ATO

Flow Meter Supplier in China

ATO specialize in the production and sale various models of flowmeters.

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ATO

About ATO

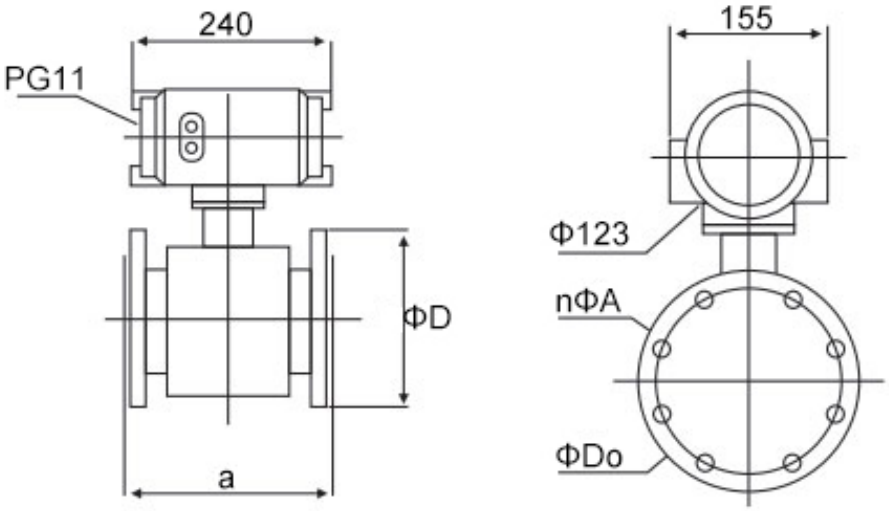
ATO, a leading and professional industrial measuring flow meter manufacturers in China. We provides high quality magnetic flow meters, vortex flow liquid flow meters, portable clamp-on ultrasonic flow meters, digital gas flow meters, gas mass flow meters and other flow meter accessories. Various models are available for your choice. All are brand new items directly shipped from our Chinese factories with a full warranty and at considerable savings. Our flowmeters are widely used in Industrial and agricultural production, scientific research, trade, transportation, construction and water conservancy.

Contents

Features:

- This flow meter adopts copper wire underwire.
- Protective layer for power cable.
- Anti-jamming silicon steel sheet.
- 304 seamless steel pipe.

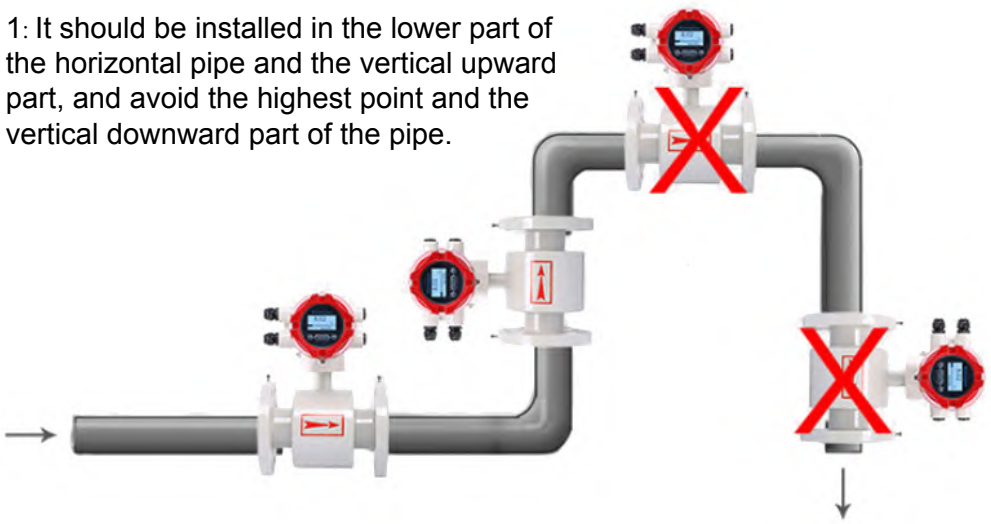
Dimension (Unit: mm)

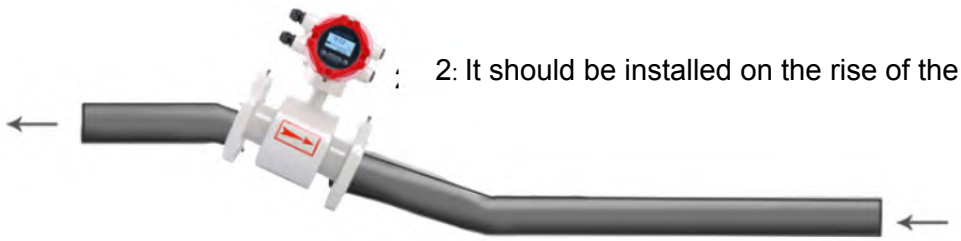


DN	a	ΦD	ΦDo	nΦA
15	200	95	65	4*14
20	200	105	75	4*14
25	200	115	85	4*14
32	200	140	100	4*18
40	200	150	110	4*18
50	200	165	145	4*18
65	250	185	145	8*18
80	250	200	160	8*18
100	250	220	180	8*18
125	250	250	210	8*18
150	300	285	240	8*22
200	350	340	295	8*22

Installation Notice:

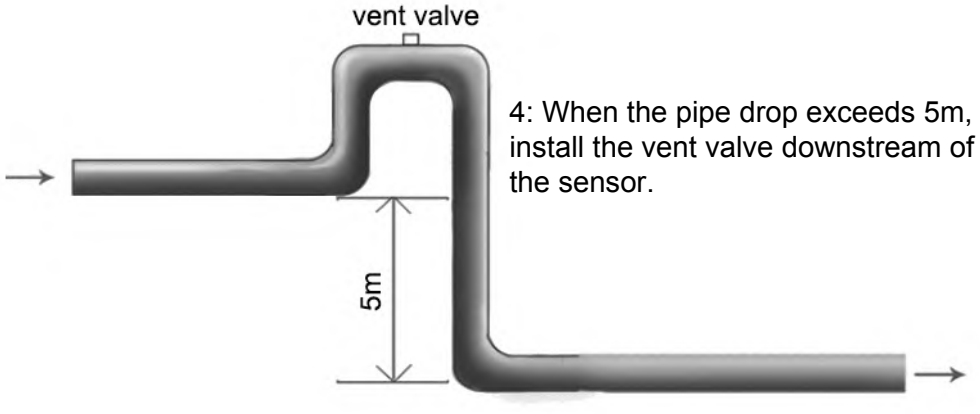
1: It should be installed in the lower part of the horizontal pipe and the vertical upward part, and avoid the highest point and the vertical downward part of the pipe.





2: It should be installed on the rise of the pipe.

3: In the open discharge pipe installation,
it should be installed in the lower part of the pipe.



4: When the pipe drop exceeds 5m, install the vent valve downstream of the sensor.

Specification:

Model		ATO-LDG
Medium		Conductivity fluid (≥5uS/cm)
Nominal Diameter		DN15~DN200
Nominal Pressure		1.6 MPa
Velocity Range		0~10 m/s
Accuracy		±0.5%R
Configuration		Integral type or remote type
Highest Medium Temperature	**Integral type**	+80 ℃
	Remote type	+80 ℃ (CR) or +120 ℃ (F4)
Turn-down Ratio	**Integral type**	20:01
	Remote type	10:01
Ambient Temperature	**Sensor**	-25 ℃ ~ +180 ℃
	Convertor	-10 ℃ ~ +60 ℃
Liner Materials		Chloroprene rubber (CR) or Polytetrafluoroethylene (F4)
		(Customized materials: Polyurethane rubber PU, F46)
Electrode Material		Stainless steel 316L
		(Customized electrode: Hastelloy C, Hastelloy B, Titanium, Tantalum, Platinum)
Form of Electrode		Interpolating
Number of Electrode		Standard configuration 3-4 electrodes (two measuring electrodes plus a grounding electrode)
Output Signal		4-20 mA
Cable Entry Size		M20 × 1.5 (Nylon waterproof connector)
Supply Voltage		110V/220V AC, 50Hz/60Hz; 24V DC ±10%
Power Dissipation		≤15VA
Communication		RS-485, support standard Modbus-RTU protocol
Flange Standard		Conform to the international GB9119
Flange Material		Carbon steel
Grounding Ring Material		Stainless steel
Housing Material		Carbon steel
Protection Level		IP65
Cable Length (Remote Type)		10m connecting line (Standard)

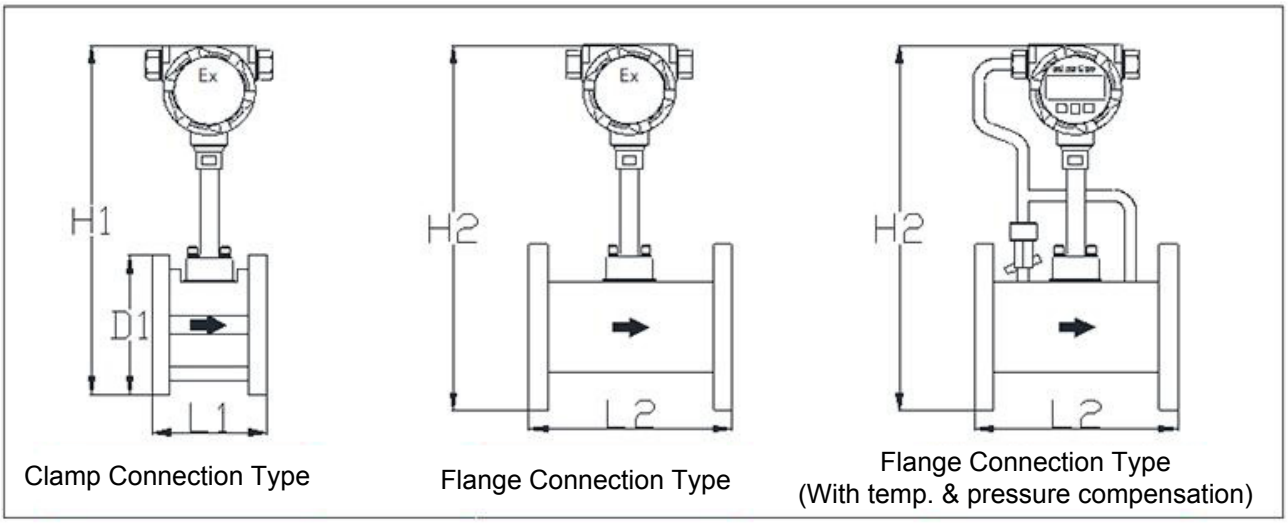
Features:

- The effect of anti-vibration interference is good.
- High density structural steel, heat and shock resistant.
- The surface forms a protective layer, long service life.

Specification:

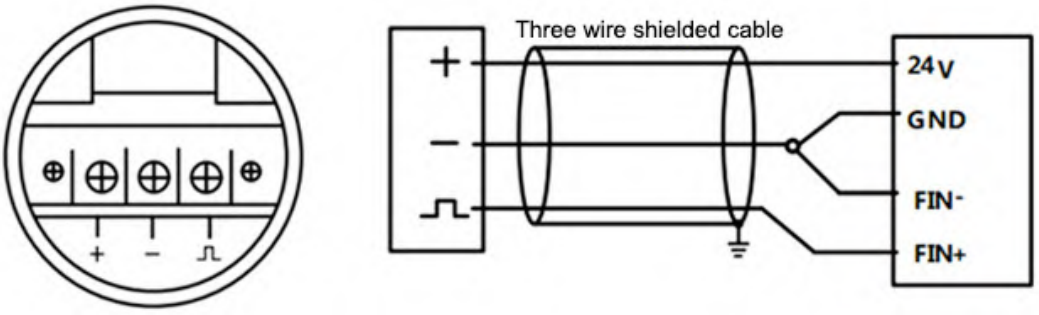
Model	ATO-LUGB
Measuring Media	Liquids, gases, steam
Line Size	DN15-DN300
Accuracy	Gas (uncompensated): DN15-DN25 ±1.5%, DN32-DN200 ±1.0%, DN250-DN300 ±1.5%
	Liquid (uncompensated)：DN15-DN300 ±1.0%
	With integrated temperature and pressure compensation: DN25-DN300 ±1.5%
Range Ratio	1:8~1:30
Medium Temperature	-40 ℃ ~ +260 ℃ (for higher temperatures contact us)
Power Supply	24V DC±5%, Li-ion battery (3.6V DC)
Compensation Mode	Temperature compensation, pressure compensation, or integrated temperature and pressure compensation (Optional)
Display	LCD display (Optional)
Output Signal	Frequency, or 4-20 mA
Communication Interface	RS485 (Optional)
Connection	Clamp, or Flange connection
Body Material	316 stainless steel
Protection Class	IP65
Ambient Temperature	-10 ℃ ~ +60 ℃

Dimension (Unit: mm)

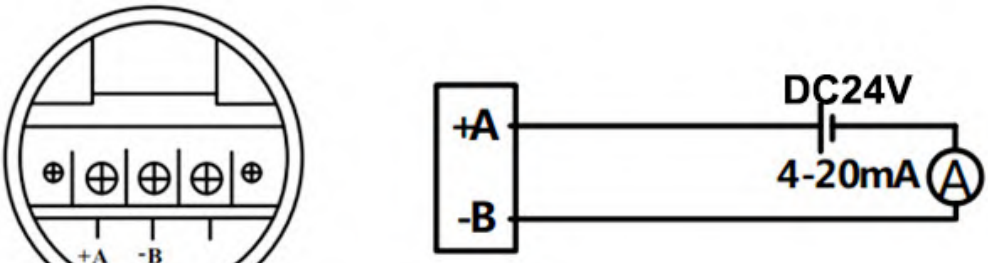


Size (mm) / DN	H1[a]	H1[b]	H1[c]	D1	L1	H2[a]	H2[b]	H2[c]	L2
DN15	525	445	355	45	65	540	460	370	170
DN20	531	451	361	58	65	545	465	375	170
DN25	531	451	361	58	65	550	470	380	250
DN32	531	451	361	58	65	563	483	393	250
DN40	529	449	359	85	70	578	498	408	250
DN50	541	461	371	99	70	590	510	420	250
DN65	558	478	388	118	70	612	532	442	250
DN80	573	493	403	132	70	625	545	455	280
DN100	595	515	425	156	70	644	564	474	300
DN125	621	541	451	184	70	674	594	504	350
DN150	647	567	477	211	70	703	623	533	350
DN200	705	625	535	266	98	757	677	587	400
DN250	757	677	587	319	114	810	730	640	450
DN300	808	728	638	370	130	860	780	690	500

Circuit Connection:

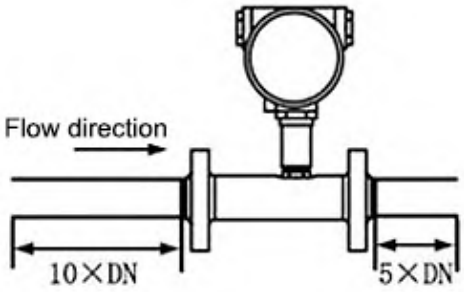


Pulse Output

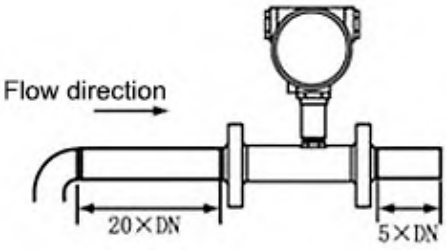


4-20 mA Output

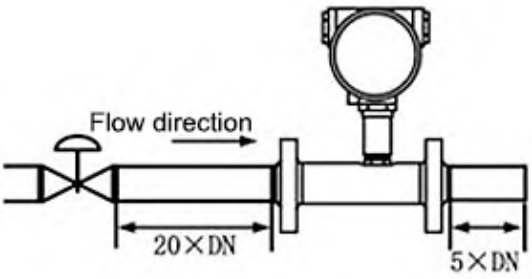
Installation Notice:



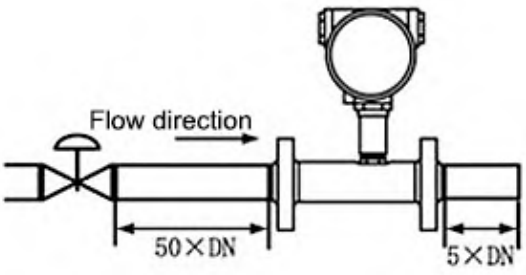
General pipe line



90° bend



Fully open valve



Half open valve

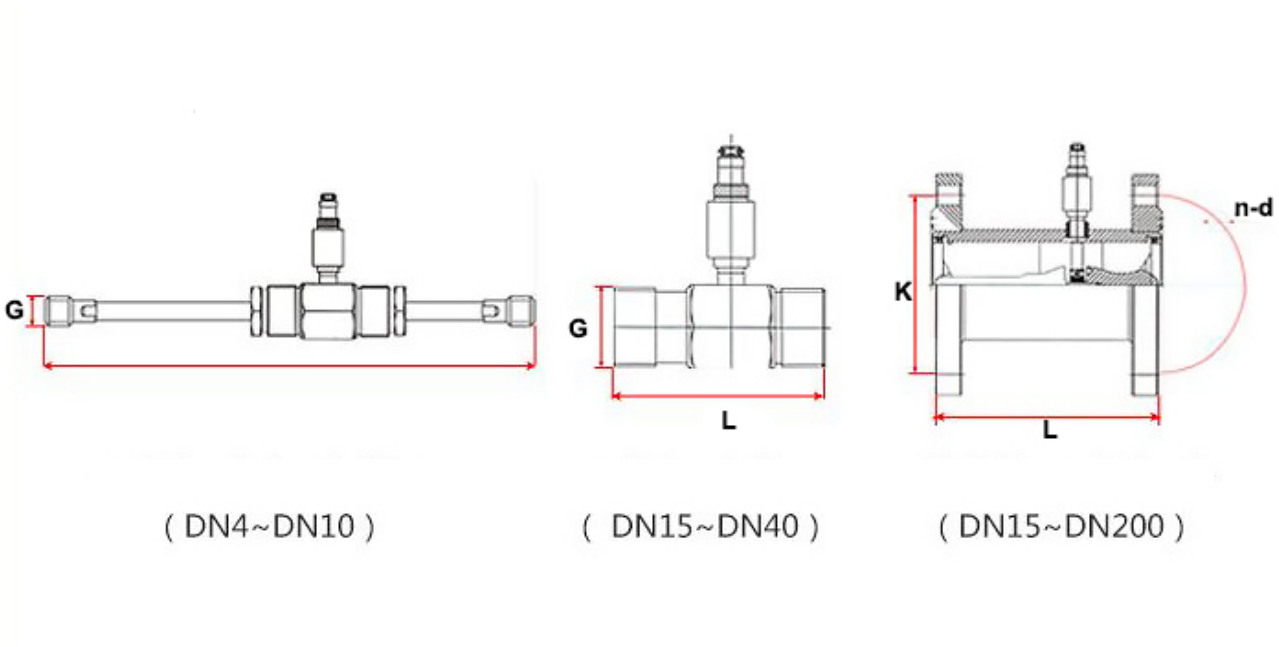
Features:

- Adopt high quality dot matrix LCD screen.
- Support multi-angle data observation.
- Instantaneous / cumulative flow is displayed in real time.
- Facilitate real-time data observation.

Specification:

Model	ATO-LWGY
Measuring Medium	liquid (water, liquefied petroleum gas, refined oil, light crude oil, organic liquid, inorganic liquid and other liquid without fiber, particulate impurities)
Medium Viscosity	< 5 × 10-6 m^2/s (for the liquid with more than 5 × 10-6 m^2/s, the flowmeter needs to be calibrated before using.)
Nominal Diameter	DN4 ~ DN200 mm
Measurement Accuracy	1.0%R (For higher accuracy 0.5%R / 0.2%R, please contact us.)
Pressure Range	6.3 MPa, 2.5 MPa, 1.6 MPa
Medium Temperature	-20 ℃ ~ +120 ℃ (stainless steel measuring tube)
Environmental Conditions	Ambient temperature: -20 ℃ ~ +60 ℃
	Relative humidity: 5% to 95%
	Atmospheric pressure: 86 kPa ~ 106 kPa
Power Supply	24V DC
Output Signal	three-wire pulse output, or two-wire 4-20 mA output (Optional)
Display	LCD screen, can display instantaneous flow / accumulative flow (Optional)
Connection	Threaded connection (DN4~DN40)
	Flange connection (DN50~DN200)
Communication	RS485 (Optional)
Protection Class	IP65 (IP68 can be customized)

Dimension (Unit: mm)

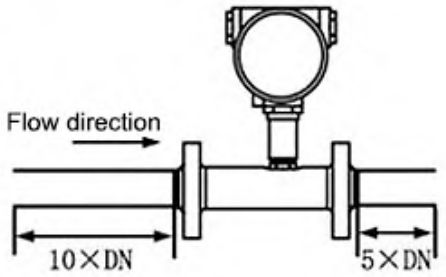


(DN4~DN10) (DN15~DN40) (DN15~DN200)

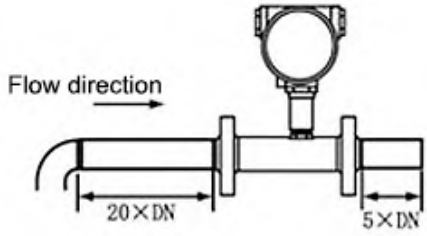
Size (mm)	L (mm)	G (inch)	K (mm)	d (mm)	n (number of holes)
DN4	225	G1/2"	—	—	—
DN6	225	G1/2"	—	—	—
DN10	345	G1/2"	—	—	—
DN15	75	G1"	Φ65	Φ14	4
DN20	80	G1"	Φ75	Φ14	4
DN25	100	G5/4"	Φ85	Φ14	4
DN32	140	G2"	Φ100	Φ14	4
DN40	140	G2"	Φ110	Φ18	4
DN50	150	G5/2"	Φ125	Φ18	4
DN65	170	—	Φ145	Φ18	4
DN80	200	—	Φ160	Φ18	8
DN100	220	—	Φ180	Φ18	8
DN125	250	—	Φ210	Φ18	8
DN150	300	—	Φ240	Φ22	8
DN200	360	—	Φ295	Φ22	12

Note For Installation:

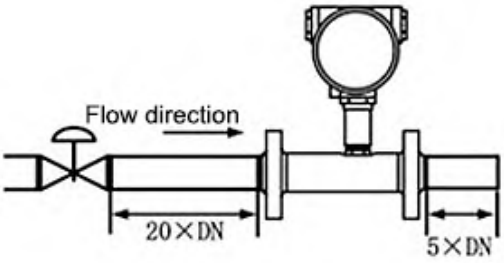
①



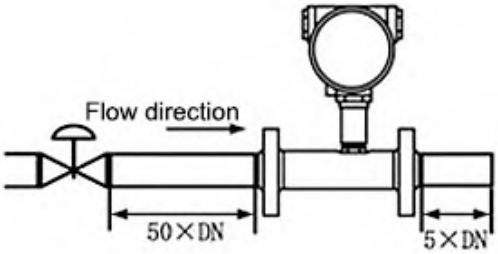
General pipe line



90° bend



Fully open valve

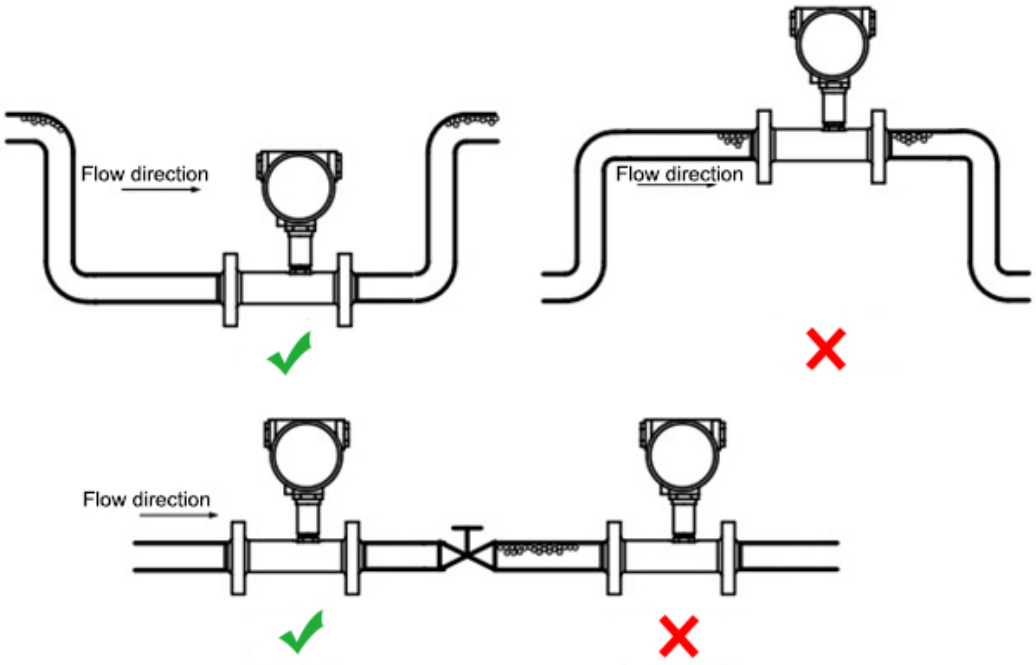


Half open valve

②

Avoid bubbles

If bubbles enter the measuring tube, the flow display will most likely be affected, resulting in measurement errors.



Features:

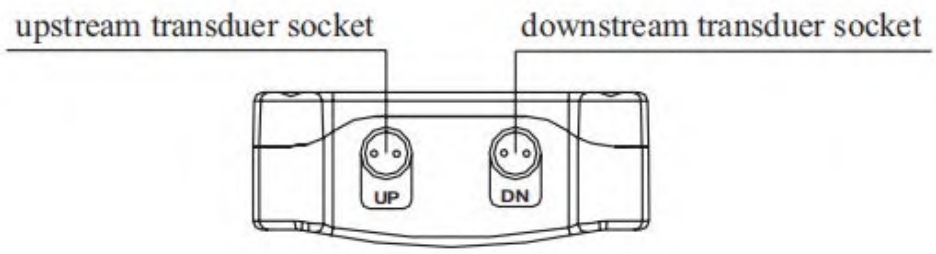
- LCD display the instantaneous flow rate.
- Built-in data logger and can storage 2000 lines of data.
- Convenient use, fast testing and less maintenance.
- Applicable for various pure liquids including water, lubricants, gasoline.

Specification:

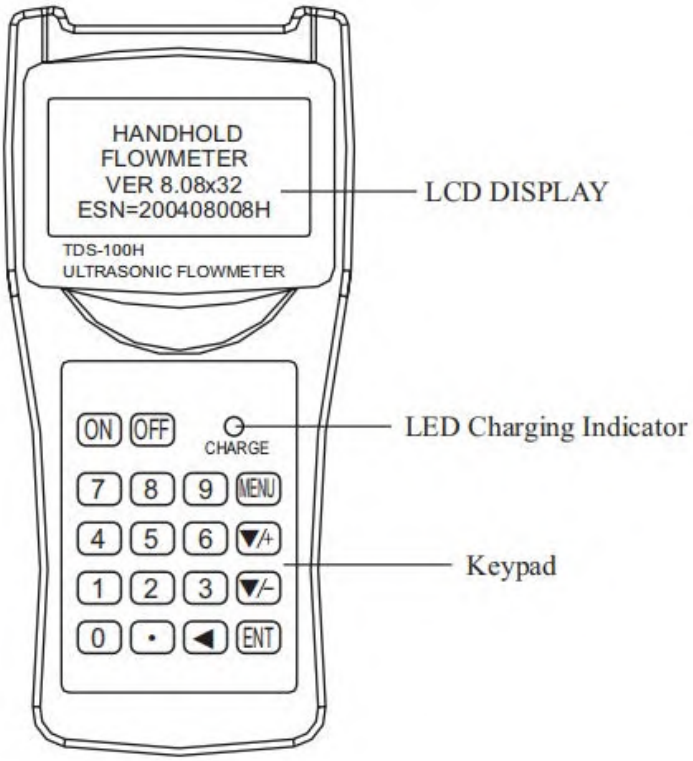
Model	ATO-SPE-2000H
Accuracy	±1% of reading at flow rate >0.2 m/s
Linearity	0.50%
Repeatability	0.20%
Response Time	0-999 seconds, user-selectable
Velocity	0.2~32 m/s
Pipe Size	32 mm-6000 mm
Totalizer	7-digit totals for net, positive and negative flow respectively
Liquid Type	Virtually all liquids
Transducer (Optional)	Standard clamp-on transducers: small/medium/large; High-temperature clamp-on transducers: small/medium/large
Protection Grade	Transducer: IP67
Transducer Cable Length	Standard 5m x 2
Operating Temperature	Main unit: -30 ℃~90 ℃, Transducers: -30 ℃~160 ℃
Operating Humidity	Main unit: ≤85% RH
Power Supply	3 AAA built-in Ni-H batteries (Can work over 12 hours after a full charge), external charger with 100V-240V AC
Display	4 x 16 English letters
Signal Output	OCT output (6~1000 ms)
Data Logger	Built-in data logger, can store over 2000 lines of data
Housing Material	ABS
Main Unit Size	100x66x20 mm
Main Unit Weight	500g with batteries

Structure；

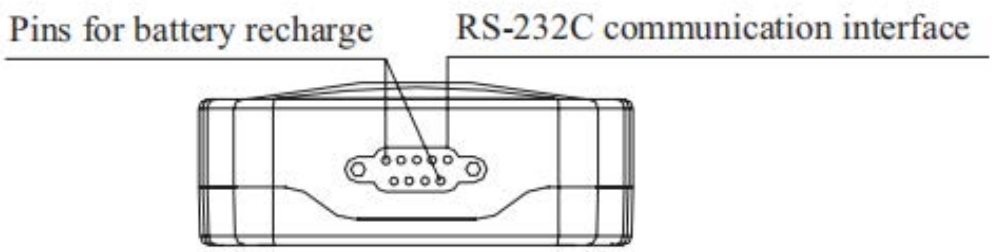
Top view：



Front View：



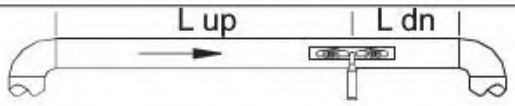
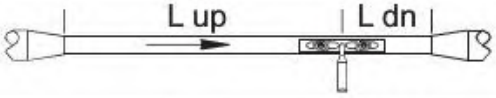
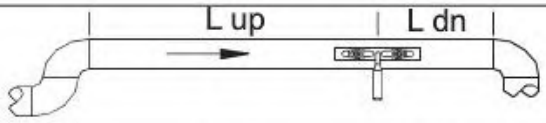
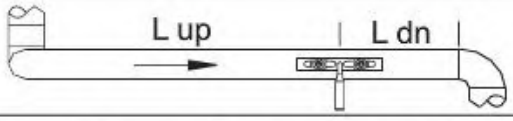
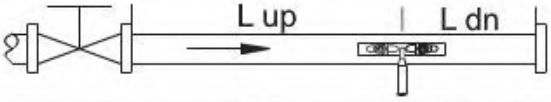
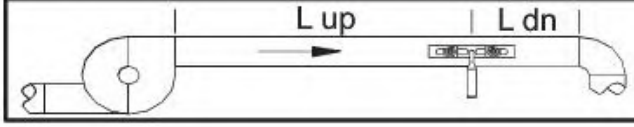
Bottom View：



Transducer Selection:

Transducer	Measuring Pipe Size Range	Temperature Range	Dimensions (mm)
Standard clamp-on transducer - Small	DN32-DN100	-40 ℃~90 ℃	45*25*32
Standard clamp-on transducer - Medium	DN50-DN700		64*39*44
Standard clamp-on transducer - Large	DN300-DN6000		97*54*33
High-temp clamp-on transducer - Small	DN32-DN100	-30 ℃~160 ℃	45*25*32
High-temp clamp-on transducer - Medium	DN50-DN700		64*39*44
High-temp clamp-on transducer - Large	DN300-DN6000		97*54*33

Transducer Installation Notice:

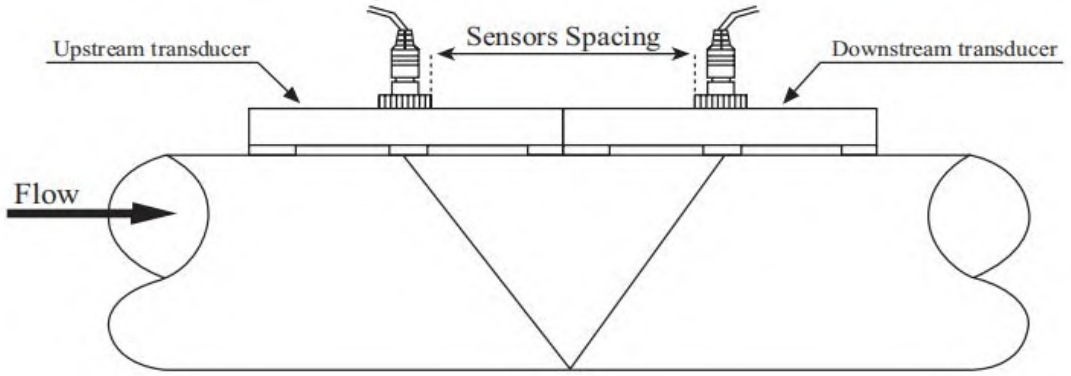
Piping Configuration and Transducer Position	Upstream Dimension	Downstream Dimension
	L up x Diameters	L dn x Diameters
	10D	5D
	10D	5D
	10D	5D
	12D	5D
	20D	5D
	20D	5D
	30D	5D

- The pipeline where the transducer is installed must have a long enough straight pipe section, of course, the longer the better, generally 10 times the pipe diameter upstream, 5 times the pipe diameter downstream, and 30 times the pipe diameter from the pump port. At the same time, ensure that the liquid in this section must be full.
- Make sure that the temperature range of the pipe under test is within the applicable range of the sensor, usually at room temperature.
- Take the corrosion or scaling of the pipeline into consideration. It is better to choose a newer pipeline for the measurement. If it is not available, subtract the corrosion from the pipe wall thickness or consider scaling as the pipe lining.

Transducer Installation Method:

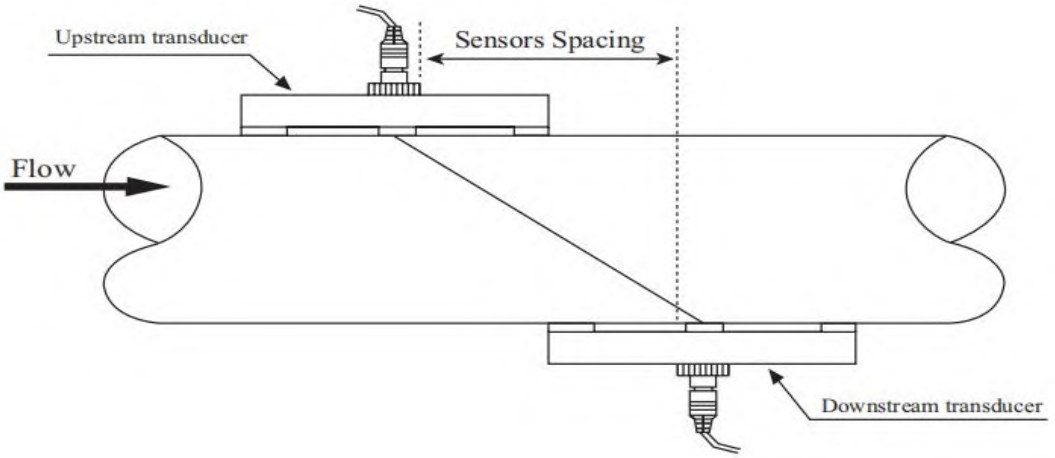
1. V-method Installation

It is the moswidely used mode for daily measurement with pipe inner diametersranging from 20 millimeter to 300 millimeter.



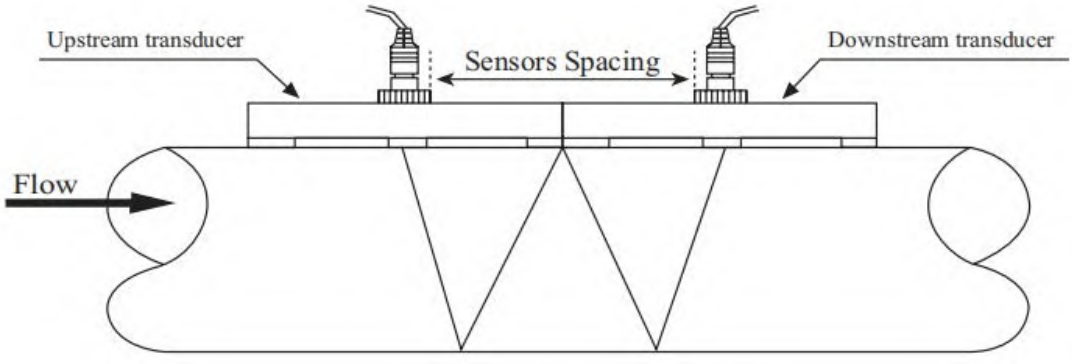
2. Z-method Installation

It is commonly used when the pipe diameter is between 300 millimeters and 500 millimeters.



3. W-method Installation

It is usually used on plastic pipes with a diameter from 10 millimeters to 100 millimeters.



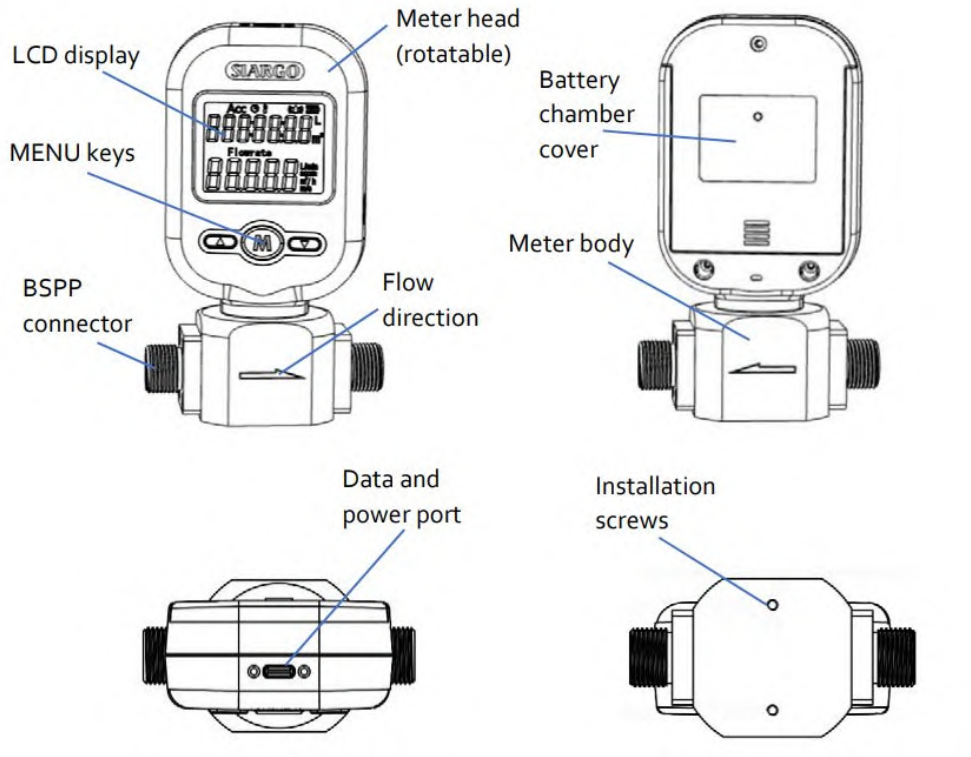
Features:

- Digital display, easy to read.
- Battery-powered, low power consumption.
- High sensitivity and good repeatibility, accurate to trace the flow rate.

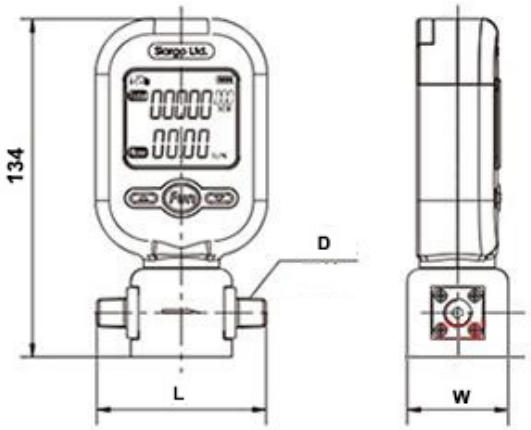
Specification:

Model	ATO-MF5706	ATO-MF5708	ATO-MF5712
Flow Range	0~20 L/min	0~100 L/min	0~250 L/min
Power Supply	4 AA batteries (LR6) or 5-24V DC		
Power Adapter	Input: 100-240V AC, 50/60 Hz, Output: 7V DC, 0.2A		
Power Consumption	≤10 mW		
Signal Output	RS 485 (Optional)		
Display	LCD		
Display Unit	Instantaneous flow rate: L/min, Flow accumulation: m^3		
Instantaneous Flow Resolution	0.01 L/min		
Flow Accumulation Resolution	0.001 m^3		
Working Pressure	≤0.8 MPa		
Pressure Loss	≤600 Pa	≤1000 Pa	≤2000 Pa
Working Temperature	-10 ℃ ~ +55 ℃		
Keyboard	3 keys		
User Interface	Mini USB port (This interface is connected to the power adapter for power supply, power cable is 0.5m, and it can also be used as a connection interface for 485 communication.)		
Calibration	Air @20 ℃, 101.325 kPa		
DN	6 mm	8 mm	12 mm
Mechanical Connection	NPT 1/4”	NPT 3/8”	NPT 1/2”
Weight	185g (Copper body)	270g (Aluminium alloy body)	350g (Aluminium alloy body)
Protection Class	IP40		
Gas	Air, N_2, O_2, Ar, CO_2, other gases		

Structure:

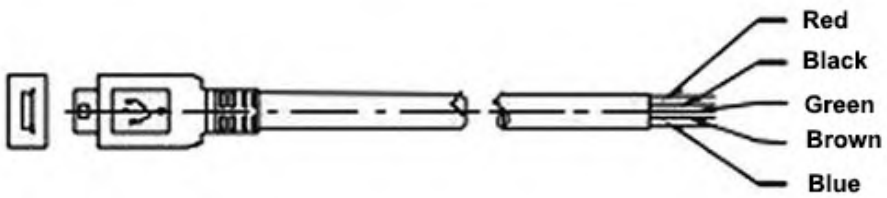


Dimension (Unit: mm)



Model	L	W	D
ATO-MF5706	67	40	NPT 1/4
ATO-MF5712	98	50	NPT 1/2

Accessories:



Pin	Name	Definition
Red	VCC	Input power (+)
Green	RS485A	RS485 A
Brown	RS485B	RS485 B
Blue	N.C	Not connected
Black	GND	Input power (-)

Cautions:

a. Don't alter any parts of the product.
b. Make sure no mechanical stresses in the connections.
c. The strong electromagnetic interference sources close by or any mechanical shocks at the pipeline may also create malfunctioning of the product.
d. Slowly open / close valves to prevent abrupt pulse flow impact.

Features:

- Highly sensitive, measuring as low as 8 mm/sec.
- Low pressure loss forreducing energy cost.
- Directly sense mass flow using thermal mass flow principle.

Specification:

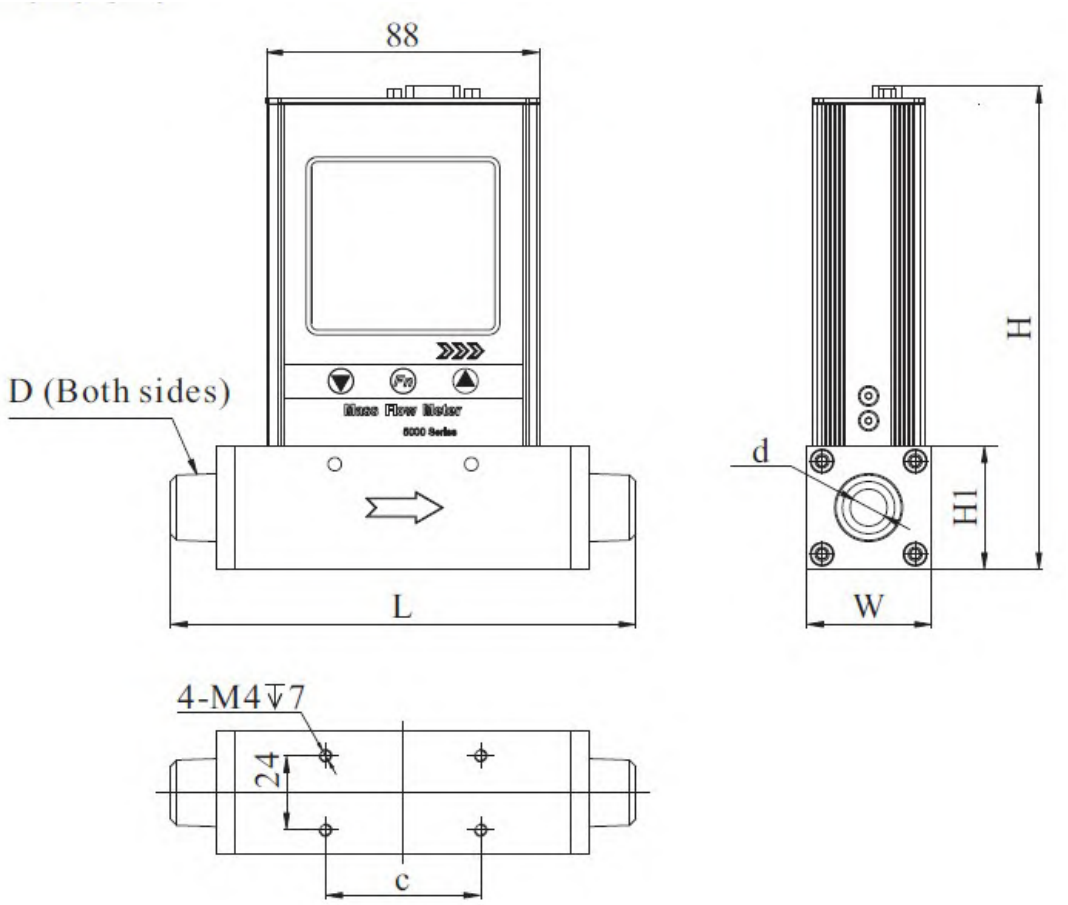
Model	ATO-MF5000
Flow Range (optional)	0~15 L/min
	0~50 L/min
	0~120 L/min
	0~300 L/min
	0~800 L/min
Applicable Gas (optional)	Air
	Nitrogen (N_2)
	Oxygen (O_2)
	Argon (Ar)
	Carbon Dioxide (CO_2)
	Methane (CH4)
Accuracy	± (1.5 + 0.5 F.S.)%
Repeatability	0.50%
Power Supply	DC 8~24V (50 mA)
Output Signal (optional)	4-20 mA, RS485, pulse 0~5V DC
Pressure Rating	1.5 MPa
Working Temperature	-20 ℃ ~ +60 ℃
Humidity	<95% RH (no condensation)
Pin-out	DB9
Calibration	Air @ 2 ℃, 101.325 kPa
Hazardous Rating	ExiaIICT4

Structure:

Safety Precautions:

The product is designed for use with general purpose gases such as air and nitrogen. It is advised that the products are best used for non-explosive clean gases. The sensors cannot be used for gas metrology of fluoride or fluoride containing gases. Use for other gases such as extreme corrosive and toxic may cause the product malfunctioning or even severe damages. The product sealing is ensured to work under working pressure of 1.0 MPa and is leakage proof before the shipment. But cautions and further leakage test are important at installation as well since any leakage could cause severe safety issue. The power supply for this product is 12~24 VDC, all precautions and measures for electrical voltage handling must apply.

Dimension (Unit: mm)



Flow Range	DN	D	L	H	H1	W	d	C
0~15 L/min	3	1/8 inch	118	144	28	38	Φ 3	36
0~50 L/min	6	1/4 inch	124	144	28	38	Φ 6	36
0~120 L/min	8	3/8 inch	124	151	35	38	Φ 8	50
0~300 L/min	12	1/2 inch	150	156	40	40	Φ 12	50
0~800 L/min	19	3/4 inch	182	156	40	40	Φ 19	70