

Providing rapid trace detection solutions in security, law-enforcement and commercial applications for over 20 years



mass spec™
EXPERT TRACE DETECTION



speed

Thermal Extraction Ion Source - TEIS
Direct analysis ion sources for near-instant results

The ultimate high-speed Thermal Extraction Ionisation Source for volume applications; test hundreds of samples per hour with no loss of selectivity.

- Compatible with liquids and solids – test direct from thermally stable surfaces
- No sample preparation – source integrity preserved
- Compatible with Sciex Turbo-V Triple Quad mass spectrometers

Benefits:

- Sample introduction works with manual and automatic processes
- Powder samples can be tested directly – no chromatography required
- No solvents, derivatives, consumables or sample preparation required
- Self purging
- Wide compound selection
- No additional gas supply required
- Automatic and manual temperature control

The latest evolution of Mass Spec Thermal Ion Source makes the same technology that enabled Mass Spec to amass some of the largest forensic chemistry databases in the world available to all Sciex V-series Triple Quad users. It is ideal for applications where the method requires large quantities of sample measurements in a relatively short period of time or where automation is required. The key benefit of the approach is the lack of sample preparation needed – meaning that a wide variety of methods can be accommodated.

Mass Spec has Software applications available to support expert evaluation or to provide a simple red light, green light decision based upon pre-determined criteria so that operatives can use the equipment effectively in the field or production environment.



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Accredited to
ISO/IEC 17025:2005

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Speed when you need it

The TEIS uses Mass Spec's patented sample introduction device: two heated nickel coated brass plates with a cavity between them. Ambient air is continuously drawn into this space and through a ceramic transfer line into the Atmospheric Pressure Chemical Ionisation (APCI) ion source. Compounds amenable to thermal desorption, such as many pesticides, drugs and explosives, may be rapidly analysed in this way without the need for any sample pre-treatment, solvents or glassware. The TEIS significantly speeds up workflow times by 30% or more for processes where GCMS or liquid chromatography is used for analysis.

The TEIS is easy to use, reliable, and use few or no consumables. It can liberate samples from a large surface area, and so is ideal as a rapid screening method. Coupled with the specificity afforded by a tandem mass spectrometer, the TEIS is able to provide real time results to a forensic standard. Mass Spec have several variants available:

Direct Analysis

The simplest configuration for the Thermal Extraction Ion Source is in manual mode where samples are introduced to the TEIS directly. The operating temperature range for the TEIS is between 140 - 300°C.

Provided the surface is compatible with the operating temperature, samples can be inserted directly into the source.

Swabs

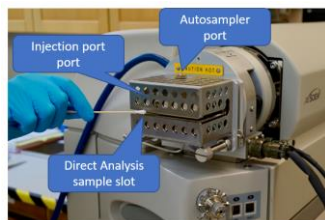
Paper or cotton swabs, or toothpicks may be used to convey samples into the heated region.

The TEIS is compatible with a wide range of commercially available swabs as well. Just confirm the operating temperature constraints before use.

Auto sampler

The design of the TEIS supports direct analysis, syringe injection or use of an auto-sampler from a single installation.

Calibration is easily supported via the syringe port.



Performance/Throughput

- Dynamic range, scan speed and mass range is as per the configuration of the Sciex Triple Quad System used
- No loss of sensitivity during fast, repeated tests

Power Requirements

- Supply Voltage: 207-247 VAC
- Frequency: 50-60 Hz
- Current: 13 Amp grounded single phase circuit
- Operating Temperature: 140 - 300°C

Application areas:

- Forensics
- Environmental
- Food testing
- Contamination detection
- Security – trace detection of explosives and dangerous materials

Software applications

- SCIEX Analyst
- Simplified MSA Go/No-Go software for fast screening