

FISCHERSCOPE® X-RAY XAN 310®

Robust and Inexpensive X-Ray
Fluorescence Measuring Instrument for
non-destructive Coating Thickness
Measurement and Material Analysis



Main Features

The FISCHERSCOPE X-RAY XAN 310 is a compact and universally applicable energy-dispersive X-ray fluorescence measuring instrument. It is well suited for non-destructive thickness measurements and material analysis.

A high count rate is achieved by using a proportional counter tube, which allows for precise measurements. Using the Fischer fundamental parameter method, coating systems as well as solid and liquid samples can be analyzed standard-free. Elements in the range from chlorine (17) to uranium (92) are detected.

The XAN 310 has an excellent long-term stability, which among other things is reflected in a significantly reduced calibration effort.

The instrument is well suited for measurements in quality assurance, incoming inspection and process control.

Typical areas of application are:

- Measurements on small parts like screws, bolts and nuts
- Measurements on contacts and electronic components
- Solution analysis in the electroplating

Design

The FISCHERSCOPE X-RAY XAN 310 is designed as compact, user-friendly bench-top instrument.

Specimen positioning is quick and easy. The X-ray source and detector assembly is located in the instrument's lower chamber, so that the measuring direction is from underneath the sample, which is supported by a transparent window.

The integrated video-microscope with zoom and crosshairs simplifies sample placement and allows precise measuring spot adjustment.

The entire operation, the evaluation of the measurement as well as the clear presentation of the measurement data is done on a PC using the powerful and user-friendly WinFTM® software.

The FISCHERSCOPE XAN 310 fulfills DIN ISO 3497 and ASTM B 568

General Specifications

Intended use	Energy dispersive X-ray fluorescence measuring instrument (EDXRF) for thickness measurement and material analysis
Element range	Chlorine (17) to Uranium (92)
Design	Bench-top unit with front opening hood
Measuring direction	Bottom-up method

X-Ray Source

X-ray tube	Tungsten tube, thermally stabilized
High voltage	50 kV
Aperture (Collimator)	0.3 mm (11.8 mils)
Measurement spot	Aperture diameter plus 200 µm (8 mils), at measurement distance MD = 0 mm

X-Ray Detection

X-ray detector	Proportional counter tube
Measuring distance	0 ... 25 mm (0 ... 1 in) Distance compensation with patented DCM method for simplified measurements at varying distances. For particular applications or for higher demands on accuracy an additional calibration might be necessary.

Sample Alignment

Sample positioning	Manually
Video microscope	High-resolution CCD color camera for optical monitoring of the measurement location along the primary beam axis, Crosshairs with a calibrated scale (ruler) and spot-indicator, Adjustable LED illumination
Zoom factor	Digital 1x, 2x, 3x, 4x

Sample Stage

Design	Fixed sample support
Usable sample placement area	320 x 350 mm (12.6 x 13.8 in)
Max. sample weight	13 kg (29 lb)
Max. sample height	115 mm (4.5 in)

Electrical Data

Power supply	AC 115 V or AC 230 V 50 / 60 Hz
Power consumption	max. 120 W, without evaluation PC
Protection class	IP40

Dimensions

External dimensions	Width x depth x height [mm]: 400 x 450 x 360 mm, [in]: 15.7 x 17.7 x 14.1
Weight	Approx. 25 kg (55 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	≤ 95 %, non-condensing

Evaluation Unit

Computer	Windows®-PC
Software	Fischer WinFTM®

Standards

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

Order

FISCHERSCOPE X-RAY XAN 310	605-180
	Special XAN product modification and technical consultation on request

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