

Humonics Veri-Flow 500 Electronic Flowmeter

Product Specification



994-0281

Features

- Calibrated for nitrogen, helium, hydrogen, air, and 5% argon/methane
- Range of 5.0-500mL/min; accurate to within $\pm 2\%$ of reading or 0.25mL/min, whichever value is larger
- Continuous readings in volume, linear velocity or split ratio
- EPC compatible
- 9-pin RS 232 communication port for recording data
- Power adapter jack and recharger
- Compact size: 4 x 5 x 3" (10 x 12.5 x 7.5cm)

The Veri-Flow 500 unit is a simple, continuous-reading flowmeter for general GC applications. It is multi-point calibrated to NIST-certified volumetric standards for nitrogen, helium, hydrogen, air, and 5% argon/methane (certificate supplied) for superior accuracy, and to help you comply with ISO 9000, GLP, and other stringent quality control protocols. The display indicates flow in volume (sccm), in linear velocity (cm/second), or in split ratio. Operation is pulse-free, unaffected by temperature or pressure changes, and fully compatible with electronic pressure control systems. This flowmeter is powered by internal rechargeable batteries, and features very low power consumption and an automatic shut-off.

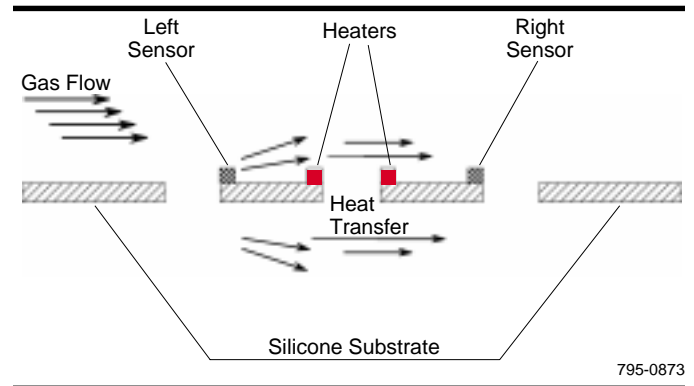
Principle of Operation

Gas flow transfers heat from the left sensor to the right sensor in proportion to the mass and velocity of the gas flow (see Figure A). The heat imbalance from the left to the right sensor produces an electrical signal in the flow sensor, which is used to calculate mass flow. Fluctuations due to ambient temperature changes are minimized by the heat.

Low Back Pressure

The Veri-Flow 500 flowmeter is specifically designed to provide low back pressure. At 500sccm (the high range limit), this unit produces about four-tenths of an inch (0.4") of water back

Figure A. Veri-Flow Flowmeter Operating Schematic



795-0873

pressure, which translates to about 0.0144psi as the upper limit within the functional range of the flowmeter. The back pressure produced shows a very linear drop in relation to the flow induced, so that at 250sccm the back pressure would be about 0.2", or about 0.0072psi, and so on as the flow is reduced further. At 100sccm, the back pressure introduced by this flowmeter should be less than a tenth of an inch of water. Similar units, in contrast to the Veri-Flow flowmeter, have back pressures as high as about 2.5psi at 500sccm.

Serial Port Communication

The Veri-Flow 500 flowmeter will communicate with a computer terminal or printer via the built-in RS232 serial interface, using ASCII messages. The flowmeter can send continuous results enabling a permanent printed record, or both query and command types of messages can be sent to the flowmeter. The results of a command can be checked with a query to confirm that the desired change has occurred. The flowmeter normally processes and responds to a message in 50 to 100 milliseconds.

Ordering Information:

Description	Cat. No.
Humonics Veri-Flow 500 Electronic Flowmeter	
110VAC	23143
International Version*	23142

*International version supplied with:
standard 110VAC USA power cord
European 220VAC power cord

universal AC to DC power adapter/charger, tested and approved by Humonics, CE approved and labeled

The AC to DC adapter/charger has the following rating:

Input: 100-240VAC, 50-60 Hz; Output: 5VDC, regulated.

The adapter/charger will work everywhere, including the USA and Japan.

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