



TECHNICAL GUIDANCE

MAGMAX[®]

EGS1000

Electromagnetic Flowmeter

GENERAL

MAGMAX[®] EGS1000 is the electromagnetic flowmeter detector with its converter separately installed. The detector, primary head lined with PFA features low cost and high performance thanks to the light-weight and compact wafer construction with 8 sizes from 15 mm to 150 mm. Not only process application it is suitable for built-in use for your equipment.

MAGMAX[®] EGS1000 is used in combination with **MAGMAX[®]** series converter.

FEATURES

- ❑ The high-quality and clear PFA reinforced by the punched plates and hastelloy[®] C electrodes assure anti-corrosive and durable performance.
- ❑ High accuracy of $\pm 0.5\%$ of reading.
- ❑ Light weight and compact design.

STANDARD SPECIFICATION

- Connectable converters
 - : MAGMAX series electromagnetic flowmeter converters EGC300F/W, EGC100W and others
- Excitation : Square wave
- Nominal size : 10, 15, 25, 40, 50, 80, 100, 150 mm
- Protection class : IP66/67 (IEC 60529)
- Meter body material
 - Measuring tube : Stainless steel SS304
 - Housing : Size 10 to 40 mm : Cast iron *1
 - Size 50 to 150 mm : Carbon steel *1
 - Terminal box : Aluminum alloy *1
- Wetted part material
 - Liner : PFA
 - Electrode : Hastelloy[®] C22
 - Earth ring : Stainless steel SS316
 - Earth ring seal : Fluorocarbon rubber Applied only for nominal sizes 10 and 15 mm *2
- Painting : Siloxane coating
- Color : Grey (Sensor housing / Terminal box housing)
- Jade green (Terminal box cover)
- Cable entry : 2 × G1/2 female thread or 2 × 1/2 NPT female thread or 2 × M20 (with water tight glands) (Option : Water tight glands for G1/2)
- Power supply : Supplied from converter
- Ambient temperature : -40 to +65°C for operation -50 to +70°C for storage
- Process connection : Wafer type, sandwiched between 2 flanges
- Flanges : JIS10K, 20K, ASME class 150, 300, DIN PN16, 40
- Note: The flowmeters can be mounted physically on JIS20K and ASME class 300 flanges. However, the maximum allowable pressure of the flowmeters are 1.6 MPa.



- Grounding : Grounding resistance must be less than 100Ω

*1 Anti-corrosive painting

*2 The earth rings of flowmeters 25 mm to 150 mm have no special sealing materials. The gasket face of lining materials works as sealing.

FLUID SPECIFICATION

- Temperature : -25 to 120°C
- Pressure : 0 Pa abs to 1.6 MPa
- Conductivity : 5 $\mu\text{S}/\text{cm}$ or more
- 20 $\mu\text{S}/\text{cm}$ or more is required for water
- Note : The minimum allowable conductivity differs with the type of connected converter and kinds or length of electrode signal cables. Refer to the Technical Guidance of the connected converter for details.

Accuracy

±0.5% of reading However the overall accuracy is subject to the connected converter. Refer to the converter specifications for details.

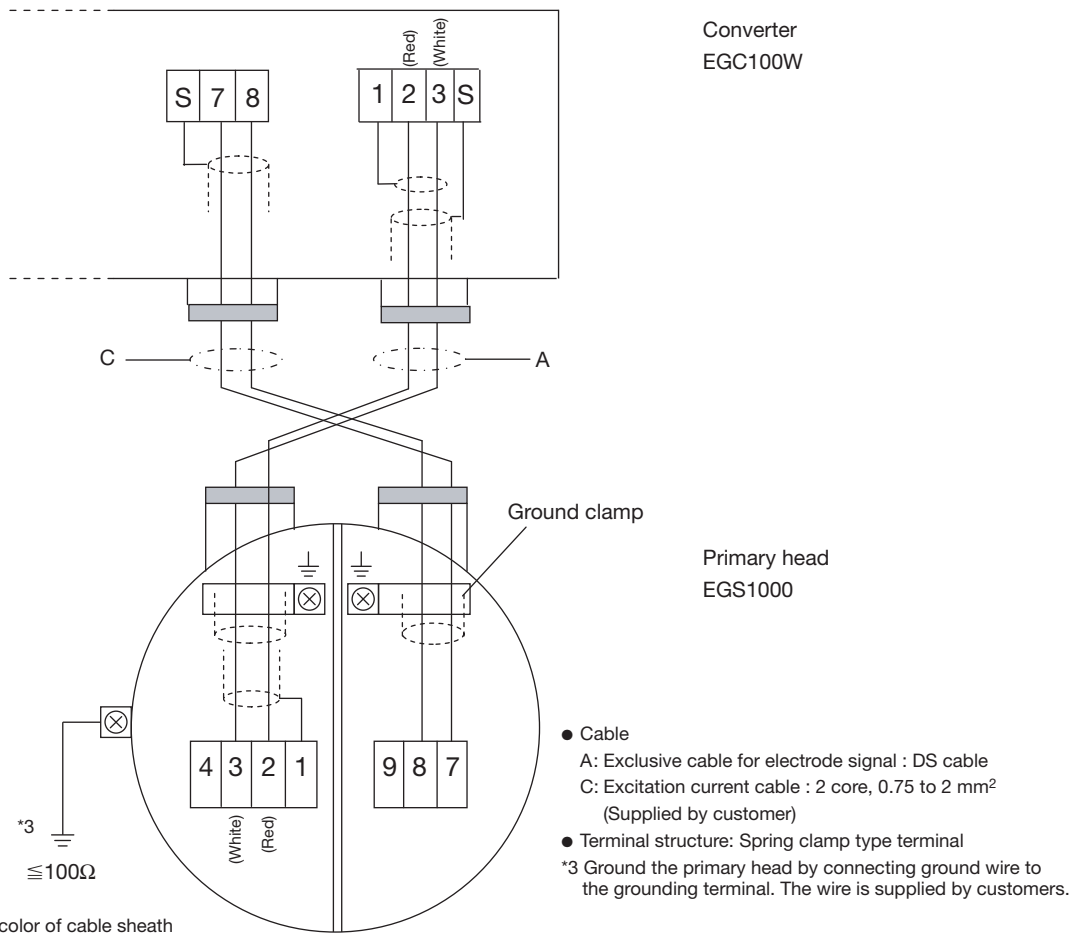
FLOW RANGE

Nominal size mm	Possible setting range m³/h	
	Min.	Max.
10	0 to 0.0849	0 to 3.39
15	0 to 0.191	0 to 7.63
25	0 to 0.531	0 to 21.2
40	0 to 1.36	0 to 54.2
50	0 to 2.13	0 to 84.8
80	0 to 5.43	0 to 217
100	0 to 8.49	0 to 339
150	0 to 19.1	0 to 763

(Flow velocity span : 0.3 to 12 m/s)

ELECTRICAL CONNECTION

Following diagram shows the interconnection with EGC100W converter for a typical example. Refer to the relevant Technical Guidance when you connect the flowmeter with other type of converters.



Terminal symbols	Description
1	Electrode signal output
2	
3	
4	Not used
7	Excitation current input
8	Excitation current input
9	Not used
S	Shield
⏏	Grounding

Cable length between Primary head and Converter

- Maximum cable length for electrode signal cable *1

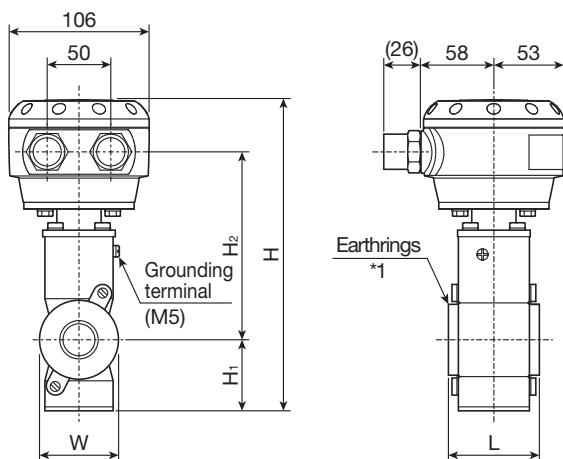
Converter	Cable *2	Nominal size 10 and 15 mm	Nominal size 25 to 150 mm
		EGC300F	A
	B	600 m	
EGC100W	A	600 m	

*1 The maximum allowable length of electrode signal cable differs with the conductivity of measuring fluids. Refer to the Technical Guidance of the connected converter for details.

*2 Electrode signal cable A : When DS cable is used
B : When BTS cable is used

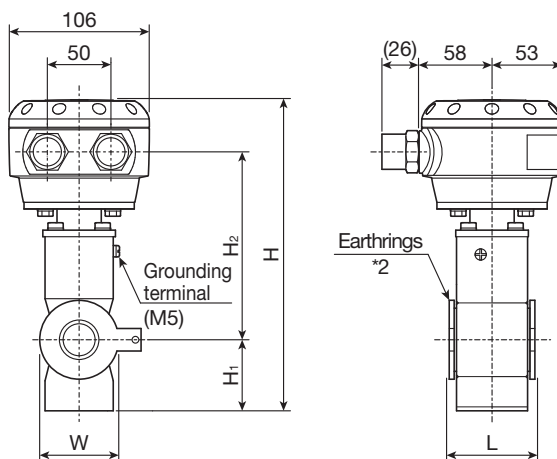
DIMENSIONS

Nominal size: 10, 15mm



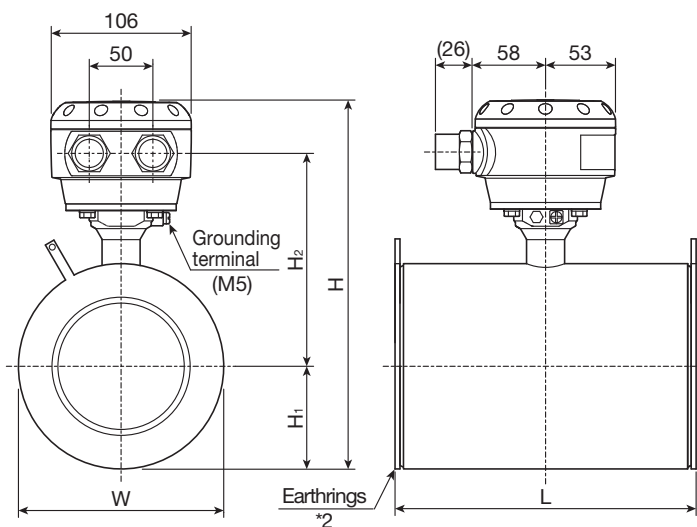
Flow direction (Standard) →

Nominal size: 25, 40mm



Flow direction (Standard) →

Nominal size: 50 to 150mm



Flow direction (Standard) →

Nominal size mm	Dimensions mm					Mass kg
	L ^{*1,*2}	H	H ₁	H ₂	W	
10	68	214	67	111	47	2.2
15	68	214	67	111	47	2.2
25	60	224	62	126	66	2.4
40	84	239	70	133	82	3.3
50	106	228	51	141	101	5.0
80	156	257	65	156	130	6.7
100	206	284	78	170	156	11.6
150	206	348	110	202	220	16.3

*1 Dimension L for nominal size 10 and 15 mm includes earth rings thickness.

The earth rings are fixed onto the primary head.

*2 Dimension L for nominal size 25 to 150 mm includes earth rings thickness.

The earth rings are not fixed onto the primary head.

They are to be installed between the primary head and connection flanges on installation.

The face to face dimensions L of the primary head itself is "L-6" mm without earth rings.

(Earth ring thickness = 3 mm × 2)

MODEL AND SPECIFICATION CODE

Model: EGS1000

Spec. code	V	N	1	7	4	N	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	Description	Standard		
Primary head code	V	N	1	7																			Wafer type, PFA liner, Hastelloy® C electrodes	○		
(Fixed code)					4																		always 4	Connection flange size	○	
Nominal size						5																	10 mm	10 or 15A	1/2"	○
						6																	15 mm	15A	1/2"	○
						8																	25 mm	25A	1"	○
						B																	40 mm	40A	1-1/2"	○
						C																	50 mm	50A	2"	○
						E																	80 mm	80A	3"	○
						F																	100 mm	100A	4"	○
					H																	150 mm	150A	6"	○	
Process connection						N																	Wafer type, sandwiched between 2 flanges	○		
(Fixed code)						0																	always 0		○	
Terminal box / Cable entry							4																Aluminum alloy / 1/2 NPT female thread			
							5																Aluminum alloy / 1/2 G female thread	○		
							6																Aluminum alloy / M20 with water tight glands			
							9																Others			
Type							0																Separate type	○		
(Fixed code)							0																always 0		○	
Earth ring (Seal for earth ring)								1															Stainless steel SS316 (Fluorocarbon rubber seal)	For size 10 and 15 mm	○	
								K															Stainless steel SS316	For size 25 to 150 mm	○	
								9															Others			
Material of electrodes									0														Standard		○	
Protection class										0													IP66/67		○	
(Fixed code)											0	0											always 00		○	
Calibration													0										Standard calibration		○	
(Fixed code)																							always 0200000		○	
Special feature																							(Blank)	None	○	
																							/ Z	Involved *1	○	

*1 Add code "/Z" to a series of above mentioned codes with explanation for the other requirements not mentioned above code table.
Do not hesitate to consult TOKYO KEISO Co., Ltd. before ordering for such requirements.

ORDERING INSTRUCTIONS

Specify the following when ordering :

1. Model and spec. code

Example : Model : EGS1000

Spec. code : VN174CN0500K000000200000

2. Add optional specifications by using symbols if required.

3. Fluid name

STANDARD ACCESSORIES

- Instruction manual : 1

OPTION

- Bolt and nut for installation : 1 set [Symbol : BN]
Material : Stainless steel SS304 for JIS10K flange
- PTFE jacket gaskets for mounting on pipe
2 pieces [Symbol : FG]
VALQUA No. N7030 for JIS10K flange
Note : Suitable size of bolts and gaskets matching mating flanges will be provided. Please specify the flange rating and size other than JIS 10K if those fittings are requested.
- G1/2 water tight glands for cable entry : 1 set [Symbol : WG]

* Specification is subject to change without notice.


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