

# FISCHERSCOPE® X-RAY XDV®-μ / XDV®-μ LD

## Meeting all challenges:

Reliable and fast results for ambitious measurement

**DPP+ digital pulse processor:** Fast and precise measurement results

**Most advanced polycapillary optics on the market:** Our in-house manufactured polycapillaries deliver outstanding measurement results with short measuring times



**Fully automatable:** Let your instrument work for you with just one click

**Your safety:** Short measuring times or better repeatability of your measurement results

**Accurate and precise:** Positioning of the measuring point on small structures thanks to automatic image recognition

# FISCHERSCOPE® X-RAY XDV®-μ WAFER

**Fully integrated solution:** XDV®-μ SEMI combined with wafer handler of your choice

**Most advanced polycapillary optics on the market:** Our in-house manufactured polycapillaries deliver outstanding measurement results at short measuring times

**Meeting all challenges:** Reliable and fast results for ambitious measuring tasks



**Fully automatable:** Let your instrument work for you with just one click

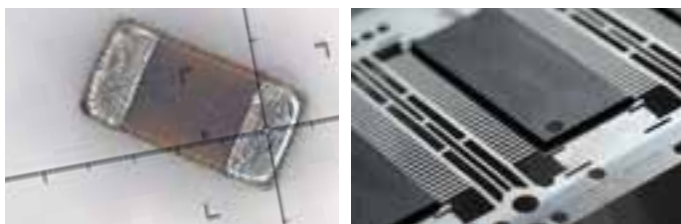
**Your safety:** Short measuring times or better repeatability of your measurement results

**Accurate and precise:** Positioning of the measuring point on small structures thanks to automatic image recognition

## Smallest measuring surface – highest precision

The FISCHERSCOPE® X-RAY XDV®-μ instruments form Fischer's high-end X-ray fluorescence series, designed for precise coating thickness measurement and material analysis on tiny structures. The instruments are equipped with powerful silicon drift detectors and polycapillary optics, which drastically reduce measuring times and enable repeatable measurements due to the high radiation intensity.

The XDV®-μ instruments are used in particular for applications in the electronics and semiconductor industry such as the measurement of very small structures, e.g. bond surfaces, SMD components or thin wires.



SMD components

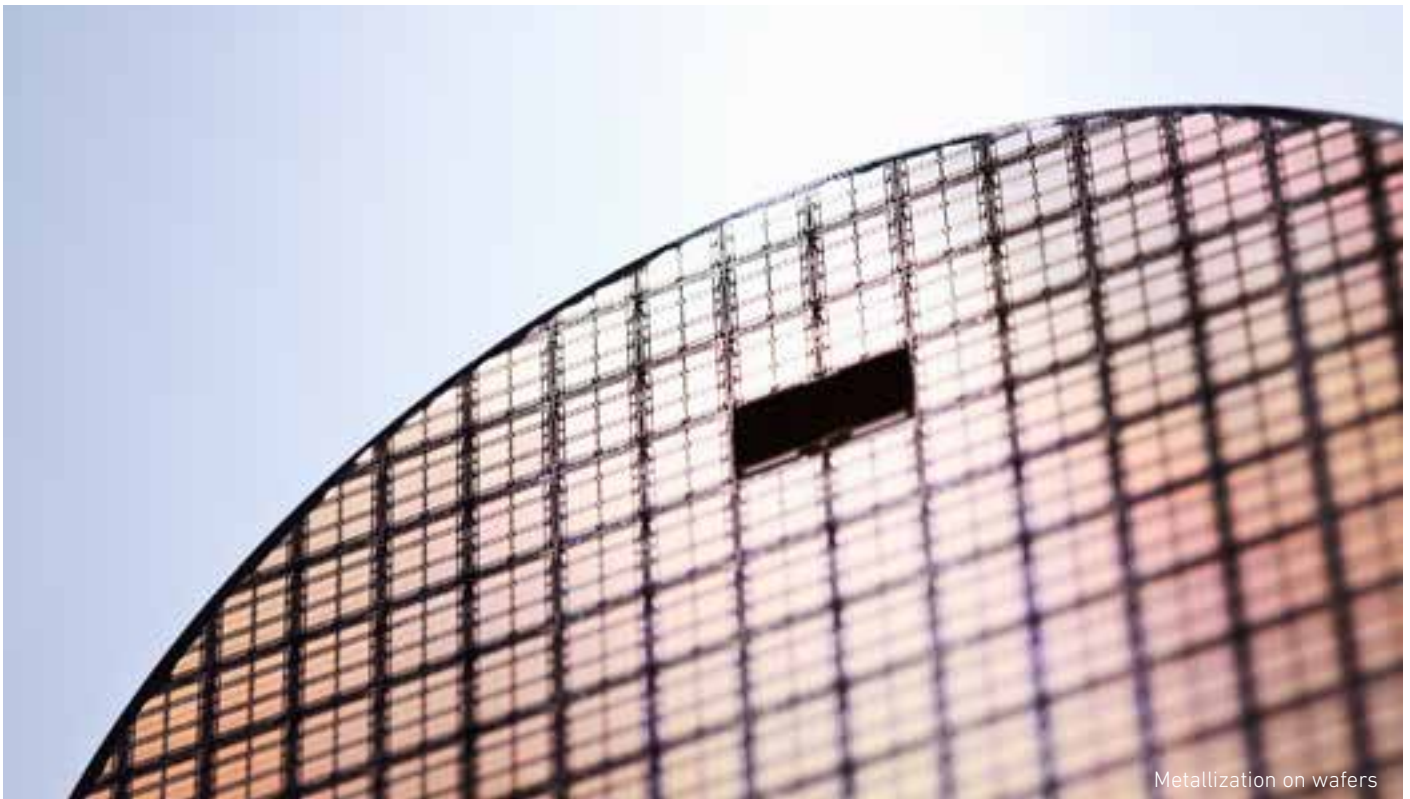
Lead frames

The roomy, easily accessible measuring chamber with side cut-outs (C-slot) and expanded sample support facilitates working with large samples. The XDV®-μ LD model offers more space for complex shaped test parts with outstanding measurement performance.

The Long Distance capillary allows smallest measuring spots and exact measurements on assembled PCBs, connectors or pins at a unique measuring distance of 12 mm.

### Features

- Universal instrument for measurements on smallest components and structures as well as complex multilayer systems
- Stepless measuring distance with measuring top down
- Microfocus tube with tungsten anode; molybdenum anode optional
- 4-fold changeable filter
- Polycapillary optics permit particularly small measurement spots of 60 μm FWHM at short measuring times with high intensity
- Silicon drift detector 20 or 50 mm<sup>2</sup> for highest precision on thin layers
- Video system with 3x optical zoom for precise sample positioning
- Precise programmable measuring table for automated measurements on small structures



Metallization on wafers

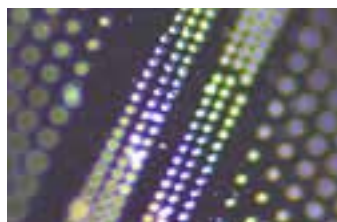
## Cutting-edge technology for wafer applications

Wafers place some of the highest demands on the measurement technology used. Firstly, the surfaces are very sensitive. Secondly, the structures are so small that only special instruments can analyze them.

FISCHERSCOPE® X-RAY XDV®-μ WAFER models are designed specifically for automated analysis of microstructures and to meet the needs of the semiconductor industry. Typical measuring tasks include the characterization of base metallizations, material analysis of solder bumps and coating thickness measurement on contact surfaces.



Solder bumps



Small structures

Testing of such tiny structures requires minuscule measuring spots. That is why XDV®-μ WAFER instruments are equipped with polycapillary optics. They focus the X-ray onto a measuring spot of just 10 – 20 μm. A XDV®-μ WAFER system thus allows for much more precise characterization of the individual microstructures than any conventional instruments can.

### Features

- Special instrument for automated measurements of thin layers and multilayer systems on wafers with diameters from 6 - 12 inches
- Stepless measuring distance with measuring top down
- Microfocus tube with molybdenum anode; tungsten anode optional
- 4-fold changeable filter
- Polycapillary optics permit particularly small measuring spots of 10 or 20 μm FWHM at short measuring times with high intensity
- Silicon drift detector 20 mm<sup>2</sup> or 50 mm<sup>2</sup> for highest precision on thin layers
- Precise, programmable measuring table with vacuum wafer chuck for automated measurements on small structures