# Aggressive Gas Mass Flow Controllers One Instrument... Over 100 Gases

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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. The Aggressive Gas Flow Controllers are compatible with Ammonia, Hydrogen Sulfide, Nitric Oxide, Nitrogen Triflouride, Propylene, along with the 110 on board gases offered with the standard Apex MFC.

See page XVI for all the potential gases you can flow with 1 aggressive gas unit.

## 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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## Why we Stand Out

- Flexibility of 130+ selectable on-board gases
- Lifetime Warranty with calibrations
- Fast 100 millisecond valve control
- 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 3000 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
- Multiple unit control made easy with the BB9 Breakout Box

## 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 (0-100%)	
Flow Rate	102.4% Controllable Full Scale	
Maximum Pressure	145 PSIG	
Digital Options	RS 232; RS 485; Modbus; PROFIBUS	
Analog Options	o-5 Vdc; 1-5Vdc; 0-10 Vdc; 4-20 mA	
Electrical Connections	8 Pin, 9 Pin, 15 Pin, 6 Pin Industrial	
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

Additions

- Orifice Sizing
- Gas Blend Calibrations
- Bi-Directional Flow Calibration
- 0.4% of Reading, High Accuracy Option