



NEO WAVE[®]

EMF 5X

SERIES

Electromagnetic Flow Meter



► Product overview



The intelligent electromagnetic flowmeter is a reliable device designed for accurate measurement of conductive liquid flow in industrial applications. It offers stable performance, high accuracy, and strong resistance to external interference. The advanced sensor design ensures consistent operation, making it suitable for a wide range of fluids such as water, wastewater, acids, alkalis, and other conductive liquids.

► Features

- No moving or flow-blocking parts, minimal pressure loss.
- Measurement unaffected by flow velocity, pressure, temperature, or fluid properties.
- On-site adjustable measuring range.
- Clear backlit LCD with easy-to-use menu.
- High-reliability electronics with digital processing and strong anti-interference.
- Ultra-low EMI power supply and wide voltage range.
- Internal totalizers for forward, reverse, and net flow.
- Non-power-off clock with 16 power-off records.
- Supports RS485, Hart, and other digital communications.

► Applications

The electromagnetic flowmeter is ideal for measuring the flow of conductive liquids in various industries, including water supply and drainage, wastewater, acids, alkalis, salt solutions, pulp, beverages, cooling water, and other industrial liquids, and it can be integrated into complete equipment sets with flexible connection types and materials.

► Pipeline Electromagnetic Flowmeter Technical Parameters

Nominal Diameter (mm)	Pipeline PTFE lining: DN 10 ~ DN500 Pipeline rubber lining: DN65 ~ DN 1200
Accuracy Level	0.5 level; 1.0 level
Medium Temperature	Ordinary rubber lining: -20 ~ +70°C; PTFE lining: -20 ~ +120°C
Pressure Level	0.6MPa, 1.0MPa, 1.6MPa, 4.0MPa
Flow Measurement Range	The flow measurement range corresponds to the flow velocity range of 0.5~5m/s
Conductivity Range	Fluid conductivity $\geq 20\mu\text{S/cm}$ (integrated), water conductivity is within the range of 200-800 $\mu\text{S/cm}$
Signal Output	Pulse, 4-20mA, RS485
Digital Frequency Output	Frequency range: 1-5000Hz, external power supply $\leq 35\text{V}$, max collector current 250mA (conducting)
Power Supply	85-265V/45-63HZ, DC24V; battery power supply
Connection Method	Flange, thread, clamp
Explosion-Proof Mark	EXd ia[ia Ga] q IIC T6 Gb
Ambient Temperature and Humidity	-25°C ~ +60°C; 5%RH; 95%RH
Total Power Consumption	<20W

► Insertion Type Electromagnetic Flowmeter Technical Parameters

Nominal DN (mm)	DN 100 ~ DN3000
Accuracy	Level 1.5
Medium Conductivity	More than 50 $\mu\text{S/cm}$
Working Pressure	1.6MPa
Electrode Material	Molybdenum-containing stainless steel 0Cr118Ni 12Mo2Ti, Hastelloy c-276, titanium Ti, etc.
Measuring Tube Material	ABS
Medium Temperature	0°C ~ 60°C
Protection Level	IP65 or IP68
Output Signal	85-265V/45-63HZ, DC24V; battery power supply
Communication Function	4~20mA load resistance is 0~500 Ω ; frequency: 1 ~5KHZ load resistance is 250~1.2k Ω
Explosion-Proof Mark	EXd ia[ia Ga] q IIC T6 Gb

▶ Electromagnetic Heat Meter Technical Parameters

Working Mode	Hot meter mode:Only calculates heat, which is the default mode of the meter. "H" means heat
	Cold meter mode:Only calculate the cooling capacity. "R" indicates cooling capacity
	Cold and hot meter modes:Both cold and hot meters are calculated and displayed separately
Nominal Diameter	DN10 ~ DN2000
Flow Unit	L/s; L/m; L/h; m3/s; m3m; m3/h; Total quantity unit: m3, L
Cold/Heat Unit	Four options are available: MJ/h, GJ/h, KWh/h, MWh/h; total quantity unit: MJ, GJ, KWh, MWh
Flow Measurement Range	The flow measurement range corresponds to the flow velocity range of 0.5~5m/s
Measurement Damping Time	A longer filtering time (i.e., damping time) improves flow display stability and output signal stability, suitable for pulsating flow measurement in totalization. A shorter damping time enables faster response, ideal for process control.
Flow Direction Selection	If flow direction differs from design, modify the direction parameter instead of rewiring excitation/signal lines.
Flow Zero Correction	During zero adjustment,ensure the sensor tube is filled with static fluid.Flow zero is expressed as flow velocity in mm/s.
Small Signal Cutoff Point	Small signal cut-off is flow rate-based. Only velocity is displayed; flow rate, percentage, and signal output are cut.
Temperature Difference Signal Cutoff	When the inlet-outlet temperature difference is below this setting, the meter does not calculate heat/cooling energy.
Reverse Measurement Prohibited	With reverse output disabled (default), heat/cooling is not calculated, only flow rate is displayed. When enabled, the heat meter functions normally. By principle, reverse flow should not calculate heat/cooling.are "prohibited"
Output Parameters	Current output: flow, heat, cold, hot and cold, hot and cold status, flow direction output
	Pulse output: flow pulse, heat pulse, cold pulse, hot and cold pulse,
	Frequency output upper limit: Output corresponds to flow rate percentage (not heat/cooling energy), range: 1~5000
	Heat/cool meter start temperature: No energy calculation when temperature is below set value.
Temperature Parameters	Working pressure parameters: 0.6MP, 1.6MP two pressures are optional
	Input/output temperature zero, temperature calibration: Pt1000 & Pt100 RTD 3-wire bridge connection.
	Thermal resistor has the selection function of pt1000 thermal resistor and pt100 thermal resistor

► Lining Material Description

Name	Main Performance	Medium Temperature	Applicable Media
Neoprene	<ol style="list-style-type: none"> 1. Good elasticity, high tearing strength, good wear resistance 2. Resistant to corrosion by general low-concentration acid, alkali, and salt media, but not resistant to corrosion by oxidizing media 	70°C	Water, sewage, low-abrasive slurry, ore pulp
Polyurethane	<ol style="list-style-type: none"> 1. Good wear resistance 2. Poor acid and alkali corrosion resistance 	90°C	Neutral, highly abrasive ore, coal, and mud slurries.
Polytetrafluoroethylene (PTFE)	<ol style="list-style-type: none"> 1. Resistant to most chemicals, including boiling hydrochloric, sulfuric, nitric acids, aqua regia, concentrated alkalis, and solvents. Not resistant to chlorine trifluoride, high-temperature oxygen trifluoride, high-velocity liquid fluorine, liquid oxygen, or ozone. 2. Inferior wear resistance to polyurethane rubber and lower negative pressure resistance than neoprene. 	120°C	Strongly corrosive media (e.g., concentrated acids/alkalis) & sanitary media
Pressure Level	<ol style="list-style-type: none"> 1. Not resistant to fuming nitric acid and butyl lithium, other chemical properties are basically the same as polytetrafluoroethylene 2. Higher resistance to negative pressure than polytetrafluoroethylene 	120°C	Strongly corrosive media (e.g., concentrated acids/alkalis) & sanitary media

► Electrode/Grounding Material Description

Material	Corrosion Resistance
Molybdenum-containing stainless steel (Ocr18Ni12Mo2Ti)	±0.1 of <5% sulfuric acid at room temperature, boiling phosphoric acid, acetic acid, alkaline solution, sulfurous acid under a certain pressure, sea water, acetic acid%
Hastelloy C Hastelloy B (HC, HB)	Resistant to oxidizing acids, oxidizing salts, seawater, non-oxidizing cyclic acids, non-oxidizing salts, alkalis, and normal temperature sulfuric acid
Titanium (Ti)	Seawater, chlorides, hypochlorites, oxidizing acids (including fuming nitric acid), organic acids, alkalis.
Tantalum (Ta)	Chemical media other than hydrofluoric acid, oleum, and alkali, including boiling hydrochloric acid and nitric acid
Platinum (Pt)	Various acids, bases, salts, excluding aqua regia

► Flow velocity comparison table

Caliber	0.5 m/s	1 m/s	1.5 m/s	2 m/s	2.5 m/s	3 m/s	4 m/s	5 m/s
DN10	0.141	0.283	0.424	0.564	0.707	0.848	1.131	1.414
DN15	0.318	0.636	0.954	1.28	1.59	1.909	2.55	3.181
DN20	0.565	1.131	1.696	2.3	2.83	3.39	4.52	5.655
DN25	0.884	1.767	2.651	3.6	4.42	5.3	7.07	8.836
DN32	1.448	2.9	4.343	5.8	7.24	8.69	11.58	14.48
DN40	2.262	4.52	6.79	9.2	11.31	13.57	18.1	22.62
DN50	3.534	7.07	10.6	14.4	17.67	21.21	28.27	35.34
DN65	5.973	11.95	17.92	24	29.87	35.84	47.78	59.73
DN80	9.048	18.1	27.14	36.8	45.24	54.29	72.38	90.48
DN100	14.14	28.27	42.41	56.8	70.69	84.82	113.1	141.37
DN125	22.11	44.18	66.268	90	110.45	132.54	176.72	220.89
DN150	31.81	63.62	95.43	127.8	159.04	190.85	254.47	318.09
DN200	56.55	113.1	169.65	228	282.74	339.29	452.39	565.49
DN250	88.36	176.72	265.07	360	441.79	530.14	706.86	883.57
DN300	27.23	254.47	381.7	512	636.17	763.41	1017.88	1272.35
DN350	173.18	346.31	519.54	700	865.9	1039.08	1385.44	1731.8
DN400	226.2	452.39	678.58	920	1130.97	1357.17	1809.56	2261.95
DN450	286.28	572.56	858.83	1160	1431.39	1717.67	2290.22	2862.78
DN500	353.43	706.86	1060.29	1413.72	1767.15	2120.58	2827.43	3534.29
DN600	508.94	1017.88	1526.81	2035.75	2544.69	3053.63	4071.5	5089.38
DN700	692.72	1385.44	2078.16	2770.86	3463.61	4156.33	5541.77	6927.21

► **Flow velocity comparison table**

Caliber	0.5 m/s	1 m/s	1.5 m/s	2 m/s	2.5 m/s	3 m/s	4 m/s	5 m/s
DN800	904.78	1807.56	2714.34	3619.12	4523.89	5428.67	7238.23	9047.79
DN900	1145.11	2290.22	3435.33	4580.44	5725.55	6870.66	9160.88	11451.11
DN1000	1413.72	2827.43	4241.15	5654.87	7068.58	8482.3	11309.73	14137.17
DN1200	2035.75	4071.5	6017.26	8143.01	10178.76	12214.51	16286.02	20357.52
DN1400	2770.89	5541.77	8312.65	11083.54	13854.42	16625.31	22167.08	27708.85
DN1600	3619.12	7238.23	10857.34	14476.46	18095.57	21714.69	28952.92	36191.15

► **Various Models Available**



Integrated electromagnetic flowmeter - general purpose
EMF51



High pressure integrated electromagnetic flowmeter
EMF52



Insertion type electromagnetic flowmeter
EMF53



Split electromagnetic flowmeter
EMF54



Integrated electromagnetic flowmeter - Lanshen type
EMF55



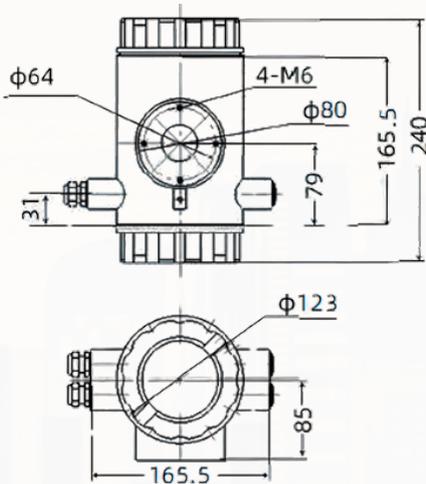
Electromagnetic heat meter
EMF56

► Various Models Available

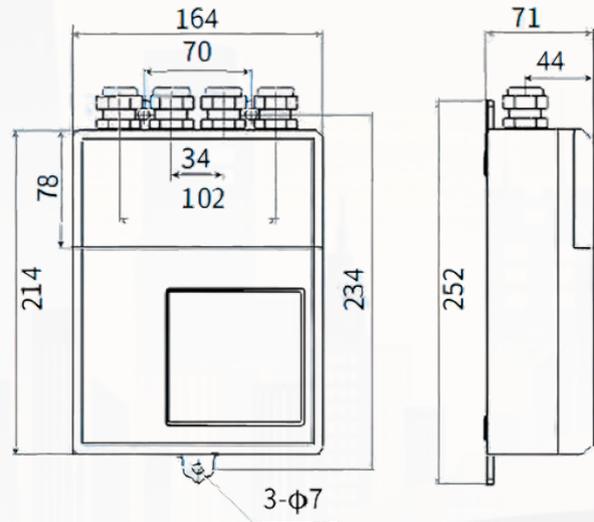
Type	Power Supply	Accuracy Level	Connection	Pressure Rating
Integrated Electromagnetic Flowmeter - General Purpose	24VDC / 220VAC / Battery	0.5%, 1.0%	Thread / Flange / Clamp / High-Pressure Flange Clamp	4.0MPa, 1.6MPa, 1.0MPa, 0.6MPa (High pressure customizable)
High Pressure Integrated Electromagnetic Flowmeter	24VDC / 220VAC / Battery	0.5%, 1.0%	Thread / Flange / Clamp / High-Pressure Flange Clamp	25MPa (Customizable)
Split Electromagnetic Flowmeter	24VDC / 220VAC / Battery	0.5%, 1.0%	Thread / Flange / Clamp / High-Pressure Flange Clamp	4.0MPa, 1.6MPa, 1.0MPa, 0.6MPa (High pressure customizable)
Integrated Electromagnetic Flowmeter - Lanshen Type	24VDC / 220VAC / Battery	0.5%, 1.0%	Thread / Flange / Clamp / High-Pressure Flange Clamp	4.0MPa, 1.6MPa, 1.0MPa, 0.6MPa (High pressure customizable)
Insertion Type Electromagnetic Flowmeter	24VDC / 220VAC / Battery	1.5%, 2.5%	-----	1.6MPa
Electromagnetic Heat Meter	24VDC / 220VAC / Battery	0.5%, 1.0%	Thread / Flange / Clamp / High-Pressure Flange Clamp	4.0MPa, 1.6MPa, 1.0MPa, 0.6MPa (High pressure customizable)

► Product Size

Unit: mm



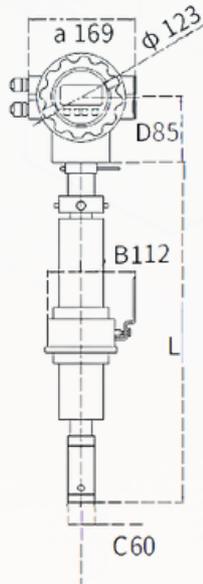
Circular shell integrated external dimensions



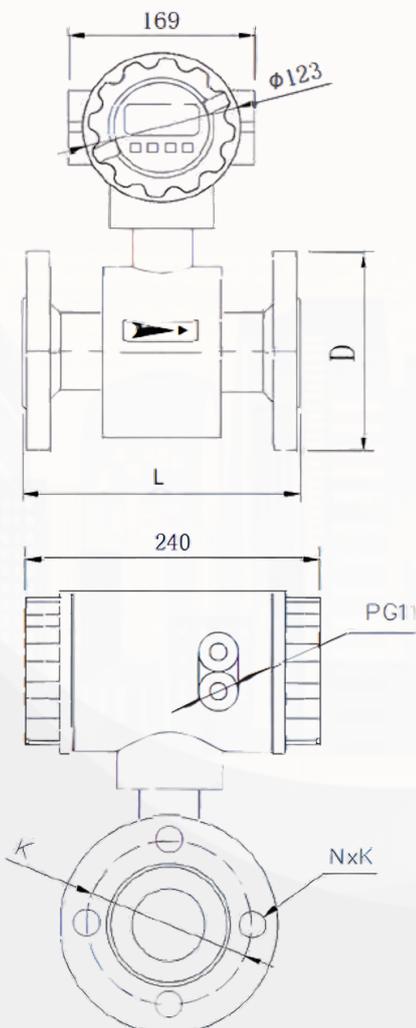
Square shell split type appearance dimension drawing

Product Size

Plug-in Dimensions



Pipeline flow meter dimensions
(see table on the right)



DN	a	B	C	D	φ	L
150	169	112	60	85	123	650
200	169	112	60	85	123	650
250	169	112	60	85	123	650
300	169	112	60	85	123	650
350	169	112	60	85	123	750
400	169	112	60	85	123	750
450	169	112	60	85	123	750
500	169	112	60	85	123	750
500	169	112	60	85	123	800
700	169	112	60	85	123	850
800	169	112	60	85	123	900
900	169	112	60	85	123	950
1000	169	112	60	85	123	1000

DN	Reference dimension(mm)			Pressure (MPa)	Hole (N×K)
	L	D	K		
10	200	90	60	4	4-14
15	200	95	65	4	4-14
20	200	105	75	4	4-14
25	200	115	85	4	4-14
32	200	140	100	4	4-18
40	200	150	110	4	4-18
50	200	165	125	4	4-18
65	200	185	145	1.6	4-18
80	250	200	160	1.6	8-18
100	250	220	180	1.6	8-18
125	250	250	210	1.6	8-18
150	300	285	240	1.6	8-22
200	350	340	295	1.6	8-22
250	450	395	350	1.6	12-22
300	500	445	400	1.0	12-22
350	550	505	460	1.0	16-22
400	600	565	515	1.0	16-26
450	600	615	565	1.0	20-26
500	600	670	620	1.0	20-26
600	600	780	725	1.0	20-30
700	700	895	840	1.0	24-30
800	800	800	950	1.0	24-33
900	900	1115	1050	1.0	28-33
1000	1000	1230	1160	1.0	28-36
1200	1200	1450	1340	0.6	32-33
1400	1400	1630	1560	0.6	36-36
1600	1600	1830	1760	0.6	40-36
1800	1800	2045	1970	0.6	44-39
2000	2000	2265	2180	0.6	48-42
2200	2200	2405	2315	0.6	51-45

► Selection Code

Electromagnetic Flowmeter Selection Table

Model		Optional Description
GT	L1	Lanshen High-frequency Converter (For slurry: mud, coal slurry, and other low-conductivity media)
	L2	Lanshen Converter
	L3	Ordinary Converter
Nominal Diameter	10 2000	DN10 mm pipe.....DN2000mm pipe
Converter Type	A	One-piece
	B	Split type
	C/CF	Plug-in type [Plug-in split CF]
	D	Cloud platform (wireless transmission type)
Connection Method (Omitted for plug-in type)	1	Threaded connection
	2	Flange connection
	3	Clamp connection
	4	High-pressure flange clamp
Accuracy Level	1	0.5 level measurement accuracy
	2	1 level measurement accuracy
	3	1.5 level measurement accuracy
	4	2 level measurement accuracy
Lining Material (Omitted for insert type)	1	Chloroprene Rubber (CR)
	2	Polyurethane Rubber (PU)
	3	Polytetrafluoroethylene (F4/PTFE)
	4	Teflon (F46/FEP)
	5	Polymer (PFA)

► Selection Code

Electrode Material	1		316L electrode
	2		Titanium alloy electrode
	3		Hb electrode
	4		Hc electrode
	5		Tantalum electrode
	6		Tungsten carbide electrode
	7		Scraper electrode
	8		Platinum electrode
Valve Body Material	1		Carbon steel material
	2		304 material
	3		316L material
Pressure Level	N		Normal pressure
	H		HP1 = 1.6 MPa, HP2 = 2.5 MPa, HP3 = 4 MPa, HP4 = 6.3 MPa
Power Supply	1		220V AC power supply
	2		24V DC power supply
	3		Lithium battery power supply



Despite all attempts to guarantee accuracy in this specification, Neo Wave cannot be held liable for any damage injury, loss, or expense due to errors or omissions. Product specification and design might change without prior notice in pursuit of technical enhancements.

For technical support please contact: support@neowave.tech

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