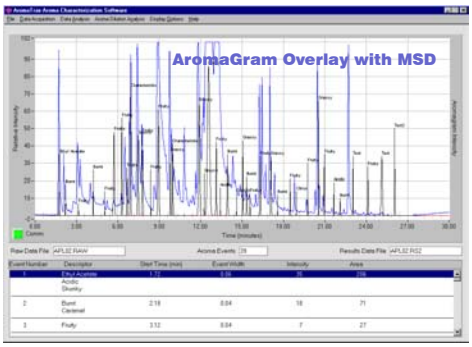
Microanalytics Model 2000

Single Dimensional GC/MS Olfactometry System

The Model 2000 combines the excellent resolving capabilities of capillary gas chromatography, with the power of simultaneous GC/MS Olfactometry. This makes this instrument system a complete solution for the resolution and identification of aroma and malodor components in a wide variety of sample matrices.

The Model 2000 is based upon a design refined over 15 years by Microanalytics. It utilizes highly optimized single column gas chromatography with EPC capable inlets operating in constant pressure or constant flow mode, as well as, a variety of pulsed pressure modes. It also offers the optional advantage of column back-flushing, which allows the user to remove higher boiling point or unwanted compounds from the column without "bake outs".



The AromaTrax™ aroma characterization and identification software permits the user to easily and reproducibly catalog the intensity and overall description of aroma and odors noted at the olfactory detector during an analysis. Utilizing either a mouse, or optional touchscreen LCD monitor, the user responses are converted to "aromagrams" which may be analytical treated like any other chromatogram.

Model 2000 Features and Benefits

Sample types associated with odor, aroma or malodor analysis frequently present a difficult chromatographic challenge due to the sheer complexity of the sample. Materials such as tobacco, chocolate, coffee and others may have over 1000 components in the headspace alone. The analytical challenges are compounded by the widely varying concentration of these components, and the fact that many of them have little to no impact on the overall aroma/flavor profile of the material. The Model 2000 shares many of the technical attributes of the Model 2100 system, at a lower overall cost.

The Model 2000 was specifically designed to deal with these sample types, and enable the user to separate the components of interest; identify the "character defining" compounds; and identify those components with conventional mass spectral techniques as described in more detail below:

- *Optimized single column, capillary gas chromatography with optional pressure balanced backflush to vent.*
- *The injection volume may be re-focused onto the column head with a simple, liquid CO_2 cryotrap. This allows even intentionally overloaded injections (to enhance sensitivity) to be reshaped before final separation..*
- *The parallel combination of an ergonomically designed olfactory port, in conjunction with a conventional quadrupole mass spectrometer allows the user to quickly assign aroma/odor significance to regions of the chromatogram and subsequently identify those peaks of interest.*
- *The AromaTrax™ software package, along with the standardized Chemstation control and data acquisition system, allows the user to quickly define methodology for subsequent analysis and quickly characterize specific areas of aroma/odor interest in the chromatogram.*

Microanalytics™ **Gas Chromatography Systems and Services**

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STANDARD CONFIGURATIONS

M2000-00530 ***Model 2000, Single Column GC/Olfactory with 530µm ID column***
M2000-00320 ***Model 2000, Single Column GC/Olfactory with 320µm ID column***

Standard Configurations Include:

- *Agilent Technologies Model 6890N Gas Chromatograph*
- *G1552A Split/Splitless Inlet with EPC*
- *Ergonomic Olfactory Detector with EPC humidified air sweep*
- *AromaTrax® Aroma Characterization and Identification Software - Version 6.63*
- *MultiTraxXL Ethernet interface to GC for start/stop synchronization*
- *Optimized capillary column—customer's choice*
- *Open split interface to optional mass spectrometer and detector(s)*
- *G1701DA D.01 MSD Network Chemstation™ PC bundle with Chemstation software*
- *System is shipped ready to run with column(s) installed*

AVAILABLE OPTIONS

Model 2000—Configuration Options

Option M2010 ***Dual Injector/Column Configuration***

This option adds a second inlet and a 2nd column, normally of a different polarity from the 1st column. Both columns are connected to the open split interface and the olfactory port/mass spectrometer. This option allows the user to share the detectors for two distinct chromatographic separations systems.

Option M2040 ***Dual Olfactory Port—Sensory Training System***

This option adds a 2nd olfactory port in parallel to the regular olfactory detector. The two ports are plumbed in parallel with carefully matched restrictors to assure simultaneous deliver of compounds to the nose cones. The humidified air supply can be individually adjusted for each panelist's preference. This option includes a 2nd PC computer, touchscreen monitor and AromaTrax software license.

Option M2080 ***Pressure Balanced Column Backflush***

This option utilized the well known Dean switch technology to allow the single column to be "back-flushed" to an external vent. The allows the user to remove high boiling point materials remaining after injection without subjecting the column to extended high temperatures. This reduces analysis time and extends column life.

Mass Spectrometer Upgrades

The standard mass spectrometer package (G1777A) includes the diffusion pump 5973N Inert MSD, Chemstation software and standard performance computer package and printer.

Option MS02 *G2578A Standard Performance Turbo Pump EI MSD Mainframe*
Option MS03 *G2579A High Performance Turbo Pump EI MSD Mainframe*
Option MS04 *G2589A High Performance Turbo Pump EI/CI MSD Mainframe*

New 5975 MSD Now Available

Custom Configurations

The Model 2000 system is available with almost any inlet/detector/column/valve configuration. Call or email today with your specific analytical requirements. All inquiries should go to sales@mdgc.com.

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