

GRIFFIN™ G510

Person-Portable GC-MS Chemical Identifier



The 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.

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

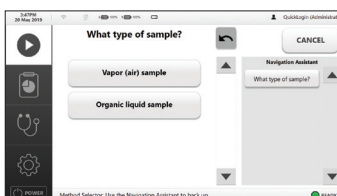
Griffin G510	
Technology	Gas Chromatography/Mass Spectrometry (GC/MS)
Dimensions (L x W x H)	15.75 x 13.25 x 13.25 in (40 x 33.7 x 33.7 cm) - includes batteries, carrier gas, and vacuum system
Weight	38.6 lbs. (17.5 kg) - includes batteries, carrier gas, and vacuum system
Optional Vehicle Mount Kit (L 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 and external helium connector
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
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

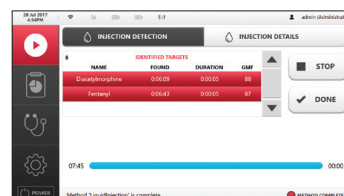
Sampling & Analysis | Full identification in 4-15 minutes for most chemicals; identification within seconds (near real-time) when operating in Survey Mode

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) - 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

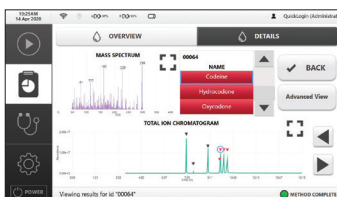
Specifications are subject to change without notice.
For the most up-to-date specs, go to www.teledyneflir.com



Method Selector Tool



GSS Touch Chemical Identification Result



Trace-level detection of narcotics like Fentanyl and its analogues

AMERICAS

7055 Troy Hill Dr. Suite 300
Elkridge, MD 21075 USA

APAC

10 Kallang Avenue #09-10
Aperia Tower 2
Singapore 339510

EMEA

Luxemburgstraat 2
2321 Meer
Belgium

This product is subject to United States export regulations and may require US authorization prior to export, reexport, or transfer to non-US persons or parties. Diversion contrary to US law is prohibited. ©2024 Teledyne FLIR LLC. All rights reserved.

Revised on 05/13/25
Griffin G510_Datasheet-A4 24-0913