PIVOTAL SYSTEMS

GFM-800/800A

Gas Flow Monitor™ Series

Real-time, in-process gas flow monitoring

Real-Time

- Gas flow measurement during wafer processing
- Every wafer, every recipe, every time

High Accuracy, Fast Response

- ±0.5% of flow (verified by Molbloc, GBROR®)
- 50ms sampling rate (for MFC transient measurements)

Smart Value

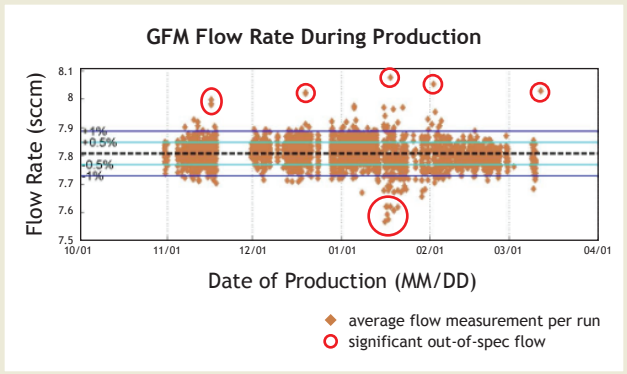
- Verify and troubleshoot MFCs cost effectively
- Match chambers
- Improve yield
- Avoid gas-flow-related scrap
- Increase tool availability

Real-Time Gas Flow Monitoring

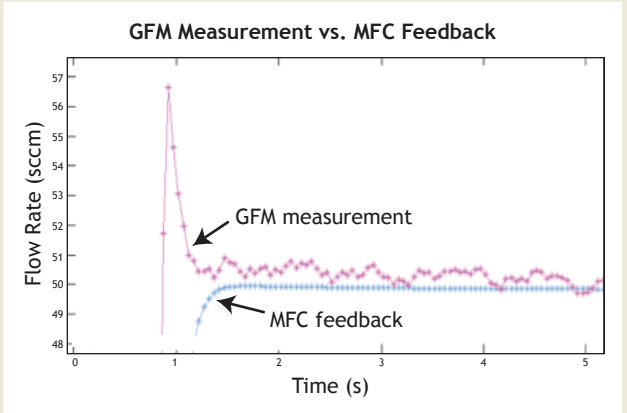
All semiconductor fabs use specialized process gas delivery systems within their wafer processing tools. These systems utilize flow control devices (FCD), such as mass flow controllers (MFC) or flow control systems (FCS), to supply precise quantities of process gases to the process chamber, such that processes remain within their process windows during wafer processing.

As processes migrate to advanced technology nodes, the process window for gas flow control narrows. This creates a broad need for the capability to determine when an FCD is drifting or performing out of specification.

The Pivotal Gas Flow Monitor (GFM) system has the capability to monitor FCDs *during* normal wafer processing, determining their actual flow rates to an accuracy of ±0.5%.



Identify Gas Flow Outliers For Every Production Run



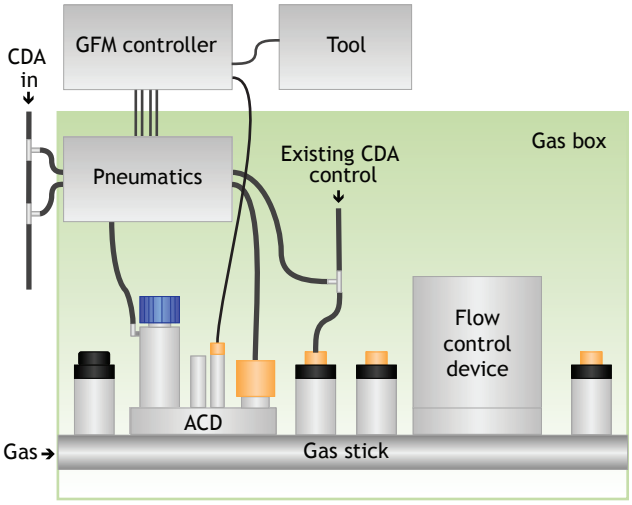
Characterize MFC Transients During Setpoint Change

GFM Performance Specifications

	GFM-800		GFM-800A	
	Low Flow	High Flow	Low Flow	High Flow
Number of Gas Sticks	8			
Absolute Calibration Device	No		Yes	
Accuracy	Dependent on offline calibration		±0.5% of actual flow	
Precision	±0.5%			
Flow Range	0.5 sccm to 1 slpm	1–5 slpm	0.5 sccm to 1 slpm	1–5 slpm
Supply Pressure	70 kPa(a) to 1.8 MPa(a)			
Adjustable Pressure	35–500 kPa(a)			
Temperature*	10–35°C			
Gas Type	Compatible with all semiconductor gases: inerts, corrosives and low vapor pressure gases			

*This may be calibrated to any 25°C range.

GFM System Diagram



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