

# FLOW METER.

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# Electromagnetic Flowmeter

Electromagnetic flow meter is hallmarked by its high performance and reliability based on successful, field-proven technology. It is being widely used in industries such as petroleum, chemical engineering, iron and steel, food, electricpower, paper making, water treatment, petrochemical, medicine etc.

## Feature

- Medium temperature can be  $-20\text{ }^{\circ}\text{C}$  ~  $200\text{ }^{\circ}\text{C}$
- Integrated verification, diagnostic function and empty pipe detection.
- Measure forward and reverse direction flows.
- Built-in reference electrodes, no need to connect ground ring.
- Dual frequency excitation and stable zero point.
- Precision coil winding technology, makes magnetic field more uniform.
- High protection grade, IP65.
- No moving parts, no pressure loss.
- High accuracy:  $\pm 0.5\%$  of reading,  $\pm 0.3\%$  and  $\pm 0.2\%$  optional, velocity  $> 0.3\text{ m/s}$ .





### Multiple Flow Unit Selectable

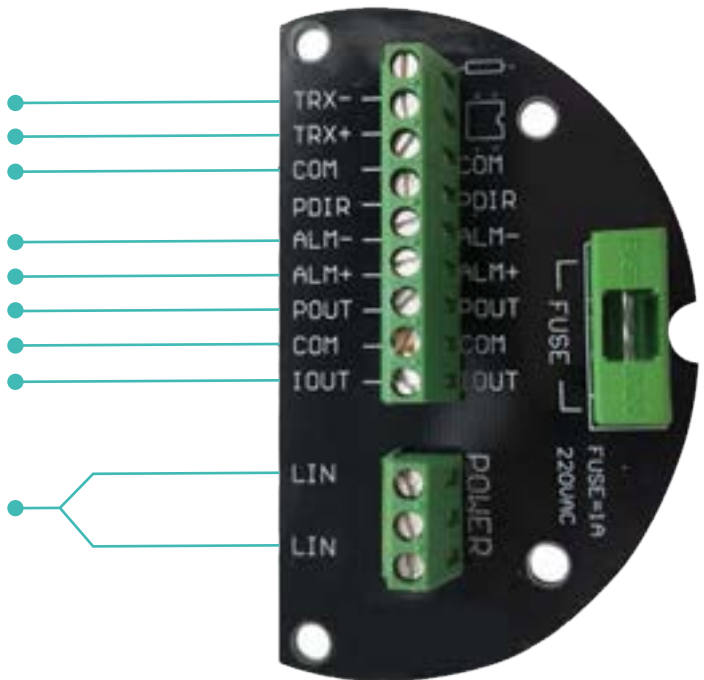
Instantaneous Flow

Flow Unit

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

### Module Design and Multifunction Output

- RS485 Modbus -
- RS485 Modbus +
- Ground
- Lower Limit Alarm
- Upper Limit Alarm
- Frequency (Pulse) Output for Bi-Directional Flow
- Ground
- 4 - 20 mA Output
- Power Supply



**Bi Directional Measurement  
Easy to Install**

**Automatic Alarm Functions  
for Self-Diagnosis**



### Optional Functions

- Infrared Touch Screen
- 32 SD Card
- Bluetooth
- Can Display Temperature Pressure



Product Group



Wafer Type



Union Type



Flange Type



Remote Type



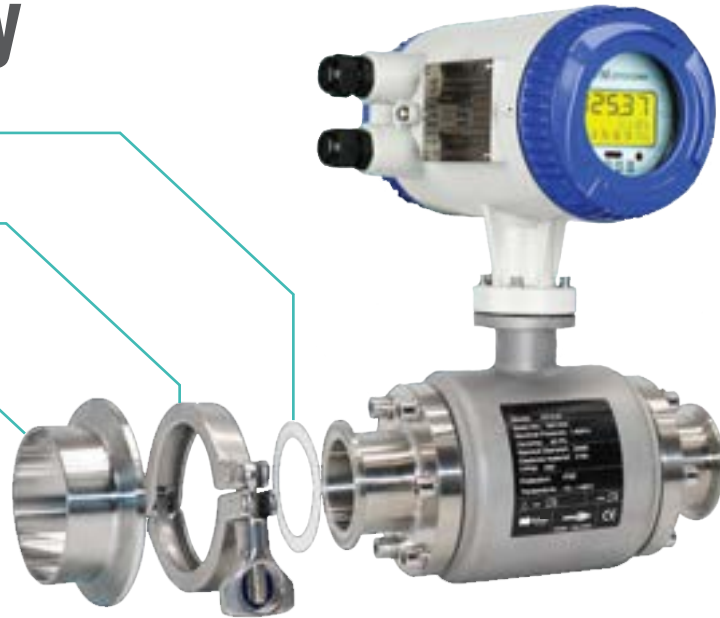
Tri-Clamp Type



Insert Type

# Clamped and Sanitary

- PFA Gasket
- Clamp
- Connector

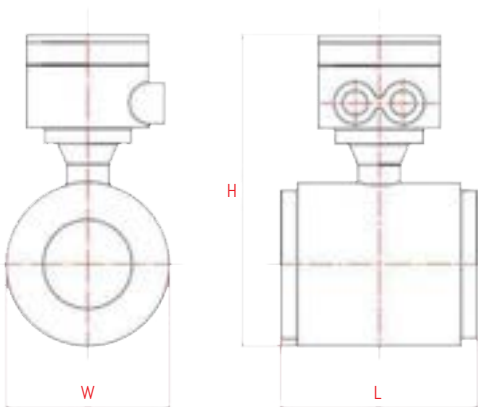


Widely used in mineral water, soy sauce, beer, fruit juice, wine, milk, etc.



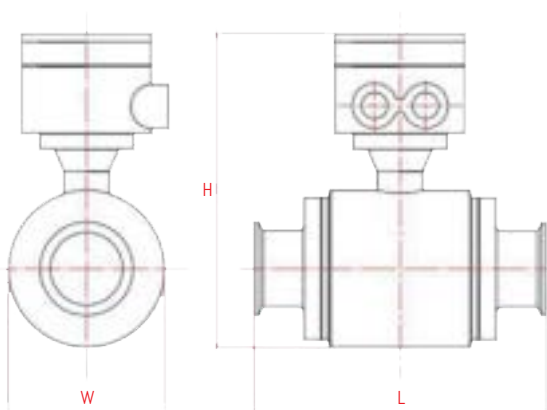


- Structure type : Integral type, remote type
- Caliber : DN25-DN200mm
- Body material : CS,304,316L
- Accuracy : 0.5% of the value displayed
- Application : General type, Ex- proof type
- Liner material : PTFE,PFA
- Electrode material : SUS316L,HC,HB
- Ground ring : SUS316L,HC,HB,Ti
- Pipe connection : flange,clamp and tri-clamp
- Min electrical conductivity : 5 μ s/cm
- Medium temperature : -20°C- +150°C
- Power supply : AC 100-240V, DC12-36V
- Output signal : 4- 20mA,HART, MOD BUS ,RS485,PROFIBUS



Figuration of clamped type  
Electromagnetic flow sensor

Diameter	H (mm)	L (mm)	W (mm)
DN25	177	98	69
DN32	186	98	78
DN40	197	98	89
DN50	210	98	102
DN65	228	146	120
DN80	240	146	132
DN100	265	146	157
DN125	291	196	183
DN150	327	196	219
DN200	369	220	261



Figuration of sanitary type  
Electromagnetic flow sensor

Diameter	H (mm)	L (mm)	W (mm)
DN25	191	200	83
DN32	202	200	94
DN40	202	200	94
DN50	216	200	108
DN65	223	250	115
DN80	243	250	135
DN100	267	250	159
DN125	291	300	183
DN150	327	300	219
DN200	369	300	261



# Ceramic Liner

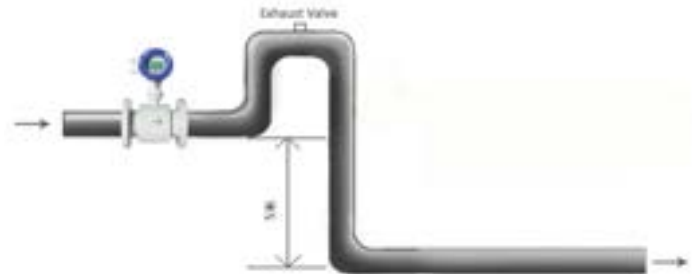


Structure	Compact, Remote
Diameter	25-350mm
Accuracy	0.5% (Of Flow Reading)
Application	Normal, Ex-proof
Liner	Zirconium Dio xide(ZrO2 )
Electrode	TiB , (Titanium diboride)
Grounding Ring	SUS316, Hastelloy C,Titanium JIS I0K, JIS 20K
Pipe Process Connection	ANSI 150, ANSI 300 DINPN10, DIN PN16,etc.
Minimum Conductivity	5 $\mu$ s/cm
Fluid Temperature	-20°C $\pm$ 180°C
Power Voltage	AC100- 240V, DC12- 36V

### Installation Method



Install at the lowest point and vertical upward direction



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



Install at the lowest point when used in open drain pipe



Need 1 OD of upstream and 5D of downstream



Dont' install it at the entrance of pump, install it at the exit of pump



Install at the rising direction

Main Performances Parameters	
Size	DN3 - DN3000 mm
Normal Pressure	0.6 - 1.6 MPa(2.5MPa/4.0MPa/6.4MPa ... Max 42MPa)
Accuracy	+/- 0.5% (Standard) +/- 0.3% or +/- 0.2% (Optional)
Liner	PTFE, Neoprene, Hard Rubber, EDPM, FEP, Polyurethane, PFA
Electrode	SUS316L, Hastelloy B, Hastelloy C Titanium, Tantalum, Platinum-iridium
Structure Type	Integral type, remote type, submersible type, ex-proof type
Medium Temperature	-20 to + 60 deg C (Integral type) Remote type (Neoprenem Hard Rubber, Polyurethane, EPDM) -10 to 80 deg C Remote type (PTFE/PFA/FEP) -10 to 160 deg C
Ambient Temperature	-20 to 60 deg C
Ambient Humidity	5 - 100%RH(Relative humidity)
Measuring Range	Max 15 m/s
Conductivity	>5 us/cm
Protection Class	IP65(Standard), IP68(Optional for remote type)
Process Connection	Flange(Standard), Wafer, Thread, Tri-clamp etc (Optional)
Output Signal	4-20mA/Pulse
Communication	RS48/5(Standard), HART(Optional), GPRS/GSM(Optional)
Power Supply	AC220V (can be used for AC85-250V) DC24V (can be used for DC20-36V) DC12V (Optional), Battery Powered 3.6 (Optional)
Power Consumption	<20W
Alarm	Upper Limit Alarm/ Lower Limit Alarm
Self-Diagnosis	Emtry Pipe Alarm, Exciting Alarm
Explosion Proof	ATEX

## Main Performances of The Electrode Materials

Electrode Material	Application
SUS316L	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 hydrofluric acid, oleum and alkali
Platinum-iridium	Almost be applicable in all chemical mediums except fortis, ammonium salt

## Velocity-Flow Range Table

Size	Flow Range & Velocity Table							
(mm)	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
3	0.003	0.005	0.013	0.025	0.102	0.254	0.305	0.382
6	0.010	0.020	0.051	0.102	0.407	1.017	1.221	1.526
10	0.028	0.057	0.141	0.283	1.130	2.826	3.391	4.239
15	0.064	0.127	0.318	0.636	2.543	6.359	7.630	9.538
20	0.113	0.226	0.565	1.130	4.522	11.304	13.56	16.956
25	0.177	0.353	0.883	1.766	7.065	17.663	21.2	26.494
32	0.289	0.579	1.447	2.894	11.575	28.938	34.73	43.407
40	0.452	0.904	2.261	4.522	18.086	45.216	54.26	67.824
50	0.707	1.413	3.533	7.065	28.260	70.650	84.78	105.98
65	1.19	2.39	5.97	11.94	47.76	119.40	143.3	179.10
80	1.81	3.62	9.04	18.09	72.35	180.86	217.0	271.30
100	2.83	5.65	14.13	28.26	113.04	282.60	339.1	423.90
125	4.42	8.83	22.08	44.16	176.63	441.56	529.9	662.34
150	6.36	12.72	31.79	63.59	254.34	635.85	763.0	953.78
200	11.3	22.61	56.52	113.04	452.16	1130.40	1356	1696
250	17.66	35.33	88.31	176.53	706.50	1766.25	2120	2649
300	25.43	50.87	127.2	254.34	1017	2543.40	3052	3815
350	34.62	69.24	173.1	346.19	1385	3461.85	4154	5193
400	45	90	226.1	452	1809	4522	5426	6782
450	57	114	86.1	572	2289	5723	6867	8584
500	71	141	353.3	707	2826	7065	8478	10598
600	102	203	508.7	1017	4069	10174	12208	15260
700	138	277	692.4	1385	5539	13847	16617	20771
800	181	362	904.3	1809	7235	18086	21704	27130
900	229	458	1145	2289	9156	22891	27469	34336
1000	283	565	1413	2826	11304	28260	33912	42390
1200	407	814	2035	4069	16278	40694	48833	61042
1400	554	1108	2769	5539	22156	55390	66468	83084
1600	723	1447	3617	7235	28938	72346	86815	108518
1800	916	1831	4578	9156	36625	91562	109875	137344
2000	1130	2261	5652	11304	45216	113040	135648	169560
2200	1368	2736	6839	13678	54711	136778	164134	205168
2400	1628	3256	8139	16278	65111	162778	195333	244166
2600	1910	3821	9552	19104	76415	191038	229245	286556
2800	2216	4431	11078	22156	88623	221558	265870	332338
3000	2543	5087	12717	25434	101736	254340	305208	381510

### Model Select

	EMF	XXX	X	X	X	X	X	X	X	X
Caliber	DN10 - DN3000 - 3-digital code seeing caliber code table K									
	Nominal Pressure									
Nominal Pressure	0.6 MPa		1							
	1.0 MPa		2							
	1.6 MPa		3							
	4.0 MPa		4							
	Other		5							
Connection Mode	Flange Connection			1						
	Clamp Connection			2						
	Sanitary Connection			3						
Liner Material	PTFE				1					
	PFA				2					
	Neoprene				3					
	Polyurethane				4					
	Ceramic				5					
Electrode Material	316L					1				
	Hastelloy B					2				
	Hastelloy C					3				
	Titanium					4				
	Platinum - iridium					5				
	Tantalum					6				
	Stainless Steel covered with tungsten carbide					7				
Structure Type	Integral Type						1			
	RemoteType						2			
	Remote Type immerse						3			
	IntegralType Ex-proof						4			
	Remote Type Ex-proof						5			
Power	220 VAC 50Hz							E		
	24 VAC							G		
Output Communication	Flow Volume 4 - 20 mA DC/Pulse								A	
	Flow Volume 4 - 20 mA DC/RS232C Communication								B	
	Flow Volume 4 - 20 mA DC/RS485C Communication								C	
	Flow Volume HART Output/ with Communication								D	
Converter Figure	Square									A
	Circular									B

X	
1	Grounding Electrode
2	Coupled Flange
3	Entrance Protection Flange
4	Scraper type Electrode
5	Other

Table K  
Caliber Code Table

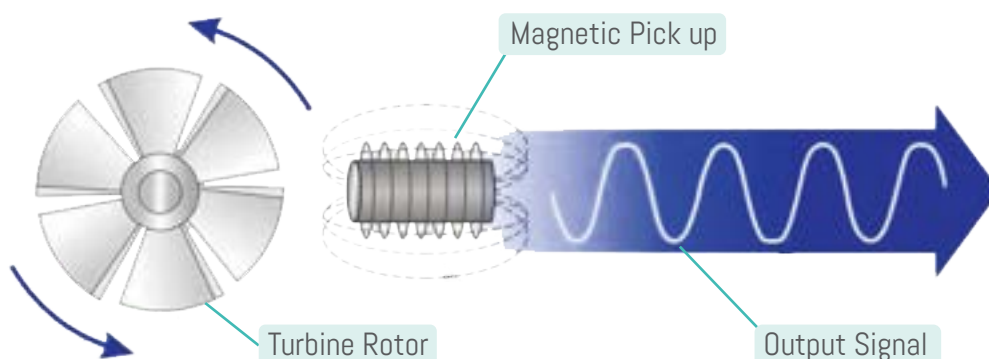
Caliber	Code
10	100
15	150
20	200
25	250
32	320
40	400
50	500
65	650
80	800
100	101
125	125
150	151
200	201
250	251
300	301
350	351
400	401
450	451
500	501
600	601
700	701
800	801
900	901
1000	102
1100	112
1200	122
1400	142
1500	152
1600	162
1800	182
2000	202
2200	222
2400	242
2600	262
2800	282
3000	302

# Liquid Turbine Flowmeter



## Feature

- Flow measurement of tap water, demineralised water and chemicals.
- Fuels, marine engine fuel monitoring, vegetable oil, thermal oil and solvents.
- Special models for refrigerants, pharmaceutical fluids, cryogenic fluids, liquefied gases and high-pressure applications .

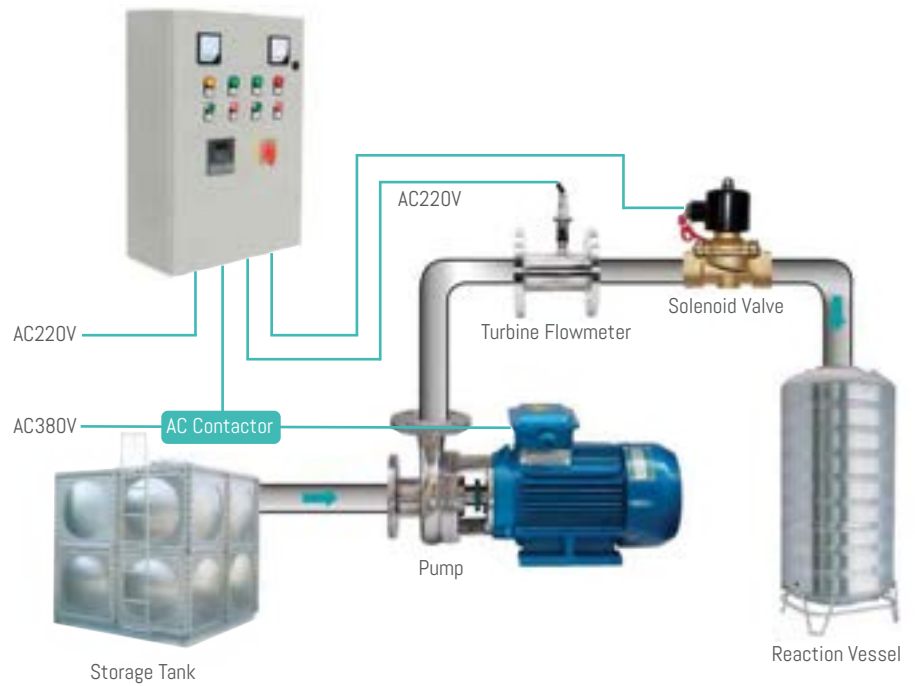


A turbine flow meter is used for volumetric total flow and/or flow rate measurement and has a relatively simple working principle. As fluid flows through the turbine meter, it impinges upon turbine blades that are free to rotate about an axis along the center line of the turbine housing. The angular (rotational) velocity of the turbine rotor is directly proportional to the fluid velocity flowing through the turbine. The resulting output is taken by an electrical pickoff(s) mounted on the flow meter body.

### Ideal for Batching Applications

Good to use for application of blending/batching as well as storage and off-loading etc.

Because of its structure, rotor will immediately rotate as soon as the media induces a forward force. As the rotor cannot through the media on its own, it will stop as soon as the media stops. This ensures an extremely fast response time, making the turbine flow meter ideal for batching applications.



### Flow Sensor

Excellent forging process, Wear Resistance and Durable  
SS304 body (Optional SS316)



High Temperature Cooling Fin (Optional)  
Resist High Temperature up to 150 °C



Flow Guiding Element  
Stabilizing the flow and minimizing negative effects of turbulence

Integrated Precision Milling Impeller

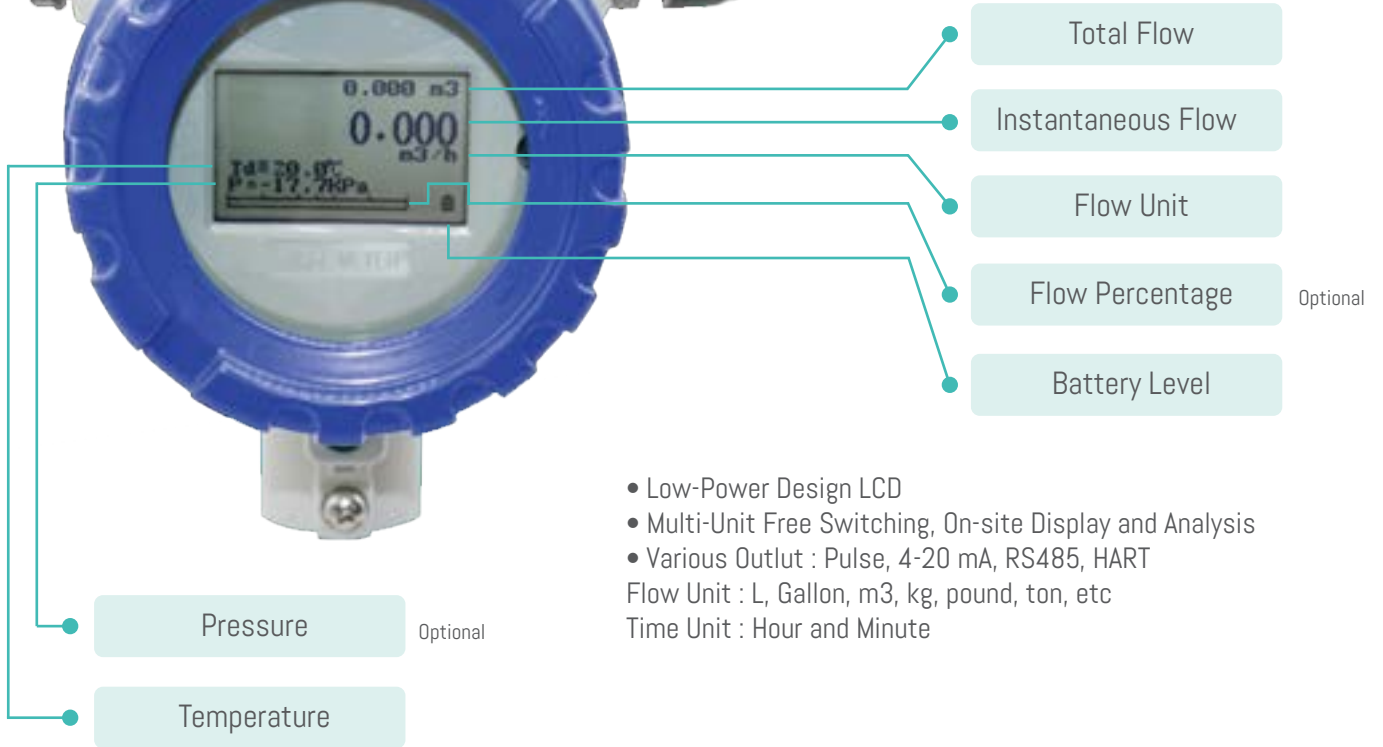
- Duplex Steel Material as Optional
  - 8-pieces impellers structure, hard alloy material
- DN4 - DN25 : 4-pieces impeller  
DN32 : 6-pieces impeller  
Above DN40 : 8-pieces impeller





**Three Line HD LCD Display**

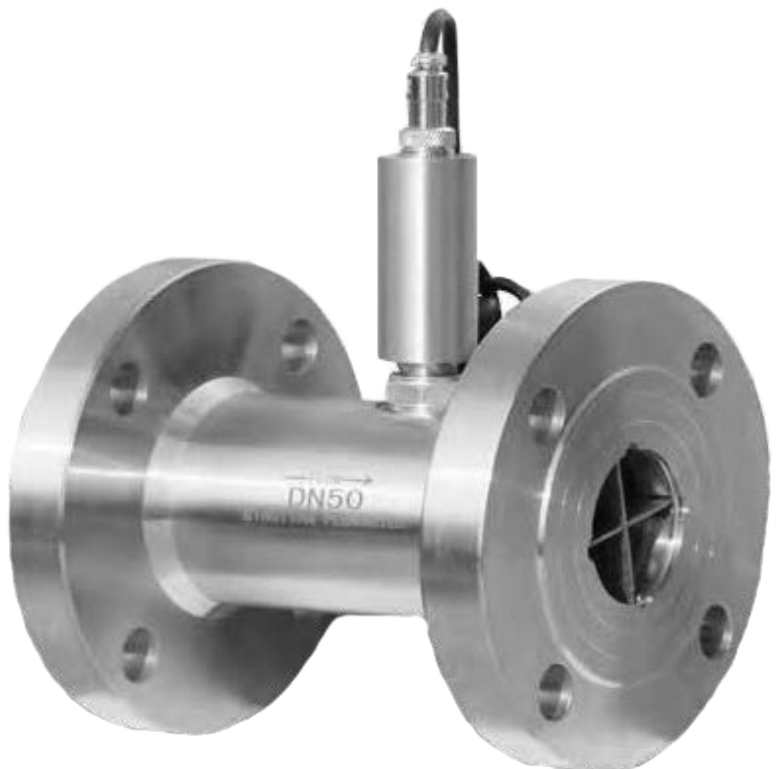
Temperature and pressure display also available



- Low-Power Design LCD
  - Multi-Unit Free Switching, On-site Display and Analysis
  - Various Outlut : Pulse, 4-20 mA, RS485, HART
- Flow Unit : L, Gallon, m3, kg, pound, ton, etc  
 Time Unit : Hour and Minute

**Perform Outstandingly In High Pressure Applications**

- Resist High Pressure up to 42MPa
- No need hole tapping on the body, so it's easy to make high pressure type.





Product Group



Clamp Type



Thread Type

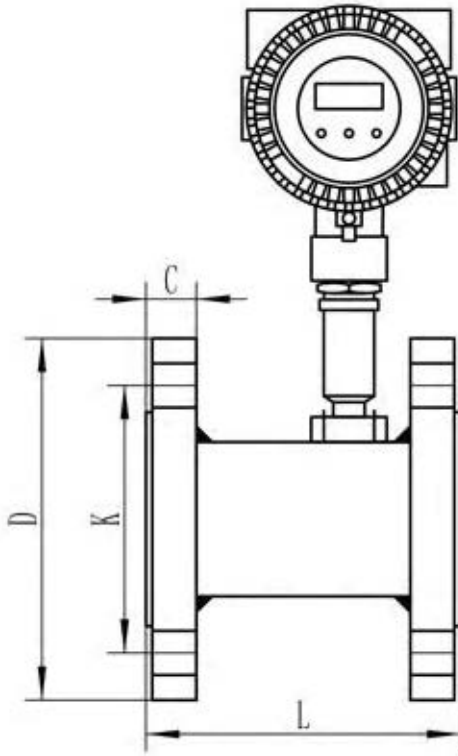


Flange Type

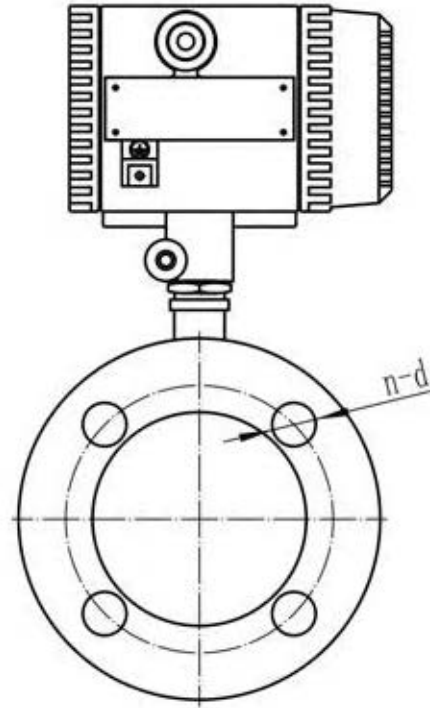


Pulse Signal with Flow Transmitter Economy Version

### Flange Dimension



DN15 mm - DN200 mm



Flange Connection DIN Standard

Diameter (mm)	Flange Connection					
	L (mm)	D (mm)	K (mm)	d (mm)	n (Holes)	Flange Thickness C (mm)
10	345	90	60	14	4	16
15	75	95	65	14	4	16
20	80	105	75	14	4	18
25	100	115	85	14	4	18
32	120	140	100	18	4	18
40	140	150	110	18	4	19
50	150	165	125	18	4	21
65	175	185	145	18	4	21
80	200	200	160	18	8	23
100	220	220	180	18	8	23
125	250	250	210	18	8	25
150	300	285	240	22	8	25
200	360	340	295	22	12	27

# Clamped and Sanitary

Only for  
DN4 to DN80

- PFA Gasket
- Clamp
- Connector



Tighten or loose the screws to install or dismatle



Pre Amplifier

**Flowmeter**  
Pick up coil generates frequency proportional to flow rate

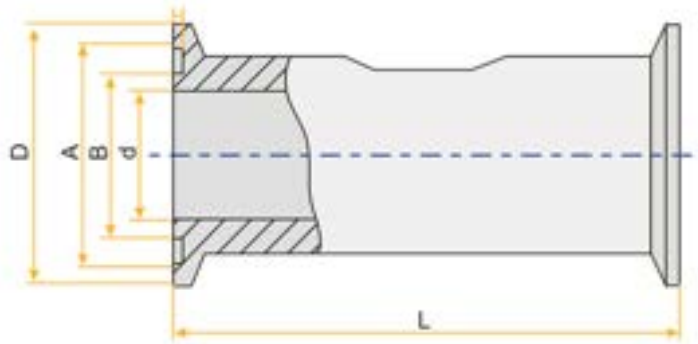
**Pulse Conuter**  
Counts pulse and indicate total flow

or

**Batching System**  
Give electrical output for batching operation

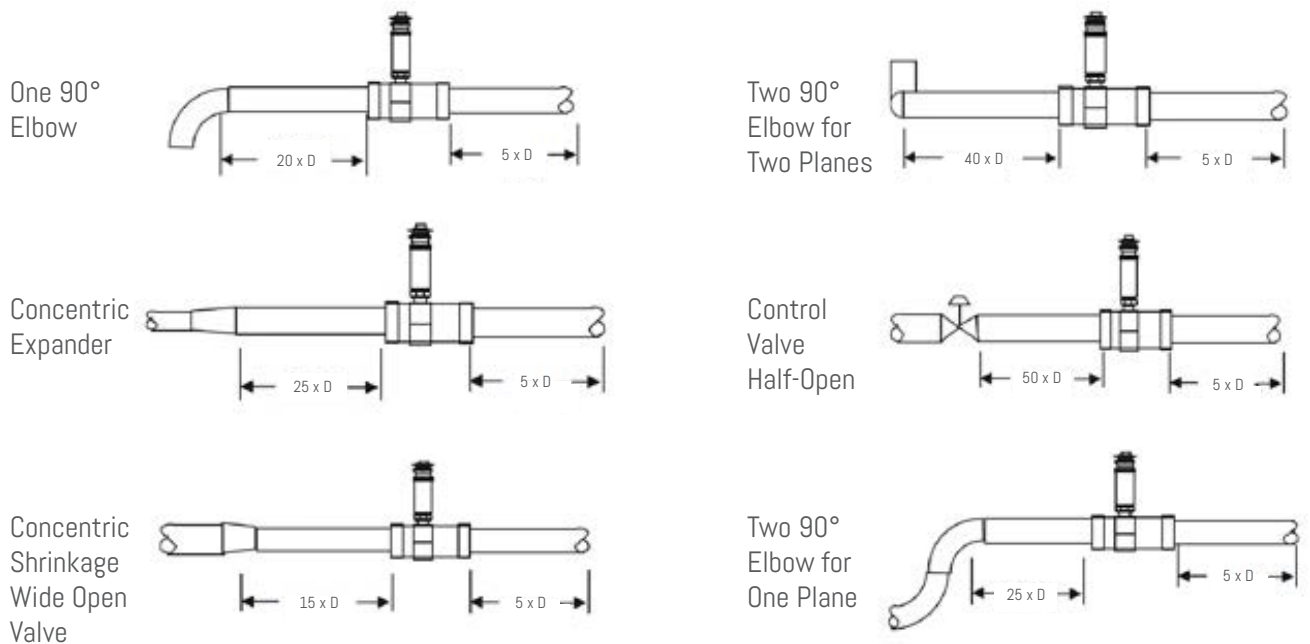
- RS485 Output
- Printer
- 4 - 20 mA Output
- Strip Chart
- Pulse Output
- Remote Totalizer
- Alarm Output
- And More

### Clamp and Sanitary Dimension

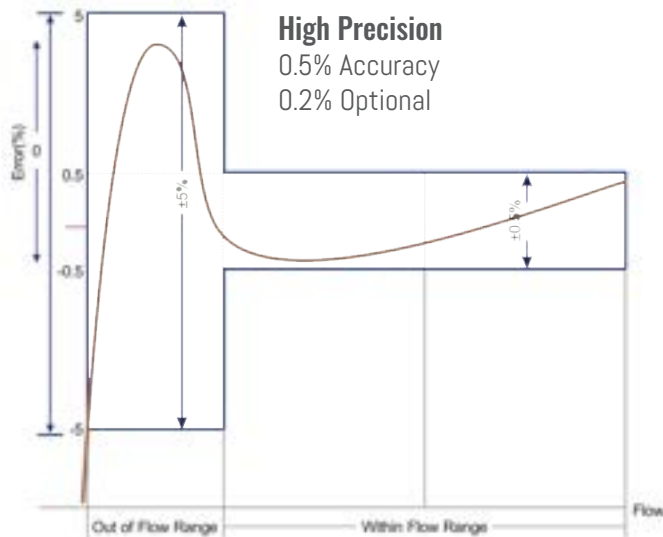


DN	D (mm)	A (mm)	B (mm)	d (mm)	L (mm)
DN4	Dia. 50	OD 45	ID 40.5	4	100
DN6				6	
DN10				10	
DN15				15	
DN20				20	
DN25				25	
DN32				32	
DN40	Dia. 64	Dia 59	Dia. 54	40	140
DN50	Dia. 77	Dia 73.5	Dia. 68.5	50	150

### Installation Method



Technical Parameters	
Size & Process Connection	Thread connection:DN4,6, 10, 15,20,32,40,50,65,80, 100 Flange connection:DN15,20,32,40,50,65,80,100, 125,200 Clamp connection DN4,6, 10,15,20,32,40,50,65,80, 100
Accuracy	±0.5%, ±0.2% Optional
Sensor Material	SS304, SS316L Optional
Ambient Conditions	Medium temperature : -20 °C to + 150 °C Atmospheric pressure : 86 Kpa - 106 Kpa Ambient temperature : -20 °C to +60 °C Relative humidity : 5% - 90%
Signal Output	Pulse, 4-20mA, Alarm(Optional)
Digital Communication	RS485, MODBUS; HART
Power Supply	24V DC/3.6V Lithium Battery
Cable Entry	M20*1.5 ; 1/2"NPT
Explosion-proof class	Ex d IIC T6 Gb
Protection class	IP65; IP67 Optional



**Max Temp**  
150 °C

## Flow Range

Diameter (mm)	Standard Range (m3/h)	Extended Range (m3/h)	Connection Standard (Optional)	Standard Pressure (MPa)	Customize Pressure Rating (MPa)
DN4	0.04 - 0.25	0.04 - 0.4	Thread	6.3	12, 16, 25 ... 42
DN6	0.1 - 0.6	0.06 - 0.6	Thread	6.3	12, 16, 25 ... 42
DN10	0.2 - 1.2	0.15 - 1.5	Thread	6.3	12, 16, 25 ... 42
DN15	0.6 - 6	0.4 - 8	Thread(Flange)	6.3, 2.5 (Flange)	4.0, 6.3, 12, 16, 25 .. 42
DN20	0.8 - 8	0.45 - 9	Thread(Flange)	6.3, 2.5 (Flange)	4.0, 6.3, 12, 16, 25 .. 42
DN25	1 - 10	0.5 - 10	Thread(Flange)	6.3, 2.5 (Flange)	4.0, 6.3, 12, 16, 25 .. 42
DN32	1.5 - 15	0.8 - 15	Thread(Flange)	6.3, 2.5 (Flange)	4.0, 6.3, 12, 16, 25 .. 42
DN40	2 - 20	1 - 20	Thread(Flange)	6.3, 2.5 (Flange)	4.0, 6.3, 12, 16, 25 .. 42
DN50	4 - 40	2 - 40	Thread(Flange)	2.5	4.0, 6.3, 12, 16, 25 .. 42
DN65	7 - 70	4 - 70	Flange	2.5	4.0, 6.3, 12, 16, 25 .. 42
DN80	10 - 100	5 - 100	Flange	2.5	4.0, 6.3, 12, 16, 25 ... 42
DN100	20 - 200	10 - 200	Flange	1.6	4.0, 6.3, 12, 16, 25 .. 42
DN125	25 - 2500	13 - 250	Flange	1.6	2.5, 4.0, 6.3, 12, 16 .. 42
DN150	30 - 300	15 - 300	Flange	1.6	2.5, 4.0, 6.3, 12, 16 .. 42
DN200	80 - 800	40 - 800	Flange	1.6	2.5, 4.0, 6.3, 12, 16 .. 42

Clamp and Sanitary Type are available for DN4 to DN80 only.

### Model Select

TBF	XXX	XX	X	X	X	X	XXX	XX	
Diameter									Three Digitals; for example: 010: 10 mm; 015: 15 mm; 080: 80 mm; 100: 100mm
Converter	N								No display, 24V DC, Pulse Output
	A								No display, 24V DC, 4 - 20 mA Output
	B								Local display, Lithium Battery Power No Output
	C								Local display, 24V DC Power 4 - 20 mA Output
	C1								Local display, 24V DC Power, 4 - 20 mA Output Modbus RS485 Communication
	C2								Local display, 24V DC Power, 4 - 20 mA Output HART Communication
Accuracy	05								0.5% of Rate
	02								0.2% of Rate
Flow Range			S						Standard Range: refer to flow range table
			W						Wide Range: refer to flow range table
Body Material				S					SS304
				L					SS316
Explosion Rating					N				Safety Field without Explosion
					E				ExdIIBT6
Pressuring Rating						E			Per Standard
						H (X)			Customized Pressure Rating
Connection							-DXX		DXX : D06, D10, D16, D25, D40 D06 : DIN PN6, D10 : DIN PN10 D16 : DIN PN16; D25 : DIN PN25 D40 : DIN PN40
							-AX		AX : A1, A3, A6 A 1 : ANSI 150#, A3 : ANSI 300# A6 : ANSI 600#
							-JX		JX : J1, J2, J4 J1 : JIS 10K, J2 : JIS 20K, J4 : JIS 40K
							-TH		Thread DN4 ... DN50
Fluid Temperature								-T1	-20 ... +80 °C
								-T2	-20 ... +120 °C
								-T3	-20 ... +150 °C

Clamp and Sanitary Type are available for DN4 to DN80 only.

# Gas Turbine Flowmeter



Widely used in various industries. Mainly used for Natural Gas, LPG, Coal gas and etc.



Natural Gas Transmission



Urban Gas Industry



Petrochemical Industry



Power Plant





**Intelligent Volume Corrector**

- Dynamic detect temperature and Pressure data
- Automatic T&P compensation
- Compression factor correction

Clamp Power DC24V

Internal 3.6 Lithium Battery

**Multiple Output**

- IC Quantitative Pulse
- IC Quantitative Pulse
- IC Quantitative Pulse
- DC 24V+
- DC 24-
- Pulse
- 4 -20 mA+

**Dual Power Supply**

- Micro-power consumption < 1 mW, Battery work life 5 years
- Flash Data Storage Technology
- Parameters long term preservation while power failure

**LCD HD Display with Rotable Converter**

- Digital board.strong anti-interference ability
- Support display to rotate 350°
- Easy to read data in different



Total Flow (Nm3)

Flow Rate (m3/h)

Absolute Pressure

Flow Rate (Nm3/h)

Battery Capacity

Temperature

**350°C**

**Aluminium Alloy Impeller**

- High strength, Anti - Corrosive
- Good anti-aging performance
- High accuracy, good repeatability



**Rectifier Structure**

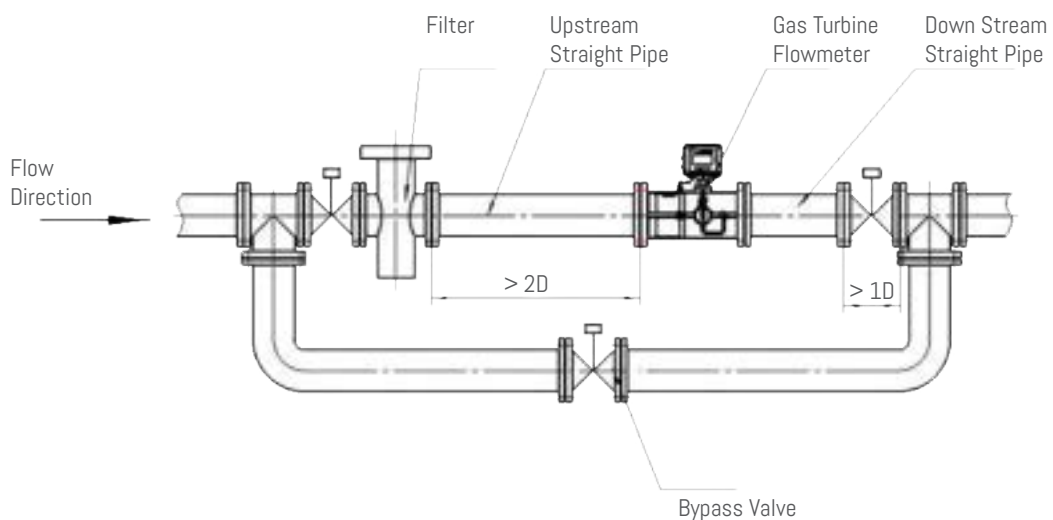
- Wide flow ratio 1 :40
- Ensure good accuracy under condition of upstream pipe 2D, downstream 1D

**Specific Oil Injection Structure**

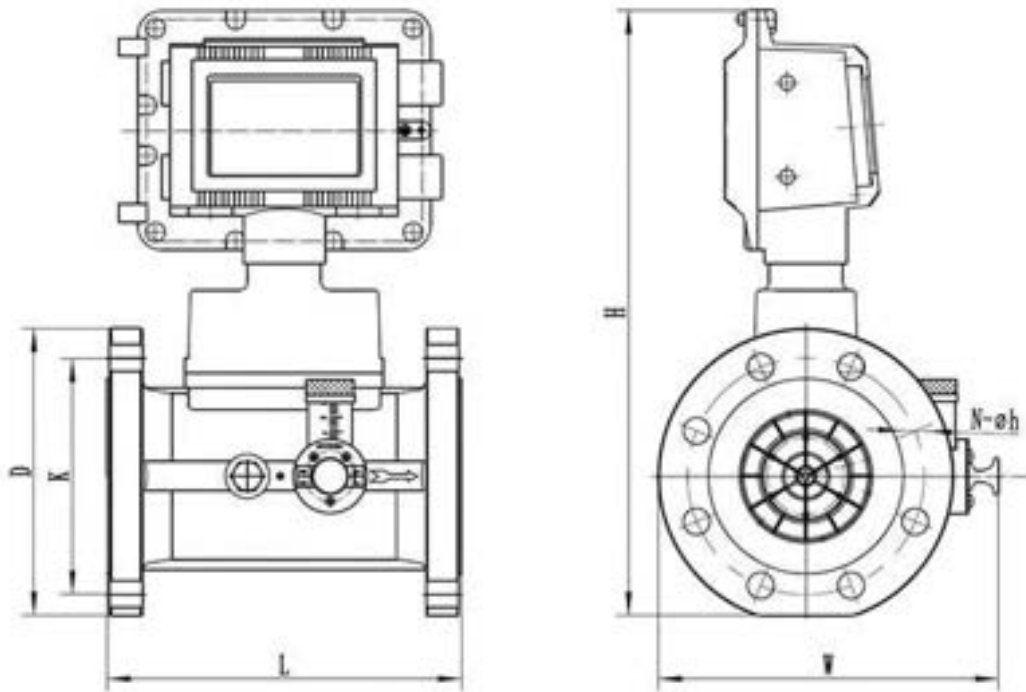
- Easy oil filling operation
- Ensure bearing work smoothly



**Installation Method**



Dimension



Size	L	D	K	N-Øh	H	W	Remarks
DN25(1")	200	115	85	4 - Ø14	335	200	1.Flange information according to PN16 GB9113.1-2000 2.Other flanges are available
DN40(1½")	200	150	110	4 - Ø18	365	230	
DN50(2")	150	165	125	4 - Ø18	375	275	
DN80(3")	240	200	160	8 - Ø18	409	280	
DN100(4")	300	220	180	8 - Ø18	430	285	
DN150(6")	450	285	240	8 - Ø22	495	370	
DN200(8")	600	340	295	12 - Ø22	559	390	
DN250(10")	750	405	355	12 - Ø26	629	480	
DN300(12")	900	460	410	12 - Ø26	680	535	
DN400(16")	1200	580	525	16 - Ø30	793	665	

## Flow Range

DN (mm/inch)	Model	Flow Specification	Flow Range (m3/h)	Qmin (m3/h)	Max Pressure lost (KPa)	Shell Material	Weight (kg)	
DN25(1")	GTB-25(A)	G50	5-50	≤ 1	1	≤ 1.6 MPa Aluminum Alloy	7	
DN40(1½")	GTB-40(A)	G60	6-60	≤ 1	1		8	
50(2")	GTB-50(A)	G40	6.5 - 65	≤ 1.3	0.9		8.5	
	GTB-50(8)	G65	8 - 100	≤ 1.6	0.8			
	GTB-50{C}	G100	10 - 160	≤ 24	2.0			
80(3")	GTB-80(A)	G100	8 - 160	≤ 24	1.0		9.5	
	GTB-80(8)	G160	13 - 250	≤ 3.0	1.6			
	GTB-80{C}	G250	20 - 400	≤ 5.0	2.0			
100(4")	GTB-100(A)	G160	13 - 250	≤ 3.3	1.0		≥ 2.0 MPa Carbon Steel or SS304	15
	GTB-100(8)	G250	20 - 400	≤ 4.2	1.6			
	GTB-100{C}	G400	32 - 650	≤ 6.7	1.8			
150(6")	GTB-150(A)	G400	32 - 650	≤ 7.8	1.6	27		
	GTB-150(8)	G650	50 - 1000	≤ 10	2.0			
	GTB-150{C}	G1000	80 - 1600	≤ 12	2.3			
200(8")	GTB-200(A)	G650	50 - 1000	≤ 13	1.6	45		
	GTB-200(8)	G1000	80 - 1600	≤ 16	2.0			
	GTB-200{C}	G1600	130 - 2500	≤ 20	2.2			
250(10")	GTB-250(A)	G1000	80 - 1600	≤ 20	1.2	128		
	GTB-250(8)	G1600	130 - 2500	≤ 22	2.2			
	GTB-250{C}	G2500	200 - 4000	≤ 25	2.3			
300(12")	GTB-300(A)	G1600	130 - 2500	≤ 22	1.6	265		
	GTB-300(8)	G2500	200 - 4000	≤ 25	2.0			
	GTB-300{C}	G4000	320 - 6500	≤ 35	2.3			
400(16")	GTB-400(A)	G1600	300 - 2500	≤ 22	1.8	380		
	GTB-400(8)	G2500	500 - 4000	≤ 35	2.0			
	GTB-400{C}	G4000	600 - 8000	≤ 40	2.3			

Technical Parameters	
Nominal Diameter	DN25-DN400
Nominal Pressure	1.0 MPa/ 1.6 MPa/ 2.5 MPa/ 4.0MPa
Range Ratio	Max 40:1 (under P=101.325 KPa, T=293.15K)
Accuracy	1.5% (Standard), 1.0 (Optional)
Repeatability	Better than 0.2%
Explosion Proof	ExiallCT6Ga
Protection	IP65
Shell Material	Aluminum Alloy/ Carbon Steel/ Stainless Steel
Power Supply	3.6V Lithum Battery Powered External power DC18-30V
Output Signal	4-20mA, Pulse, Alarm
Communication	RS485 Modbus RTU

### Model Select

GTB		XXX	X	X	X	X	X	X
Size (mm)	DN25 - DN400 mm ( Digital Code of Size)							
Accuracy	1.5% (standard)		1					
	1.0%		2					
Normal Pressure	1.0 MPa			1				
	1.6 MPa			2				
	2.5 MPa			3				
	4.0 MPa			4				
Body Material	Others			5				
	Aluminum Alloy (For size below DN150mm)				1			
	Carbon Steel				2			
Output/ Communication	Stainless Steel				3			
	Pulse + 4 - 20mA					1		
	Pulse + 4 - 20mA + RS485					2		
Power Supply	Pulse + 4 - 20mA + HART					3		
	Battery Powered + External Power DC24V (two-wire)						1	
Ex-Proof	Battery Powered +External Power DC24V (three-wire)						2	
	With							1
	Without							2

# Metal Tube Rotameter

Float flow meter is made up of flow sensor and flow indicator. Float is placed vertically inside of conical measuring tube and can freely move up and down along the conical tube owing to hydrodynamic effects. A high-performance permanent magnet is set inside float, by this way the magnetic field around permanent magnet will change along with the float moving up and down. When fluid keeps a stable flow value and float locates in a dynamic balance state in position, the magnetic field around permanent magnet keeps constant also. The magnetic signal will be transmitted in non-contact form by means of the flow Indicator mechanically connected to conical tube. In another word, the indicator is able to detect and process flow value of liquid by magnetic drive system and finally the corresponding flow rate value can be read from the scale on site. Also it can indicate outputs as standard electrical signal (4-20)mA / hart communication protocol.



Special for low flowrate (Liquid Min : 16 L/H, Gas Min : 0.5 m<sup>3</sup>/h) and various harsh medium

All metal structure design suitable to high pressure (Max : 25 MPa), high temperature (Max : 300°C) or strong corrosive medium

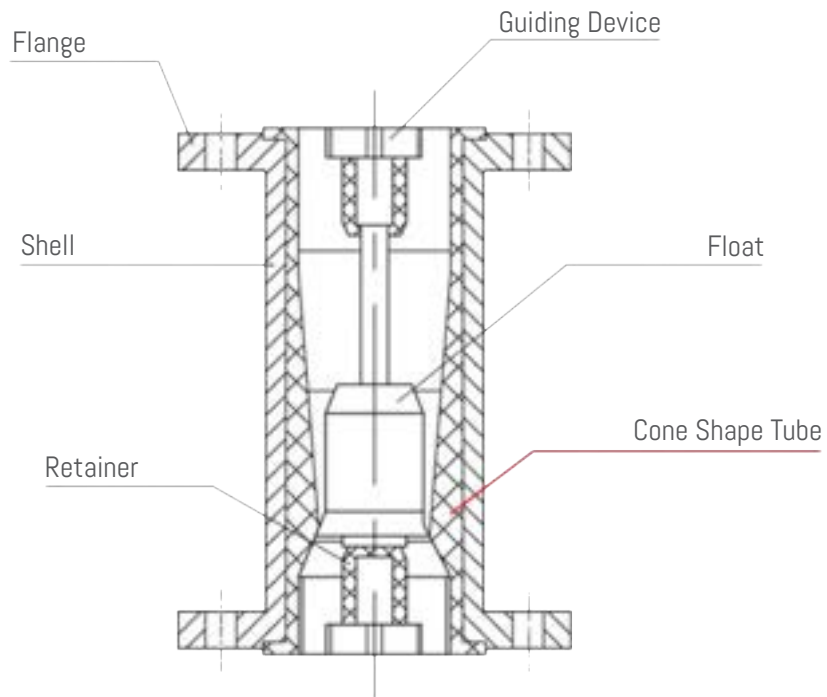
Optional material for measuring part : Stainless Steel, Titanium, Hastelloy, PTFE, FEP, etc.



Embedded Stainless Steel Float  
Optional Material : Stainless Steel (304 or 316), Titanium, Hastelloy, PTFE, FEP, Etc.



Float Stop Shaft & Guiding Device  
Prevent the float staying from the right path and guarantee the measuring accuracy



Metal tube rotameter adopts the cone shape design, reducing flow area, reducing error, making the measurement more accurate

**Model : MTZ**

Local Indicator  
High resolution, More accurate, High visibility and Durable use

**Model : MTD**

Display flow rate (m<sup>3</sup>/h), Totalizer (m<sup>3</sup>), Medium Temperature (°C) and Pressure (KPa)  
\* Temperature (°C) is Optional

Multi Line LCD Display  
Pointer indicatin + LCD display, High visibility with  
4 - 20 mA output

**Various Output Option**

- DC 4 - 20 mA
- DC 4 - 20 mA + HART
- DC 4 - 20 mA + RS485
- DC 4 - 20 mA + Alarm

Note : Default is DC 4 - 20 mA output



Technical Parameters	
Measuring Range	Water (20°C) 16 - 150000 l/h Air (0.1013 MPa 20°C) 0.5 - 4000 m3/h
Range Ratio	10 : 1 (Special type 20 : 1)
Accuracy Class	2.5 (Special type 1.5% or 1.0%)
Working Pressure	DN15 - DN50 PN16MPa (Special type 25 MPa) DN80 - DN150 PN10MPa (Special type 16 MPa) Pressure rating of jacket 1.6 MPa
Medium Temperature	Normalized type - 80 °C to 220 °C High Temperature type 300 °C. Lined with FEP type ≤ 85 °C
Ambient Temperature	- 40 °C to 120 °C (Remote display without LCD ≤ 85 °C). (Remote display with LCD ≤ 70 °C)
Di Electric Viscosity	1/4" NPT, 3/8" NPT, 1/2" NPT ≤ 5 mPa.s 3/4" NPT, 1" NPT ≤ 250 mPa.s
Output	Standard signal : two-wires system 4 - 20 mA (with HART Communication) Standard signal : three-wires system 0 - 10 mA Alarm signal : 1. Two-way relay output 2. One-way or two-approach switches Pulse signal output : 0 - 1 KHz isolated output
Process Connection	Standard type : 24 VDC ± 20% AC type : 220VAC (85 - 265 VAC as Optional)
Connection Mode	Flange Thread Tri-Clamp
Level of Protection	IP65/ IP67
Ex-Mark	Intrinsically safe : EXIIICT 3 - 6      Exd type : ExdIICT4 - 6

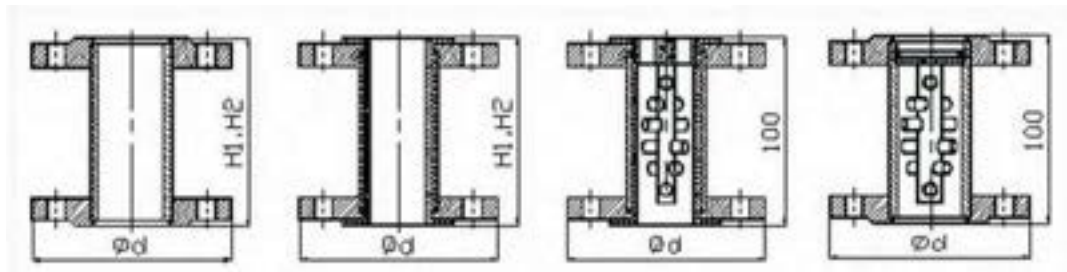
**Flow Range**

Float Material : 1 = Cr18Ni9, Cr17Ni14Mo2 and Hastelloy      2 : FEP					
Diameter DN		Water (20 °C) L/h		Air 0.1013 MPa 20 °C Nm3/h	Standard Type The Maximum Pressure Loss KPa
		1	2	1	Water      Air
15	*	16	-	0.5	2.0      7.0
	*	25	16	0.7	2.3      7.2
		40	25	1.1	2.5      7.3
		63	40	1.8	2.5      7.5
		100	63	2.8	2.8      7.8
		160	100	4.8	2.6      8.0
		250	160	7.0	2.7      10.0
		400	250	10.0	2.9      10.8
		600	400	16.0	3.4      14
15		600	400	16	4.0      7.0
		1000	600	30	4.1      8.0
		1600	1000	45	4.4      12.0
		2500	1600	70	5.2      19.0
		4000	2500	110	7.2      25.0
		6000	4000	180	12.5      33.0
25		600	400	16	4.0      7.0
		1000	600	30	4.1      8.0
		1600	1000	45	4.4      12.0
		2500	1600	70	5.2      19.0
		4000	2500	110	7.2      25.0
		6000	4000	180	12.5      33.0
32		1000	600	30	4.1      8.2
		1600	1000	45	4.4      12.0
		2500	1600	70	5.2      19.0
		4000	2500	110	7.0      25.0
		6000	4000	180	12.5      33.0
		10000		250	12.5      33.0
40		2500	1600	70	5.2      19.0
		4000	2500	110	7.0      25.0
		6000	4000	180	12.5      33.0
		10000		250	12.5      33.0
50		6000	4000	180	4.7      8.0
		10000	6000	250	5.1      15.0
		16000	10000	400	6.2      22.0
		25000	16000	600	8.0      35.0

Float Material : 1 = Cr18Ni9, Cr17Ni14Mo2 and Hastelloy      2 : FEP					
Diameter DN	Water (20 °C) L/h		Air 0.1013 MPa 20 °C Nm <sup>3</sup> /h	Standard Type The Maximum Pressure Loss KPa	
65	16000	10000	400	6.2	22.0
	25000	16000	600	8.0	35.0
80	25000	16000	1000	5.3	15.0
	40000	25000	1200	7.8	22.0
	60000	40000	1600	8.3	25.0
100	60000	40000	1800	11.4	35.0
	100000	60000	3000	16.7	45.0
125	100000	40000	3000	11.4	42.0
	125000	50000	3000	11.4	47.0
150	150000	100000	4000	17.0	47.0

Notes : In addition to above general specifications. \* Special specification all can be customized according to customer requires.

### Installation Method



Straight Pipe Section

Straight Pipe Section Lined with FEP

Filter Lined with FEP

Filter

Caliber	DN15	DN25	DN50	DN80	DN100	DN150
Front Straight Pipe Section H1 ≥ (mm)	75	125	250	400	500	750
Front Straight Pipe Section H1 ≥ (mm)	250	250	250	250	250	250
Ψd (mm)	95	115	165	200	220	285

### Model Select

MT	X	XXX	XX	XX	XX	X	X	X	X
Indicator	Code								
Local Indicator	Z								
LCD Indicator with Output	D								
Norminal Diameter	Code								
DN15	-15								
DN20	-20								
DN25	-25								
DN40	-40								
DN50	-50								
DN80	-80								
DN100	-100								
DN150	-150								
Structure	Code								
Bottom-TOp	/								
Left - Right (Horizontal)	H1								
Right - Left (Horizontal)	H2								
Side - Side	AA								
Bottom - Side	LA								
Thread Connection	S								
Tri - Clamp	M								
Body Material	Code								
304SS	R4								
316LSS	R6L								
Hastelloy C	Hc4								
Titanium	Ti								
Liner F46(PTFE)	F								
Model	M								
Indicator Type	Code								
Linear Indicator (Pointer Indication)	M7								
Non-Linear Indicator (LCD Display)	M9								
Combination Function (Only for LCD Display)	Code								
24VDC with 4 - 20 mA Ouput	S								
24VDC with HART Communicaiton	Z								
Battery Power	D								
Additional Function	Code								
Measuring Tube with Thermal Preservation / Heat Insulation Jacket	T								
Measure Medium Temperature Higher than 120 °C	HT								
Ex-Proof	Code								
With	W								
Without	N								
Alarm	Code								
One Alarm	K1								
Two Alarm	K2								
None	N								



# Vortex Flowmeter

Vortex flowmeter is an ideal high-precision flowmeter for measuring high-temperature steam. The maximum temperature up to 350 °C, It can also be used for other gases and liquids; With 4-20ma, pulse signal output, MODBUS RS485 / HART optional, available Temperature and pressure compensation, anti-vibration , new digital filtering and correction functions make flow measurement more accurate and reliable.

## Feature

- Japan technology with embedded-type sensor,sensor could integrate with temperature.
- Circuit Board: Digital circuit board,anti-vibration and anti-interference.
- Flow converter: Distinctive modular design, amateurs can operate, disassemble and assemble easily, it will avoid accident risks.
- Integral forging, anti-rust, long service life
- Resist high temperature up to 350°C,normal temperature up to 250°C

## Adapt to Various Complex Condition

One flow meter, Different Medium.

Steam, air and liquid all workable

Anti-interference, anti-vibration, resist high temperature



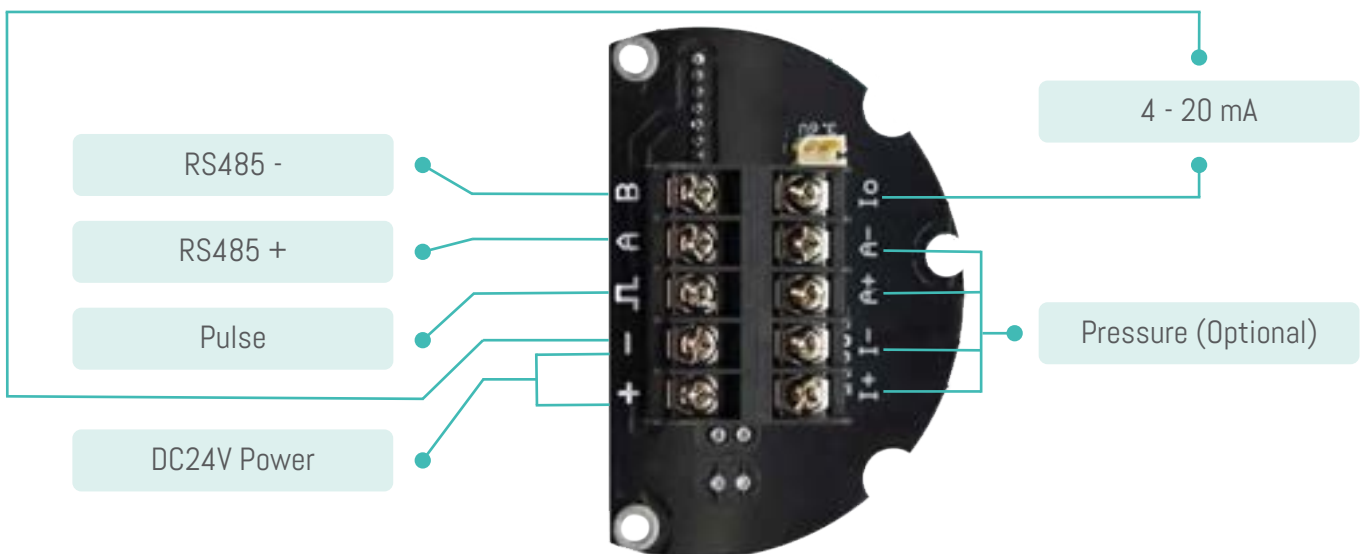
**Big and Low Power Consumption LCD Display**  
 Come with back light is easy to debug and observe.



- Instantaneous Flow
- Total Flow
- Frequency, Density  
Temperature,  
Current or Percentage



**Anti-vibration, Anti-interference Digital Circuit Board**



### High Stability And Accuracy

Built-in integrated flow and temperature sensor, no burrs, ensure stable signal and high accuracy measurement.

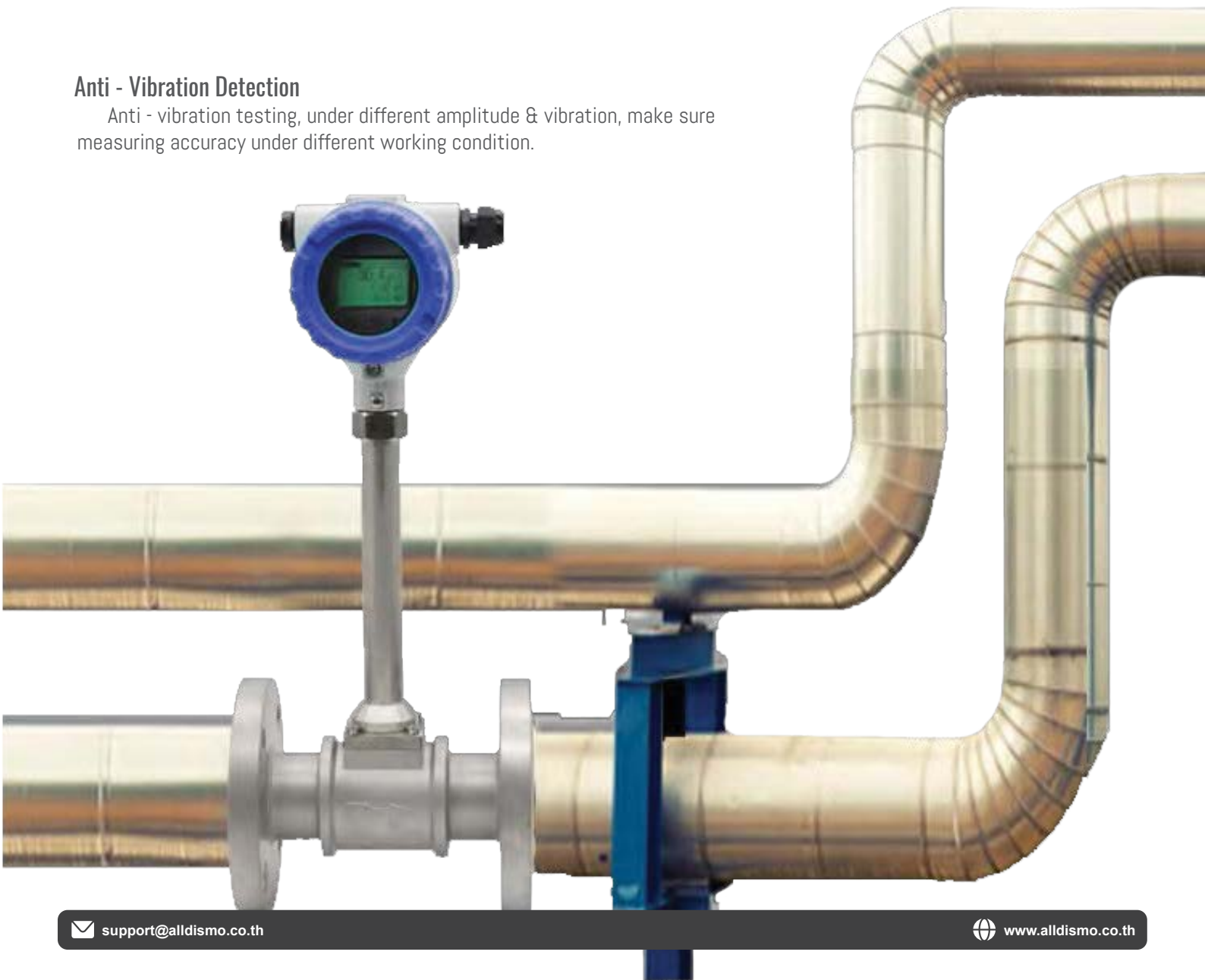


Integrally forged triangular prism, more stable and safe

- Impact testing, no leakage, stable signal.
- Built-in four piezoelectric crystals, eliminates interference and zero point drift.

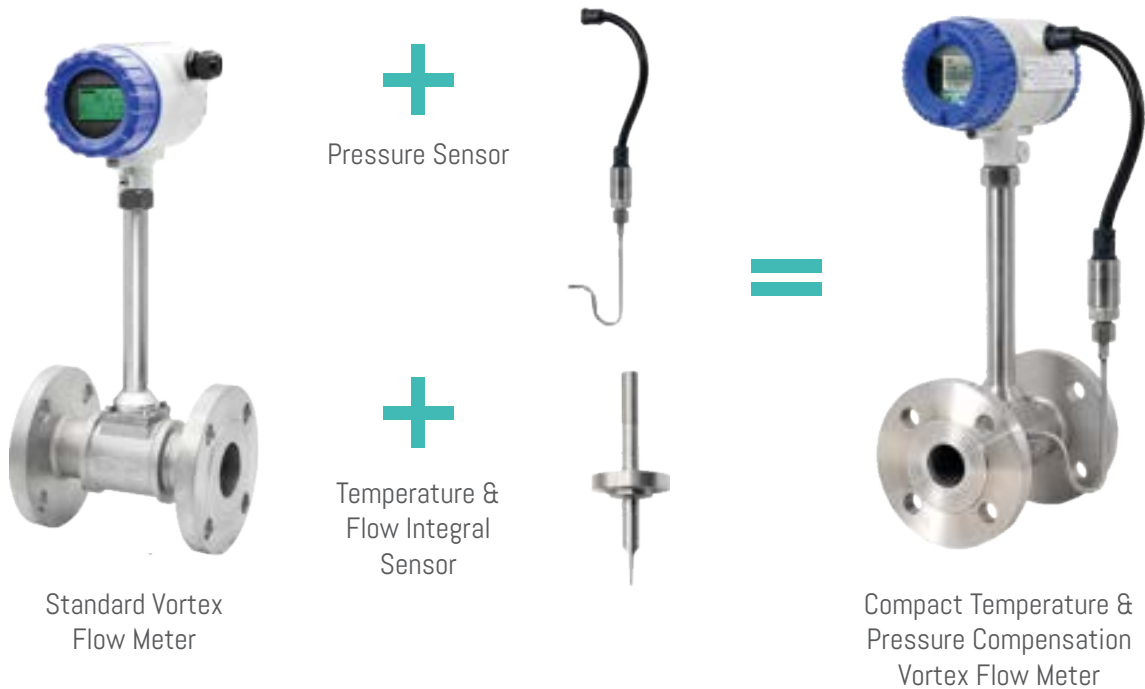
### Anti - Vibration Detection

Anti - vibration testing, under different amplitude & vibration, make sure measuring accuracy under different working condition.



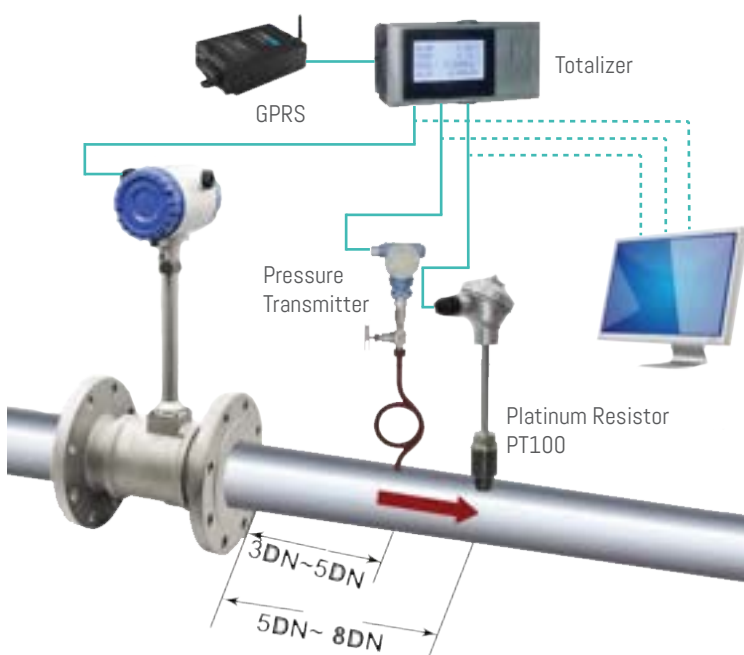
### Compact Temperature & Pressure

Temperature and pressure compensation can choose one or two options



### Remote Vortex Flow Meter

Optional functions select at will



**Totalizer**  
Read temperature, pressure, flow at same time, easy to observe data

**GPRS**  
Realize wireless remote reading, easy to receive signal

**Pressure Transmitter**  
Realize pressure compensation

**Platinum Resistor PT100**  
Realize temperature compensation



Product Group

Temperature and Pressure Compensation



Wafer Type



Remote Type



Insertion Type



Tri - Clamp Type



Flange Type



Thread Type



### Installation Method



Concentric Reducers Pipeline



Concentric Expansion Pipeline



Single Square Bend



Two Square Bends At Same Plane



Two Square Bends At Different



Regulating Valve, Half-open Gate

### Technical Performance Parameters

Measured Medium	Liquid, Gas, Steam
Medium Temp	-40 °C to +200 °C, -40 °C to +280 °C, 40 °C to +350 °C
Nominal Pressure	1.6 MPa, 2.5 MPa, 4.0 MPa, 64 MPa (Other pressure can be custom.need consult supplier)
Accuracy	1.0%(Flange), 1.5%(Insertion)
Measuring Range Ratio	1 : 10 (Standard air condition as reference) 1 : 15 (Liquid)
Flow Range	Liquid : 04-7.0 m/s, Gas : 4.0-60.0 m/s, Steam : 5.0-70.0 m/s
Specification	DN15 - DN300(Flange), DN80 - DN2000(Insertion), DN15 - DN100(Thread), DN15 - DN300(Wafer), DN15 - DN100(Sanitary)
Material	SS304(Standard), SS316(Optional)
Pressure Loss Coefficient	$C_d \leq 2.6$
Vibration Acceleration Allowed	$\leq 0.2 \text{ g}$
IEP ATEX	II IG Ex ia IIC T5 Ga
Ambient Condition	Ambient Temp : -40 °C to 65 °C(Non-explosion-proofsite), -20 °C to 55 °C(Explosion-proof site) Relative Humidity : $\leq 85\%$ Pressure : 86 KPa - 106KPa
Power Supply	12-24V/DC or 3.6V battery powered
Signal Output	Pulse frequency signal 2-3000Hz, Low level $\leq 1\text{V}$ , high level $\geq 6\text{V}$ Two-wire system 4-20 signal(isolated output), Load $\leq 500$

## Flow Range

Size (mm)	Liquid (Reference medium : normal temperature water m3/h)		Gas(Reference medium : 20 °C, 101325 Pa condition air, m3/h)	
	Standard	Extended	Standard	Extended
15	0.8 - 6	0.5 - 8	6 - 40	5 - 50
20	1 - 8	0.5 - 12	8 - 50	6 - 60
25	1.5 - 12	0.8 - 16	10 - 80	8 - 120
40	2.5 - 30	2 - 40	25 - 200	20 - 300
50	3 - 50	2.5 - 60	30 - 300	25 - 500
65	5 - 80	4 - 100	50 - 500	40 - 800
80	8 - 120	6 - 160	80 - 800	60 - 1200
100	12 - 200	8 - 250	120 - 1200	100 - 2000
125	20 - 300	12 - 400	160 - 1600	150 - 3000
150	30 - 400	18 - 600	250 - 2500	200 - 4000
200	50 - 800	30 - 1200	400 - 4000	350 - 8000
250	80 - 1200	40 - 1600	600 - 6000	500 - 12000
300	100 - 1600	60 - 2500	1000 - 10000	600 - 16000
400	200 - 3000	120 - 5000	1600 - 16000	1000 - 25000
500	300 - 5000	200 - 8000	2500 - 25000	1600 - 40000
600	500 - 8000	300 - 10000	4000 - 40000	2500 - 60000

## Superheated Steam Density Value (Relative Pressure & Temperature) Unit : Kg/m<sup>3</sup>

Absolute Pressure (MPa)	Temperature ( °C )					
	150	200	250	300	350	400
0.1	0.52	0.46	0.42	0.38		
0.15	0.78	0.70	0.62	0.57	0.52	0.49
0.2	1.04	0.93	0.83	0.76	0.69	0.65
0.25	1.31	1.16	1.04	0.95	0.87	0.81
0.33	1.58	1.39	1.25	1.14	1.05	0.97
0.35	1.85	1.63	1.46	1.33	1.22	1.13
0.4	2.12	1.87	1.68	1.52	1.40	1.29
0.5		2.35	2.11	1.91	1.75	1.62
0.6		2.84	2.54	2.30	2.11	1.95
0.7		3.33	2.97	2.69	2.46	2.27
0.8		3.83	3.41	3.08	2.82	2.60
1.0		4.86	4.30	3.88	3.54	3.26
1.2		5.91	5.20	4.67	4.26	3.92
1.5		7.55	6.58	5.89	5.36	4.93
2.0			8.968	7.97	7.21	6.62
2.5			11.5	10.1	9.11	8.33
3.0			14.2	12.3	11.1	10.1
3.5			17.0	14.6	13.0	11.8
4.0				17.0	15.1	13.6

Model Select

		VTF	X	X	XXX		XXX		X
Connection Mode	Flange Connection		1						
	Wafer Connection		2						
	Insert Type		3						
	Other		4						
Measured Medium	Liquid			1					
	Common Gas			2					
	Saturated Steam			3					
	Superheated Steam			4					
	Others			5					
Insert Type	Size : Code	Size : Code	Size : Code		100	125			
	100 : 100	500 : 501	1600 : 162		151	201			
	125 : 125	600 : 601	1800 : 182		251	301			
	150 : 151	700 : 701	2000 : 202		351	351			
	200 : 201	800 : 801	None if require other		401	501			
	250 : 251	900 : 901	type.		701	801			
	300 : 301	1000 : 102			901	102			
	350 : 351	1200 : 122			122	142			
	400 : 401	1400 : 142			162	182			
					202				
Nominal Diameter Flange / Wafer Type	Size : Code	Size : Code	Size : Code				150	200	
	15 : 150	50 : 500	150 : 151				200	320	
	20 : 200	65 : 650	200 : 201				400	500	
	25 : 250	80 : 800	250 : 251				650	800	
	32 : 320	100 : 101	300 : 301				101	125	
	40 : 400	125 : 125					151	201	
							251	301	
Special Mark	Common								None
	Standard Signal Output								M
	Intrinsically Safe Explosion-proof								B
	On Site Display								X
	High Temperature 350 °C								G
	Temperature Compensation								W
	Pressure Compensation								Y
	Temperature & Pressure Compensation								Z



# Precession Vortex Flowmeter

Intelligent Gas Precession Vortex Flowmeter is a new type of gas flow meter. It has the function of measuring flow, temperature, and pressure; it also can compensate temperature, pressure and compressible factor automatically. It is an ideal instrument of gas measurement, which is used for petroleum, chemical industry, electricity, metallurgy, and so on.

## Feature

- Aluminium housing, Compact design, light in weight
- LCD display for flow rate and total volume(M<sup>3</sup>,NM<sup>3</sup> selectable), temperature, pressure etc.
- Integrated temperature/pressure correction (standard)
- Optional for explosion-proof (I.S. or XP)
- Capable for Natural gas, biogas, Compressed air, exhaust gas, oxygen, NO<sub>2</sub>, CO<sub>2</sub>, CO, NO, H<sub>2</sub>, Oil gas, coal gas, coal seam gas, Mixed gases and Artificial gas. (Steam is not workable)



Environment  
Protection

Textile Industry

Petrochemical  
Engineering

Oil & Gas



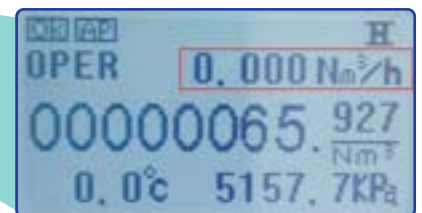
Without movable mechanical parts inside, incorrosolve, reliable & stable.



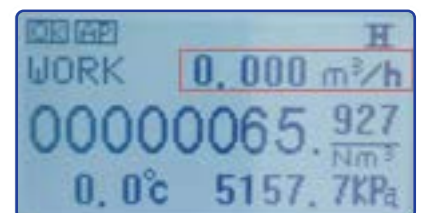
Long service life, long time running, no need special maintenance.

### LCD HD Display

Display parameters can switch freely, can display instantaneous flow (Nm<sup>3</sup>/h), total flow (Nm<sup>3</sup>), medium temperature (°C) and pressure (Kpa) at the same screen.



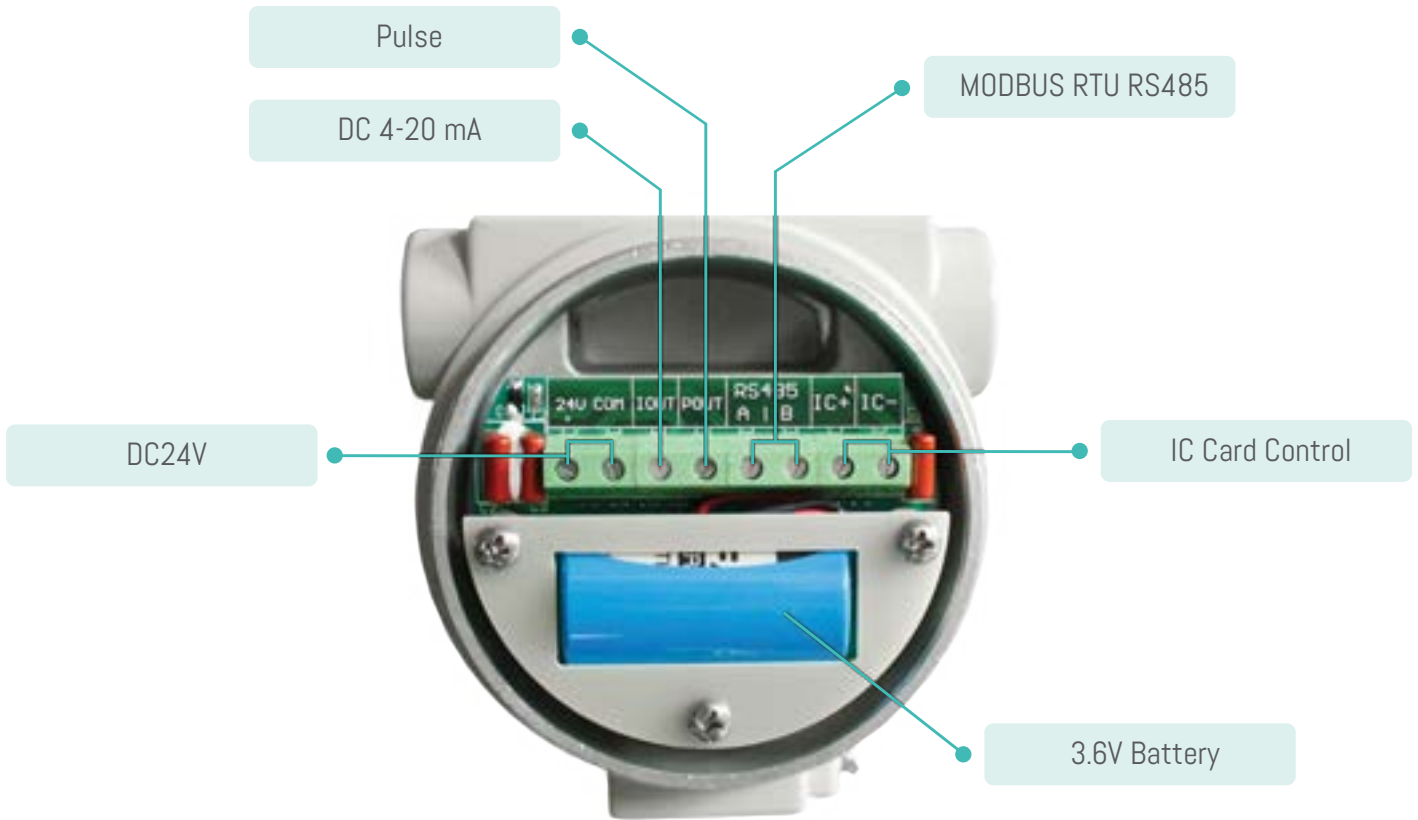
Standard Instantaneous Flow



Operating Instantaneous Flow

### Dual Power

Lower power consumption, could use the battery powered and connect the external power too.

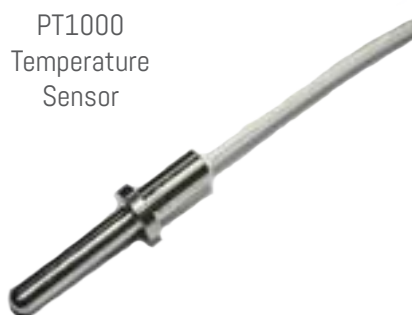


### Sensor

Military Quality. Double flow sensor, enjoy excellent stability, high accuracy and anti-vibration performance. Intelligent flow meter integrates the flow sensor, micro-processor, pressure and temperature sensor together.



Absolute Pressure Sensor

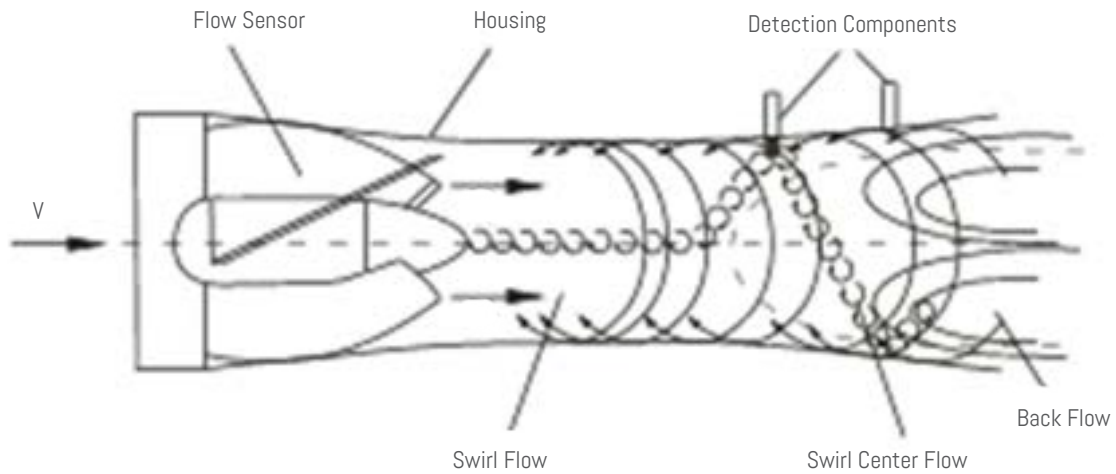


PT1000 Temperature Sensor



Flow Sensor

### Working Principle



Precession vortex flow meter combines the swirl generator and swirl eliminator in the flow sensor, which can reduce the pressure loss, realize wider flow measuring range, upgrade measurement

### Swirl Generator

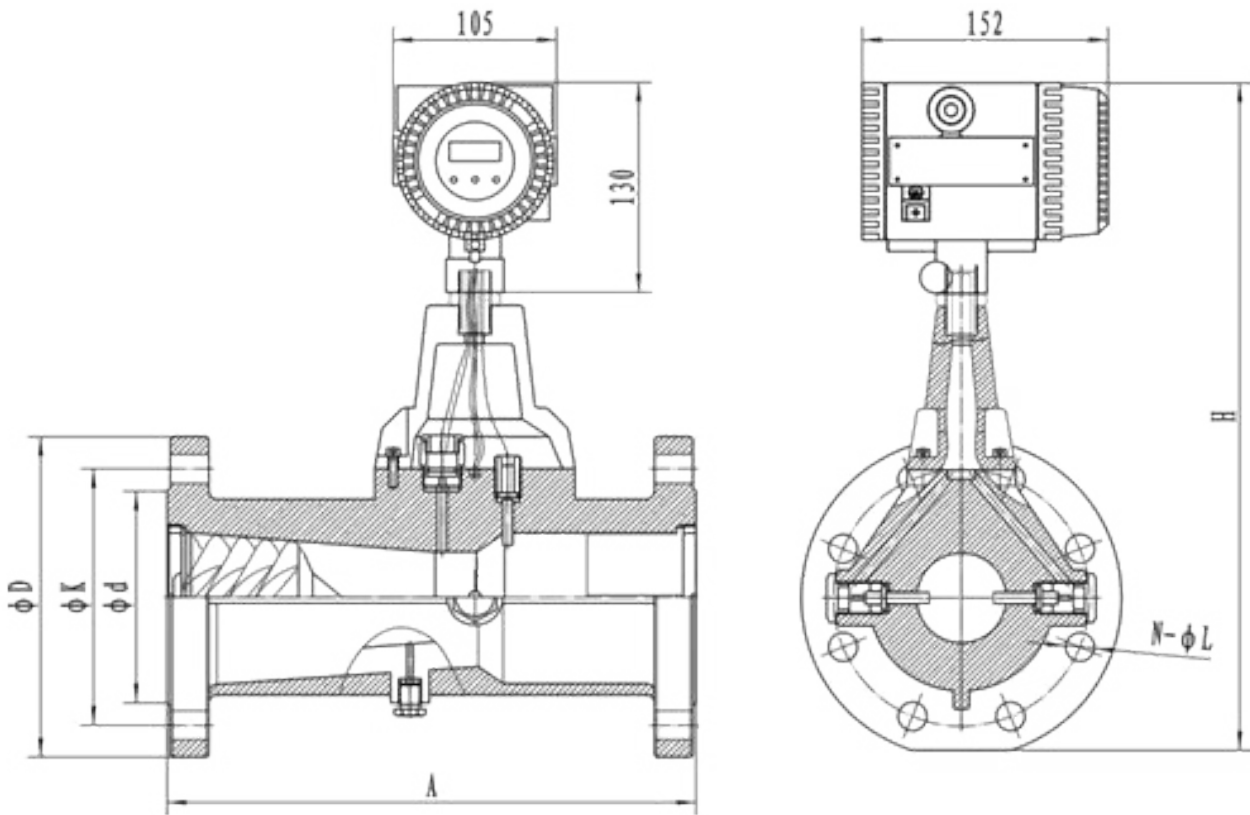


Minimize pressure loss based on fluid functionology design





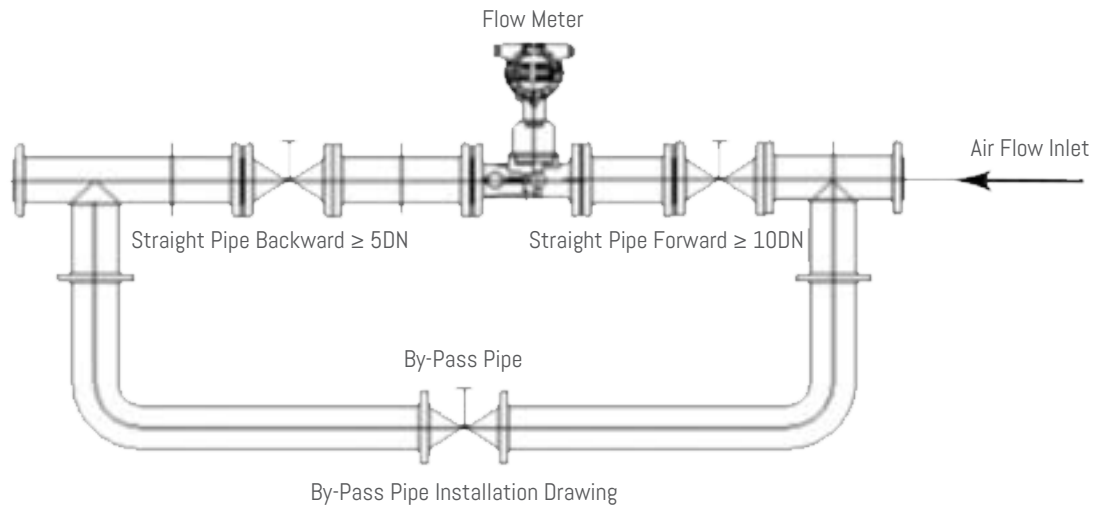
Dimension



Caliber (mm)	Length (mm)	PN 1.6 ~ 4.0 MPa																	
		H	DΦ	KΦ	N	L	dΦ	H	DΦ	KΦ	N	L	dΦ	H	DΦ	KΦ	N	L	dΦ
25	200	305	115	85	4	14	65												
32	200	320	140	100	4	18	76												
50	230	330	165	125	4	18	99												
80	330	360	200	160	8	18	132												
PN 1.6 MPa						* PN 2.5 ~ 4.0 MPa													
100	410	376	220	180	8	18	156	390	235	190	8	22	156						
150	570	430	285	240	8	22	211	450	300	250	8	26	211						
PN 1.6 MPa						* PN 2.5 MPa						* PN 4.0 MPa							
200	700	470	340	295	12	22	266	490	360	310	12	26	274	510	375	320	12	30	284

Unit : mm

### Installation Method



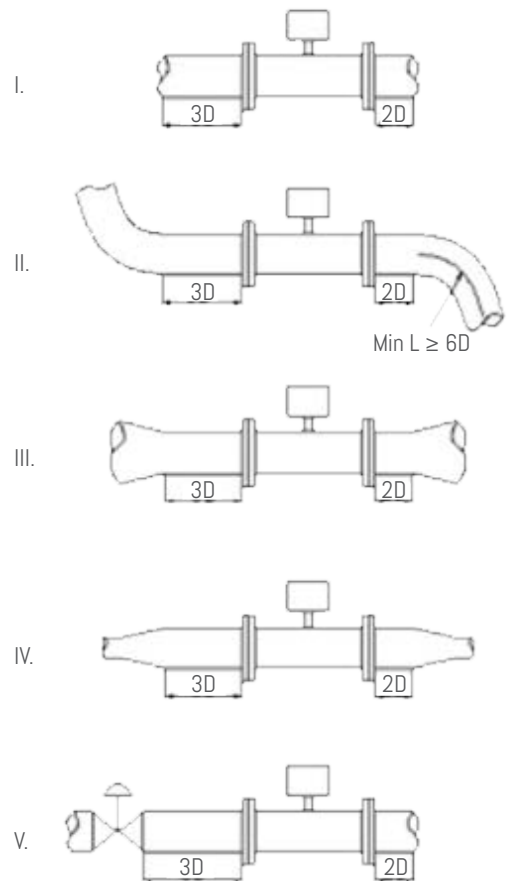
Guarantee the upstream straight pipeline at least 3D, and the downstream straight pipeline at least 2D.  
(D : Nominal Caliber)

**Bend Pipe.**  
The required upstream straight pipeline at least 3D, the downstream straight pipeline at least 2D

**Reducing Pipe.**  
The required upstream straight pipeline at least 3D, the downstream straight pipeline at least 2D

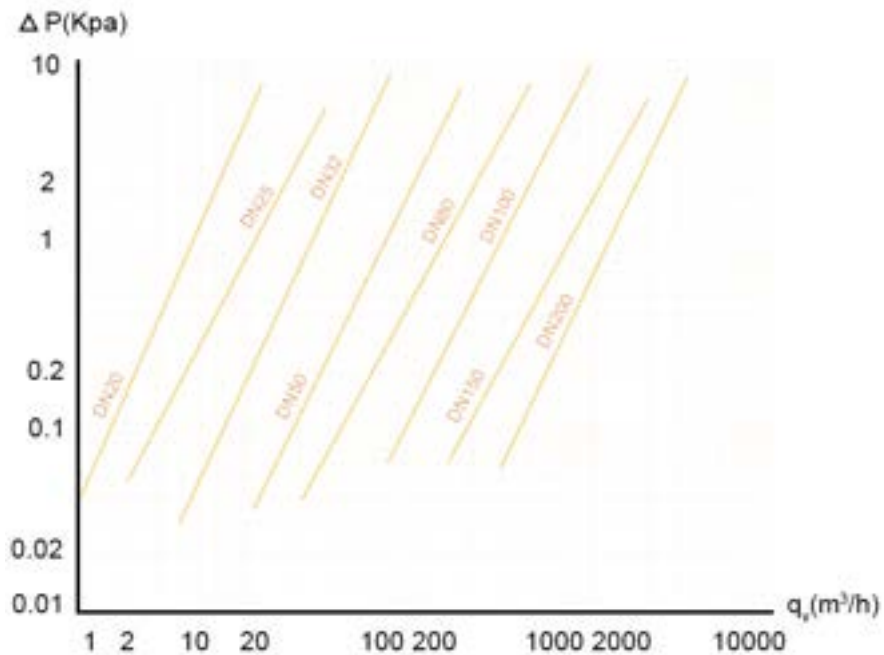
**Expanding Pipe.**  
The required upstream straight pipeline at least 3D, the downstream straight pipeline at least 2D

**Valve.**  
The required upstream straight pipeline at least 5D, the downstream straight pipeline at least 2D



Technical Performance Parameters								
Caliber (mm)	20	25	32	50	80	100	150	200
Flow Range (m <sup>3</sup> /h)	1.2 ~ 15	2.5 ~ 30	4.5 ~ 60	10 ~ 150	28 ~ 400	50 ~ 800	150 ~ 2250	360 ~ 3600
Accuracy	1.0 - 1.5%							
Repeatability	Less than 1/3 or basic error absolute value							
Working Pressure (MPa)	1.6 MPa, 2.5 MPa, 4.0 MPa, 6.3 MPa Special pressure please double check							
	Environment temperature : -30 °C to 65 °C Relative humidity : 5% ~ 95% Medium temperature : -20 °C to 80 °C Atmospheric pressure : 86 KPa-106 KPa							
Working Power	24VDC + 3.6V battery power, can remove the battery							
Output Signal	4-20mA, pulse, RS485, alarm							
Applicable Medium	All gases ( except steam)							
Explosionproof Mark	Ex ia II C T6 Ga							

### Pressure Loss Curve



### Model Select

		VTS	XXX	X	X	X	X	X	X	X	X	X
Caliber (mm)	DN25 - DN200 Reference Code Please check caliber code table 1											
Function	With Temperature & Pressure Compensation	Y										
	Without Temperature & Pressure Compensation	N										
Nominal Pressure	1.6 MPa	1										
	2.5 MPa	2										
	4.0 MPa	3										
	6.3 MPa	4										
	Others	5										
Connection	Flange	1										
	Thread	2										
	Wafer	3										
	Others	4										
Output Signal	4-20 mA, Pulse (Two-Wire System)	1										
	4-20 mA, Pulse (Three-Wire System)	2										
	RS485 Communication	3										
	4-20 mA, Pulse, HART	4										
	Others	5										
Alarm	Low and High Limit Alarm	6										
	Without	7										
Accuracy Level	1.0	1										
	1.5	2										
Cable Entry	M20 x 1.5	M										
	1/2" NPT	N										
Structure Type	Compact/ Integral	1										
	Remote	2										
Power Supply	3.6V Lithium Battery, DC24V	A										
	DC24V	D										
	3.6V Lithium Battery	E										
Ex-proof	With Ex-proof	0										
	Without Ex-proof	1										
Shell Material	Stainless Steel	S										
	Aluminium Alloy	L										
Process Connection	DIN PN16	1										
	DIN PN25	2										
	DIN PN40	3										
	ANSI 150#	4										
	ANSI 300#	A										
	ANSI 600#	B										
	JIS 10K	C										
	JIS 20K	D										
	JIS 40K	E										
	Others	F										

#### Optional Selection

X	
1	Matched Flange
2	Others

Lorem ipsum

Table 1 : Caliber Code Table

Caliber	Code
25	25
32	32
40	40
50	50
65	65
80	80
100	100
125	125
150	150
200	200

#### Other Parameters Required

Medium	
Min Working Temperature (°C)	
Normal Working Temperature (°C)	
Max Working Temperature (°C)	
Working Pressure	Gauge Pressure : _____ Absolute Pressure : _____
Environment Humidity	
Min Flow Rate (m3/h)	
Normal Flow Rate (m3/h)	
Max Flow Rate (m3/h)	
Flow Range (m3/h)	
Press Loss Allowable (KPa)	



# Thermal Gas Mass Flowmeter

Thermal flow meter is an instrument which measures fluid flow by means of heat conduction. The working principle is based on the constant temperature differential method. This method is adopted to measure gas mass flow accurately, featuring a small volume, high degree of digitization, convenient installation, and accurate measurement.

The flow sensor is made up of two platinum resistance temperature sensors. One sensor is measuring the fluid temperature, the other sensor is to maintain the constant temperature differential.

The primary reason Thermal flow meters are popular in industrial applications is the way they are designed and built. No moving parts, nearly straight through flow path, temperature or pressure don't need to do corrections and retain accuracy over a wide range of flow rate.

## Feature

- No moving parts
- Advanced signal processing electronics
- Long-term reliability
- Explosion-proof converter, Multi-flow unit
- Insert rod dia :  $\varnothing 18$  mm and  $\varnothing 12$  mm optional
- High precision reinforced sensor
- Direct mass flow detection without temperature and pressure compensation

Wide  
Flow Range,  
High Sensitivity.

0.1  
Nm/s

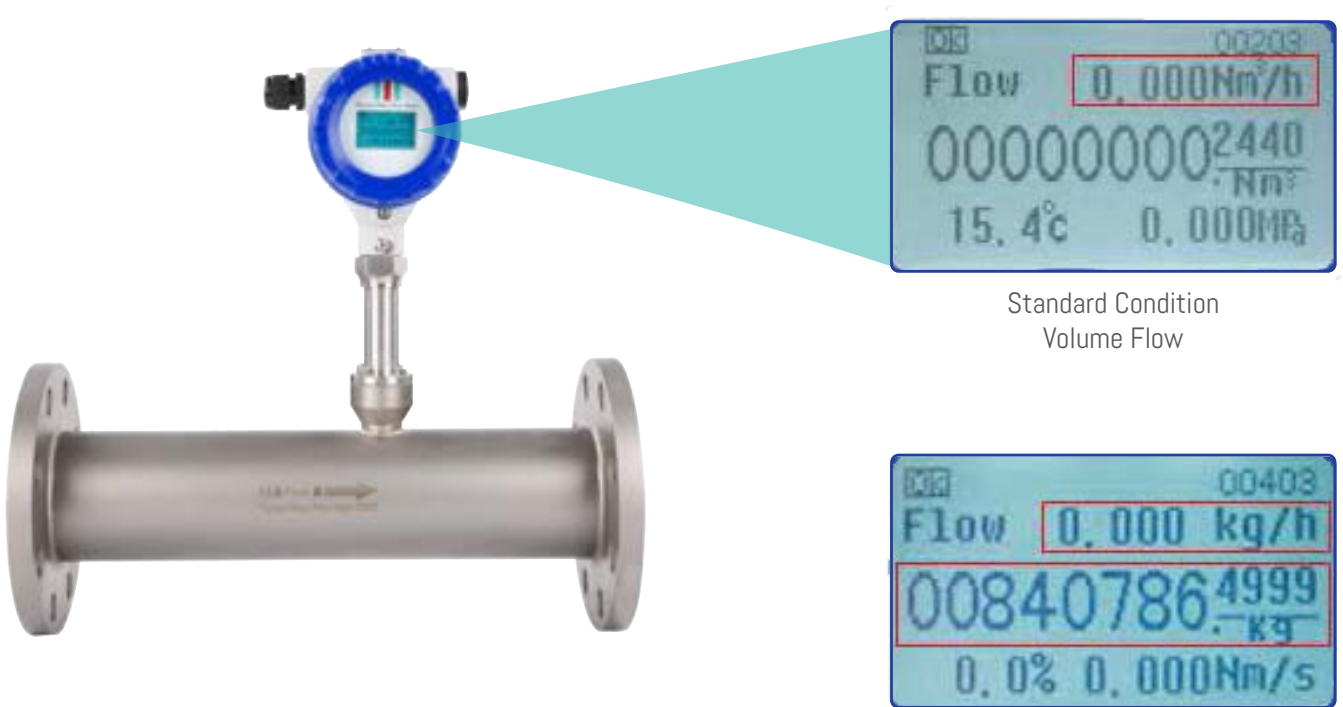


100  
Nm/s

The minimum flow velocity is 0.1 Nm/s. The thermal gas flowmeter is mainly used for measuring gas with low flow and the range could reach 1: 1000, which is better than gas flowmeter on market and low flow could be measured.

### LCD HD Display

Multi flow unit switching. Ensure the accurate of measuring with multi-function setting.

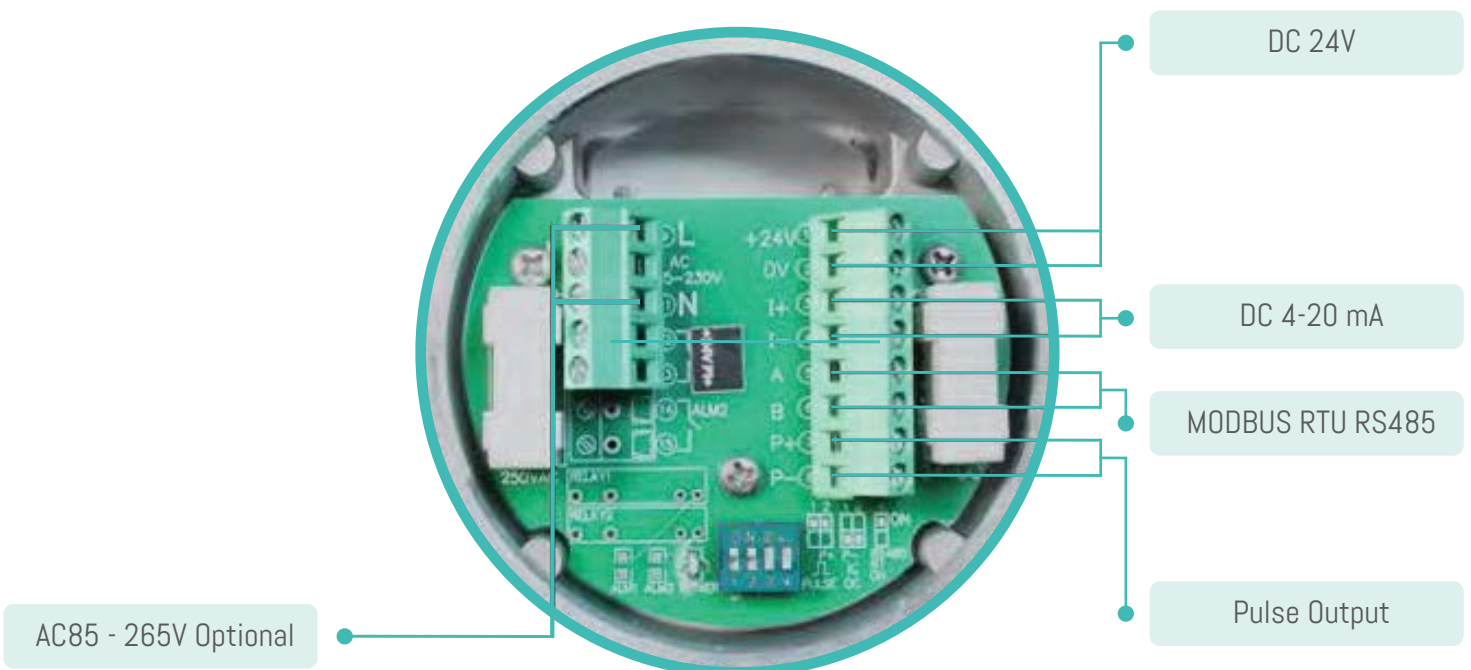


Standard Condition  
Volume Flow

Mass Flow  
and Accumulated Flow

### Dual Power Supply

More options in the wiring process. With DC 4-20 mA four-wire output, which is more convenient for remote reception. Support MODBUS RTU RS485 protocol, coordinating the receiving system to collect more data and modify system.



**Refined Shielded Rod& Anti-Shedding Design**

Stainless Steel 304 Rod for corrosion resistant  
 Standard Rod Dia :  $\Phi 18$   
 Optional Rod Dia :  $\Phi 12$



Standard  
Copper Material



Optional  
PTFE



**High Precision Reinforced Sensor**

The sensor is adopted reinforcing design and the root is partially reinforced to make the probe stronger and more suitable for a variety of media.



Optional Sensor



Standard Sensor

Product Group



Flange Type



Insertion Type

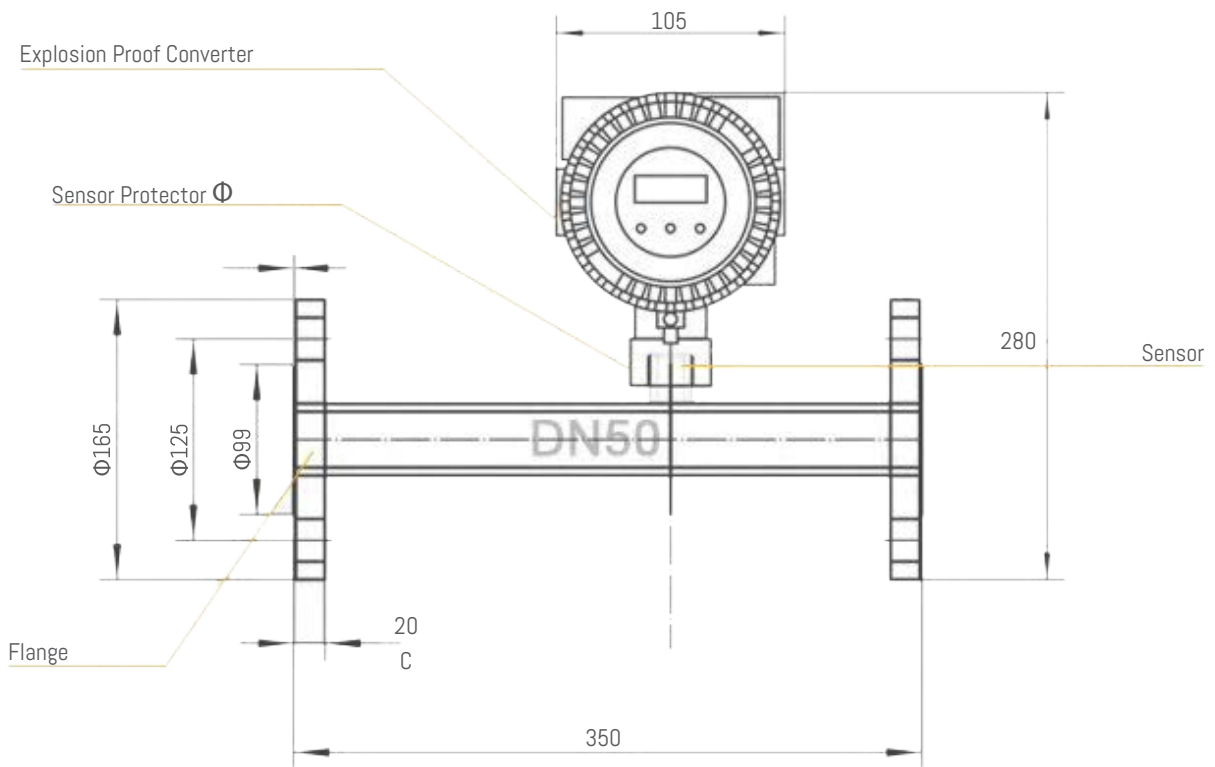


Tri-Clamp Type



Thread Type

Dimension





Nominal Dia	Flange Outer Dia	Center Hole	Bolt Hole	Screw	Seating Surface		Flange Thickness	Installation Length
					d	f		
DN	D	k	n x L				C	L
15	95	65	4 x 14	M12	46	2	14	280
20	105	75	4 x 14	M12	56	2	16	280
25	115	85	4 x 14	M12	65	2	16	280
32	140	100	4 x 18	M16	76	2	18	350
40	150	110	4 x 18	M16	84	2	18	350
50	165	125	4 x 18	M16	99	2	20	350
65	185	145	4 x 18	M16	118	2	20	400
80	200	160	8 x 18	M16	132	2	20	400
100	220	180	8 x 18	M16	156	2	22	500

### Technical Performance Parameters

Media	Various of Gas (Except acetylene)
Pipe Size	Insertion Type DN50-DN2000mm In-Line Type DN10 - DN2000mm Tri-Clamp & Thread Type DN15-100mm
Velocity	0.1 - 100 Nm/s
Accuracy	+/-1 to 2.5%
Working Temperature	Sensor -40 to 220 °C, Transmitter -20 to 45 °C
Working Pressure	Insertion Type ≤ 1.6 MPa Flange Type ≤ 4.0 MPa Special pressure please double check
Power Supply	Compact Type 24VDC or 220VAC, Power Consumption ≤ 18W Remote Type 220VAC, Power Consumption ≤ 19W
Response Time	1s
Output	4-20mA (Optoelectronic Isolation, Maximum Load 500 Ohm ), Pulse RS485 (Optoelectronic Isolation) and HART
Alarm Output	1-2 line Relay, 10A/ 220V/AC or 5A/30V/DC
Sensor Type	Standard Insertion, Hot-tapped Insertion and Flanged
Construction	Compact and Remote
Pipe Material	Carbon Steel, Stainless Steel, Plastic etc.
Display	4 lines LCD Mass flow, Volume Flow in Standard Condition, Flow Totalizer, Date and Time, Working Time and Velocity, etc.
Protection	IP65

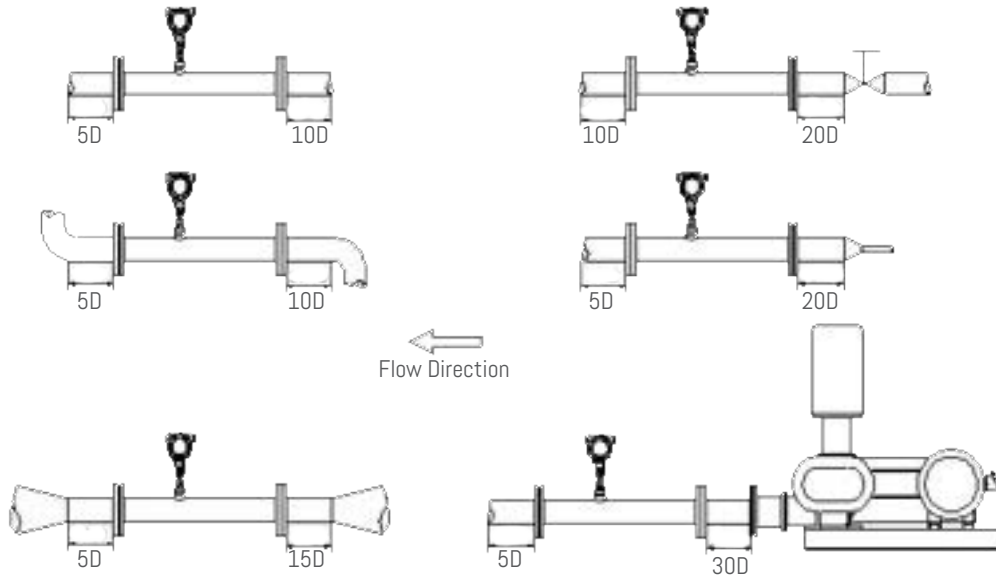
## Flow Range

Caliber (mm)	Air	Nitrogen ( N2 )	Oxygen ( O2 )	Hydrogen ( H2 )
15	65	65	32	10
25	175	175	89	28
32	290	290	144	45
40	450	450	226	70
50	700	700	352	110
65	1200	1200	600	185
80	1800	1800	900	280
100	2800	2800	1420	470
125	4400	4400	2210	700
150	6300	6300	3200	940
200	10000	10000	5650	1880
250	17000	17000	8830	2820
300	25000	25000	12720	4060
350	45000	45000	22608	5600
400	70000	70000	35325	7200
450	100000	100000	50638	9200
500	135000	135000	69240	11280
600	180000	180000	90432	16300
700	220000	220000	114500	22100
800	280000	280000	141300	29000
900	400000	400000	203480	36500
1000	600000	600000	318000	45000
2000	700000	700000	565200	18500

Nominal condition flow is the flow rate at temperature 20°C and pressure 101.325 Kpa.

### Installation Method

When installing the Thermal Mass Flowmeter, keep away from elbows, obstacles, reducer and valves to ensure a stable flow field. It is required to have a long upper straight pipe. The front straight pipe length is greater than 10D, and rear straight pipe length is greater than 5D.



When the site could not meet the requirements of straight pipe section, the gas rectifier can be connected in series to greatly reduce the requirement for straight pipe section.

### Model Select

TMM		XXX	X	X	X	X	X	X
Caliber	DN15 - DN4000	XXX						
Structure	Compact	C						
	Remote	R						
Sensor Type	Insertion		I					
	Flange		F					
	Clamp		C					
	Thread		S					
Material	SS304			304				
	SS316			316				
Pressure	1.6 MPa				1.6			
	2.5 MPa				2.5			
	4.0 MPa				4.0			
Temperature	- 40 to 200 °C					T1		
	- 40 to 450 °C					T2		
Power Supply	AC85 - 250V						AC	
	DC24 - 36V						DC	
Signal Output	4-20 mA + Pulse + RS485							RS
	4-20 mA + Pulse + HART							HT

# Coriolis Mass Flowmeter

Coriolis flow meter is a direct and precise measurement of fluid mass flow meter to the main structure of the novel, U-shaped two side-by-side tubes, so that the curved parts of the two tubes slightly vibrate, and then the straight vibration situated on both sides.

When the Coriolis mass flowmeter is working normally, the vibration of the measuring tube causes the Coriolis force of the measuring medium in the tube. The greater the Coriolis force, the greater the friction between the flowing medium and the measuring tube wall, and the greater the pressure loss of the flowmeter. The Coriolis force is proportional to the flow rate of the measurement medium. Therefore, when selecting the Coriolis mass flowmeter, the influence of the measured medium flow rate should be considered. The influence of the medium flow rate on the selection of the Coriolis mass flowmeter is related to the measurement principle of the Coriolis mass flowmeter.



Batch Control



Blending/ Filling/ Dosing

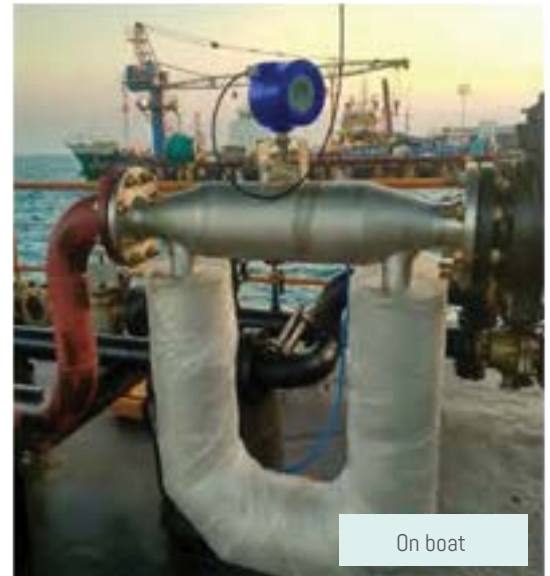


Custody Transfer

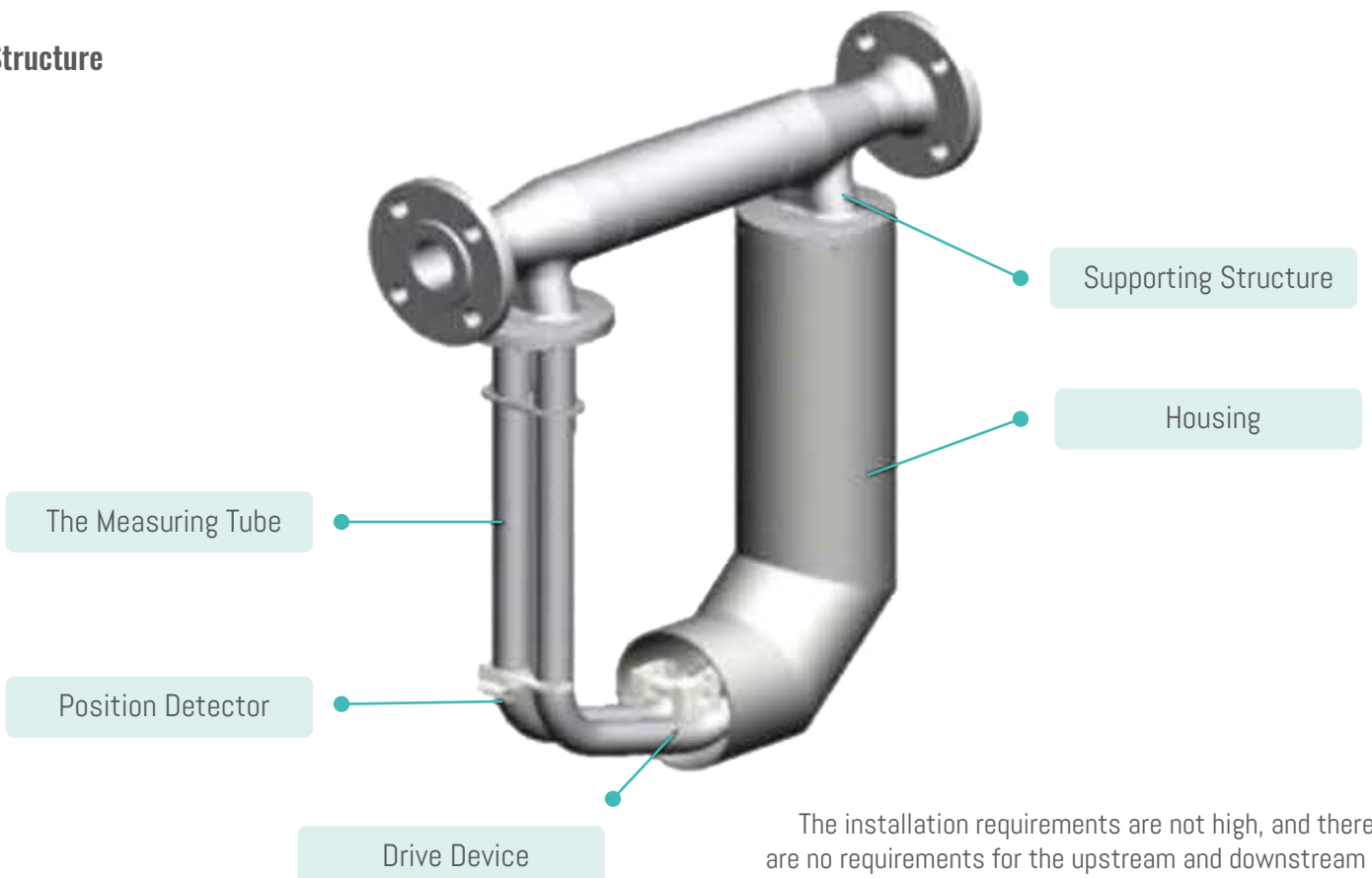
Obviously, the Coriolis mass flowmeter is mainly used to measure the mass flow rate of the medium or output the calculated volume flow rate. The selection parameters provided by the process professional only involve the medium mass flow rate or volume flow rate; therefore, the influence of the medium flow rate will be ignored. The measuring tube of Coriolis mass flowmeter has small amplitude, which can be regarded as no moving parts and no obstructing parts, and its measured value is not affected by the flow field in the pipeline.

**Feature**

- High flow accuracy : 0.1% Optional and 0.2% Standard
- Wide medium temperature range - 200 °C to 300 °C  
(For medium such as liquid nitrogen, oxygen and argon)
- High pressure handling up to 35 MPa in oil, Drilling well and etc
- Multiple parameters measured : Mass Flow, Volume Flow, Density and Temperature

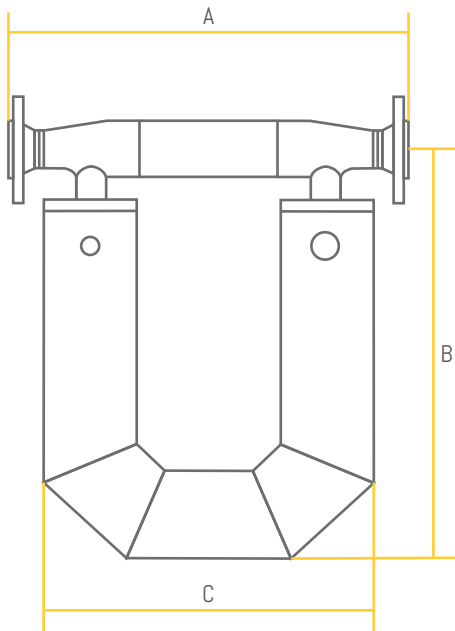


**Structure**

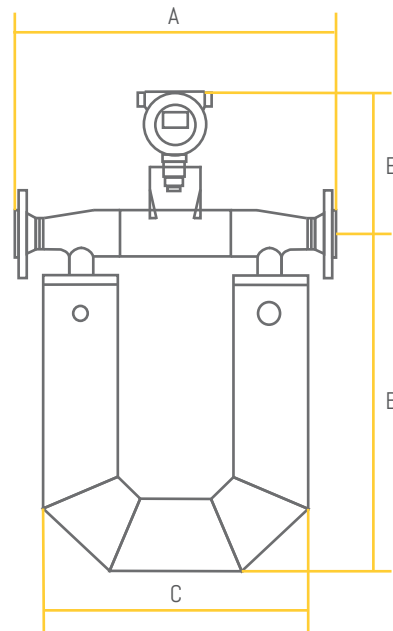
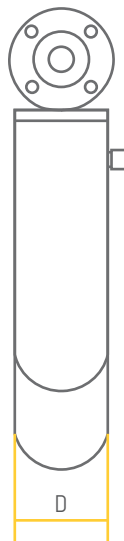


The installation requirements are not high, and there are no requirements for the upstream and downstream straight pipe sections.

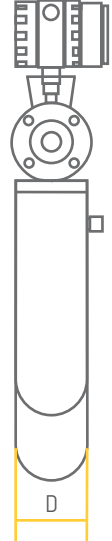
Dimension



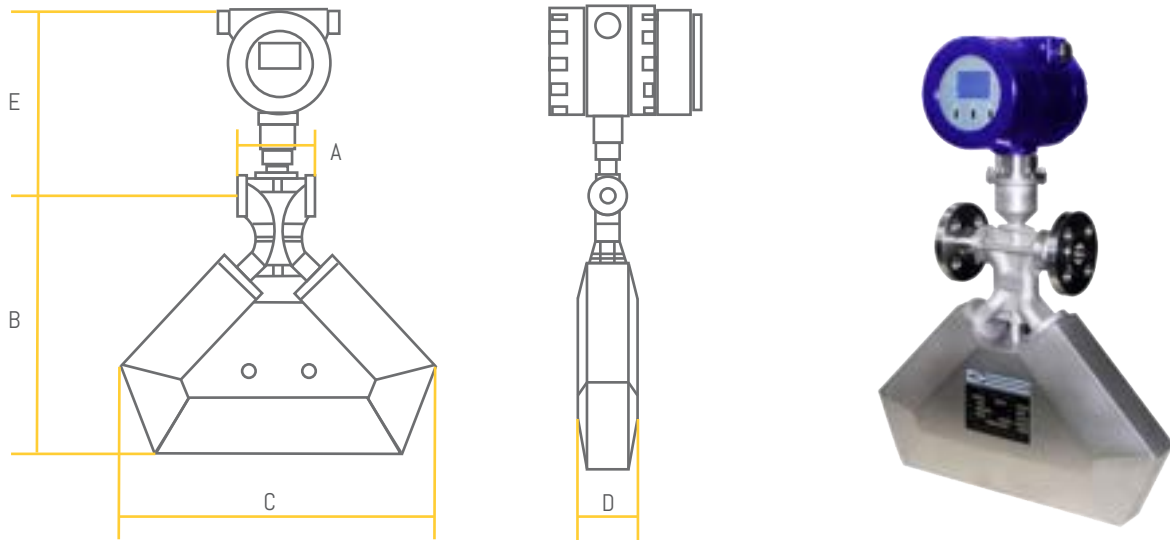
Remote Type



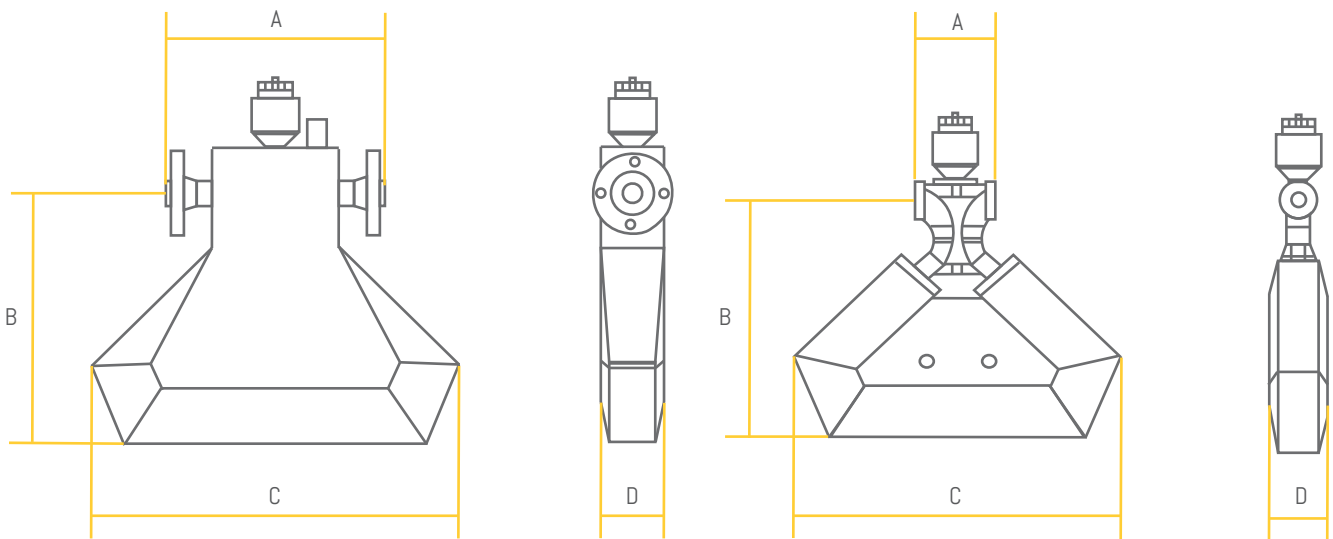
Compact Type



Model	A	B	C	D	E	N.W. (Only Sensor)
	mm	mm	mm	mm	mm	kg
CMF-020	250	448	500	89	233	17
CMF-025	550	500	445	108	238	17.5
CMF-032	550	500	445	108	240	24
CMF-040	600	760	500	140	245	32
CMF-050	600	760	500	140	253	36
CMF-080	850	1050	780	220	315	87.5
CMF-100	1050	1085	840	295	358	165
CMF-150	1200	1200	950	320	340	252
CMF-200	1200	1193	1000	400	358	350



CMF 010/ 015 Compact Type

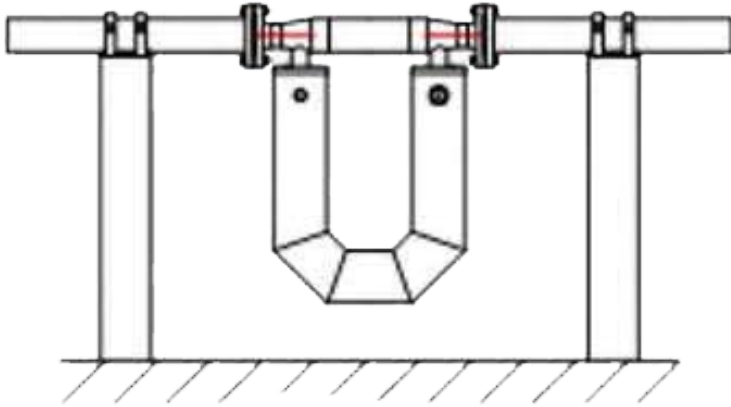


CMF 003 / 006 /008

CMF 010 / 015

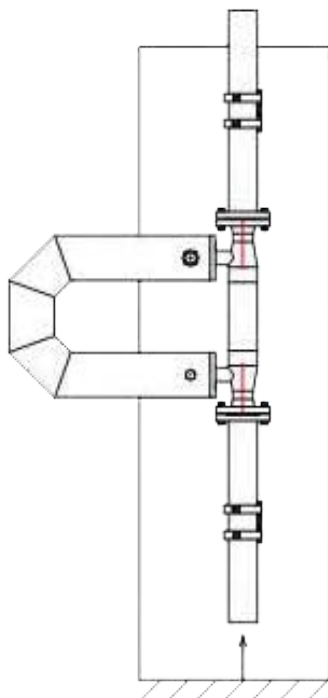
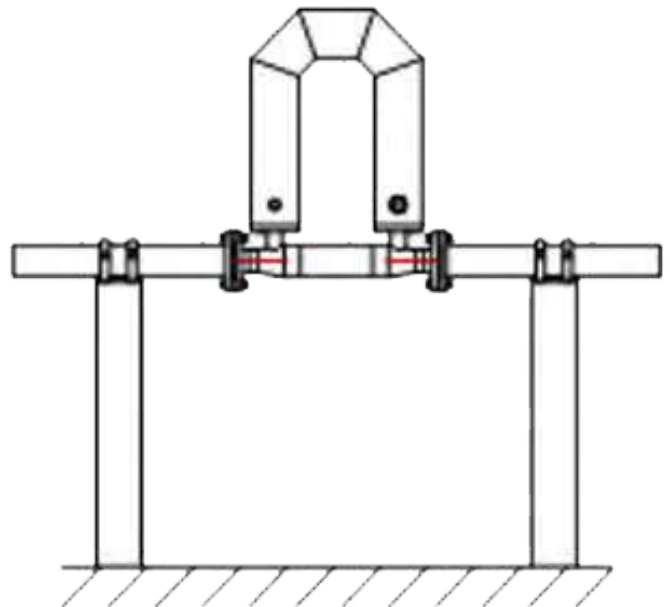
Model	A	B	C	D	E	N.W.
	mm	mm	mm	mm	mm	kg
CMF-003	178	176	250	54	244	4.8
CMF-006	232	263	360	70.5	284	8.1
CMF-008	232	275	395	70.5	290	8.2
CMF-010	95	283	370	70.5	242	6.5
CMF-015	95	302	405	70.5	242	6.5

## Installation Method



The meter should be installed downward when measuring liquid flow, so that air can not get trapped inside the tubes.

The meter should be installed upward when measuring gas flow, so that liquid can not get trapped inside the tubes.



The meter should be installed sideward when the medium is turbid liquid to avoid particulate matter accumulated in the measuring tube. The flow direction of medium goes from the bottom up through the sensor.



Technical Performance Parameters	
Flow Accuracy	± 0.2% Optional ± 0.1%
Diameter	DN3 - DN200 mm
Flow Repeatability	± 0.1 - 0.2%
Density Measuring Range	0.3 - 3.000 g/cm <sup>3</sup>
Density Accuracy	± 0.002 g/cm <sup>3</sup>
Temperature Measuring Range	- 200 to 300 °C (Standard Model - 50 to 200 °C)
Temperature Accuracy	± 1 °C
Output of Current Loop	4-20 mA, Optional Signal of FLOW Rate/ Density/ Temperature
Output of Frequency/ Pulse	0 - 10000 Hz Flow Signal (Open Collector)
Communication	RS485, MODBUS Protocol
Power Supply of Transmitter	18-36 VDC Power ≤ 7W or 85 - 265 VAC Power 10W
Protection Class	IP67
Material	Measuring Tube SS316L, Housing SS304
Pressure Rating	4.0 MPa (Standard Pressure)
Explosion - Proof	Exd (ia) IIC T6Gb
Environment Parameters	
Ambient Temperature	-20 to 60 °C
Environment Humidity	≤95% RH

## Flow Range

Specification	DN (mm)	Flow Range (kg/h)	Zero Stability kg/h			NW (kg)	GW (kg)
			0.2%	0.15%	0.1%		
CMF-003	3	0 - 96 -120	0.018	0.012	0.012	8	19
CMF-006	6	0 - 540 -660	0.099	0.066	0.066	12	22
CMF-008	8	0 - 960 - 1200	0.18	0.12	0.12	12	23
CMF-010	10	0 - 1500 - 1800	0.27	0.18	0.18	11	24
CMF-015	15	0 - 3000 - 4200	0.63	0.42	0.42	12	25
CMF-020	20	0 - 6000 - 7800	1.17	0.78	0.78	20	34
CMF-025	25	0 - 10200 - 13500	2.025	1.35	1.35	21	35
CMF-032	32	0 - 18000 - 24000	3.6	2.4	2.4	27	45
CMF-040	40	0 - 30000 - 36000	5.4	3.6	3.6	35	55
CMF-050	50	0 - 48000 - 60000	9	6	6	40	60
CMF-080	80	0 - 120000 - 160000	24	16	16	90	150
CMF-100	100	0 - 222000 - 270000	40.5	27	27	170	245
CMF-150	150	0 - 480000 - 600000	90	60	60	255	350

### Model Select

CLM		XXX	X	X	X	X	X	X	X	X	X	X	X	X	X
Caliber (mm)	DN25 - DN200 Reference Code Please check caliber code table 1														
Nominal Pressure	0.6 MPa		1												
	1.0 MPa		2												
	1.6 MPa		3												
	2.5 MPa		4												
	4.0MPa		5												
	Others		6												
Connection	Flange		1												
	Tri-Clamp (Sanitary)		2												
	Thread		3												
	Others		4												
Accuracy	0.1		1												
	0.2		2												
Temperature	-20 °C to 200 °C		1												
	-50 °C to 200 °C		2												
	-50 °C to 300 °C		3												
Structure Type	Compact/ Integral		1												
	Remote		2												
Power Supply	AC220V		A												
	DC24V		D												
Output Signal	4-20 mA/ Pulse, RS485		A												
	4-20 mA, HART		B												
	Others		C												
Ex-proof	Without Ex-proof		0												
	With Ex-proof		1												
Process Connection	DIN PN10		1												
	DIN PN16		2												
	DIN PN25		3												
	DIN PN40		4												
	ANSI 150#		A												
	ANSI 300#		B												
	ANSI 600#		C												
	JIS 10K		D												
	JIS 20K		E												
	JIS 40K		F												
	Others		G												

Table 1 : Caliber Code Table

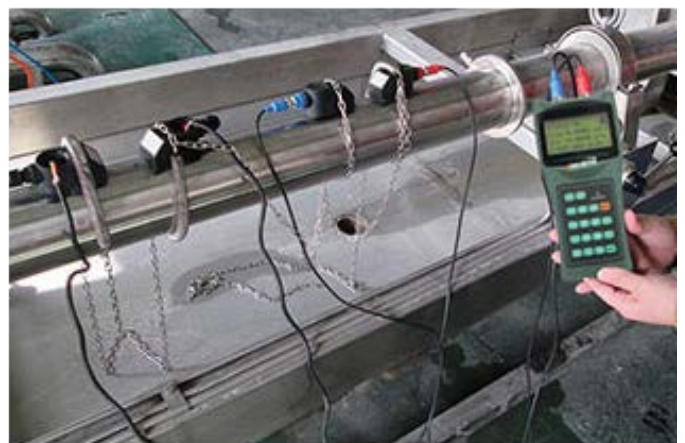
Caliber	3	6	8	10	15	20	25	32	40	50	65	80	100	125	150	200
Code	003	006	008	100	150	200	250	320	400	500	650	800	101	125	151	201



# Handheld Ultrasonic Flowmeter

Handheld type ultrasonic flow meter consists of a flow transmitter and a clamp-on transducer. With the latest electronics and the digital signal processing technology. Using ultrasonic transit time techniques, handheld ultrasonic flow meter is controlled by a micro-processor system which contains a wide range of data that enables it to be used with pipes with an outside diameter ranging from 15 mm up to 6000 mm and constructed of almost any material. The instrument will also operate over a wide range of fluid temperatures.

Clamp-on type sensor easily mountable on existing pipe Suited for a wide range of liquids, for example, deionized water, cooling water, chemical solution, drinking water, sea water, oil, tap water, hot water, industrial water, corrosive liquids.



Compact and Portable, Economical and Practical, can be used for pipeline monitoring, pipeline inspection, easy to carry. non-intrusive technology, no need to cut pipe, compatible with many material pipe.

### Product Packaging

- Ultrasonic Flowmeter Host
- External Clamp Sensor
- Couplant
- Connection Cable for Downstream
- Charger
- Measuring Tape
- Connection Cable for Upstream
- RS232 Cable



Ultrasonic Flowmeter Host



External Clamp Sensor



Couplant



Connection Cable (Downstream)



Charger



Measuring Tape



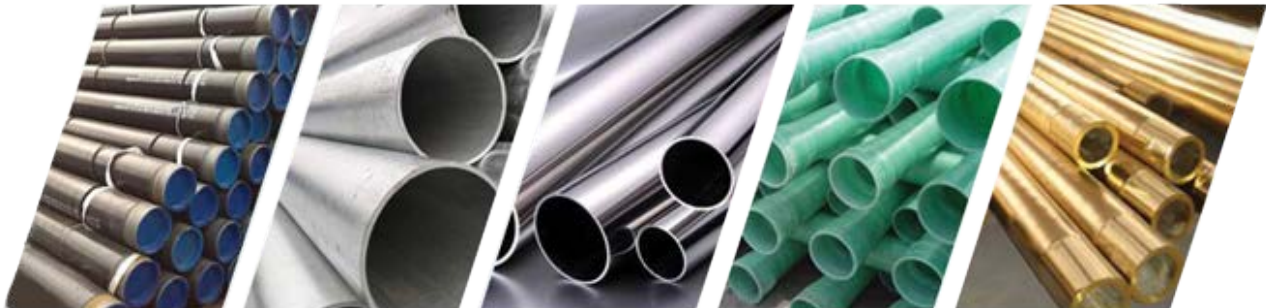
Connection Cable (Upstream)



RS232 Cable

### Compatible with Many Pipe Material

Even uniform pipeline or liner is allowable.



Carbon Steel pipe

Galvanized pipe

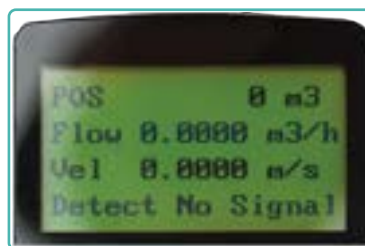
Stainless Steel pipe

FRP pipe

Copper pipe

#### HD LCD Display

Display accumulated flow, instantaneous flow, flow velocity, working status, build-in data storage.



#### High Quality Aerial Plug

Transducer Interface, fast connection, easy operation.



#### Delicate Button Cover

Exquisite diaphragm button Response quickly, good keyboard tactile, long working life.



#### Standard RS232 Communication Interface

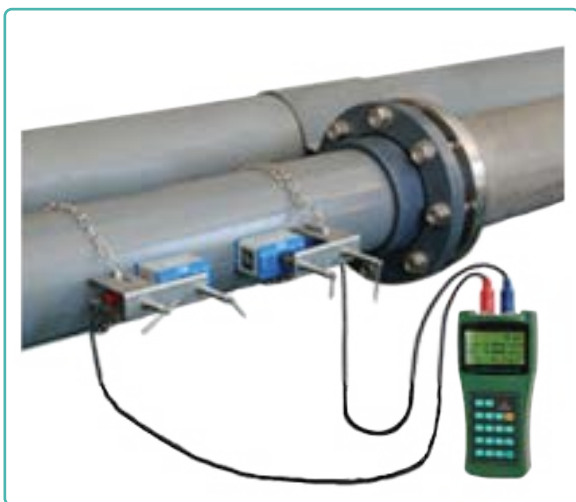
Support host computer communication transmission, charging equipment



Technical Performance Parameters	
Linearity	0.5%
Repeatability	0.2%
Accuracy	± 1% of reading at rate > 0.2 mps
Response Time	0 - 999 seconds, User-Configurable
Velocity	± 32 m/s
Pipe Size	DN5 - DN6000 mm
Rate Units	Meter, Feet, Cubic Meter, liter, Cubic Feet, USA Gallon, Imperial Gallon, Oil Barrel, USA liquid Barrel, Imperial Liquid Barrel, Million USA Gallons. Users configurable
Totalizer	7-Digits totals for net, positive and negative flow respectively
Liquid Types	Virtually all liquids
Security	Setup values Modification Lockout. Access code needs unlocking
Display	4x16 English letters
Communication Interface	RS-232C, Baud-rate : from 75 to 57600. Protocol made by the manufacturer and compatible with that of the FUJI ultrasonic flowmeter. User Protocol can be made on enquiry
Transducers	Model M1 for standard, other 3 models for optional
Transducer Cord Length	Standard 2x5 meters, optional 2x10 meters
Power Supply	3 AAA Ni-H built-in batteries. When fully recharged it will last over 10 hours of operation. 100V-240VAC for the charger
Data Logger	Built-in datalogger can store over 2000 lines of data
Manual Totalizer	7-Digits press key-to-go totalizer for Calibration
Housing Material	ABS
Case Size	100 x 66 x 20 mm
Handset Weight	514 g (1.2 lbs) with Batteries

### Installation Method

External clip mounting



Debug complex  
Not suitable for frequent testing

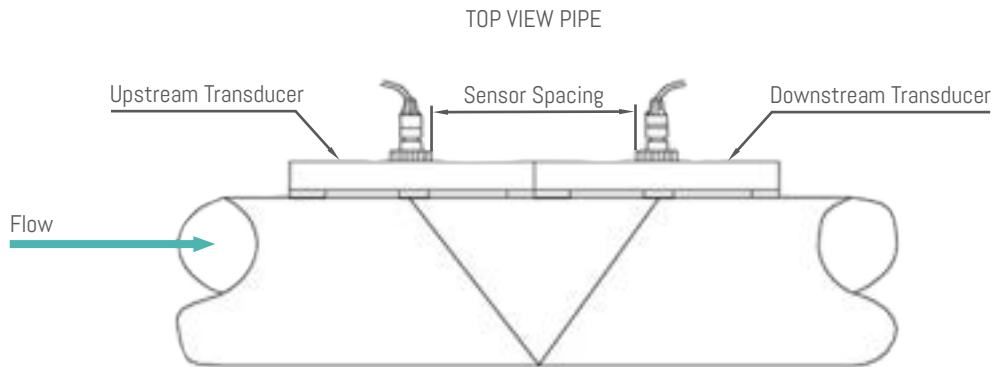
Bracket mounting



Simple debugging  
Suitable for frequent testing

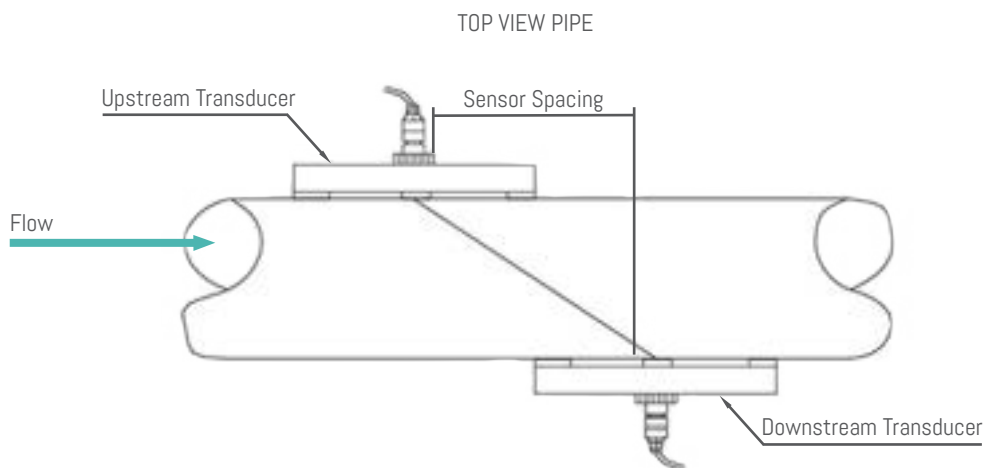
**V-Method**

V-method installation is the most widely used mode for daily measurement with pipe inner diameters ranging from 15 millimeter to 200 millimeter. It is also called reflective mode or method.



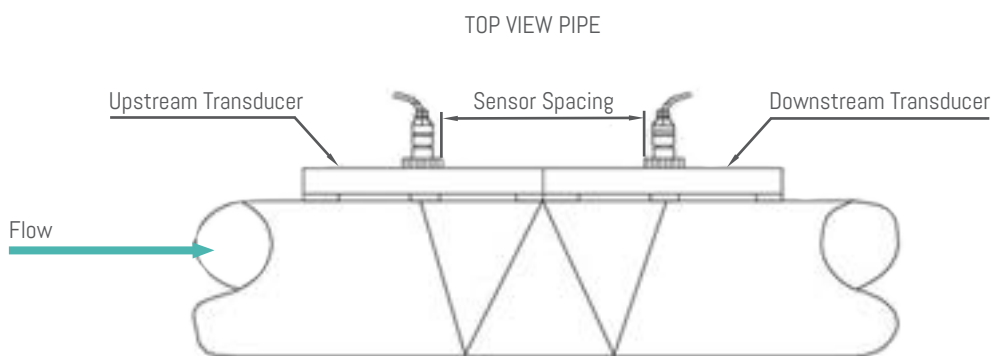
**Z-Method**

Z-method is commonly used when the pipe diameter is between 300 millimeters and 500 millimeters.



**W-Method**

W-method is usually used on plastic pipes with a diameter from 15 millimeters to 100 millimeters



### Transducer Selection

Type	Photo	Specification	Measuring Range	Temperature Range
Clamp on Type		Small - Size	DN20 - DN100 mm	- 30 °C to 90 °C
		Middle - Size	DN50 - DN700 mm	- 30 °C to 90 °C
		Large - Size	DN300 - DN6000 mm	- 30 °C to 90 °C
High Temperature Clamp on Type		Small - Size	DN20 - DN100 mm	- 30 °C to 160 °C
		Middle - Size	DN50 - DN700 mm	- 30 °C to 160 °C
		Large - Size	DN300 - DN6000 mm	- 30 °C to 160 °C
Mounting Bracket Clamp on		Small - Size	DN20 - DN100 mm	- 30 °C to 90 °C
		Middle - Size	DN50 - DN700 mm	- 30 °C to 90 °C
		Large - Size	DN300 - DN6000 mm	- 30 °C to 90 °C





# Wall-Mount Ultrasonic Flowmeter

Wall mount type ultrasonic flow meter is designed to measure the fluid velocity of liquid within a closed conduit, transducers are non-invasive. Widely used for water supply, non-conductive liquid such as distilled water, food oil, light oil, air conditioner system to measure the heat and flow, etc.

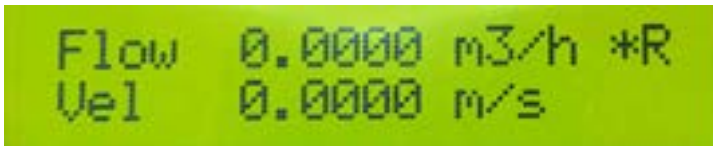
## Feature

- High precise Bi-directional measurement upto 32 m/s
- Highly cost effective. No process shutdown, Simplified installation and cost advantage over magnetic flowmeter
- Nominal pipe diameter : 15 mm upto 6000 mm
- High accuracy measurement :  $\pm 1\%$
- Support SD Card memory



### LCD Display

Backlit LCD display instantaneous flow and positive total flow, negative total flow, net total flow, flow velocity and etc.



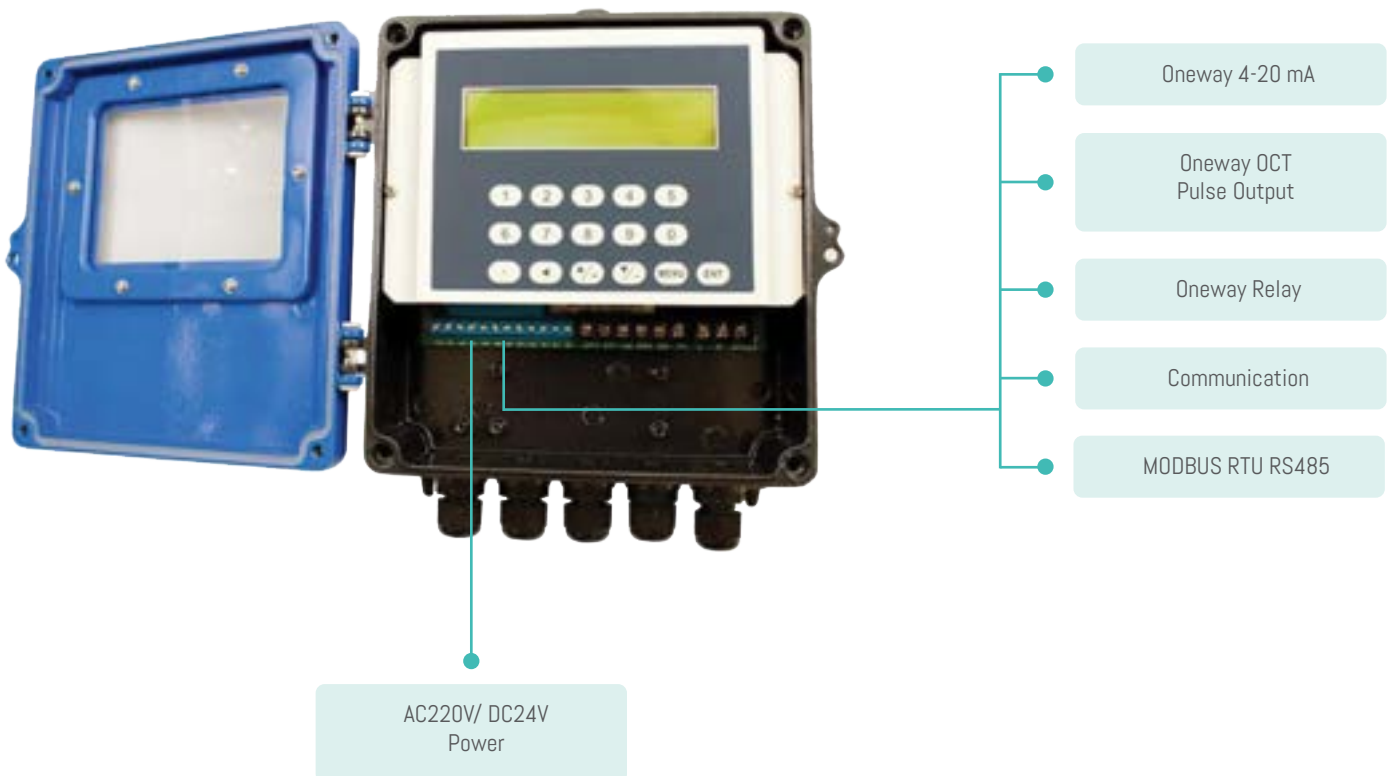
Flow unit : m<sup>3</sup>, Liter, US gallon, UK gallon, etc.  
 Language : English



Optional : Explosion-Proof Case Exd IIBT5

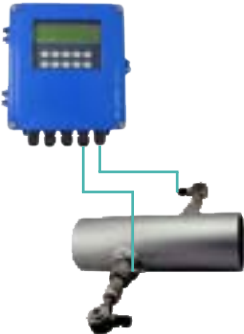
### Modular Design PCB

- Strong Anti-Interference
- Multiple Output



### Measurement Composition





- Installation without drying up, no pressure loss
- Easy installation and maintenance
- Mating clamp temperature sensor that can measure the temperature of the outside of tube to achieve heat measure.

Flow Measurement	Heat/ Cold Energy Measurement
 <p data-bbox="233 987 368 1016">Clamp on Type</p>	 <p data-bbox="1193 842 1398 875">Water Supply Pipe</p> <p data-bbox="1193 943 1398 976">Water Return Pipe</p>
 <p data-bbox="233 1509 368 1538">Insertion Type</p>	 <p data-bbox="1193 1312 1398 1346">Water Supply Pipe</p> <p data-bbox="1193 1458 1398 1491">Water Return Pipe</p>
 <p data-bbox="253 2011 347 2040">Pipe Type</p>	 <p data-bbox="1241 1850 1445 1883">Water Supply Pipe</p> <p data-bbox="1241 1962 1445 1995">Water Return Pipe</p>

## Transducer Selection

Type	Photo	Specification	Model	Pipe Size	Temperature	Dimension
Standard Clamp on Type		Small - Size	S2	DN15 - DN100	- 30 °C to 90 °C	45 x 25 x 32 mm
		Medium - Size	M2	DN50 - DN700	- 30 °C to 90 °C	64 x 39 x 44 mm
		Large - Size	L2	DN300 - DN6000	- 30 °C to 90 °C	97 x 54 x 53 mm
High Temperature Clamp on Type		Small - Size	HS	DN15 - DN100	- 30 °C to 160 °C	45 x 25 x 32 mm
		Medium - Size	HM	DN50 - DN700	- 30 °C to 160 °C	64 x 39 x 44 mm
		Large - Size	HL	DN300 - DN6000	- 30 °C to 160 °C	97 x 54 x 53 mm
Insertion Type		Standard	TC1	DN80 - DN6000	- 30 °C to 160 °C	190 x 80 x 55 mm
		Longer Type	TC2	DN80 - DN6000	- 30 °C to 160 °C	335 x 80 x 55 mm
Pipeline Type		Standard	G3	DN15 - DN25	- 30 °C to 160 °C	SS304 Thread
		Standard	G2	DN32 - DN40	- 30 °C to 160 °C	CS Thread
		Standard	G1	DN50 - DN6000	- 30 °C to 160 °C	CS Thread

## Temperature Sensor Selection

Photo	Specification	Model	Measurement Range	Temperature Range	Installation Requirement	Accuracy
	Three Wire PT100 Clamp Temperature Sensor	CT1	≥ DN50	-40°C to 160°C	No need cut	100 °C ± 0.8 °C Temperature difference < 0.1°C
	Three Wire PT100 Insertion Temperature Sensor	TCT1	≥ DN50	-40°C to 160°C	Need cut flow	
	Three Wire PT100 Insertion Pressure & Temperature Sensor	PCT1	≥ DN50	-40°C to 160°C	No need cut	
	Small Size Three Wire PT100 Insertion Type temperature sensor	SCT1	< DN50	-40°C to 160°C	Need cut flow	

### Technical Performance Parameters

Accuracy	± 1% of reading at rates > 0.2 mps
Repeatability	0.2%
Principle	Transmit Time
Velocity	± 32 m/s
Pipe Size	DN15 - DN6000 mm
Display	LCD with backlight, display accumulated flowheat, instantaneous flowheat, velocity Time and etc.
Signal Output	1 way 4-20 mA output
	1 way OCT pulse output
	1 way relay output
Signal Input	3 way 4-20 mA input achieve to heat measurement by connecting PT100 platinum resistor
Other Functions	Automatically record the positive, negative, net totalizer flow rate and heat. Automatically record the time of power-on/off and flow rate of the last 30 times. Replenish by hand or read the datas through MODBUS communication protocol.
Pipe Material	Carbon Steel, Stainless Steel, Cast Iron, Cement Pipe, Copper, PVC, Aluminum, FRP and etc. Liner is allowed
Straight Pipe Section	Upstream : 10D, Downstream : 5D, From the pump : 30D (D means outer diameter)
Liquid Types	Water, Sea Water, Industrial Sewage, Acid& Alkaline Liquid, Alcohol, Beer, All kind of Oils Which can transmit ultrasonic single uniform liquid.
Liquid Temperature	Standard : -30 °C to 90 °C, High Temperature : -30 °C to 160 °C
Liquid Turbidity	Less than 10000 ppm, with a little bubble
Flow Direction	Bi-Directional measuring, net flow/ heat measuring
Environment Temperature	Main Unit : -30 °C to 80 °C
	Transducer : -40 °C to 110 °C , Temperature Transducer : Select on Enquiry
Environment Humidity	Main Unit : 85% RH
	Transducer : Standard is IP65, IP68 (Optional)
Cable	Twisted Pair Line, Standard length is 5 m, can be extended to 500 m (not recommended), RS485 Interface, Transmission distance up to 1000 m
Power Supply	AC220V and DC24V
Power Consumption	Less than 1.5W
Communication	MODBUS RTU RS485



### Model Select

		WMU100F	X	XXX	XXXX	X	XXX	XXX	XXXX	X	
Transmitter	Wall Mount	W									
	Ex-proof	D									
Transducer	Clamp on Type Small DN15 - DN100	S2									
	Clamp on Type Medium DN50 - DN700	M2									
	Clamp on Type Large DN300 - DN6000	L2									
	High-Temp Clamp on Type Small DN15 - DN100	HS									
	High-Temp Clamp on Type Medium DN50 - DN700	HM									
	High-Temp Clamp on Type Large DN300 - DN6000	HL									
	Insertion Type Standard DN80 - DN6000	TC1									
	Insertion Type Longer Type DN80 - 6000	TC2									
	Pipeline Type Standard DN15 - DN25	G3									
	Pipeline Type Standard DN32 - DN40	G2									
	Pipeline Type Standard DN50 - DN6000	G1									
Diameter	DN15 to DN6000 mm			Dia							
Material	Carbon Steel				0						
	Stainless Steel				1						
	Cast Iron				2						
	FRP				3						
	PVC				4						
	Cement				5						
	Other				6						
Nominal Pressure	Nominal Medium Pressure					MPa					
Cable Length	Twisted Pair Line, Standard length is 5 m, can be extended to 500 m (not recommended)							m			
Temperature Sensor	No Temperature Sensor								N		
	Clamp on Type								CT1		
	Insertion Type								TCT1		
	Insertion with Pressure Transmitter Type								PCT1		
	Small Type Temperature Sensor								SCT1		
SD Card Storage	With this Function									0	
	Without this Function									1	

SD Card Data Storage is Optinal  
Store time and date, instant flow, total flow and signal strength etc.





# Multi-Channel Ultrasonic Flowmeter

Multi-channel ultrasonic water meter is suitable for continuously measuring flow and heat of clean and uniform liquids without large concentration suspended particles or gases industrial environment. When the ultrasonic beam propagates in the liquid, the flow of the liquid will cause a slight change in the propagation time, and the change in the propagation time is proportional to the flow velocity of the liquid. Therefore, the flow velocity of the fluid can be detected by the received ultrasonic wave, so as to be converted into flow rate

Ultrasonic water meters have been widely applied to the field of industrial flow metering of large-diameter heat meters, large-diameter water meters. Multi-channel ultrasonic flow meter mainly for Cooling /Heat water, River water, Running water, etc.

## Feature

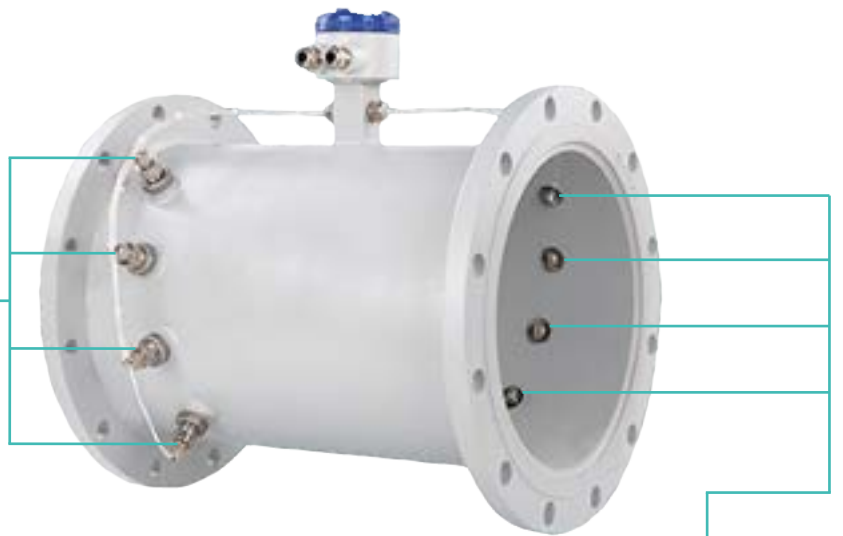
- Heat measurement.
- Measuring conductivity liquid and Non-conductivity liquid.
- Can measure zero-flow.
- 2 way analogy input could transmit flow,pressure,temperature,pressure etc.
- Instantaneous flow, Total flow, Heat, Positive flow, Negative flow.
- Multi-channel ultrasonic water meter is less sensitive to upstream obstacles such as elbows, pumps or valves, and the reliability of the measurement results is high, even if one channel stops working due to some reasons, the flow meter The measurement can still be continued. The requirements for a typical straight inlet pipe section are at least 10D upstream and at least 5D downstream. On the premise of meeting the above installation requirements, the measurement accuracy of the multi-channel ultrasonic flow meter can reach  $\pm 0.5\%$ . In contrast, the repeatability requirement of the electromagnetic flow meter under this accuracy is 1/3 of the accuracy, and the repeatability of the ultrasonic flow meter under this accuracy is 1/5 of the accuracy

### Multiple Channels Measurement

Number of channels : 2, 4, 8, 10 up on selection



Upstream Wave Transmitter



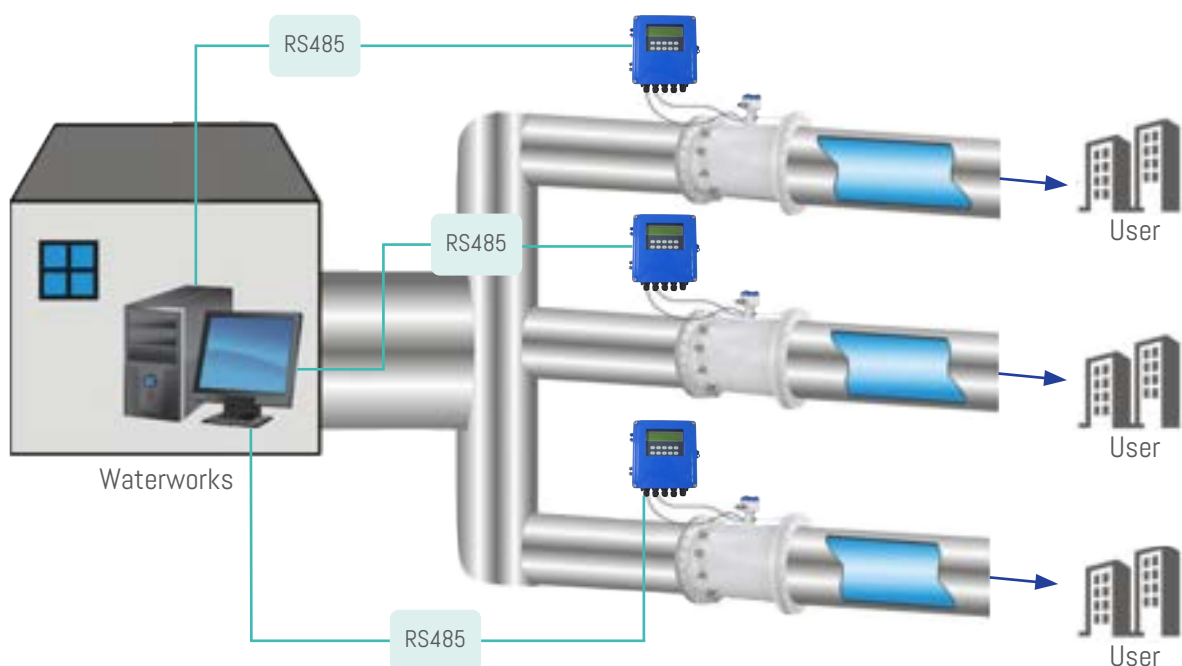
Large measuring surface provides more ultrasonic wave reflection. Accuracy :  $\pm 1.0\%$



Downstream Wave Receiver

### Trade Settlement

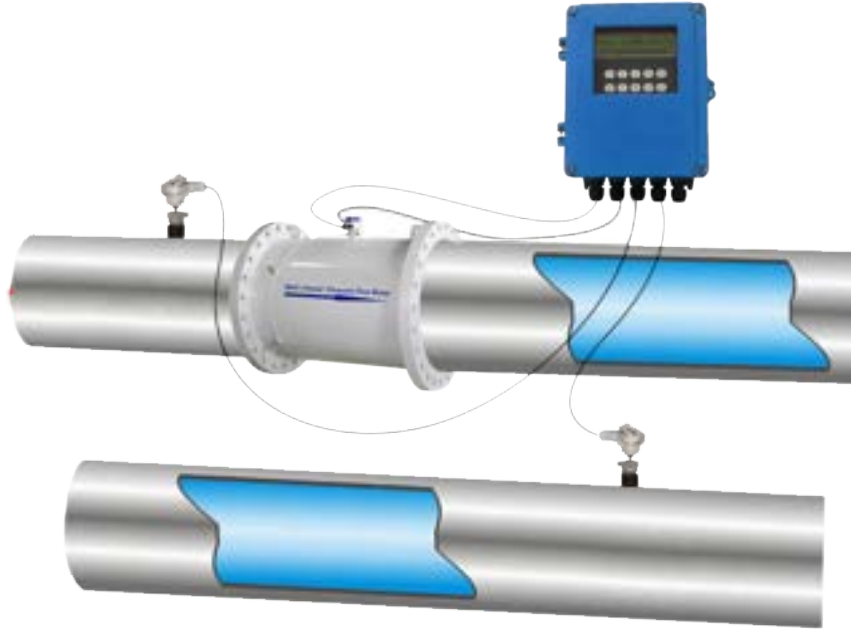
Widely use in waterworks and heat exchange station.





### Measuring Heat

Multi-Channel Ultrasonic Flowmeter could connect temperature sensor to become one calorimeter



- No Moving Parts
- No Wear
- No Pressure Loss
- Maintenance Free

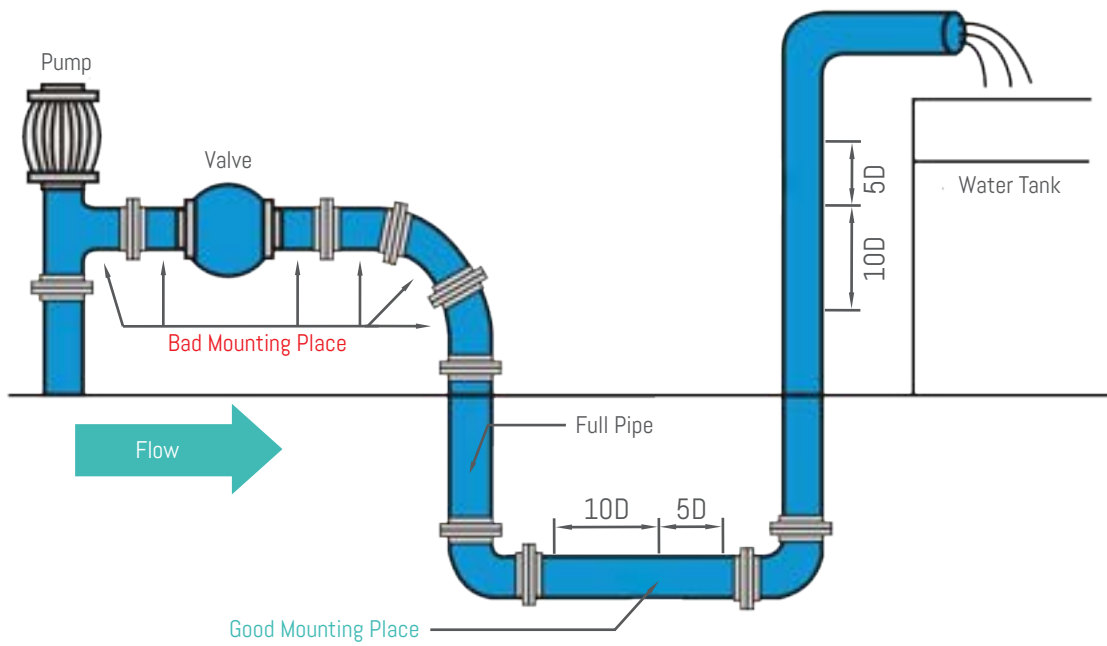
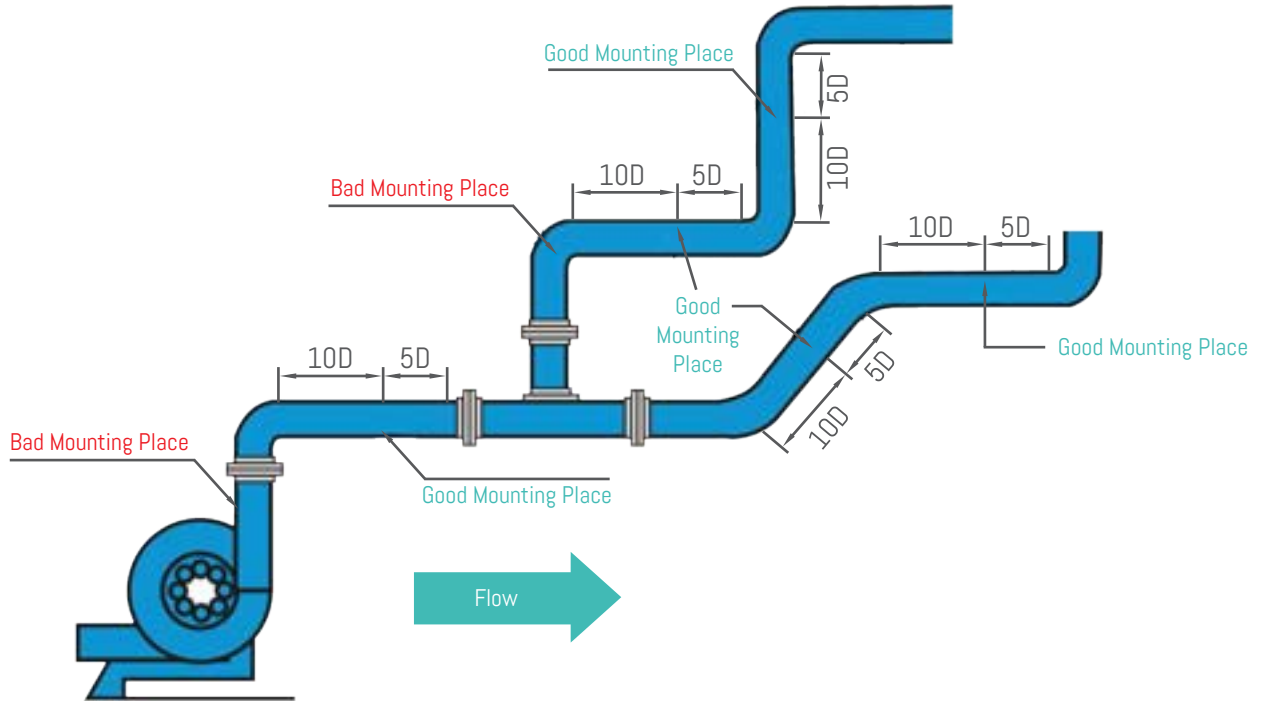


Pipe Dia : 50 - 2000 mm  
 Body Material : Carbon Steel, SUS304 and SUS316

Product Group



Installation Method



Technical Performance Parameters	
Accuracy	DN50 - DN2000 mm
Repeatability	± 1.0 %
Principle	± 0.1to 10 m/s
Velocity	2-way two-wire PT 100
Pipe Size	4-20 mA, Pulse, OCT, RS485
Measuring Cycle	50 ms. (20 times/s, collect 64 groups data)
Power Supply	DC 24V & AC 220V
Body Material	Carbon Steel (Standard), SUS304(Optional), SUS316(Optional)
Cable Length	Max 100 m
Working Temperature	Host : -10 °Cto 70 °C, Sensor : -30 °C to 150 °C
Flow Direction	Could separately measure forward and reverse flow. and could measure net now
Other Function	Memory total now date, month, year Fault self-diagnosis function
Turbidity	≤ 10000 ppm, low bubble content
Humidity	Host 85%RH
Straight Pipe	Upstream ≥ 10D, Downstream ≥ 5D, Pump outlet ≥ 30D
Media	Water, Seawater, Acid solution, Cooking oil, Gasoline, Coal oil, Oiesel, Alcohol, Beer and other unifonn liquid could transmitting ultrasonic waves

### Model Select

MCU30		XXX	X	X	X	X	X
Caliber	50 - 2000mm						
Body Material	Carbon Steel		C				
	SS304		S0				
	SS316		S1				
Nominal Pressure	0.6 MPa			P1			
	1.0 MPa			P2			
	1.6 MPa			P3			
	2.5 MPa			P4			
	Other Special			P5			
Output	4-20 mA, Pulse, OCT, RS485				0		
Structure	Integral					I	
	Remote					R	
Connection	Flange						1



# Radar Level Meter

Radar level meter adopted 26GHz high frequency radar sensor, the maximum measurement range can reach up to 70 meters. Antenna is optimized further processing, the new fast microprocessors have higher speed and efficiency can be done signal analysis, the instrumentation can be used for reactor, solid silo and very complex measurement environment.

Radar level meter is working based on electronic wave reflect theory. The high-frequency microwave is produced by high-impact antenna, which is transmitted downward through the antenna. After the microwave touches the surface of the measured medium, it is reflected back, and is received by the antenna system again and transmitted to the electronic circuit. The part is automatically converted into a level signal.

## Feature

- Small antenna size, easy to install; Non-contact radar, no wear, no pollution.
- Beam angle is small, the energy is concentrated, can enhance the ability of echo and to avoid interference.
- The two-wire system technology is an excellent substitute for differential pressure instruments, magnetostriction, radio frequency admittance, and magnetic flap instruments.
- Not affected by pressure changes, temperature changes, inert gas, vacuum, soot, steam and other environmental effects.
- HART or RS485 communication protocol, easy calibration, digital LCD display.
- Suitable for high temperature working conditions, up to 200 °C process temperature.



Oil Tank



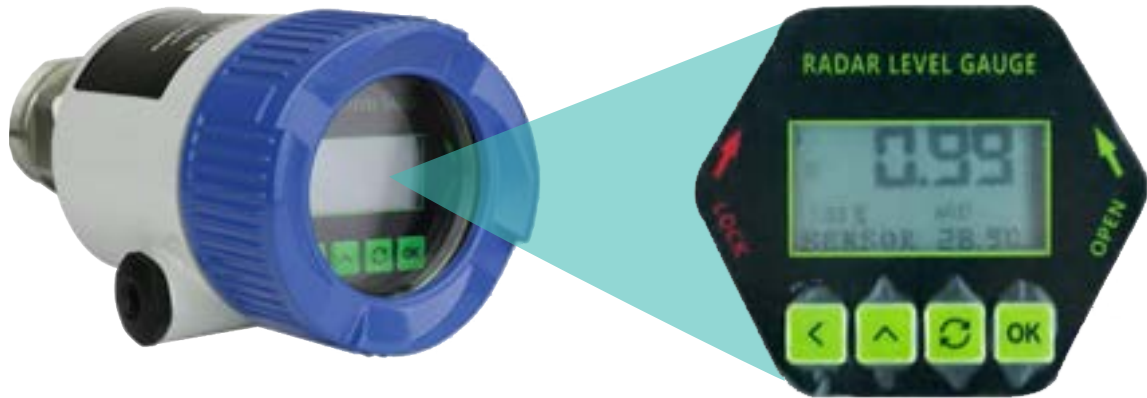
River



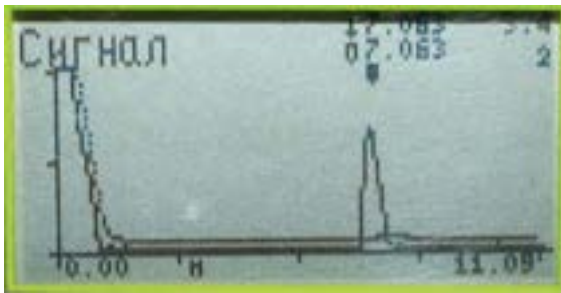
Open Channel

### High Sensitivity Converter

- Non-Contact Measurement, No affected by temperature, pressure, duct and vacuum.
- Range up to 70 m
- Solid and Liquid measurement
- IP67 Protection



HD LCD Display



Self-Diagnostic Echo Curve



Anti-Dust Air Purge Function  
Power Measurement



Small Beam Angle and Anti Interference

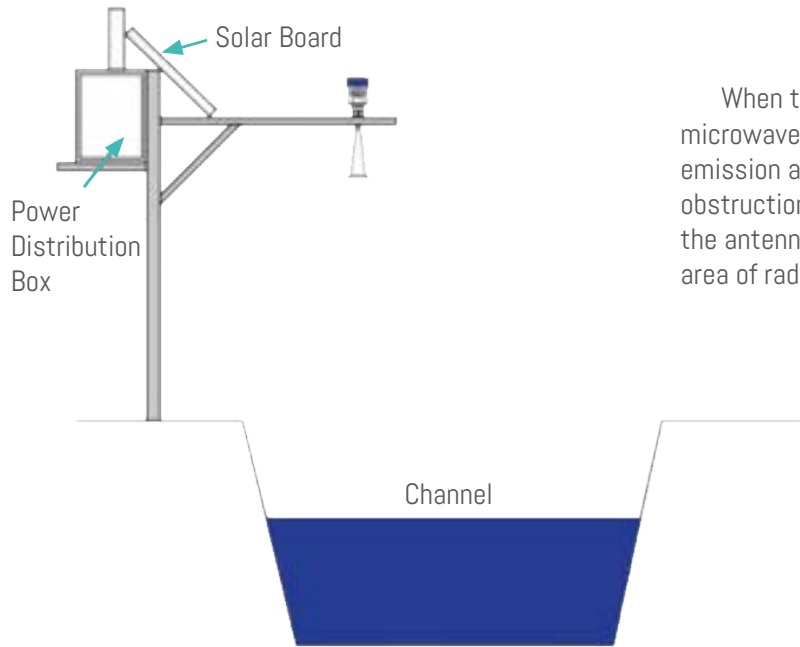


Adjustable Angle Universal Flange  
Reduce False Echo

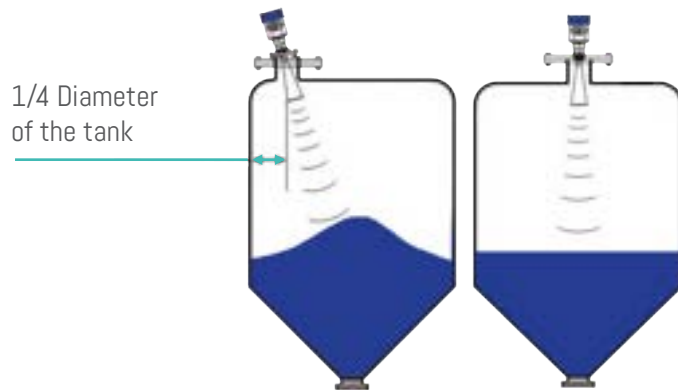
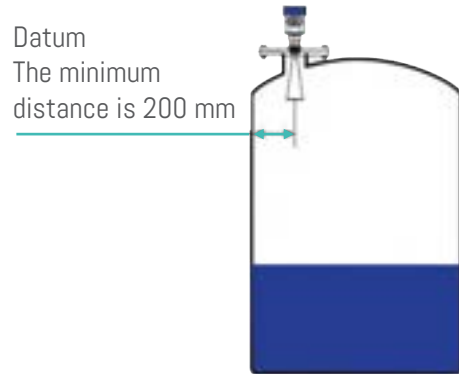


Low Power Consumption  
PCB Board

### Installation Method



When the radar antenna emits microwave pulses, it has a certain emission angle. There shall be no obstructions in the area radiated from the antenna to medium surface and area of radiated microwave beam.



Model Select



RLM-901	
Applicable Medium	All kinds of corrosive liquid
Explosion-proof Grade	Exia IIC T6 Ga
Measuring Range	10 meters
Frequency	26 GHz
Temperature	-60 °C to 120 °C
Measurement Precision	±3 mm
Process Pressure	-0.1 to 0.3 MPa
Output Signal	4- 20 mA/HART (Two wire/Four ) RS485/ MODBUS
The Scene Display	Four Digits LCD Display
Shell Material	Aluminum
Connection	Flange(optional)/ Thread
Protection Grade	IP67

RLM-902	
Applicable Medium	liquid
Explosion-proof Grade	Exia IIC T6 Ga
Measuring Range	30 meters
Frequency	26 GHz
Temperature	-60 °C to 150 °C
Measurement Precision	±2 mm
Process Pressure	-0.1 to 4.0 MPa
Output Signal	4- 20 mA/HART (Two wire/Four ) RS485/ MODBUS
The Scene Display	Four Digits LCD Display
Shell Material	Aluminum
Connection	Flange(optional)/ Thread
Protection Grade	IP67







RLM-903	
Applicable Medium	Solid Material, Strong Dust
Explosion-proof Grade	Exia IIC T6 Ga
Measuring Range	70 meters
Frequency	26 GHz
Temperature	-60 °C to 250 °C
Measurement Precision	±15 mm
Process Pressure	-0.1 to 0.1 MPa
Output Signal	4- 20 mA/HART (Two wire/Four ) RS485/ MODBUS
The Scene Display	Four Digits LCD Display
Shell Material	Aluminum
Connection	Universal Flange
Protection Grade	IP67

RLM-904	
Applicable Medium	Solid Material, Strong Dust
Explosion-proof Grade	Exia IIC T6 Ga
Measuring Range	70 meters
Frequency	26 GHz
Temperature	-60 °C to 250 °C
Measurement Precision	±15 mm
Process Pressure	-0.1 to 0.1 MPa
Output Signal	4- 20 mA/HART (Two wire/Four ) RS485/ MODBUS
The Scene Display	Four Digits LCD Display
Shell Material	Aluminum
Connection	Universal Flange
Protection Grade	IP67





RLM-905	
Applicable Medium	Liquid, Solid Particles
Explosion-proof Grade	Exia IIC T6 Ga
Measuring Range	35 meters
Frequency	26 GHz
Temperature	-40°C to 250 °C
Measurement Precision	±3 mm
Process Pressure	-0.1 to 4.0 MPa
Output Signal	4- 20 mA/HART (Two wire/Four ) RS485/ MODBUS
The Scene Display	Four Digits LCD Display
Shell Material	Aluminum
Connection	Thread/ Flange
Protection Grade	IP67

RLM-906	
Applicable Medium	Hygienic Liquid, Storage, Corrosive Container
Explosion-proof Grade	Exia IIC T6 Ga
Measuring Range	10 meters
Frequency	26 GHz
Temperature	-60 °C to 150 °C
Measurement Precision	±2 mm
Process Pressure	-0.1 to 0.1 MPa
Output Signal	4- 20 mA/HART (Two wire/Four ) RS485/ MODBUS
The Scene Display	Four Digits LCD Display
Shell Material	Aluminum
Connection	Flange
Protection Grade	IP67



Model Select

RLM-901/902/903

RLM-90X		X	X	X	X	X	X	X	X
Ex Class	Standard (Without Approval)	P							
	Intrinsically Safe (Exia IIC T6 Ga)	I							
	Intrinsically Safe + Explosion proof (Exd (ia) IIC T6 Gb)	G							
Process Connection	Thread G1½" A		G						
	Thread 1½" NPT		N						
	Flange DN50 /PP		A						
	Flange DN80 /PP		B						
	Flange DN100 /PP		C						
	Special Custom-tailor		Y						
Antenna Type	Horn Antenna Ø46mm / Stainless Steel 304		B						
	Horn Antenna Ø76mm / Stainless Steel 304		C						
	Horn Antenna Ø96mm / Stainless Steel 304		D						
Process Temperature	Viton / (-40~150) C				V				
	Kalrez / (-40~250) C				K				
Electronic Unit	(4~20) mA / 24V DC / Two wire system					2			
	(4~20) mA / 24V DC / HART two wire system					3			
	(4~20) mA / 220V AC / Four wire system					4			
	RS485 / Modbus					5			
Protection Class	Aluminum /IP67						L		
	Stainless Steel 304L/ IP67						G		
Cable Entry	M 20 x 1.5							M	
	½" NPT							N	
Display	With								A
	Without								X

RLM-906

RLM-906		X	X	X	X	X	X	X	X
Ex Class	Standard (Without Approval)	P							
	Intrinsically Safe (Exia IIC T6 Ga)	I							
	Intrinsically Safe + Explosion proof (Exd (ia) IIC T6 Gb)	G							
Process Connection	Flange DN80 / Stainless Steel 304		B						
	Flange DN100 / Stainless Steel 304		C						
	Flange DN125 / Stainless Steel 304		D						
	Flange DN150 / Stainless Steel 304		E						
	Flange DN200 / Stainless Steel 304		F						
	Flange DN250 / Stainless Steel 304		H						
	Special Custom-tailor		Y						
Antenna Type	Horn Antenna Ø46mm / Stainless Steel 304		B						
	Horn Antenna Ø76mm / Stainless Steel 304		C						
	Horn Antenna Ø96mm / Stainless Steel 304		D						
Process Temperature	Viton / (-40~150) C				V				
	Kalrez / (-40~250) C				K				
Electronic Unit	(4~20) mA / 24V DC / Two wire system					2			
	(4~20) mA / 24V DC / HART two wire system					3			
	(4~20) mA / 220V AC / Four wire system					4			
	RS485 / Modbus					5			
Protection Class	Aluminum /IP67						L		
	Stainless Steel 304L/ IP67						G		
Cable Entry	M 20 x 1.5							M	
	½" NPT							N	
Display	With								A
	Without								X

RLM-904/905

RLM-90X		X	X	X	X	X	X	X	X
Ex Class	Standard (Without Approval)	P							
	Intrinsically Safe (Exia IIC T6 Ga)	I							
	Intrinsically Safe + Explosion proof (Exd (ia) IIC T6 Gb)	G							
Process Connection	Thread G1½" A / Stainless Steel 304		G						
	Thread 1½" NPT / Stainless Steel 304		N						
	Flange DN80 / Stainless Steel 304		B						
	Flange DN100 / Stainless Steel 304		C						
	Flange DN125 / Stainless Steel 304		D						
	Flange DN150 / Stainless Steel 304		E						
	Flange DN200 / Stainless Steel 304		F						
	Flange DN250 / Stainless Steel 304		H						
	Flange DN80 / Cardan joint ( Nickel plated carbon steel )		M						
	Flange DN100/ Cardan joint ( Nickel plated carbon steel )		K						
	Flange DN125/ Cardan joint ( Nickel plated carbon steel )		T						
	Flange DN150 / Cardan joint ( Nickel plated carbon steel )		Z						
	Flange DN200 / Cardan joint ( Nickel plated carbon steel )		W						
	Flange DN250 / Cardan joint ( Nickel plated carbon steel )		V						
Special Custom-tailor		Y							
Antenna Type	Horn Antenna Ø46mm / Stainless Steel 304		B						
	Horn Antenna Ø76mm / Stainless Steel 304		C						
	Horn Antenna Ø96mm / Stainless Steel 304		D						
Process Temperature	Viton / (-40~150) C				V				
	Kalrez / (-40~250) C				K				
Electronic Unit	(4~20) mA / 24V DC / Two wire system					2			
	(4~20) mA / 24V DC / HART two wire system					3			
	(4~20) mA / 220V AC / Four wire system					4			
	RS485 / Modbus					5			
Protection Class	Aluminum /IP67						L		
	Stainless Steel 304L /IP67						G		
Cable Entry	M 20 x 1.5							M	
	½" NPT							N	
Display	With								A
	Without								X



# Ultrasonic Level Meter

Ultrasonic level transmitter is fully digital with on-site display and has perfect object level measurement and control, data transmission and human-computer communication functions. They are manufactured with engineering plastic ABS waterproof case and military quality multi-layer PCB board, designed with modular circuit. The main chip adopts dozens of related ASICs with import industrial grade single-chip microcomputer to make them with perfect features of digital temperature compensation and ultra-wide voltage input voltage regulation.

The pulses of the level meter in the direction of the product surface. There, they are reflected back and received by the sensor. The meter measures the time  $T$  between pulse transmission and reception. The meter uses the time  $T$  (and the velocity of sound) to calculate the distance  $D$  between the sensor membrane and the product surface:

## Feature

- Accuracy:  $\leq \pm 0.5\%$  FS
- Precise linear and temperature compensation.
- ZERO and SPAN calibrate available.
- Smaller blind zone.
- PVC probe, acid and alkali resistant, adapt to bad environment.
- IP65 protection grade.
- Application for Storage tank, chute, pool, Wells, drains, metering box, granary level measurement.



Sewage Treatment



Paper Pulp



Urban Water Supply



River Level



Urban Sewage



Water Conservancy Project

### Dual Chamber with Low Power LCD Display

- 128\*64 lattice display, Multi-Variable simultaneous display is supported.
- Convenient wiring, Firmness, Humanized Design
- Explosin-Proof



### Intelligent Converter by Digital Board

- In the range rated voltage, positive and negative terminal wrong wiring protection function.
- New waveform computing technology, enhance measuring accuracy
- Advantage testing technology, powerful software functions adaptive to a variety of complex conditions



### Quality Sensor of Precision Measurement

- Thread connection. Easy to install. 2" BSP and M95\*2.0 thread are optional for different measure range.
- Advanced Self-Clamping terminal guarantee the wiring never loosen.



Product Group

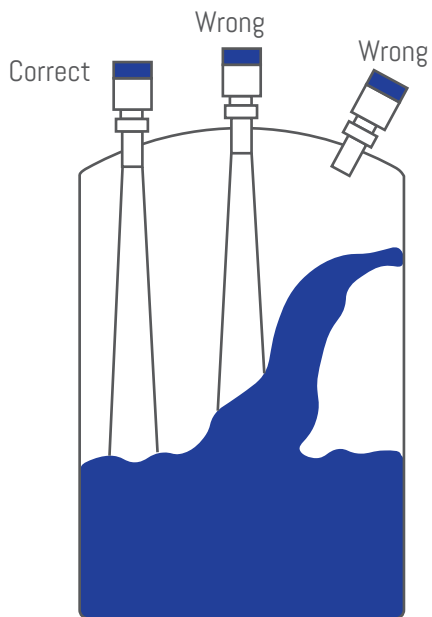


Compact Type

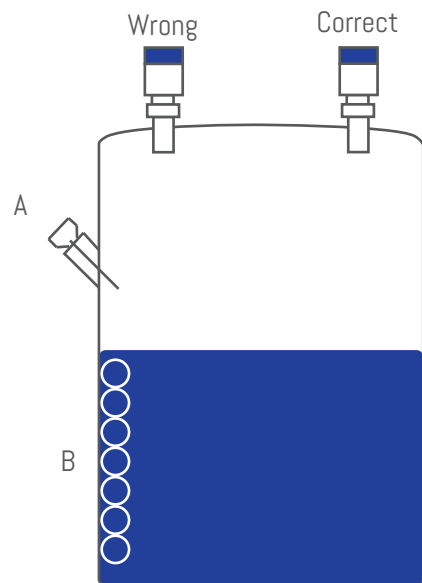


Remote Type is Optional

Installation Method



Energy transducer should be vertical to the measuring medium surface. Please note meter could not install in the middle of the tank



Meter installation should be avoid A, B obstacle.



Model Select

	ULM	X	X	X	X	X	X	X	X
Measure Range	0 - 4 m	4							
	0 - 6 m	6							
	0 - 8 m	8							
	0 - 12 m	12							
	0 - 20 m	20							
	0 - 30 m	30							
Ex Class	Standard Type (Non Ex-Proof)		P						
	Intrinsically Safe (Exia IIB T6 Ga)		I						
Transducer Material	ABS (-40 °C to 75 °C) / IP67			A					
	PVC (-40 °C to 75 °C) / IP67			B					
	PTFE (-40 °C to 75 °C) / IP67			C					
Process Connection	Thread				G				
	Flange/ PP				D				
Electronic Unit	4- 20mA/ 24V DC Two Wire					2			
	4- 20mA/ 24V DC /HART Two Wire					3			
Shell	Aluminum IP67						L		
Cable Entry	M20*1.5							M	
	1/2" NPT							N	
Type	Compact Type								A
	Remote Type								R



Display of Compact Type



# Guide Wave Radar Level Meter

Reflected pulse signal along the cable or rod probe type transmit to the instrument electronic circuit parts, the microprocessor processes the signal, identify the microwave pulse echo generated in the material surface. Correct identification of the echo signal are completed the implementation by the pulse software

$D$ , the distance from the material surface and the pulse travel time  $T$  is proportional:  $D=C \times T/2$ . Where  $C$  is the speed of light. Because the empty distance  $E$  is known, the level  $L$  is:  $L=E-D$ . By entering the empty height of  $E$  (= zero), full tank height  $F$  (= hundred) and the application to set some parameters, application parameters will automatically adapt the instrument to measure the environment, corresponding to the 4-20mA output.

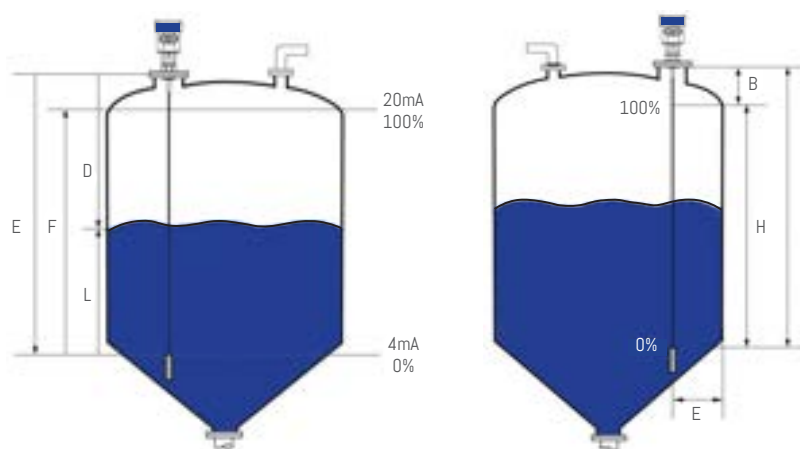
## Measuring range

H--- Measuring range

L---Empty distance

B---The top of the blind

E---The minimum distance from the probe to the tank wall



Blind spot is the minimum distance between the top of the highest material surface materials and measurement reference point. The bottom of the blind refers to a distance near the very bottom of the cable can not be accurately measured. Between the top and bottom of the blind is blind effective measure distances.

Model Line Up



GWLM-31	
Applicable Medium	Liquid and solid powder
Explosion-proof Grade	Exib IIC T6 Gb/Exd IIC T6 Gb
Measuring Range	30 meters
Frequency	500MHz-1.8GHz
Temperature	-40 °C to 250 °C
Measurement Precision	±10 mm
Process Pressure	-0.1 to 4 MPa
Output Signal	4- 20 mA/HART (Two wire/Four )
The Scene Display	Four Digits LCD Display
Shell Material	Aluminum
Connection	Flange(optional)/ Thread
Protection Grade	IP67

GWLM-32	
Applicable Medium	Liquid, especially corrosive liquids (Acid)
Explosion-proof Grade	Exib IIC T6 Gb/Exd IIC T6 Gb
Measuring Range	20 meters
Frequency	500MHz-1.8GHz
Temperature	-40 °C to 250 °C
Measurement Precision	±10 mm
Process Pressure	-0.1 to 4.0 MPa
Output Signal	4- 20 mA/HART (Two wire/Four )
The Scene Display	Four Digits LCD Display
Shell Material	Aluminum
Connection	Flange(optional)/ Thread
Protection Grade	IP67





GWLM-33	
Applicable Medium	Solid powder
Explosion-proof Grade	Exib IIC T6 Gb/Exd IIC T6 Gb
Measuring Range	30 meters
Frequency	500MHz-1.8GHz
Temperature	-40 °C to 150 °C
Measurement Precision	±10 mm
Process Pressure	-0.1 to 4 MPa
Output Signal	4- 20 mA/HART (Two wire/Four )
The Scene Display	Four Digits LCD Display
Shell Material	Aluminum
Connection	Flange(optional)/Thread
Protection Grade	IP67

GWLM-34	
Applicable Medium	Liquids,particularly low dielectric constant liquid
Explosion-proof Grade	Exib IIC T6 Gb/Exd IIC T6 Gb
Measuring Range	6 meters
Frequency	500MHz-1.8GHz
Temperature	-40 °C to 250 °C
Measurement Precision	±5 mm
Process Pressure	-0.1 to 4 MPa
Output Signal	4- 20 mA/HART (Two wire/Four )
The Scene Display	Four Digits LCD Display
Shell Material	Aluminum
Connection	Flange(optional)/Thread
Protection Grade	IP67





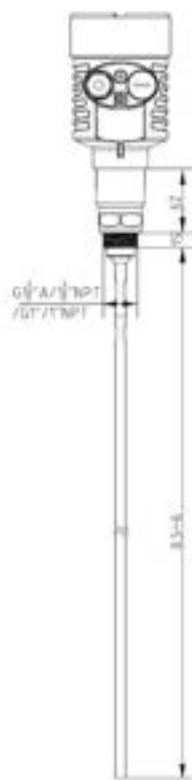
GWLM-35	
Applicable Medium	Liquids, especially high temperature and pressure
Explosion-proof Grade	Exib IIC T6 Gb/Exd IIC T6 Gb
Measuring Range	15 meters
Frequency	500MHz-1.8GHz
Temperature	-40 °C to 400 °C
Measurement Precision	±10 mm
Process Pressure	-0.1 to 40 MPa
Output Signal	4- 20 mA/HART (Two wire/Four )
The Scene Display	Four Digits LCD Display
Shell Material	Aluminum
Connection	Flange(optional)/ Thread
Protection Grade	IP67

Dimensions

GWLM-31



GWLM-32





### Model Select

GWLM-31

GWLM-31		X	X	X	X	X	X	X	X
Measure Range	Single Cable Type (Range up to 30 m) * C10 = Cable type 10 m	Cxx							
	Single Rod Type (Range up to 6 m) ** R5 = Rod Type 5 m	Rx							
Ex Class	Standard (Without Approval)		P						
	Intrinsically Safe (Exia IIC T6 Ga)		I						
	Intrinsically Safe + Explosion proof (Exd [ia] IIC T6 Gb)		G						
Detecting Component Material	Cable Ø8mm / Stainless Steel 304			A					
	Cable Ø4mm / Stainless Steel 316L			B					
	Rod Ø10mm / Stainless Steel 304			C					
	Rod Ø10mm / Stainless Steel 316L			D					
Process Connection	Thread G1½" A				G				
	Thread 1½" NPT				N				
	Flange DN50 PN16C / Stainless Steel				C				
	Flange DN80 PN16C / Stainless Steel				D				
	Flange DN100 PN16C / Stainless Steel				E				
	Flange DN150 PN16C / Stainless Steel				F				
	Flange DN200 PN16C / Stainless Steel				H				
	Flange 2" 150LBS ANSI Convex / Stainless Steel 316L				I				
	Flange 3" 150LBS ANSI Convex / Stainless Steel 316L				J				
	Flange 4" 150LBS ANSI Convex / Stainless Steel 316L				K				
	Flange 6" 150LBS ANSI Convex / Stainless Steel 316L				L				
Flange 8" 150LBS ANSI Convex / Stainless Steel 316 L				M					
Process Temperature	Normal (-40~130)°C					1			
	High Temperature (-40~250)°C					2			
Protection Class	Aluminum /IP67						L		
	Plastic /IP65						Q		
Cable Entry	M 20 x 1.5							M	
	½" NPT							N	
Display	With								V
	Without								X

GWLM-32

		GWLM-32	X	X	X	X	X	X	X
Measure Range	Full PTFE Sealing Cable Type (up to 20 m) * C10 = Cable type 10 m	Cxx							
	Full PTFE Sealing Rod Type (up to 6 m) ** R5 = Rod Type 5 m	Rx							
Ex Class	Standard (Without Approval)		P						
	Intrinsically Safe (Exia IIC T6 Ga)		I						
	Intrinsically Safe + Explosion proof (Exd [ia] IIC T6 Gb)		G						
Detecting Component Material	Cable $\Phi$ 4mm / PTFE		A						
	Rod $\Phi$ 10mm / PTFE		C						
Process Connection	Thread G1½" A		G						
	Thread 1½" NPT		N						
	Flange DN50 PN16C / Stainless Steel / PTFE		C						
	Flange DN80 PN16C / Stainless Steel / PTFE		D						
	Flange DN100 PN16C / Stainless Steel / PTFE		E						
	Flange DN150 PN16C / Stainless Steel / PTFE		F						
	Flange DN200 PN16C / Stainless Steel / PTFE		H						
	Flange 2" 150LBS ANSI Convex / Stainless Steel 316L / PTFE		I						
	Flange 3" 150LBS ANSI Convex / Stainless Steel 316L / PTFE		J						
	Flange 4" 150LBS ANSI Convex / Stainless Steel 316L / PTFE		K						
	Flange 6" 150LBS ANSI Convex / Stainless Steel 316L / PTFE		L						
Flange 8" 150LBS ANSI Convex / Stainless Steel 316 L / PTFE		M							
Process Temperature	Normal (-40~130)°C		1						
	High Temperature (-40~200)°C		2						
Protection Class	Aluminum /IP67		L						
	Plastic /IP65		Q						
Cable Entry	M 20 x 1.5		M						
	½" NPT		N						
Display	With		V						
	Without		X						



GWLM-33

		GWLM-33	X	X	X	X	X	X	X
Measure Range	Double Cable Type (Range up to 30 m) * 10 = 10 m	xx							
Ex Class	Standard (Without Approval)		P						
	Intrinsically Safe (Exia IIC T6 Ga)		I						
	Intrinsically Safe + Explosion proof (Exd [ia] IIC T6 Gb)		G						
Detecting Component Material	Cable Ø6mm / Stainless Steel 304			A					
	Cable Ø6mm / Stainless Steel 316L			B					
Process Connection	Thread G1½" A				G				
	Thread 1½" NPT				N				
	Flange DN50 PN16C / Stainless Steel				C				
	Flange DN80 PN16C / Stainless Steel				D				
	Flange DN100 PN16C / Stainless Steel				E				
	Flange DN150 PN16C / Stainless Steel				F				
	Flange DN200 PN16C / Stainless Steel				H				
	Flange 2" 150LBS ANSI Convex / Stainless Steel 316L				I				
	Flange 3" 150LBS ANSI Convex / Stainless Steel 316L				J				
	Flange 4" 150LBS ANSI Convex / Stainless Steel 316L				K				
	Flange 6" 150LBS ANSI Convex / Stainless Steel 316L				L				
Flange 8" 150LBS ANSI Convex / Stainless Steel 316 L				M					
Process Temperature	Normal (-40~150)°C					1			
Protection	Aluminum /IP67						L		
Class	Plastic /IP65						Q		
Cable Entry	M 20 x 1.5							M	
	½" NPT							N	
Display	With								V
	Without								X

GWLM-34

GWLM-34		X	X	X	X	X	X	X	X
Measure Range	Coaxial Tube Type Antenna (up to 6 m) * 6 = 5 m	X							
Ex Class	Standard (Without Approval)		P						
	Intrinsically Safe (Exia IIC T6 Ga)		I						
	Intrinsically Safe + Explosion proof (Exd [ia] IIC T6 Gb)		G						
Detecting Component Material	Coaxial tube Φ25mm / Stainless Steel 304			A					
	Coaxial tube Φ25mm / Stainless Steel 316L			B					
Process Connection	Thread G1½" A				G				
	Thread 1½" NPT				N				
	Flange DN50 PN16C / Stainless Steel				C				
	Flange DN80 PN16C / Stainless Steel				D				
	Flange DN100 PN16C / Stainless Steel				E				
	Flange DN150 PN16C / Stainless Steel				F				
	Flange 2" 150LBS ANSI Convex / Stainless Steel 316L				H				
	Flange 3" 150LBS ANSI Convex / Stainless Steel 316L				I				
	Flange 4" 150LBS ANSI Convex / Stainless Steel 316L				J				
	Flange 6" 150LBS ANSI Convex / Stainless Steel 316L				K				
	Special Design				L				
Process Temperature	Normal (-40~130)°C					1			
	High Temperature (-40~250)°C					2			
Protection Class	Aluminum /IP67						L		
	Plastic /IP65						Q		
Cable Entry	M 20 x 1.5							M	
	½" NPT							N	
Display	With								V
	Without								X

GWLM-35

GWLM-35		X	X	X	X	X	X	X	X
Measure Range	Single Cable Type (Range up to 15 m) * C10 = Cable type 10 m	Cxx							
	Single Rod Type (Range up to 6 m) ** R5 = Rod Type 5 m	Rx							
Ex Class	Standard (Without Approval)		P						
	Intrinsically Safe (Exia IIC T6 Ga)		I						
	Intrinsically Safe + Explosion proof (Exd [ia] IIC T6 Gb)		G						
Detecting Component Material	Cable Ø8mm / Stainless Steel 304			A					
	Cable Ø8mm / Stainless Steel 316L			B					
	Rod Ø10mm / Stainless Steel 304			C					
	Rod Ø10mm / Stainless Steel 316L			D					
Process Connection	Thread G1½" A				G				
	Thread 1½" NPT				N				
	Flange DN50 PN16C / Stainless Steel				C				
	Flange DN80 PN16C / Stainless Steel				D				
	Flange DN100 PN16C / Stainless Steel				E				
	Flange DN150 PN16C / Stainless Steel				F				
	Flange DN200 PN16C / Stainless Steel				H				
	Flange 2" 150LBS ANSI Convex / Stainless Steel 316L				I				
	Flange 3" 150LBS ANSI Convex / Stainless Steel 316L				J				
	Flange 4" 150LBS ANSI Convex / Stainless Steel 316L				K				
	Flange 6" 150LBS ANSI Convex / Stainless Steel 316L				L				
Flange 8" 150LBS ANSI Convex / Stainless Steel 316 L				M					
Process Temperature	Normal (-200~400)°C					1			
Protection Class	Aluminum /IP67						L		
	Plastic /IP65						Q		
Cable Entry	M 20 x 1.5							M	
	½" NPT							N	
Display	With								V
	Without								X



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