



## Cal-MAT™ 4000 Series Multi-Component Gas Mixing System



### Description

The Matheson Cal-MAT™ 4000 Series is a multi-component gas mixing system that automatically blends up to three individual gases in a balance gas. The gas mixes can be used to generate precise gas calibration standards, create gaseous atmospheres, or produce gas mixes for analytical research or production purposes. The Cal-MAT™ 4000 can produce gas concentrations from percent to ppb levels for single or multi-point calibrations.

The system consists of two components, the 4000 Series instrument and the user's personal computer. The user interface is a Microsoft Windows application that communicates with the Cal-MAT™ 4000 via an RS-232 serial interface.

### Features

- Blends up to three gases in a balance gas at user set concentrations
- Internally stored mass flow controller calibration tables improve accuracy
- Modular design allows for additional gas circuits to be added, increasing system flexibility
- User definable cylinder library allows for easy selection of frequently used gas cylinders.
- Each cylinder may contain an unlimited number of component gases, with automatic K-factor calculation

### Ordering Information

Please contact Matheson Technical Services for ordering assistance.

### Software

The Windows-based software for the Cal-MAT™ 4000 offers three basic modes of operation:

- Concentration Mode: Allows user to create a blend by entering target gas concentrations for each source gas cylinder and the desired total output flow for the mixture.
- Flow Mode: Allows user to specify the flow rate of each gas cylinder.
- Program Mode: Provides the ability to program the instrument for unattended operation. Programs can be recalled and run in any sequence, at various times/dates.

### Specifications

Accuracy:	From 10-100% of full scale flow
Concentration:	±1%
Flow:	±1%
Repeatability:	±1%
Warm-up Time:	30 minutes
Inlets:	1/4" Swagelok
Outlet:	1/4" Swagelok
Operating Pressures	
Minimum:	10 psig (69 kPa)
Recommended:	25 psig (173 kPa)
Maximum:	75 psig (518 kPa)
Wetted Surfaces	
Tubing:	Electropolished 316 stainless steel
Mass Flow Controllers:	Stainless steel
Seals:	Viton
Operating Temperatures:	32-122°F (0-50°C)
Dimensions (WxHxD):	17" x 4-1/4" x 20" (43 cm x 11 cm x 51 cm)
Electrical:	110 to 240 VAC, 50/60 Hz
Electronics:	12 Bit A/D and D/A conversion RS-232 serial interface
Software:	Instrument control software (supplied on 3-1/2" floppy disks)
PC Requirements:	IBM PC or compatible (486-33 or higher) 8 MB RAM 10 MB hard disk space 3-1/2" floppy drive RS-232 communication port
Shipping Weight:	18 lbs with 2 mass flow controllers 23 lbs with 4 mass flow controllers