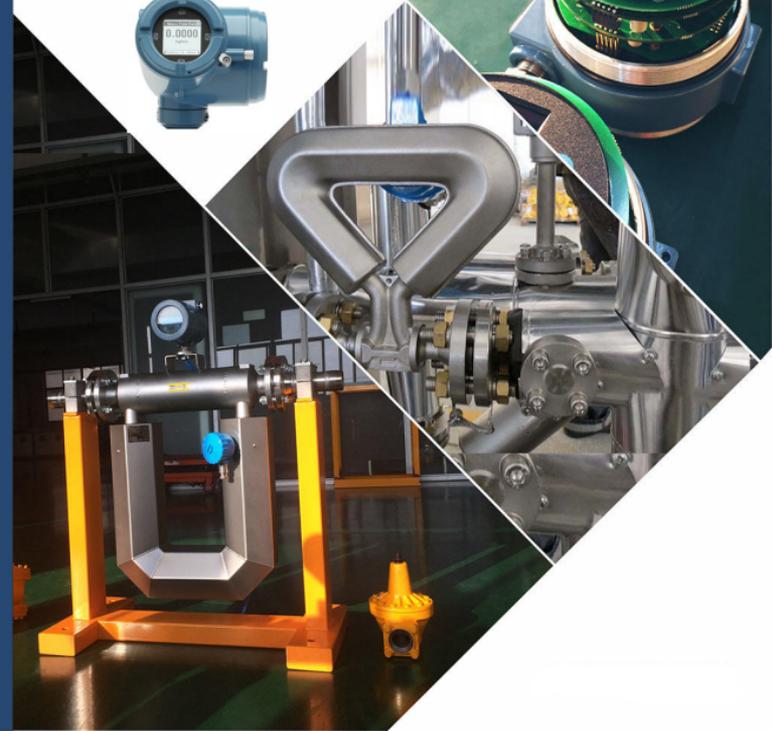


Coriolis Mass Flow Meter



Introduction



is a professional hi-tech enterprise, founded in 2009 with 45 million CNY registered capital. Located in Binhai ETDZ, Wenzhou, the factory covers an area of 4000m², equipped with advanced production and test facilities.

Sealand started to research oil and gas equipment in 1990 first, and then focuses on the research, development, production, sale and service of mass flow meter. After decades of effort, it learned the core technology and manufacturing technique in this area; the products reach domestic leading level, and meet the international standards. Difficulty has been solved to measure fluid (liquid/gas) at high/low temperature, at a low flow rate and at a large pressure fluctuation, meeting the need for quick-acting and high accuracy in the market. Besides, solution is available for special requirements, including design, installation, test & other services.

As a technology enterprise, Sealand communicates and cooperates with colleges and research institutes to keep technology updated. In the meantime, it concentrates on quality management as well, and obtained ATEX, CE, Certificate of Quality System ISO9001, ISO14000, ISO18000, Certificate of Explosion-proof and Certificate of Metrology.

Sealand is looking forward to establishing a long-term cooperation with you and create a bright future together!



Main Parameters



Model	Diameter (mm)	Max.flow (kg/min)	Max.working pressure (MPa)	Accuracy grade	Zero stability (kg/h)
CG-06	6	18	4	0.1, 0.2	0.04
CG-15	15	50	25	0.1, 0.2	0.12
CNG-15	15	70	25	0.1, 0.2	0.19
CG-20	20	120	25	0.1, 0.2	0.36
CG-25	25	200	4	0.1, 0.2	0.62
CG-40	40	500	4	0.1, 0.2	1.6
CG-50	50	1000	4	0.1, 0.2	2.38
CG-80	80	3000	4	0.1, 0.2	7.05



Calibration Lab Uncertainty: $\pm 0.05\%$

Production & Testing Equipment



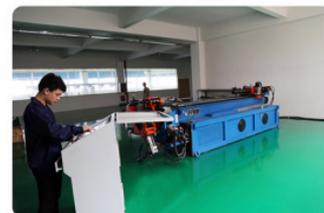
Testing equipment



Burn-in area



METTLER TOLEDO IND560



CNC pipe bending machine



Assembly line



Vacuum brazing furnace

MASS FLOW METER

Introduction



Mass flow meter is a device that measures the mass of a fluid traveling through a tube, in accordance with Coriolis Principle. Coriolis mass flow meter can directly measure fluid mass flow, and has great influence on processing and measuring methods in energy & chemical industries. Compared with traditional volumetric flow measurement, it has following advantages:

1. High accuracy: Generally from 0.1% - 0.5%.
2. Wide application: Besides common fluid, mass flow meter can measure fluids such as non-Newtonian fluid, all kinds of slurry, suspensions, etc.
3. Convenient installation: No specific requirement of choosing upstream or downstream pipe.
4. High reliability

Other Features



Requires low maintenance, because of no movable parts.



Shows many parameters simultaneously, such as mass flow, temperature, density, etc.



Not affected by the fluid, saving design & installation cost.

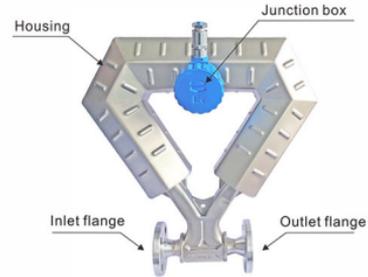


One sensor can be used for various fluids.

Flow Sensor



Flow sensor is a phase-sensitive resonant sensor based on Coriolis effect, composed of vibration tube, signal detector, concussion driver, structural support, housing.



CG-25



Inlet splitter

Flow Transmitter



Flow transmitter is a micro-programming-centered electronic system, supplying driving force to sensor, transforming sensor signal into mass flow signal, and improving measurement accuracy in accordance with temperature parameter.

It is composed of switching power supplier, safety grating, core processor board, display module, etc, installed in a ex-proof junction box. Switching power supply offers power for transmitter; safe grating isolates flow sensor and transmitter intrinsically; core processor detects & processes sensor phase signal, sends mass flow signal and processes communication.



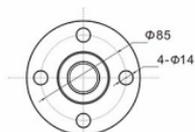
Installation



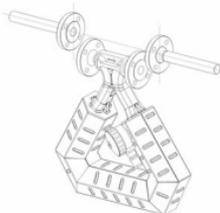
A. Installation of sensor

The installation can be adjusted to local conditions, because the meter measures mass flow directly, the accuracy is not influenced by fluid, and there is no straight pipeline requirement.

- 2 pipelines should be in the same horizon and centered;
- Pipe flanges should be perpendicular to the pipe;
- Both pipelines should be fixed near pipe flanges;
- Bolt holes of pipe flange and sensor flange should be aligned;
- The fluid direction should be the same as marked on sensor.



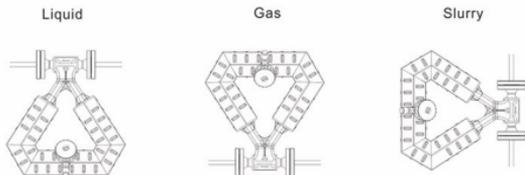
Connection of sensor flange



b. Installation of transmitter

- Easy for operation and to check the data
- Avoid direct sunlight
- Standard ambient temperature & ex-proof
- Keep away from strong electromagnetic interference devices
- Use specified power supply

c. Installation for different fluids

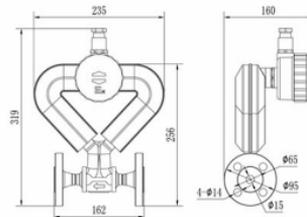


Note: It's better to adopt vertical installation if the medium contains liquid/slurry

Mass Flow Meter CG-06



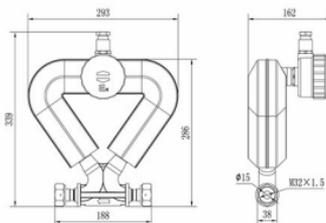
Model No.	CG-06
Nominal diameter	6mm
Max. flow rate	18 kg/min
Liquid accuracy	±0.1% (rangeability 1:10) ±0.2% (rangeability 1:20)
Gas accuracy	±0.5%
Temp. accuracy	±1°C ±0.5% of reading
Density accuracy	±0.002g/cm3
Zero stability	0.04kg/h
Repeatability	0.05%
MWP.	4MPa
Operating voltage	AC85~265V/ DC12~24V
Ingress protection	IP67
Fluid temperature	-200~+200°C
Operating temp.	-30°C~+60°C
Vibrating tube	Stainless steel 316L
End connection	DN15 Flange, customizable
Output	RS485, Pulse, 4-20mA & HART
Ex-mark	Ⓜ II 2G Ex db IIC T6...T1 Gb
Warranty	2-year
Certificate	CE, ATEX
Package size	410*385*250mm
G.W.	8.6kg



Mass Flow Meter CG-15



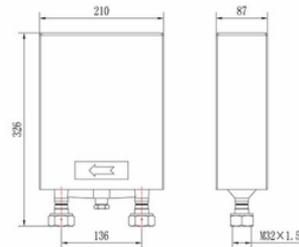
Model No.	CG-15
Nominal diameter	15mm
Max. flow rate	50 kg/min
Liquid accuracy	±0.1% (rangeability 1:10) ±0.2% (rangeability 1:20)
Gas accuracy	±0.5%
Temp. accuracy	±1°C ±0.5% of reading
Density accuracy	±0.002g/cm ³
Zero stability	0.12kg/h
Repeatability	0.05%
MWP.	25MPa
Operating voltage	AC85~265V/ DC12~24V
Ingress protection	IP67
Fluid temperature	-200~+200°C
Operating temp.	-30°C~+60°C
Vibrating tube	Stainless steel 316L
End connection	Nut 32X1.5, customizable
Output	RS485, Pulse, 4-20mA & HART
Ex-mark	Ⓜ II 2G Ex db IIC T6...T1 Gb
Warranty	2-year
Certificate	CE, ATEX
Package size	445*370*405mm
G.W.	12 kgs



Mass Flow Meter CNG-15



Model No.	CNG-15
Nominal diameter	15mm
Max. flow rate	70 kg/min
Liquid accuracy	±0.1% (rangeability 1:10) ±0.2% (rangeability 1:20)
Gas accuracy	±0.5%
Temp. accuracy	±1°C ±0.5% of reading
Density accuracy	±0.002g/cm ³
Zero stability	0.19kg/h
Repeatability	0.05%
MWP.	25MPa
Operating voltage	AC85~265V/ DC12~24V
Ingress protection	IP67
Fluid temperature	-200~+200°C
Operating temp.	-30°C~+60°C
Vibrating tube	Stainless steel 316L
End connection	Nut 32X1.5, customizable
Output	RS485, Pulse, 4-20mA & HART
Ex-mark	Ⓜ II 2G Ex db IIC T6...T1 Gb
Warranty	2-year
Certificate	CE, ATEX
Package size	575*320*185mm
G.W.	14 kgs



Mass Flow Meter CG-20



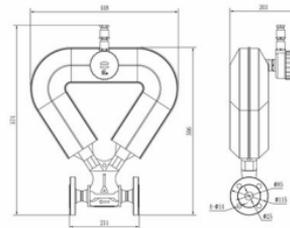
Model No.	CG-20
Nominal diameter	20mm
Max. flow rate	120kg/min
Liquid accuracy	±0.1% (rangeability 1:10) ±0.2% (rangeability 1:20)
Gas accuracy	±0.5%
Temp. accuracy	±1°C ±0.5% of reading
Density accuracy	±0.002g/cm ³
Zero stability	0.36kg/h
Repeatability	0.05%
MWP.	25MPa
Operating voltage	AC85~265V/ DC12~24V
Ingress protection	IP67
Fluid temperature	-200~+200°C
Operating temp.	-30°C~+60°C
Vibrating tube	Stainless steel 316L
End connection	Nut M42X2, customizable
Output	RS485, Pulse, 4-20mA & HART
Ex-mark	Ⓜ II 2G Ex db IIC T6...T1 Gb
Warranty	2-year
Certificate	CE, ATEX
Package size	650*430*240mm
G.W.	21 kgs



Mass Flow Meter CG-25



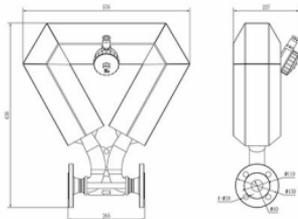
Model No.	CG-25
Nominal diameter	25mm
Max. flow rate	200 kg/min
Liquid accuracy	±0.1% (rangeability 1:10) ±0.2% (rangeability 1:20)
Gas accuracy	±0.5%
Temp. accuracy	±1°C ±0.5% of reading
Density accuracy	±0.002g/cm ³
Zero stability	0.62kg/h
Repeatability	0.05%
MWP.	4MPa
Operating voltage	AC85~265V/ DC12~24V
Ingress protection	IP67
Fluid temperature	-200~+200°C
Operating temp.	-30°C~+60°C
Vibrating tube	Stainless steel 316L
End connection	DN25 flange, customizable
Output	RS485, Pulse, 4-20mA & HART
Ex-mark	Ⓜ II 2G Ex db IIC T6...T1 Gb
Warranty	2-year
Certificate	CE, ATEX
Package size	665*660*315mm
G.W.	23 kgs



Mass Flow Meter CG-40



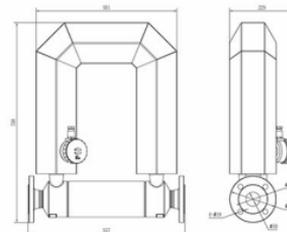
Model No.	CG-40
Nominal diameter	40mm
Max. flow rate	500kg/min
Liquid accuracy	±0.1% (rangeability 1:10) ±0.2% (rangeability 1:20)
Gas accuracy	±0.5%
Temp. accuracy	±1°C ±0.5% of reading
Density accuracy	±0.002g/cm ³
Zero stability	1.6kg/h
Repeatability	0.05%
MWP.	4MPa
Operating voltage	AC85~265V/ DC12~24V
Ingress protection	IP67
Fluid temperature	-200~+200°C
Operating temp.	-30°C~+60°C
Vibrating tube	Stainless steel 316L
End connection	DN40 flange, customizable
Output	RS485, Pulse, 4-20mA & HART
Ex-mark	Ⓜ II 2G Ex db IIC T6...T1 Gb
Warranty	2-year
Certificate	CE, ATEX
Package size	845*740*450mm
G.W.	45 kgs



Mass Flow Meter CG-50



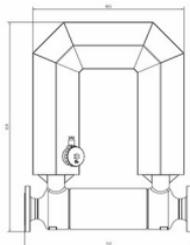
Model No.	CG-50
Nominal diameter	50mm
Max. flow rate	1000 kg/min
Liquid accuracy	±0.1% (rangeability 1:10) ±0.2% (rangeability 1:20)
Gas accuracy	±0.5%
Temp. accuracy	±1°C ±0.5% of reading
Density accuracy	±0.002g/cm ³
Zero stability	2.38kg/h
Repeatability	0.05%
MWP.	4MPa
Operating voltage	AC85~265V/ DC12~24V
Ingress protection	IP67
Fluid temperature	-200~+200°C
Operating temp.	-30°C~+60°C
Vibrating tube	Stainless steel 316L
End connection	DN50 flange, customizable
Output	RS485, Pulse, 4-20mA & HART
Ex-mark	Ⓜ II 2G Ex db IIC T6...T1 Gb
Warranty	2-year
Certificate	CE, ATEX
Package size	870*740*440mm
G.W.	75 kgs



Mass Flow Meter CG-80



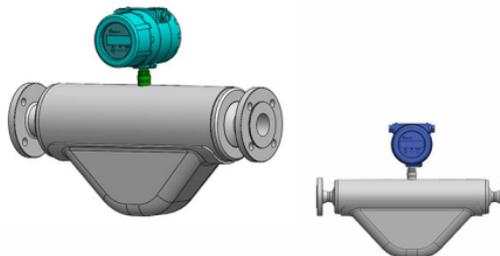
Model No.	CG-80
Nominal diameter	80mm
Max. flow rate	3000kg/min
Liquid accuracy	±0.1% (rangeability 1:10) ±0.2% (rangeability 1:20)
Gas accuracy	±0.5%
Temp. accuracy	±1°C ±0.5% of reading
Density accuracy	±0.002g/cm ³
Zero stability	7.05kg/h
Repeatability	0.05%
MWP.	4MPa
Operating voltage	AC85~265V/ DC12~24V
Ingress protection	IP67
Fluid temperature	-200~+200°C
Operating temp.	-30°C~+60°C
Vibrating tube	Stainless steel 316L
End connection	DN80 flange, customizable
Output	RS485, Pulse, 4-20mA & HART
Ex-mark	Ⓜ II 2G Ex db IIC T6...T1 Gb
Warranty	2-year
Certificate	CE, ATEX
Package size	1060*860*490mm
G.W.	134 kgs



Microbend



Sealand microbend version is on the way!



Transmitter F231



Specifications

Operating temp.	-30°C~+60°C
RH	≤95%, non condensing
Atmospheric Pressure	86~106 kPa
Operating voltage	AC85~265V/ DC12~24V
Communication port	RS485, Pulse, 4-20mA & HART
Ex-mark	Ⓜ II 2G Ex db [ib] IIC T6...T1 Gb





Application Scope

Mass flow meter can be applied to the following industries.

- Alternative Energy
- Oil & Gas
- Chemical
- Food & Beverage
- Industrial Energy
- Marine
- Power
- Pulp & Paper
- Refining
- Others

Certificates

Production Certificate



ATEX



CE



ISO 14001:2015



ISO 9001:2015



ISO 18001:2007



Ex-proof

