

FISCHERSCOPE® X-RAY XDV®-SDD



MEASUREMENT FROM
TOP TO BOTTOM

The FISCHERSCOPE X-RAY XDV-SDD features a silicon drift detector with a large sensitive area and good energy resolution. When combined with large apertures, very high count rates can be realised, producing excellent repeatability precision and very low detection limits. The XDV-SDD is particularly well suited for measuring the thinnest of coatings for trace analysis. The improved sensitivity for X-radiation with low energy also expands the range of measurable elements down to lower atomic numbers, enabling, for example, the reliable measurement of phosphorous or aluminium in air.

In order to create ideal excitation conditions for every measurement, the XDV-SDD features exchangeable apertures and primary filters.

With its large and easily accessible measurement chamber, the XDV-SDD can accommodate flat, plane objects as well as larger specimens with complex shapes. Serial tests or measurements of coating thickness and element distribution are made simple with the fast, programmable XY-stage.

User-friendly operation, a wide-opening hood and control elements located on the front of the device facilitate the day-to-day use of this instrument.

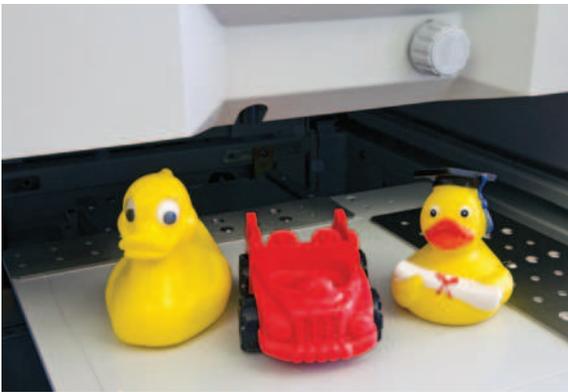


*Hazardous substances in metals:
Pb, Cd in Al-alloy*

Toys: determination of Pb, Cd, Hg

The precise definition of the measurement location is simplified by a high-resolution, high magnification video camera, which accurately displays the measurement position during operation. A laser pointer acting as a positioning aid further facilitates the quick orientation of the samples.

Its performance capabilities and universal design make the XDV-SDD ideal for research and development, process qualifying, and laboratories. It is also indispensable in quality assurance and in production monitoring, due to its robust design and user-friendliness.



Examples from practical applications

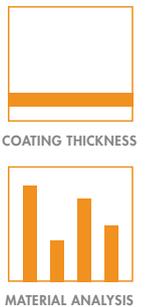
Legal regulations strictly limit the concentration of various harmful substances, for example in electronics, toys or packaging. The XDV-SDD makes it possible to quickly and easily monitor compliance with these limits. For example, the especially critical chemical elements Pb, Hg and Cd can be measured with detection limits of just a few ppm in plastics.

Characteristics

- Micro-focus X-ray tube with W-anode and beryllium window. Maximum operating conditions: 50 kV, 50W
- Peltier-cooled silicon drift detector as the X-ray detector
- Aperture: 4-x exchangeable, Ø 0.1 mm to Ø 3 mm
- Primary filter: 6-x exchangeable
- Programmable XY-stage with pop-out function
- Video camera for optical monitoring of the measurement location along the axis of the primary X-ray beam. Crosshairs with calibrated scale (ruler) and display of the measurement spot
- Design-approved, fully protected instrument compliant with the German X-ray ordinance § 4 Para. 3

Typical fields of application

- Inspection of very thin coatings, e.g. in the electronics and semiconductor industries
- Trace analysis, e.g. detection of harmful substances according to RoHS, toy standards, packaging standards
- Gold and precious metal analysis with highest precision
- Photovoltaic industry
- Measurement of thickness and composition of NiP-layers



NiP/Fe: P-concentration and coating thickness



NiP/Fe: P-concentration and coating thickness