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 (Al_2O_3), Ge, AlN, Quartz, InP and 100s more.

Optional add-ons

- Resistivity measurement range: 0.01 to 0.020 Ωcm
- Automatic identification of wafers Data Matrix Code, QR Code, Barcode or similar
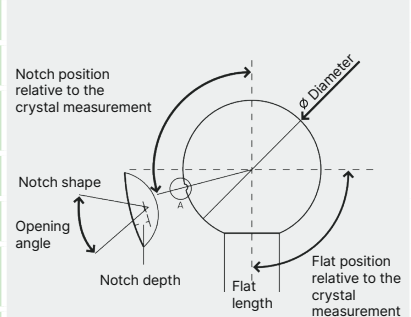- Distance measurement for unpolished wafers and mirroring surfaces
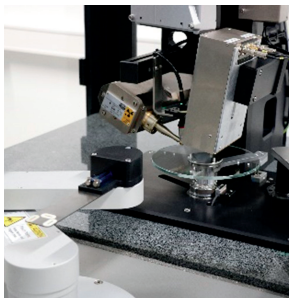

1.000.000 Wafers a year
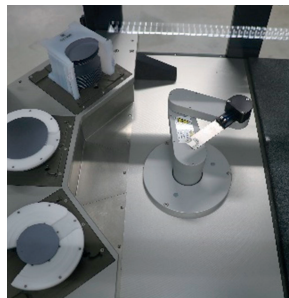
Optical geometry recognition

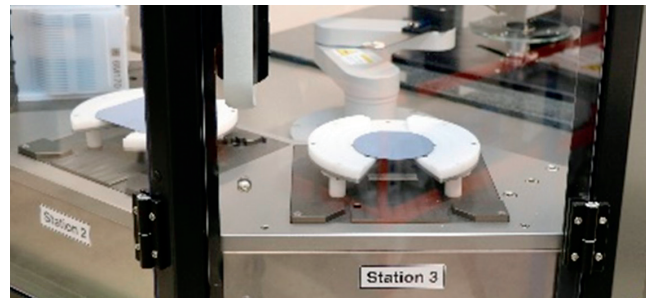| Measurable parameters |
| --- |
| Flat / notch position |
| Notch depth |
| Notch opening angle |
| Diameter |
| Flat length |
| XRD axis vs notch / flat position |
| Notch shape |

Optical flat and notch recognition

Wafer stage for measurement
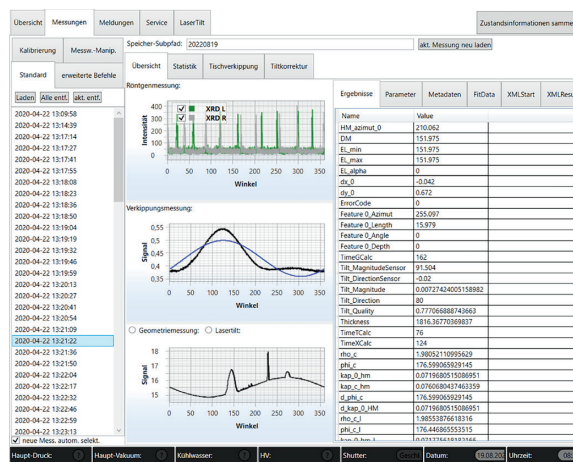

Robotic arm for handling
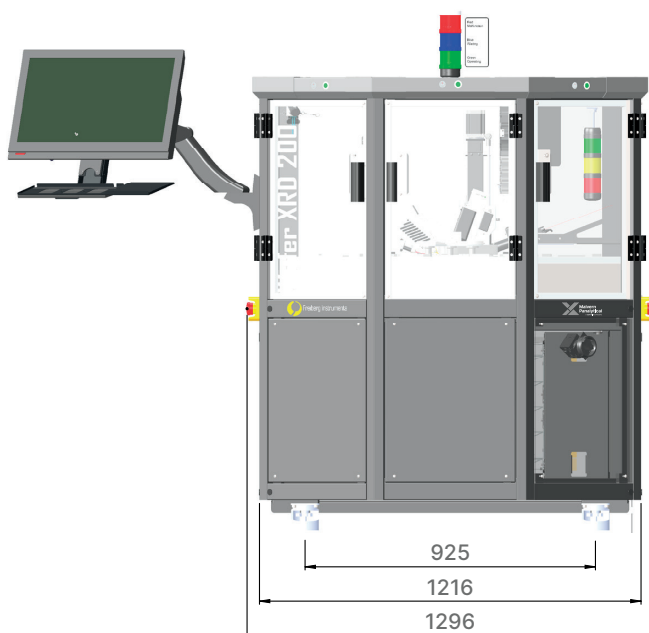

Wafer stations for sorting

Wafer XRDstudio operating and evaluation software suite

User-friendly and advanced operating softwareAverage power consumption

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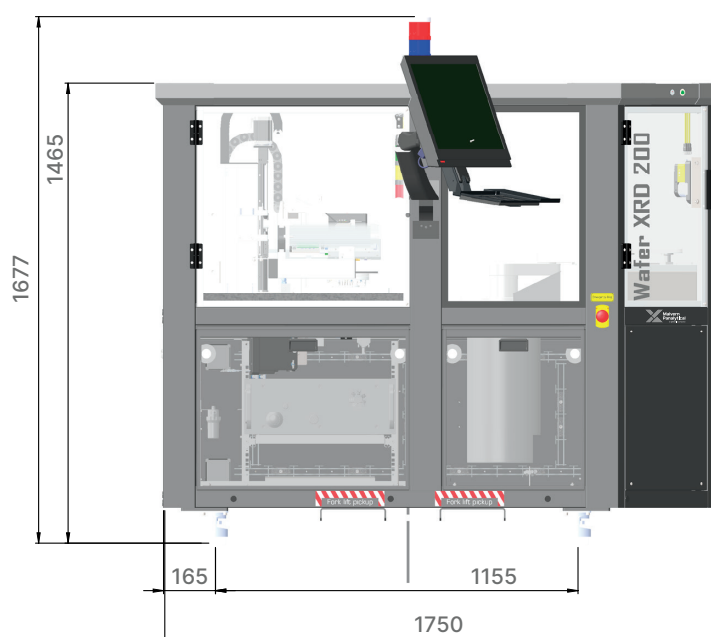 - Operator mode for fixed measurement parameters and a safe workflow
  - Administrator mode to modify/create new recipes and to adapt to new materials
- Guided user interface allows flawless workflow
- Pre-defined and customized recipes
- Export and import functions

Wafer XRDstudio - operating and evaluation software

925
1216
1296

Front and side view (in mm)

1465
1677
165
1155
1750

About Malvern Panalytical

Malvern Panalytical is a global leader in the analytics of material and life sciences. We unleash the power of small things to make big things happen for our customers.

Our vision is to make the world cleaner, healthier, and more productive.

We partner with our customers to make their solutions possible through the power of precision measurements, our expertise, trusted data, and insights.

Our people are partners in discovery. We collaborate with our customers and with each other to discover new possibilities and achieve breakthroughs.

Our culture is a healthy, high-performance culture shaped by our values: Own it, Aim High and Be True.

We're committed to Net Zero in our own operations by 2030 and in our total value chain by 2040.

With over 2300 employees across the globe, 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, and ensure that as your analytical requirements grow, we're 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.

- Proactive local and remote support
- Full and flexible range of service agreements
- Compliance and validation support
- Onsite or classroom-based training courses
- e-Learning training courses and web seminars
- Digital services, including MyStore and My Customer Support Portal
- Sample analysis, method development, and applications consultancy

Malvern Panalytical

Grovewood 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