ACCU
Measurement & Control

ACU10FC Series
Differential Pressure Mass Flow Controllers&Meters







Introduction

◆ No thermal drift; negligible temperature and time drift; long-term stability of 0.1% F.S./year.

◆ Accuracy of 1.0%F.S.; the measurement range can be set via keypad within a 100:1 span, with no calibration required.

◆ Instantaneous and cumulative flow, pressure, and temperature can be displayed simultaneously.

◆ No warm-up required; no response lag during measurement.

◆ Built-in with 30 gas conversion coefficients; negligible additional error in specific heat capacity, with no impact on accuracy.

The ACU10FC differential-pressure mass flow controller employs a differential-pressure-based mass-flow measurement principle that exhibits no thermal drift and zero response lag, enabling simultaneous display and output of instantaneous flow, cumulative flow, pressure, temperature, and other parameters. When control functionality is required, it can be equipped with a solenoid-proportional control valve and built-in PID regulation. Unlike thermal mass flow meters, the ACU10FC does not introduce additional "specific heat capacity" errors when gas conversion factors are applied. Consequently, even if the measured gas differs from the calibration gas used at the factory, measurement accuracy remains unaffected.

Product Application

The ACU10FC series differential-pressure mass flow controllers are widely used across various industries, including process manufacturing, food analysis, and analytical testing and metrology. Their multi-variable measurement capabilities and 50:1 adjustable turndown ratio enable a single ACU10FC unit to replace the functionality of multiple devices. With 1% accuracy, 1% repeatability, and a control response time of less than 200 milliseconds, they ensure reliable operation of process gases.

Specifications

	Mass Flow Meter	Mass Flow Controller
Range	Low: 0~(100SCCM...30SLM) Middle: 0~(30SLM...300SLM) Large: 0~(500SLM...3000SLM)	
Accuracy	± 1.0% F.S.	
Repeatability	± 1% F.S.	
Zero Drift & Full Scale Drift	0.02% F.S./ ℃/Atm	
range adjustable ratio	100: 1	50: 1
Maximum measurable flow	100% F.S. (Controllable)	
Typical Response Time	200 ms(Adjustable))	
Monochrome LCD display	Simultaneous display of flow, setting	
Digital output signal	RS232/485 Modbus protocol, etc.	
Analog Input/Output Signals	0-5 Vdc / 4-20 mA	
Electrical signal interface	DB15	
Supply voltage	±15VDC, 24VDC	
Supply current	0.250 Amp	0.750 Amp
Working temperature	+10 to +50 ℃	
Maximum working pressure	1 MPa	
Installation method/direction	No valve	>1L/minrange, the valve must be installed vertically
Valve class	Valve normally closed	
Protection level	IP40	
Material	Stainless Steel	

Model chart

ACU10FC- | L | C | M | N | 030L | 007 | A1 | B1 | 4 | 8 | V | B

Serial number

Ranges
- L Low
- M Middle
- B Big

Product type
- C Mass Flow Controller
- M Mass Flow Meter

Pressure range
- M 1MPa

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

Flow range

100C	100 SCCM	L
200C	200 SCCM	
500C	500 SCCM	
001L	1 SLM	
002L	2 SLM	
005L	5 SLM	
010L	10 SLM	
030L	30 SLM	
050L	50 SLM	M
100L	100 SLM	
200L	200 SLM	
300L	300SLM	
500L	500SLM	B
1000L	1000 SLM	
2000L	2000 SLM	
3000L	3000 SLM	
0000L	User Specified	

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

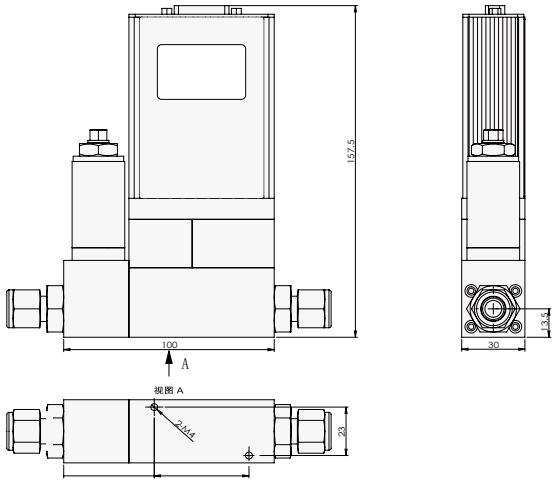
Power supply
- 4 24VDC
- 5 ±15VDC

Communication
- 8 RS485
- 2 RS232

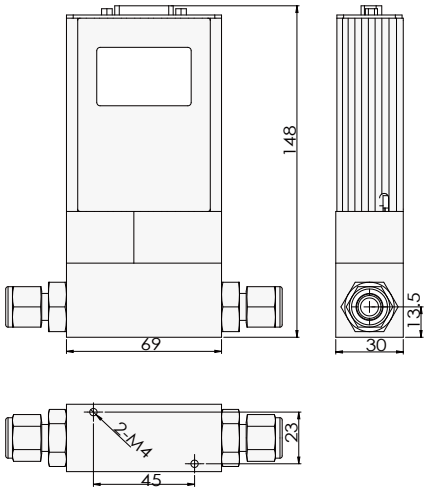
Sealing material
- P FFKM
- V Vilton
- N NBR
- E EPDM
- Y Others

Connectors
- A φ3
- B φ6
- F 1/8"
- G 1/4"
- Y Others

Dimensions(mm)

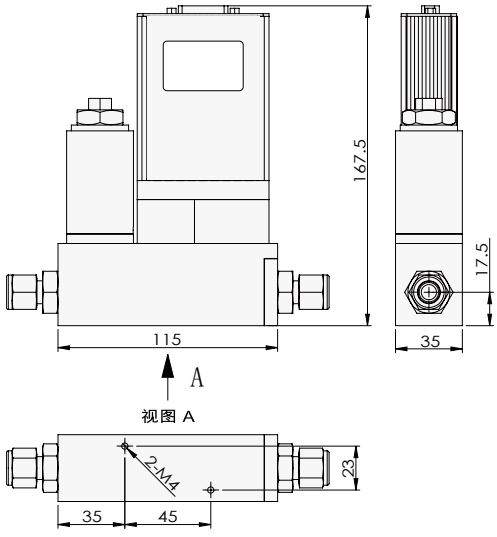


ACU10FC-LC Differential Pressure Mass Flow Controllers（LOW）

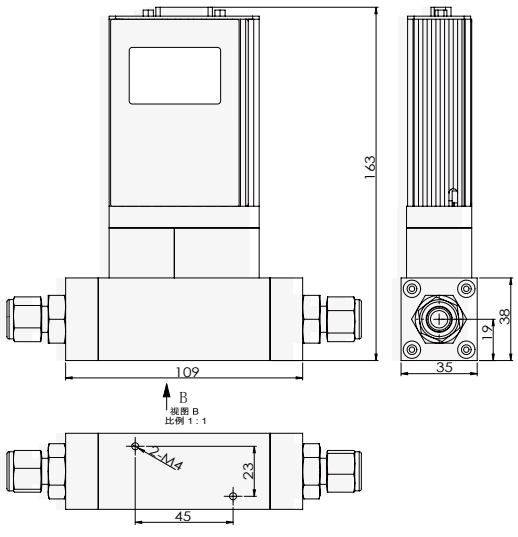


ACU10FC-LM Differential Pressure Mass Flow Meters（LOW）

Dimensions(mm)

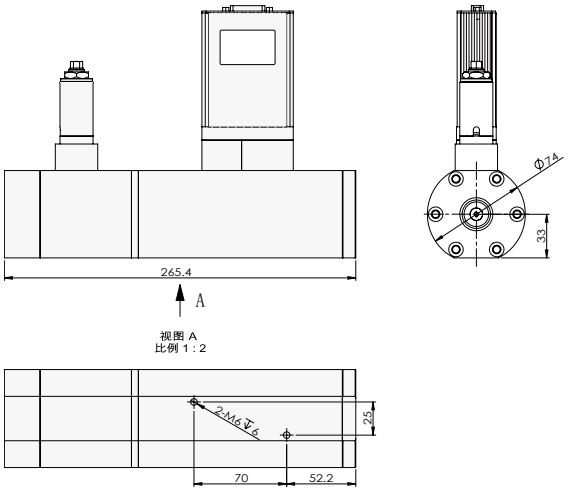


ACU10FC-MC ifferential Pressure Mass Flow Controllers（Middle）

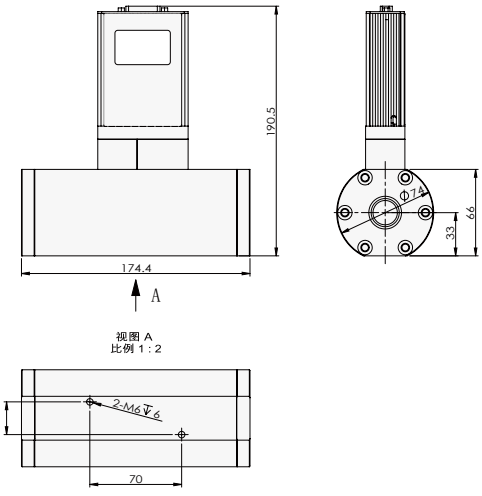


ACU10FC-MM Differential Pressure Mass Flow Meters（Middle）

Dimensions(mm)



ACU10FC-BC Differential Pressure Mass Flow Controllers（Big）



ACU10FC-BM Differential Pressure Mass Flow Meters（Big）

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