

Technical Data for **Factory OEM** Mass Flow Devices



0.5 SCCM full scale through 20 SLPM full scale

Standard specifications. Consult Alicat for available options.

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SENSOR AND CONTROL PERFORMANCE	
Mass flow accuracy ¹	±0.8% of reading or ±0.2% of full scale, whichever is greater
Flow repeatability (2σ)	±(0.15% of reading + 0.05% of full scale)
Pressure accuracy ¹	Above 1 atm: ±0.5% of reading Below 1 atm: ±0.07 PSIA
Steady state control range ²	0.2–100% of full scale (500:1 turndown ratio)
Operating pressure	11.5–160 PSIA
Pressure sensitivity	Mass flow zero shift: ±0.02% of full scale per atm from tare pressure Mass flow span shift: ±0.2% of reading per atm from calibration conditions
Temperature sensitivity	Mass flow zero shift and span shift: ±0.025% of full scale per °C from 25°C
Temperature accuracy	±0.75°C
Operating temperature range	0–60°C (ambient and gas)
Valve function ²	Normally closed
Sensor response time	<1 ms
Typical control response time ²	As fast as 50 ms (T63), flow rate dependent, user-adjustable
Typical indication response time	<10 ms, flow rate dependent
Typical warm-up time	<1 s

MECHANICAL	
Wetted materials	430FR stainless steel, aluminum; FKM, alumina ceramic, brass, glass, gold, heat-cured epoxy, heat-cured silicone rubber, polyamide, silicon
Maximum pressure	Damage possible above 200 PSIA common mode pressure. Damage possible by rapid pressure change above 75 PSI differential pressure.
Relative humidity range	0–95%, non-condensing
Ingress protection	IP40
Mounting orientation sensitivity	None
Mounting holes	2× 8-32 UNC threaded ⚓ 0.328" [8.89 mm]

POWER AND COMMUNICATIONS	
Digital input and output options	RS-232 Serial and Modbus RTU (default), RS-485 Serial and Modbus RTU
Digital data update rate	40 Hz at 19200 baud
Analog input and output options	4–20 mA, 0–5 Vdc, 1–5 Vdc, 0–10 Vdc Meters do not have inputs.
Analog data update rate	1 kHz
Analog signal accuracy	±0.1% of full scale additional uncertainty
Electrical connection options	Male 9pin d-sub
Power requirements	12–24 Vdc, 250 mA (290 mA if equipped with 4–20 mA output)

FEATURES	
STP reference conditions	25°C and 1 atm (default), user-configurable
NTP reference conditions	0°C and 1 atm (default), user-configurable
Gas Select™	30 user-selectable gases stored internally. Each gas optimized to match NIST's REFPROP 10 gas property calculations across the operating temperature and pressure ranges for highest accuracy. Custom gases available upon request.
Valve overrides ²	Force close, force open
Status LED	Power, serial activity, error

¹ Stated accuracy is after tare (for mass flow), under equilibrium conditions, includes repeatability and linearity.

² Applies to controllers only.

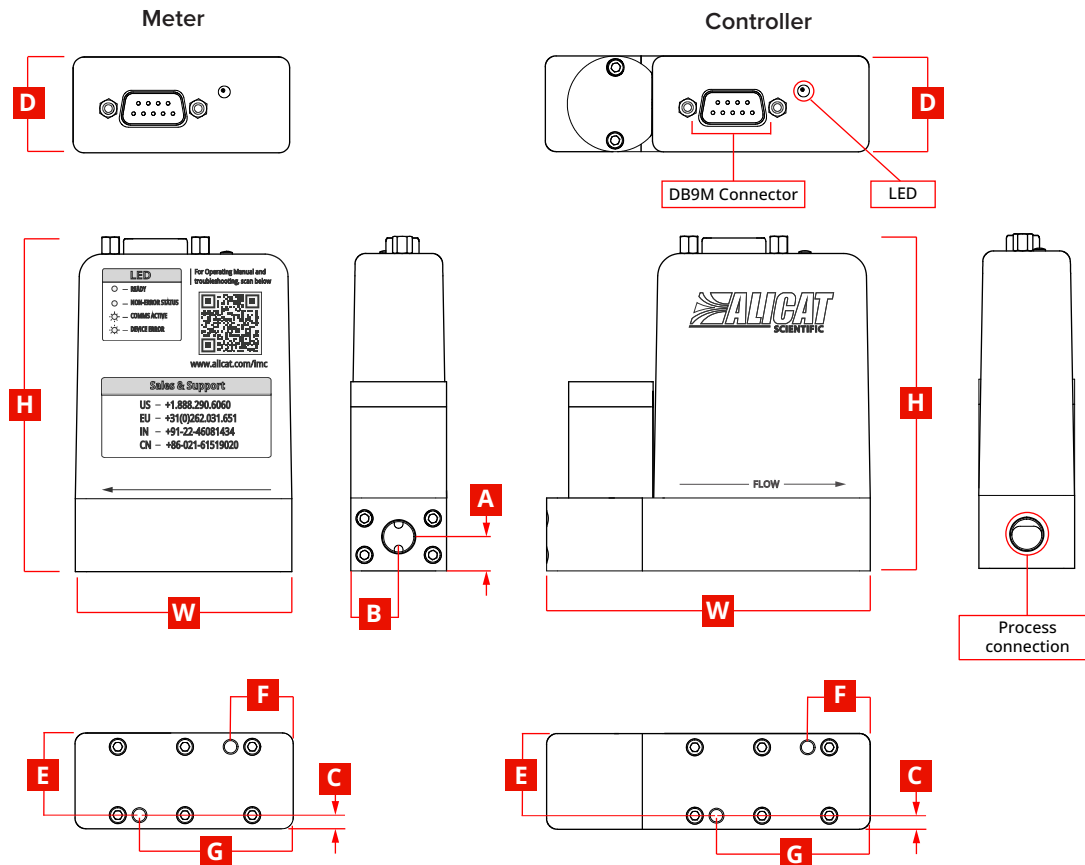
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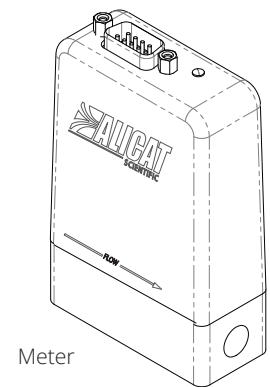
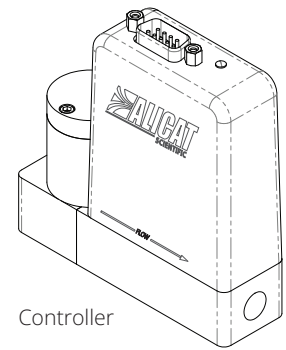
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RANGE-SPECIFIC TECHNICAL DATA			
Full scale flow	Pressure drop at full scale when venting air to atmosphere	Pressure drop (meters)	Process connections
0.5 SCCM	1.0 PSID	1.0 PSID	M5 female thread (10-32 compatible) ³
1–5 SCCM	2.0 PSID	1.0 PSID	M5 female thread (10-32 compatible) ³
10 SCCM	2.8 PSID	1.0 PSID	M5 female thread (10-32 compatible) ³
20–50 SCCM	1.0 PSID	1.0 PSID	M5 female thread (10-32 compatible) ³
100–500 SCCM	1.0 PSID	1.0 PSID	1/8" NPT female
1 SLPM	1.5 PSID	1.0 PSID	1/8" NPT female
2 SLPM	3.0 PSID	1.0 PSID	1/8" NPT female
5 SLPM	2.0 PSID	1.0 PSID	1/8" NPT female
10 SLPM	5.5 PSID	1.0 PSID	1/8" NPT female
20 SLPM	12.0 PSID	1.0 PSID	1/8" NPT female

³ Shipped with Buna-N O-ring face seal to 1/8" female NPT fittings.



Representative Examples



Full scale flow	DIMENSIONS									WEIGHT
	Width	Depth	Height	A	B	C	E	F	G	
0.5 SCCM–20 SLPM Meter	2.38"	1.05"	3.67"	0.38"	0.53"	0.15"	0.90"	0.69"	1.69"	≈ 0.4 lb
	60.3 mm	26.7 mm	93.2 mm	9.5 mm	13.3 mm	3.8 mm	22.9 mm	17.5 mm	42.9 mm	≈ 0.2 kg
0.5 SCCM–20 SLPM Controller	3.55"	1.05"	3.67"	0.38"	0.53"	0.15"	0.90"	0.69"	1.69"	≈ 0.6 lb
	90.2 mm	26.7 mm	93.2 mm	9.5 mm	13.3 mm	3.8 mm	22.9 mm	17.5 mm	42.9 mm	≈ 0.3 kg