ACCU
Measurement & Control

ACU20FCH

HighTemperature
Mass Flow Controllers&Meters







Product Overview

ACU20FCH series high temperature flow meters can quickly and accurately measure the volume flow/mass flow of high temperature media (liquid, gas or steam); ACU20FCH series high temperature flow controllers use customized high-speed proportional control valves to accurately control the liquid volume flow/mass flow.

ACU20FCH series high temperature flow meter & flow controller, with integrated multi-function digitaldisplay, allows users to control setpoints and PID valve adjustment by simply operating the screen buttons, while opening analog input and output and RS-485 digital communication. When measuring liquids, the uniqueexhaust hole can easily exhaust air.

ACU20FCH series high temperature flowmeter & flow controller, no moving parts and thermal elements inside, through the vibration test, insensitive to the installation direction. We provide a full range of user support, including technical consultation, fast equipment calibration service and conditional lifetime warranty.

ACU20FCH series high temperature flow meter & flow controller adopts patented internal compensation laminar pressure difference technology, which enables the fluid to maintain laminar flow in a large flow range.

Applications

ACU20FCH series high temperature flowmeter & flow controller are widely used in various industries, such as process manufacturing, food analysis, analytical testing and measurement. Multivariable measurement and 50:1 adjustable range ratio make it possible to replace multiple devices with only one ACU20FCH high temperature flowmeter & flow controller. Accuracy of 0.5%, repeatability of ±0.2% and control response time of <0.2s ensure the normal operation of process liquid/gas/steam.

Operation Status

	Mass Flow Meter	Mass Flow Controller
Maximum working pressure	1 MPa	
Requirements for installation method/direction	No valve	>1L/min range, the valve must be installed vertically
Valve class	Valve normally closed	
Protection level	IP40	
Material	Stainless Steel	
measurable temperature	80~350℃, >350℃, depending on the situation	

Signal

	Mass Flow Meter	Mass Flow Controller
Monochrome LCD display	Simultaneous display of flow, setting	
Digital output signal	RS232/485 Modbus protocol, Profibus protocol, EtherCAT protocol, Profinetprotocol, etc.	
Analog input signal	0-5 Vdc / 4-20 mA	
Analog output signal	0-5 Vdc / 4-20 mA	
Electrical signal interface	DB9	
Supply voltage	±15VDC, 24VDC	
Supply current	0.250 Amp	0.750 Amp

Specifications

	Mass Flow Meter	Mass Flow Controller
Range	Gas: 100SCCM~3000SLM Liquid: 10SCCM~20SLM Steam: 10SCCM~500SLM	
Accuracy (under standard conditions after zeroing)	± 0.5% F.S	
Repeatability	± 0.2% F.S	
Zero Drift & Full Scale Drift	0.02% F.S/ °C/Atm	
Operating range/range adjustable ratio	2% ~ 100% F.S / 50:1	
Maximum measurable flow	100% F.S (Controllable)	
Typical Response Time	<0.2s	
leakage rate	1×10^{-9} Pa m^3/S	

Model chart

ACU20FCH- L C M N 020L 007 A1 B1 5 8 V B

Serial number

Model

L	Low
M	Middle
B	Big

Product type

C	Mass flow controller
M	Mass flow meter

Pressurization

M	1MPa

Display

N	Without display
X	With display

Ranges

100C	100 SCCM	G
200C	200 SCCM	G
300C	300 SCCM	G
⋮	⋮	G
3000L	3000 SLM	G
010C	10 SCCM	L
020C	20 SCCM	L
030C	30 SCCM	L
⋮	⋮	L
020L	20 SLM	L
010C	10 SCCM	S
020C	20 SCCM	S
030C	30 SCCM	S
⋮	⋮	S
500L	500SLM	S
000L	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

5	±15VCD
4	24VDC

Communication

8	RS485
2	RS232

Sealing material

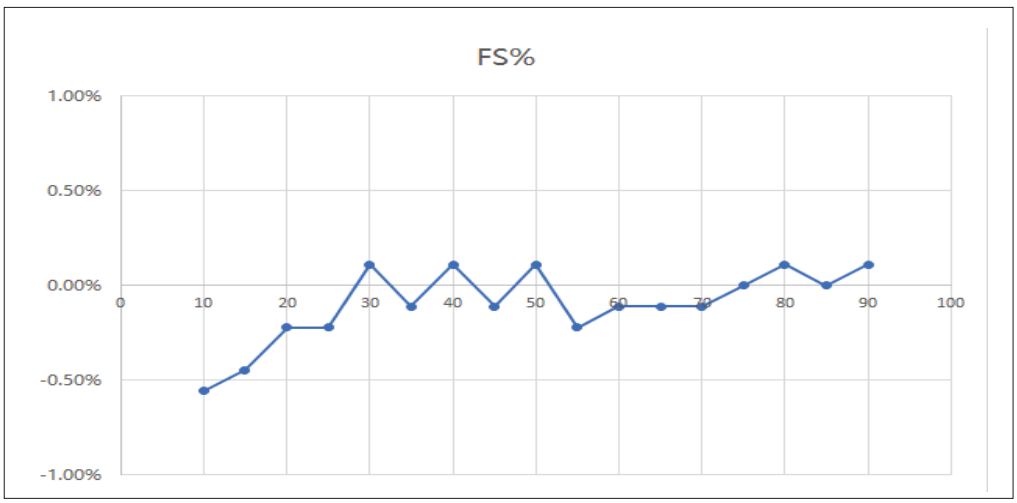
V	Vilton
T	NBR
N	Neoprene
Y	Others

Connectors

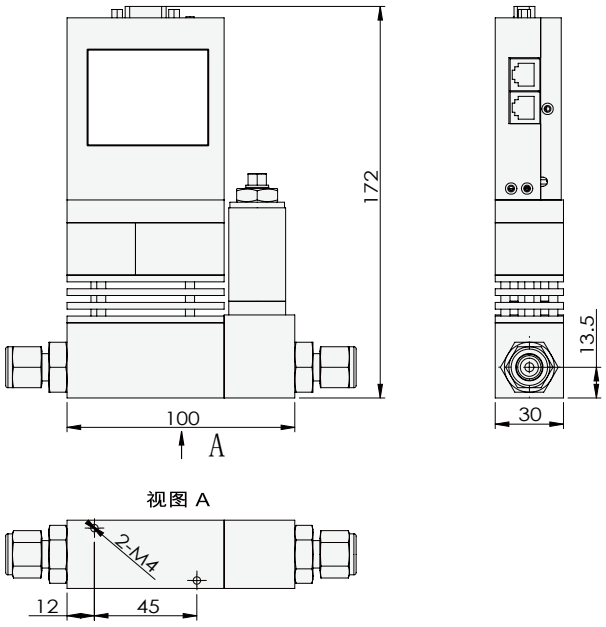
A	φ3
B	φ6
C	φ8
D	φ10
E	φ12
F	1/8"
G	1/4"
L	Flange connection
Y	others

Calibration data

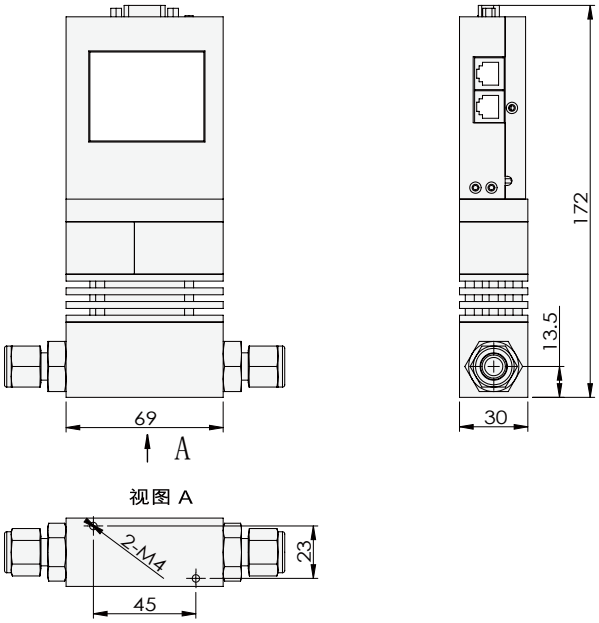
Qstd	Qv	Fs%
10	9.5	-0.56%
15	14.6	-0.44%
20	19.8	-0.22%
25	24.8	-0.22%
30	30.1	0.11%
35	34.9	-0.11%
40	40.1	0.11%
45	44.9	-0.11%
50	50.1	0.11%
55	54.8	-0.22%
60	59.9	-0.11%
65	64.9	-0.11%
70	69.9	-0.11%
75	75	0.00%
80	80.1	0.11%
85	85	0.00%
90	90.1	0.11%



产品尺寸

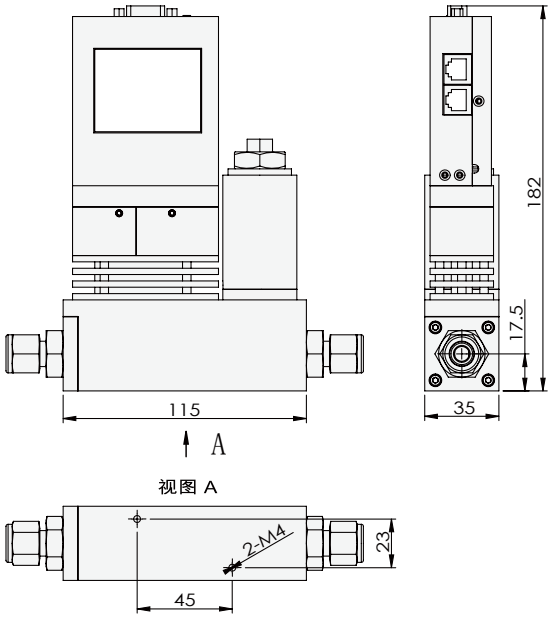


ACU20FCH-LC（一体式）

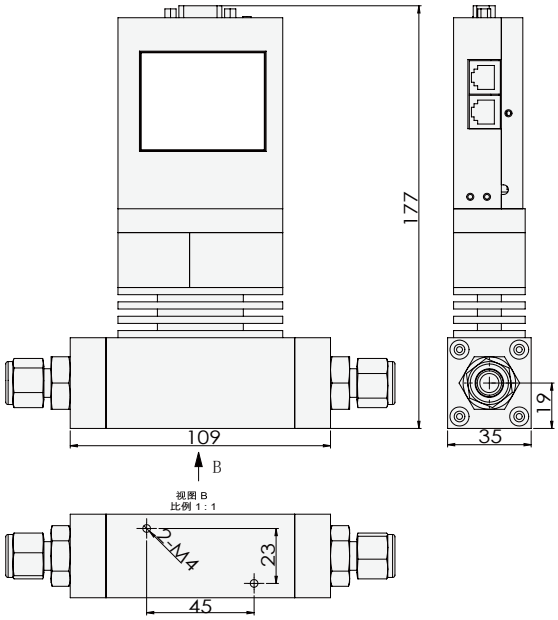


ACU20FCH-LM（一体式）

产品尺寸

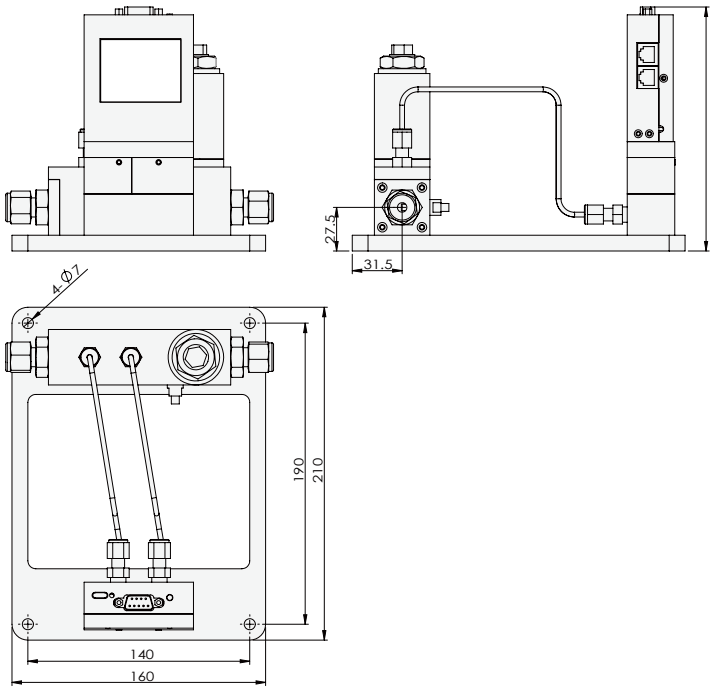


ACU20FCH-MC（一体式）



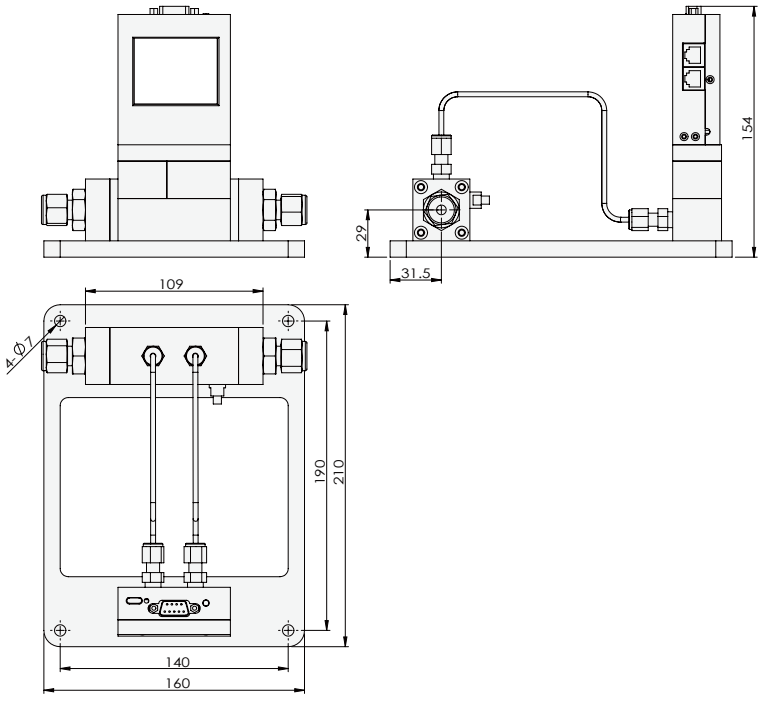
ACU20FCH-MM（一体式）

产品尺寸



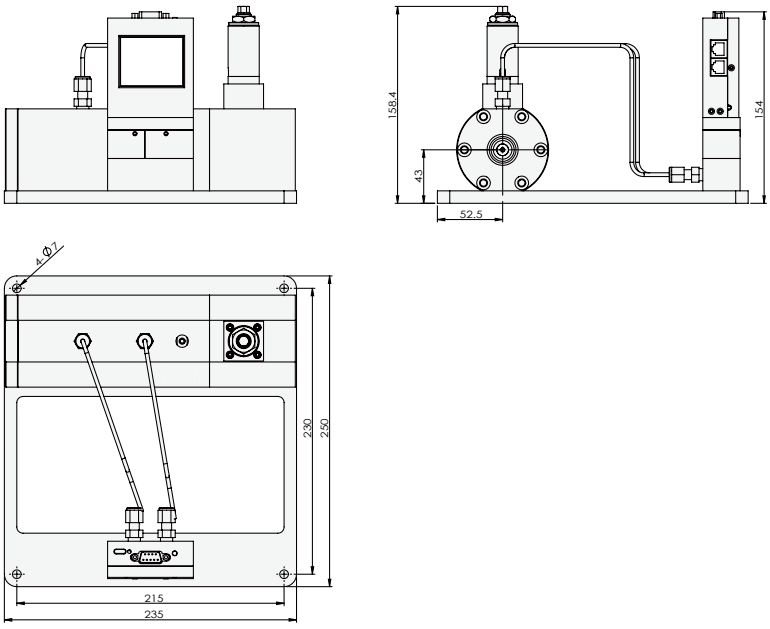
ACU20FCH-MC（分体式）

产品尺寸



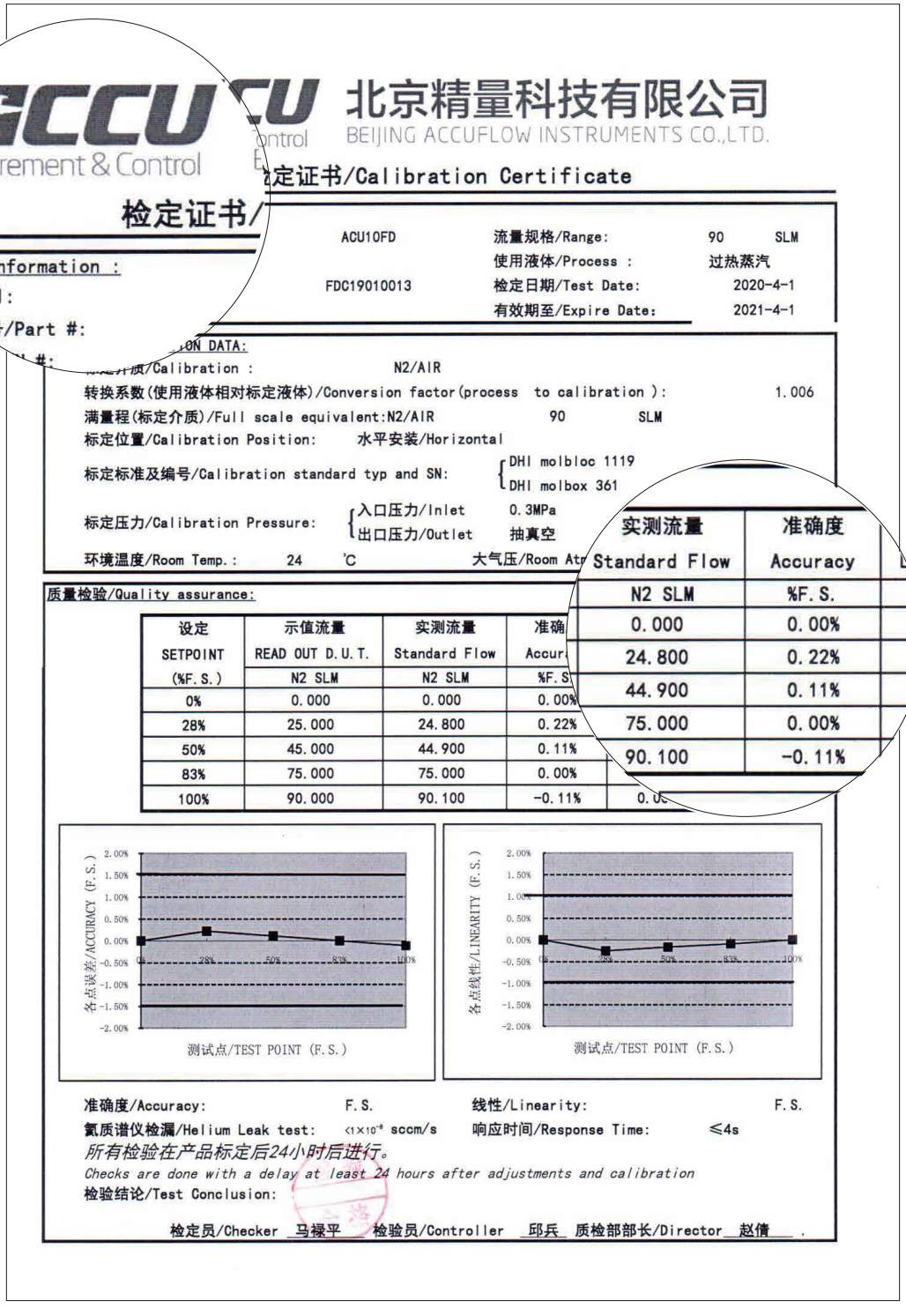
ACU20FCH-MM（分体式）

产品尺寸



ACU20FCH-BC（分体式）

Verification Certificate



北京精量科技有限公司
BEIJING ACCUFLOW INSTRUMENTS CO.,LTD.

检定证书/Calibration Certificate

	ACU10FD	流量规格/Range:	90 SLM
		使用液体/Process :	过热蒸汽
	FDC19010013	检定日期/Test Date:	2020-4-1
		有效期至/Expire Date:	2021-4-1

/DUT information :
/Model:
号/Part #:

ON DATA:
介质/Calibration : N2/AIR
转换系数(使用液体相对标定液体)/Conversion factor(process to calibration): 1.006
满量程(标定介质)/Full scale equivalent:N2/AIR 90 SLM
标定位置/Calibration Position: 水平安装/Horizontal
标定标准及编号/Calibration standard typ and SN: DHI molbloc 1119; DHI molbox 361
标定压力/Calibration Pressure: 入口压力/Inlet 0.3MPa; 出口压力/Outlet 抽真空
环境温度/Room Temp.: 24 ℃ 大气压/Room Atm

质量检验/Quality assurance:

设定 SETPOINT (%F.S.)	示值流量 READ OUT D.U.T. N2 SLM	实测流量 Standard Flow N2 SLM	准确 Accur %F.S
0%	0.000	0.000	0.00%
28%	25.000	24.800	0.22%
50%	45.000	44.900	0.11%
83%	75.000	75.000	0.00%
100%	90.000	90.100	-0.11%

实测流量 Standard Flow N2 SLM	准确度 Accuracy %F.S.
0.000	0.00%
24.800	0.22%
44.900	0.11%
75.000	0.00%
90.100	-0.11%

准确度/Accuracy: F.S. 线性/Linearity: F.S.
氦质谱仪检漏/Helium Leak test: <1×10⁻⁸ sccm/s 响应时间/Response Time: ≤4s
所有检验在产品标定后24小时后进行。
Checks are done with a delay at least 24 hours after adjustments and calibration
检验结论/Test Conclusion:

检定员/Checker 马禄平 检验员/Controller 邱兵 质检部部长/Director 赵倩