

Mass Flow Controllers

Digital and analog mass flow control at speeds 10 times faster than you can blink your eyes.

In the time it takes to read this sentence an Alicat mass flow controller will have made over 1000 adjustments to maintain a stable mass flow rate.



Description:

Alicat's MC/MCR series digital/analog mass flow controllers are designed to take the guesswork out of process gas delivery. As companies continue to drive for more efficient processes the call for greater output and less waste demands precision gas flow control. Alicat's MC/MCR series mass flow controllers use patented laminar flow technology and a high speed, low drop, control valve Alicat mass flow controllers deliver accurate and precise gas flow control. With a number of standard features like 200:1 turndown ratio, 30 user selectable gas calibrations, fully functional digital display, and a lifetime warranty Alicat mass flow controllers are designed to offer industry leading performance for a lifetime.

Benefits:

The Alicat mass flow controllers are engineered to meet the following design criteria:

Simplicity

The MC series mass flow controller is very easy to use. With the local display, users can make changes to the configuration of the unit without the need for computers, complicated software or scripts.

Mass Flow Controller Accuracy

Alicat MC series mass flow controllers can be configured with an accuracy spec of up to $\pm(0.4\%$ of reading + 0.2% of full scale) with a high-accuracy calibration. Standard calibrations are rated at $\pm(0.8\%$ of reading + 0.2% of full scale)

Mass Flow Controller Repeatability

Alicat's patented technology allow its mass flow controllers to have very few moving parts. All of the MFC's internal components are fixed in place resulting in very little physical change inside the MFC. Little physical change in the flow cavity means higher rates of consistency and repeatability. Alicat MC series mass flow controllers have a repeatability of $\pm 0.2\%$ of FS

Reduced Cost of Ownership

Alicat MC/MCP/MCR series flow controllers require very little power to run thereby reducing operating costs. MC and VC series flow controllers also have less pressure drop when compared to similar flow devices. Reduced pressure drop means more process fluids go into your process and not into your measurement devices. The MC series mass flow controllers also measure pressure, temperature and volumetric flow in addition to mass flow which means fewer instruments you will have to buy and install.

Control Speed

The Alicat MC/MCP/MCR series mass flow controller has a response time of less than 10ms and a control time of 100ms making it one of the fastest naturally responding mass flow controllers on the market today. See just how quickly an Alicat MFC responds to changes in this short video.

Versatility

MC series mass flow controllers are available in any flow range from 0.5SCCM through 2000SLPM. The MFCs are equipped with multiple analog outputs and inputs. Adding a totalizer allows users to see how much media has flowed through the MFC, making it a great way to monitor usage and identify waste.

Alicat MC/MCP/MCR series MFCs can also be used in applications where flow control into a vacuum is critical. The modular design of the Alicat MC/MCP/MCR series MFC allows it to be used in systems in which flow is driven by a vacuum.

Dependability

There are currently over 60,000 Alicat products in service around the world. Alicat mass flow controllers are being used in processes like pharmaceutical and semiconductor manufacturing, fuel cell research, auto paint application, and emissions compliance equipment.

Alicat Scientific mass flow controller calibrations are NIST traceable.

Standard Features

<ul style="list-style-type: none">• Fully functional digital display• Multiple parameter measurement: Mass flow, volumetric flow, temperature, and pressure• Low pressure drop operation• No warm up time• Viton seals• 8 pin mini din electronic connector• Standard barrel type power connector• RS-232 Multi-drop digital output• RS-232 Multi-drop digital input	<ul style="list-style-type: none">• Choice of 0-5Vdc, 0-10Vdc, or 1-5Vdc analog output• Choice of 0-5Vdc, 0-10Vdc, 1-5Vdc, or 4-20mA analog input• User tunable PID valve tuning• 30 user selectable on-board gas calibrations• 200:1 turndown ratio• NPT process connections• Can be ordered in any flow range between 0.5SCCM and 3000SLPM• Lifetime warranty
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Optional features and equipment

<ul style="list-style-type: none">• High accuracy calibration• Flow totalizer• Locking 6 pin, DB9 or DB15 connector• DeviceNet™ digital output• ProfiBUS digital output• RS-485 digital output• 4-20mA analog output• Secondary analog output• Color backlit TFT display• Remote panel mount display• Remote panel mount color backlit TFT display• Acrylic Mil-spec dielectric conformal coating• EPDM seals	<ul style="list-style-type: none">• NeSSI flow body• Oxygen cleaned• Remote electronic package for high temp environments• SAE process connections• VCR, VCO style welded fittings• 5VDC, 12VDC, 24VDC, or open drain flow alarms (high or low)• Bi-directional flow• Additional calibration points• Custom gas blends with up to 4 gases• Custom mass based flow range• Stainless steel valves• High flow, low drop valve• Internal potentiometer control
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