



**Malvern  
Panalytical**  
a spectris company

# Wafer XRD

Panalytical X-ray Technology

for fully automated wafer sorting, production and quality control



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

## Features

- For 3 to 8 wafers. Other sizes are available on request
- FOUP, cassette or single wafer stage
- The cross-slotted wafer recognition is optional
- Easy integration into any process line
- Measurement speed < 10 secs/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 ( $\text{Al}_2\text{O}_3$ ), Ge, AlN, Quartz, InP and 100s more.

## Optional add-ons

- Resistivity measurement range: 0.01 to 0.020  $\Omega\text{cm}$
- Automatic identification of wafers Data Matrix Code, QR Code, Barcode or similar
- Distance measurement for unpolished wafers and mirroring surfaces



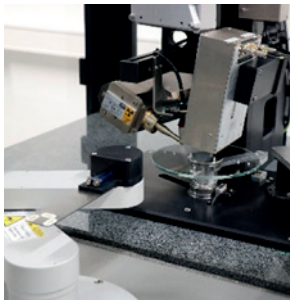
**1.000.000 Wafers a year**

## Optical geometry recognition

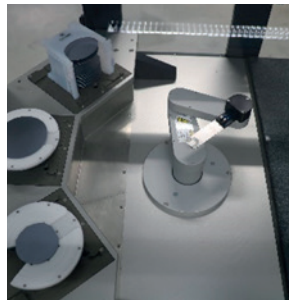
### Measurable parameters

Flat / notch position	
Notch depth	
Notch opening angle	
Diameter	
Flat length	
XRD axis vs notch / flat position	
Notch shape	

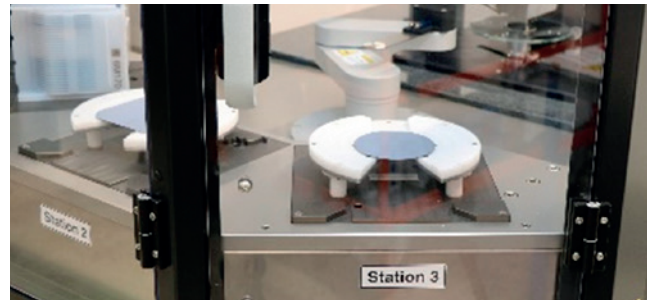
Optical flat and notch recognition



Wafer stage for measurement



Robotic arm for handling



Wafer stations for sorting

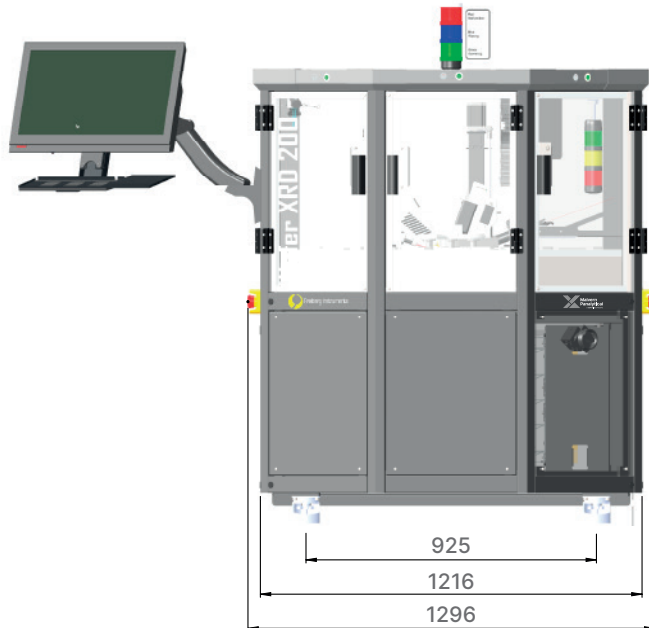
## Wafer XRDstudio operating and evaluation software suite

User-friendly and advanced operating softwareAverage power consumption

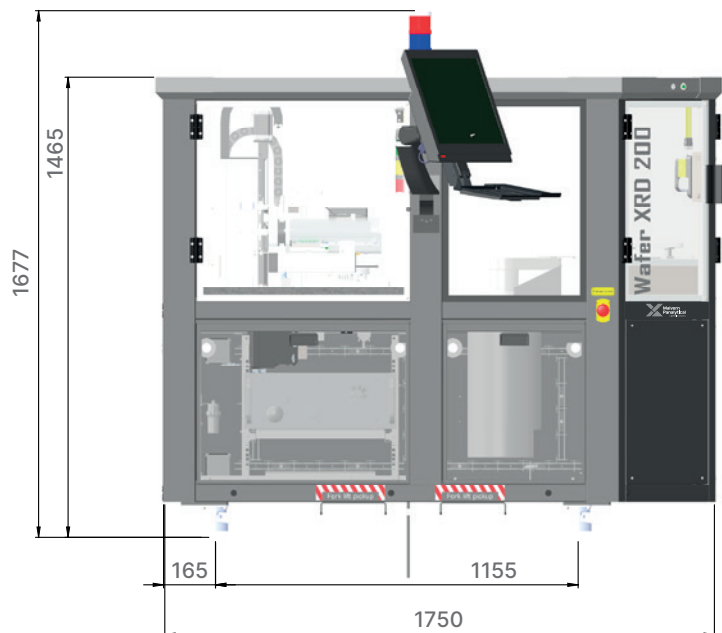
- Different modes of operation
  - Operator mode for fixed measurement parameters and a safe workflow
  - Administrator mode to modify/create new recipes and to adapt to new materials
- Guided user interface allows flawless workflow
- Pre-defined and customized recipes
- Export and import functions



Wafer XRDstudio - operating and evaluation software



Front and side view (in mm)





## 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.

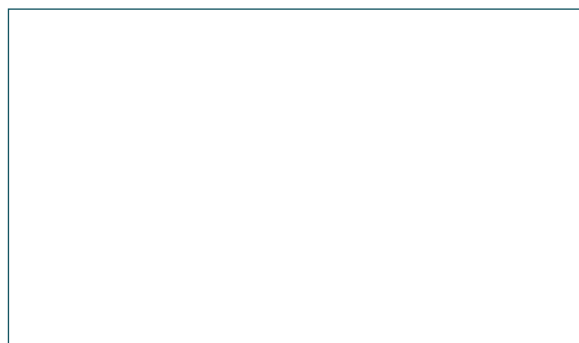
**Malvern Panalytical. We're BIG on small™**

## 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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- Compliance and validation support
- Onsite or classroom-based training courses
- e-Learning training courses and web seminars
- Sample and application consultancy



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