SICRIT® GC/SPME Module

Get Fully Quantitative MS-Results even without Chromatography

The SICRIT® GC/SPME Module connects state-of-the-art sample enrichment and separation techniques with your SICRIT® Ion Source.
The SICRIT® GC/SPME Module combines the SICRIT® ionization technology with state-of-the-art sample separation and/or enrichment techniques enabling GC- and SPME-MS coupling.
The key feature of the module is the special design of the inner vaporizer unit where thermal desorption of the introduced analyte molecules takes place.
The implemented carrier gas supply ensures a defined atmosphere and loss-free transport of the analytes into the SICRIT® Ion Source. This allows for sensitive and quantitative trace analysis even without chromatography.

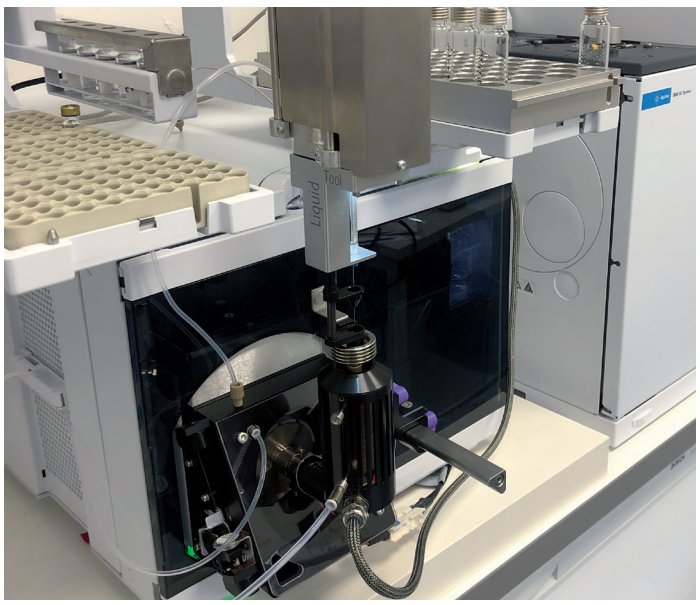
Fields of Application

An universal Coupling Solution for Multiple Application Scenarios

The GC/SPME Module is an “all in one” solution extending the applications of the SICRIT® Ion Source by various ways of manual and automated sample introduction and connection capabilities. The closed atmosphere ensures fully quantitative results whilst all applications can be fully automated utilizing a CTC PAL autosampler. The SICRIT® GC/SPME Module features various workflows depending on the analytical task:

Direct Injection (Headspace / Liquid)

Ideal for fast MS measurements. Get fully quantitative results without any chromatography! Inject headspace samples or small amounts of liquid directly into the desorption module for direct and quantitative analysis. These fast experiments are ideal e.g. for screening of explosives (further reading Explosives Detection App Note).



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Direct SPME-MS

Tedious sample pretreatment and analyte separation by HPLC or GC are time and cost intensive factors in routine analysis. The combination of SPME-SICRIT®-MS is an easy and reliable way to minimize the latter. Due to minimized sample preparation, automation via CTC PAL autosampler and direct SPME-SICRIT®-MS measurements overall analysis times and cost can be drastically minimized. This approach is particularly suited for analyses and matrices of low to medium complexity e.g. contaminants of environmental concern (CEC) in water or drugs/pharmaceuticals in beverages or biological fluids. Direct SPME-SICRIT®-MS is fully quantitative and LODs in the low ppt or even ppq range can be achieved with linear dynamic ranges usually spanning more than 3 orders of magnitude (further reading SPME App Note).

GC-MS Coupling

The SICRIT® Ion Source together with the GC/SPME Module allow for a seamless and easy coupling of any GC to any LC-MS within minutes.* This enables routine GC analyses on your existing LC-MS with no change in analysis software or methods.

The soft ionization of the SICRIT® Ion Source even allows you to directly transfer MRMs used in LC-MS methods to GC-analyses. Therefore, method transfer from LC to GC has never been as easy as with SICRIT®.

Especially in combination with high resolution MS instruments GC-SICRIT® is an ideal tool e.g. for non-target screening. Here, the broad and soft ionization range for e.g. alkanes, PCBs, PAHs, phthalates, FAMES, and PFOAs together with the advanced measurement modes of LC-MS instruments provide unparalleled depth of analytical information. The spectra recorded with GC-SICRIT®-MS can also be directly compared with LC-MS-Databases allowing for fully automated analyte identification (Further reading App Notes Alkanes, PCBs, Nitrosamines, etc).

Technical Specifications

Dimensions	110 x 50 x 50 mm
Weight	0.5 kg
Supply Voltage	24 VDC supplied by SICRIT® Control Unit SC-30
Electrical Connectors	1.4 m cable with plug Control Unit SC-30
Temperature Control	controlled by SICRIT® Control Unit SC-30
Operation Conditions	15 - 30 °C room temperature < 80% RH (non condensating)
Make-Up Gas Conditions	Temperature and Humidity: max. 300 °C (continuous) max. 320 °C (short-term) max. 95% RH Possible make-up gases: Air, N_2, CO_2, He, Dopants** Flow rates: < 5 L/min **contact manufacturer for further information
*GC-MS Connection	SICRIT® GC Heated Transfer Line System (05-01-00) required

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simple smart sensitive

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