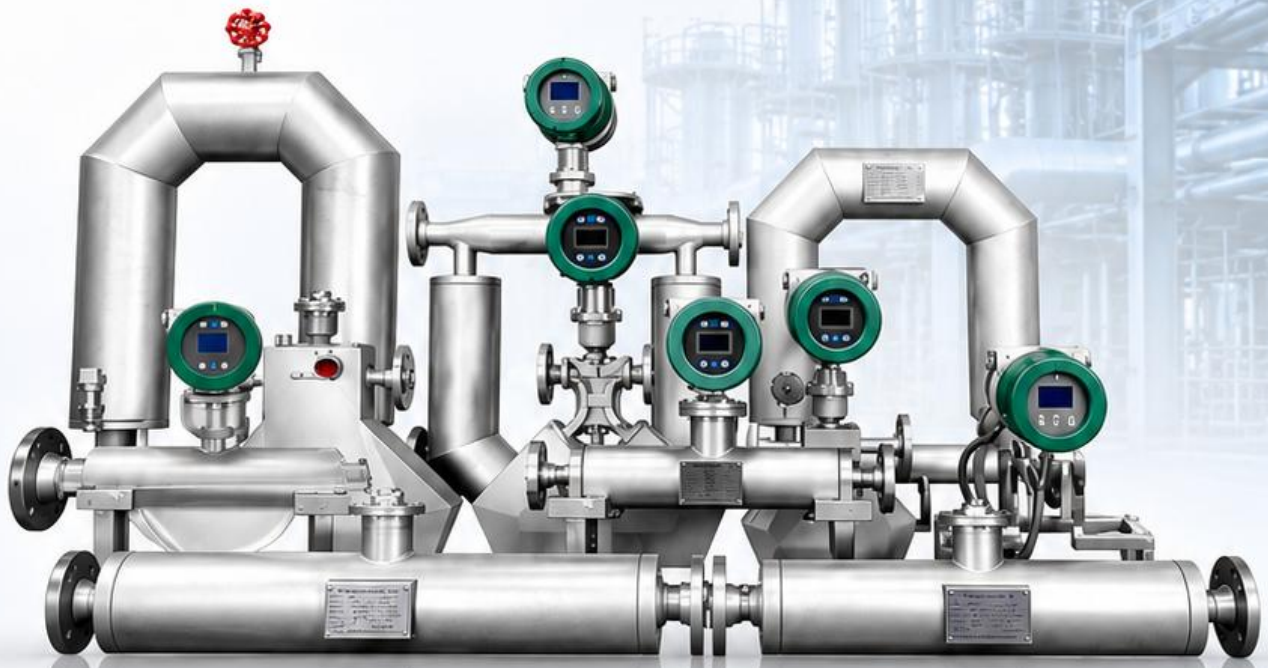
YUA Instruments
Industrial Measurement Solutions

V6.2

Coriolis Mass Flow Meter

High-Precision Measurement of Mass Flow, Density and Temperature



High Accuracy
±0.1%–0.2%

Multiple Configurations
U / Z / T / C Series

Wide Application
Liquids · Gases · Slurries

Reliable & Durable
Low maintenance

Overview YUACMF Series Coriolis Mass Flowmeter

The YUACMF Series Coriolis mass flowmeter is a high-precision instrument developed through more than two decades of collaboration between YUA, universities, and research institutes. The development process addressed key engineering challenges in materials, welding, stress treatment, and signal processing. The product has undergone testing by national and provincial metrology institutes, with corresponding test reports and certificates. It measures the mass flow rate, density, and temperature of fluids in closed pipelines. The main configurations include U-shaped (U Series), straight-tube (Z Series), triangular (T Series), and micro-bend (C Series) designs.

Wide Range of Applications

The YUACMF Coriolis mass flowmeter can be used in batching, mixing, and commercial metering applications across a wide range of industries, including the following:

Petroleum industry	Chemical industry	Fine chemical machinery	Machinery manufacturing	Mining industry
Pharmaceutical industry	Oil industry	Boiler industry	New energy industry	Oil and gas industry
Paper industry	Paint industry	Metallurgy industry	New material industry	Shipbuilding industry
Food industry	Transportation industry	Power industry	Environmental protection industry	Test bench industry
Fuel industry	Textile printing industry	Water conservancy industry	Military industry	Energy transfer metering

Product Characteristics

Measurement accuracy: 0.1%, 0.15%, or 0.2%

Turndown ratio up to 1:50; low pressure loss

Suitable for a wide range of media, including inorganic fluids, slurries, high-viscosity fluids, suspensions, and gases that can be difficult to measure with conventional instruments.

Easy installation; no upstream or downstream straight pipe runs are required.

Reliable operation, stable performance, and low maintenance requirements.

Available options include standard, sanitary, high-pressure, ultra-high-temperature, low-temperature, and insulated versions.

Technical Parameters

Diameter range: DN3–DN250
Accuracy: ±0.1–0.2%; repeatability: ±0.05–0.1%

Density range: 0.3–3 g/cm³

Density accuracy: ±0.002 g/cm³

Temperature range: –250 to +350°C

Temperature accuracy: ±1°C

Ambient temperature: –40 to +60°

Measuring tube: SS316L, H.C., titanium

Case: SS304, SS316L

Working pressure: standard 0–4.0 MPa; high pressure 25–40 MPa

Explosion-proof: Exdb[ia]ICT6Gb

Protection: IP67

Output: 4–20 mA, pulse, RS485

Communication: Modbus, HART

Power: 22–245 V AC/DC

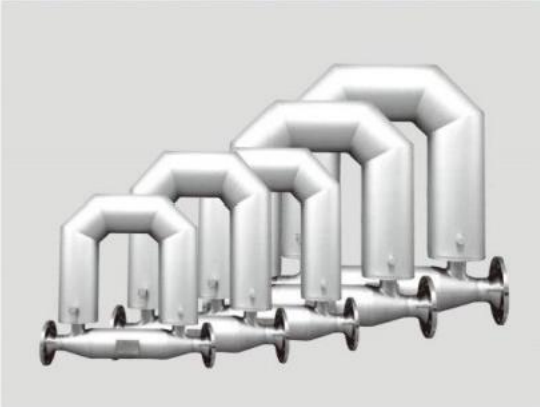
Display: flow, total, temperature, density, concentration

Power-failure data backup/recovery

Optional: split/integral converter

Product introduction **U-series Coriolis mass flowmeter**

The U-Series meter offers flexible configurations and reliable, high-precision measurement. Its U-shaped sensor is designed to perform across varying fluid conditions, with a competitive price-performance ratio.







U shape

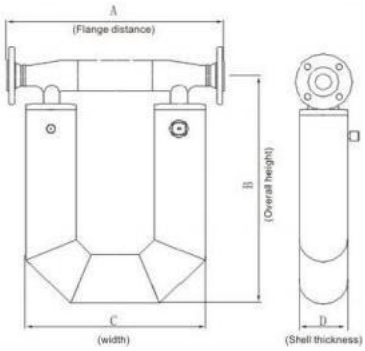


Figure 3.1 Split Type

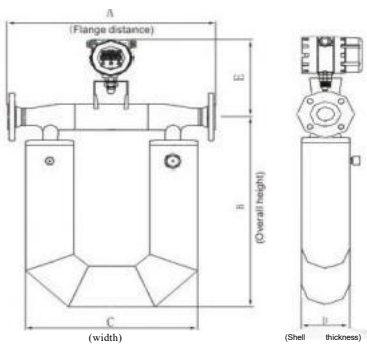


Figure 3.2 Integral Type

U-Series Installation Dimensions

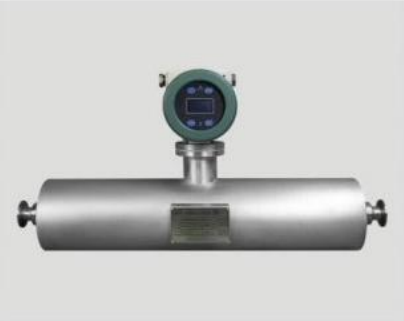
Size	Flange distance	Flange distance	width	Shell	Upper H.	Weight
	mm	mm	mm	mm	mm	kg
DN20	540	478	468	108	245	17
DN25	540	492	468	108	245	17.5
DN32	544	517	468	108	245	24
DN40	600	635	500	140	267	32
DN50	606	653	500	140	267	36
DN80	866	857	799	219	316	87.5
DN100	950	977	833	273	340	165
DN150	1300	1211	1144	324	340	252
DN200	1300	1380	1220	400	358	350
DN250	1400	1573	1340	476	365	420
DN300	1600	1760	1465	530	374	510

Product Introduction Z-Series Coriolis Mass Flowmeter

After years of research and development, YUA developed the Z-Series straight-tube Coriolis mass flowmeter. It has been tested by national and provincial metrology institutes and is stated to meet the 0.1 accuracy-grade requirement.
The product was developed as an alternative to imported straight-tube mass flowmeters. The brochure states that it has obtained BA-level hygiene certification, U.S. UL certification, and a patent for “a new suspension structure of a mass flowmeter.” These certifications and the patent details should be verified against the original documents before publication.
It is widely used in the food and pharmaceutical industries. Customized materials are available.







A Domestic Innovation

Designed as a domestic alternative to imported flowmeters.

1) The straight-pipe structure creates low pressure loss and can improve energy efficiency by more than 50%.

2) The pipeline is less likely to retain the measured medium, making it sanitary and easy to clean. It is designed to meet 3-A food-grade hygiene standards.

3) Compact design, convenient installation, and no upstream or downstream straight pipe runs required.

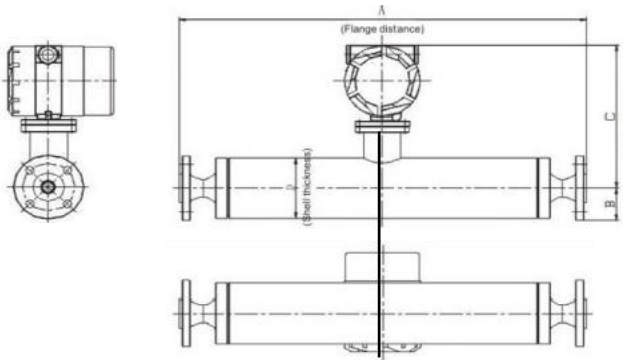
4) Can replace densitometers, concentration meters, and other instruments, subject to customer requirements.

5) Digital high-frequency technology improves measurement accuracy. The turndown ratio is up to 1:50, supporting trade-settlement applications.

6) Suitable for low-flow and gas-flow measurement in industrial applications, as well as the measurement of mixed fluids.

7) Stable operation, strong anti-interference capability, and fast computation. Supports material-ratio process control. (Sanitary type)

Straight-Pipe Sensor — External View



Z-Series Straight-Pipe Sensor — Integrated Sensor and Converter

Z-Series Installation Dimensions (Integral Type)

Size	Flange distance	Flange distance	Upper H.	Shell diameter	Weight
	mm	mm	mm	mm	kg
DN8	492	45	235	82	10
DN10	542	47.5	238	87	12
DN15	622	52.5	238	87	13
DN20	685	57.5	251	106.5	18
DN25	751	70	277	117	23
DN32	867	70	264	137	31
DN40	963	78.5	279	157	37
DN50	1053	82.5	279	157	42
DN80	1185	115	311.5	219	66

Product Introduction T-Series Coriolis Mass Flowmeter

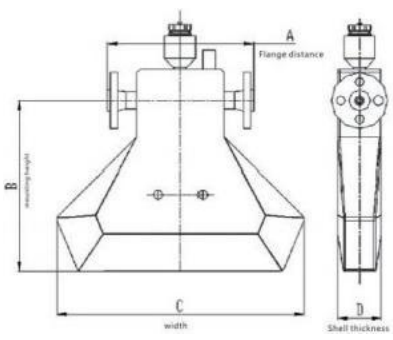
The T-Series Coriolis mass flowmeter uses a triangular sensor structure designed for accurate measurement at low instantaneous flow rates.

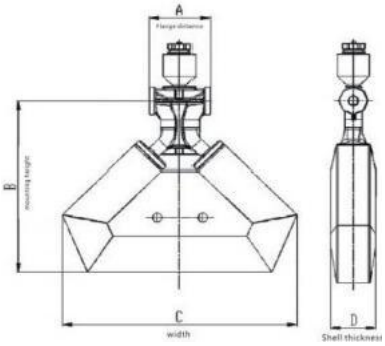


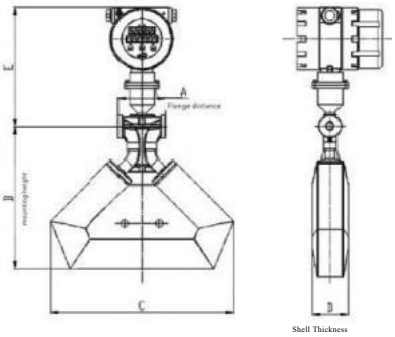




Triangular Sensor Diagram







YUACMF-003–008 Sensor Diagram YUACMF-010–015 Sensor Diagram Triangular Sensor and Integrated Transmitter Diagram

Triangular Coriolis Mass Flowmeter

Size	Flange distance	Bot. H.	width	Shell	Upper H.	Weight
	mm	mm	mm	mm	mm	kg
DN1						
DN2						
DN3	196	176	250	62	270	4.8
DN6	250	263	360	74.5	289	8.1
DN8	250	275	395	70.5	289	8.2
DN10	161	283	370	80	264	6.5
DN15	161	302	405	80	264	6.5

Product Introduction C-Series Coriolis Mass Flowmeter

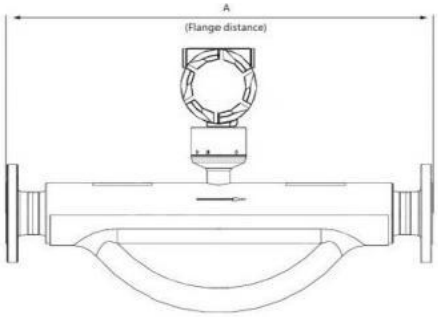
The C-Series Coriolis mass flowmeter offers measurement accuracy better than 0.1% and a turndown ratio of 1:30 to 1:50. In addition to conventional fluids, it can measure high-viscosity fluids, slurries, and suspensions. The meter is designed to be less affected by installation conditions and process layout. It can measure mass flow, density, temperature, and concentration online. Customized materials are available.

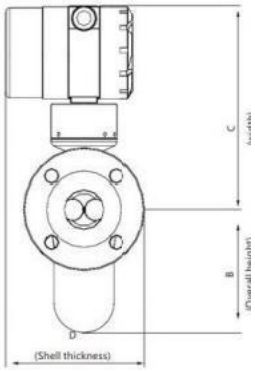






Micro-Bend Sensor — Schematic Diagram





C-Series Micro-Bend Sensor — Integrated Sensor and Converter

C-Series Installation Dimensions

Size	Flange distance	Flange distance	Upper H.	Shell diameter	Weight
	mm	mm	mm	mm	kg
YUACMF-C-008	370	75	260	173	12
YUACMF-C-010	370	75	260	173	12
YUACMF-C-015	404	93	260	173	14
YUACMF-C-020	404	93	260	173	14
YUACMF-C-025	440	112	263	173	17
YUACMF-C-032	440	112	263	173	17
YUACMF-C-040	550	138	263	181.5	22
YUACMF-C-050	715	167	275	189	33.5
YUACMF-C-065	751	208	282	195	42
YUACMF-C-080	840	248	293.5	206.5	53
YUACMF-C-100	1127	282	303	226	73
YUACMF-C-150	1370	350	330	231	94
YUACMF-C-250	1845	420	378	250	130

Product Introduction YUACMF9000 Sanitary Coriolis Mass Flowmeter

The YUACMF9000 Series sanitary Coriolis mass flowmeters are stated to have UL and 3-A certifications in the United States. The surface finish is specified as better than 0.38, helping reduce media retention and making the meter easier to clean. This series features patented temperature-compensation technology and is specified with an accuracy grade better than 0.1. It uses high-frequency drive technology and a fast sampling period, offering high measurement accuracy, low pressure loss, good flow capacity, a compact size, and convenient installation.



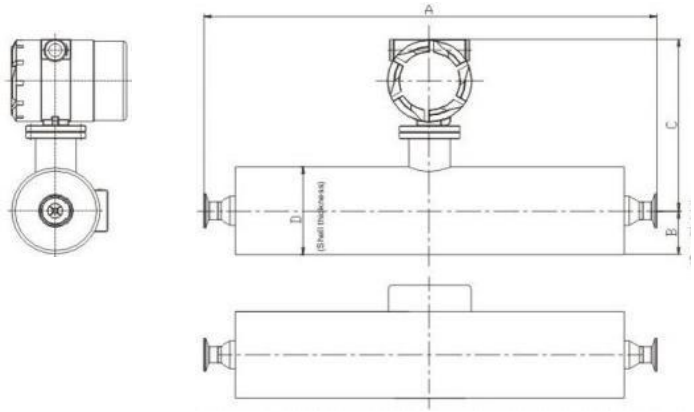


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Sanitary Sensor — External View



Sanitary Straight-Pipe Sensor — Integrated Sensor and Converter

YUACMF9000 Sanitary Sensor Dimensions

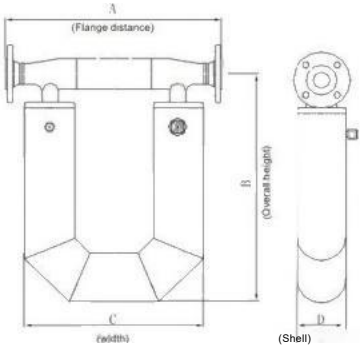
Size	Flange distance	Flange distance	Upper H.	Shell	Weight
	mm	mm	mm	mm	kg
DN8	382	43.5	241	82	10
DN10	462	47	247	87	11
DN15	542	50.2	251	87	12
DN20	598	54	257	108	17
DN25	680	66.5	261	133	23
DN32	680	66.5	261	133	23
DN40	792	70	273	140	28
DN50	864	79.5	283	159	36
DN65	948	79.5	283	159	42

Product Introduction P-Series High-Pressure Coriolis Mass Flowmeters

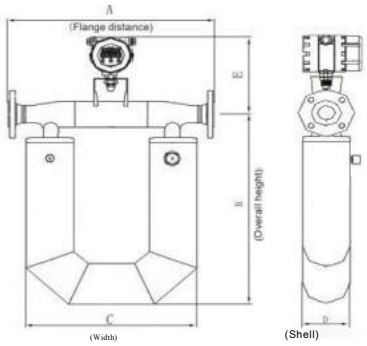
The YUACMF-P Series includes high-pressure and ultra-high-pressure Coriolis mass flowmeters designed for demanding pressure conditions. Typical applications include oil and gas extraction, high-pressure chemical processes, and energy transportation. The high-pressure version can withstand pressures up to 10 MPa, while the ultra-high-pressure version is specified for 10–40 MPa.



High-Pressure Sensor — External View (U-Shaped Example)



Split Type



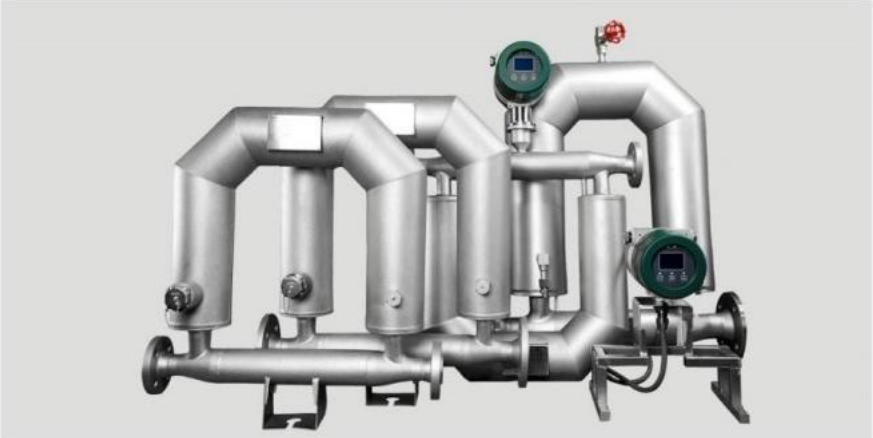
Integral Type

P-Series Dimensions (U-Type)

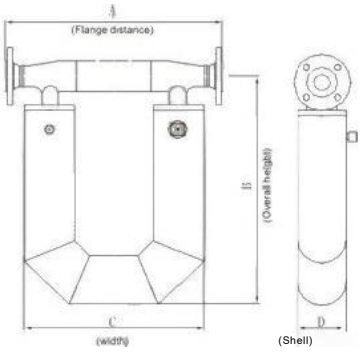
Size	Flange distance	Flange distance	width	Shell	Upper H.	Weight
	mm	mm	mm	mm	mm	kg
DN20	540	478	468	108	245	17
DN25	540	492	468	108	245	17.5
DN32	544	517	468	108	245	24
DN40	600	635	500	140	267	32
DN50	606	653	500	140	267	36
DN80	866	857	799	219	316	87.5
DN100	950	977	833	273	340	165
DN150	1300	1211	1144	324	340	252
DN200	1300	1380	1220	400	358	350
DN250	1400	1573	1340	476	365	420
DN300	1600	1760	1465	530	374	510

Product Introduction H-Series Ultra-High-Temperature Coriolis Mass Flowmeter

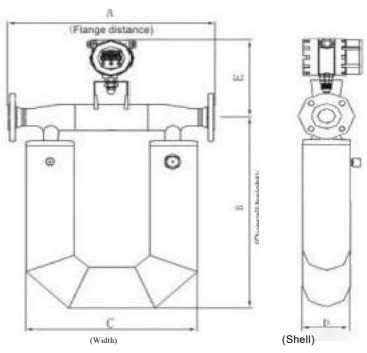
The YUACMF-H Series ultra-high-temperature mass flowmeter is designed for high-temperature measurement applications. It uses the Coriolis measurement principle and high-temperature-resistant materials, together with thermal insulation, to support operating temperatures up to 350°C.



Ultra-High-Temperature Sensor — External View (U-Shaped Example)



Split Type



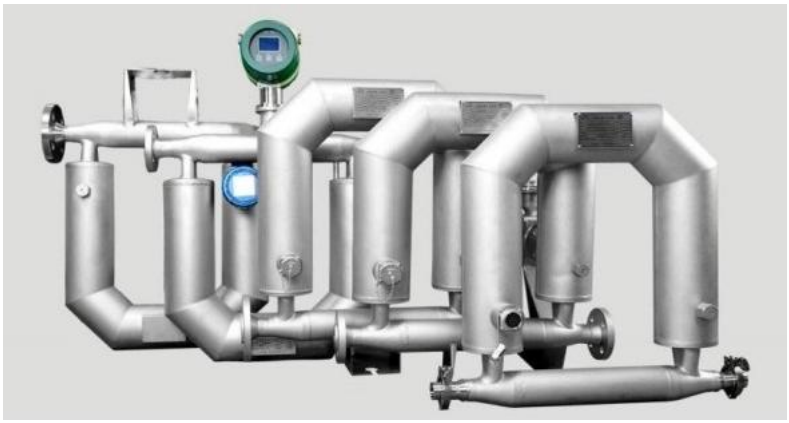
Integral Type

H-Series Dimensions (U-Type)

Size	Flange distance	Flange distance	width	Shell	Upper H.	Weight
	mm	mm	mm	mm	mm	kg
DN20	540	478	468	108	245	17
DN25	540	492	468	108	245	17.5
DN32	544	517	468	108	245	24
DN40	600	635	500	140	267	32
DN50	606	653	500	140	267	36
DN80	866	857	799	219	316	87.5
DN100	950	977	833	273	340	165
DN150	1300	1211	1144	324	340	252
DN200	1300	1380	1220	400	358	350
DN250	1400	1573	1340	476	365	420
DN300	1600	1760	1465	530	374	510

Product Introduction L-Series Ultra-Low-Temperature Coriolis Mass Flowmeter

The YUACMF-L Series ultra-low-temperature mass flowmeter is designed for cryogenic applications. Special low-temperature-resistant materials and sealing technology enable stable operation at temperatures down to -250°C or lower. Potential applications include liquid nitrogen, liquid oxygen, liquid hydrogen, liquid CO_2 , CNG, and LNG services.





Ultra-Low-Temperature Sensor — External View (U-Shaped Example)

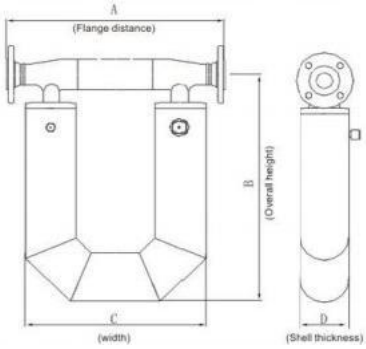


Figure 3.1 Split Type (U-Type Example)

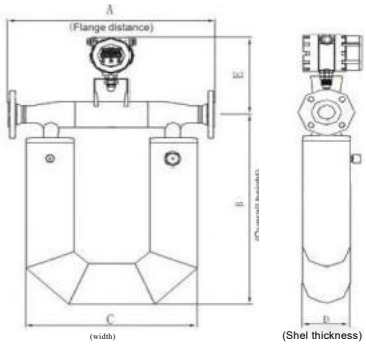


Figure 3.2 Integral Type (U-Type Example)

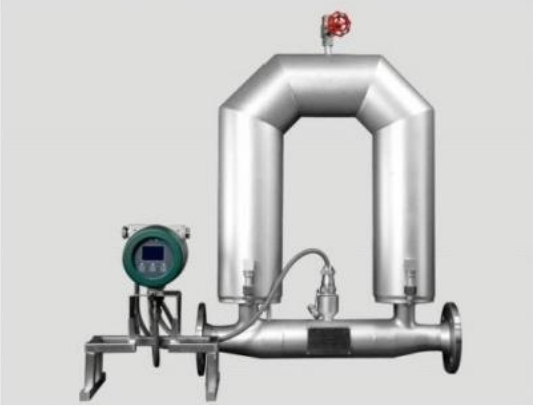
L-Series Installation Dimensions (U-Type)

Size	Flange distance	Flange distance	width	Shell	Upper H.	Weight
	mm	mm	mm	mm	mm	kg
DN20	540	478	468	108	245	17
DN25	540	492	468	108	245	17.5
DN32	544	517	468	108	245	24
DN40	600	635	500	140	267	32
DN50	606	653	500	140	267	36
DN80	866	857	799	219	316	87.5
DN100	950	977	833	273	340	165
DN150	1300	1211	1144	324	340	252
DN200	1300	1380	1220	400	358	350
DN250	1400	1573	1340	476	365	420
DN300	1600	1760	1465	530	374	510

Product Introduction K-Series Insulated Coriolis Mass Flowmeter

The YUACMF-K Series insulated Coriolis mass flowmeter is designed for media that may solidify or crystallize, or that require temperature maintenance, such as asphalt, resin, and heat-transfer oil. A closed jacket surrounds the flowmeter sensor and allows hot water, steam, or heat-transfer oil to circulate. This heat exchange helps maintain the medium temperature and reduce the risk of poor flowability or blockage caused by cooling. The meter is suitable for heating and insulation processes in industries such as food, chemicals, and pharmaceuticals.





Insulated Sensor — External View (U-Shaped Example)

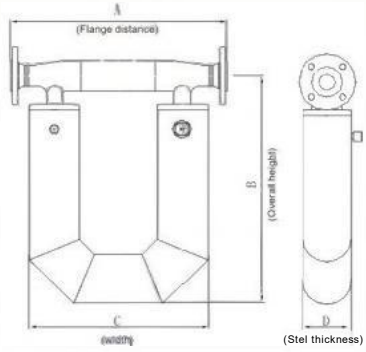


Figure 3.1 Split Type (U-Type Example)

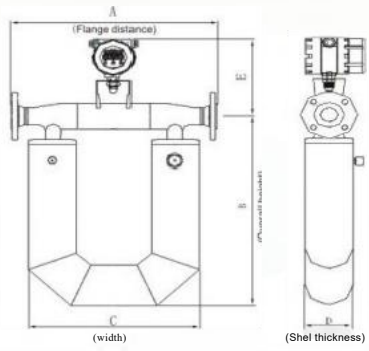


Figure 3.2 Integral Type (U-Type Example)

K-Series Installation Dimensions (U-Type)

Size	Flange distance	Flange distance	width	Shell	Upper H.	Weight
	mm	mm	mm	mm	mm	kg
DN20	540	478	468	108	245	17
DN25	540	492	468	108	245	17.5
DN32	544	517	468	108	245	24
DN40	600	635	500	140	267	32
DN50	606	653	500	140	267	36
DN80	866	857	799	219	316	87.5
DN100	950	977	833	273	340	165
DN150	1300	1211	1144	324	340	252
DN200	1300	1380	1220	400	358	350
DN250	1400	1573	1340	476	365	420
DN300	1600	1760	1465	530	374	510

Installation site example













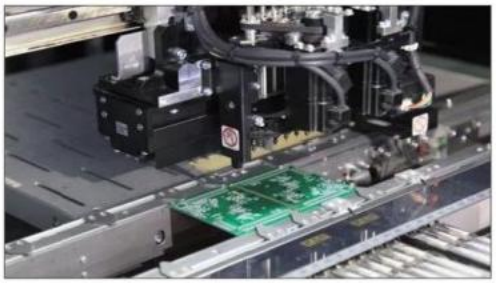




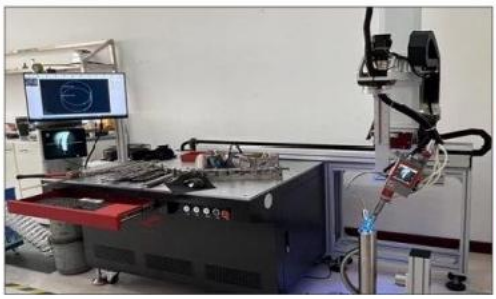
Production Workshop

Our modern workshop covers more than 20,000 square meters. YUA states that it has obtained ISO 14001, ISO 9001, ISO 45001, and other management system certifications.














Precision measurement, innovative sensing

Integrity, Innovation, Cooperation and Development





YUA

Precision Measurement, Innovative Sensing

Your Trusted Partner in Industrial Measurement

Industrial Measurement Solutions

Shenzhen YUA Intelligent Instrument Technology Co., Ltd.

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