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
### 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) - 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**: Heated Sample Probe (included standard):
  - Vapor survey mode via Membrane Introduction Mass Spectrometry (MIMS) Inlet
  - Vapor confirmation via Internal Dual-Bed Preconcentrator
- **Split/splitless injector (included standard) accepts**:
  - Direct liquid sampling (organic solution) via syringe
  - Liquid extraction via SPME fiber or PSI-Probe w/ Gerstel Twister™
  - Solid PSI-Probe™ thermal separation via TAG™
- **Sample Prep Kit (SPK)**:
  - Simplified analysis of solids and liquids
- **Threats**: Detects and identifies trace-level explosives, narcotics like Fentanyl and its analogues, A-series and Novichok CWAs, TICs, environmental pollutants, and other chemicals

#### 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
- **Dynamic Range**: 7 decades
- **Detection Limit**: PPM (parts per million) - PPB (parts per billion). Note: PPT (parts per trillion) for vapor analysis with extended sampling time.

#### 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

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**Sampling & Analysis**

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

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**Method Selector Tool**

**GSS Touch Chemical Identification Result**

**Trace-level detection of narcotics like Fentanyl and its analogues**

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