

Order:

Date:

ASPEX

TITLE: Automated Gun Shot Residue Analyzer

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ASPEX AUTOMATED PARTICLE ANALYZER

The Aspex PSEM® 3025 with GSR Reporter Software provides a fully integrated SEM and EDS platform for the analysis of gun shot residue samples. Up to 30 ½ inch stubs can be loaded in a single analysis. Once the analysis is completed, potential GSR particles can be accurately relocated for further studies and confirmation according to ASTM E 1588. After all the GSR particles are confirmed based on morphology and composition, a ready-to-print report is generated.

The Aspex PSEM® 3025 offers Silicon Drift Detector (SDD) technology for faster analysis and 25keV power supplies to improve high energy lines visualization.

- Integrated High-Performance LN-Free SDD EDS Spectrometer
- Features User Friendly Perception Software for Simple and Easy Operation
- Fast and Reliable Automated System for submicron particle detection
- Features Gun Shot Residue Reporter Software for relocation and confirmation of particles containing lead (Pb), barium (Ba) and antimony (Sb)
- Lead-free Ammunition Detection
- Small Footprint
- Expanded Voltage Range for Enhanced Elemental Differentiation
- Aspex Patented Drawer Stage for the analysis of up to 30 ½-inch stubs
- 80 x 100 mm Motorized Staging
- Aspex's Patented Disposable Filament and Column Liner
- Low Cost of Ownership

PSEM 3025 Platform



Performance and Features

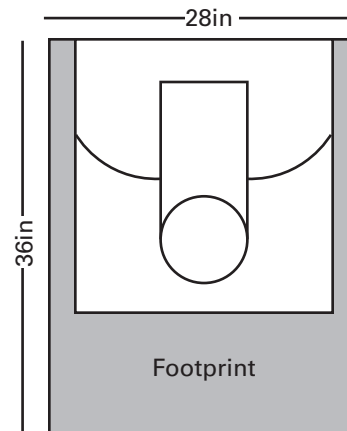
Smallest Feature Detected	Sample Coverage Rates	Pixels per Smallest Feature
0.3 micrometers	12.13 seconds/mm ²	16
0.6 micrometers	4.1 seconds/mm ²	16

Performances are specified in seconds/mm² of specimen coverage. The sample analyzed was a standard 12 mm² GSR stub containing no GSR particles on the specimen surface. In addition, the sizing resolution was 2048 X 2048 pixel density.

Instrument Features

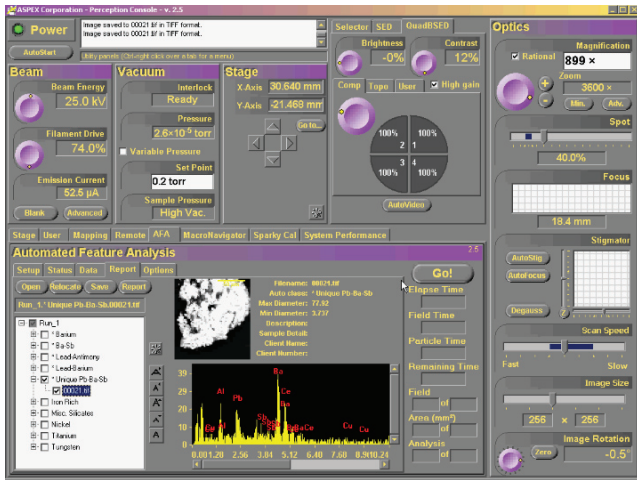
Automated Particle Detection Range	100 nm to 5 mm
Detectors	SED, Quad BSED, SDD EDS
SDD Detectors	10mmsq or 30mmsq Be window*
EDS resolution	133 eV*
Accelerating Voltage	0.2 to 25 KeV
Stage Movement	80mm x 100mm XY Motorized*
Vacuum System	High-Vac and Variable Pressure*
Software	Gun Shot Residue (GSR) Reporter
Accessories	Sample Carrier, 30 pin mount*

*Options available



Gun Shot Residue Reporter Software

The GSR Reporter is a dedicated software package used to perform a particle-by-particle review after the automated analysis is completed. Potential GSR particles can be relocated and new spectra can be collected. User-defined rules allow the classification of GSR or lead free ammunition.



Gun Shot Residue Reporter is used to review particle-by-particle data.

Relocation

- Review individual particle data (thumbnails and EDS spectra)
- Automated relocation of particles of interests using the motorized stage

Confirmation

- High magnification and resolution images for morphology confirmation
- High resolution spectra for elemental identification
- Automated peak labeling

Report

- Automated report generation of confirmed GSR particles
- Particle summary table
- Individual particle data, thumbnails and EDS spectra of the confirmed GSR particles
- Quality Control Check Report
- Meets the requirements of ASTM E 1588

Performance Grading System™ (optional)

- Routine Checking of GSR Analyzer Performance
- Size and shape metrics for particles ranging from 1 micron to 100 microns
- Precision
- Reproducibility
- Sensitivity
- Spatial Accuracy (Magnification)
- Trend Reporting

