

Electromagnetic Flowmeter (Insertion)

❖ Features

- Integrated verification, diagnostic function and empty pipe detection.
- Measure forward and reverse direction flows.
- Can be installed without shutting down the process.
- Dual frequency excitation and stable zero point.
- Precision coil winding technology, makes magnetic field more uniform.
- No moving parts, no pressure loss.
- Grounding Resistance <math><10\Omega</math>
- Application:
 - Chemical
 - Medicine
 - Food & beverage
 - Iron & steel
 - Water supply
 - Waste Water treatment
 - Power plant
 - HVAC



❖ Standard Specification

- | | | | |
|--------------------------------|--|------------------------|---|
| • Size | : DN100-DN3000 (4" ~ 120") | • Working Pressure | : ≤ 1.6 MPa |
| • Accuracy | : $\pm 1.5\%$ of reading;
Velocity > 0.3 m/s | • Flange Standard | : DIN PN16, PN40 |
| • Flow Range | : 0.3 m/s ~ 15 m/s | • Connection | : Flange ball valve
Thread ball valve |
| • Medium Conductivity | : Normal liquid >5 $\mu\text{S/cm}$,
DI water >20 $\mu\text{S/cm}$ | • Exciting Current | : 125mA, 187mA, 250mA, 500mA |
| • Protection Grade | : IP65 (Integral type)
IP68 (Remote type) | • Exciting Frequency | : 2Hz, 2.5Hz, 3.125Hz, 25Hz |
| • Electrode | : SS316L
Hastelloy C
Hastelloy B
Titanium
Tantalum
Platinum-iridium
Tungsten carbide | • Straight Pipe | : Inlet Path $\geq 15\text{D}$
Outlet Path $\geq 10\text{D}$ |
| • Electrode No. | : 2x measuring electrodes | • Certificates | : CE, CQC, ISO9001 |
| • Material | | • Frequency Output | : 1~5000 Hz |
| - Probe | : ABS or PP | • Power Supply | : AC85~250V, DC20V~36V |
| - Sensor Body | : Stainless Steel 304 (standard)
Stainless Steel 316 (optional) | • Power Consumption | : <math><15\text{W}</math> |
| • Max Cable Distance (Remote): | 50m | • Language | : English, Chinese, other
languages are available |
| • Medium temperature | | • Display | : 128X128mm, 3-lines LCD |
| - Integral type | : -20°C ~ 80°C | • Configuration | : 4 internal push buttons |
| - Remote type | : -20°C ~ 80°C | • Converter Housing | : Aluminum alloy |
| | | • Ambient Temperature: | -20°C~60°C |
| | | • Relative Humidity | : 5%~95% |
| | | • Flow Unit | : L/h, L/m, L/s, m3/H, m3/m, m3/s |
| | | • Signal Output | : 4~20 mA, pulse |
| | | • Communication | : RS485 Modbus
Hart
Profibus |

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❖ Dimension of Sensor

Direction Indicator

Sealing Component

Installation Base

Measured Pipe

Connection Tapping

Sensor

Flow Direction

90 mm

69 mm

450 mm

2" Flange ball valve

Insertion Depth
 $DN \leq 400\text{mm}, L1 = \frac{1}{2} D$
 $DN > 400\text{mm}, L1 = \frac{1}{4} D$

Measured Pipe

Flow Direction

Insertion Depth L1

Connection Rod

Installation Base

Thread Ball Valve

Sealing Component

Flow Sensor

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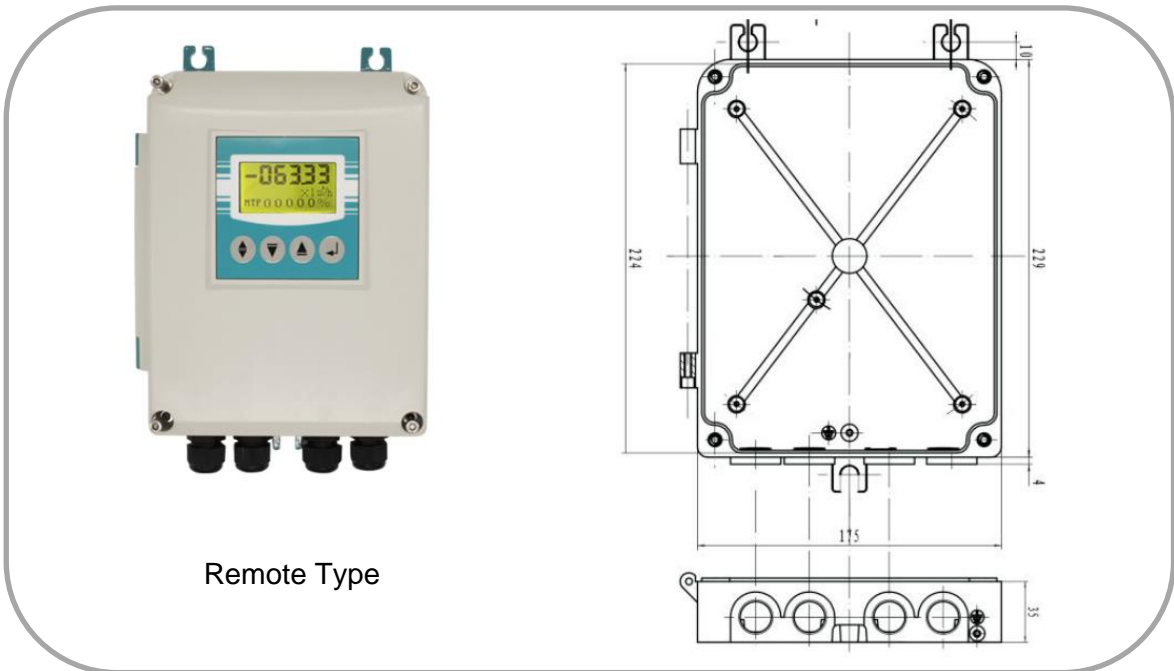
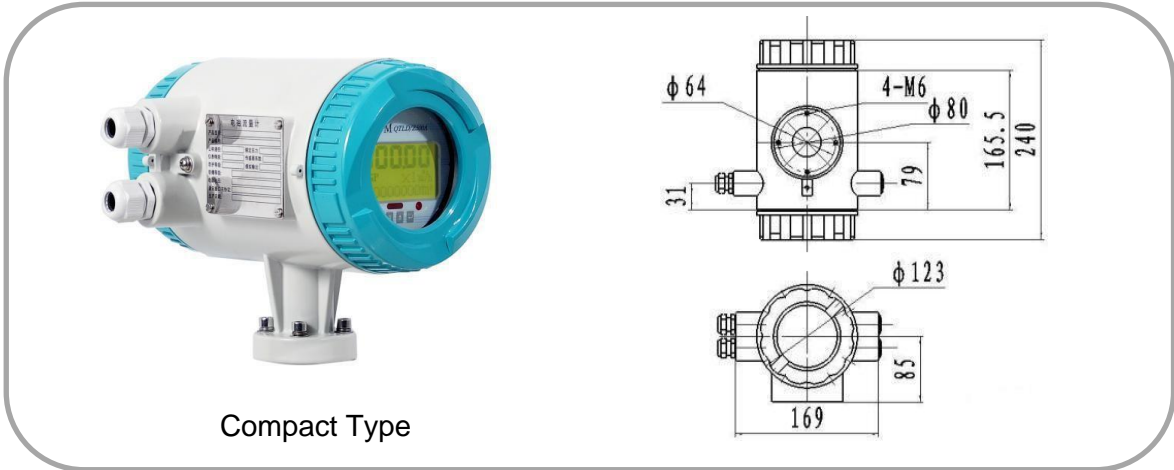
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Thread ball valve G 2"

Insertion Depth
 $DN \leq 400\text{mm}, L1 = \frac{1}{2} D$
 $DN > 400\text{mm}, L1 = \frac{1}{4} D$

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❖ Dimension of Converter



❖ Other Products



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❖ Electrode Property

SS316L	Applicable in water, sewage, waste water and corrosive mediums. Widely used in industries of petrol, chemical, urea, etc
Stainless Steel Covered with tungsten carbide	Applicable in mediums of no corrosive and low abrasion.
Hastelloy B	Having strong resistance to hydrochloric acid of any concentration which is below boiling point. Also resistant against vitriol, phosphate, hydrofluoric acid, organic acid etc, which are oxidable acid, alkali and non-oxidable salt.
Hastelloy C	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 Sulfuric acid, hydrochloric acid). Acid contains antioxidant (such as Fe ⁺⁺⁺ , Cu ⁺⁺) will greatly reduce corrosion.
Tantalum	Having strong resistance to corrosive mediums that is similar with glass. Almost applicable in all chemical mediums. Except for hydrofluoric acid, oleum and Alkali.
Platinum-iridium	Almost be applicable in all chemical mediums except for aqua fortis, ammonium salt.



Integrated injection molding,
good abrasion resistance

Built-in reference electrode,
make sure well grounding

Electrode



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❖ Model Selection

Model	QTL/D/C	XXX	X	X	X	X	X	X	X	X	X	X	X	
Caliber	DN 100 to DN 3000 Please check caliber code table 13													
Nominal Pressure	1.6 MPa		3											
	Others		6											
Body Material	SS304			1										
	SS316			2										
Electrode Material	SUS316L				1									
	Hastelloy B				2									
	Hastelloy C				3									
Probe Material	ABS					1								
	Polypropylene					2								
Connection	Thread ball valve							1						
	Flange ball valve							2						
Structure Type	Integral								1					
	Remote								2					
Power Supply	AC 220V										A			
	DC 24V										D			
	3.6V lithium battery										E			
	Others										G			
Output Signal	4-20mA /Pulse, RS485 Modbus											A		
	4-20mA, HART												B	
	GPRS												C	
	GSM												D	
	Others												E	
Ex-proof	Without Ex-proof												0	
	With Ex-proof												1	
Protection	IP65													A
	IP68													B

Optional Selection

X	
1	Installation Accessories
2	Others

Table 13

Caliber	100	125	150	200	250	300	350	400	450	500	600	700	800	900
Code	101	125	151	201	251	301	351	401	451	501	601	701	801	901
Caliber	1000	1100	1200	1400	1500	1600	1800	2000	2200	2400	2600	2800	3000	
Code	102	112	122	142	152	162	182	202	222	242	262	282	302	