LUCH Series of Intelligent Magnetoelectric Flowmeter

Overview

LUCH series intelligent magnetoelectric flowmeter is a kind of speed type flowmeter, which has merits of both vortex flowmeter and electromagnetic flowmeter such as no moving parts and measuring steadily. It can measure volumetric flow of conductive liquid such as pulp, slurry, sewage, waste water and solid-liquid two-phase suspension liquid, including strong corrosive liquid such as acid, alkali, salt, and so on. The product is used widely in industries such as petroleum, chemical industry, metallurgy, textile, food, pharmacy, papermaking, etc. And it is also used widely in fields such as environmental protection, municipal administration, water conservancy construction, and so on.

Operating Principle

LUCH series intelligent magnetoelectric flowmeter uses Faraday's law of electromagnetic induction. When liquid is moving, the vortex in pipeline make it cut magnetic field and produce induced electromotive force, which is detected by measuring electrode, then amplified, filtered, shaped by pre-circuit, and then it is sent to the microprocessor with core of CPU to complete data's collection, amplifying and processing, realize displaying of instantaneous flow and accumulative flow, also realize communication and control between flow date and microcomputer system.

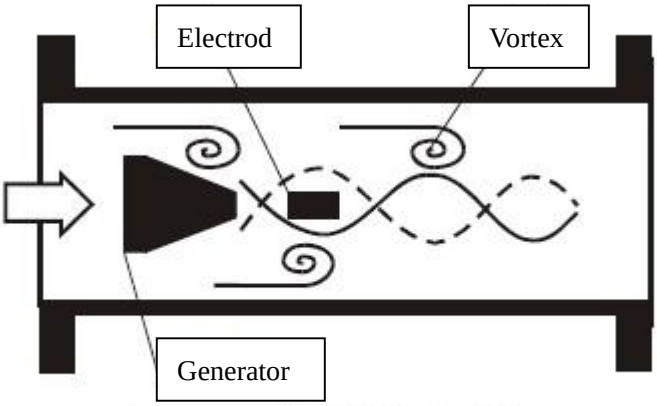
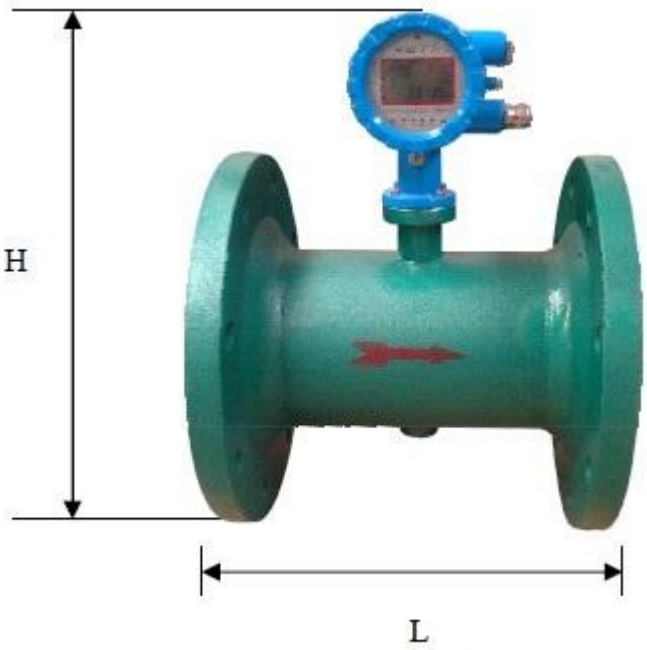


Chart 2-1 Collecting signal from transmitter

Main Technical Parameters

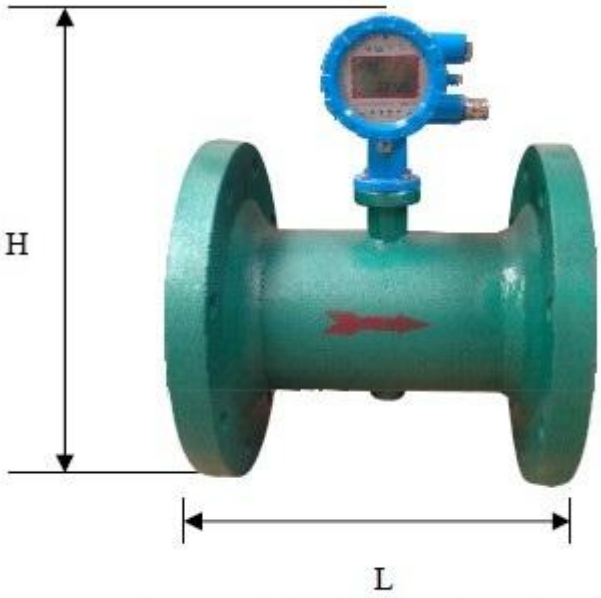
Parameters	Performance Index	
	Horizontal type	Angle type
Inside Nominal Diameter	DN10~DN300	DN25~DN100
Operating Pressure	1.6MPa~42MPa	10MPa~42MPa
Flow Range	15:1 (Grade 1.5); 10:1 (Grade 1.0)	15:1 (Grade 1.5); 10:1 (Grade 1.0)
Accuracy	±1.0%, ±1.5%	±1.0%, ±1.5%
Medium Conductivity	≥5μs/cm	≥5μs/cm
Medium Flow Rate	0.5~10m/s	0.5~10m/s
Environment Temperature	-20℃~+50℃	-20℃~+50℃
Power Supply	Lithium battery powered Outside power supply 5~25VDC when output signal	Lithium battery powered Outside power supply 5~25VDC when output signal
Output Signal	Pulse Signal, equivalent; 4~20mA analog signal RS485 or RS232 communication interface, Modbus	Pulse Signal, equivalent; 4~20mA analog signal RS485 or RS232 communication interface, Modbus
Shell Structure	Carbon steel, stainless steel	Carbon steel, stainless steel
Installation Type	Integral type	Integral type
Explosive-proof Grade	ExmdibIIBT4	

Installation Boundary Dimension



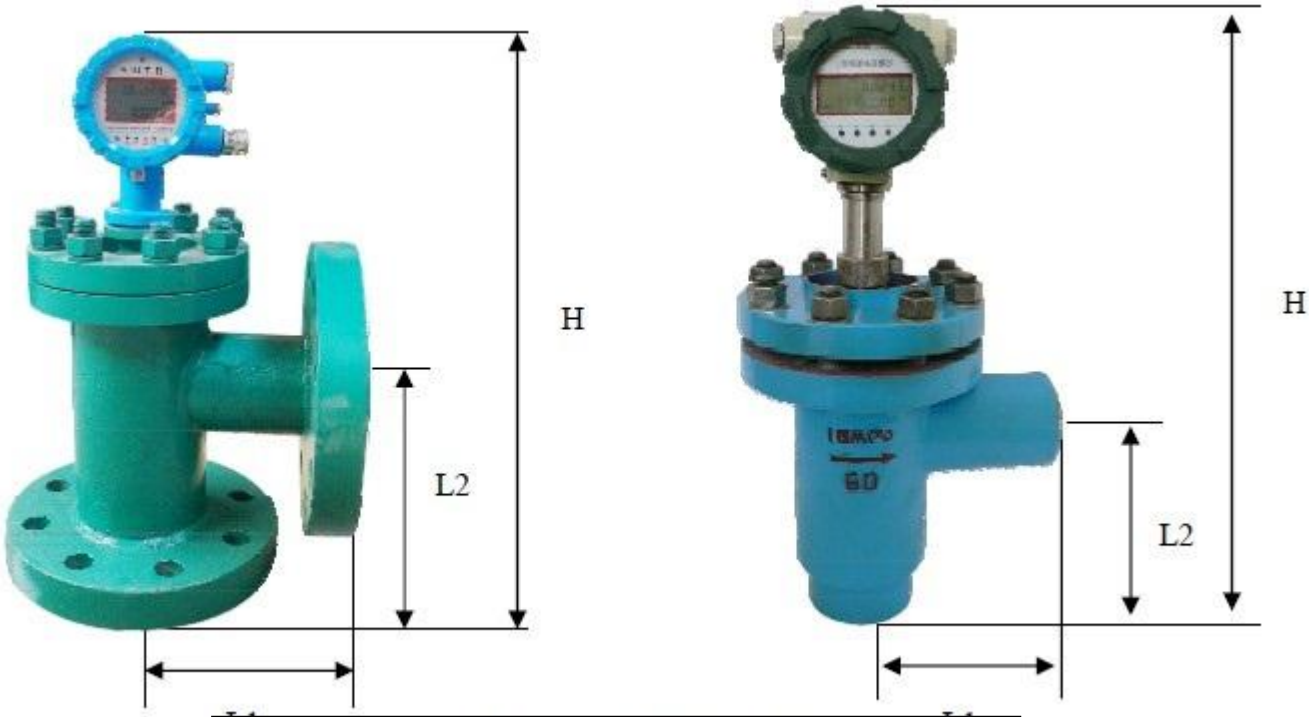
Installation dimension figure of low pressure horizontal flowmeter

Inside Nominal Diameter DN (mm)	15	20	25	40	50 (65)	80	100 (125)	150	200
Overall Length L	220	220	220	220	220	220	250	300	350
Overall Height H	240	240	240	325	325	370	400	460	520



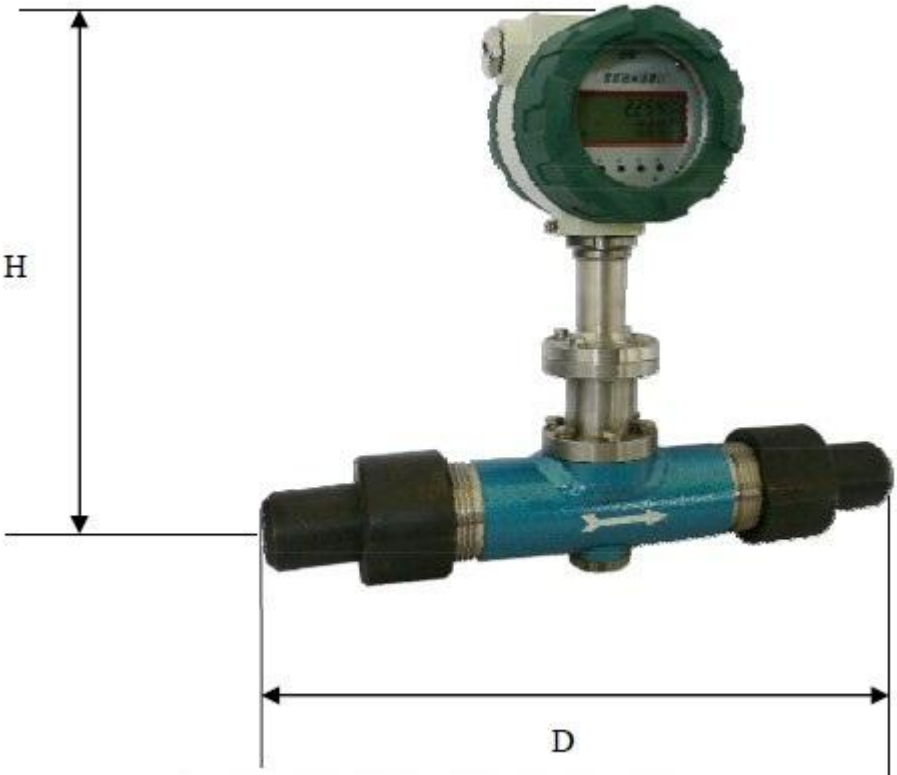
Installation dimension figure of high pressure horizontal flowmeter

Inside Nominal Diameter DN (mm)		25	40	50 (65)	80	100
Nominal Pressure (MPa)		10, 16, 25, 42				
	Overall Length L	220	240	280	300	350
	Overall Height H	260	280	320	420	450



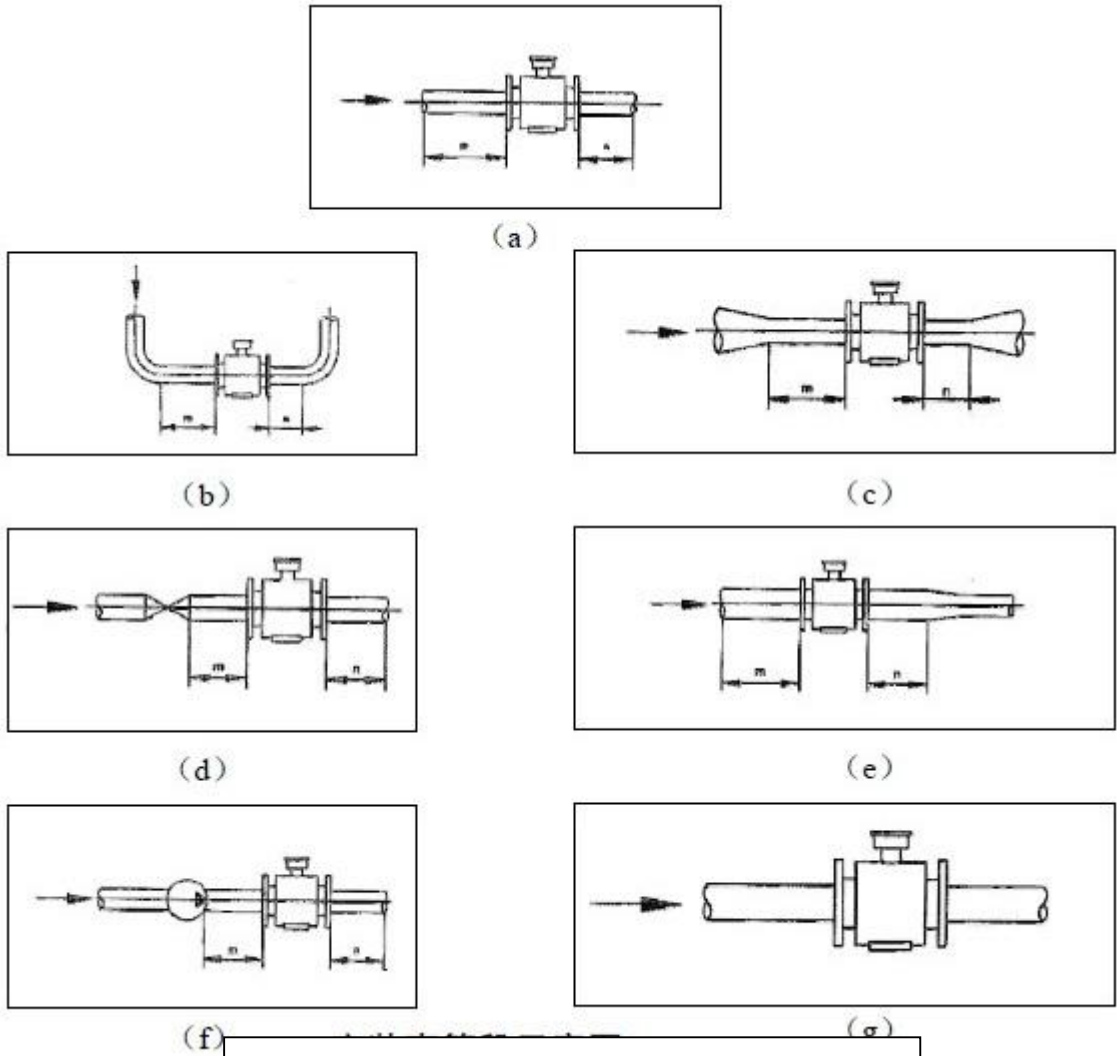
Installation dimension figure of high pressure angle flowmeter

Inside Nominal Diameter DN (mm)		Flange				Weld			
		25	40	50	80	25(J）	40 (J)	50 (J)	80 (J)
Installation Boundary Dimension (mm)	H	403	390	427	482	338	390	417	492
	L1	150	150	150	220	95	100	120	150
	L2	176	150	176	290	121	150	140	200



Installation dimension figure of fast joint flowmeter

Inside Nominal Diameter (mm)	Installation Boundary Dimension (mm)	
	H	D
20	440	240
25	450	260
50	480	280



Schematic diaphragm of installation straight pipeline

Pipeline Installation Type	Installation Schematic Diagram Number	Standard Pipeline	
		Front Straight Line m	Back Straight Line m
Horizontal Pipeline	Chart (a)	5D	3D
Bend Pipeline	Chart (b)	5D	3D
Joint Protection Pipeline	Chart (c)	10D	5D
Valve Downstream	Chart (a)	10D	5D
Shrinkable Tube	Chart (d)	5D	2D
Pump Downstream	Chart (e)	15D	5D
Mixed Liquor	Chart (f)	30D	3D

Ordering Models

Basic Model	2	3	4	5	Illustration
	Inside Nominal Diameter	Nominal Pressure	Output Signal	Installation Type	
LUCH					Precession flowmeter
	015~200				Inside nominal diameter 15~20mm
		1.0~42			1.0~42Mpa
				S	Horizontal type
				J	Angle type