SPECTRO
AMETEK

SPECTRO MIDEX MID05

SMALL-SPOT ED-XRF SPECTROMETER FOR PRECIOUS METALS TESTING



The smart alternative to fire assay — now with new, improved sensitivity and speed

The fifth generation of fast, accurate analysis for precious metals

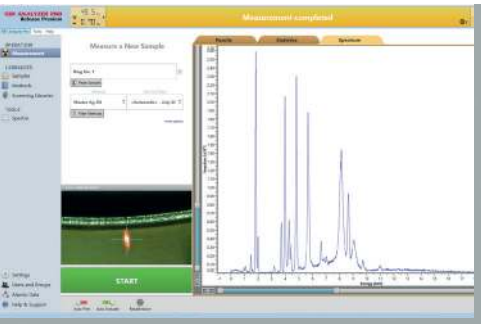
SPECTRO **MIDEX**

Accuracy of elemental analysis is often critical — especially in assessing precious metals. Remelted samples from reclaimed/recycled alloys may contain other elements besides the expected gold, silver, copper, or platinum.

Assayers and refiners need instruments with the sensitivity to detect and precisely analyze even minor or trace amounts, to assess true composition and value. Other users may prioritize speed. High-volume hallmarking centers demand both fast and accurate analysis. In addition, all users prefer analyzers that are robust, convenient, and easy to operate, with helpful software and easy transfer of results into a lab network. In dealing with precious metals, of course, users also prize nondestructive sampling. The energy dispersive X-ray fluorescence analysis (ED-XRF) meets these requirements. Finally, ED-XRF can alert users to digestion-resistant alloys such as platinum/iridium mixtures.



For years, SPECTRO MIDEX has turned in ultra-reliable, top-rated XRF performance in all these areas. It's the industry standard in many assay laboratories worldwide. Now a fifth generation of SPECTRO MIDEX analyzers — with up to triple the point analysis sensitivity of previous models — approaches fire assay technology in precision, while greatly surpassing it in speed and ease. And it's fully optimized for precious metals applications.



SPECTRO MIDEX SMALL-SPOT ENERGY-DISPERSIVE X-RAY FLUORESCENCE (ED-XRF) ANALYZER

The compact new SPECTRO MIDEX incorporates the latest developments in ED-XRF detector technology, using high count rate and high resolution. These innovations help make it one of the most advanced laboratory XRF benchtop analyzers available for precious metals testing. So users can choose significantly increased precision — even for minor and trace element content — or substantially faster testing for higher sample throughput.



EXCEPTIONAL PERFORMANCE

Analyzing precious metals alloys, SPECTRO MIDEX provides high precision and accuracy for a wide range of concentration levels — plus record-setting testing times (as low as 15 seconds). For small jewelry items or drill cuttings from remelted samples, it analyzes a small spot (typically 1.2 mm). For silver samples, which may be relatively inhomogeneous, averaged results from an optional larger spot size maintain high-accuracy results.

EXCELLENT EASE OF USE

Operation is easy even for minimally trained operators. Intuitive software presents relevant information on one screen. An integrated video system aids in sample positioning and documenting the testing spot. Analysis starts with a single screen click — or one touch of the new instrument-mounted start/stop button. Display, printout, and transfer of analysis results support later data use and/or proof of compliance.

COMPETITIVE COST

SPECTRO MIDEX provides high-reliability, cost-effective analysis for precious metals testing offices, assay labs, hallmarking centers, and refinery labs. Its accuracy and speed reduce costly additional fire assay, or ICP-OES testing that requires sample digestion.

SPECTRO **MIDEX**
Technology takes the next step

One drawback of some XRF analyzers is their inability to detect minor and trace amounts of some nonprecious elements. This may render them incapable of precisely determining the content of major precious metals such as gold, silver, and platinum. Example: in a gold alloy sample, failing to detect ten minor elements, each at 0.05%, could produce an erroneous — and expensive — 0.5% higher total for gold.

Fortunately, SPECTRO MIDEX excels at this type of challenging analysis. And its newest high-resolution silicon drift detector (SDD) makes determination of trace and minor elements even more accurate. Adding to that precision is our newest ultra-high count rate. With the same measurement time as previous-generation models, it delivers up to 3X higher intensities.

Alternatively, SPECTRO MIDEX users who prefer speed can perform an accurate analysis within only 15 seconds.





MORE COMPACT, ROBUST DESIGN

Per customer requests, a significantly smaller housing fits tighter benchtop spaces, yet accommodates samples from tiny jewelry pins to large silver pieces. The sample door glides easily upward without disturbing items on the bench. Ruggedizing redesigns eliminate any fragile mirrors and protect the detector window. An internal laboratory jack positions the sample for precise measurement.

AMECARE
PERFORMANCE SERVICES
AMETEK

GLOBAL SUPPORT

Jewelry assayers and recycling operations depend on the availability of accurate analysis for productivity — and profitability. To ensure that reliable SPECTRO MIDEX analyzers keep up the pace, SPECTRO offers the AMECARE Performance Services program.

Customers report unmatched levels of coverage, application knowledge, and uptime. More than 200 AMECARE service engineers in 50 countries help ensure peak performance and extended life for every SPECTRO MIDEX instrument. AMECARE's high-value, customized services include proactive maintenance programs; application solutions; access to specialists; and instrument-specific training.



SPECTRO **MIDEX**
Technical Specifications



Detector	Silicon Drift Detector (SDD)
Excitation	40 W X-ray tube, molybdenum (Mo) anode, 50 kV max.
Dimensions	
Height	540 mm (21.2 in)
Width	555 mm (21.8 in)
Depth	470 mm (18.5 in)
Weight	ca. 50 kg (~ 110 lbs)
Sample	Video system to display sample image
Chamber	Manually adjustable sample table
Power	Operating voltage 95-120 V / 200-240 V, 50/60 Hz
Supply	Power consumption of spectrometer: 200 W
Evaluation	External computer system; Windows operating system
system	keyboard, mouse, monitor, printer
Software	Menu-based software for control of spectrometer functions and evaluation of data
Analyses	Fundamental Parameters program FP+ for elemental analysis of alloys
Options	Collimator changer to realize different spot sizes and excitation conditions

FULL FAMILY OF ANALYZERS

SPECTRO provides one of the industry's most comprehensive suites of advanced elemental analyzers. Devices particularly suited for jewelry and recycling applications include the high-end SPECTRO XEPOS benchtop XRF analytical instrument; the midrange, versatile SPECTRO MIDEX benchtop small-spot XRF spectrometer; the portable yet powerful SPECTROSCOUT ED-XRF spectrometer; and the SPECTRO xSORT handheld XRF spectrometer. Whatever the product, SPECTRO's more than 30 years of experience in elemental analysis and unparalleled record of technological innovation ensure the best results in the business.

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