ACU20FDL
Liquid mass flow controller/flowmeter

Introduction

ACCU(Beijing Accu Flow Technology Co., Ltd.) specializes in manufacturing gas/liquid mass flow meters and controllers. The instruments are designed according to the actual workingconditions and needs of customers, and are widely used in various occasions such as industrial process control, gas and liquid analysis, and flow measurement. It plays an important role in scientific research and production in various fields such as semiconductor and integrated circuit industry, special materials discipline, chemical industry, petroleum industry, medicine, environmental protection, and vacuum.

ACCU insists on continuous innovation, keeping up with the times, developing new products, and obtaining multiple invention patents, which keeps us at an advanced level in core technology



▲ ACU20FDL-LC Liquid mass flow controller

Performance and Principle

The ACU20FDL liquid mass flow controller is composed of components such as a mass flow sensor, a flow controller regulating valve, and an amplification control circuit. It is manufactured by utilizing the heat transfer effect of the thermal conduction distribution of the measured capillary wall temperature when the flowing fluid transfers heat. A custom high-speed proportional control valve is used to precisely control the liquid volume flow/mass flow.

The ACU20FDL liquid mass flow meter and flow controller, with a touch screen, allows users to control the set value and PID valve adjustment simply by operating the screen. It also provides analog input/output and RS-485 digital communication.

Applications in laboratory and industrial environments

The ACU20FDL liquid mass flow controller has a measurement error of ±1% of the full scale, which is sufficient to meet the needs of most customers. It can be applied in both laboratories for various experiments and in complex industrial environments.

To adapt to complex industrial environments, some of our models also support IP67 dust and water resistance, as well as IICT4 explosion-proof. In addition to the standard analog input/output interfaces, it also supports 485/232 interfaces, and the communication protocol is the standard modbus RTU protocol.

Applications

Semiconductor	Petrochemical	Coal metallurgy
Industrial manufacturing	Environmental protection	Various instrument analysis

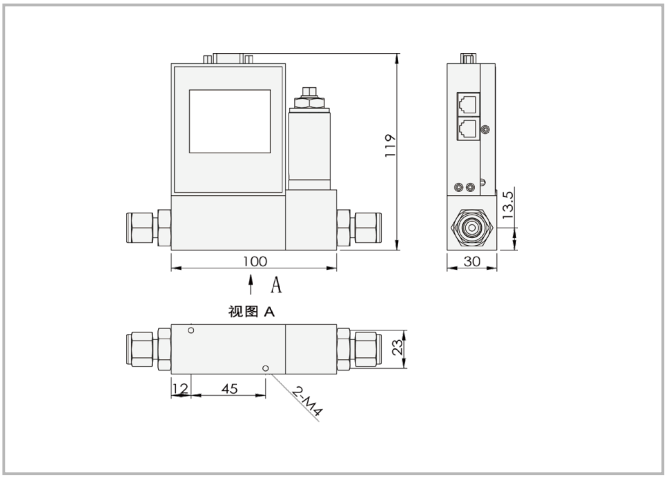
ACU20FDL Features

- Accuracy: ±0.5%F.S. of full scale
- Rapid response time with high measurement accuracy
- Repeatability: ±0.2% F.S.
- Fast dynamic response and precise flow adjustment capability
- Intuitive touchscreen interface with real-time visualization
- Direct mass flow measurement without requiring external compensation
- Automatic temperature compensation for enhanced measurement stability
- Integrated PID controller enabling closed-loop flow regulation
- Manual selection of liquid media via configurable parameter settings
- Tubular flow-splitting design minimizes risk of clogging
- Compatible with a wide range of high- and low-pressure pipeline systems
- Short warm-up time, minimal zero drift, and proven long-term operational reliability

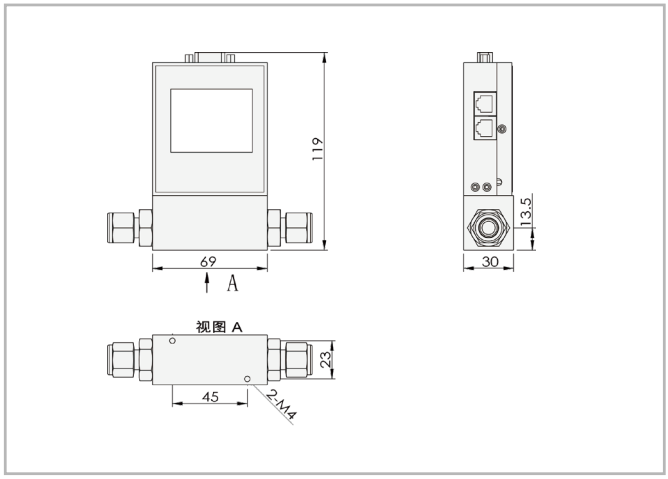
Specifications

		Liquid Mass Flow Controller	Liquid Mass Flow meter
Technical Specifications	Range	2g/h~1000g/h	
	Measurement and control range	controller valve control range 50:1	flow meter range ratio 100:1
	Accuracy	±0.5%F.S. (full scale)	
	Linearity	±0.25%F.S.	
	Repeatability	±0.2%F.S.	
	Response time	<0.2s	<0.1s
	Temperature coefficient	±0.1%F.S./℃	
	Working temperature	0 ~ 50℃	
	preheating time	30Savailable, 5Min to reach optimal condition	
	Working pressure	working differential pressure:0.1~0.5MPa working pressure drop: <0.01MPa	
	Max. operating pressure	3MPa/10MPa	
	Leakage rate	1 X 10^{-9} Pa m^3/S	
Mechanical components	Base material	stainless steel	
	Connector	φ3,φ6,VCR, LOK, quick plug, pagodas, flange installation, etc	
	Sealing material	FFKM, Vilton, NBR, EPDM, Others	
	Shell protection level	IP40	
	Installation position	horizontal installation	
Electrical properties	Electrical connections	DB9hole,RJ11,5.5×2.1Power Quick Plug	
	Display status	with display, without display	
	Digital output	RS232/485 Modbus protocol,Profibus protocol,EtherCAT protocol, Profinet protocol,etc	
	Analog output	0 ~ 5V,4-20mA,1 ~ 5V	
	Power supply	24VDC,±15VDC	

Dimensions (mm)



▲ACU20FDL-LC Liquid Mass Flow Controller (Low)



▲ACU20FDL-LM Liquid Mass Flow meter (Low)

Model chart

ACU20FDL	C	M	N	200g	A1	B1	4	8	V	C
Serial number										

Product type

C	Mass flow controller
M	Mass flow meter

Pressurization

M	3MPa
Z	10MPa (Only for flow meters)

Display

N	Without display
X	With display

Ranges

002g	2 g/h
010g	10 g/h
030g	30 g/h
050g	50 g/h
100g	100 g/h
200g	200 g/h
300g	300 g/h
500g	500 g/h
800g	800 g/h
1000g	1000 g/h
000g	User Specified

Input signa

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
J	Metal seal
Y	Others

Connectors

C	1/8″
D	1/4″
E	3/8″
Y	Others

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