

GRIFFIN™ G510E

Person-Portable GC-MS Chemical Identifier
focused on Environmental Applications



The Griffin™ G510e 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 G510e focuses specifically on environmental applications that require better separation and sensitivity to lighter volatile organic chemicals (VOCs). The G510e uses a specialized column and preconcentrator combination to meet this demand. The 9" on-board touchscreen delivers automated user controls and can be operated while wearing full personal protective equipment 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 environmental missions are supported from beginning to end.

MASS SPEC PERFORMANCE REDEFINED

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

- Lab, gold-standard linear quadrupole mass analyzer
- Over 60 VOCs in the Target Library along with the full NIST and SWGDRUG chemical library for field identification and analysis of unknown materials and mixtures
- Simple on-board touchscreen with automated user controls and Method Selector tool
- Visual and audible alarm confirmation with limited data interpretation
- On-board WiFi and GPS assist in maintaining result defensibility

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
- Optimized Column and Preconcentrator for VOCs.
- 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 support options available
- Optional vehicle mount kit for variety of on-the-go missions



SPECIFICATIONS

GRIFFIN G510E	
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 G510e installed) - Off-Road Version: 16.7 x 17.5 x 16.2 in (with G510e 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™ * - Headspace Sampler
Threats	Detects and identifies 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
Sampling & Analysis	Full identification in 4-15 minutes for most chemicals; identification within seconds (near real-time) when operating in Survey Mode

*optional accessories

AMERICAS

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Elkridge, MD 21075 USA

APAC

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Aperia Tower 2
Singapore 339510

EMEA

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2321 Meer
Belgium

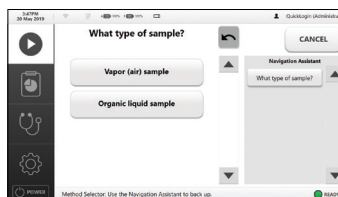
MASS SPECTROMETER

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.

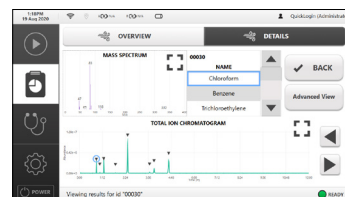
GAS CHROMATOGRAPH

LTM-GC Column	DB-624 (20 m x .18 mm x .25 µm)
Temperature Range	Programmable 40 to 260°C; ramping of 100°C/min

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



Method Selector Tool



GSS Touch Chemical Identification Result

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