GOLDSCOPE SD® 550

High Performance X-Ray Fluorescence Measuring Instrument for fast and non-destructive Analysis of Jewellery, Coins and Precious Metals in Hallmarking Centres, Testing Laboratory and Assaying Centre.





GOLDSCOPE SD® 550

Main Features

The GOLDSCOPE SD® 550 is a high performance, Precise, compact and universallyapplicable x-ray measuring instrument. It is well suited for the non-destructive Gold coating thickness measurement and Precious metals analysis.

The GOLDSCOPE SD® 550 is especially well suited for measuring & analyzing thin coatings, even with very complex compositions or small concentrations.

Typical fields of application:

- · Jewellery, precious metals and dental alloys
- · Yellow and white gold
- Analysis of alloys with highest requirements of accuracy in the jewellery and watch industries, Metal Refineries, Assaying Centres and Hallmarking Centres.
- · Platinum, Rhodium and Silver Alloys
- · Alloy and Coatings

To create ideal excitation conditions for every measurement, the instrument features electrically changeable apertures and primary filters. The modern silicon drift detector achieves high accuracy and good detection sensitivity.

Outstanding accuracy and long-term stability are characteristics of all GOLDSCOPE systems. The necessity of recalibration is dramatically reduced, saving time and effort. For high accuracy tasks calibrations can be performed at any time.

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

Design

The GOLDSCOPE SD® 550 is designed as a user-friendly bench-top instrument.

Specimen positioning is quick and easy. The X-ray source and semiconductor 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 and evaluation of measurements as well as the clear presentation of measurement data is performed on a PC, using the powerful and user-friendly WinFTM $^{\textcircled{\tiny{0}}}$ software.

The GOLDSCOPE SD® 550 fulfills DIN ISO 3497 and ASTM B 568.

General Specification

Intended use Energy dispersive X-ray measuring instrument (EDXRF) to determine thin

coatings, trace elements and alloys

Element range Aluminum (13) to Uranium U (92) – up to 24 elements simultaneously

Design Bench top unit with upwards opening hood

Measurement direction From bottom to top

X-Ray Source

X-ray tube Micro focus tube with tungsten target and beryllium window

High voltage Three steps: 10 kV, 30 kV, 50 kV

Aperture (Collimator) 4x changeable: Ø 0.2 mm (7.9 mils), Ø 0.6 mm (23.6 mils), Ø 1 mm (39.4 mils),

Ø 2 mm (78.7 mils), others on request

Primary filter 6x changeable: Ni, free, Al 1000 µm (39.4 mils); Al 500 µm (19.7 mils); Al 100 µm

(3.9 mils); Mylar® 100 μm (3.9mils)

Measurement spot Depending on the measuring distance and on the aperture in use, the actual

measurement spot size is shown in the video image. Smallest measurement spot: approx. Ø 0.3 mm (11.8 mils)

X-Ray Detection

X-ray detector Silicon Drift Detector (SDD), peltier-cooled

Resolution (fwhm for Mn- K_{α}) $\leq 160 \text{ eV}$

Measuring distance 0-25mm / 0-1 in

Distance compensation with patented DCM method for simplified measurements at

varying distances. For particular applications an additional calibration might be

necessary.

Sample Alignment

Sample positioning Manually

High-resolution CCD color camera for optical monitoring of the measurement loca-

tion along the primary beam axis,

Crosshairs with a calibrated scale (ruler) and spot-indicator, Adjustable LED illumination of the measurement location

Zoom factor Digital 1x, 2x, 3x, 4x

Sample Stage

Design Fixed sample support

Usable sample placement area 310 x 320 mm (12.2 ... 12.6 in)

Max. sample weight 13 kg (29 lb)

Max. sample height 90 mm (3.5 in)

Electrical Data

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

GOLDSCOPE SD® 550

GOLDSCOPE SD® 550

IP40 Protection class

Dimensions

External dimensions Width x depth x height [mm]: 403 x 588 x 365 mm, [in]: 15.9 x 23.1 x 14.4

Weight approx. 45 kg (99 lb)

Environmental Conditions

Operating temperature 10 °C - 40 °C (50 °F - 104 °F) $0 \, ^{\circ}\text{C} - 50 \, ^{\circ}\text{C} \, (32 \, ^{\circ}\text{F} - 122 \, ^{\circ}\text{F})$ Storage temperature

Admissible air humidity ≤ 95 %, non-condensing

Evaluation Unit

Windows®-PC Computer

Standard: Fischer WinFTM[®] BASIC including PDM[®] Software

Optional: Fischer WinFTM® SUPER

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". Type approval requested.

Order

605-687 **GOLDSCOPE SD® 550**

FISCHERSCOPE®, WinFTM®, PDM® are registered trademarks of Helmut Fischer GmbH Institut für Elektronik und Messtechnik in Germany

and other countries.

Windows® is a registered trademark of Microsoft Corporation in the United States and other countries. Mylar[®] is a registered trademark of E.I. du Pont de Nemours and Company.



Fischer Measurement Technologies (India) Pvt. Ltd.

City Centre, Office Nos. 3,4 & 5, Plot No. 138/1, Behind Persistent, Hinjewadi Phase 1, Pune - 411057.



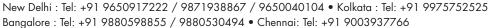
Tel.: +91 20 67909500 • Fax: +91 20 67909501



E-mail: india@helmutfischer.com • Website: http://www.helmutfischer.com



Branch Offices:



Mumbai :Tel: +91 9724312808 / 9860090882 • Ahmedabad : Tel: +91 7600069280



