RFT METERS

SURE WE ARE
SURE TO BE BETTER

ELECTROMAGNETIC FLOW METER

TO WORK WITH INNOVATIVE SPIRIT
TO DEVELOP HIGH QUALITY PRODUCTS
FOR THE MEASUREMENTS OF FLUIDS

ELECTROMAGNETIC FLOW METER

01 MAGNETIC FLOW METER WORKING PRINCIPLE

Magnetic flow meters use the principle of Faraday's Law of Electromagnetic Induction to measure the flow rate of liquid in a pipe. In the magnetic flowmeter pipe parts, a magnetic field is generated, and channeled into the liquid flowing through the pipe.

Faraday's Law states that the voltage generated is proportional to the movement of the flowing liquid. A conductor moving through a magnetic field produces an electric signal within the conductor. And the singal is proportional to the velocity of the water moving through the field.

As fluid flows through the magnetic field, conductive particles in the fluid create changes. This variation is used to measure and calculate the velocity of water flow through the pipe. When the fluid moves faster, more voltage is generated. The electronic transmitter processes the voltage signal to determine liquid flow.

02 APPLICATIONS

- **Waster water industry:** Transport networks sewage treatment plants, sludges
- **Chemical industry:** Acids alkalis, dosing applications, abrasive or corrosive mediums
- **Metal & mining industry:** Mediums with a high solid content, like ore or excavator mud
- **Water industry:** Revenue metering, district metering waterabstraction, leakage detection
- **Pulp & paper industry:** Pulp, pastes, sludges & other caustic mediums, liquor, additives, bleaches, colourants
- **Food & beverage industry:** Mixing, dosing and filling of drinks under hygienic conditions filling systems applications

03 FEATURES

- High accuracy & wide flow range measurement
- 99.999% pure copper for oil
- No mechanically moving parts
- IP68 proof, maximum 3 meter immersion in water
- Dringking water approvals
- FDA approvals
- Bi-directional measure
- Wide choice of materials for housing and flanges including SS304 and SS316
- Advanced wire-winding technology, no drift zero point
- Robust, fully welded and potted construction
- In house wet calibration for all diameters (up to DN3000)
- Three electrodes
- ⩾3mm thickness PTFE liner, durable service life

ELECTROMAGNETIC FLOW METER

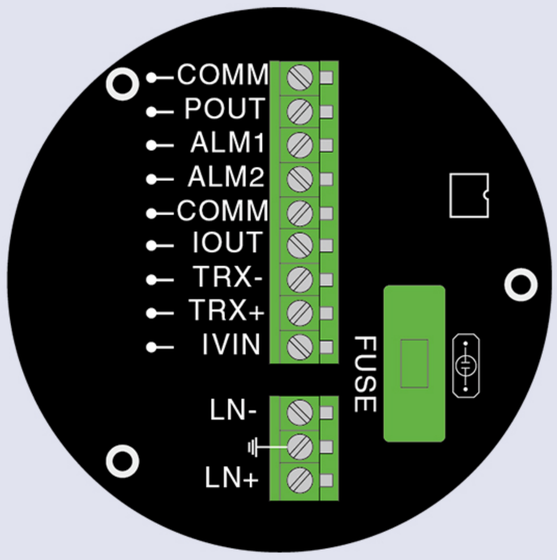
04 LCD DISPLAY

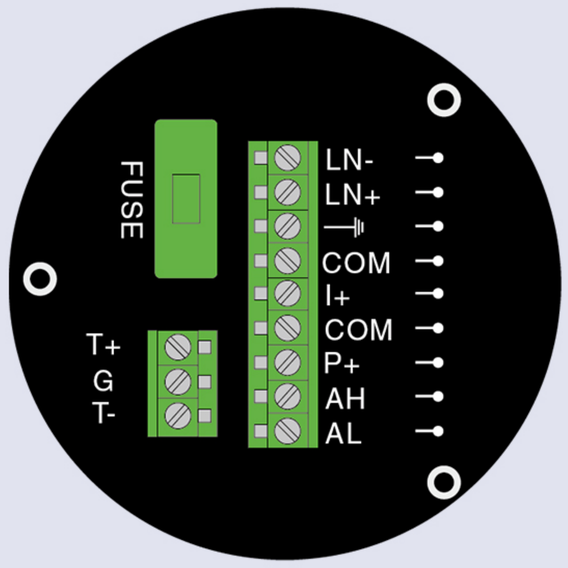
Instantaneous Flow

Flow Unit

Flow Velocity (FLS)
Flow Percentage (FQP)
Ratio of Emptiness(MTP)
Forward and Reverse Intergated Volumes
Forward / Reverse Flow Difference Alarm

05 MUITI-LANGUAGE MODULE DESIGN MULTIFUNCTIONAL OUTPUT





Terminal Configuration

I+	Frequency(Pulse) Output for Bi-directional Flow
COM	Alarm Output for Upper Limit
P+	Alarm Output for Low Limit
COM	Frequency, Pulse and Current Common (GND)
AL	Frequency, Pulse and Current Common (GND)
COM	Current Output of Flow Rate
FUSE	24V DC Power Supply for 2-wire 4-20mA Output
T+	+Communication RS485(+)
T-	-Communication RS485(-)
LN+	L: Live Wire of 110-240V AC; +: 24V DC +
LN-	N: Naught Wire of 110-240V AC; -: 24V DC -

Terminal Configuration Explosion-proof

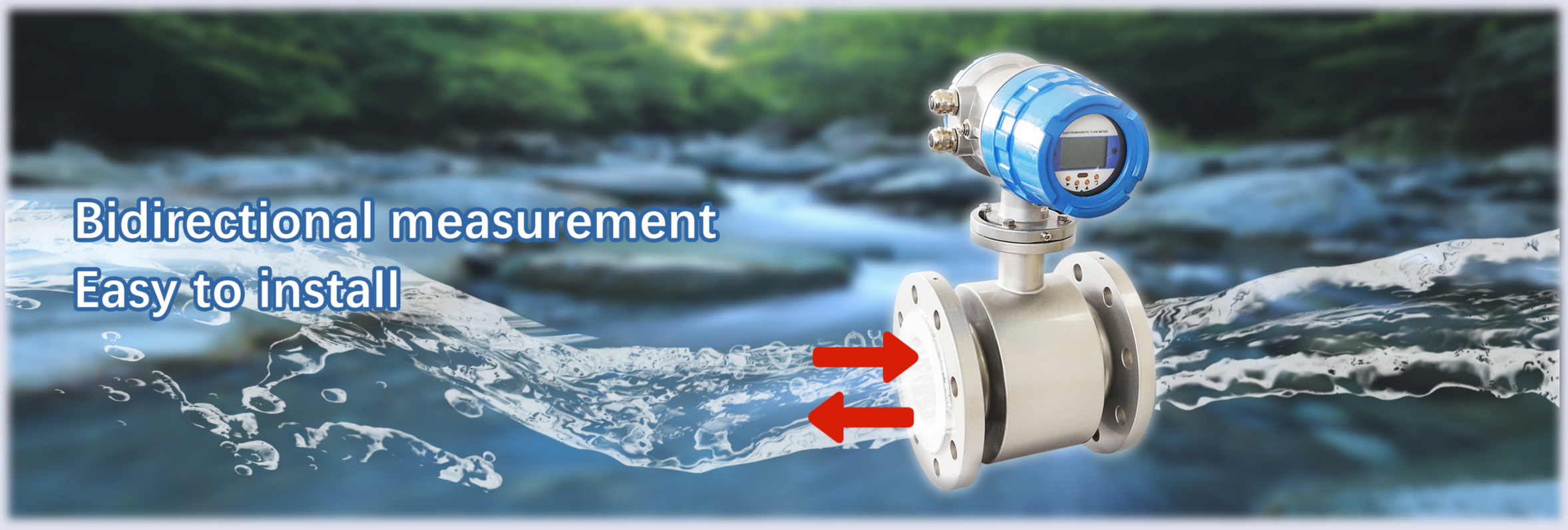
POUT	Frequency(Pulse) Output for Bi-directional Flow
ALM1	Alarm Output for Upper Limit
ALM2	Alarm Output for Low Limit
COMM	Frequency, Pulse and Current Common (GND)
COMM	Frequency, Pulse and Current Common (GND)
IOUT	Current Output of Flow Rate
IVIN	24V DC Power Supply for 2-wire 4-20mA Output
TRX+	+Communication RS485(+)
TRX-	-Communication RS485(-)
LN+	L: Live Wire of 110-240V AC; +24V DC power supply
LN-	N: Naught Wire of 110-240V AC; -24V DC power supply

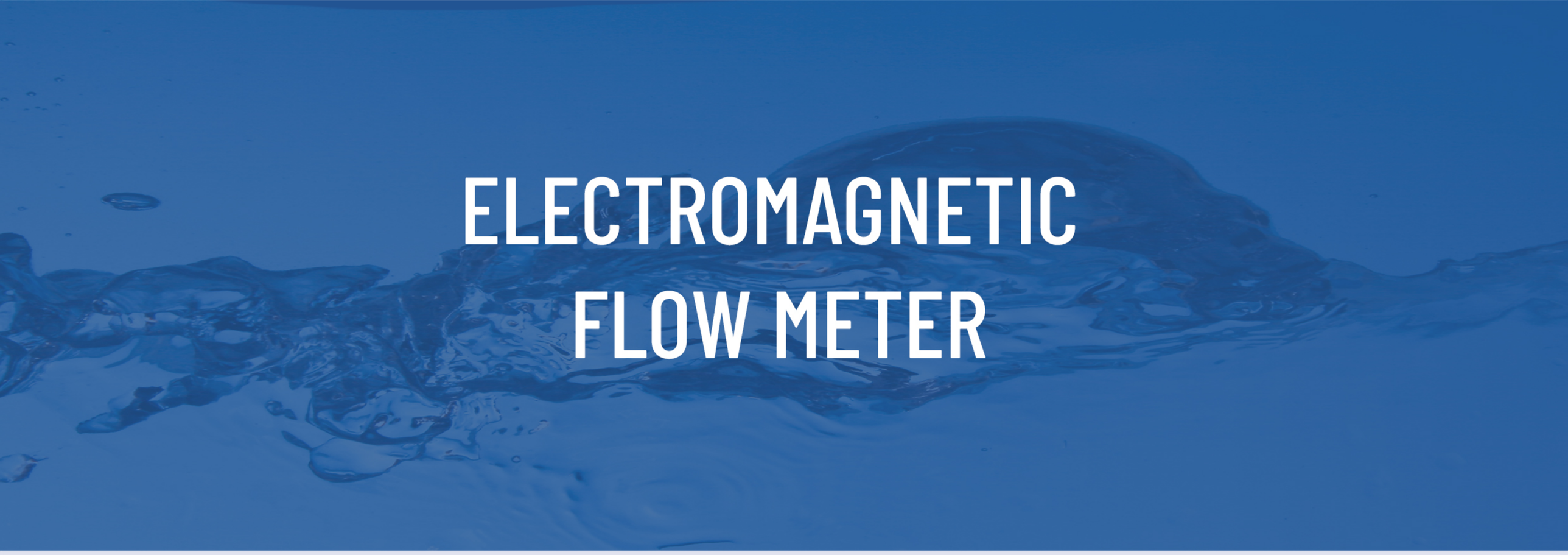
ELECTROMAGNETIC FLOW METER

06 MUITI-LANGUAGE MODULE DESIGN MULTIFUNCTIONAL OUTPUT

- Infrared Touch Screen
- 32G SD Card
- Bluedtooth
- Can display Temp. & Pressure

07 MEASUREMENT METHOD





ELECTROMAGNETIC FLOW METER

08 MORE PRODUCTS

Y-COMPACT TYPE

B-COMPACT TYPE

L-COMPACT TYPE

SANITARY MAGNETIC FLOW METER

INSERTION MAGNETIC FLOW METER

MINI MAGNETIC FLOW METER

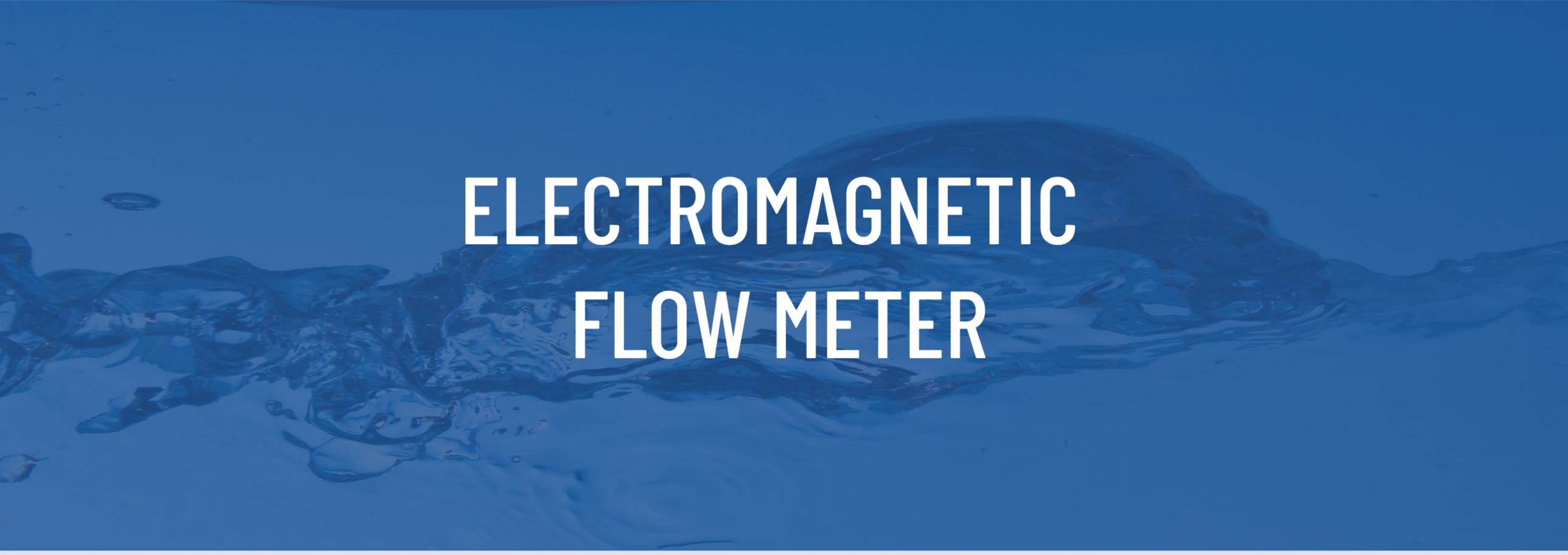
ELECTROMAGNETIC FLOW METER

09 TECHNICAL DATA

Diameter	PTFE: DN2.5-DN1000
	Rubber: DN50-DN3000
Flow Direction	Positive; Negative
Repeatability Error	±0.1%
Accuracy	±0.5% of rate; ±0.2% of rate
Medium Temperature	Rubber liner: -20...+60℃
	PTFE liner: -20...+120 ℃
	PFA: -20...+180℃
Velocity	0.3-10m/s
Ambient Temperature	-20...+60 ℃
Relative Humidity	5%~95%
Power Consumption	<20W
Protection	IP 65; IP 68 (Remote Type)

010 MAIN PERFORMANCES OF THE ELECTRODE MATERIALS

Electrode Material	Application
SS316L	Applicable in water, sewage and low corrosive medium; Widely used in industries of petrol, chemistry, carbamide etc.
Hastelloy B	Having strong resistance to hydrochloric acid of any consistence which is below boiling point. Resistable against vitriol,phosphate, hydrofluoricacid, organic acid etc which are oxidable acid, alkali and non-oxidable salt.
Hastelloy C	Be resistant to oxidable acid such as nitric acid, mixed acid as well as oxidable salt such as Fe+++,Cu++ and sea water
Titanium	Applicable in seawater, and kinds of chloride, hypochlorite salt, oxidable acid (including fuming nitric acid), organic acid, alkali etc. Not resistant to a pure reducing acid (such as sulphuric acid, hydrochloric acid) corrosion. But if acid contains antioxidant (such as Fe+++,Cu++) is greatly reduce corrosion
Tantalum	Having strong resistance to corrosive mediums that is similar with glass. Almost applicable in all chemicals mediums except for hydrofluoric acid, oleum and alkali
Platinum-iridium	Almost be applicable in all chemical mediums except fortis, ammonium salt



ELECTROMAGNETIC FLOW METER

011 TECHNICAL DATA

Diameter		Flow Rate (m^3/h)		
		V=0.3m/s	V=6m/s	V=10m/s
mm	Inch	Min	Calibrated	Max
2.5	1/10"	0.0053	0.106	0.177
4	1/8"	0.014	0.271	0.452
6	1/4"	0.03	0.6	1
10	3/8"	0.1	1.7	3
15	1/2"	0.2	4	6
20	3/4"	0.3	7	11
25	1"	0.5	11	18
32	1-1/4"	0.9	17	29
40	1-1/2"	1	27	45
50	2"	2	42	71
65	2-1/2"	4	72	120
80	3"	5	109	181
100	4"	8	170	283
125	5"	13	265	442
150	6"	20	382	636
200	8"	34	679	1131
250	10"	53	1060	1767
300	12"	76	1527	2545
350	14"	104	2078	3465
400	16"	136	2714	4524
450	18"	171	3435	5726
500	20"	212	4241	7069
600	24"	305	6107	10179
700	28"	415	8310	13850
800	32"	542	10860	18100
900	36"	662	13740	22900
1000	40"	848	16962	28270

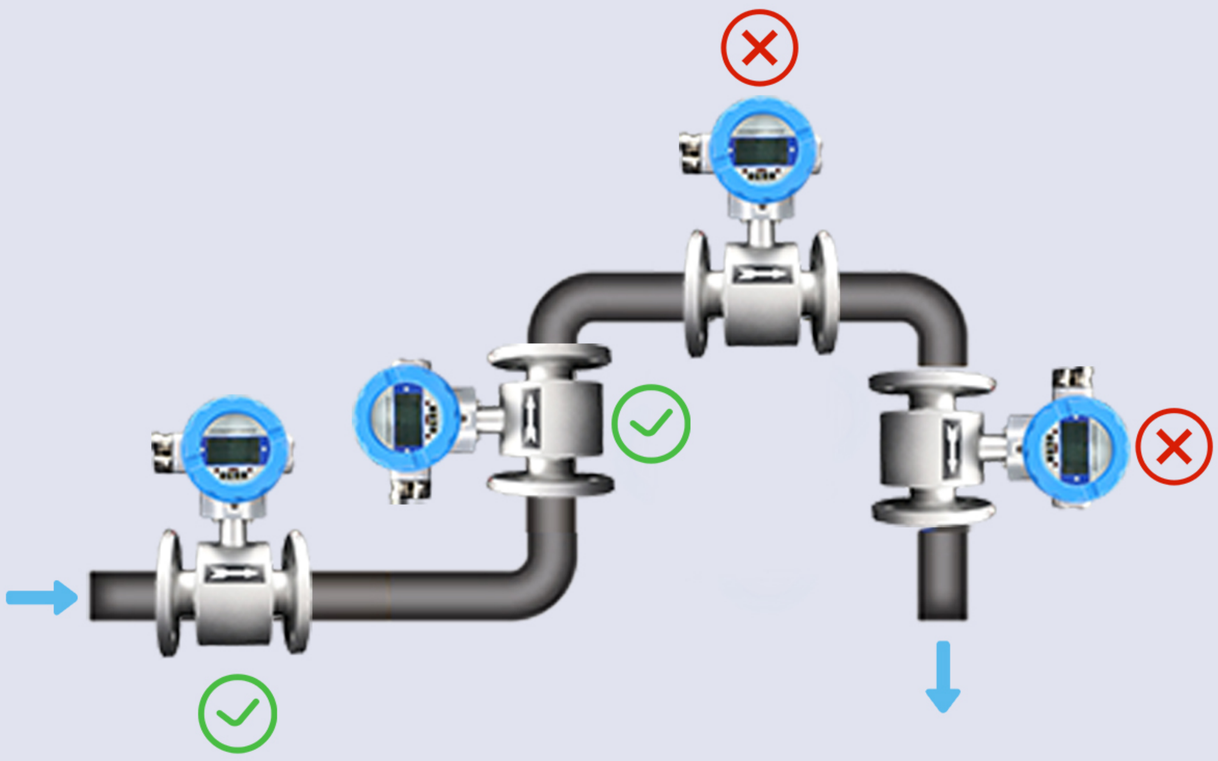
ELECTROMAGNETIC FLOW METER

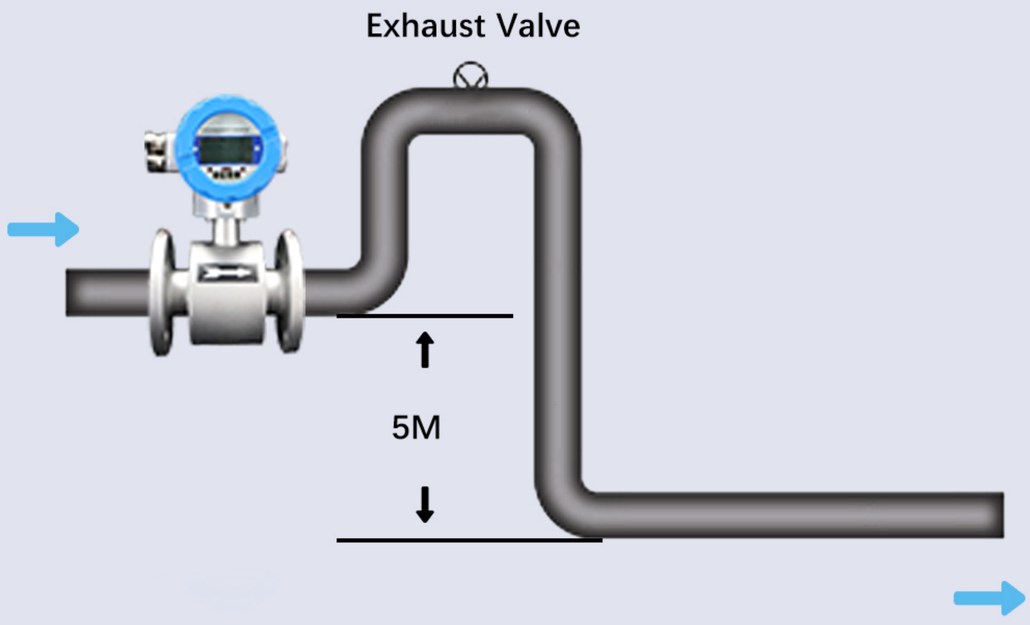
012 MODEL SELECTION

Model	Suffix Code											Description
LDG-	❶	❷	❸	❹	❺	❻	-❼	❽	❾	❿	⓫	Electromagnetic Flow Meter
Type	B											B type
	Y											Y type (optional explosion proof)
	H											Energy Meter (PT1000 temperature sensors)
Diameter		XXX										Stand for diameter 0006: DN6; 0015: DN15 0100: DN100; 2200: DN2200
Structure			S									Compact Type with local display
			L									Remote Type; 10 meters cable default
Electrode Material				M								SS316L
				T								Titanium
				D								Tantalum
				H								Hastelloy C
				P								Platinum-Iridium
Signal Output					0							No Output
					1							4-20mA / Pulse
Liner Material						X						Rubber
						P						Polyurethane
						F						PTFE
						A						PFA
Power Supply							-0					110-240V AC
							-1					24V DC (20-36V DC)
							-2					Battery Power Supply
Communication								0				No Communication
								1				Modbus RS485
								2				HART
								3				GPRS
Sensor Grounding									0			No Grounding
									1			Grounding Ring
									2			Grounding Electrode
Connection										DXX		D16:DIN PN16 Flange ; D25: DIN PN25 Flange...
										AXX		A15: ANSI150# Flange; A30: ANSI 300# Flange...
										JXX		J10: JIS 10K Flange; J20: JIS 20K Flange...
										XXX		On request
Body Material											CS	Carbon Steel
											S4	Stainless Steel 304

ELECTROMAGNETIC FLOW METER

013 INSTALLATION

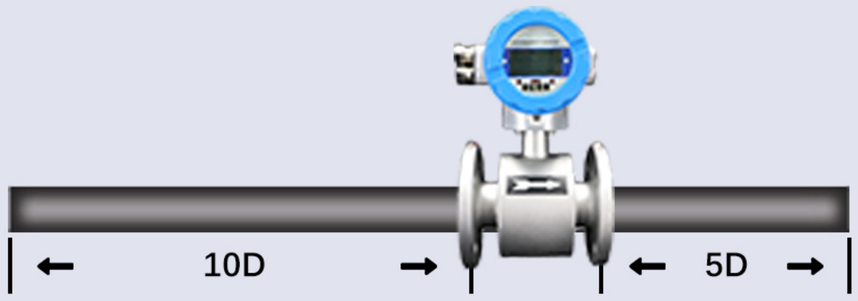




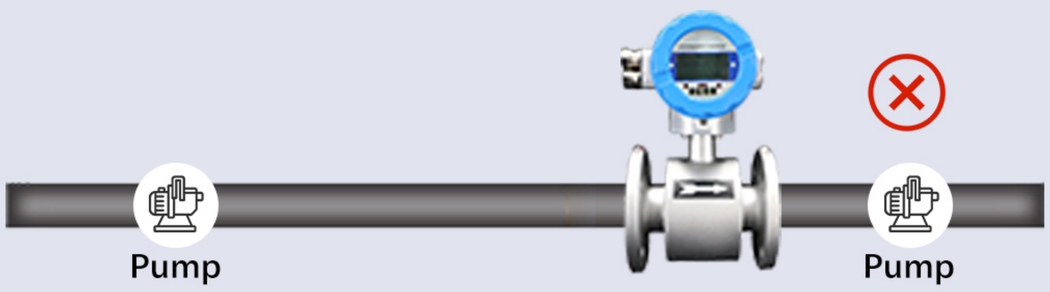
The flow meter should be installed at a lower level and vertically upwards of the horizontal pipe. Avoid installation at the highest and vertically downwards point of the pipe.

When drop is more than 5m, install exhaust valve at the downstream.

Install at the lowest point when used in poen drain pipe.



Need 10D of upstreat and 5D of downsteat



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

Install at the rising direction