



## PERSON-PORTABLE GC-MS CHEMICAL IDENTIFIER

# FLIR GRIFFIN™ G510



The FLIR Griffin™ G510 Gas Chromatograph Mass Spectrometer (GC/MS) is a versatile, person-portable chemical identifier. It complements presumptive techniques used during emergency missions, by enabling responders to analyze all phases of matter (liquid, solid, vapor) and by performing rapid field-confirmation of chemical hazards. The integrated heated sample probe enables hot zone operators to identify vapor-phase chemical threats within seconds when operated in Survey Mode. The integrated split/splitless injector allows for environmental, forensic, and hazardous material sampling via syringe injection of organic liquids. The 9" on-board touchscreen displays guided user prompts and can be operated while wearing full personal protective equipment (PPE) downrange. It is built with an IP65-rated enclosure for harsh environments and supports passive defense, interdiction, elimination, and consequence management missions. Long-lasting, on-board batteries ensure every mission is supported from beginning to end.

[www.flir.com/G510](http://www.flir.com/G510)



### MASS SPEC PERFORMANCE REDEFINED

Confidently identify unknowns and take action with guided prompts and simple threat alarms

- Laboratory level, gold-standard linear quadrupole mass analyzer
- Full NIST and SWGDRUG on-board libraries provide confirmatory identification and analysis of trace compounds, unknown chemicals, and mixtures
- Simple on-board touchscreen with navigation assistant and Method Selector tool
- Visual and audible alarm confirmation with limited data interpretation
- On-board WiFi and GPS assist in maintaining result defensibility
- Remote monitoring and control with WiFi hotspot



### ULTIMATE CHEMICAL DETECTION TOOLBOX

Versatile in-field sampling options for vapor, liquid, and solid samples

- Vapor sampling probe with rapid-response survey mode
- Integrated split/splitless liquid injector accepts direct injection of organic liquids
- Available Prepress Sample Introduction (PSI) Probe, Sample Prep Kit (SPK), and Touch-And-Go (TAG™) capability for direct analysis of solid samples
- Effortlessly links with SPME and headspace sample collection tools
- High-fidelity, low thermal mass (LTM) GC column for unsurpassed resolution in challenging environments



### BUILT FOR EVERYONE, BUILT FOR EVERYWHERE

Completely self-contained and mission-ready from the field to the lab

- IP65-rated, dust-tight and spray-resistant
- Built-in active pumping system eliminates need for an external service module
- Integrated carrier gas, batteries, and training reference videos
- Simple field maintenance activities for increased uptime
- Extensive training, service, and reachback options available
- Optional vehicle mount kit for shock and vibration protection during off-road or harsh transport

## SPECIFICATIONS

### Griffin G510

|  |  |
|--|--|
| Technology                             | Gas Chromatography/Mass Spectrometry (GC/MS)   |
| Dimensions (L x W x H)                 | 13.25 x 13.25 x 15.75 in (33.7 x 33.7 x 40 cm) - includes batteries, carrier gas, and vacuum system                                |
| Weight                                 | 36 lbs (16.3 kg) - includes batteries, carrier gas, and vacuum system  |
| Optional Vehicle Mount Kit (L x W x H) | - Road-Ready Version: 16.7 x 14 x 15.2 in (with G510 installed)<br>- Off-Road Version: 16.7 x 17.5 x 16.2 in (with G510 installed) |
| Operating Temp / Humidity              | 32 to 104 °F (0 to 40 °C); <95% relative humidity  |
| Storage Temp                           | -13 to 131 °F (-25 to 55 °C)   |
| Decontamination                        | Sealed for Survey Mode operation in hot-zone; IP65-rated enclosure is dust-tight and spray-resistant                               |
| Power Supply                           | 100-240V 50-60Hz (220 W max); 19V (DC); 2 x #2590 @ 15V Li Ion batteries (included)  |
| Battery Life                           | 4 hrs in Survey Mode, 2 hrs in Confirmation Mode; hot swappable  |
| Start Up Time                          | 15 minutes to full operation from cold   |
| Calibrant                              | On-board FC-43 (Perfluorotributylamine)  |
| Carrier Gas                            | On-board helium; external helium connector, automatic switching (Hydrogen capable)   |

### System Interface

|                       |  |
|-----------------------|--|
| Display               | 9" Multitouch Color Display (1280x720 WVGA; 1300 nits brightness)          |
| Alerts                | Audible and visual (touchscreen and handheld probe)                        |
| Software              | GSS Level 1 Touch; multiple user levels                                    |
| Communication         | 2 x USB 2.0, Bluetooth 4.0, WiFi 802.11n, Ethernet via USB, integrated GPS |
| Data Storage          | Internal ≥128GB SSD  |
| Training Requirements | 2 hours basic operation; 8 hours Operator Certification                    |

### Sampling & Identification

|                             |   |
|-----------------------------|---|
| Sample Phase                | Solid, liquid, and vapor  |
| Sample Introduction         | <b>Heated Sample Probe (included standard):</b><br>- Vapor survey mode via Membrane Introduction Mass Spectrometry (MIMS) Inlet<br>- Vapor confirmation via Internal Dual-Bed Preconcentrator<br><b>Split/splitless injector (included standard) accepts:</b><br>- Direct liquid sampling (organic solution) via syringe<br>- Liquid extraction via SPME fiber or PSI-Probe w/ Gerstel Twister™ *<br>- Solid PSI-Probe™ thermal separation via TAG™ * |
| Threats                     | <b>Sample Prep Kit (SPK)</b><br>- Simplified analysis of solids and liquids<br><br>Detects and identifies trace-level explosives, narcotics like Fentanyl and its analogues, A-series and Novichok CWAs, TICs, environmental pollutants, and other chemicals  |
| Standard Reference Database | NIST/EPA/NIH Mass Spectral Library, SWGDRUG Mass Spectral Library, and GriffinLib Mass Spectral Library included, with instant updates available  |

\*optional accessories

### Sampling & Analysis

Full identification in 4-15 minutes for most chemicals; identification within seconds (near real-time) when operating in Survey Mode

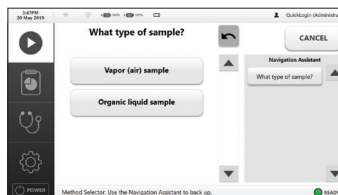
### Mass Spectrometer

|                          |   |
|--------------------------|---|
| Mass Analyzer Type       | Linear quadrupole mass filter                                 |
| Mass Range / Resolution  | 15-515 m/z; 0.7 amu @ FWHM                                    |
| Ionization Type / Source | Electron Impact Ionization; non-radioactive ionization source |
| Detector                 | Electron Multiplier   |
| Vacuum System            | Self-contained miniature turbomolecular & diaphragm pumps     |
| Dynamic Range            | 7 decades   |
| Detection Limit          | PPM (parts per million) – PPT (parts per trillion)            |

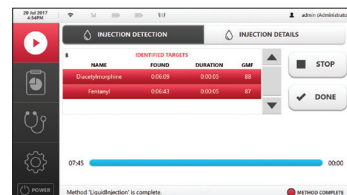
### Gas Chromatograph

|                   |   |
|-------------------|---|
| LTM-GC Column     | DB-5MS (15 m x .18 mm x .18 um); others available |
| Temperature Range | Programmable 40 to 300 °C; ramping of 100 °C/min  |

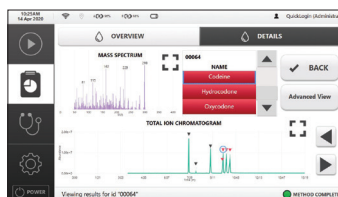
Specifications are subject to change without notice. For the most up-to-date specs, go to [www.flir.com](http://www.flir.com)



Method Selector Tool



GSS Touch Chemical Identification Result



Trace-level detection of narcotics like Fentanyl and its analogues

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