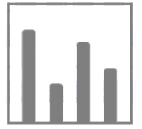




Coating Thickness



Material Analysis



## GOLDSCOPE® SD 600

Advanced high-end ED-XRF Machine for Gold, Silver and other precious metal analysis

# All-in-One solutions for precious metal analysis and coating thickness measurement

Precious Metal Analysis | Multi-Layer Thickness Measurement | Solution Analysis | Alloy composition



Hallmarking



Precious Metal Analysis

## Features

- Modern Silicon Drift Detector (SDD) for high accuracy and a good detection sensitivity.
- High-resolution colour video camera for precise determination of the measurement spot.
- Bench-top unit with front door opening.
- Available in two options
  - SDD detector with 20 mm<sup>2</sup> (160 eV)
  - SDD detector with 50 mm<sup>2</sup> (140 eV)
- Scissor table (Lab-Jack) for Z-axis movement
- Micro-focus tungsten tube with beryllium window
- Elemental Range: Aluminium Al (13) to Uranium U (92)
- Powerful and user-friendly WinFTM<sup>®</sup> software.
- Option to remove scissor table to accommodate bigger sample



Gold Refinery



Jewellery Retail Stores



Tunch and Assaying

# GOLDSCOPE<sup>®</sup> SD 600

# GOLDSCOPE® SD 600

High resolution Silicon Drift Detector with large aperture (Ø2 mm, 79 mils) enables GOLDSCOPE® SD 600 to achieve highest accuracy with a short measurement time.

## Application

- Jewelry, precious metals and dental alloys
- Precious Metal Analysis eg. Gold, Silver and Platinum group elements
- Measuring coating thickness on sterling silver, rhodium finishes or gold alloys
- Determination of complex multi layer-coating system
- Platinum, Yellow , white gold , Rhodium and silver
- Alloy Composition
- Solution Analysis
- Solutions for refineries, tunch assay offices and hallmarking
- Detection of PGM Group elements such as Iridium, Ruthenium, Osmium, Rhenium enabling an accurate precious metal analysis results.
- Materials analysis of coatings and alloys (also thin coatings and low concentrations)



The modern Silicon Drift Detector ( SDD ) achieves a high accuracy and a good detection sensitivity. This results in high resolution for light elements. 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 fundamental parameter method by FISCHER allows for the analysis of solid and liquid specimens as well as coating systems without calibration.

## Design

The new FISCHER XRF - GOLDSCOPE® SD 600 is designed as a user-friendly bench-top instrument. It is equipped with a manual operated scissor table (Lab-Jack) for Z-axis movement to measure complex samples. Sample placement area is designed in such a way that samples of any shape right from small connectors to complex automotive parts can be easily accommodated.

A laser pointer serves as a positioning aid and supports the quick alignment of the sample to be measured. A high-resolution colour video camera simplifies the precise determination of the measurement spot.

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® software.



# GOLDSCOPE<sup>®</sup> SD 600

## General Specification

Intended Use	Energy Dispersive X-Ray Fluorescence measuring instrument (EDXRF) for precious metal, alloys analysis in hallmarking, testing, tunch assaying offices, gold refinery, retail jewellery stores and gold manufacturing.
Design	Bench-top unit with front door opening and manually operated scissor table for Z-axis movement Video camera and laser pointer (class 1) for orienting the sample
Measuring Direction	From top to bottom
X-ray tube	Micro-focus tube with beryllium window
High voltage	High voltage three steps: 10 kV, 30 kV, 50 kV
Apertures (Collimators)	4x changeable: 0.3 mm (11.8 mils), 0.6 mm (23.6 mils), 1.0 mm, 3.0 mm, others on request
Primary filter	3x changeable (Standard configuration: Nickel, Aluminum, no filter)
Sample Stage	Manually adjustable scissor table (Lab-Jack)
Measurement spot	Depending on the measuring distance and on the aperture, the actual measurement is shown in video image.

## Environmental Conditions

Operating temperature	10 °C – 40 °C
Storage / Transport temperature	0 °C – 50 °C
Relative humidity	≤ 95 %

## X-Ray Detector

	Standard (20 mm <sup>2</sup> )	Optional (50 mm <sup>2</sup> )
X-ray detector	Silicon Drift detector with peltier cooling	Silicon Drift detector with peltier cooling
Resolution (fwhm for Mn-K $\alpha$ )	≤ 160 eV	≤ 140 eV
Element range	Aluminum Al (13) – Uranium U (92)	
Measuring distance	0 ... 80 mm	

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

Video microscope	High-resolution CCD colour camera for optical monitoring of the measurement location along the primary beam axis, manual focusing and crosshairs with a calibrated scale (ruler) and spot -indicator, adjustable LED illumination, laser pointer (class 1) to support accurate sample placement.
Zoom factor	Digital 1x, 2x, 3x, 4x

## Electrical Data

Power source	AC 115 V or AC 230 V 50 / 60 Hz
Power consumption	max. 120 W, without evaluation PC
Protection class	IP 40

## Target Dimensions

External dimensions	500 x 510 x 570 mm (Width x depth x height [mm] )
Sample Placement Area	345 x 280 x 145 mm (Width x depth x height [mm] )
Scissor Table	150 x 120x 140 mm (Width x depth x height [mm] )
Weight approx	75 Kg

## Evaluation Unit

Computer	Windows based PC
Software Standard	Fischer WinFTM <sup>®</sup>

## Standards

CE approval	In process, will be done soon
X-Ray standards	DIN ISO 3497 and ASTM B 568
Approval	Will be approved by AERB

## Order

GOLDSCOPE <sup>®</sup> SD 600
Standard (20mm <sup>2</sup> )
Option SDD (50mm <sup>2</sup> )

[www.helmut-fischer.com](http://www.helmut-fischer.com)