

### Description

Electromagnetic flow meter consists of sensors and converters in two parts. The product is based on Faraday's law of electromagnetic induction, used to measure the conductance greater than  $20 \mu\text{S} / \text{cm}$  volume of conductive liquid flow, In addition to measuring the general volume of conductive liquid flow, but also can be used to measure strong acid, alkali and other strong corrosive liquids and mud, pulp, pulp and other liquid-solid two-phase suspension of uniform volume flow.

### Benefit

- ◆ Medium temperature:  
Integral type :  $-20^{\circ}\text{C} \sim 60^{\circ}\text{C}$   
Remote type (Rubber&Polyurethane liner):  $-10^{\circ}\text{C} \sim 80^{\circ}\text{C}$   
Remote type (PTFE&PFA&F46 liner):  $-10^{\circ}\text{C} \sim 160^{\circ}\text{C}$
- ◆ Integrated verification, diagnostic function and empty pipe detection.
- ◆ Measure forward and reverse direction flows.
- ◆ Built-in reference electrodes, no need to connect ground ring.
- ◆ Dual frequency excitation and stable zero point.
- ◆ Precision coil winding technology, makes magnetic field more uniform.
- ◆ High protection grade, IP65, IP68
- ◆ No moving parts, no pressure loss.
- ◆ High accuracy:  $\pm 0.5\%$  of reading,  $\pm 0.3\%$  and  $\pm 0.2\%$  optional, velocity  $> 0.3 \text{ m/s}$ .



### Standard Specification

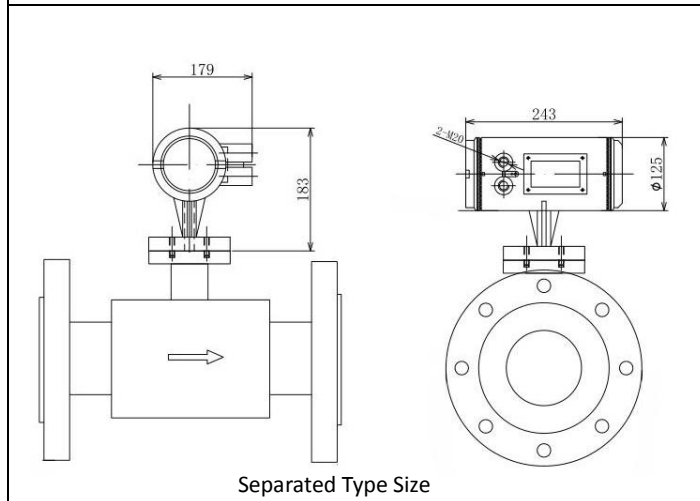
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|-----------------------|--|---|
| ● Size                | : DN3-DN3000mm (1/8"~120")   | 1.6 MPa (DN200-DN600)   |
| ● Accuracy            | : $\pm 0.5\%$ of reading, $\pm 0.3\%$ and $\pm 0.2\%$ optional, velocity $> 0.3 \text{ m/s}$ | 1.0 MPa (DN700-DN1000)<br>0.6 MPa (DN1200-DN3000)   |
| ● Conductivity        | : Normal liquid $> 20 \mu\text{S}/\text{cm}$ ,<br>Slurry liquid $> 5 \mu\text{S}/\text{cm}$  | ● Frequency Output : 1~5000 Hz  |
| ● Protection Grade    | : IP65, IP68   | ● Language : English, Chinese<br>Other languages are available  |
| ● Electrode           | : SS316L, Hastelloy C, Hastelloy B,<br>Titanium, Tantalum, Platinoidium                      | ● Flange Standard : EN1092-1<br>PN10, PN16, PN25, PN40<br>ANSI BS16.5 Class 150, 300, 600<br>JIS2220 10K, 20K, 40<br>AS2129 Table D, Table E<br>AS4087 PN16, PN21, PN35 |
| ● Power Supply        | : AC85~250V, DC20V~36V   | ● Exciting Current : 125mA, 187mA, 250mA  |
| ● Power Consumption   | : $< 20\text{W}$   | ● Exciting Frequency : 3.12Hz, 4.16Hz, 6.25Hz<br>12.5Hz, 25Hz, 30Hz   |
| ● Communication       | : RS485/Modbus, Hart, Profitbus  | ● Material  |
| ● Display             | : LC Display, 128X128mm<br>Three lines<br>4 internal push buttons                            | Measuring Tube : Stainless Steel 304<br>Flange : Carbon Steel (standard)<br>: Stainless Steel 304 (optional)<br>: Stainless Steel 316 (optional)                        |
| ● Ambient Temperature | : $-20^{\circ}\text{C} \sim 60^{\circ}\text{C}$  | ● Straight Pipe : Inlet Path $\geq 10\text{D}$<br>Outlet Path $\geq 5\text{D}$  |
| ● Relative Humidity   | : 5%~95%   | ● Signal Output : 4~20 mA, pulse  |
| ● Liner Material      | : Neoprene (Rubber)<br>PTFE<br>PFA<br>F46<br>Polyurethane )                                  |   |
| ● Velocity            | : 0.1 m/s ~ 15 m/s   |   |
| ● Explosion-proof     | : Exd IIB T6 Gb  |   |
| ● Nominal Pressure    | : 4.0 MPa (DN3-DN150)  |   |

## Dimensions of Sensor and Converter

Nominal Diameter	External Dimension (mm)		Weight Kg
	L	D	
mm	L	D	Kg
3	200	90	4
6	200	90	5
10	200	90	6
15	200	95	8
20	200	105	10
25	200	115	12
32	200	140	13
40	200	150	14
50	200	165	15
65	200	185	18
80	200	200	20
100	250	235	25
125	250	270	28
150	300	300	30
200	350	340	50
250	450	405	70
300	500	460	95
350	550	520	120
400	600	580	140
450	600	640	160
500	600	715	200
600	600	840	280
700	700	895	350
800	800	1015	400
900	900	1115	480
1000	1000	1230	550
1200	1200	1405	660
1400	1400	1630	750
1600	1600	1830	850
1800	1800	2045	980
2000	2000	2265	1200
2200	2200	2475	1600
2400	2400	2685	2000
2600	2600	2905	2400
2800	2800	2905	2700
3000	3000	3315	2900



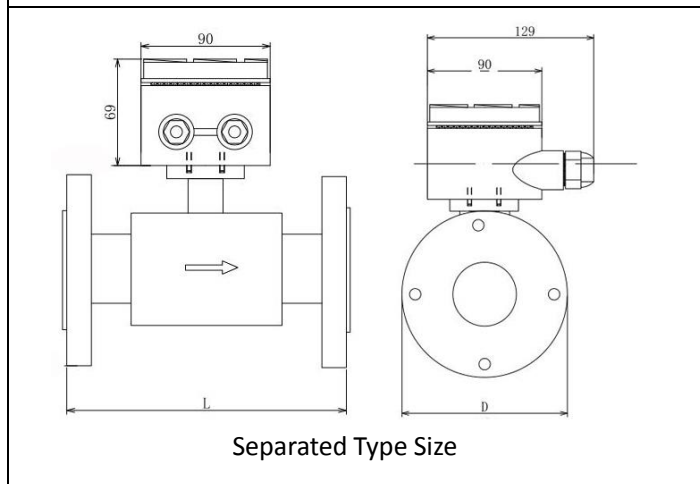
Integrated Type



Separated Type Size



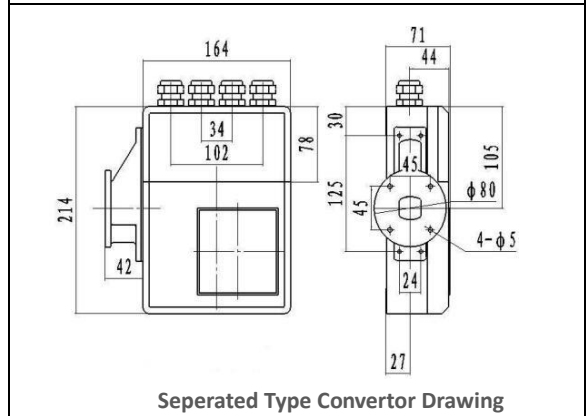
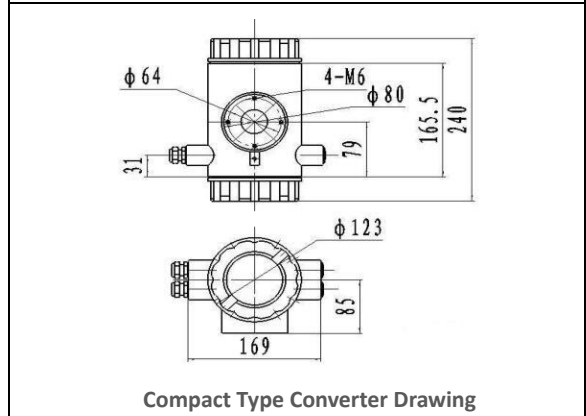
Separated Type



Separated Type Size

Flange Dimension (GB/T9119-2000)

Nominal Pressure	Caliber (mm)	D (mm)	K (mm)	Φ (mm)	N (mm)	C (mm)
4.0 Mpa	3	90	60	14	4	14
	6	90	60	14	4	14
	10	90	60	14	4	14
	15	95	65	14	4	14
	20	105	75	14	4	16
	25	115	85	14	4	16
	32	140	100	18	4	18
	40	150	110	18	4	18
	50	165	125	18	4	20
	65	185	145	18	8	22
	80	200	160	18	8	24
	100	235	190	22	8	26
	125	270	220	26	8	28
1.6 MPa	150	300	250	26	8	30
	200	340	295	22	12	26
	250	405	355	26	12	28
	300	460	410	26	12	32
	350	520	470	26	16	35
	400	580	525	30	16	38
	450	640	585	30	20	42
1.0 MPa	500	715	650	33	20	46
	600	840	770	36	20	52
	700	895	840	30	24	30
	800	1015	950	33	24	32
0.6 MPa	900	1115	1050	33	28	34
	1000	1230	1160	36	28	34
	1200	1405	1340	33	32	28
	1400	1630	1560	36	36	32
	1600	1830	1760	36	40	34
	1800	2045	1970	39	44	36
	2000	2265	2180	42	48	38
	2200	2475	2390	42	52	42
	2400	2685	2600	42	56	44
	2600	2905	2810	48	60	46
2800	3115	3020	48	64	48	
3000	3315	3220	48	68	50	



Note: Following Flange Standards are available.

EN1092-1,PN10

ANSI BS16.5 Class 150

JIS2220 10K

AS2129 Table D

AS4087 PN16

EN1092-1,PN16

ANSI BS16.5 Class 300

JIS2220 20K

AS2129 Table E

AS4087 PN21

EN1092-1,PN25

ANSI BS16.5 Class 600

JIS2220 40K

AS4087 PN35

EN1092-1,PN40

# HEMF / Electromagnetic Flow Meter

DN15-DN3000mm / Flange Connection

## Selection Table electromagnetic flow meter

### Selection

HEMF		XXXX	X	X	X	X	X	X	X	X
Caliber	DN10~DN3000④-digital code seeing caliber code table 13									
Nominal pressure	0.6MPa		1							
	1.0MPa		2							
	1.6MPa		3							
	4.0MPa		4							
	Other		5							
Connection mode	Flange connection		1							
	Clamp connection		2							
	Sanitary connection		3							
Liner material	PTFE			1						
	PFA			2						
	Neoprene			3						
	Polyurethane			4						
	Ceramic			5						
Electrode material	316L				1					
	Hastelloy B				2					
	Hastelloy C				3					
	Titanium				4					
	Platinum-iridium				5					
	Tantalum				6					
	Stainless steel covered with tungsten carbide				7					
Structure type	Integral type					1				
	Remote type					2				
	Remote type immerse					3				
	Integral type Ex-proof					4				
	Remote type Ex-proof					5				
Power	220VAC 50Hz							E		
	24VDC							G		
Output/communication	Flow volume4~20mADC/pulse								A	
	Flow volume4~20mADC/RS232C communication								B	
	Flow volume4~20mADC/RS485 communication								C	
	Flow volume HART output/with communication								D	
Converter figure	Square								A	
	Circular								B	



Coil



Electrode



Liner

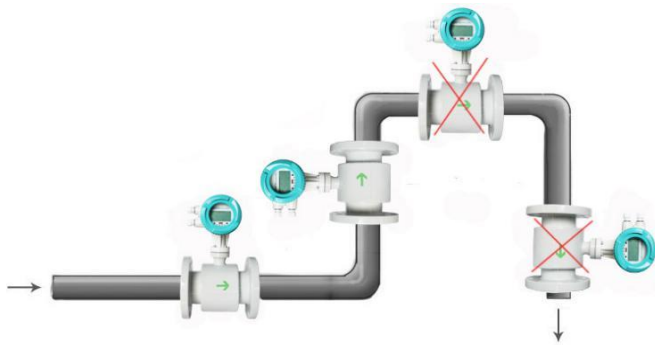


Main Board

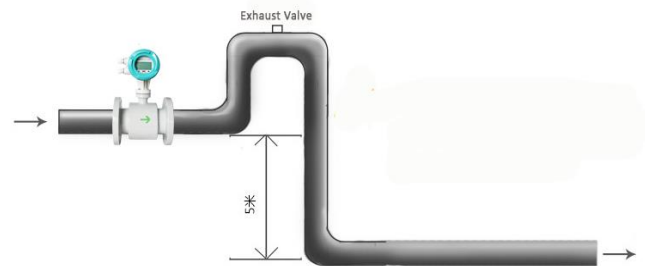
# HEMF/ Electromagnetic Flow Meter

DN15-DN3000mm / Flange Connection

## Installation Notice



Installed at the lowest point and vertical upward direction  
Don't install at the highest point and vertical downward direction



Install exhaust valve at the downstream of flow meter when drop is more than 5m



Installed at the lowest point when used in open drain pipe



Need 10D of upstream and 5D of downstream



Don't install it at the entrance of pump, install it at the exit of pump



Installed at the rising direction

## Electrode Property

SS316L	Applicable in water, sewage and corrosive mediums. Widely used in industries of petrol, chemistry, carbamide, etc
Stainless Steel Covered with tungsten carbide	Applicable in mediums of no corrosive and low abrasion.
Hastelloy B	Having strong resistance to hydrochloric acid of any concentration which is below boiling point. Also resistant against vitriol, phosphate, hydrofluoric acid, organic acid etc, which are oxidizable acid, alkali and non-oxidizable salt.
Hastelloy C	Be resistant to oxidizable acid such as nitric acid, mixed acid as well as oxidizable salt such as Fe <sup>+++</sup> , Cu <sup>++</sup> and sea water
Titanium	Applicable in seawater, and kinds of chloride, hypochlorite salt, oxidizable acid (including fuming nitric acid), organic acid, alkali etc. Not resistant to a pure reducing acid (such as sulphuric acid, hydrochloric acid) corrosion. Acid contains antioxidant (such as Fe <sup>+++</sup> , Cu <sup>++</sup> ) will greatly reduce corrosion.
Tantalum	Having strong resistance to corrosive mediums that is similar with glass. Almost applicable in all chemical mediums. Except for hydrofluoric acid, oleum and alkali.
Platinum-iridium	Almost be applicable in all chemical mediums except for aqua fortis, ammonium salt.