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TECHNOLOGIES

ELECTROMAGNETIC FLOW METER

Q&T Instrument Co.,Ltd

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Description

QTLD/S magnetic flow meter, also known as electromagnetic flow meter or mag meter, is widely used because less obstruction, cost-effective and accurate measurement. Electromagnetic flow meter don't have any moving parts to wear down, reducing the need for maintenance or replacement. We offer flowmeters with a range of liners, electrodes, and sizes, which can meet various conductive liquids.

QTLD/S magnetic flow meter has functions of SD card and bluetooth, yellow or green OLED is available, protection grade of compact type is IP67. PT1000 temperature can be connected as BTU meter.

Compact

Remote

Industries

- Effluent Treatment Plant
- Sewage Treatment Plant Water Supply Scheme
- Steel & Aluminum Industries
- Food & Drug Industries
- Chemical & Fertilizer Industries
- Dairy Industries
- Sugar Industries
- Textile Processing Industries

Applications

Features

- Wide range of nominal diameters (DN3-3000)
- Independent of pressure, temperature, density and viscosity
- No moving parts, maintenance-free
- Automatic power failure recording function (optional)
- Built-in grounding electrodes
- IP67 for compact type
- Yellow or green OLED display is available
- Can be as BTU meter by adding Pt1000 temperature sensor.
- Bi-directional flow measurement
- High accuracy 0.2% available
- Self-diagnosis function, empty pipe alarm, exciting alarm
- Support data record / bluetooth / wireless communication

Technical Data

Size	DN3-DN3000mm (1/8"-120")	
Accuracy	±0.5% of reading at flow velocity ≥ 0.5m/s, ±0.2% optional at flow velocity ≥ 0.5m/s	
Velocity	0.1~15 m/s	
Repeatability	≤0.17%	
Structure	Compact / remote, cable length 10m standard, 100m max	
Conductivity	> 5 μS/cm, demineralized water > 20 μS/cm	
Protection Grade	Compact: IP67	
	Remote: Sensor: IP65 standard, IP68	
Electrode	SS316L, Hastelloy C, Hastelloy B, Titanium,Tantalum, Platinum-iridium	
Power Supply	85 ~ 250 VAC (50/60 Hz), 20 ~ 36 VDC	
Power Consumption	<20W	
Signal Output	Analog	4~20mA (load resistor 0~750Ω)
	Frequency	Forward & reverse flow output with a frequency range of 1~5000Hz
	Alarm	Two isolated open collector transistor (OCT) outputs for alarm signals
Communication	RS485 MODBUS RTU standard, HART, GPRS, PROFIBUS Bluetooth optional	
Display	LCD Display,128X128mm, three lines, 4 buttons	
Ambient Temperature	-20°C~60°C	
Fluid Temperature	Compact: -20°C~80°C, Remote: -20°C~120°C	
Liner Material	PTFE (-20°C~150°C, DN15-DN1600)	
	FEP (-20°C~120°C, DN3-DN1800)	
	PFA (-20°C~160°C, DN3-DN800)	
	Polyurethane (-10°C~60°C, DN40-DN1600)	
	Neoprene (-10°C~80°C, DN40-DN3000)	
	Hard Rubber (-10°C~80°C, DN 40-DN3000)	
	Ceramic (-20°C~180°C, DN15-DN200)	
Process Connection	flange, tri-clamp, thread, wafer, insertion	
Sensor Material	Measuring tube: SS304	
	Flange & housing: carbon steel (standard), SS304 / SS316 optional	
Transmitter Material	Aluminium alloy with epoxy painting	
Data Logger	SD Card	
Display	Instantaneous flow, total flow, flow velocity	
Function	High and low alarm, exciting alarm, empty pipe alarm, self-diagnosis	
Totalizer	Three built-in totalizers: forward flow, reverse flow and net flow	
Display Unit	L/s, L/m, L/h, m^3/s, m^3/m, m^3/h, UKG, USG, gal/s, gal/m, gal/h, kg/s, kg/m, kg/h, t/s, t/m, t/h	
Language	English, Chinese, Italian, Portuguese, French, Spanish, Korean	
Display	LCD, green OLED, yellow OLED	

Product Picture

Flange

Wafer

Tri-clamp

Insertion

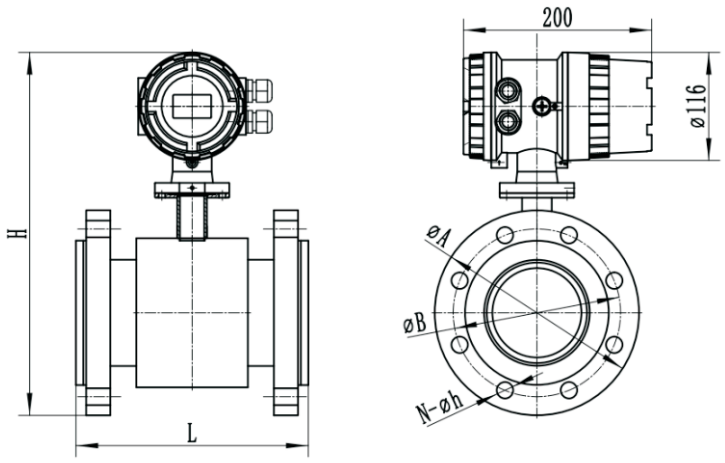
Flange

Wafer

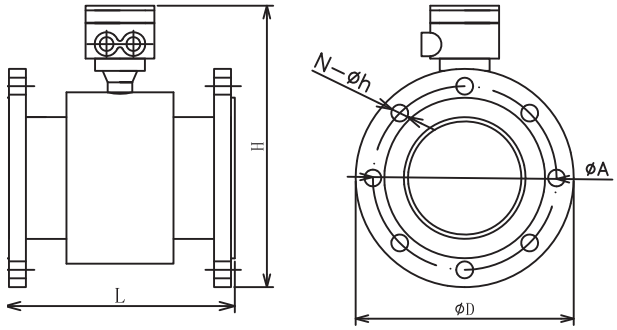
Insertion

Tri-clamp

Dimension



DN15-DN600 Multi-functional Electromagnetic Flow Meter with DIN Drawing



DN15-DN600 Remote Electromagnetic Flow Meter with DIN Drawing

Compact Mag Flow Meter Size							
Size	Nominal Pressure	Nominal Pressure	H (mm)	L (mm)	ΦA (mm)	ΦB (mm)	N–Φh (mm)
15	DIN	PN16	296	200	95	65	4-Φ14
20			301	200	105	75	4-Φ14
25			306	200	115	85	4-Φ14
32			318	200	140	100	4-Φ18
40			328	200	150	110	4-Φ18
50			344	200	165	125	4-Φ18
65			361	200	185	145	4-Φ18
80			377	200	200	160	8-Φ18
100			396	250	220	180	8-Φ18
125			421	250	250	210.	8-Φ18
150			454	300	285	240	8-Φ22
200			511	350	340	295	12-Φ22
250			587	450	405	355	12-Φ26
300			640	500	460	410	12-Φ26
350			696	550	520	470	16-Φ26
400			751	600	580	525	16-Φ30
450			781	600	640	585	20-Φ30
500			818	600	715	650	20-Φ33
600			881	600	840	770	20-Φ36

Remote Mag Flow Meter Size						
Size	Nominal Pressure	L (mm)	ΦD (mm)	ΦA (mm)	H (mm)	N–Φh (mm)
15	PN16	200	95	65	220	4-Φ14
20		200	105	75	220	4-Φ14
25		200	115	85	223	4-Φ14
32		200	140	100	240	4-Φ18
40		200	150	110	250	4-Φ18
50		200	165	125	263	4-Φ18
65		200	185	145	283	4-Φ18
80		200	200	160	290	8-Φ18
100		250	220	180	310	8-Φ18
125		250	250	210	340	8-Φ18
150		300	285	240	373	8-Φ22
200		350	340	295	430	12-Φ22
250		450	405	355	495	12-Φ26
300	PN10	500	445	400	540	12-Φ22
350		550	505	460	595	16-Φ22
400		600	565	515	658	16-Φ26
450		600	615	565	708	20-Φ26
500		600	670	620	760	20-Φ26
600		600	780	725	882	20-Φ30

Main Performance of Electrode Material

Electrode Material	Application
SS316L	Applicable to industrial and municipal water, wastewater and low corrosive mediums. Widely used in petroleum, chemical industries.
Hastelloy B	Strong resistance to hydrochloric acids below the boiling point. Resist against oxidable acids, alkali and non-oxidable salts, like vitriol,phosphate, hydrofluoric acids and organic acids.
Hastelloy C	Exceptional resistance to strong solutions of oxidizing salts and acids, like Fe+++, Cu++, Nitric acids, mixed acids.
Titanium	Titanium can withstand corrosive mediums such as seawater, chloride salt solutions, hypochlorite salts, oxidable acids (including fuming nitric acids), organic acids, and alkali. Not resistant to high purity reducing acids such as sulphuric acids, hydrochloric acids.
Tantalum	Highly resistant to corrosive mediums.Applicable to all chemical mediums except Hydrofluoric Acids, Oleum and Alkali.
Platinum-iridium	Applicable to all chemical mediums except for Ammonium salts and Fortis.

Main Performance of Liner Material

PTFE	Best chemical resistance, withstand boling hydrochloric acid, sulfuric acid,nitric acid, alkali and a variety of organic solvents. Poor wear resistance and poor adhesion.
PFA	Highly resistant to chemicals. Performance well under vacuum pressure condition.
Neoprene	Excellent elasticity, good abrasion resistance. Withstand the corrosion of low-concentration acid, alkali, salt and other media. Not resistant to corrosion by oxidizing medium.
Polyurethane	Strong abrasion resistant, applicable for slurries and muds. Poor corrosion resistance, can't be used for corrosive medium.
Hard Rubber	Withstand the corrosion of hydrochloric acid, acetic acid, oxalic acid, ammonia water, phosphoric acid and 50% sulfuric acid, sodium hydroxide, potassium hydroxide. Use for general acid, alkali, and salt solutions, not resistant to the corrosion of strong oxidants.
Ceramic	Withstands high temperature, corrosion and wear Smooth inner Totally vacuum resistant

Selection Table QTLD

QTLD													
Caliber size	DN3-DN3000 (1/8"-120")												
Structure	Compact	1											
	Remote	2											
	Compact with explosion proof	3											
	Remote with explosion proof	4											
Accuracy	±0.5%		1										
	±0.2%		2										
	Others		3										
Lining Material	PTFE			1									
	FEP			2									
	PFA			3									
	Neoprene			4									
	Polyurethane			5									
	Hard Rubber			6									
	Ceramic			7									
Electrode Material	SS316L				1								
	Hastelloy B				2								
	Hastelloy C				3								
	Titanium				4								
	Tantalum				5								
	Platinum-iridium				6								
	Stainless steel covered with tungsten carbide				7								
Sensor Material	Carbon steel					1							
	SS304					2							
	SS316					3							
Power Supply	20~36 VDC						G						
	85~265 VAC						E						
	9~36 VDC solar power						SD						
Signal Output / Communication	4~20 mA + Pulse + RS485 MODBUS							A					
	4~20 mA + HART							B					
	4~20 mA + Profibus PA/DP							C					
Process Connection	Flange	DIN D10: DIN PN10, D16: DIN PN16,D25: DIN PN25,D40: DIN PN40								D**			
		ANSI A15: ANSI 150#,A30: ANSI 300#,A60: ANSI 600#								A**			
		JIS J10: JIS 10K, J20: JIS 20K, J30: JIS 30K								J**			
		Others								O			
	Insertion	G2" thread ball valve								IT			
		DN50 flange ball valve								IF			
	Tri-clamp									TC			
	Wafer									W			
	Thread									T			
Protection Grade	IP65 Transmitter + IP65 sensor										1		
	IP65 Transmitter + IP68 sensor (remote)										2		
SD Card	Without											N	
	With												
Display	LCD												1
	Yellow OLED												2
	Green OLED												3

Flow Range Table

Size		Flow Range & Velocity Table							
mm	Inch	0.1 m/s	0.2 m/s	0.5 m/s	1 m/s	4 m/s	10 m/s	12 m/s	15 m/s
DN3	1/8"	0.003	0.005	0.013	0.025	0.102	0.254	0.305	0.382
DN6	1/4"	0.01	0.02	0.051	0.102	0.407	1.017	1.221	1.526
DN10	3/8"	0.028	0.057	0.141	0.283	1.13	2.826	3.391	4.239
DN15	1/2"	0.064	0.127	0.318	0.636	2.543	6.359	7.63	9.538
DN20	3/4"	0.113	0.226	0.565	1.13	4.522	11.304	13.56	16.956
DN25	1"	0.177	0.353	0.883	1.766	7.065	17.663	21.2	26.494
DN32	1¼"	0.289	0.579	1.447	2.894	11.575	28.938	34.73	43.407
DN40	1½"	0.452	0.904	2.261	4.522	18.086	45.216	54.26	67.824
DN50	2"	0.707	1.413	3.533	7.065	28.26	70.65	84.78	10.598
DN65	2½"	1.19	2.39	5.97	11.94	47.76	119.4	143.3	179.1
DN80	3"	1.81	3.62	9.04	18.09	72.35	180.86	217	271.3
DN100	4"	2.83	5.65	14.13	28.26	113.04	282.6	339.1	423.9
DN125	5"	4.42	8.83	22.08	44.16	176.63	441.56	529.9	662.34
DN150	6"	6.36	12.72	31.79	63.59	254.34	635.85	763	953.78
DN200	8"	11.3	22.61	56.52	113.04	452.16	1130.4	1356	1696
DN250	10"	17.66	35.33	88.31	176.53	706.5	1766.25	2120	2649
DN300	12"	25.43	50.87	127.2	254.34	1017	2543.4	3052	3815
DN350	14"	34.62	69.24	1731	3461.9	1385	3461.85	4154	5193
DN400	16"	45	90	2261	452	1809	4522	5426	6782
DN450	18"	57	114	2861	572	2289	5723	6867	8584
DN500	20"	71	141	3533	707	2826	7065	8478	10598
DN600	24"	102	203	5087	1017	4069	10174	12208	15260
DN700	28"	138	277	6924	1385	5539	13847	16617	20771
DN800	32"	181	362	9043	1809	7235	18086	21704	27130
DN900	36"	229	458	1145	2289	9156	22891	27469	34336
DN1000	40"	283	565	1413	2826	11304	28260	33912	42390
DN1200	48"	407	814	2035	4069	16278	40694	48833	61042
DN1400	56"	554	1108	2769	5539	22156	55390	66468	83084
DN1600	64"	723	1447	3617	7235	28938	72346	86815	108518
DN1800	72"	916	1831	4578	9156	36625	91562	109875	137344
DN2000	80"	1130	2261	5652	11304	45216	113040	135648	169560
DN2200	88"	1368	2736	6839	13678	54711	136778	164134	205168
DN2400	96"	1628	3256	8139	16278	65111	162778	195333	244166
DN2600	104"	1910	3821	9552	19104	76415	191038	229245	286556
DN2800	112"	2216	4431	11078	22156	88623	221558	265870	332338
DN3000	120"	2543	5087	12717	25434	101736	254340	305208	381510
Remark: Recommend flow velocity range 0.5 ~ 15 m/s									

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