

MFC330 系列气体质量流量控制器技术参数

2 sccm – 500 slpm 满量程

主要参数 SENSOR AND CONTROL PERFORMANCE

介质要求 Applicable media	洁净干燥气体 Clean, dry gases
气体种类 Gas type	98+气体可选 Available for 98+ types of gas
量程 Full Scale (N ₂ equivalent)	0-2, 10, 20, 50, 100, 300, 500 sccm; 0-1, 2, 5, 10, 20, 30, 50, 100, 200, 500slpm
测量范围 measurement range	0.5%FS. (1:200)
控制范围 Control range	1% - 100% F.S. (1:100)
准确度 Accuracy	标准 Standard: $\pm 1\%$ F.S. 高精度 High Performance: $\pm 0.5\%$
重复精度 Repeatability	$\pm 0.2\%$ F.S.
线性度 Linearity	$\pm 0.2\%$ F.S.
控制响应时间 Settling time (in control)	<3 秒
预热时间 Warm-up time	5 min (T95), 30 分钟最佳 30min for optimum accuracy
阀门 Valve function	常闭式, Normally Closed
泄露率 Leak integrity	1×10^{-11} Pa·m ³ /sec He

机械特性 MECHANICAL

最大工作压力 Maximum pressure	3 MPa (30bar)
工作压差范围 Operating differential pressure	0 ~ 1 MPa
工作温度范围 Operating temperature range	-20 ~ 65°C (环境和气体 ambient and gas)
湿度范围 Relative humidity range	0 ~ 98% 无凝露 No-condensing
气路接头类型 Process connections	卡套, VCR, 快插, 快拧 (可选) (Push-in fitting, Push-on fitting, Compression fitting, VCR optional)
气体接触材质 Material	氟橡胶, 304/316 不锈钢 (FKM, 300-series Stainless steel)
密封材质 Seals	氟橡胶 FKM
防护等级 Ingress protection (housing)	IP40
安装方式 Mounting	水平安装方向校准 Calibrated in horizontal mounting orientation
固定孔 Mounting holes	M4 $\downarrow$ 5mm
重量 Weight	0.96 kg

电气和通讯 COMMUNICATIONS

电气连接接口类型 Electrical connection	DB – 9 公头 (Male)
模拟信号 Analog input and output options	0 – 5 VDC, 4 – 20 mA (可定制)
输入输出阻抗 Impedance resistance	输入阻抗 > 10M Ω , 输出阻抗 < 1K Ω
模拟数据更新频率 Analog data update rate	200Hz
数字信号 Digital input and output options	Modbu RTU (RS232, RS485), CAN
通信速率 Digital data update rate	9600(默认), 14400, 19200, 38400, 56000, 57600, 115200 bps (用户可修改)
电源 Power requirements	15 – 40 VDC, < 200mA
显示更新频率 Display update rate	50Hz
模拟信号精度 Analog signal accuracy	$\pm 0.05\%$ FS

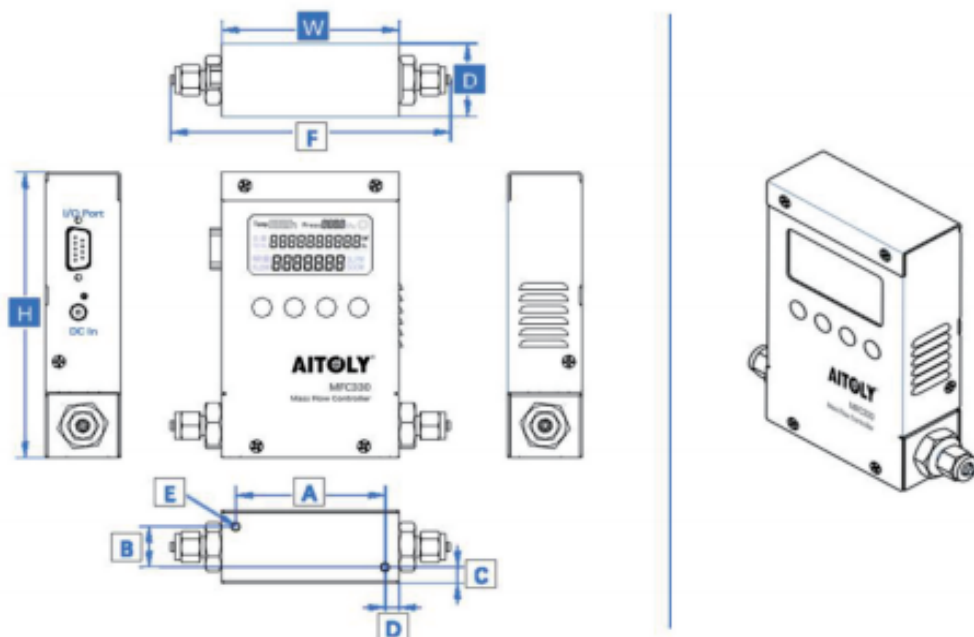
特征 FRATURE

标况 STP reference conditions	20°C, 1 atm
气体选择 Gas Select	可选, 具体参考说明书气体系数
软件 Software	Aitoly 分阶流量软件

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尺寸 DIMENSIONS									Weight
Full scale flow	Height	Width	Depth	A	B	C	D	E	重量
2sccm~50slpm	125.00 mm	76.00 mm	32.00 mm	64.00 mm	17.80 mm	7.00 mm	6.00 mm	M4 ↓ 5mm	≈0.96 kg
	4.921 in	2.992 in	1.260 in	2.520 in	0.701 in	0.276 in	0.236 in	M4 ↓ 0.197in	≈2.1 lb
100slpm-500slpm	138mm	82mm	38mm	62mm	30mm	4mm	10mm	M4 ↓ 8mm	1.3kg
	5.43in	3.22	1.496	2.220	1.181	0.157	0.393	M4 ↓ 0.31in	2.88lb



产品选型 Model Selection					
1	2	3	4	5	6
(ex.) MFC330	CAN	300sccm	3mm 卡套	N/S	N ₂

3 Full Scale Rate 满量程范围:

2 sccm (N₂ equivalent flow rate, 氮气当量)
20 sccm (N₂ equivalent flow rate, 氮气当量)
50 sccm (N₂ equivalent flow rate, 氮气当量)
100 sccm (N₂ equivalent flow rate, 氮气当量)
200 sccm (N₂ equivalent flow rate, 氮气当量)
300 sccm (N₂ equivalent flow rate, 氮气当量)
500 sccm (N₂ equivalent flow rate, 氮气当量)
1 slpm (N₂ equivalent flow rate, 氮气当量)
5 slpm (N₂ equivalent flow rate, 氮气当量)
15 slpm (N₂ equivalent flow rate, 氮气当量)
20 slpm (N₂ equivalent flow rate, 氮气当量)
30 slpm (N₂ equivalent flow rate, 氮气当量)
50 slpm (N₂ equivalent flow rate, 氮气当量)
100slpm (N₂ equivalent flow rate, 氮气当量)
200slpm (N₂ equivalent flow rate, 氮气当量)
300slpm (N₂ equivalent flow rate, 氮气当量)
500slpm (N₂ equivalent flow rate, 氮气当量)

2 Communication Mode 通讯方式:

4-20 mA: 模拟量通讯 (0-20mA 可选)
1-5 VDC: 模拟量通讯 (0-5VDC 可选)
RS485: 数字量通讯 (Modbus 协议)
RS232: 数字量通讯 (Modbus 协议)
CAN: 数字量通讯 (CAN 协议)

1 Model:

MFC330: Mass Flow Controller 流量控制器
MFM330: Mass Flow Meter 流量计

6 Types of gas 气体种类:

N₂: Default (默认)
Others: 98+ (参考气体转换系数表)
Calibration Optional 特标可选

5 Display 显示方式:

S: Embedded display 内置显示屏
N: No display 不带显示
A: External wall mounted display 外挂壁挂式显示
B: External embedded display 外挂嵌入式显示

4 Joint 气路接口:

4mm 快插 Push-In fitting
6mm 快插 Push-In fitting
8mm 快插 Push-In fitting
6mm 快拧 Push-On fitting
8mm 快拧 Push-On fitting
3mm 双卡套 Compression fitting
6mm 双卡套 Compression fitting
1/8" 双卡套 Compression fitting
1/4" 双卡套 Compression fitting
1/4" VCR Swagelok male type fitting