Electromagnetic flowmeter series

Features

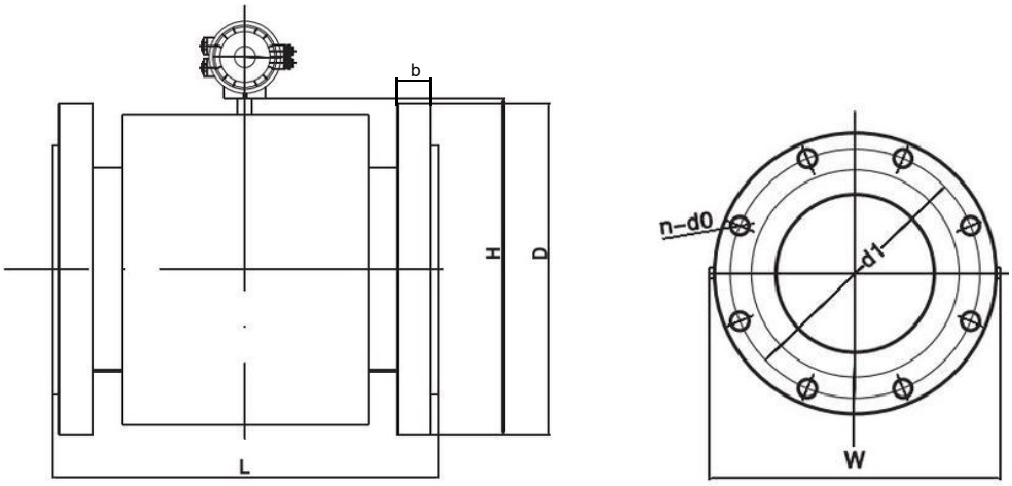
- No obstacles in the measuring tube, no pressure loss, low requirements for straight pipe section.
- In harsh environments, parameters can be set via infrared touch buttons without opening the cover of the converter (need to be customized)
- Flowmeter with bidirectional measurement system, built-in three totalizers: positive total, reverse total and total difference.
- The converter has self-diagnosis alarm output, no-load detection alarm output, flow upper and lower limit alarm, batch control (need to be customized) and other alarm output functions.
- High-pressure electromagnetic flow sensor with PFA lining technology, resistant to high pressure and negative pressure, especially suitable for petroleum, chemical and other industries.
- Explosion-proof instruments can be used in corresponding explosion-proof places.

Specifications

Parameter	Specification		
Max flow rate	15m/s		
Accuracy	0.5%		
Fluid conductivity	≥5μs/cm		
Nominal pressure	DN15~DN150		4.0MPa
	DN15~DN600		1.6MPa
	DN200~DN1000		1.0MPa
	DN700~DN3000		0.6MPa
Ambient temperature	Sensor		-25℃~+60℃
	Converter and a body type		-10℃~+60℃
Lining material and fluid maximum temperature	Lining material	Separated type	Integrated type
	PTFE	100℃;150℃(By customized)	70℃
	PVF	100℃;150℃(By customized)	70℃
	FEP	100℃:150℃(By customized)	70℃
	PCP	80℃;120℃(By customized)	70℃
	PU	80℃	70℃
Signal electrode form	Stationary (DN15~DN2600), Drawknife-type (DN300~DN1600)		
Signal electrode and ground electrode materials	Molybdenum containing stainless steel, Hastelloy B, Hastelloy C, titanium, tantalum, platinum-iridium alloy, stainless steel coated with tungsten carbide		
Connecting flange material	Carbon steel		

Ground flange material	Stainless steel	
Imported protection flange material	DN15~DN600	Stainless steel
	DN700~DN3000	Carbon steel
Shell protection	DN15-DN150 Separated type rubber or polyurethane Lining sensor	IP65、IP68(By customized)
	DN200-DN2600 Separated type rubber or polyurethane Lining sensor	IP68 underwater 10m
	Other sensors and all converters	IP65
Spacing (Separated type)	The transducer distance from the sensor is generally not more than 100m; More than 100m requires special order	

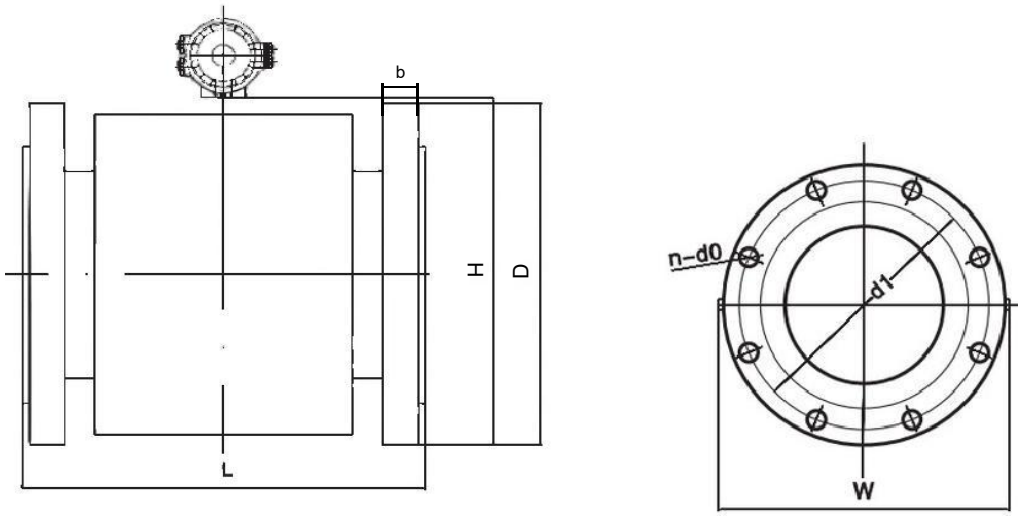
Size



DN15~DN150,1.6、4.0MPa

(mm)

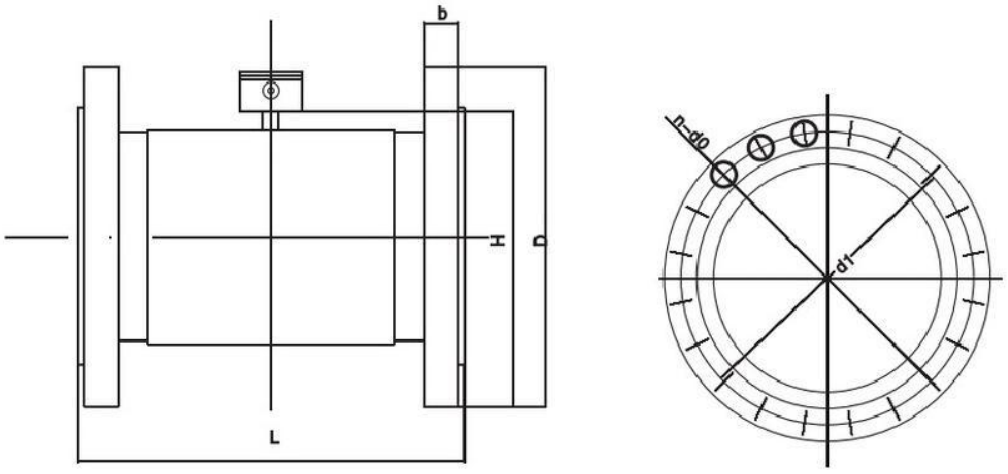
DN	L	W	H	1.6MPa					4.0MPa				
				D	d_1	d_0	n	b	D	d_1	d_0	n	b
15	200	140	147	95	65	14	4	16	95	65	14	4	16
20	200	140	154	105	75	14	4	18	105	75	14	4	18
25	200	140	156	115	85	14	4	18	115	85	14	4	18
32	200	168	166	140	100	18	4	18	140	100	18	4	18
40	200	176	172	150	110	18	4	20	150	110	18	4	20
50	200	176	191	165	125	18	4	20	165	125	18	4	20
65	250	214	200	185	145	18	4	20	185	145	18	4	22
80	250	214	218	200	160	18	8	22	200	60	18	8	22
100	250	230	242	220	180	18	8	22	235	190	22	8	26
125	250	281	277	250	210	18	8	22	270	220	26	8	26
150	300	281	302	285	240	22	8	24	300	250	26	8	28



DN200~DN600,1.0、1.6Mpa

（mm）

DN	L	H	1.6MPa					1.0MPa				
			D	d_1	d_0	n	b	D	d_1	d_0	n	b
200	350	362	340	295	22	12	26	340	295	22	8	24
250	450	412	405	355	26	12	28	395	350	22	12	26
300	500	472	460	410	26	12	32	445	400	22	12	28
350	500	522	520	470	26	16	35	505	460	22	16	30
400	500	572	580	525	30	16	38	565	515	26	16	32
450	550	626	640	585	30	20	42	615	565	26	20	35
500	550	676	715	650	33	20	46	670	620	26	20	38
600	600	776	840	770	36	20	52	780	725	30	20	42



DN700~DN3000,0.6、1.0Mpa

(mm)

DN	L	H
700	700	866
800	800	966
900	900	1076
1000	1000	1200
1200	1200	1406
1400	1400	1632
1600	1600	1832
1800	1800	2036
2000	2000	2236
2200	2200	2436
2400	2400	2636
2600	2600	2836
2800	2800	3036
3000	3000	3236

DN	MPa	D	d_1	d_0	n	b
700	1.0	895	840	30	24	30
800		1015	950	33	24	32
900		1115	1050	33	28	34
1000		1230	1160	36	28	34
700	0.6	860	810	26	24	26
800		975	920	30	24	26
900		1075	1020	30	24	26
1000		1175	1120	30	28	26
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

Selection instructions

The measured fluid must be a conductive liquid or slurry, its conductivity when less than 50μS/cm can be used with equal potential shielding double core double shielding line or high frequency converter, the measured fluid should not contain more ferromagnetic substances or bubbles, should be based on the characteristics of the measured fluid to choose the appropriate pressure grade, lining material, electrode material and meter structure form.

★ Path selection

1. With a high range of 1500:1, the diameter of the instrument is usually the same as that of the process pipe.
2. If the measured medium contains solid particles, the recommended flow rate range is 1~3m/s, if the actual flow rate is too large to change, the optional instrument diameter is greater than the process pipe diameter, in order to properly reduce the flow rate of the flowmeter measurement pipe section of the fluid, reduce the particles on the electrode and lining wear.
3. If there may be deposits in the process pipeline, the recommended flow rate is 2~5m/s. If the actual flow rate is too small and it is inconvenient to change the process pipeline, the optional instrument diameter is less than the process pipeline diameter to appropriately increase the flow rate of the flowmeter and avoid the impact of sediments on the accuracy of the instrument.
4. When the flow rate is too small and requires high precision measurement, a sensor smaller than the diameter of the process pipeline can be selected to increase the flow rate and ensure high accuracy.

The above 2, 3, 4 items, the flowmeter on the downstream must be installed reducing pipe.

The center cone Angle of the reducing pipe shall not be greater than 15°, and the upstream of the reducing pipe shall have a straight pipe section at least 5 times the diameter of the process pipe.

m/s / m^3/h / mm	Flow range and Flow rate table						
	0.5Min	1	2	3	4	5	15Max
6	0.05085	0.1017	0.2034	0.3051	0.4068	0.5085	1.5255
10	0.1413	0.2826	0.5652	0.8478	1.1304	1.4130	4.2390
15	0.3181	0.6362	1.2723	1.9085	2.5447	3.1809	9.5426
20	0.5655	1.1310	2.2619	3.3929	4.5239	5.6549	16.9646
25	0.88355	1.7671	3.5343	5.3014	7.0686	8.8357	26.5072
32	1.4469	2.8938	5.7876	8.6814	11.5752	14.469	43.4070
40	2.26195	4.5239	9.0478	13.5717	18.0956	22.6195	67.8584
50	3.5343	7.0686	14.1372	21.2058	28.2743	35.3429	106.0288
65	5.97295	11.9459	23.8918	35.8377	47.7836	59.7295	179.1886
80	9.0478	18.0956	36.1911	54.2867	72.3823	90.4779	271.4336
100	14.13715	28.2743	56.5487	84.8230	113.0973	141.3717	424.1150
125	22.07815	44.1563	88.3126	132.4689	176.6252	220.7815	662.3445
150	31.80865	63.6173	127.2345	190.8518	254.4690	318.0863	954.2588
200	56.54865	113.0973	226.1947	339.2920	452.3893	565.4867	1696.4600
250	88.3573	176.7146	363.4292	530.1438	706.8583	883.5729	2650.7188
300	127.2345	254.4690	508.9380	763.4070	1017.8760	1272.3450	3817.0351
350	173.1803	346.3606	692.7212	1039.0818	1385.4424	1731.8030	5195.4089
400	226.19465	452.3893	904.7787	1357.1680	1809.5574	2261.9467	6785.8401
450	286.27765	572.5553	1145.1105	1717.6658	2290.2210	2862.7763	8588.3289
500	353.42915	706.8583	1413.7167	2120.5750	2827.4334	3534.2917	10602.8752
600	508.938	1017.8760	2035.7520	3053.6281	4071.5041	5089.3801	15268.1403
700	692.7212	1385.4424	2770.8847	4156.3271	5541.7694	6927.2118	20781.6354
800	904.7787	1809.5574	3619.1147	5428.6721	7238.2295	9047.7868	27143.3605
900	1145.1105	2290.2210	4580.4421	6870.6631	9160.8842	11451.1052	34353.3157
1000	1413.7167	2827.4334	5654.8668	8482.3002	11309.7336	14137.1669	42411.5008
1200	2035.75205	4071.5041	8143.0082	12214.5122	16286.0163	20357.5204	61072.5612
1400	2770.8847	5541.7694	11083.5389	16625.3083	22167.0778	27708.8472	83126.5416
1600	3619.11475	7238.2295	14476.4589	21714.6884	28952.9179	36191.1474	108573.4421
1800	4580.4421	9160.8842	18321.7684	27482.6525	36643.5367	45804.4209	137413.2627
2000	5654.8668	11309.7336	22619.4671	33929.2007	45238.9342	56548.6678	169646.0033
2200	6842.3888	13684.7776	27369.5552	41054.3328	54739.1104	68423.8880	205217.6640
2400	8143.00815	16286.0163	32572.0326	48858.0490	65144.0653	81430.0816	244290.2448
2600	9556.7134	19113.4268	38226.8536	57340.2804	76453.7072	95567.1340	286701.4020

Lining material selection

Lining material	Main performance	Scope of application
PTFE	1. It is a material with the most stable chemical properties in plastics; It is capable of boiling hydrochloric acid, sulfuric acid, nitric acid and aqua Regis, as well as concentrated alkali and various organic solvents. It is not resistant to the corrosion of chlorine trifluoride, high temperature oxygen trifluoride, high flow rate liquid fluorine, liquid oxygen and ozone. 2. Poor wear resistance. 3. Poor negative pressure resistance.	1.100℃、150℃(By customized) . 2. Strong corrosive media such as concentrated acid and alkali . 3. Sanitary media
PCP	1. Excellent elasticity, high tearing force, good wear resistance. 2. Resistant to corrosion of general low concentration acid, alkali and salt media, and not resistant to corrosion of oxidizing media.	1.80℃、120℃(By customized) 2.General water, sewage, weak wear mud, pulp.
PUR	1. Excellent wear resistance (equivalent to ten times of natural rubber) 2. Acid and alkaline resistance is poor 3. Cannot be used in water mixed with organic solvents.	1.<80℃ 2.Neutral strong wear pulp, coal slurry, mud, etc.

Electrode material selection

Electrode material	Corrosion resistance
Stainless steel containing molybdenum	Used for industrial water, domestic water, sewage, with a weak corrosive medium, can be widely used in petroleum, chemical, urea, Vinylon and other industries.
Stainless steel coated with tungsten carbide	Used for non-corrosive, strong wear media.
Hastelloy B alloy	Has good corrosion resistance to all concentrations of hydrochloric acid below the boiling point, and corrosion resistance to non-oxidizing acids, alkalis and non-oxidizing salts such as sulfuric acid, phosphoric acid, hydrofluoric acid and organic acid.
Hastelloy C alloy	Resistant to oxidizing acids, such as nitric acid, mixed acid or chromic acid and sulfuric acid mixed medium corrosion, but also resistant to oxidizing salts such as Fe, Cu or containing its oxidant corrosion. Such as hypochlorite solution higher than normal temperature, seawater corrosion.
Ti	Resistant to seawater, various chlorides and hypochlorites, oxidizing acids (including fuming nitric acid), organic acids, alkalis, etc., and is not resistant to the corrosion of purer reducing acids (such as sulfuric acid, hydrochloric acid). However, if the acid contains oxidants (such as nitric acid, Fe, Cu), the corrosion is greatly reduced.
Ta	Excellent corrosion resistance, similar to glass. In addition to hydrofluoric acid, fuming sulfuric acid, alkali, almost all chemical media (including hydrochloric acid, nitric acid, sulfuric acid and aqua regia) corrosion.
Platinum-iridium alloy	It is suitable for almost all chemicals, but not for aqua regia and ammonium salts.

Selection of lining protection flange and grounding flange

Type of flange	Scope of application
Ground flange (grounding ring)	Suitable for non-conductive pipes, such as plastic pipes. But teflon lined sensors are not needed.
Inlet protection flange	When the medium has strong wear, it is often used with polyurethane lining, but the sensor lined with PTFE is not suitable.

Model Code Selection Table

X	
1	Ground electrode
2	Matching flange
3	Electrode scraper structure
4	Others

YSLD	XXX	X	X	X	X	X	X	X	X
Nominal diameter (mm)	1-4 digits 6~3000								
Nominal pressure	0.6MPa	P1							
	1.0MPa	P2							
	1.6MPa	P3							
	2.5MPa	P4							
	4.0MPas	P5							
	Others	P6							
Connection mode	Flange type		1						
	Gripper type		2						
	Hygienic type		3						
	Thread type		4						
Lining material	PTFE (F4)			A					
	PCP			B					
	PUR			C					
	FEP (F46)			D					
	Add net PFA,			E					
	FLS			F					
	Ceramic			G					
Electrode material	316L				1				
	Hastelloy B alloy				2				
	Hastelloy C alloy				3				
	Ti				4				
	Platinum-iridium alloy				5				
	Tantalum				6				
	Stainless steel coated with tungsten carbide				7				
Structural form	Integrated type					1			
	Seperated type					2			
	Seperated type (immersion)					3			
	Integrated type Ex					4			
	Seperated type Ex					5			
Power supply	220VAC						A		
	24VDC						B		
	12VDC						C		
	3.6VDC						D		
Output	Volume flow 4~20mA DC/ pulse							1	
	Volume Flow 4 20mA DC/RS485							2	

	Volume flow 4~20mA DC/RS232C	3	
	Volume traffic HART protocol output/tape communication	4	
	Volume traffic bus communication	5	
Converter form	Roundness		H
	Quadrate		R