ACU10FD
Digital Mass Flow Meter/ Flow Controller(Low)

- ◆Thermal principle, laboratory level measurement accuracy
- ◆High stability, tubular shunt to avoid blockage
- ◆Accurate and reliable, short preheating time and small zero drift
- ◆Strong expansibility, external display device

ACU10FD series High precision mass flow controller/flowmeter, ACCU is the use of thermal principle, and through a series of technological innovation and design of fluid measurement precision instruments.

With accurate and reliable hardware, the product gives full play to the characteristics of the thermal principle that is not affected by fluid temperature and pressure, and can accurately measure fluid flow under different conditions.

Measuring principle

ACU10FD series instruments with two temperature sensors mounted in a capillary tube，The positions are located in front of and behind the fluid channel, respectively. When the fluid flows, it takes away heat from the temperature sensor. The sensor measures the electric power consumed due to the temperature difference between the front and back, and calculates the mass flow of the fluid according to the principle that the electric power is proportional to the mass flow of the gas.

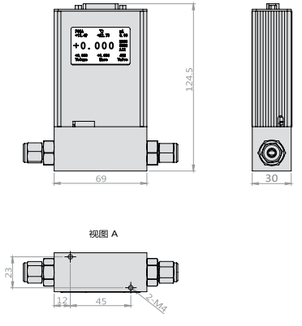
The sensor compares the calculated flow rate value with a value initially set by the operator, and drives and controls the opening degree of the regulating valve according to the comparison result, thereby changing the flow rate of the fluid. By constantly adjusting the opening of the valve, the actual flow is consistent with the set flow, so as to achieve closed-loop control.

Specification

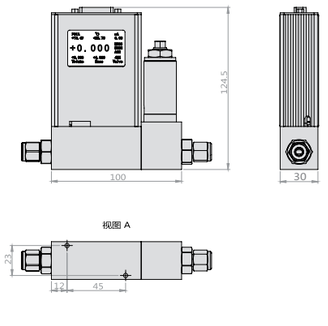
	Mass Flow Controller	Mass Flow Meter
Range	2SCCM～ 30SLM	
Measurement and control range	controller valve50：1	flowmeter range ratio100：1
Accuracy	±1.0%F.S	
Linear	±0.5%F.S	
Repeatability	±0.2%F.S	
Response time	<2s	<0.8s
Digital quantity	RS232/485，MODBUS协议	
Analog quantity	0～ 5V、4-20mA、1～ 5V	
Power supply	±15VDC，24VDC	
Working temperature	0～ 50℃	
Working pressure	working pressure difference0.05～ 0.5MPa	working pressure drop:<0.01Mpa
Maximum withstand voltage	3MPa/10MPa	
Electrical connection	DB15	
Leakage rate	1×10^{-9} Pa m³/S	
Temperature coefficient	±0.025%F.S/℃	
Base material	Stainless Steel	
Sealing material	Viton, Neoprene, Nitrile Rubber	
Connector	φ3，φ6，1/8"，1/4"	



Dimensions(mm)



ACU10FD−LM Mass Flow Meter



ACU10FD−LC Mass Flow Controller

Model chart

ACU10FD-L | C | M | N | 030L | 007 | A1 | B1 | 5 | 8 | V | B

Serial number

Product type

C	Mass FlowController
M	Mass Flow Meter

Pressure range

M	3MPa
Z	10MPa(Mass Flow Meter)

Display Status

N	Without LCD display
X	With LCD display

Flow range

100C	100 SCCM
200C	200 SCCM
300C	300 SCCM
500C	500 SCCM
001L	1 SLM
002L	2 SLM
003L	3 SLM
005L	5 SLM
010L	10 SLM
020L	20 SLM
030L	30 SLM

Measured medium

Code	See Media Reference Table for details

Input signal

A1	0~5VDC
A2	4~20mA
A3	1~5VDC

Output signal

B1	0~5VDC
B2	4~20mA
B3	1~5VDC

Power supply

5	±15VDC
4	24VDC

Communication

8	RS485
2	RS232

Sealing material

V	Vilton
T	NBR
N	Neoprene
Y	Others

Connectors

A	φ3
B	φ6
F	1/8"
G	1/4"
Y	others

ACU10FD

Digital Mass Flow Meter/ Flow Controller(Middle)

- ◆Thermal principle, laboratory level measurement accuracy
- ◆High stability, tubular shunt to avoid blockage
- ◆Accurate and reliable, short preheating time and small zero drift
- ◆Strong expansibility, external display device

ACU10FD series High precision mass flow controller/flowmeter, ACCU is the use of thermal principle, and through a series of technological innovation and design of fluid measurement precision instruments.

With accurate and reliable hardware, the product gives full play to the characteristics of the thermal principle that is not affected by fluid temperature and pressure, and can accurately measure fluid flow under different conditions.

ACU10FD series instruments with two temperature sensors mounted in a capillary tube，The positions are located in front of and behind the fluid channel, respectively. When the fluid flows, it takes away heat from the temperature sensor. The sensor measures the electric power consumed due to the temperature difference between the front and back, and calculates the mass flow of the fluid according to the principle that the electric power is proportional to the mass flow of the gas.

Product Application

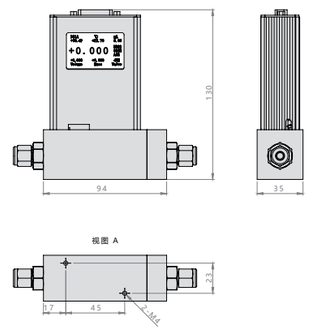
Vacuum	Coating	Solar Energy	Semiconductor	petroleum and petrochemical
Coal metallurgy	Gas preparation and gas distribution		Environmental protection	Analysis of various instruments

技术参数

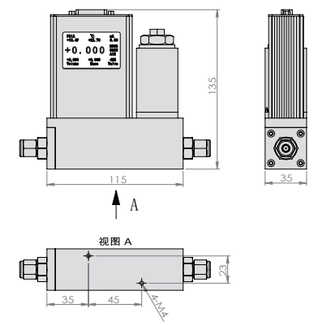
	Mass Flow Controller	Mass Flow Meter
Range	30SLM～ 300SLM	
Measurement and control range	controller valve 50：1	flowmeter range ratio100：1
Accuracy	±1.0%F.S	
Linear	±0.5%F.S	
Repeatability	±0.2%F.S	
Response time	<2s	<0.8s
Digital quantity	RS232/485，MODBUS协议	
Analog quantity	0～ 5V、4-20mA、1～ 5V	
Power supply	±15VDC，24VDC	
Working temperature	0～ 50℃	
Working pressure	working pressure difference 0.1～ 0.5MPa	working pressure drop:<0.01Mpa
Maximum withstand voltage	3MPa/10MPa	
Electrical connection	DB15	
Leakage rate	1×10⁻⁹Pa m³/S	
Temperature coefficient	±0.025%F.S/℃	
Base material	Stainless Steel	
Sealing material	Viton, Neoprene, Nitrile Rubber	
Connector	φ8，φ10，φ12	



Dimensions(mm)



ACU10FD−MM Mass Flow Meter



ACU10FD−MC Mass Flow Controller

Model chart

ACU10FD-M C M N 200L 007 A1 B1 5 8 V C

Serial number

Product type
- C Mass FlowController
- M Mass Flow Meter

Pressure range
- M 3MPa
- Z 10MPa(Mass Flow Meter)

Display Status
- N Without LCD display
- X With LCD display

Flow range
- 030L 30 SLM
- 050L 50 SLM
- 100L 100 SLM
- 200L 200 SLM
- 300L 300 SLM

Measured medium
- Code See Media Reference Table for details

Input signal
- A1 0~5VDC
- A2 4~20mA
- A3 1~5VDC

Output signal
- B1 0~5VDC
- B2 4~20mA
- B3 1~5VDC

Power supply
- 5 ±15VDC
- 4 24VDC

Communication
- 8 RS485
- 2 RS232

Sealing material
- V Vilton
- T NBR
- N Neoprene
- Y Others

Connectors
- C φ8
- D φ10
- E φ12
- Y others

ACU10FD

Digital Mass Flow Meter/ Flow Controller(Large)

◆Thermal principle, laboratory level measurement accuracy

◆High stability, tubular shunt to avoid blockage

◆Accurate and reliable, short preheating time and small zero drift

◆Strong expansibility, external display device

ACU10FD series High precision mass flow controller/flowmeter, ACCU is the use of thermal principle, and through a series of technological innovation and design of fluid measurement precision instruments.With accurate and reliable hardware, the product gives full play to the characteristics of the thermal principle that is not affected by fluid temperature and pressure, and can accurately measure fluid flow under different conditions.

ACU10FD series instruments with two temperature sensors mounted in a capillary tube，The positions are located in front of and behind the fluid channel, respectively. When the fluid flows, it takes away heat from the temperature sensor. The sensor measures the electric power consumed due to the temperature difference between the front and back, and calculates the mass flow of the fluid according to the principle that the electric power is proportional to the mass flow of the gas.

Product Application

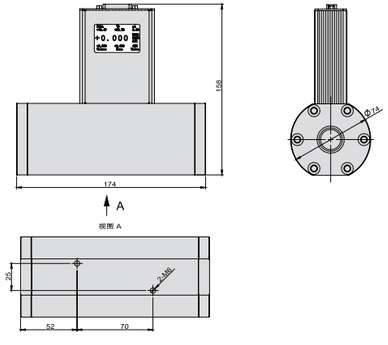
Vacuum	Coating	Solar Energy	Semiconductor	petroleum and petrochemical
Coal metallurgy	Gas preparation and gas distribution		Environmental protection	Analysis of various instruments

Specification

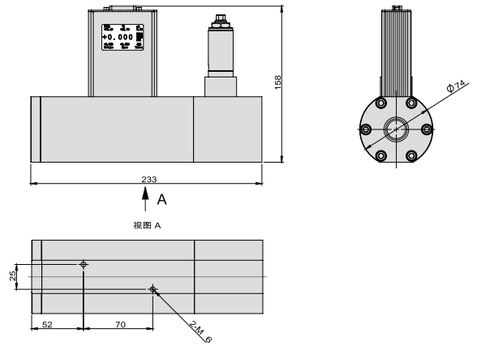
	Mass Flow Controller	Mass Flow Meter
Range	500SLM～	3000SLM
Measurement and control range	controller valve 50：1	flowmeter range ratio100：1
Accuracy	±1.0%F.S	
Linear	±0.5%F.S	
Repeatability	±0.2%F.S	
Response time	<2s	<0.8s
Digital quantity	RS232/485，MODBUS协议	
Analog quantity	0～5V、4-20mA、1～5V	
Power supply	±15VDC，24VDC	
Working temperature	0～50℃	
Working pressure	working pressure difference 0.3～0.5MPa	working pressure drop:<0.01Mpa
Maximum withstand voltage	3MPa/10MPa	
Electrical connection	DB15	
Leakage rate	$1\times10_{-9}$ Pa m³/S	
Temperature coefficient	±0.025%F.S/℃	
Base material	Stainless Steel	
Sealing material	Viton, Neoprene, Nitrile Rubber	
Connector	φ12，Flange	



Dimensions(mm)



ACU10FD−BM Mass Flow Meter



ACU10FD−BC Mass Flow Controller

Model chart

ACU10FD-B C M N 500L 007 A1 B1 5 8 V E

Serial number

Product type
- C Mass FlowController
- M Mass Flow Meter

Pressure range
- M 3MPa
- Z 10MPa(Mass Flow Meter)

Display Status
- N Without LCD display
- X With LCD display

Flow range
- 500L 500 SLM
- 1000L 1000 SLM
- 2000L 2000 SLM
- 3000L 3000 SLM

Measured medium
- Code See Media Reference Table for details

Input signal
- A1 0~5VDC
- A2 4~20mA
- A3 1~5VDC

Output signal
- B1 0~5VDC
- B2 4~20mA
- B3 1~5VDC

Power supply
- 5 ±15VDC
- 4 24VDC

Communication
- 8 RS485
- 2 RS232

Sealing materia
- V Vilton
- T NBR
- N Neoprene
- Y Others

Connectors
- E φ12
- L Flange
- Y Others