General Specifications

GS 01E22A11-03EN

ADMAG TI Series
AXG Magnetic Flowmeter
Remote Sensor
Pulp & Paper Application Type

■ GENERAL DESCRIPTION

This General Specifications describes ADMAG TI Series AXG Magnetic Flowmeter for Pulp and Paper application type.

For standard specifications, functions, other optional specifications, limitation and separate table, except for the specific specifications for pulp and paper application, please refer to the General Specifications as below.

Document Name	Document Number
ADMAG TI Series AXG Magnetic Flowmeter	GS 01E22A01-01EN

Remote Sensor

■ FEATURES

●Reliable and robust design for harsh condition

Sensor design for pulp and paper applications realizes a reliable flow measurement, and extends the life time of flowmeter even under demanding process conditions.
In addition, the use of a metal hat grounding ring protects the leading edge of the sensor by covering the front leading edge of the lining.

●Stable Measurement

Dual frequency excitation method provides immunity to high flow noise in the fluid with highly concentrated slurry. The advanced sensor design ensures an accurate and stable measurement of the difficult applications such as circulation/extraction line or blow line.

●Design for Circulation/extraction line

One of the characteristics of fluids in circulation and extraction lines is the high concentration of caustic soda and the high fluid temperature and pressure. The sensor is designed with epoxy resin potting inside and a liner firmly held by the punch plate with higher rigidity. This robust structure enables stable measurement even in harsh environments.

■ CONSTRUCTION

Use:

Use	Specification
Blow line	Specify optional code G#N (metal hat grounding rings) Size: 80 to 400 mm (3 to 16 in.) IP Protection Grade: IP66/IP67, Type 4X (CSA)
Circulation/ extraction line	The sensor is composed of epoxy resin potting inside and a liner firmly held by the punch plate with higher rigidity to withstand high temperature fluid of 180°C. Specify optional code G#N (metal hat grounding rings). Size: 150 to 400 mm (6 to 16 in.) IP Protection Grade: IP66/IP67, Type 4X (CSA)

Construction:

Remote sensor (Combine with AXG4A or AXG1A remote transmitter)

Process Connection:

Only flange type is available.
For the availability of lining and size range, read "MODEL AND SUFFIX CODE".

Type	Process connection
Flange	ASME Class 150, ASME Class 300 EN PN10, EN PN16, EN PN25 AS Table D, AS Table E JIS F12, JIS 10K, JIS 20K JPI Class 150

Electrode Construction:

External insertion type

Grounding Device Construction:

Metal hat grounding ring (Upstream and downstream sides), or
Metal hat grounding ring (Upstream side) and Grounding ring (downstream side)

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GS 01E22A11-03EN

1st Edition Aug. 31, 2021 (KP)

Wetted Part:

Wetted Part	Material
Lining	Fluorocarbon PFA
Electrode	Stainless steel 316L, Stainless steel 329J4L, Nickel alloy (*), Platinum-Iridium, Tantalum, Titanium * : ASTM B574 UNS N10276 or ASME SB-574 UNS N10276
Grounding Device	Metal hat grounding ring, Grounding ring Stainless steel 316L

Non-wetted Part Material:

Sensor Terminal Box:

Low copper aluminum alloy EN AC-43400

Sensor Housing:

Size	Material
80 to 125 mm (3 to 5 in.)	Stainless steel 304
150 to 400 mm (6 to 16 in.)	Carbon steel SPCC (*1) or its equivalent

*1: JIS standard or JIS standard-based material

Flange:

Process Connection Code	Material
B##	Stainless steel F304
P##	Stainless steel F316
C##	Carbon steel A105 (*2)

*2: ASTM standard forged material

Measuring Pipe:

Size	Material
80 to 125 mm (3 to 5 in.)	Stainless steel CF8 (*3)
150 to 400 mm (6 to 16 in.)	Stainless steel 304

*3: ASME standard casting material

Coating:

Standard Coating:

Coated Part	Coating Specification
Sensor housing	Polyurethane resin solvent coating, or no coating (*1)
Sensor flanges	
Sensor terminal box (incl. cover)	Urethane curing type polyester resin powder coating

Rugged Coating (*2):

Coated Part	Coating Specification
Sensor housing	Expoxy and polyurethane resin solvent coating, or no coating (*1)
Sensor flanges	
Sensor terminal box (incl. cover)	Epoxy and polyurethane resin solvent coating

*1: No coating for stainless steel flanges in sizes 80 to 125 mm (3 to 5 in.). Coating is done to sizes 150 mm (6 in.) and more, or to carbon steel flanges.

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

Coating Color:

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

Cable Entry:

JIS G1/2 female

ASME 1/2 NPT female

ISO M20 x 1.5 female

Cable Entry Direction:

For Remote Sensor, the cable entry direction can be specified from +90, +180, or -90 degree rotation when optional code RH is ordering, and also can be changed by customer after delivery.

Wiring Terminal:

Intra-system Connection Part (*1): M4 Screw type

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

Grounding:

Grounding Resistance: 10 Ω or less

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

■ FUNCTIONS

Refer to GS 01E22A01-01EN.

■ CONFORMITY STANDARDS

Refer to GS 01E22A01-01EN.

■ HAZARDOUS AREA CLASSIFICATION

Explosion protection type is not applicable.

■ PERFORMANCE

Accuracy:

- **Combination of AXG Remote Sensor and AXG4A, AXG1A Remote Transmitter**

Electrode Code	Flow Velocity V m/s (ft/s)	Standard Accuracy (Accuracy Code B)
L, P, H, T, V	V < 0.15 (0.5)	±0.5 mm/s
	0.15 ≤ V ≤ 10 (0.5) (33)	±0.3 % of rate
J	V < 0.5 (1.6)	±1.5 mm/s
	0.5 ≤ V ≤ 10 (1.6) (33)	±0.3 % of rate

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 ±8 μA (±0.05% of span) to the accuracy above.
Calibration takes place at reference conditions as below.
Medium: Water
Density: 0.9 to 1.1 kg/l
Medium temperature: 10 to 35°C (50 to 95°F)
(Average temperature 22.5°C (72.5°F))
Ambient temperature: 10 to 35°C (50 to 95°F)
Process pressure (absolute):
0.1 to 0.2 MPa (15 to 29 psi)
Reference Standards:
JIS B 7554, ISO 4185, ISO 5168, ISO 20456, BS EN 29104

Repeatability:

For size 80 mm (3 in.) to 400 mm (16 in.)
±0.1% of rate (Velocity 1 m/s (3.3 ft/s) or above)
±0.05% of rate ± 0.5 mm/s (Velocity below 1 m/s (3.3 ft/s))

Measurement Range:

Minimum Span Velocity: 0.1 m/s (0.33 ft/s)
Maximum Span Velocity: 10 m/s (33 ft/s)
Note: For details of span flow rate, read "Sizing Data", and "Ordering Information".

Power Consumption:

13 W (with AXG4A Remote Transmitter)
32 W (with AXG1A Remote Transmitter)
Note: The power consumption is the same as above regardless of the communication and I/O type.

Insulation Resistance:

Remote Sensor:
Between signal terminals:
100 MΩ/500 V DC
Between signal terminals and common terminal:
100 MΩ/500 V DC
Between excitation current terminal and signal / common terminals:
100 MΩ/500 V DC

Withstand Voltage:

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

■ NORMAL OPERATING CONDITIONS

Ambient Temperature:

-40 to 60°C (-40 to 140°F)
Note: Minimum value is limited according to minimum fluid temperature of sensor's specification. Read “Fluid Temperature and Pressure”.

Ambient Humidity:

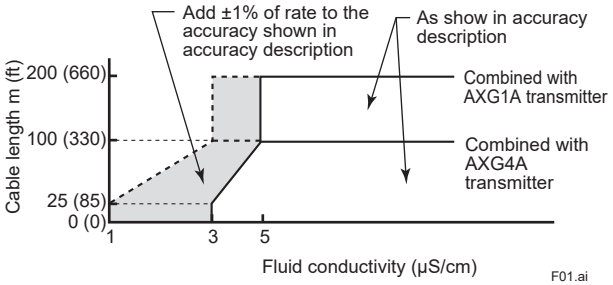
0 to 100%
Note: Lengthy continuous operation at 95% or more is not recommended.

Fluid Conductivity:

Size 80 to 125 mm (3 to 5 in.): 1 μS/cm or larger
Size 150 to 400 mm (6 to 16 in.): 3 μS/cm or larger
Note: For measuring low conductivity fluids, read "Cautions on Selection and Installation".

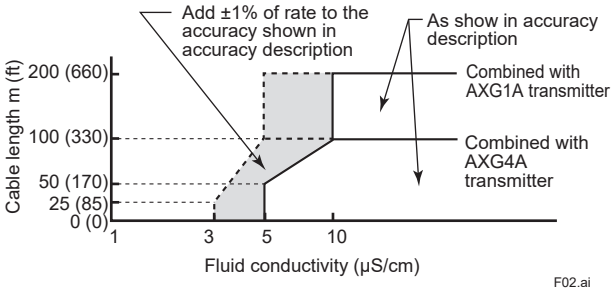
Signal Cable Length and Fluid Conductivity (Remote Sensor):

Sizes 80 to 125 mm (3 to 5 in.)



F01.ai

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



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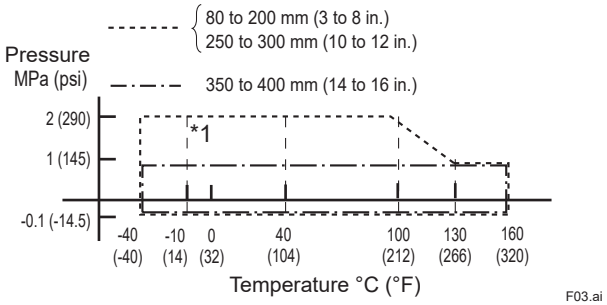
Fluid Temperature and Pressure:

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

- **Blow line (excluding high pressure type)**



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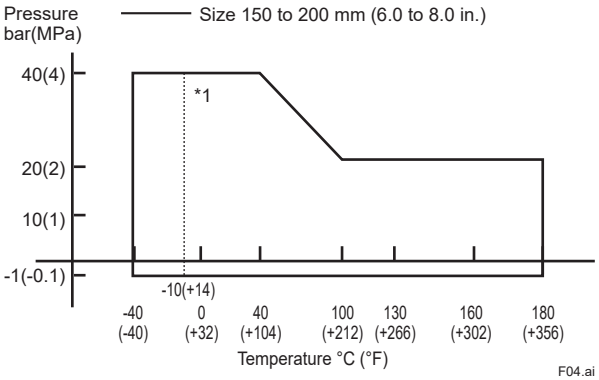
- **Circulation/extraction line**



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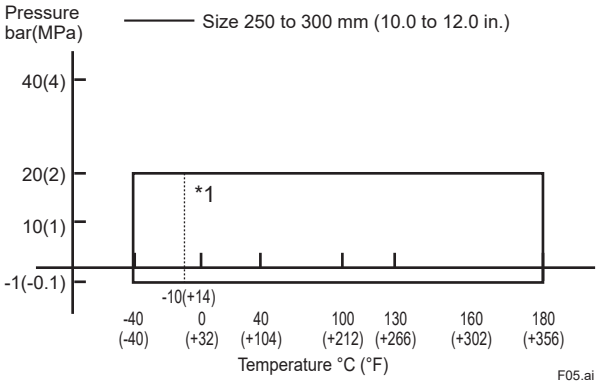
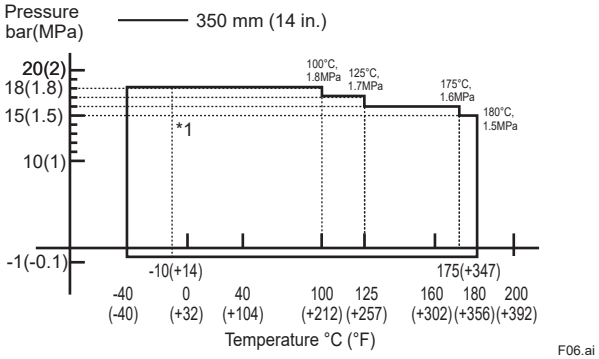


F05.ai



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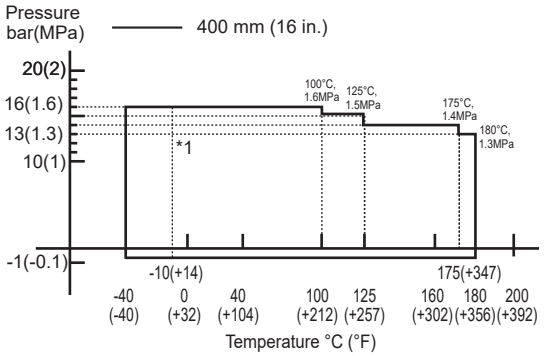

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*1: For carbon steel flange types (process connection code: C##) of 80 to 400 mm (3 to 16 in.), the minimum temperature is -10°C (14°F).

Vibration Conditions:

34.3 m/s^2 - 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

Refer to GS 01E22A01-01EN.

■ MODEL AND SUFFIX CODE

The model name and suffix code of ADMAG TI Series AXG Magnetic Flowmeter for pulp and paper application are described.

Note:

1: There are some limitations on the combination of specifications. Read specification code table when selecting specification code.
2: For EN standard wafer and flange type of sizes 80 to 150 mm (3 to 6 in.), select PN16 even for lower pressure rating because the dimensions of mating faces for PN10 and 16 are the same.
3: The dimensions of mating faces are based on the following flange standards.
JIS F12: JIS G 3443-2, JIS 10K, 20K: JIS B 2220 and JIS G 3443-2,
ASME: ASME B 16.5, EN: EN 1092-1, JPI: JPI-7S-15, AS: AS2129
Each flange standard has the specifications for the limitation on the available fluid temperature and pressure. Be sure that user's fluid conditions meet the specifications of each flange standard when selecting a process connection code.
4: "Grounding ring" is applicable for the grounding device. Be sure to select the type of grounding device from the optional code GSN or GDN.
5: The lay length (face to face) of the flange type of PFA lining sizes 80 to 400 mm (3 to 16 in.) conforms to ISO standard (ISO 20456). See the Dimensional Drawings for the lay length.
6: ⚠Lining, electrode, and grounding device (metal hat grounding ring and grounding ring) 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.
7: Select "None (or Without)" for each specification code of "Power Supply", "Communication and I/O", "Transmitter Wiring Terminal" and "Display".

●Blow line (80 to 400 mm/3 to 16 in.), Circulation/extraction line (150 to 400 mm/6 to 16 in.)

Model	Suffix Code			Description	Limitation
AXG080				Magnetic Flowmeter (80 mm/3 in)	
AXG100				Magnetic Flowmeter (100 mm/4 in)	
AXG125				Magnetic Flowmeter (125 mm/5 in)	
AXG150				Magnetic Flowmeter (150 mm/6 in)	
AXG200				Magnetic Flowmeter (200 mm/8 in)	
AXG250				Magnetic Flowmeter (250 mm/10 in)	
AXG300				Magnetic Flowmeter (300 mm/12 in)	
AXG350				Magnetic Flowmeter (350 mm/14 in)	
AXG400				Magnetic Flowmeter (400 mm/16 in)	
Use	**-Q**			Blow line	
	-P			Circulation/extraction line	150 to 400 mm (6 to 16 in.)
Construction	**E**			Remote Sensor (for AXG1A)	
	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	80 to 300 mm (3 to 12 in.)
		BE1		EN PN10 Flange	200 to 400 mm (8 to 16 in.)
		BE2		EN PN16 Flange	80 to 300 mm (3 to 12 in.)
		BE3		EN PN25 Flange	
		BG1		JIS F12 Flange	
		BJ1		JIS 10K Flange	
		BJ2		JIS 20K Flange	80 to 300 mm (3 to 12 in.)
		BP1		JPI Class 150 Flange	125 mm (5 in.) is not available.
	Stainless Steel Flange (F316)	**PA1**		ASME Class 150 Flange	125 mm (5 in.) is not available.
		PA2		ASME Class 300 Flange	80 to 300 mm (3 to 12 in.) (125 mm (5 in.) is not available.)
		PE1		EN PN10 Flange	200 to 400 mm (8 to 16 in.)
		PE2		EN PN16 Flange	80 to 300 mm (3 to 12 in.) (125 mm (5 in.) is not available.)
		PE3		EN PN25 Flange	
		PJ1		JIS 10K Flange	125 mm (5 in.) is not available.
	Carbon Steel Flange	**CA1**		ASME Class 150 Flange	
		CA2		ASME Class 300 Flange	80 to 300 mm (3 to 12 in.)
		CE1		EN PN10 Flange	200 to 400 mm (8 to 16 in.)
		CE2		EN PN16 Flange	80 to 300 mm (3 to 12 in.)
		CG1		JIS F12 Flange	
		CJ1		JIS 10K Flange	
		CJ2		JIS 20K Flange	80 to 300 mm (2 to 12 in.)
		CS1		AS Table D Flange	125 mm (5 in.) is not available.
		CS2		AS Table E Flange	80 to 300 mm (3 to 12 in.) (125 mm (5 in.) is not available.)
Lining	**A**			PFA Lining	
Electrode	**L**			Stainless Steel 316L	
	P			Platinum-Iridium	
	H			Nickel Alloy	
	T			Tantalum	
	V			Titanium	
	J			Stainless Steel 329J4L	
Grounding Device	**2**			Grounding Rings	Select an optional code GSN or GDN
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 M20×1.5 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.	

■ OPTIONAL CODE

●Application, Usage, and Operating Function

Item	Specification and Applicable Condition	Code
Vent Hole (for permeable fluid)	For permeable fluid applications (e.g. nitric acid, hydrofluoric acid, high temperature sodium hydroxide, black liquor etc.). A vent hole is provided for letting fluid permeated between the lining and the measuring pipe escape. Applicable for flange type of PFA lining.	**H**
Oil Prohibited Use	Electrodes, linings, and grounding devices (metal hat grounding ring and grounding ring) are assembled and packed with polyethylene after being cleaned with water and acetone and dried with air. The label "OIL FREE" is affixed.	**K1**
Oil Prohibited Use with Dehydration	Electrodes, linings, and grounding devices (metal hat grounding ring and grounding ring) are assembled and packed with polyethylene including desiccants after being cleaned with water and acetone and dried with air. The label "OIL & WATER FREE" is affixed.	**K5**
Mass Unit Setting	The flow rate calculation is performed in mass unit. In addition to fluid density, specify span flow rate, pulse weight, and totalization weight in mass unit. For specifying procedures, read “Ordering Information”. For remote sensor, specified parameters are set in the transmitter that is ordered in combination.	**MU**
CE Marking	CE marking is indicated on the nameplate. When a flowmeter is used in the countries where CE marking is required, specify optional code EC. Applicable for the following process connection codes. BA#, BE#, CA#, CE#, PA#, PE#	**EC**
Canada Domestic Sales	Compliant to CSA standards. Remote sensor is registered with CRN in Canada. When the product is used in Canada, it is mandatory to comply with these standards. Specify option code CS. Applicable for the following process connection codes. BA#, CA#, PA# Not applicable with the following specifications: • Optional code: EC (CE Marking) • Optional code: VR, VE (EAC Marking) • Optional code: JC (Flow Calibration in Japan)	**CS**
EAC Approval and Russian Pattern Approval Marking	EAC approval marking and Russian pattern approval marking are indicated on the nameplate. When the product is used in Russian Federation, specify optional code VR. Not applicable with the following specifications: • Optional code: EC (CE Marking) • Optional code: CS (Canada Domestic Sales) • Optional code: JC (Flow Calibration in Japan)	**VR**
EAC Approval Marking without Russian Pattern Approval Marking	EAC approval marking is indicated on the nameplate. (no Russian pattern approval marking). When the product is used in EEU except for Russian Federation, specify optional code VE. Not applicable with the following specifications: • Optional code: EC (CE Marking) • Optional code: CS (Canada Domestic Sales) • Optional code: JC (Flow Calibration in Japan)	**VE**

●Tag Plate

Item	Specification and Applicable Condition	Code
Stainless Steel Tag Plate	The pendant type tag plate (stainless steel 304) is wired around the flowmeter neck. Select optional code SCT when necessary in addition to that on the nameplate, on which the Tag No. is inscribed. Plate size (Height x Width): Approx. 12.5 mm x 40 mm (4.92 in. x 15.7 in.)	**SCT**

●Grounding Device

Grounding devices are attached at factory.

Item	Specification and Applicable Condition	Code
Metal Hat Grounding Rings (Upstream Side) Grounding Rings (Downstream Side)	Attach the metal hat grounding rings on upstream side and the grounding rings on downstream side. Material: Stainless Steel 316L Thickness: 3 mm (0.12 in.)	**GSN**
Metal Hat Grounding Rings (Upstream and Downstream Side)	Attach the metal hat grounding rings on both upstream and downstream sides. Material: Stainless Steel 316L Thickness: 3 mm (0.12 in.)	**GDN**

●Direction of Cable Entry, Cable Glands

Item	Specification and Applicable Condition	Code
Cable Entry Direction Change	Rotate the terminal box of remote sensor and change the direction of the cable entry (+90, +180, or -90 degree). For specifying procedures, read “Ordering Information”.	**RH**
Waterproof Glands (Type G)	2 pcs. of waterproof gland, and no blanking plug. Available only for cable entry code 0 (JIS G1/2 female thread).	**EG**
Waterproof Glands (Type U)	2 pcs. of waterproof gland with union joint, and no blanking plug. Available only for cable entry code 0 (JIS G1/2 female thread).	**EU**
Plastic Glands (Type P)	2 pcs. of plastic gland, and no blanking plug. Available only for cable entry code 0 (JIS G1/2 female thread).	**EP**
Waterproof Glands (Type W)	2 pcs. of waterproof gland with JIS G3/4 female, and no blanking plug. Available only for cable entry code 0 (JIS G1/2 female thread).	**EW**

●Certificate, Calibration, and Various Test

Item	Specification and Applicable Condition	Code
Material Certificate	Material certificate is issued. Target Parts: PFA Lining: Measuring Pipe, Electrodes, Grounding Devices (metal hat grounding ring and grounding ring), Flanges (for flange type)	**M01**
Material Certificate (EN 10204-3.1)	Material certificates according to EN 10204 Type 3.1 with a dedicated cover is issued. The target parts are the same as optional code M01.	**E01**
Calibration Certificate (Level 2)	The Declaration and the Calibration Equipment List are issued.	**L2**
Calibration Certificate (Level 3)	The Declaration and the Primary Standard List are issued.	**L3**
Calibration Certificate (Level 4)	The Declaration and the Yokogawa Measuring Instruments Control System are issued.	**L4**
Specified Span Five-point Calibration	With the customer’s specified span, the actual flow inspection of 5 points around 0, 25, 50, 75, and 100% is performed. Instead of the flow inspection at the standard flow rate of 2 m/s (6.56 ft/s), the result of flow inspection with the customer specified span is described in a test certificate (QIC). For specifiable spans, read “Ordering Information”.	**SC**
Flow Calibration in Japan	The actual flow inspection is performed at Yokogawa Manufacturing Kofu Factory in Japan. The result of that flow inspection is described in a test certificate (QIC). To performe the actual flow inspection reguraly at Kofu factory, specify optional code JC. For remote type, available only when the combination of the sensor and the transmitter is ordered. In this case, specify this optional code JC for both the sensor and the transmitter. Not available when the sensor or the transmitter is ordered alone. Not applicable with the following specifications: • Optional code: CS (Canada Domestic Sales) • Optional code: VR, VE (EAC Marking)	**JC**
Hydrostatic Test	The water pressure depending on the process connection is applied to the lining (measuring pipe) for 10 minutes to check that there is no leakage, and the result is described in a test certificate (QIC). For the test water pressure on each process connection, see the separate table.	**T01**
Withstand Voltage Test (Type 1)	Withstand voltage test on remote sensor is performed, and the result is described in a test certificate (QIC). WT1: Between excitation current terminal and ground terminal: 1000 V AC for 1 minute 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	**WT1**
Withstand Voltage Test (Type 2)		**WT2**
PMI Test (Type 1)	Fluorescent X-ray analysis of nickel, chromium and molybdenum is performed on parts made of stainless steel or nickel alloy, and a test report is issued. For applicable condition, see the separate table. Target Parts: PM1: Metal hat grounding ring and grounding ring PM2: Flange (Stainless steel only) PM3: Measuring Pipe	**PM1**
PMI Test (Type 2)		**PM2**
PMI Test (Type 3)		**PM3**
Liquid Penetrant Test	Liquid penetrant test on welded parts of flanges (for flange type) is performed and a test report is issued. For applicable condition, see the separate table.	**PT**

●Details: Water Pressure of Hydrostatic Test (Optional Code T01):
○Circulation/extraction line (Use Code -P)

Process connection code	Process connection	Size: mm (in.)	Water pressure (MPa)
#A1	ASME Class 150	150 to 300 (6 to 12)	3.0
		350 (14)	2.7
		400 (16)	2.4
#A2	ASME Class 300	150 to 200 (6 to 8)	6.0
		250 to 300 (10 to 12)	3.0
#E1	EN PN10	200 to 400 (8 to 16)	1.5
#E2	EN PN16	150 to 300 (6 to 12)	2.4
#E3	EN PN25	150 to 200 (6 to 8)	3.8
		250 to 300 (10 to 12)	3.0
		350 (14)	2.7
		400 (16)	2.4
#G1	JIS F12	150 to 400 (6 to 16)	1.8
#J1	JIS 10K	150 to 400 (6 to 16)	2.1
#J2	JIS 20K	150 to 200 (6 to 8)	5.1
		250 to 300 (10 to 12)	3.0
BP1	JPI Class 150	150 to 300 (6 to 12)	3.0
		350 (14)	2.7
		400 (16)	2.4
#S1	AS Table D	150 to 400 (6 to 16)	1.1
#S2	AS Table E	150 to 300 (6 to 12)	2.1

○Blow line (Use Code -Q)

Process connection code	Process connection	Size: mm (in.)	Water pressure (MPa)
#A1	ASME Class 150	80 to 300 (3 to 12)	3.0
		350 to 400 (14 to 16)	1.5
#A2	ASME Class 300	80 to 300 (3 to 12)	3.0
#E1	EN PN10	200 to 400 (8 to 16)	1.5
#E2	EN PN16	80 to 300 (3 to 12)	2.4
#E3	EN PN25	80 to 300 (3 to 12)	3.0
		350 to 400 (14 to 16)	1.5
#G1	JIS F12	80 to 300 (3 to 12)	1.8
		350 to 400 (14 to 16)	1.5
#J1	JIS 10K	80 to 300 (3 to 12)	2.1
		350 to 400 (14 to 16)	1.5
#J2	JIS 20K	80 to 300 (3 to 12)	3.0
BP1	JPI Class 150	80 to 300 (3 to 12)	3.0
		350 to 400 (14 to 16)	1.5
#S1	AS Table D	80 to 400 (3 to 16)	1.1
#S2	AS Table E	80 to 300 (3 to 12)	2.1

●Details: Applicable Condition for PMI Test (Type 2)
○Flange (Optional Code PM2)

●: Applicable —: Not Applicable

Lining	PFA Lining		
Process Connection	Flange		
Code (Process Connection) / Size mm (inch)	B##	C##	P##
80 (3)	●	—	●
100 (4)	●	—	●
125 (5)	●	—	—
150 (6)	●	—	●
200 (8)	●	—	●
250 (10)	●	—	●
300 (12)	●	—	●
350 (14)	●	—	●
400 (16)	●	—	●

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

●: Applicable —: Not Applicable

Lining	PFA Lining		
Process Connection	Flange		
Code (Process Connection) / Size mm (inch)	B##	C##	P##
80 (3)	●	●	●
100 (4)	●	●	●
125 (5)	●	●	—
150 (6)	●	●	●
200 (8)	●	●	●
250 (10)	●	●	●
300 (12)	●	●	●
350 (14)	●	●	●
400 (16)	●	●	●

■ ACCESSORIES

Refer to GS 01E22A01-01EN.

■ TERMINAL CONFIGURATION

Refer to GS 01E22A01-01EN.

■ DIMENSIONAL DRAWINGS

(1) Remote Sensor

- **Flange (PFA Lining)**

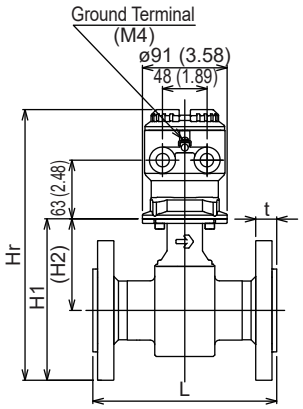
Unit: mm (approx. in.)

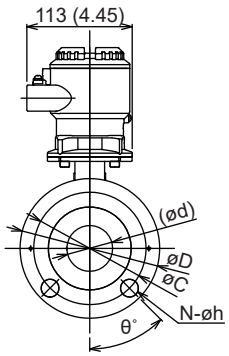
Size 80 to 125 mm (3 to 5 in.)

AXG080
AXG100 -□□□□□■□□A
AXG125

Size Code
■=B, C, P

Process Connection Code
Lining Code





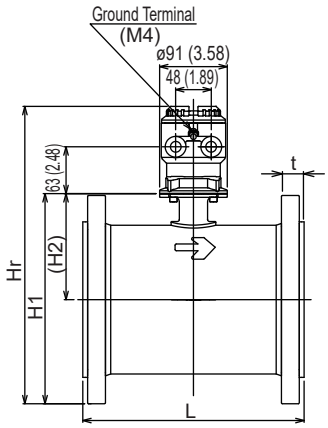
F08.ai

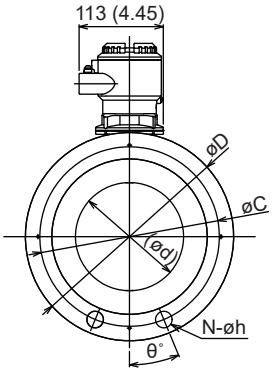
Size 150 to 200 mm (6 to 8 in.)

AXG150
AXG200 -□□□□□■□□A

Size Code
■=B, C, P

Process Connection Code
Lining Code





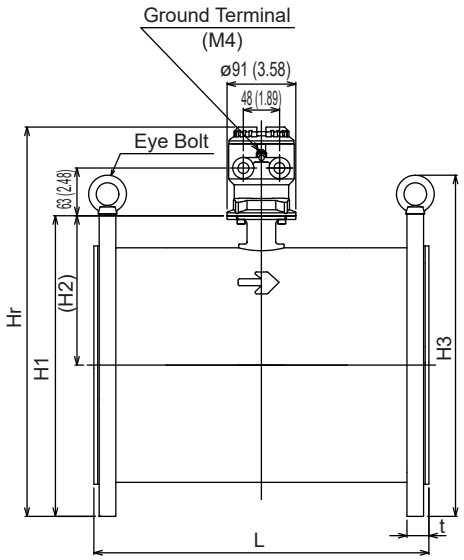
F09.ai

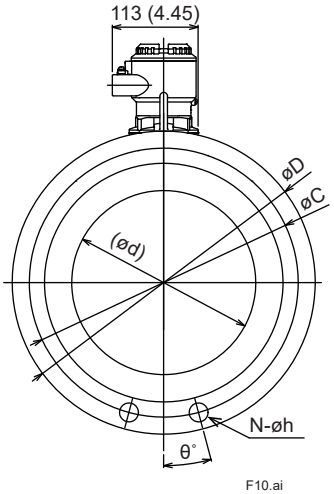
Size 250 to 400 mm (10 to 16 in.)

AXG250
AXG300 -□□□□□■□□A
AXG350
AXG400

Size Code
■=B, C, P

Process Connection Code
Lining Code





F10.ai

○ Flange, ASME Class 150

Unit: mm (approx. in.)

Model	Process Connection Code		BA1, CA1								
			PA1		-	PA1					
	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) (*2)	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	190 (7.48)	230 (9.06)	255 (10.04)	280 (11.02)	345 (13.58)	405 (15.94)	485 (19.09)	535 (21.06)	595 (23.43)
	Flange Thickness (incl. lining flare)	t	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)
	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 Circle Diameter	øC	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)
	Bolt Hole Interval	θ°	45	22.5	22.5	22.5	22.5	15	15	15	11.25
	Bolt Hole Diameter	øh	19.1 (0.75)	19.1 (0.75)	22.2 (0.87)	22.3 (0.88)	22.3 (0.88)	25.4 (1.00)	25.4 (1.00)	28.6 (1.13)	28.6 (1.13)
	Number of Bolt Holes	N	4	8	8	8	8	12	12	12	16
	Height	H1	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)
	Height	H2	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)
	Height	H3	-	-	-	-	-	456 (17.95)	536 (21.10)	595 (23.43)	655 (25.79)
	Maximum Height	Hr	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)		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)
Grounding rings (GSN, GDN) (*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)

*1: The lay length "L" in the above table is the dimension that does not include the grounding device. For The lay length (face to face) with the grounding device assembled, add the above value (Grounding rings thickness GSN, GDN) to the lay length value "L".

*2: The limit deviation of the lay length “L” is as follows.
- Size 80 to 200 mm (0.1 to 8 in.): 0/-3 mm
- Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

○ Flange, ASME Class 300

Unit: mm (approx. in.)

Model	Process Connection Code		BA2, CA2						
			PA2		-	PA2			
	Size Code		080	100	125	150	200	250	300
	Size		80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)	300 (12)
	Lining Code		A	A	A	A	A	A	A
Remote Sensor	Lay Length (*1) (*2)	L	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	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	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	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	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°	22.5	22.5	22.5	15	15	11.25	11.25
	Bolt Hole Diameter	øh	22.2 (0.87)	22.2 (0.87)	22.2 (0.87)	22.3 (0.88)	25.4 (1.00)	28.6 (1.13)	31.8 (1.25)
	Number of Bolt Holes	N	8	8	8	12	12	16	16
	Height	H1	219 (8.62)	252 (9.92)	278 (10.94)	303 (11.91)	358 (14.08)	421 (16.57)	483 (19.01)
	Height	H2	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)
	Maximum Height	Hr	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)		17.2 (37.9)	26.7 (58.9)	35.5 (78.3)	47 (103.8)	71 (156.7)	112 (247.2)	152 (335.5)
Grounding rings (GSN, GDN) (*1)			+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)

*1: The lay length "L" in the above table is the dimension that does not include the grounding device. For The lay length (face to face) with the grounding device assembled, add the above value (Grounding rings thickness GSN, GDN) to the lay length value "L".

*2: The limit deviation of the lay length “L” is as follows.
- Size 80 to 200 mm (0.1 to 8 in.): 0/-3 mm
- Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

○ Flange, EN PN16, EN PN25

Unit: mm (approx. in.)

Model	Process Connection Code		BE2, CE2							BE3, PE3								
			PE2		-	PE2												
	Size Code		080	100	125	150	200	250	300	080	100	125	150	200	250	300	350	400
	Size		80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)	300 (12)	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	A	A	A	A	A	A	A
Remote Sensor	Lay Length (*1) (*2)	L	198 (7.78)	248 (9.74)	248 (9.74)	298 (11.71)	348 (13.68)	446 (17.54)	496 (19.51)	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	200 (7.87)	220 (8.66)	250 (9.84)	285 (11.22)	340 (13.39)	405 (15.94)	460 (18.11)	200 (7.87)	235 (9.25)	270 (10.63)	300 (11.81)	360 (14.17)	425 (16.73)	485 (19.09)	555 (21.85)	620 (24.41)
	Flange Thickness (incl. lining flare)	t	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)	27.0 (1.06)	27.0 (1.06)	29.0 (1.14)	31.5 (1.24)	33.5 (1.32)	36.0 (1.42)	38.0 (1.50)	41.5 (1.63)	43.5 (1.71)
	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)	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 Circle Diameter	øC	160 (6.30)	180 (7.09)	210 (8.27)	240 (9.45)	295 (11.61)	355 (13.98)	410 (16.14)	160 (6.30)	190 (7.48)	220 (8.66)	250 (9.84)	310 (12.20)	370 (14.57)	430 (16.93)	490 (19.29)	550 (21.65)
	Bolt Hole Interval	θ°	22.5	22.5	22.5	22.5	15	15	15	22.5	22.5	22.5	22.5	15	15	11.25	11.25	11.25
	Bolt Hole Diameter	øh	18 (0.71)	18 (0.71)	18 (0.71)	22 (0.87)	22 (0.87)	26 (1.02)	26 (1.02)	18 (0.71)	22 (0.87)	26 (1.02)	26 (1.02)	26 (1.02)	30 (1.18)	30 (1.18)	33 (1.30)	36 (1.42)
	Number of Bolt Holes	N	8	8	8	8	12	12	12	8	8	8	8	12	12	16	16	16
	Height	H1	214 (8.43)	234 (9.21)	263 (10.35)	285 (11.22)	338 (13.29)	401 (15.78)	453 (17.82)	214 (8.43)	242 (9.53)	273 (10.75)	293 (11.52)	348 (13.69)	411 (16.18)	465 (18.32)	522 (20.53)	582 (22.91)
	Height	H2	114 (4.49)	124 (4.88)	138 (5.43)	143 (5.61)	168 (6.60)	198 (7.81)	223 (8.77)	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)
	Height	H3	-	-	-	-	-	456 (17.95)	511 (20.12)	-	-	-	-	-	476 (18.74)	536 (21.10)	615 (24.21)	680 (26.77)
	Maximum Height	Hr	331 (13.03)	351 (13.82)	380 (14.96)	402 (15.84)	455 (17.91)	518 (20.40)	570 (22.44)	331 (13.03)	359 (14.13)	390 (15.35)	410 (16.13)	465 (18.30)	528 (20.79)	583 (22.94)	639 (25.15)	699 (27.52)
	Approx. Weight, Unit: kg (lb)		12.4 (27.3)	15.0 (33.1)	20.7 (45.6)	29 (64.0)	44 (97.1)	73 (161.2)	91 (200.9)	13.8 (30.42)	18.8 (41.45)	25.3 (55.78)	35 (77.26)	54 (119.21)	86 (189.85)	110 (242.83)	146 (322.30)	189 (417.22)
Grounding rings (GSN, GDN) (*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)

*1: The lay length "L" in the above table is the dimension that does not include the grounding device. For The lay length (face to face) with the grounding device assembled, add the above value (Grounding rings thickness GSN, GDN) to the lay length value "L".

*2: The limit deviation of the lay length “L” is as follows.
- Size 80 to 200 mm (3 to 8 in.): 0/-3 mm
- Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

○ Flange, EN PN10

Unit: mm (approx. in.)

Model	Process Connection Code		BE1, CE1, PE1				
	Size Code		200	250	300	350	400
	Size		200 (8)	250 (10)	300 (12)	350 (14)	400 (16)
	Lining Code		A	A	A	A	A
Remote Sensor	Lay Length (*1) (*2)	L	348 (13.68)	446 (17.54)	496 (19.51)	546 (21.48)	596 (23.44)
	Flange Outer Diameter	øD	340 (13.39)	395 (15.55)	445 (17.52)	505 (19.88)	565 (22.24)
	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)
	Lining Inner Diameter	ød	194 (7.65)	243 (9.55)	292 (11.51)	323 (12.73)	374 (14.70)
	Bolt Circle Diameter	øC	295 (11.61)	350 (13.78)	400 (15.75)	460 (18.11)	515 (20.28)
	Bolt Hole Interval	θ°	22.5	15	15	11.25	11.25
	Bolt Hole Diameter	øh	22 (0.87)	22 (0.87)	22 (0.87)	22 (0.87)	26 (1.02)
	Number of Bolt Holes	N	8	12	12	16	16
	Height	H1	338 (13.29)	396 (15.58)	445 (17.53)	497 (19.55)	554 (21.82)
	Height	H2	168 (6.60)	198 (7.81)	223 (8.77)	244 (9.61)	272 (10.70)
	Height	H3	-	446 (17.56)	496 (19.53)	565 (22.24)	625 (24.61)
	Maximum Height	Hr	455 (17.91)	513 (20.20)	563 (22.15)	614 (24.17)	672 (26.44)
	Approx. Weight, Unit: kg (lb)		44 (97.1)	70 (154.5)	84 (185.4)	105 (231.8)	132 (291.4)
Grounding rings (GSN, GDN) (*1)			+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)

*1: The lay length "L" in the above table is the dimension that does not include the grounding device. For The lay length (face to face) with the grounding device assembled, add the above value (Grounding rings thickness GSN, GDN) to the lay length value "L".

*2: The limit deviation of the lay length “L” is as follows.
- Size 200 mm (3 to 8 in.): 0/-3 mm
- Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

○ 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) (*2)	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 Circle Diameter	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)
	Bolt Hole Interval	θ°	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)
	Height	H2	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)
	Height	H3	-	-	-	-	-	461 (18.15)	515 (20.28)	591 (23.27)	643 (25.31)
	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)		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)
Grounding rings (GSN, GDN) (*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)

*1: The lay length "L" in the above table is the dimension that does not include the grounding device. For The lay length (face to face) with the grounding device assembled, add the above value (Grounding rings thickness GSN, GDN) to the lay length value "L".

*2: The limit deviation of the lay length “L” is as follows.
- Size 80 to 200 mm (3 to 8 in.): 0/-3 mm
- Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

○ Flange, JIS 10K

Unit: mm (approx. in.)

Model	Process Connection Code		BJ1, CJ1								
			PJ1		-	PJ1					
	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 Sensorr	Lay Length (*1) (*2)	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	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)
	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)	32.5 (1.28)
	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 Circle Diameter	øC	150 (5.91)	175 (6.89)	210 (8.27)	240 (9.45)	290 (11.42)	355 (13.98)	400 (15.75)	445 (17.52)	510 (20.08)
	Bolt Hole Interval	θ°	22.5	22.5	22.5	22.5	15	15	11.25	11.25	11.25
	Bolt Hole Diameter	øh	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)
	Number of Bolt Holes	N	8	8	8	8	12	12	16	16	16
	Height	H1	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)
	Height	H2	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)
	Height	H3	-	-	-	-	-	451 (17.76)	496 (19.53)	550 (21.65)	620 (24.41)
	Maximum Height	Hr	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)
	Approx. Weight, Unit: kg (lb)		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)
Grounding rings (GSN, GDN) (*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)

*1: The lay length "L" in the above table is the dimension that does not include the grounding device. For The lay length (face to face) with the grounding device assembled, add the above value (Grounding rings thickness GSN, GDN) to the lay length value "L".

*2: The limit deviation of the lay length “L” is as follows.
- Size 80 to 200 mm (3 to 8 in.): 0/-3 mm
- Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

○ Flange, JIS 20K

Unit: mm (approx. in.)

Model	Process Connection Code		BJ2, CJ2						
	Size Code		080	100	125	150	200	250	300
	Size		80 (3)	100 (4)	125 (5)	150 (6)	200 (8)	250 (10)	300 (12)
	Lining Code		A	A	A	A	A	A	A
Remote Sensor	Lay Length (*1) (*2)	L	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	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	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	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	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°	22.5	22.5	22.5	15	15	15	11.25
	Bolt Hole Diameter	øh	23 (0.91)	23 (0.91)	25 (0.98)	25 (0.98)	25 (0.98)	27 (1.06)	27 (1.06)
	Number of Bolt Holes	N	8	8	8	12	12	12	16
	Height	H1	214 (8.43)	237 (9.33)	273 (10.75)	295 (11.61)	343 (13.49)	413 (16.27)	463 (18.22)
	Height	H2	114 (4.49)	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)
	Maximum Height	Hr	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)		13.1 (28.9)	17.7 (39.0)	26.5 (58.4)	36 (79.5)	51 (112.6)	90 (198.7)	108 (238.4)
Grounding rings (GSN, GDN) (*1)			+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)

*1: The lay length "L" in the above table is the dimension that does not include the grounding device. For The lay length (face to face) with the grounding device assembled, add the above value (Grounding rings thickness GSN, GDN) to the lay length value "L".

*2: The limit deviation of the lay length “L” is as follows.
- Size 80 to 200 mm (3 to 8 in.): 0/-3 mm
- Size 250 to 300 mm (10 to 12 in.): 0/-5 mm

○ Flange, JPI Class 150

Unit: mm (approx. in.)

Model	Process Connection Code		BP1							
	Size Code		080	100	150	200	250	300	350	400
	Size		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
Remote Sensor	Lay Length (*1) (*2)	L	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	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	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	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	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	θ°	45	22.5	22.5	22.5	15	15	15	11.25
	Bolt Hole Diameter	øh	19 (0.75)	19 (0.75)	22 (0.87)	22 (0.87)	26 (1.02)	26 (1.02)	29 (1.14)	29 (1.14)
	Number of Bolt Holes	N	4	8	8	8	12	12	12	16
	Height	H1	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	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)
	Maximum Height	Hr	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)		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)
Grounding rings (GSN, GDN) (*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)

*1: The lay length "L" in the above table is the dimension that does not include the grounding device. For The lay length (face to face) with the grounding device assembled, add the above value (Grounding rings thickness GSN, GDN) to the lay length value "L".

*2: The limit deviation of the lay length “L” is as follows.
- Size 80 to 200 mm (3 to 8 in.): 0/-3 mm
- Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

○ Flange, AS Table D

Unit: mm (approx. in.)

Model	Process Connection Code		CS1							
	Size Code		080	100	150	200	250	300	350	400
	Size		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
Remote Sensor	Lay Length (*1) (*2)	L	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	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	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	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	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	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)	22 (0.87)	22 (0.87)	26 (1.02)	26 (1.02)
	Number of Bolt Holes	N	4	4	8	8	8	12	12	12
	Height	H1	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	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	-	-	-	-	438 (17.26)	497 (19.55)	576 (22.68)	631 (24.84)
	Maximum Height	Hr	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)		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)
Grounding rings (GSN, GDN) (*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)

*1: The lay length "L" in the above table is the dimension that does not include the grounding device. For The lay length (face to face) with the grounding device assembled, add the above value (Grounding rings thickness GSN, GDN) to the lay length value "L".

*2: The limit deviation of the lay length “L” is as follows.
- Size 80 to 200 mm (3 to 8 in.): 0/-3 mm
- Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

○ Flange, AS Table E

Unit: mm (approx. in.)

Model	Process Connection Code		CS2					
	Size Code		080	100	150	200	250	300
	Size		80 (3)	100 (4)	150 (6)	200 (8)	250 (10)	300 (12)
	Lining Code		A	A	A	A	A	A
Remote Sensor	Lay Length (*1) (*2)	L	198 (7.78)	248 (9.74)	298 (11.71)	348 (13.68)	446 (17.54)	496 (19.51)
	Flange Outer Diameter	øD	185 (7.28)	215 (8.46)	280 (11.02)	335 (13.19)	405 (15.94)	455 (17.91)
	Flange Thickness (incl. lining flare)	t	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	73 (2.87)	97 (3.82)	145 (5.72)	194 (7.65)	243 (9.55)	292 (11.51)
	Bolt Circle Diameter	øC	146 (5.75)	178 (7.01)	235 (9.25)	292 (11.50)	356 (14.02)	406 (15.98)
	Bolt Hole Interval	θ°	45	22.5	22.5	22.5	15	15
	Bolt Hole Diameter	øh	18 (0.71)	18 (0.71)	22 (0.87)	22 (0.87)	22 (0.87)	26 (1.02)
	Number of Bolt Holes	N	4	8	8	8	12	12
	Height	H1	207 (8.15)	232 (9.13)	283 (11.12)	335 (13.19)	401 (15.78)	450 (17.73)
	Height	H2	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)
	Maximum Height	Hr	324 (12.76)	349 (13.74)	400 (15.74)	452 (17.81)	518 (20.40)	568 (22.34)
	Approx. Weight, Unit: kg (lb)		8.9 (19.6)	12.5 (27.6)	28 (61.8)	42 (92.7)	72 (158.9)	89 (196.5)
Grounding rings (GSN, GDN) (*1)			+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)	+6 (+0.24)

*1: The lay length "L" in the above table is the dimension that does not include the grounding device. For The lay length (face to face) with the grounding device assembled, add the above value (Grounding rings thickness GSN, GDN) to the lay length value "L".

*2: The limit deviation of the lay length “L” is as follows.
- Size 80 to 200 mm (3 to 8 in.): 0/-3 mm
- Size 250 to 400 mm (10 to 16 in.): 0/-5 mm

(2) Limit Deviation

Unless otherwise specified, size limit deviation on the drawings are as shown in the following table.

General limit deviation in the dimensional outline drawing.

Unit: mm (approx. in.)

Category of basic size		Limit deviation	Category of basic size		Limit deviation
Above	Equal or below		Above	Equal or below	
	3 (0.12)	±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 standard tolerance grade IT18 in JIS B 0401-1.

■ SIZING DATA

Refer to GS 01E22A01-01EN.

■ ORDERING INFORMATION

Refer to GS 01E22A01-01EN.

■ REFERENCE STANDARD

Design and Test on Magnetic Flowmeters:

JIS B 7554(1997), ISO 20456(2017),
NAMUR NE70(2006), ASME MFC-16-2014

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Directive is only valid in the EU.

This instrument is intended to be sold and used only as a part of equipment which is excluded from WEEE

Directive, such as large-scale stationary industrial tools, a large-scale fixed installation and so on, and, therefore, subjected to the exclusion from the scope of the WEEE Directive. The instrument should be disposed of in accordance with local and national legislation/regulations.