GM VACUUM

GAS Mixer & Pressure Controller
in one device - Up to 3 Channels

www.mcqinst.com
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GAS MIXER:
Each Channel: 0,2 – 200 mL/min
Accuracy: 1.0%
Repeatability: 0.10% of reading
Response time: 100 ms

PRESSURE CONTROLLER:
Pressure operating range: 10 Torr - 1200 Torr
Accuracy: 0.1 % of fs
Repeatibility: 1 Torr
Response time: 3s for ΔP = 50 Torr at a 30 sccm flow rate for a 10 mL sample volume
Volume controlled: up to 1L
*Pump is not included.

For EASY & AUTOMATED

Gas Mixing & Pressure Control

High Level of COMPACTNESS AND VERSATILITY

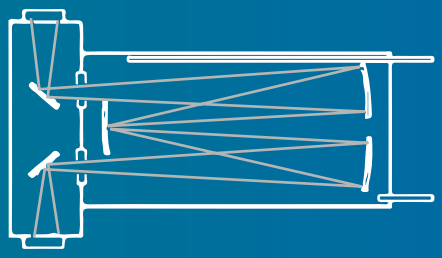
The problem of achieving accurate gas mixing and pressure control of the generated gas sample has always required bulky instrumentation and constant monitoring with manual adjustments. In this context, GM Vacuum integrates a gas mixer, and a pressure controller into a single, compact unit, offering an efficient all-in-one solution for automated generation and precise pressure control of mixtures.
*Pump is not included.

The Ultimate Solution for Characterization of Gas Samples.

GM Vacuum creates gas mixtures up to 600 ml/min with the possibility to automatically control pressure in sample volume up to 1L with a time response <10s for different operating pressure values. The versatility of the components allows, for a setpoint pressure value (in the range 10 Torr - 1200 Torr), stabilization and the modularity of the mass flow controllers allows dedicating specific channels to different class of molecules, such as light molecules, i.e., H2, He.

Adaptable to Different Gas Cells.

Our innovative GM Vacuum is designed to provide unparalleled adaptability, particularly when it comes to different gas cell setups. With its advanced features and flexible configuration options, our device ensures precise gas mixing and pressure control to meet your specific requirements.



PC Software

To control the instrument via PC, we also provide a software that allows direct access to all the parameters of our device for managing the gas mixing process and the pressure controller too.
Thanks to a user-friendly interface, you can easily control and manage several of the most important required actions with a few clicks.

Easy to Integrate.

Our Device GM Vacuum is not only USB connected, but its integrability with Profibus, Modbus & Simulink gives the possibility of an extremely easy integration into other systems. Moreover, we supply a Python Library to control the instrument via RS485.

python 3.7

485 BUS

MATLAB SIMULINK

PROFI BUS

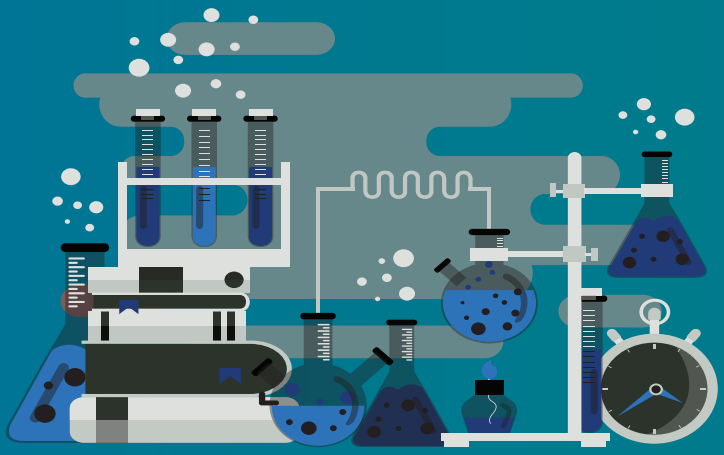
Modbus

USB

Compact and Zero Waste Space

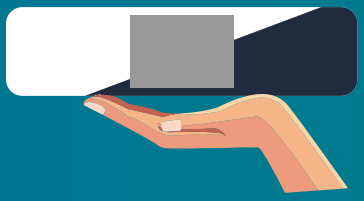
Say goodbye to wasted space and hello to efficiency with our compact GM Vacuum. Designed with optimization in mind, our product eliminates the need for bulky equipment, ensuring every inch of your workspace is put to good use.

By integrating multiple features into a single device, we have revolutionized gas mixing and pressure control, streamlining your setup and minimizing wasted resources.



From This

To This



Automated Feedback System.

With GM Vacuum, you can create, save and load your automatic mixture program, set the percentage of each channel, the total flow of the gas mixture and process duration.

The program code can be edited anytime, exported to an external file and reloaded later.

Easy to Transport and Deploy.

GM Vacuum not only offers exceptional functionality but also boasts ease of transportation and deployment. With its compact and lightweight design, our product is specifically engineered for being moved to different locations without any hassle. Whether you need to set up your applications, our device ensures a swift deployment.

GAS MIXER - Specifications.

Accuracy: (for each channel)	N2, 20 °C, 101.325 kPa (1 atm): 5-100% FS: 1% of SP < 5% FS: 0,2% of FS
Repeatability:	0,10% of reading
Response time to a change of Setpoint: (for each channel)	100 ms
Power Supply:	In Bundle
Operation Pressure:	Max 3 bar
Working Temperature:	15 - 25 °C
Mass Flow Rates: (for each channel)	0,2 – 200 mL/min on N2 (Standard)
Gases:	N2, O2, CO2, CH4, Air, He, H2 (additional gases supported on request)
Compatibility:	Profibus, Modbus, Matlab Simulink,Python
Communication:	USB PC Interface RS485 with open proprietary protocol
Fittings:	Swagelok NPT or Push-in fittings for 6-4mm tubes. Others on request
Inlet Gas Channel:	Up to 3 Inputs
Outlet Gas Channel:	1 Output of mixed gases
User Interface:	PC Software
Certifications:	CE, Made in Italy

PRESSURE CONTROLLER - Specifications.

Pressure Operating Range:	10 Torr - 1200 Torr
Accuracy:	0,1% of FS
Repeatability:	1 Torr
Response time:	~ 3s for ΔP = 50 Torr at a 30 sccm flow rate for a 10 mL sample volume
Volume Controlled:	Up to 1L
Pump:	Not Included