

Built for Vacuum Applications

DIFFERENTIAL PRESSURE MASS FLOW CONTROLLERS



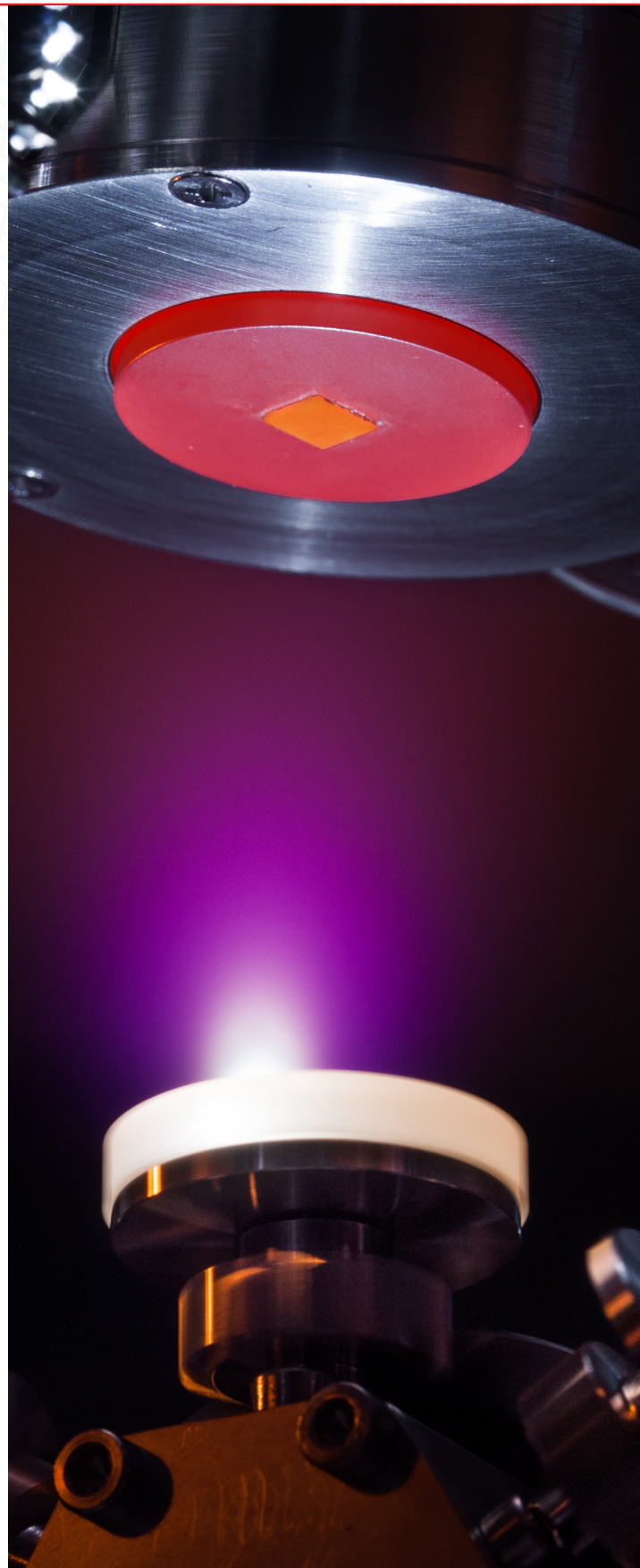
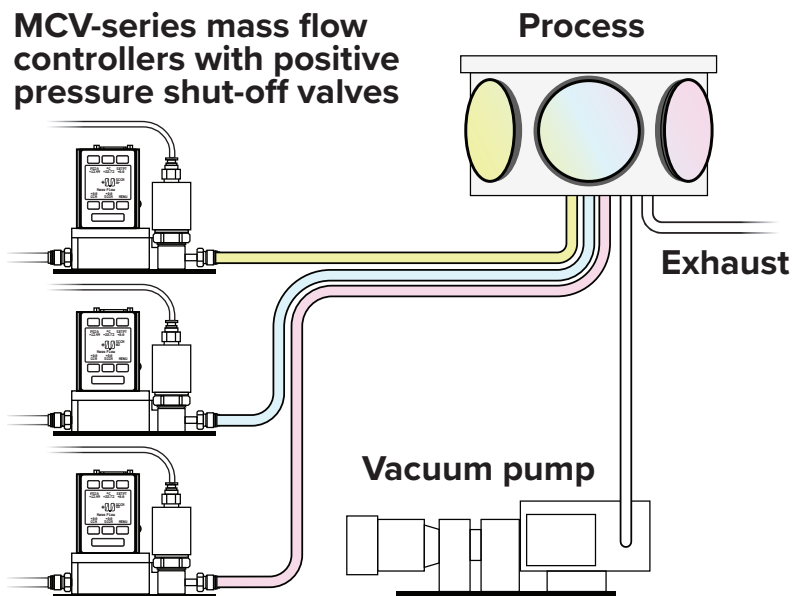
Optimizing Vacuum Coating

Thin film techniques like PVD, CVD, and ALD require a consistent, fast, and repeatable flow of carrier and reactant gasses for optimal operation. Alicat's MCE and MCV-Series mass flow controllers feature a 30 ms control response time, accuracy as good as 0.6% of reading, and a design that easily fits into your existing setup.

Improving Reactive Sputtering Systems

Upgrading an open loop control method to a much tighter closed loop control is possible when using residual gas analyzers (RGAs) in combination with mass flow controllers (MFCs). RGAs monitor the partial pressures of gases and command MFC setpoints to improve control over the target's "transition" state and prevent target poisoning.

MCV-series mass flow controllers with positive pressure shut-off valves



Credit: Adam Andersen Laessøe

Solutions That Fit Your Process

DESIGNED TO EVOLVE WITH YOU

Quick Specs

- 30 ms control response
- 0.01–100% control range
- NIST-traceable accuracy as good as $\pm 0.6\%$ of reading or $\pm 0.1\%$ of full scale
- Operating conditions -10 to 60°C ; 160 PSIA full scale
- Repeatability: $\pm 0.1\%$ of reading, $\pm 0.02\%$ of full scale)
- Full scale ranges between 0.5 SCCM and 20 SLPM

Features

- **No warm-up time**, ready to control process flows in milliseconds
- **Switch between 98+ pre-loaded gases** with a push of a button
- **Accessible PID valve tuning** for best speed and stability
- **Easy integration** with SEMI standard footprint designed to fit your current process
- **Control mass flow, volumetric flow, or pressure** with one device
- **Lifetime warranty** and technical support

Options for Every Application

- **Matching pinouts for any manufacturer:** 9-pin and 15-pin D-Sub connectors
- **Communications:** Analog, RS-232, RS-485, EtherNet/IP, EtherCAT, Modbus RTU or TCP/IP, DeviceNet, PROFIBUS, PROFINET
- **Process connections:** Swagelok®-compatible compression, VCR®, or VCO® fittings
- **Precision dispensing package:** Utilizes our fast valves to dispense metered amounts of gas
- **Anti-corrosive configuration:** Features 316L stainless steel sensor to better withstand corrosion caused by aggressive gases
- **Optional high accuracy calibration:** 0.5% of reading or $\pm 0.1\%$ of full scale, whichever is greater



MCE-Series

Equipped with $\frac{1}{4}$ " VCR fittings and match end-to-end with SEMI standard mass flow controllers for easy drop-in upgrades to vacuum deposition fixtures.



MCV-Series

Equipped with a pneumatically actuated, positive shutoff valve to ensure no leak through, plus all the benefits of the MCE-Series.



A Halma company

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