



## ● M1 ORA

The M1 ORA is a tabletop Micro-XRF spectrometer for jewelry analysis. Due to its compact dimensions 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 top and a small spot size down to 0.1 mm allows a contactless and non-destructive analysis even of irregular shaped samples within seconds.

Specimens up to a size of 100 x 100 x 100 mm can be placed directly on the sample stage and examined without any 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 of known set of elements. Elements with concentrations greater than 0.5 % can be analyzed.

Detection by a silicon drift detector offers an increased spectral resolution at highest count rates which is important for precise analysis of unknown elements. Elements with concentrations greater than 0.05 % can be analyzed.

The software package XSpect is easy to use and requires 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

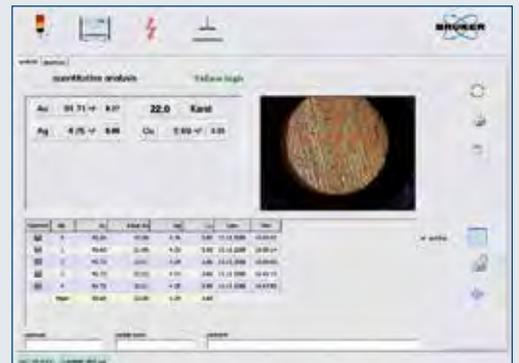
Parameter	Specifications
Excitation	Micro-focus tube, high performance, with glass window, W-target
High voltage	40 kV, 40 W
Detector	Large area prop-counter 1100 mm <sup>2</sup> sensitive area, < 950 eV resolution
Detector, optional	Si drift detector 30 mm <sup>2</sup> sensitive area, < 150 eV resolution
Spot size	0.1 - 1.5 mm single collimation or changer
Sample view	Color CCTV high resolution camera system, magnification ~ 30 x
Sample stage	Manual scissor stage
Sample stage, optional	Motorized Z-stage with autofocus
Quantification	Standard-based empirical models, fundamental parameter standardless model
Power supply	110/230 VAC, 50/60 Hz, 100 W
Dimensions	380 x 420 x 350 mm <sup>3</sup>
Weight	27 kg

## XSpect analytical software suite

The XSpect software includes the following functionality:

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

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