

# GRIFFIN | 450™

CHEMISTRY HAPPENS OUTSIDE THE LAB...  
SO SHOULD ANALYSIS.®

Specialized for transportable and mobile applications, the Griffin 450 provides laboratory quality chemical analysis at the site of interest.

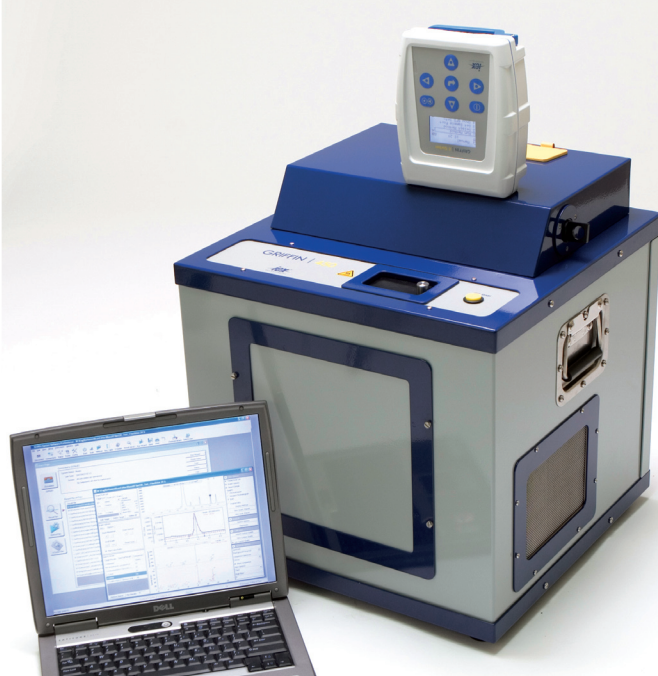
The Griffin 450™ Gas Chromatograph/Mass Spectrometer (GC/MS) offers high-performance detection, identification, quantitation and confirmation for a broad range of compounds of interest. Specifically, the Griffin 450 is capable of confirming the presence of explosives, chemical warfare agents (CWAs), industrial chemicals and organic compounds, including both volatile and semi-volatile compounds.

The Griffin 450 is equipped with multiple flexible sample inlets for sample analysis:

- At only 3 lbs, the handheld Griffin X-Sorber™ provides a convenient and efficient method for acquiring air samples from remote locations, thus eliminating the need to carry heavier instruments into a potential "hot zone."
- For high concentration (ppb-ppm) gas analysis, user can select an air sample loop. For low concentration (ppt-ppb) gas analysis, user can select air sampling via a pre-concentrator tube.
- For liquids analysis, user can inject samples directly into the Low-Thermal Mass Gas Chromatograph (LTM-GC) split/splitless inlet. This inlet also allows for analysis by Solid-Phase Microextraction (SPME).

To further enhance its mobile capabilities, the analytical components of the Griffin 450 have been mounted with wire rope isolators, providing resistance to shock and vibration. This shock mounting system makes the Griffin 450 operational in more harsh environments such as vehicles and mobile analytical labs.

Like the other products in the Griffin family, the Griffin 450 utilizes a patented Cylindrical Ion Trap (CIT) mass analyzer, making Griffin products the first field-portable mass spectrometer systems capable of providing more comprehensive and accurate information through multidimensional mass analysis (MS/MS).



## APPLICATIONS

- Environmental monitoring
- Mobile laboratories
- Real time monitoring
- Site characterization
- Emergency response

## BENEFITS

- Ease of use
- Analytical flexibility
- Rapid response time
- Positive identification of unknown chemicals
- Minimal sustainment costs



NEW THREATS.  
NEW THINKING.™

## SPECIFICATIONS

|                            |   |
|----------------------------|---|
| Analyzer / MS <sup>n</sup> | Cylindrical Ion Trap (CIT) capable of multi-dimensional analysis (MS/MS).   |
| Transportability           | Ruggedized chassis and internal shock mounting system for rugged transportation; Enhanced cooling capabilities.                       |
| Vacuum System              | Miniature turbo molecular pump (contained within instrument).   |
| Rough Pump                 | Miniature quad diaphragm (contained within instrument, no external pump required).  |
| Ionization Type            | Internal Electron Ionization (EI)   |
| Sample Matrix              | Gas, Liquid   |
| Mass Range                 | 40 to 425 m/z   |
| Scan Rate                  | Up to 10,000 m/z per second @ 20 points per m/z   |
| Separation Technique       | LTM-GC; User-selected columns; Fast-GC operation; Up to 280° C/min (Column dependent).  |
| Start-up Time              | As little as 15 minutes from switched off position until completely tuned.  |
| Pre-con Tubes              | User-selected sorbents (available from many sources)  |
| Sample Loop                | 1 mL volume supported   |
| Calibrant                  | 1. Internal mass calibration standard;<br>2. Capable of quantitative calibration by direct connection to external gas-phase standard. |
| Response Time              | Ranges from seconds to minutes  |
| Expendable                 | GC Carrier Gas (choice of He or H <sub>2</sub> ) - available from many sources.   |
| Communication Interface    | Full automation by connection w/portable or desktop PC (Ethernet connection TCP/IP); Remote operation and remote diagnostics.         |
| Library                    | NIST & AMDIS libraries included with software; User-defined library capabilities.   |
| Training                   | Operator & support training available; User manuals provided with purchase.   |
| Dimensions                 | 19.2 in x 19.2 in x 21.1 in   |
| Weight                     | 96 lbs  |

## GRIFFIN X-SORBER™ (Handheld Sampler/Desorber)

- Weight 3 lbs
- Integrated GPS receiver
- Intrinsically safe
- Battery operated
- Selectable desorption tubes
- Compatible with the Griffin 450



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