



Thermo Scientific VeriSpray PaperSpray ion source



Spot on: the faster path to MS analysis

Benefits

- Minimized sample preparation
- Rapid sample analysis (typically 1-2 min. per sample)
- Low solvent consumption, no liquid waste
- No carryover
- Barcoded sample tracking
- Compatible with robotic spotting systems
- Automated acquisition covering an eight hour shift without user intervention
- Integrated into instrument data acquisition software to maximize productivity

The Thermo Scientific™ VeriSpray™ PaperSpray ion source is a fully automated PaperSpray ionization solution that is compatible with next-generation Thermo Scientific™ mass spectrometers. The VeriSpray ion source provides the simplicity of PaperSpray including minimizing sample preparation and avoiding complicated chromatographic separations. The VeriSpray system includes the PaperSpray ion source, capable of running individual proprietary PaperSpray sample plates allowing up to 24 samples per plate, which can also be combined with the plate loader to run multiple plates in a high-throughput environment. For a complete, easy-to-use PaperSpray workflow, the VeriSpray system is seamlessly integrated into the instrument control and application specific software.

Keywords

TSQ, Altis, Quantis, Fortis, Quantiva and Endura mass spectrometers, VeriSpray, PaperSpray, Direct Sampling

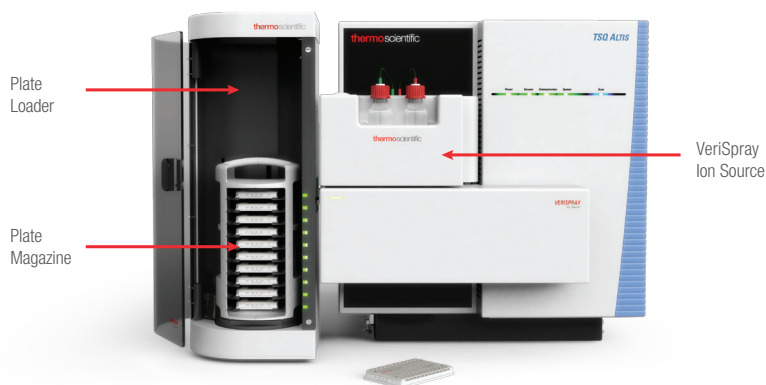


Figure 1. VeriSpray system showing the plate loader with ten-plate magazine and the VeriSpray ion source installed on the Thermo Scientific™ TSQ Altis™ mass spectrometer.

Hardware features

VeriSpray PaperSpray ion source

- Automated ion source recognition by the software
- Two solvent reservoirs hold up to 100 mL each for the “Rewet Solvent” and “Spray Solvent”
- Rewet Solvent system dispenses from 0 – 30 μ L solvent
- Spray Solvent mode dispenses from 10 – 300 μ L solvent
- Solvent sensor detects low volume in a solvent reservoir and warns the user
- Barcode reader for plate identification
- Basic maintenance performed without removing the VeriSpray ion source
- Sample plates can be loaded manually
- Adjustable X, Y, and Z alignment for different mass spectrometer inlets

Optional VeriSpray plate loader

- Removable plate magazine holds up to ten sample plates, allowing unattended analysis of up to 240 samples
- Integrated with the VeriSpray PaperSpray ion source

VeriSpray sample plate

- Contains 24 single-use paper sample strips compatible with biofluids
- Compatible with Hamilton™ and Tecan™ robotic sample spotters
- Barcode provides sample tracking capabilities



Figure 2. VeriSpray 24-sample plate.



Figure 3. Side view of barcoding on the VeriSpray 24-sample plate.

Compatible mass spectrometers

The VeriSpray ion source has been tested with the following Thermo Scientific mass spectrometers:

- Thermo Scientific™ TSQ Altis™ mass spectrometer
- Thermo Scientific™ TSQ Quantis™ mass spectrometer
- Thermo Scientific™ TSQ Fortis™ mass spectrometer
- Thermo Scientific™ TSQ Quantiva™ mass spectrometer
- Thermo Scientific™ TSQ Endura™ mass spectrometer

Software features

Standard MS Software

- Thermo Scientific™ Xcalibur™ 4.2 SP1 (or greater)
- TSQ Series II Instrument Control Software (ICSW) 3.2 or greater required
- Direct control of VeriSpray system from TSQ Series II ICSW 3.2 Tune editor
- TSQ Series II ICSW 3.2 method editor with full VeriSpray ion source control
- Method templates for VeriSpray ion source workflows

Optional application-specific software

Thermo Scientific™ TraceFinder™ software (version 4.1 SP5 or greater) is available to simplify method development and routine analysis in food safety, environmental, clinical research, and forensic toxicology laboratories.

Installation requirements

Power

- One rated input 100-240 VAC, 50/60 Hz and rated Limited Power Source (LPS) output 24 VDC min. 2.5 A

Gas

- Sweep gas: 99.9% pure Nitrogen, ≥ 20 L/min (100 psi)

Environment

- Functional temperature range: 15 – 32 °C (58 – 90 °F)
- Optimal temperature range: 18 – 27 °C (65 – 81 °F)
- Heat output: 65 W (24 VDC at 2.7 A)
- Particulate matter: <3,500,000 particles per cubic meter of air (<100,000 particles of > 5 μ m diameter per cubic foot of air)
- Relative humidity: 20% to 80%, without condensation

Dimensions

Size

- Ion source: 37.5 x 54 x 15.25 cm (h, w, d – 14.8 x 21.25 x 6 in)
- Plate loader: 70 x 27 x 33.5 cm (h, w, d – 28 x 10.6 x 13.2 in)
- Sample plate: 1.27 x 12.2 x 8.25 cm (h, w, d – 0.5 x 4.8 x 3.25 in)
- Workbench dimensions for VeriSpray system with TSQ series mass spectrometer (minimum): 70 x 100 x 92.5 cm (h, w, d – 28 x 39.4 x 36.4 in)

Weight

- Ion source: 10.7 kg (23.5 lb)
- Plate loader: 13.6 kg (30 lb)
- Magazine: 1.6 kg (3.5 lb)
- Sample plate: 77.13 g

Find out more at www.thermofisher.com/VeriSpray

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