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## KAIFENG KAMBODA INDUSTRIAL INSTRUMENT CO., LTD

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KAIFENG KAMBODA INDUSTRIAL INSTRUMENT CO., LTD



### LD Electromagnetic Flow Meter



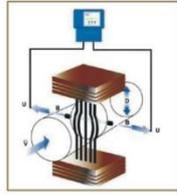
#### Features

For pipes DN3~DN3000  
 Suitable for all conductive liquids  
 No moving parts  
 Near zero pressure drop  
 High accuracy  $\pm 0.5\%$  of reading standard or better  $\pm 0.2\%$   
 220V, 24V, 12V, 3.6V powered supply  
 Wide range in communication RS485, RS232, Modbus, Hart, GPRS



#### Application

Environmental treatment industry (sewage treatment)  
 Chemical industry (petroleum smelting, fertilizer manufacturing, papermaking)  
 Heating and water supply (steam metering, hot water metering, drinking water metering, etc.)  
 Agricultural irrigation (smart farmland irrigation, river water metering, etc.)  
 Food and beverage industry (beer, milk, juice, edible oil and other production industries)  
 Pump and Valve Calibration Laboratory (Calibration Equipment)



**Measuring principle**

The measuring principle of the electromagnetic flowmeter (Magmeter) is based upon the Faraday's Law of Electromagnetic induction; whereby a voltage is induced by an electrical conductor passing through a magnetic field. The following equation is applicable to the induced voltage:  $U = kBVd$  where,  $U$  Induced voltage,  $k$  Instrument constant,  $B$  Magnetic field strength,  $V$  Velocity of the conductor,  $D$  Conductor width. In electromagnetic flowmeter, the medium acts as the electrical conductor when flowing through the meter tube, the induced voltage is proportional to the average flow velocity (the faster the flow rate, the higher the voltage). The induced voltage is picked up by a pair of electrodes (mounted in the meter tube) and transmitted to a flow transmitter to produce various standardized output signals. Using the pipe cross-sectional area, the flow volume is calculated by the transmitter.

**Technical specifications**

| Item                           | Parameter   |
|--------------------------------|---|
| DN size                        | 3...3000mm  |
| Structure type                 | Integral, remote  |
| Working pressure               | PN6, PN10, PN16, PN40, etc.   |
| End connection                 | flange (std.), clamping, wafer, threaded  |
| Flange standard                | DIN (std.), ANSI, JIS, EN, etc.   |
| Electrode material             | SS316 (std.), Hastelloy B, Hastelloy C, Ta, Ti, platinum-iridium alloy                      |
| Lining material                | Neoprene (std.), PTFE, PFA, polyurethane, F46, etc.   |
| Measuring pipe material        | SS304 (std.), SS346 optional  |
| Body material                  | Carbon steel (std.), SS304/304L/316/316L  |
| Measuring range                | 0.01m/s...10m/s   |
| Accuracy                       | ± 0.5% FS (std.), 0.2% optional   |
| Repeatability                  | ± 0.2% of span  |
| Display unit                   | m <sup>3</sup> /h, m <sup>3</sup> /d, m <sup>3</sup> /s, l/h, l/m, l/s, g/h, g/m, g/s, etc. |
| Power supply                   | 220V AC 50Hz, 24VDC, 12VDC, 3.6V battery powered  |
| Protection class for sensor    | IP67, IP68 optional   |
| Protection class for converter | IP65  |
| Alarm                          | Upper limit, lower limit, empty pipe  |
| Output signal                  | 4-20mA, pulse, frequency  |
| Communication                  | RS485 Modbus (std.), RS232 Modbus, HART, GPRS, Profibus                                     |
| Display                        | Backlight LCD, display positive & negative instantaneous flow and total flow                |
| Explosion-proof                | Exdmb IIC T6 (optional)   |

**Flow range table**

| DN size in mm | 0.01m/s - Min flow (m <sup>3</sup> /h) | About 5m/s - Calibrated flow (m <sup>3</sup> /h) | 15m/s - Max flow (m <sup>3</sup> /h) |
|---------------|--|--|--------------------------------------|
| 10            | 0.0028                                 | 1.5  | 4.2412                               |
| 15            | 0.0064                                 | 3  | 9.5426                               |
| 20            | 0.0113                                 | 5  | 16.9646                              |
| 25            | 0.0177                                 | 7  | 26.5072                              |
| 32            | 0.0290                                 | 12   | 43.4294                              |
| 40            | 0.0452                                 | 20   | 67.8584                              |
| 50            | 0.0707                                 | 30   | 106.0288                             |
| 65            | 0.1195                                 | 50   | 179.1886                             |
| 80            | 0.1810                                 | 70   | 271.4336                             |
| 100           | 0.2827                                 | 120  | 424.1150                             |
| 125           | 0.4418                                 | 180  | 662.6797                             |
| 150           | 0.6362                                 | 250  | 954.2588                             |
| 200           | 1.1310                                 | 450  | 1696.4600                            |
| 250           | 1.7671                                 | 700  | 2650.7188                            |
| 300           | 2.5447                                 | 1000   | 3817.0351                            |
| 350           | 3.4636                                 | 1400   | 5195.4089                            |
| 400           | 4.5239                                 | 1800   | 6785.8401                            |
| 450           | 5.7256                                 | 2300   | 8588.3289                            |
| 500           | 7.0686                                 | 2800   | 10602.8752                           |
| 600           | 10.1788                                | 4000   | 1526.1403                            |
| 700           | 13.8544                                | 5500   | 20781.6354                           |
| 800           | 18.0956                                | 7200   | 27143.3605                           |
| 900           | 22.9022                                | 9100   | 34353.3157                           |
| 1000          | 28.2743                                | 11000  | 42411.5008                           |
| 1200          | 40.7150                                | 12000  | 61072.5612                           |
| 1400          | 55.4177                                | 16000  | 83126.5416                           |
| 1600          | 72.3823                                | 20000  | 108573.4421                          |
| 1800          | 91.6088                                | 27000  | 137413.2627                          |
| 2000          | 113.0973                               | 34000  | 169646.0033                          |

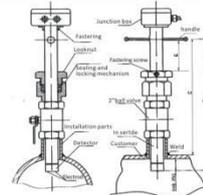
**LD Inertion Electromagnetic Flow Meter**

**Features**

- Applicable sizes 150~3000mm
- Operating pressure: < 1.6MPa (230 PSI)
- Velocity range of 1~10m/s (3-36 fps)
- Accuracy: ±2.5%
- Hot-tap sensor can be installed and retracted from process piping
- Conductivity of measured medium: > 50 μs/cm
- Electrode materials: SUS316L, Hastelloy B, Hastelloy C, Ta, Ti, etc
- The max. distance between sensor and converter: < 50m (165 feet)



**Dimensions**





**Specification**

|  |  |
|--|--|
| Cable Entry : 2 XPG11                          | Measuring Range : 1 - 10 m/s ·bi-direction                               |
| Size : 150-2000mm                              | Conductivity : to be more than 50 uS/cm                                  |
| Temperature up to 70 deg C                     | Connection : Weld, Flange  |
| Pressure up to 1.6Mpa                          | Wetted part : SS304  |
| Resistance excitation<br>Coil: 50-70 ohm (std) | Protection : IP65(convertor) / IP 67(sensor)                             |
| Materials (std):                               | Accuracy : +/-2.5% of reading  |
| Transmitter housing : Aluminium                | Power supply: 12VDC, 24 VDC, 220 VAC, 3 6V battery                       |
| Probe : 304SS                                  | Outputs: 4-20mA, Pulse, frequency  |
| Detector housing : PVC                         | Communication: RS485 Modbus(std.), RS232<br>Modbus, HART, GPRS, Profibus |
| Electrode : 316L                               |  |

**LUGB Vortex Flow Meter**



**Features**

1. Simple structure, no moving parts.
2. High accuracy, high reliability, no need of field debugging.
3. Capable of remote transmission of flow signal, able to make network with computer to implement central administration.
4. Unique design of amplify board, applicable to both gas and liquid



**Specification**

Accuracy grade, 1.0%, 1.5%  
 Size DN15 to DN600 pipe line  
 Pressure grade, PN10, PN16  
 Measuring medium temperature, -40~350°C  
 Power supply, 12-24V DC  
 Multi-choice in flange: DIN, GB, ANSI, JIS, etc  
 Output signal, Standard current, 4~20mA.  
 Voltage pulse, low level ≤ 1V, high level ≥ 6V, load resistor > 150 Ω

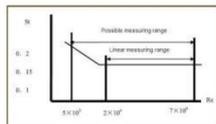


Fig.2

**Measuring Principle**

When the fluid flows through vortex generator (the triangular prism) in the pipeline, as partial flow rate go up, a vortex pattern appears, the vortex alternatively appears as two columns, it is called Karman Vortices. The discharge rate of Karman Vortex Street is related to the width of triangular prism and the flow rate of the fluid, but have nothing to do with parameters like fluid temperature and pressure.

It can be expressed by the formula as:  $f = StV/d$   
 Therein:  
 f --- the frequency of Karman Vortex Shedding  
 St --- Strouhal Number  
 V --- velocity  
 d --- width of the triangular prism

It can be seen in the formula that the instantaneous flow can be worked out through measuring

Karman Vortex shedding frequency. Therein, Strouhal Number St is unknown. Fig.2 shows the relationship between Strouhal Number St and Reynolds number Re.

In the flat part where  $St=0.17$  in fig.2, the discharge frequency of vortex is in proportion to flow rate, this part is the measuring range of vortex flow sensor. As long as the frequency f is measured, the flow rate can be worked out, then the volume flow can be worked out too. The rate of measured pulses and volume flow is defined as the instrument constant (K), expressed by the formula as:  $K = N/Q [1/m^3]$

Therein: K --- instrument constant N --- pulses no. Q --- volume

**Flow range table**

| DN size (mm) | Liquid                      |                                 | Gas                         |                                 |
|--------------|-----------------------------|---------------------------------|-----------------------------|---------------------------------|
|              | Std. Measuring range (m³/h) | Extended Measuring range (m³/h) | Std. Measuring range (m³/h) | Extended Measuring range (m³/h) |
| 15           | 0.8~6                       | 0.5~8                           | 6~40                        | 5~50                            |
| 20           | 1~8                         | 0.6~12                          | 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                           | 50~5000                     | 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                      |

**Field display LCD vortex flow meter**

**LUGB-Z Integral T&P compensation type**  
 Digital 2-line LCD, 8-digit display.  
 Low flow cutoff easily setting by user  
 Two-wire type 4-20mA output.  
 Online temperature & pressure compensation, artificial density compensation.  
 12-36V DV or 3.6V lithium battery power.  
 Integral type vortex flow meter with T&P compensation makes installation more convenient.



**LUGB-M LCD display type**  
 Digital 2-line LCD, 8-digit display.  
 Two-wire type 4-20mA output.  
 Low flow cutoff easily setting by user  
 Online split temperature & pressure compensation, artificial density compensation. 12-36V DV or 3.6V lithium battery power.



**LUGB insertion type**  
 Suitable for pipe size DN200 above.  
 Designed for measuring of superheated steam, saturated stem, common gas liquid.  
 Field display and remote output are selectable.  
 Easy installation, competitive price.



**LWGQ Gas Turbine Flow Meter**



**Features**

Widely used in natural gas, nitrogen gas, compressed air, etc.  
 To request the medium with clean, better to install the filter 180 degrees rotatable head, and easy installation and maintenance  
 Good repeatability, 0.05%~0.2% for short period  
 Temperature and pressure compensation available

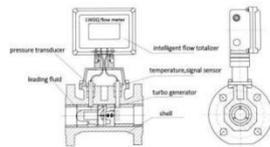
**Technical data**

|                       |                             |
|-----------------------|-----------------------------|
| Output                | pulse, 4-20mA, RS485, HART  |
| Accuracy              | ±1.0% ; 1.5%                |
| Repeatability         | ± 0.5%                      |
| Operating temperature | -20...+60℃                  |
| Fluid temperature     | -20...+80℃                  |
| Body material         | S5304, Ss316                |
| rotor material        | Aluminum alloy, plastic ABS |
| Bearing material      | S5304                       |

**Measuring principle**

The operation of the International Gas Turbine Meter is based on the measurement of the velocity of gas. The flowing gas is accelerated and conditioned by the meters straightening section. The straightening vanes prepare the gas flow profile by removing undesired swirl, turbulence and asymmetry before the gas flows to the turbine wheel. The dynamic forces of the flowing fluid cause the rotor to rotate.

The turbine wheel is mounted on the main shaft, with special high precision, low friction ball bearings. The turbine wheel has helical blades that have a known angle relative to the gas flow. The conditioned and accelerated gas drives the turbine wheel with an angular velocity that is proportional with the gas velocity.



**Flow range table**

| DN  | Standard flowrange |          | Extended flow range |          | Pressure grade |         | Connection mode |
|-----|--------------------|----------|---------------------|----------|----------------|---------|-----------------|
|     | Code               | m3/h     | Code                | m3/h     | Standard       | Option  |                 |
| 25  | S                  | 2.5-25   | W                   | 4-40     | 1.6            | 2.5,4.0 | Flange(Thread)  |
| 40  | S                  | 5-50     | W                   | 6-60     | 1.6            | 2.5,4.0 | Flange(Thread)  |
| 50  | S1                 | 6-65     | W1                  | 5-70     | 1.6            | 2.5,4.0 | Flange          |
|     | S2                 | 10-100   | W2                  | 8-100    |                |         |                 |
| 65  | S                  | 15-200   | W                   | 10-200   | 1.6            | 2.5,4.0 | Flange          |
| 80  | S1                 | 13-250   | W                   | 10-160   | 1.6            | 2.5,4.0 | Flange          |
|     | S2                 | 20-400   |                     |          |                |         |                 |
| 100 | S1                 | 20-400   | W                   | 13-250   | 1.6            | 2.5     | Flange          |
|     | S2                 | 32-650   |                     |          |                |         |                 |
| 125 | S                  | 25-700   | W                   | 20-800   | 1.6            | 2.5     | Flange          |
| 150 | S1                 | 32-650   | W                   | 80-1600  | 1.6            | 2.5     | Flange          |
|     | S2                 | 50-1000  |                     |          |                |         |                 |
| 200 | S1                 | 80-1600  | W                   | 50-1000  | 1.6            | -----   | Flange          |
|     | S2                 | 130-2500 |                     |          |                |         |                 |
| 250 | S1                 | 130-2500 | W                   | 80-1600  | 1.6            | -----   | Flange          |
|     | S2                 | 200-4000 |                     |          |                |         |                 |
| 300 | S                  | 200-4000 | W1                  | 130-2500 | 1.6            | -----   | Flange          |
|     |                    |          | W2                  | 320-6500 |                |         |                 |

### LWGY Liquid Turbine Flow Meter



#### Features

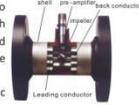
Specially designed for water, diesel, gasoline and other fluid measurement and control systems.  
 Applicable sizes 4~200mm.  
 Good repeatability, 0.05%~0.2% for short.  
 Wide measuring range, 1:10 for small size and 1:20 for large size.  
 Compact structure, easy installation and maintenance.  
 Suitable for high pressure measuring.

#### Technical data

|                       |                            |
|-----------------------|----------------------------|
| Output                | pulse, 4-20mA, RS485, HART |
| Accuracy              | ±1.0%, ±0.5% of rate       |
| Repeatability         | ±0.5%                      |
| Operating temperature | -20...+60℃                 |
| Fluid temperature     | -20...+120℃                |
| Body material         | SS304, SS316               |
| rotor material        | 2Cr13, Alloy-CD4mCu        |
| Bearing material      | Tungsten carbide           |

### Measuring Principle

Fluid entering the meter first passes through an inlet flow straightener that reduces its turbulent flow pattern. Fluid then passes through the turbine, causing the turbine to rotate at a speed proportional to fluid velocity. As each turbine blade passes through the magnetic field generated by the meter's magnetic pickup, an AC voltage pulse is generated. These pulses provide an output frequency that is proportional to volumetric flow.



### Flow range table

| DN (mm) | Standard flow range (m <sup>3</sup> /h) | Extended flow range (m <sup>3</sup> /h) | Standard connection & Pressure grade | Special pressure grade(Mpa) (flange clamping) |
|---------|---|---|--------------------------------------|---|
| 4       | 0.04-0.25                               | 0.04-0.4                                | thread/6.3Mpa                        | 10,16,25                                      |
| 6       | 0.1-0.6                                 | 0.06-0.6                                | thread/6.3Mpa                        | 10,16,25                                      |
| 10      | 0.2-1.2                                 | 0.15-1.5                                | thread/6.3Mpa                        | 10,16,25                                      |
| 15      | 0.6-6                                   | 0.4-8                                   | thread/6.3Mpa                        | 4.0,6.3,10,16,25                              |
|         |   |   | flange/2.5Mpa                        |   |
| 20      | 0.8-8                                   | 0.45-9                                  | thread/6.3Mpa                        | 4.0,6.3,10,16,25                              |
|         |   |   | flange/2.5Mpa                        |   |
| 25      | 1-10                                    | 0.5-10                                  | thread/6.3Mpa                        | 4.0,6.3,10,16,25                              |
|         |   |   | flange/2.5Mpa                        |   |
| 32      | 1.5-15                                  | 0.8-15                                  | thread/6.3Mpa                        | 4.0,6.3,10,16,25                              |
|         |   |   | flange/2.5Mpa                        |   |
| 40      | 2-20                                    | 1-20                                    | thread/6.3Mpa                        | 4.0,6.3,10,16,25                              |
|         |   |   | flange/2.5Mpa                        |   |
| 50      | 4-40                                    | 2-40                                    | flange/2.5Mpa                        | 4.0,6.3,10,16,25                              |
| 65      | 7-70                                    | 4-70                                    | flange/2.5Mpa                        | 4.0,6.3,10,16,25                              |
| 80      | 10-100                                  | 5-100                                   | flange/2.5Mpa                        | 4.0,6.3,10,16,25                              |
| 100     | 20-200                                  | 10-200                                  | flange/1.6Mpa                        | 2.5,4.0,6.3,10,16,25                          |
| 125     | 25-250                                  | 13-250                                  | flange/1.6Mpa                        | 2.5,4.0,6.3,10,16                             |
| 150     | 30-300                                  | 15-300                                  | flange/1.6Mpa                        | 2.5,4.0,6.3,10,16                             |
| 200     | 80-800                                  | 40-800                                  | flange/1.6Mpa                        | 2.5,4.0,6.3,10,16                             |

### Classification of turbine flow meter

LWGY-N basic type sensor  
 12-24V DC power supply  
 3-wire pulse signal output  
 High level ≅ 8V, low level ≅ 0.8V  
 Signal transmission distance ≅ 1000m

LWGY-A transmitter  
 24V DC power supply  
 Digital local LCD display  
 2-wire 4-20mA output  
 Signal transmission distance ≅ 1000m

LWGY-B field display flow meter  
 3.0V 10AH lithium battery(4-year working life)  
 Digital local LCD display  
 None signal output

LWGY-C field display flow meter  
 24V DC power supply  
 Digital local LCD display  
 Output 4-20mA standard with 2-wire, 3-wire and 4-wire current signal 1-5V voltage signal  
 RS485, HART communication is optional



### TUF-2000 Ultrasonic Flow Meter



2000H hand-held type      2000P portable type

#### Features

Ideal for non-contact measurement.  
 For pipes 15-6000mm temporary measurement.  
 High accuracy ±1%, good repeatability 0.2%.  
 Easy installation, just fix the sensors on the pipe outer wall.  
 Built-in rechargeable battery, as long as 12h working time.  
 2000H type is small size, convenient to carry, accurate measurement.  
 2000P type with built-in SD card and printer, can provide data printed service.  
 Widely used in water supply, heat supply, chemical industry, machinery and energy resources.

#### Size and fittings



Mounting bracket transducer



Clamp on transducer

Measuring diagram



Parts description

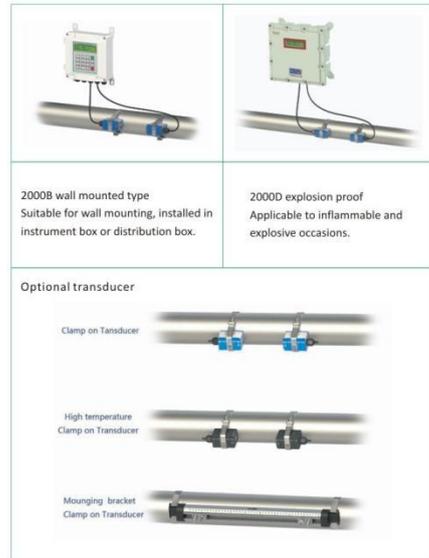


Ultrasonic flowmeter TUF2000 series



Optional transducer

| Types                                      | Spec     | Model      | Measure range(mm) | Temperature | Size         |
|--|----------|------------|-------------------|-------------|--------------|
| Clamp on                                   | Small    | T5-2       | DN15-100          | -30~90°C    | 42×25×32mm   |
|  | Medium   | TM-1       | DN50-700          | -30~90°C    | 69×39×44mm   |
|  | Large    | TL-1       | DN300-6000        | -30~90°C    | 97×54×53mm   |
| High temperature clamp on                  | Small    | T5-2-HT    | DN15-100          | -40~160°C   | 45×25×32mm   |
|  | Medium   | TM-1-HT    | DN50-700          | -40~160°C   | 64×39×44mm   |
|  | Large    | TL-1-HT HS | DN300-6000        | -40~160°C   | 97×54×53mm   |
| Mounting bracket clamp on                  | Small    | HS         | DN15-100          | -30~90°C    | 318×59×85mm  |
|  | Medium   | HM         | DN50-300          | -30~90°C    | 568×59×85mm  |
|  | Extended | EB-1       | DN300-700         | -30~90°C    | 118×59×49mm  |
| High temperature mounting bracket clamp on | Small    | HS-HT      | DN15-100          | -40~160°C   | 318×59×110mm |
|  | Medium   | HM-HT      | DN50-300          | -40~160°C   | 568×59×110mm |
|  | Extended | EB-1-HT    | DN300-700         | -40~160°C   | 188×59×49mm  |



|   |   |
|---|---|
|  | 2000B insertion type<br>No need to cut off the pipeline, no pressure drop.  |
|  | 2000B insertion proof<br>Available to adopt hot tapping.<br>Measurement stability and reliability.                  |
|  | 2000D inline type<br>Standard pipe type<br>Low starting flow rate<br>High measurement accuracy<br>No pressure loss. |

|  |  |   |   |
|--|--|---|---|
|  | 2000D pipe type<br>Pipe type   |   |   |
| Optional transducer  |  |   |   |
| Photos   |  |  |  |
| Inline type  | Flange   | Flange  | Thread  |
| Accuracy   | ± 0.5%   | ± 0.5%  | ± 0.5%  |
| IP class   | IP68   | IP68  | IP68  |
| Caliber  | DN40-1000  | DN45-32   | DN45-32   |
| Medium temp  | -30°C -160°C   | -30°C -160°C  | -30°C -160°C  |

**LUBX Gas Precision Vortex Flow Meter**



**Features**

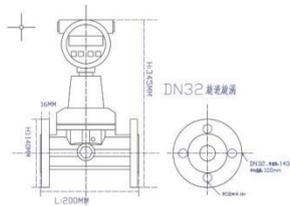
Widely used in natural gas, nitrogen gas, compressed air, etc.  
To request the medium with clean, better to install the filter 180 degrees rotatable head, and easy installation and maintenance  
Good repeatability, 0.05%~0.2% for short period  
Temperature and pressure compensation available

**Technical data**

|                       |  |
|-----------------------|--|
| Output                | pulse, 4-20mA, RS485, HART               |
| Accuracy              | ±1.0% ; ±1.5%                            |
| Repeatability         | ± 0.5%                                   |
| Operating temperature | -20...+60°C                              |
| Fluid temperature     | -20...+80°C                              |
| Body material         | Cast aluminum alloy                      |
| Connection            | Flange                                   |
| Type                  | with pressure & temperature compensation |

**Measuring principle**

The intelligent gas precision vortex flowmeter integrates the detection functions of flow, temperature and pressure, and can automatically compensate for temperature, pressure and compression factor. It is an ideal instrument for gas measurement in petroleum, chemical, electric power, metallurgy and other industries.  
No mechanical moving parts, not easy to corrode, stable and reliable, long life, long-term operation without special maintenance;  
The intelligent LCD display can directly display the volume flow rate in the working state, the volume flow rate in the standard state, the accumulated flow rate, the flow rate, the medium temperature, the medium pressure and other information.



Flow range table

| DN  | Standard flowrange | Pressure grade |          | Connection mode |
|-----|--------------------|----------------|----------|-----------------|
|     | m <sup>3</sup> /h  | Standard       | Option   |                 |
| 15  | 1.5-12             | 1.6            | 2.5, 4.0 | Flange          |
| 20  | 2-15               | 1.6            |          |                 |
| 25  | 3-30               | 1.6            |          |                 |
| 32  | 6-60               | 1.6            |          |                 |
| 40  | 7-70               | 1.6            |          |                 |
| 50  | 10-130             | 1.6            |          |                 |
| 65  | 20-300             | 1.6            | 2.5      |                 |
| 80  | 30-400             | 1.6            |          |                 |
| 100 | 70-800             | 1.6            |          |                 |
| 125 | 90-1000            | 1.6            |          |                 |
| 150 | 190-1900           | 1.6            |          |                 |
| 200 | 240-3600           | 1.6            |          |                 |

Thermal Gas Mass Flow Meter



Features

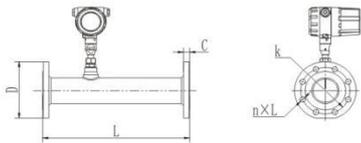
Widely used in air, compressed air, N<sub>2</sub>, O<sub>2</sub>, CO<sub>2</sub>, natural gas, nitrogen gas, etc. Requires media to be clean and dry.  
Units of instantaneous flow: Nm<sup>3</sup>/h, NM<sup>3</sup>/min, L/h, L/min, T/h, T/min, Kg/h, Kg/min

Technical data

|                       |                            |
|-----------------------|----------------------------|
| Output                | pulse, 4-20mA, RS485, HART |
| Accuracy              | ±1.0%, 1.5%                |
| Repeatability         | ±0.5%                      |
| Operating temperature | -20...+60°C                |
| Fluid temperature     | -20...+80°C                |
| Body material         | Cast aluminum alloy        |
| Connection            | Flange/insertion           |
| Type                  | Compact/split              |

Measuring principle

Thermal gas mass flow meter is designed on the basis of thermal dispersion, and adopts method of constant differential temperature to measuring gas flow. It has advantages of small size, easy installation, high reliability and high accuracy, etc.  
The meter contains two platinum resistance temperature sensors. The thermal principle operates by monitoring the cooling effect of a gas stream as it passes over a heated sensor. Gas flowing through the sensing section passes over two sensors one of which is used conventionally as a temperature sensor, whilst the other is used as a heater. The temperature sensor monitors the actual process values whilst the heater is maintained at a constant differential temperature above this by varying the power consumed by the sensor. The greater the gas velocity, the greater the cooling effect and power required to maintain the differential temperature. The measured heater power is therefore a measure of the gas mass flow rate.



Flow range table

| DN   | Standard flowrange (Air) | Pressure grade |          | Connection mode  |
|------|--------------------------|----------------|----------|------------------|
|      | Nm <sup>3</sup> /h       | Standard       | Option   |                  |
| 15   | 0-65                     | 1.6            | 2.5, 4.0 | Flange/threaded  |
| 20   | 0-145                    | 1.6            |          |                  |
| 25   | 0-175                    | 1.6            |          |                  |
| 32   | 0-290                    | 1.6            |          |                  |
| 40   | 0-450                    | 1.6            |          |                  |
| 50   | 0-700                    | 1.6            |          |                  |
| 65   | 0-1200                   | 1.6            | 2.5      | Flange/insertion |
| 80   | 0-1800                   | 1.6            |          |                  |
| 100  | 0-2800                   | 1.6            |          |                  |
| 125  | 0-4400                   | 1.6            |          |                  |
| 150  | 0-6300                   | 1.6            |          |                  |
| 200  | 0-10000                  |                |          |                  |
| 250  | 0-17000                  |                | 2.5      | Insertion        |
| 300  | 0-25000                  |                |          |                  |
| 400  | 0-45000                  |                |          |                  |
| 500  | 0-70000                  |                |          |                  |
| 600  | 0-100000                 |                |          |                  |
| 700  | 0-135000                 |                |          |                  |
| 800  | 0-180000                 |                |          |                  |
| 900  | 0-220000                 |                |          |                  |
| 1000 | 0-280000                 |                |          |                  |

### Variable Area Flow Meter



#### Features

All stainless steel design  
 Wide turn-down 10:1  
 Small volume, large, convenient operation  
 Long work life, low straight pipe condition required  
 2-line LCD display instantaneous and accumulated flow  
 Can be used in flammable, explosive and dangerous situations

#### Technical Specification

|                     |  |
|---------------------|--|
| Measuring range     | water (20 °C) 1-200000l/h<br>air(20 °C) 0.03-4000m <sup>3</sup> /h                                   |
| Turn-down ratio     | 10:1(std.),20:1 special order  |
| Accuracy            | ±1.5%(std.), ±1.0%   |
| Pressure grade      | DN15-50 4.0Mpa(std.)<br>DN65-200 1.6Mpa  |
| Media temperature   | Standard type, -40 °C-100 °C<br>High temp type, 100 °C-450 °C  |
| Media viscosity     | DN15 η<5mPa.s<br>DN25 η<250mPa.s<br>DN50~150 η<300mPa.s  |
| Ambient temperature | long transmission type, -40-185 °C<br>LCD display type, -30-+80 °C<br>Field pointer type, -40-100 °C |

### Oval Gear Flow Meter



#### Features

Simple structure, reliable operation.  
 Suitable to high viscosity medium measurement.  
 High accuracy, large flow range and good reparability.  
 Flow state does not affect the accuracy of measurement.

### Our other products



### Our qualifications



### Our equipment

