

FISCHERSCOPE® X-RAY XAN® 500

Mobile X-RAY Fluorescence Measuring Instrument for
Fast and Non-Destructive Material Analysis and
Coating Thickness Measurement



Description

The FISCHERSCOPE X-RAY XAN 500 is a mobile and universally applicable energy dispersive x-ray fluorescence measuring instrument. It is well suited for the non-destructive coating thickness measurement and material analysis. The instrument is perfectly suitable for measurements in quality assurance, incoming inspection and process control. Thanks to its small size, you can measure even on difficult geometries.

Typical fields of application:

- Measurements on large coated parts, like Machine components and housings
- Mobile measurements in electroplating shops
- Mobile measurements of precious metals
- Determination of the metal content of electroplating baths (Solution analysis)

Outstanding accuracy and long-term stability are characteristics of all FISCHERSCOPE X-RAY systems. The necessity of recalibration is considerably reduced, saving time and effort.

The modern silicon drift detector achieves high accuracy and good detection sensitivity.

The fundamental parameter method by FISCHER allows for the analysis of solid and liquid specimens as well as coating systems without calibration.

Design

With the FISCHERSCOPE X-RAY XAN 500 measurements on large specimens or at difficult-to-reach locations can be performed easily and quickly. The geometry is optimized for a safe placing onto the specimen and the coating or material composition can be measured reproducibly.

The entire operation and evaluation of measurements as well as the clear presentation of measurement data is performed on a tablet PC, using the powerful and user-friendly WinFTM[®] software. Thus, despite the compactness of the instrument, the entire range of features offered by the software is available, e.g. the analysis of electroplating baths.

The FISCHERSCOPE XAN 500 fulfills DIN ISO 3497 and ASTM B 568.

General Specification

Intended use	Energy dispersive x-ray fluorescence measuring instrument (EDXRF) for coating thickness measurement and material analysis
Element range	Sulfur S (16) to Uranium U (92) – up to 24 elements simultaneously
Design	Handheld instrument
Measuring direction	Variable

X-Ray Source

X-ray tube	Tungsten tube, thermally stabilized
High voltage, current, power	Max. 40 kV, anode current 100 μ A max., electrical power 2 W typ., 4 W max.
Aperture (Collimator)	\varnothing 2 mm (79 mils)
Measurement spot	\varnothing 3 mm (118 mils)

X-Ray Detection

X-ray detector	Silicon Drift Detector (SDD), peltier-cooled
Resolution (fwhm for Mn-K α)	\leq 160 eV

Sample Alignment

Sample positioning	Manually
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Electrical data

Battery Charger	AC 115 – AC 230 V 50 / 60 Hz
Rechargeable battery	Lithium-ion battery 7.2 V / 6.2 Ah
Operating time with one battery charge	approx. 6 h
Power consumption	max. 20 W
Protection class	IP54

Dimensions

Dimensions	Handheld instrument:	210 x 230 x 75 / 8.3 x 9 x 3
Width x depth x height [mm/in]	Transportation case:	630 x 485 x 225 / 25 x 19 x 9
Weight	Handheld instrument:	approx. 1.9 kg (4.2 lb)
	Complete with transportation case, rechargeable battery and tablet PC:	approx. 11.5 kg (25 lb)

Environmental conditions

Operating temperature	10 °C – 40 °C / 50 °F – 104 °F
Storage/Transport temperature	0 °C – 50 °C / 32 °F – 122 °F
Admissible air humidity	\leq 95 %, non-condensing

Evaluation unit

Computer	Tablet PC with Windows® operating system
Software	Standard: Fischer WinFTM® BASIC including PDM®, Optional: Fischer WinFTM® SUPER

Standards

CE approval	EN 61010, EN 61326
X-Ray standards	DIN ISO 3497 and ASTM B 568
Approval	Individual acceptance inspection according to the German regulations „Deutsche Röntgenverordnung-RöV“.

Order

FISCHERSCOPE X-RAY XAN 500	605-826 Instrument with one-hand operation in a sturdy and waterproof transport case 605-827 Instrument with two-hand operation, with additional second trigger switch. For use in countries where two-hand operation is required, e.g. Switzerland. In a sturdy and waterproof transport case Special XAN product modification and technical consultation on request
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