



• M1 ORA

The M1 ORA is a tabletop μ -XRF spectrometer for jewelry analysis. Through its compact size it is especially suitable for situations where space is limited.

The M1 ORA can determine the elemental composition of jewelry alloys with high accuracy. Elements from Z=22 (Ti) upwards can be analyzed.

Excitation from above and a small spot size down to 0.3 mm allows a contactless and non-destructive analysis of even intricately shaped samples within minutes.

Specimens up to a size of 100 x 100 x 100 mm can be placed directly on the sample stage and examined without further preparation. Final positioning is supported by an optical microscope.

Detection of fluorescence radiation by a prop-counter offers a large sensitive area. This captures a large amount of radiation which is important for precise analysis. Elements with concentrations larger 0.5 % can be analyzed.

The software package XSpect is easy to use also for personnel that has received only introductory training.

All elements contained in a sample are identified and quantified with standard-based or standardless models. This allows high accuracy in the range of 0.2 wt.% but also the analysis of unexpected elements.

The gold content can be calculated in Karat or other units like mass%.

Technical Data

Parameter	Specifications
Excitation	Micro-focus tube, high performance, with glass window, W-target
High voltage	40 kV, 40 W
Detector	Large area prop-counter 1100 mm ² sensitive area
Spot size	0.3 – 1.0 mm by collimator (factory setting)
Sample view	Color CCTV high resolution camera system, magnification 20 x to 40 x
Sample stage	Manual scissor stage
Quantification	Standard based empirical models, fundamental parameter standardless model for bulk material
Power supply	110/230 VAC, 50/60 Hz, 100 W
Dimensions	355 x 330 x 330 mm
Weight	26 kg

XSpect analytical software suite

The XSpect software provides you with the following functionality:

- Instrument control, data acquisition and management
- Peak identification
- Quantitative composition analysis, standardless and with standard-based empirical models
- Report generator

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