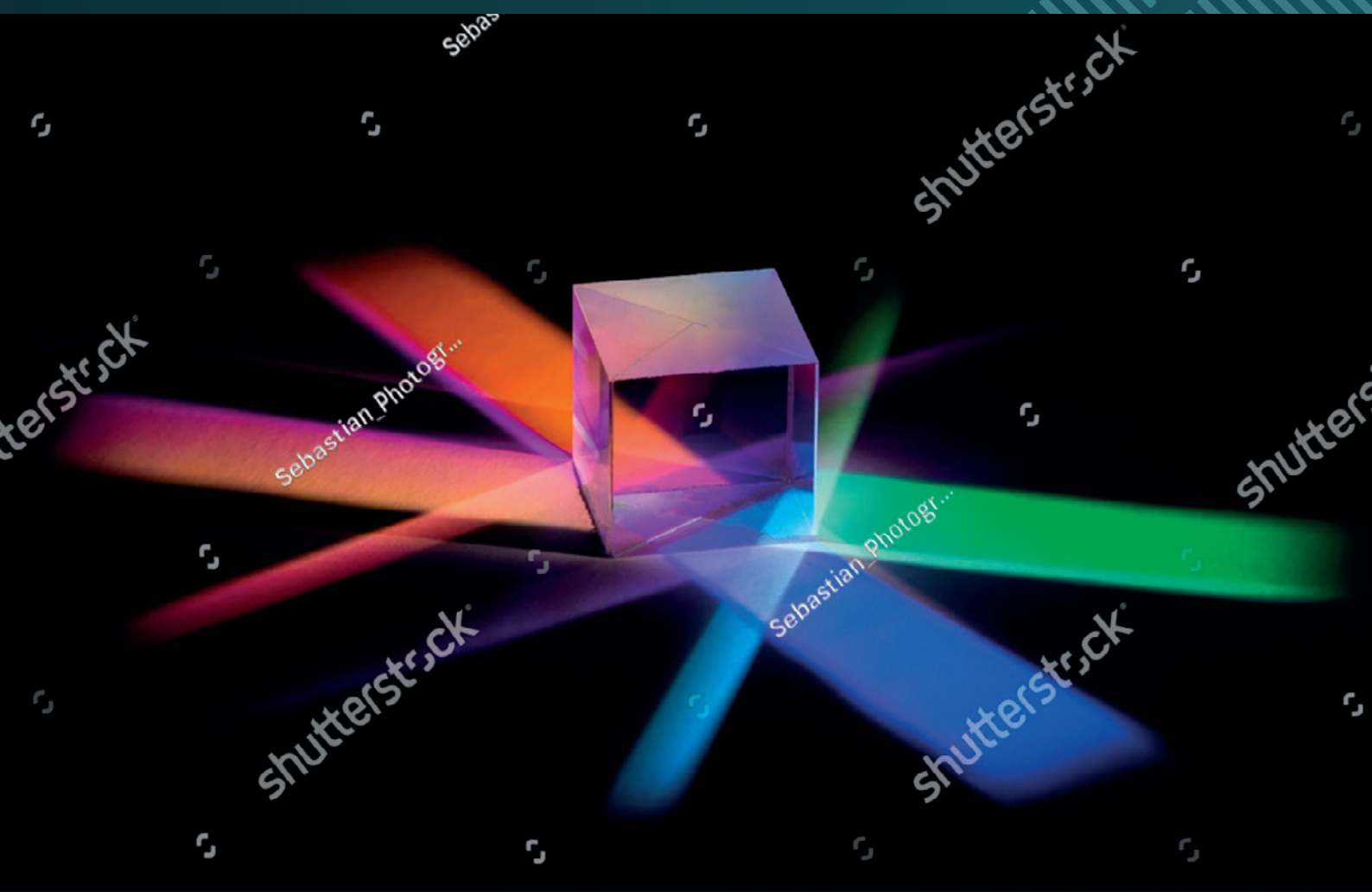




**Malvern
Panalytical**
a spectris company

Wafer XRD

for fully automated wafer sorting, production and quality control



Wafer XRD or fully automated wafer sorting, production and quality control

Features

- For 4", 6", 8" and 12" wafers. Other sizes are available on request
- FOUP, cassette or single wafer stage
- Cross-slotted wafer recognition
- Easy integration into any process line
- Measurement speed < 5secs/sample
- Typical standard deviation tilt example: Si 100 < 0.003°
- MES and SECS/GEM interfaces
- Cu target X-ray tube Micro focus air cooled (max. 30 W) or fine focus water-cooled (max. 1.5 kW) X-ray tube
- Fully CE compliant safety controls
- 3-colour light tower to indicate status

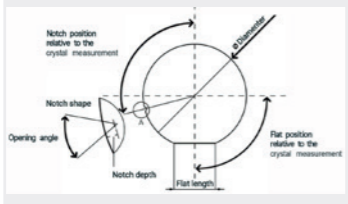
Materials

Si, SiC, GaAs, GaN, Sapphire (Al₂O₃), Ge, AlN, Quartz, InP and 100s more

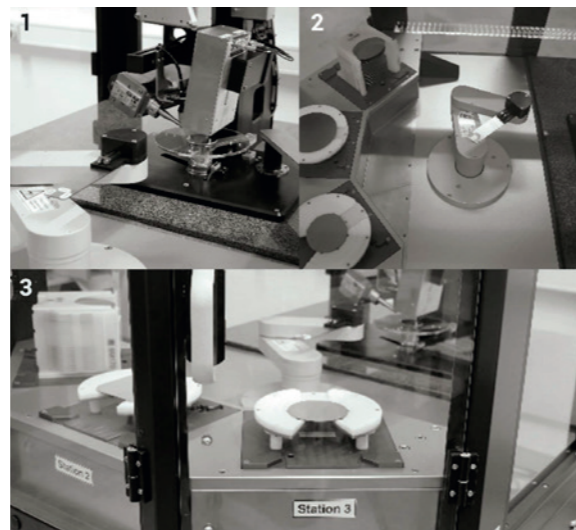
Optional add-ons

- Resistivity measurement range: 0.01 to 0.020 cm
- Automatic identification of wafers Data Matrix Code, QR Code, Barcode or similar
- Distance measurement for unpolished wafers and mirroring surfaces
- Rocking curve measurement using Theta-scan method

Optical geometry recognition

Specifications	
Flat / notch position	0.003
Notch depth	4 µm
Notch opening angle	0.5°
Diameter	< 2 µm
Flat length	~ 10 µm
XRD axis vs notch / flat position	< 0.00s
Notch shape	

Optical flat and notch recognition



- 1 Wafer stage for measurement
- 2 Robotic arm for handling
- 3 Wafer stations for sorting

Installation requirements

Power supply

16 A 400 V AC (3 Phase/N/PE) ± 10%, 50 - 60 Hz

Average power consumption

- ~0.8 kWh/h for a 30 W X-ray tube
- ~ 1.5 kWh/h for a 1.5 kW X-ray tube

Cooling water (optional)

4 l/min, 0.3 MPa pressure difference, maximum pressure 0.8 MPa, about 20°C, clean water without any additives, inner hose diameter 8 mm, pH value: 7.5-9.5

Internet connections

Two ethernet/LAN ports for remote software update and support

Air pressure

6 - Bbar

Room temperature

2.0 - 2.5°C recommended

Relative humidity

2.5 - 8.0%

Wafer XRDstudio operating and evaluation software suite

User-friendly and advanced operating softwareAverage power consumption

- Different modes of operation
 - Operator mode for fixed measurement parameters and a safe workflow
 - Administrator mode to modify/create new recipes and to adapt to new materials
- Guided user interface allows flawless workflow
- Pre-defined and customized recipes
- Export and import functions



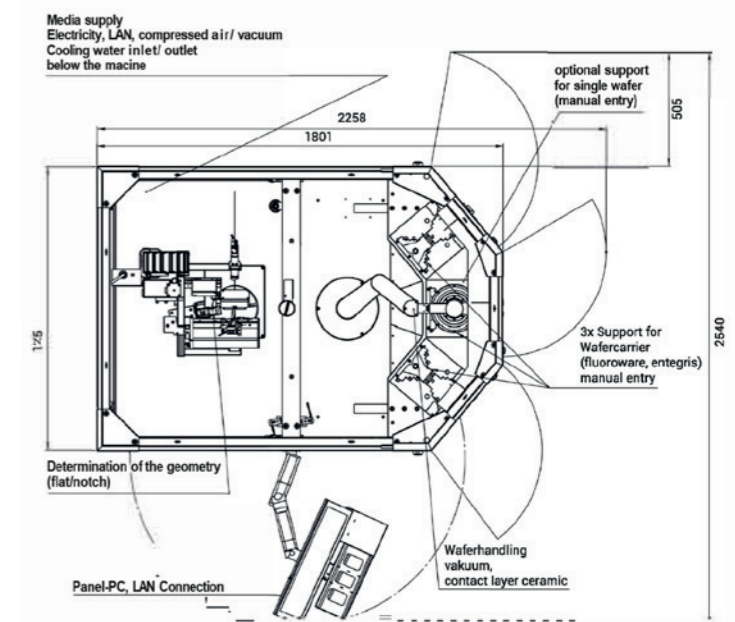
Wafer XRDstudio - operating and evaluation software



Front and side view (in mm)



Wafer XRD 300



Front and side view (in mm)



About Malvern Panalytical

We draw on the power of our analytical instruments and services to make the invisible visible and the impossible possible.

Through the chemical, physical and structural analysis of materials, our high precision analytical systems and top-notch services support our customers in creating a better world. We help them improve everything from the energies that power us and the materials we build with, to the medicines that cure us and the foods we enjoy.

We partner with many of the world's biggest companies, universities and research organizations. They value us not only for the power of our solutions, but also for the depth of our expertise, collaboration and integrity.

We are committed to Net Zero in our own operations by 2030 and in our total value chain by 2040. This is woven into the fabric of our business, and we help our employees and customers think about their part in creating a healthier, cleaner, and more productive world.

With over 2300 employees, we serve the world, and we are part of Spectris plc, the world-leading precision measurement group.

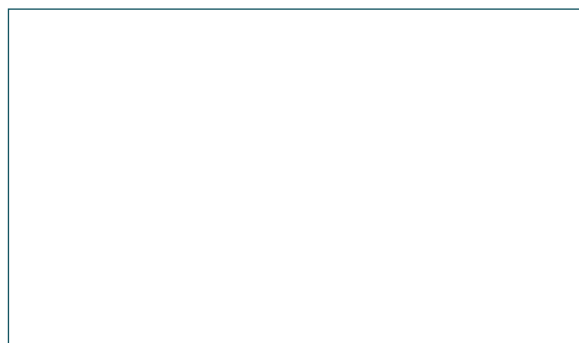
Malvern Panalytical. We're BIG on small™

Service & Support

Malvern Panalytical provides the global training, service and support you need to continuously drive your analytical processes at the highest level. We help you increase the return on your investment with us, and ensure that as your laboratory and analytical needs grow, we are there to support you.

Our worldwide team of specialists adds value to your business processes by ensuring applications expertise, rapid response and maximum instrument uptime.

- Local and remote support
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- Onsite or classroom-based training courses
- e-Learning training courses and web seminars
- Sample and application consultancy



Malvern Panalytical

Groveswood Road, Malvern,
Worcestershire, WR14 1XZ,
United Kingdom

Tel. +44 1684 892456
Fax. +44 1684 892789

Lelyweg 1,
7602 EA Almelo,
The Netherlands

Tel. +31 546 534 444
Fax. +31 546 534 598

www.malvernpanalytical.com