum Height	Hi	278 (10.94)	278 (10.94)	278 (10.94)	291 (11.46)	311 (12.24)	328 (12.91)	338 (13.31)	364 (14.33)	392 (15.43)
	Approx. Weight, Unit: kg (lb)		5.6 (12.35)	5.4 (11.90)	5.5 (12.13)	5.8 (12.79)	6.7 (14.77)	7.9 (17.42)	8.9 (19.62)	11.7 (25.79)	16.1 (35.49)

*1: When optional code DHC is selected, waterproof glands and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.



Adapter for clamp connection

○ Hygienic, Clamp Connection Adapter

Unit: mm (approx. in.)

Process Connection	HAB: Tri-Clamp					
Size	15	25	40	50	65	100
øA	70 (2.76)	70 (2.76)	83 (3.27)	96 (3.78)	114 (4.49)	152 (5.98)
øB	16 (0.63)	22.2 (0.87)	34.6 (1.36)	47.6 (1.87)	59.5 (2.34)	97 (3.82)
øC	19.2 (0.76)	25.4 (1.00)	38.1 (1.50)	50.8 (2.00)	63.5 (2.50)	101.6 (4.00)
ød	15.7 (0.62)	22.1 (0.87)	34.8 (1.37)	47.5 (1.87)	60.2 (2.37)	97.4 (3.83)
øE	-	43.6 (1.72)	43.6 (1.72)	56.3 (2.22)	70.6 (2.78)	110.3 (4.34)
øF	25 (0.98)	50.4 (1.98)	50.4 (1.98)	64 (2.52)	77.4 (3.05)	118.9 (4.68)
G	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)
Parts No.	F9811 HU	F9811 HV	F9811 HX	F9811 HY	F9811 HZ	F9811 JB

Unit: mm (approx. in.)

Process Connection	HDB: DIN 32676 Clamp								
Size	15	25	32	40	50	65	80	100	125
øA	70	70	70	83	96	114	126	152	180
	(2.76)	(2.76)	(2.76)	(3.27)	(3.78)	(4.49)	(4.96)	(5.98)	(7.09)
øB	16	22.2	29.4	34.6	47.6	59.5	72.3	97	121
	(3.82)	(0.87)	(1.16)	(1.36)	(1.87)	(2.34)	(2.85)	(3.82)	(4.84)
øC	20	30	36	42	54	70	85	104	129
	(0.79)	(1.18)	(1.42)	(1.65)	(2.13)	(2.76)	(3.35)	(4.09)	(5.08)
ød	16	26	32	38	50	66	81	100	125
	(0.63)	(1.02)	(1.26)	(1.50)	(1.97)	(2.60)	(3.19)	(3.94)	(4.92)
øE	27.5	43.5	43.5	43.5	56.5	83.5	97	110	146
	(1.08)	(1.71)	(1.71)	(1.71)	(2.22)	(3.29)	(3.82)	(4.33)	(5.75)
øF	34	50.5	50.5	50.5	64	91	106	119	155
	(1.34)	(1.99)	(1.99)	(1.99)	(2.52)	(3.58)	(4.17)	(4.69)	(6.10)
G	50	50	50	50	50	50	50	50	60
	(1.97)	(1.97)	(1.97)	(1.97)	(1.97)	(1.97)	(1.97)	(1.97)	(2.36)
Parts No.	F9811 JD	F9811 JE	F9811 JF	F9811 JG	F9811 JH	F9811 JJ	F9811 JK	F9811 JL	F9870 ZD

○ Hygienic, Clamp Connection Adapter

Unit: mm (approx. in.)

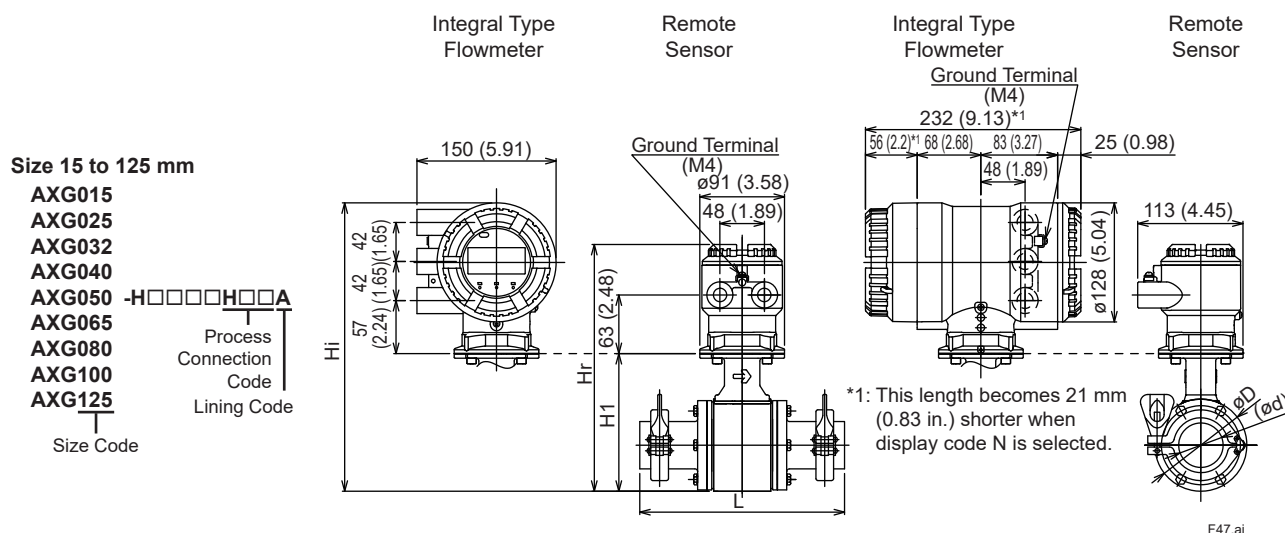
Process Connection	HKB: ISO 2852 / SMS 3016 Clamp								
Size	15	25	32	40	50	65	80	100	125
øA	70 (2.76)	70 (2.76)	70 (2.76)	83 (3.27)	96 (3.78)	114 (4.49)	126 (4.96)	152 (5.98)	180 (7.09)
øB	16 (0.63)	22.2 (0.87)	29.4 (1.16)	34.6 (1.36)	47.6 (1.87)	59.5 (2.34)	72.3 (2.85)	97 (3.82)	121 (4.84)
øC	18 (0.71)	25.6 (1.01)	34.3 (1.35)	38.6 (1.52)	51.6 (2.03)	64.1 (2.52)	76.7 (3.02)	102.5 (4.04)	141.2 (5.56)
ød	15.2 (0.60)	22.6 (0.89)	31.3 (1.23)	35.6 (1.40)	48.6 (1.91)	60.3 (2.37)	72.9 (2.87)	97.6 (3.84)	135.7 (5.34)
øE	27.5 (1.08)	43.5 (1.71)	43.5 (1.71)	43.5 (1.71)	56.5 (2.22)	70.5 (2.78)	83.5 (3.29)	110 (4.33)	146 (5.75)
øF	34 (1.34)	50.5 (1.99)	50.5 (1.99)	50.5 (1.99)	64 (2.52)	77.5 (3.05)	91 (3.58)	119 (4.69)	155 (6.10)
G	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	60 (2.36)
Parts No.	F9811	F9811	F9811	F9811	F9811	F9811	F9811	F9811	F9870
No.	JN	JP	JQ	JR	JS	JT	JU	JV	ZE

Unit: mm (approx. in.)

Process Connection	HKB: ISO 2852 / SMS 3016 Clamp								
Size	15	25	32	40	50	65	80	100	125
øA	70 (2.76)	70 (2.76)	70 (2.76)	83 (3.27)	96 (3.78)	114 (4.49)	126 (4.96)	152 (5.98)	180 (7.09)
øB	16 (0.63)	22.2 (0.87)	29.4 (1.16)	34.6 (1.36)	47.6 (1.87)	59.5 (2.34)	72.3 (2.85)	97 (3.82)	121 (4.76)
øC	21.7 (0.85)	25.4 (1.00)	31.8 (1.25)	38.1 (1.50)	50.8 (2.00)	63.5 (2.50)	76.3 (3.00)	101.6 (4.00)	139.8 (5.50)
ød	17.5 (0.69)	23 (0.91)	29.4 (1.16)	35.7 (1.41)	47.8 (1.88)	59.5 (2.34)	72.3 (2.85)	97.6 (3.84)	133.8 (5.27)
øE	27.5 (1.08)	43.5 (1.71)	43.5 (1.71)	43.5 (1.71)	56.5 (2.22)	70.5 (2.78)	83.5 (3.29)	110 (4.33)	146 (5.75)
øF	34 (1.34)	50.5 (1.99)	50.5 (1.99)	50.5 (1.99)	64 (2.52)	77.5 (3.05)	91 (3.58)	119 (4.69)	155 (6.10)
G	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	60 (2.36)
Parts No. (HJA)	F9811 MA	F9811 MB	F9811 MC	F9811 MD	F9811 ME	F9811 MF	F9811 MG	F9811 MH	F9870 ZA
Parts No. (HJB)	F9811 MK	F9811 ML	F9811 MM	F9811 MN	F9811 MP	F9811 MQ	F9811 MR	F9811 MS	F9870 ZB

● Hygienic, Clamp Connection with Connection Parts for HJA/HJB (Optional code W2)

Unit: mm (approx. in.)



○ Hygienic, Clamp Connection with Connection Parts for HJA/HJB (Optional code W2)

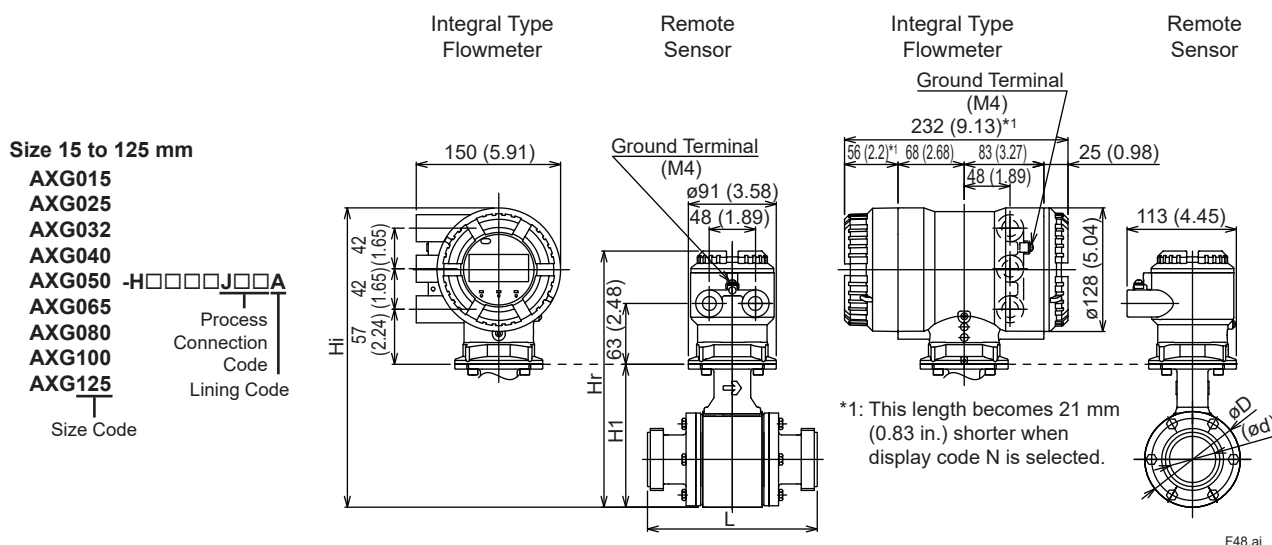
Unit: mm (approx. in.)

Model	Process Connection		HJA/HJB: ISO 2852 Clamp (for JIS G3447 Piping)								
	Size Code		015	025	032	040	050	065	080	100	125
	Size		15 (0.5)	25 (1)	32 (1.25)	40 (1.5)	50 (2)	65 (2.5)	80 (3)	100 (4)	125 (5)
	Lining Code		A	A	A	A	A	A	A	A	A
Remote Sensor	Lay Length	L	204 (8.03)	211 (8.31)	204 (8.03)	211 (8.31)	221 (8.70)	241 (9.49)	261 (10.28)	291 (11.46)	374 (14.72)
	Outer Diameter	øD	73 (2.87)	73 (2.87)	73 (2.87)	86 (3.39)	99 (3.90)	117 (4.61)	129 (5.08)	155 (6.10)	183 (7.20)
Integral Type Flowmeter	Inner Diameter	ød	17.5 (0.69)	23.0 (0.91)	29.4 (1.16)	35.7 (1.41)	47.8 (1.88)	59.5 (2.34)	72.3 (2.85)	97.6 (3.84)	133.8 (5.27)
	Height	H1	116 (4.57)	116 (4.57)	116 (4.57)	129 (5.08)	149 (5.87)	166 (6.54)	176 (6.93)	202 (7.95)	230 (9.06)
Remote Sensor	Maximum Height	Hr	233 (9.17)	233 (9.17)	233 (9.17)	246 (9.69)	266 (10.47)	283 (11.14)	293 (11.54)	319 (12.56)	347 (13.66)
	Approx. Weight, Unit: kg (lb) (*1)		3.0 (6.61)	2.7 (5.95)	2.9 (6.39)	3.2 (7.05)	3.9 (8.60)	5.1 (11.24)	5.9 (13.01)	8.1 (17.86)	12.3 (27.12)
Integral Type Flowmeter	Maximum Height	Hi	278 (10.94)	278 (10.94)	278 (10.94)	291 (11.46)	311 (12.24)	328 (12.91)	338 (13.31)	364 (14.33)	392 (15.43)
	Approx. Weight, Unit: kg (lb)		5.5 (12.13)	5.2 (11.46)	5.4 (11.90)	5.7 (12.57)	6.5 (14.33)	7.6 (16.76)	8.5 (18.74)	10.7 (23.59)	14.9 (32.85)

*1: When optional code DHC is selected, waterproof glands and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

● Hygienic Use (Union, PFA Lining)

Unit: mm (approx. in.)



○ Hygienic, Union Connection

Unit: mm (approx. in.)

Model	Process Connection		JDB: DIN 11851 Union							
	Size Code		015	025	032	040	050	065	080	100
	Size		15	25	32	40	50	65	80	100
	Lining Code		A	A	A	A	A	A	A	A
Remote Sensor	Lay Length	L	166 (6.54)	166 (6.54)	166 (6.54)	166 (6.54)	176 (6.93)	196 (7.72)	236 (9.29)	266 (10.47)
	Outer Diameter	øD	73 (2.87)	73 (2.87)	73 (2.87)	86 (3.39)	99 (3.90)	117 (4.61)	129 (5.08)	155 (6.10)
Integral Type Flowmeter	Inner Diameter	ød	16 (0.63)	26 (1.02)	32 (1.26)	38 (1.50)	50 (1.97)	66 (2.60)	81 (3.19)	100 (3.94)
	Height	H1	116 (4.57)	116 (4.57)	116 (4.57)	129 (5.08)	149 (5.87)	166 (6.54)	176 (6.93)	230 (9.06)
Remote Sensor	Maximum Height	Hr	233 (9.17)	233 (9.17)	233 (9.17)	246 (9.69)	266 (10.47)	283 (11.14)	293 (11.54)	319 (12.56)
	Approx. Weight, Unit: kg (lb) (*1)		3.0 (6.61)	3.0 (6.61)	3.1 (6.83)	3.4 (7.50)	4.3 (9.48)	5.5 (12.13)	6.5 (14.33)	9.2 (20.28)
Integral Type Flowmeter	Maximum Height	Hi	278 (10.94)	278 (10.94)	278 (10.94)	291 (11.46)	311 (12.24)	328 (12.91)	338 (13.31)	364 (14.33)
	Approx. Weight, Unit: kg (lb)		5.5 (12.13)	5.5 (12.13)	5.6 (12.35)	5.9 (13.01)	6.9 (15.21)	8.0 (17.64)	9.1 (20.06)	11.8 (26.01)

Unit: mm (approx. in.)

Model	Process Connection		JKB: ISO 2853 Union							
	Size Code		015	025	032	040	050	065	080	100
	Size		15	25	32	40	50	65	80	100
	Lining Code		A	A	A	A	A	A	A	A
Remote Sensor	Lay Length	L	166 (6.54)	166 (6.54)	166 (6.54)	166 (6.54)	176 (6.93)	196 (7.72)	216 (8.50)	246 (9.69)
	Outer Diameter	øD	73 (2.87)	73 (2.87)	73 (2.87)	86 (3.39)	99 (3.90)	117 (4.61)	129 (5.08)	155 (6.10)
Integral Type Flowmeter	Inner Diameter	ød	15.2 (0.60)	22.6 (0.89)	31.3 (1.23)	35.6 (1.40)	48.6 (1.91)	60.3 (2.37)	72.9 (2.87)	97.6 (3.84)
	Height	H1	116 (4.57)	116 (4.57)	116 (4.57)	129 (5.08)	149 (5.87)	166 (6.54)	176 (6.93)	202 (7.95)
Remote Sensor	Maximum Height	Hr	233 (9.17)	233 (9.17)	233 (9.17)	246 (9.69)	266 (10.47)	283 (11.14)	293 (11.54)	319 (12.56)
	Approx. Weight, Unit: kg (lb) (*1)		3.0 (6.61)	3.0 (6.61)	3.1 (6.83)	3.4 (7.50)	4.3 (9.48)	5.5 (12.13)	6.5 (14.33)	9.2 (20.28)
Integral Type Flowmeter	Maximum Height	Hi	278 (10.94)	278 (10.94)	278 (10.94)	291 (11.46)	311 (12.24)	328 (12.91)	338 (13.31)	364 (14.33)
	Approx. Weight, Unit: kg (lb)		5.5 (12.13)	5.5 (12.13)	5.6 (12.35)	5.9 (13.01)	6.9 (15.21)	8.0 (17.64)	9.1 (20.06)	11.8 (26.01)

*1: When optional code DHC is selected, waterproof glands and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

Unit: mm (approx. in.)

Model	Process Connection		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 (6.54)	166 (6.54)	166 (6.54)	176 (6.93)	196 (7.72)	216 (8.50)
	Outer Diameter	øD	73 (2.87)	73 (2.87)	86 (3.39)	99 (3.90)	117 (4.61)	129 (5.08)
Integral Type Flowmeter	Inner Diameter	ød	23.0 (0.91)	29.4 (1.16)	35.6 (1.40)	47.8 (1.88)	59.5 (2.34)	72.3 (2.85)
	Height	H1	116 (4.57)	116 (4.57)	129 (5.08)	149 (5.87)	166 (6.54)	176 (6.93)
Remote Sensor	Maximum Height	Hr	233 (9.17)	233 (9.17)	246 (9.69)	266 (10.47)	283 (11.14)	293 (11.54)
	Approx. Weight, Unit: kg (lb) (*1)		3.0 (6.61)	3.1 (6.83)	3.4 (7.50)	4.3 (9.48)	5.5 (12.13)	6.5 (14.33)
Integral Type Flowmeter	Maximum Height	Hi	278 (10.94)	278 (10.94)	291 (11.46)	311 (12.24)	328 (12.91)	338 (13.31)
	Approx. Weight, Unit: kg (lb)		5.5 (12.13)	5.6 (12.35)	5.9 (13.01)	6.9 (15.21)	8.0 (17.64)	9.1 (20.06)

Unit: mm (approx. in.)

Model	Process Connection		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 (6.54)	166 (6.54)	166 (6.54)	176 (6.93)	196 (7.72)	216 (8.50)
	Outer Diameter	øD	73 (2.87)	73 (2.87)	86 (3.39)	99 (3.90)	117 (4.61)	129 (5.08)
Integral Type Flowmeter	Inner Diameter	ød	22.5 (0.89)	29.6 (1.17)	35.5 (1.40)	48.5 (1.91)	60.5 (2.38)	72.9 (2.87)
	Height	H1	116 (4.57)	116 (4.57)	129 (5.08)	149 (5.87)	166 (6.54)	176 (6.93)
Remote Sensor	Maximum Height	Hr	233 (9.17)	233 (9.17)	246 (9.69)	266 (10.47)	283 (11.14)	293 (11.54)
	Approx. Weight, Unit: kg (lb) (*1)		3.0 (6.61)	3.1 (6.83)	3.4 (7.50)	4.3 (9.48)	5.5 (12.13)	6.5 (14.33)
Integral Type Flowmeter	Maximum Height	Hi	278 (10.94)	278 (10.94)	291 (11.46)	311 (12.24)	328 (12.91)	338 (13.31)
	Approx. Weight, Unit: kg (lb)		5.5 (12.13)	5.6 (12.35)	5.9 (13.01)	6.9 (15.21)	8.0 (17.64)	9.1 (20.06)

*1: When optional code DHC is selected, waterproof glands and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

○ Hygienic, Union Connection Adapter

Unit: mm (approx. in.)

Process Connection	JDB: DIN 11851 Union								
Size	15	25	32	40	50	65	80	100	125
øA	70 (2.76)	70 (2.76)	70 (2.76)	83 (3.27)	96 (3.78)	114 (4.49)	126 (4.96)	152 (5.98)	180 (7.09)
øB	16 (0.63)	22.2 (0.87)	29.4 (1.16)	34.6 (1.36)	47.6 (1.87)	59.5 (2.34)	72.3 (2.85)	97 (3.82)	121 (4.76)
øC	20 (0.79)	30 (1.18)	36 (1.42)	42 (1.65)	54 (2.13)	70 (2.76)	85 (3.35)	104 (4.09)	129 (5.08)
ød	16 (0.63)	26 (1.02)	32 (1.26)	38 (1.50)	50 (1.97)	66 (2.60)	81 (3.19)	100 (3.94)	125 (4.92)
øE	18 (0.71)	30 (1.18)	36 (1.42)	42 (1.65)	54 (2.13)	71 (2.80)	85 (3.35)	104 (4.09)	130 (5.12)
øF	25.8 (1.02)	39.8 (1.57)	45.8 (1.80)	51.8 (2.04)	63.8 (2.51)	80.8 (3.18)	94.8 (3.73)	113.8 (4.48)	141.8 (5.58)
G	RD34 x 1/8"	RD52 x 1/6"	RD58 x 1/6"	RD65 x 1/6"	RD78 x 1/6"	RD95 x 1/6"	RD110 x 1/4"	RD130 x 1/4"	RD160 x 1/4"
H	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	60 (2.36)	60 (2.36)	65 (2.56)
Parts No.	F9811 KR	F9811 KS	F9811 KT	F9811 KU	F9811 KV	F9811 KW	F9811 KX	F9811 KY	F9870 ZH

Unit: mm (approx. in.)

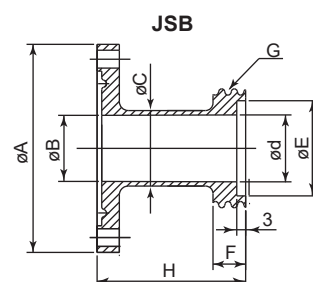
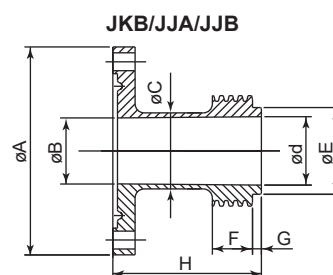
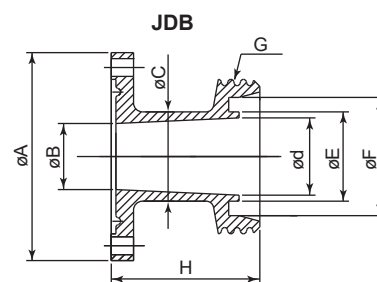
Process Connection	JKB: ISO 2853 Union							
Size	15	25	32	40	50	65	80	100
øA	70 (2.76)	70 (2.76)	70 (2.76)	83 (3.27)	96 (3.78)	114 (4.49)	126 (4.96)	152 (5.98)
øB	16 (0.63)	22.2 (0.87)	29.4 (1.16)	34.6 (1.36)	47.6 (1.87)	59.5 (2.34)	72.3 (2.85)	97 (3.82)
øC	18 (0.71)	25.6 (1.01)	34.3 (1.35)	38.6 (1.52)	51.6 (2.03)	64.1 (2.52)	76.7 (3.02)	102.5 (4.04)
ød	15.2 (0.60)	22.6 (0.89)	31.3 (1.23)	35.6 (1.40)	48.6 (1.91)	60.3 (2.37)	72.9 (2.87)	97.6 (3.84)
øE	21.2 (0.83)	29.2 (1.15)	38.2 (1.50)	42.7 (1.68)	56.2 (2.21)	69.9 (2.75)	82.6 (3.25)	108.7 (4.28)
F	13.5 (0.53)	13.5 (0.53)	13.5 (0.53)	13.5 (0.53)	13.5 (0.53)	13.5 (0.53)	13.5 (0.53)	13.5 (0.53)
G	3 (0.12)	3 (0.12)	3 (0.12)	3 (0.12)	3 (0.12)	3 (0.12)	3 (0.12)	3 (0.12)
H	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)
Parts No.	F9811 LA	F9811 LB	F9811 LC	F9811 LD	F9811 LE	F9811 LF	F9811 LG	F9811 LH

Unit: mm (approx. in.)

Process Connection	JJA/JJB: ISO 2853 Union (for JIS G3447 Piping)						
Size	25	32	40	50	65	80	100
øA	70 (2.76)	70 (2.76)	83 (3.27)	96 (3.78)	114 (4.49)	126 (4.96)	152 (5.98)
øB	22.2 (0.87)	29.4 (1.16)	34.6 (1.36)	47.6 (1.87)	59.5 (2.34)	72.3 (2.85)	97 (3.82)
øC	25.6 (1.01)	31.8 (1.25)	38 (1.50)	51 (2.01)	63.5 (2.50)	76.3 (3.00)	101.6 (4.00)
ød	23 (0.91)	29.4 (1.16)	35.6 (1.40)	47.8 (1.88)	59.5 (2.34)	72.3 (2.85)	97.6 (3.84)
øE	29.2 (1.15)	35.7 (1.41)	42.7 (1.68)	56.2 (2.21)	69.9 (2.75)	82.6 (3.25)	108.7 (4.28)
F	13.5 (0.53)	10 (0.39)	13.5 (0.53)	13.5 (0.53)	13.5 (0.53)	13.5 (0.53)	18 (0.71)
G	3 (0.12)	2.5 (0.10)	3 (0.12)	3 (0.12)	3 (0.12)	3 (0.12)	3 (0.12)
H	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)
Parts No. (JJA)	F9811 JY	F9811 JZ	F9811 KA	F9811 KB	F9811 KC	F9811 KD	F9811 KE
Parts No. (JJB)	F9811 KH	F9811 KJ	F9811 KK	F9811 KL	F9811 KM	F9811 KN	F9811 KP

Unit: mm (approx. in.)

Process Connection	JSB: SMS 1145 Union (Open groove packing type)						
Size	25	32	40	50	65	80	100
øA	70 (2.76)	70 (2.76)	83 (3.27)	96 (3.78)	114 (4.49)	126 (4.96)	152 (5.98)
øB	22.2 (0.87)	29.4 (1.16)	34.6 (1.36)	47.6 (1.87)	59.5 (2.34)	72.3 (2.85)	97 (3.82)
øC	25.4 (1.00)	32 (1.26)	38.1 (1.50)	51 (2.01)	63.5 (2.50)	76.2 (3.00)	102.5 (4.04)
ød	22.5 (0.89)	29.6 (1.17)	35.5 (1.40)	48.5 (1.91)	60.5 (2.38)	72.9 (2.87)	97.6 (3.84)
øE	32 (1.26)	40 (1.57)	48 (1.89)	61 (2.40)	73.5 (2.89)	86 (3.39)	120 (4.72)
F	11 (0.43)	13 (0.51)	15 (0.59)	15 (0.59)	19 (0.75)	19 (0.75)	30 (1.18)
G	RD40 x 1/6"	RD48 x 1/6"	RD60 x 1/6"	RD70 x 1/6"	RD85 x 1/6"	RD98 x 1/6"	RD132 x 1/6"
H	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	50 (1.97)	65 (2.56)
Parts No.	F9811 LK	F9811 LL	F9811 LM	F9811 LN	F9811 LP	F9811 LQ	F9811 LR

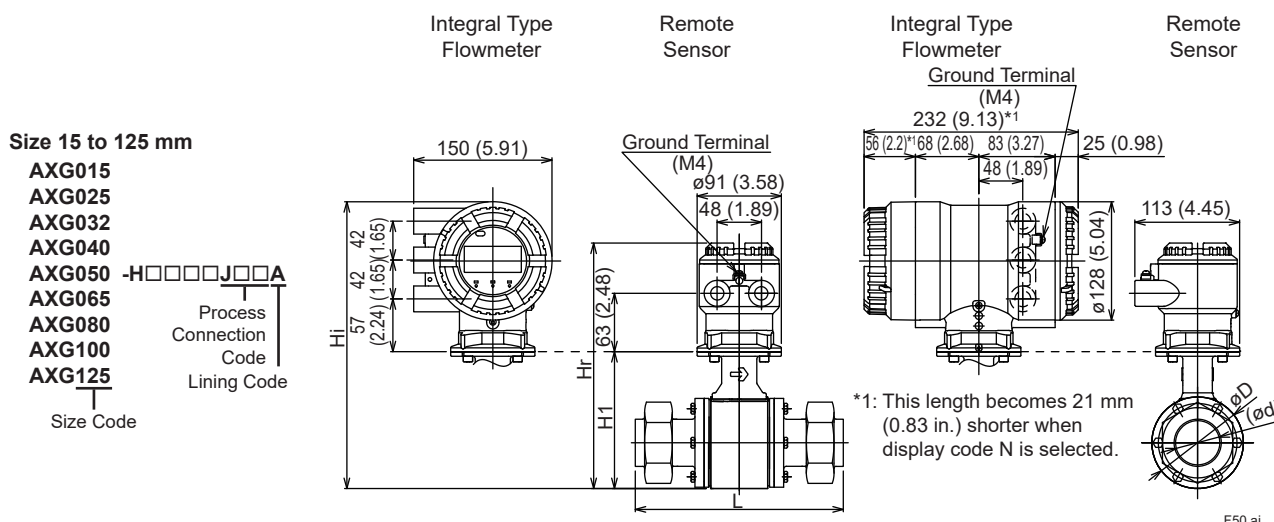


F49.ai

Adapters for union connection

● Hygienic, Union Connection with Connection Parts for JJA/JJB (Optional code W2)

Unit: mm (approx. in.)



○ Hygienic, Union Connection with Connection Parts for JJA/JJB (Optional code W2)

Unit: mm (approx. in.)

Model	Process Connection		JJA/JJB: ISO 2853 Union (for JIS G3447 Piping)						
	Size Code		025	032	040	050	065	080	100
	Size		25 (1)	32 (1.25)	40 (1.5)	50 (2)	65 (2.5)	80 (3)	100 (4)
	Lining Code		A	A	A	A	A	A	A
Remote Sensor	Lay Length	L	215 (8.46)	208 (8.19)	215 (8.46)	225 (8.86)	245 (9.65)	265 (10.43)	309 (12.17)
	Outer Diameter	øD	73 (2.87)	73 (2.87)	86 (3.39)	99 (3.90)	117 (4.61)	129 (5.08)	155 (6.10)
	Inner Diameter	ød	23.0 (0.91)	29.4 (1.16)	35.7 (1.41)	47.8 (1.88)	59.5 (2.34)	72.3 (2.85)	97.6 (3.84)
	Height	H1	116 (4.57)	116 (4.57)	129 (5.08)	149 (5.87)	166 (6.54)	176 (6.93)	202 (7.95)
Remote Sensor	Maximum Height	Hr	233 (9.17)	233 (9.17)	246 (9.69)	266 (10.47)	283 (11.14)	293 (11.54)	319 (12.56)
	Approx. Weight, Unit: kg (lb) (*1)		3.5 (7.72)	3.6 (7.94)	3.9 (8.60)	5 (11.02)	6.5 (14.33)	7.9 (17.42)	12.1 (26.68)
Integral Type Flowmeter	Maximum Height	Hi	278 (10.94)	278 (10.94)	291 (11.46)	311 (12.24)	328 (12.91)	338 (13.31)	364 (14.33)
	Approx. Weight, Unit: kg (lb)		6.0 (13.23)	6.1 (13.45)	6.4 (14.11)	7.6 (16.76)	9.0 (19.84)	10.5 (23.15)	14.7 (32.41)

*1: When optional code DHC is selected, waterproof glands and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

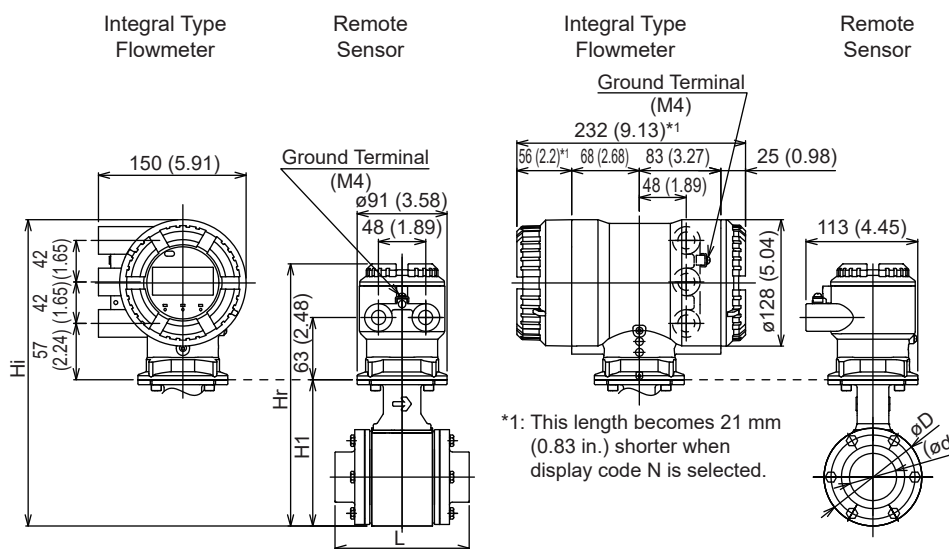
Hygienic Use (Butt Weld Joint, PFA Lining)

Unit: mm (approx. in.)

Size 15 to 125 mm

AXG015
AXG025
AXG032
AXG040
AXG050
AXG065
AXG080
AXG100
AXG125

-H□□□□K□□A
Process
Connection
Code
Lining Code
Size Code

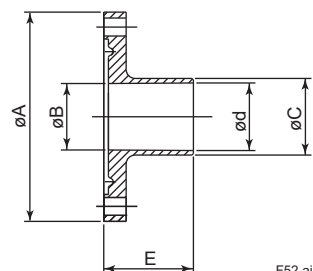


F51.ai

Hygienic, Butt Weld Joint

Unit: mm (approx. in.)

Model	Process Connection		KDB: DIN 11850 Piping Butt Weld Joint KKB: ISO 2037 Piping Butt Weld Joint KJA/KJB: JIS G3447 Piping Butt Weld Joint									
	Size Code		015	025	032	040	050	065	080	100	125	
	Size		15 (0.5)	25 (1)	32 (1.25)	40 (1.5)	50 (2)	65 (2.5)	80 (3)	100 (4)	125 (5)	
	Lining Code		A	A	A	A	A	A	A	A	A	
Remote Sensor	Lay Length	L	126 (4.96)	126 (4.96)	126 (4.96)	126 (4.96)	136 (5.35)	156 (6.14)	176 (6.93)	206 (8.11)	276 (10.87)	
	Outer Diameter	øD	73 (2.87)	73 (2.87)	73 (2.87)	86 (3.39)	99 (3.90)	117 (4.61)	129 (5.08)	155 (6.10)	183 (7.20)	
	Inner Diameter	ød	17.5 (0.69)	23.0 (0.91)	29.4 (1.16)	35.7 (1.41)	47.8 (1.88)	59.5 (2.34)	72.3 (2.85)	97.6 (3.84)	133.8 (5.27)	
	Height	H1	116 (4.57)	116 (4.57)	116 (4.57)	129 (5.08)	149 (5.87)	166 (6.54)	176 (6.93)	202 (7.95)	230 (9.06)	
Remote Sensor	Maximum Height	Hr	233 (9.17)	233 (9.17)	233 (9.17)	246 (9.69)	266 (10.47)	283 (11.14)	293 (11.54)	319 (12.56)	347 (13.66)	
	Approx. Weight, Unit: kg (lb) (*1)		3.0 (6.61)	2.7 (5.95)	2.9 (6.39)	3.2 (7.05)	3.9 (8.60)	5.1 (11.24)	5.9 (13.01)	8.1 (17.86)	12.3 (27.12)	
Integral Type Flowmeter	Maximum Height	Hi	278 (10.94)	278 (10.94)	278 (10.94)	291 (11.46)	311 (12.24)	328 (12.91)	338 (13.31)	364 (14.33)	392 (15.43)	
	Approx. Weight, Unit: kg (lb) (*1)		5.5 (12.13)	5.2 (11.46)	5.4 (11.90)	5.7 (12.57)	6.5 (14.33)	7.6 (16.76)	8.5 (18.74)	10.7 (23.59)	14.9 (32.85)	



F52.ai

Adapter for butt weld connection

*1: When optional code DHC is selected, waterproof glands and a 30-meter length cable as standard are attached. Add 9.5 kg (20.9 lb) to the weight in the table.

Hygienic, Butt Weld Joint Adapter

Unit: mm (approx. in.)

Unit: mm (approx. in.)

Process Connection	KDB: DIN 11850 Piping Butt Weld Joint										
	Size	15	25	32	40	50	65	80	100	125	
øA	16	70	70	70	83	96	114	126	152	180	
	20	70	70	70	83	96	114	126	152	180	
	25	70	70	70	83	96	114	126	152	180	
	32	70	70	70	83	96	114	126	152	180	
øB	16	22.2	29.4	34.6	47.6	59.5	72.3	97	121		
	20	22.2	29.4	34.6	47.6	59.5	72.3	97	121		
	25	22.2	29.4	34.6	47.6	59.5	72.3	97	121		
	32	22.2	29.4	34.6	47.6	59.5	72.3	97	121		
øC	16	30	36	42	54	70	85	104	129		
	20	30	36	42	54	70	85	104	129		
	25	30	36	42	54	70	85	104	129		
	32	30	36	42	54	70	85	104	129		
ød	16	26	32	38	50	66	81	100	125		
	20	26	32	38	50	66	81	100	125		
	25	26	32	38	50	66	81	100	125		
	32	26	32	38	50	66	81	100	125		
E	30	30	30	30	30	30	30	30	30	40	
	30	30	30	30	30	30	30	30	30	40	
	30	30	30	30	30	30	30	30	30	40	
	30	30	30	30	30	30	30	30	30	40	
Parts No.	F9811	F9811	F9811	F9811	F9811	F9811	F9811	F9811	F9811	F9870	
	ND	NE	NF	NG	NH	NJ	NK	NL	NL	ZP	
	ND	NE	NF	NG	NH	NJ	NK	NL	NL	ZP	
	ND	NE	NF	NG	NH	NJ	NK	NL	NL	ZP	

Process Connection	KKB: ISO 2037 Piping Butt Weld Joint										
	Size	15	25	32	40	50	65	80	100	125	
øA	16	70	70	70	83	96	114	126	152	180	
	20	70	70	70	83	96	114	126	152	180	
	25	70	70	70	83	96	114	126	152	180	
	32	70	70	70	83	96	114	126	152	180	
øB	16	22.2	29.4	34.6	47.6	59.5	72.3	97	121		
	20	22.2	29.4	34.6	47.6	59.5	72.3	97	121		
	25	22.2	29.4	34.6	47.6	59.5	72.3	97	121		
	32	22.2	29.4	34.6	47.6	59.5	72.3	97	121		
øC	16	30	36	42	54	70	85	104	129		
	20	30	36	42	54	70	85	104	129		
	25	30	36	42	54	70	85	104	129		
	32	30	36	42	54	70	85	104	129		
ød	16	26	32	38	50	66	81	100	125		
	20	26	32	38	50	66	81	100	125		
	25	26	32	38	50	66	81	100	125		
	32	26	32	38	50	66	81	100	125		
E	30	30	30	30	30	30	30	30	30	40	
	30	30	30	30	30	30	30	30	30	40	
	30	30	30	30	30	30	30	30	30	40	
	30	30	30	30	30	30	30	30	30	40	
Parts No.	F9811	F9811	F9811	F9811	F9811	F9811	F9811	F9811	F9811	F9870	
	NN	NP	NQ	NR	NS	NT	NU	NV	NV	ZQ	
	NN	NP	NQ	NR	NS	NT	NU	NV	NV	ZQ	
	NN	NP	NQ	NR	NS	NT	NU	NV	NV	ZQ	

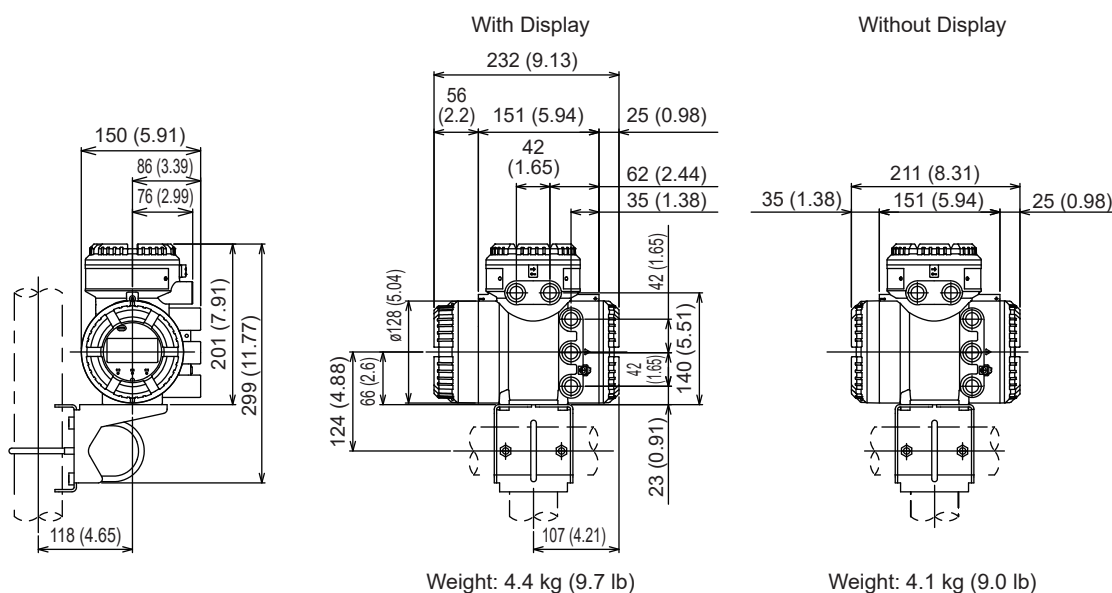
○ Hygienic, Butt Weld Joint Adapter

Unit: mm (approx. in.)

Process Connection	KJA/KJB: JIS G3447 Piping Butt Weld Joint								
Size	15	25	32	40	50	65	80	100	125
øA	70 (2.76)	70 (2.76)	70 (2.76)	83 (3.27)	96 (3.78)	114 (4.49)	126 (4.96)	152 (5.98)	180 (7.09)
øB	16 (0.63)	22.2 (0.87)	29.4 (1.16)	34.6 (1.36)	47.6 (1.87)	59.5 (2.34)	72.3 (2.85)	97 (3.82)	121 (4.76)
øC	21.7 (0.85)	25.4 (1.00)	31.8 (1.25)	38.1 (1.50)	50.8 (2.00)	63.5 (2.50)	76.3 (3.00)	101.6 (4.00)	139.8 (5.50)
ød	17.5 (0.69)	23 (0.91)	29.4 (1.16)	35.7 (1.41)	47.8 (1.88)	59.5 (2.34)	72.3 (2.85)	97.6 (3.84)	133.8 (5.27)
E	30 (1.18)	30 (1.18)	30 (1.18)	30 (1.18)	30 (1.18)	30 (1.18)	30 (1.18)	30 (1.18)	40 (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

(2) Remote Transmitter AXG4A

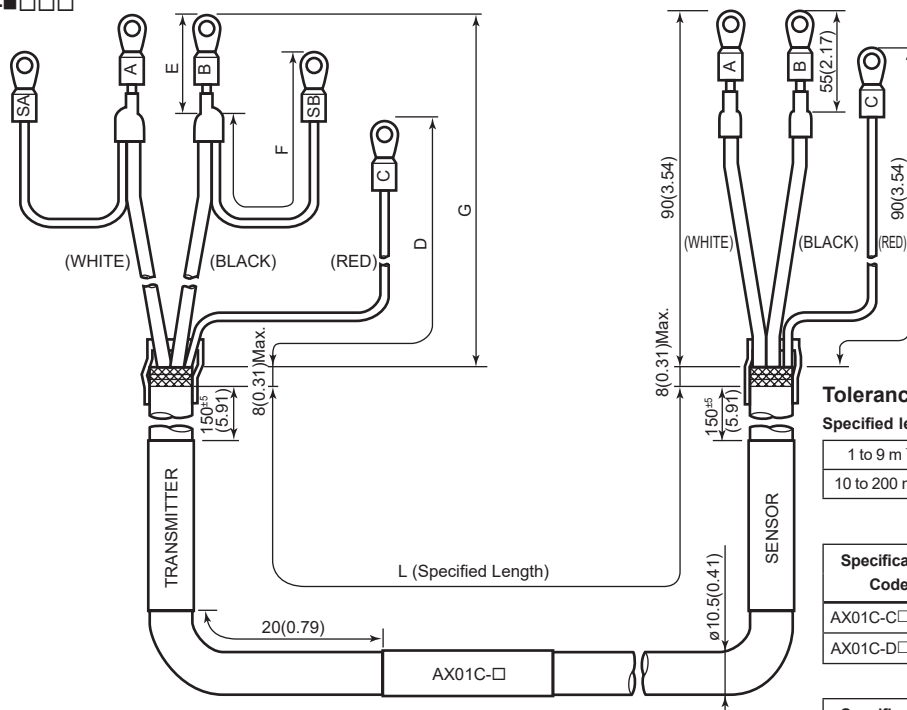
Unit: mm (approx. in.)



F53.ai

(3) Signal Cable AX01C

Unit: mm (approx. in.)

AX01C-■□□□
■=C, D**Tolerance for L (Specified Length)**

Specified length L (m)	Approximate length in ft.
1 to 9 m ^{+2%} ₀	3 to 30 ft ^{+2%} ₀
10 to 200 m ^{+1%} ₀	33 to 656 ft ^{+1%} ₀

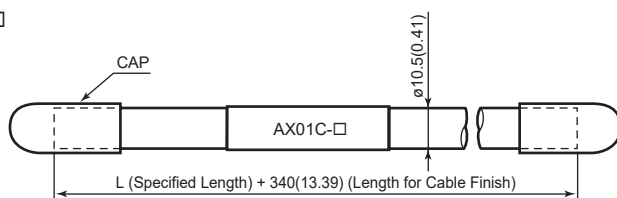
Unit: mm

Specification Code	Length			
	D	E	F	G
AX01C-C□□□	60 ⁺⁵ ₀	25 ⁺⁵ ₀	70 ⁺⁵ ₀	50 ⁺⁵ ₀
AX01C-D□□□	70 ⁺⁵ ₀	25 ⁺⁵ ₀	50 ⁺⁵ ₀	60 ⁺⁵ ₀

Unit: approx. in.

Specification Code	Length			
	D	E	F	G
AX01C-C□□□	2.4 ^{+0.2} ₀	1.0 ^{+0.2} ₀	2.8 ^{+0.2} ₀	2.0 ^{+0.2} ₀
AX01C-D□□□	2.8 ^{+0.2} ₀	1.0 ^{+0.2} ₀	2.0 ^{+0.2} ₀	2.4 ^{+0.2} ₀

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AX01C-■□□□
■=A**Tolerance for L (Specified Length)
+340 mm (13.39 in.) (Length for Cable Finish)**

Specified length L (m)	Approximate length in ft.
1 to 9 m ^{+4%} ₀	3 to 30 ft ^{+4%} ₀
10 to 100 m ^{+2%} ₀	33 to 328 ft ^{+2%} ₀
101 to 200 m ^{+1%} ₀	331 to 656 ft ^{+1%} ₀

F55.ai

(4) Dimensional Tolerance

Unless otherwise specified, dimensional tolerances on the drawings are as shown in the following table.

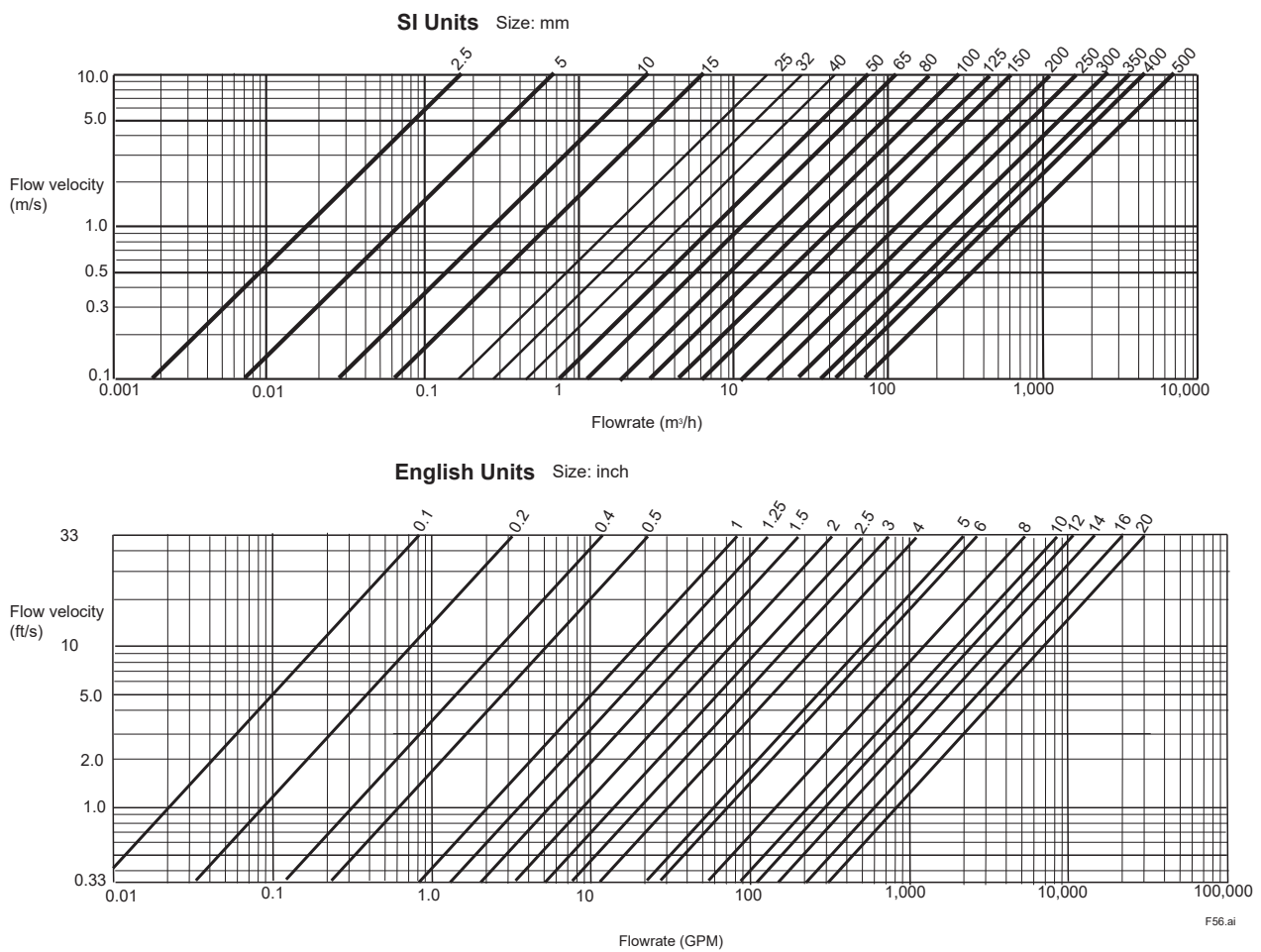
General tolerance in the dimensional outline drawing.

Unit: mm (approx. in.)

Category of basic dimension		Tolerance	Category of basic dimension		Tolerance
Above	Equal or below		Above	Equal or below	
	3 (0.12)	±0.7 (±0.03)	500 (19.69)	630 (24.80)	±5.5 (±0.22)
3 (0.12)	6 (0.24)	±0.9 (±0.04)	630 (24.80)	800 (31.50)	±6.25 (±0.25)
6 (0.24)	10 (0.39)	±1.1 (±0.04)	800 (31.50)	1000 (39.37)	±7.0 (±0.28)
10 (0.39)	18 (0.71)	±1.35 (±0.05)	1000 (39.37)	1250 (49.21)	±8.25 (±0.32)
18 (0.71)	30 (1.18)	±1.65 (±0.06)	1250 (49.21)	1600 (62.99)	±9.75 (±0.38)
30 (1.18)	50 (1.97)	±1.95 (±0.08)	1600 (62.99)	2000 (78.74)	±11.5 (±0.45)
50 (1.97)	80 (3.15)	±2.3 (±0.09)	2000 (78.74)	2500 (98.43)	±14.0 (±0.55)
80 (3.15)	120 (4.72)	±2.7 (±0.11)	2500 (98.43)	3150 (124.02)	±16.5 (±0.65)
120 (4.72)	180 (7.09)	±3.15 (±0.12)			
180 (7.09)	250 (9.84)	±3.6 (±0.14)			
250 (9.84)	315 (12.40)	±4.05 (±0.16)			
315 (12.40)	400 (15.75)	±4.45 (±0.18)			
400 (15.75)	500 (19.69)	±4.85 (±0.19)			

Remarks: The numeric is based on criteria of tolerance class IT18 in JIS B 0401-1.

■ SIZING DATA



* Measurable flow velocity is from 0 m/s.

■ 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 then 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:** When ordering AXFA11 as a combined remote transmitter, please also refer to the ordering information in GS 01E20D01-01E as there are some differences in ordering procedure and specification.

1. Model, Specification and Optional Code
2. Combination (Remote Type)

This is necessary when ordering remote type flowmeters with certain combination of sensors and transmitters. 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.

3. Tag No.

The tag No. can be specified by a combination of uppercase letters, lowercase letters (for HART communication excludes lower case letters), numbers, "-" (hyphen), "." (period), and " (space)". Please refer to the table below for specifying procedure.

Items to be Specified	Described / Setting Destination	Maximum Number of Characters
TAG NO	- Nameplate - Stainless steel tag plate (with optional code SCT)	30
SOFTWARE TAG	- Memory in transmitter amplifier - Memory in transmitter amplifier (Overrides TAG NO designation)	See below

In the case of integral type and remote transmitter, the characters specified by "TAG NO" are also written to the memory (parameter) in the transmitter amplifier. If it is necessary to specify a different tag number only for the transmitter memory, please 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.

Items to be Specified	Transmitter Memory		Maximum Number of Characters
	Communication	Parameter Name	
TAG NO	BRAIN	TAG NO	16
and SOFTWARE TAG	HART 7	Long Tag	30
		Tag	8

Note: For AXFA11 transmitter, the "TAG NO" is maximum 16 characters. And as its HART protocol is HART 5, the "Long Tag" is not available.

4. Span Flow Rate and Unit

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 6 digits). Up to four digits below the decimal point that can be specified (by 0.001 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 "Span Setting". This span flow rate is set to the positive first range. Be sure to specify the span flow rate and unit when selecting the Mass Unit Setting (optional code MU), Specified Span 5-point Calibration (optional code SC). If not specified, it is set in volume unit (m³/h) equivalent to 1 m/s flow rate when shipped, except for AXFA11 transmitter where it is set as 1 m/s in velocity unit.

The measurement flow range (minimum and maximum of span flow rate) is shown below (in the case of flow rate unit m³/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.

- (1) Integral Type Flowmeter or Remote Sensor combined with AXG4A Transmitter

Measurable Flow Rate Range:

SI Units (Size: mm, Flow rate: m³/h)

Size (mm)	0 to Min. Span Flow Rate m ³ /h (0.1 m/s)	0 to Max. Span Flow Rate m ³ /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 6.3617
25	0 to 0.1768	0 to 17.6714
32	0 to 0.2896	0 to 28.9529
40	0 to 0.4524	0 to 45.2389
50	0 to 0.7069	0 to 70.6858
65	0 to 1.1946	0 to 119.459
80	0 to 1.8096	0 to 180.955
100	0 to 2.8275	0 to 282.743
125	0 to 4.4179	0 to 441.786
150	0 to 6.3618	0 to 636.172
200	0 to 11.3098	0 to 1130.97
250	0 to 17.6715	0 to 1767.14
300	0 to 25.447	0 to 2544.69
350	0 to 34.6361	0 to 3463.6
400	0 to 45.239	0 to 4523.89
500	0 to 70.6859	0 to 7068.58

Measurable Flow Rate Range:

English Units (Size: in., Flow rate: GPM)

Size (in.)	0 to Min. Span Flow Rate GPM (0.33 ft/s)	0 to Max. Span Flow Rate GPM (33 ft/s)
0.1	0 to 0.0078	0 to 0.778
0.2	0 to 0.0312	0 to 3.1122
0.4	0 to 0.1245	0 to 12.4488
0.5	0 to 0.2801	0 to 28.0098
1	0 to 0.7781	0 to 77.805
1.25	0 to 1.2748	0 to 127.475
1.5	0 to 1.9919	0 to 199.181
2	0 to 3.1123	0 to 311.22
2.5	0 to 5.2597	0 to 525.962
3	0 to 7.9673	0 to 796.724
4	0 to 12.4489	0 to 1244.88
5	0 to 19.4513	0 to 1945.12
6	0 to 28.0099	0 to 2800.98
8	0 to 49.7953	0 to 4979.52
10	0 to 77.8051	0 to 7780.5
12	0 to 112.04	0 to 11203.9
14	0 to 152.498	0 to 15249.7
16	0 to 199.182	0 to 19918.1
20	0 to 311.221	0 to 31122

(2) Remote Sensor combined with AXFA11 Transmitter

Measurable Flow Rate Range:SI Units (Size: mm, Flow rate: m³/h)

Size (mm)	0 to Min. Span Flow Rate m ³ /h (0.1 m/s)	0 to Max. Span Flow Rate m ³ /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

Measurable Flow Rate Range:

English Units (Size: in., Flow rate: GPM)

Size (mm)	0 to Min. Span Flow Rate GPM (0.33 ft/s)	0 to Max. Span Flow Rate 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. Specify it in the same unit as the span flow rate.

(Example: When "m³" is selected as "Span Flow Rate", specify "10 m³/p" as pulse weight unit.)

The specifiable numerical digit and range is the same as that for "4. Span Flow Rate and Unit".

Unless specified, it is set as 0 [span unit/p] when shipped.

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. Specify it in the same unit as the span flow rate.

(Example: When "m³" is selected as "Span Flow Rate", specify "10 m³/p" as totalizer display pulse weight unit.)

The specifiable numerical digit and range is the same as that for "4. Span Flow Rate and Unit".

Unless specified, it is set as 1 [span unit/p] when shipped, except for AXFA11 transmitter where it is set as 0. Additionally, if there were no setting for the span flow rate, it is always set as 0 [span unit/p] when shipped.

7. Mass Unit (optional code MU)

This option performs flow rate calculation 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. Span Flow Rate and Unit".

(1) Density

Numerical Range:

Specify within 6 digits (up to 4 digits below the decimal point) in the range of 500 to 2000 kg/m³ (4.2 to 16.7 lb/gal *, 31.2 to 124.8 lb/cf). If the transmitter is BRAIN communication type, specify so that the numerical value excluding the decimal point is within 32000.

Unit:

kg/m³, lb/gal, lb/cf

The density of water is about 1000 kg/m³. Then specify "1000 kg/m³" in this case. However, as the density varies with temperature, specify the density at the time of flow measurement.

(2) Span Flow Rate

Numerical Range:

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

Set the value with the same unit as that for the mass span flow rate.

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. 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. Span Flow Rate and Unit".

Selectable Range of Span Flow Rate (m³/h)

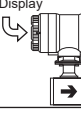
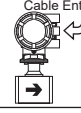
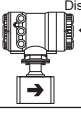
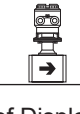
Size (mm)	Min. Span Flow Rate	Max. Span Flow Rate
	m ³ /h (m/s)	m ³ /h (m/s)
2.5	0.009 (0.5)	0.05 (2.83)
5	0.036 (0.5)	0.20 (2.83)
10	0.15 (0.5)	0.96 (3.40)
15	0.32 (0.5)	2.80 (4.40)
25	0.89 (0.5)	11.0 (6.22)
32	2.32 (0.8)	28.9 (9.98)
40	2.27 (0.5)	28.0 (6.19)
50	3.54 (0.5)	56.0 (7.92)
65	9.56 (0.8)	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)

Selectable Range of Span Flow Rate (GPM)

Size (in.)	Min. Span Flow Rate	Max. Span Flow Rate
	GPM (ft/s)	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)	123.28 (20.3)
2	15.5611 (1.64)	246.56 (25.9)
2.5	42.077 (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	140.05 (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	762.49 (1.64)	5283.44 (11.3)
16	995.906 (1.64)	5943.87 (9.78)
20	1556.11 (1.64)	31119.4 (32.8)

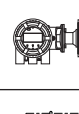
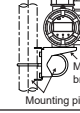
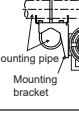
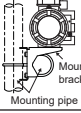
9. Direction of Cable Entry (optional code RH)

This option rotates the transmitter part of the integral type flowmeter or the terminal box of the remote sensor and change the direction of the cable entry. Refer to the table below and specify either + 90 °, + 180 ° or -90 °. For the standard direction (0 °), this optional code is not necessary.

	Direction of Cable Entry			
	Standard (0°)	+90° rotation	+180° rotation	-90° rotation
Integral Type				
Remote Sensor				

10. Direction of Display

When the specification "With Display" is selected for the integral type flowmeter or the remote transmitter, specify direction of the display. For the integral type 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 Type			
Remote Transmitter			

11. Fluid Name

■ 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
ADMAG CA Capacitance Magnetic Flowmeter	GS 01E08B01-00E
FieldMate Versatile Device Management Wizard	GS 01R01A01-01E
ADMAG TI Series AXW Magnetic Flowmeter [Size: 25 to 400 mm]	GS 01E24A01-01EN
ADMAG TI Series AXW Magnetic Flowmeter [Size: 500 to 1800 mm]	GS 01E25D11-01EN

■ REFERENCE STANDARD

Design and Test on Magnetic Flowmeters:

JIS B 7554(1997), ISO 6817(1992), ISO 9104(1991),
NAMUR NE70(2006), ASME MFC-16-2014

■ TRADEMARKS

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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.