

## Mass Flow Controllers

One Instrument... 30 Gases



- Flexibility of 30 selectable on-board gases
- Fast 100 millisecond valve control

Why we Stand Out

- Pinpoint accuracy at 0.2% Full Scale and 0.8% Reading
- 200-1 Turndown Ratio allows lower accurate flow readings
- Flows from 0.5 SCCM to 2000 SLPM Full Scale
- Compatible with FlowVisionSC download on Windows
- No additional rack mount power or display supplies needed
- All units come with RS-232 and all Analog Communication
- Multi-Drop made easy with the BB9 Breakout Box

# Apex MFC in a Glance

The Apex Mass Flow Controllers are laminar flow controllers that use differential pressure measurements within the known volume coupled with a proportional valve to control flow rates. Unlike Thermal Mass Flow Controllers, Apex MFCs have ten millisecond reaction time, no significant warmup time, and can measure multiple gases with one controller, among other advantages. One MFC works across 30+ gases.

## Common Applications

Research and Development Sputtering Thin Film Deposition **Chemical Vapor Deposition** Plasma Production Replacement for Valve Control Vacuum Venting and Gassing **Fuel Cell Systems** Nitrogen Blanketing Shaping Air in Paint Booths

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### Technical Information

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Accuracy	o.8% of reading / o.2% of Full Scale	
Repeatability	o.2% at Full Scale	
Operating Range	1-200 % Measure and Control	
Response Time	100 Milliseconds	
Standard Conditions	<sub>25</sub> °C and 14.696 PSIA (STP)	
Operating Temp	-10°C to +50°	
Humidity Range	Non-Condensing (o-100%)	
Flow Rate	102.4% Controllable Full Scale	
Maximum Pressure	145 PSIG	
Input / Output Signal	RS-232 Serial and 0-5 Vdc	
Input / Output 2 <sup>nd</sup>	o-5 Vdc; o-10 Vdc; 4-20 mA	
Electrical Connections	8 Pin Mini Din (6 Pin Industrial Option)	

Dimensions	Connections
≤50 SCCM	10-32 UNF (Euro M-5)
50 SCCM ≤ 20 SLPM	1/8" NPT Female
20 SLPM ≤ 100 SLPM	1/4" NPT Female
100 SLPM ≤ 250 SLPM	1/2" NPT Female
> 250 SLPM ≤ 2000 SLPM	3/4" NPT Female

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### Accessories

- Local Set Point Module
- Remote Digital Display
- Assortment of Connecting Cables
- Simple Power Cords
- FlowVision
- Upstream valve for Vacuum **Applications**
- Totalizer
- Additional Fittings
- Orifice Sizing
- Gas Blend Calibrations

**Additions** 

- Bi-Directional Flow Calibration
- 0.4% of Reading, High Accuracy Option