



# XRD series Crystal Orientation Measurement

Si | SiC | AlN | GaAs | Quartz |  
LiNbO3 | BBO and 100 more

# Crystal Alignment in Production | Quality Control | Material Research | Ingots & Wafers

## Established Omega-scan method

- › Highest precision
- › Measurement speed: < 5 secs/sample
- › Integration into process line



### Omega/Theta (XRD)

Standalone XRD for production fabs

- › Transfer technology: orientation of multiple ingots for efficient sawing
- › Simultaneous determination of all lateral directions
- › Variety of sample holders and transfer fixtures towards wire saw, grinding etc.
- › Automated wafer sorting and handling
- › Rocking curve measurement
- › Highest precision: 0.003°

### DDCOM (XRD)

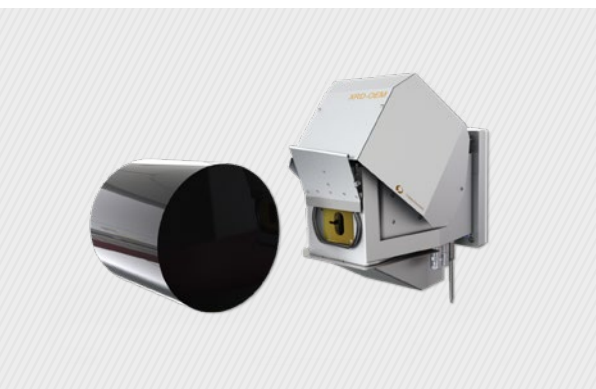
Desktop XRD for production fabs and research institutes

- › Designed to measure wafers & ingots from 8 up to 225 mm Ø
- › Reference plane is same as the measurement plane
- › Marking option of lateral crystal direction
- › No water cooling
- › Highest precision: 0.01°

### SDCOM (XRD)

Desktop XRD for production and research institutes

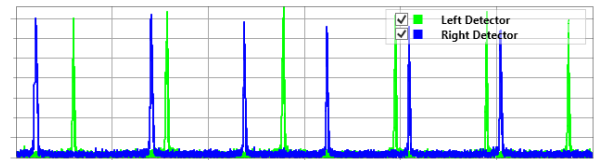
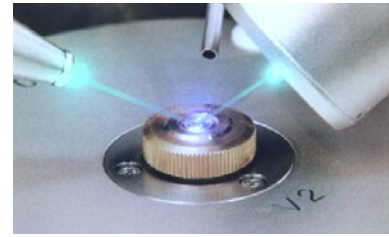
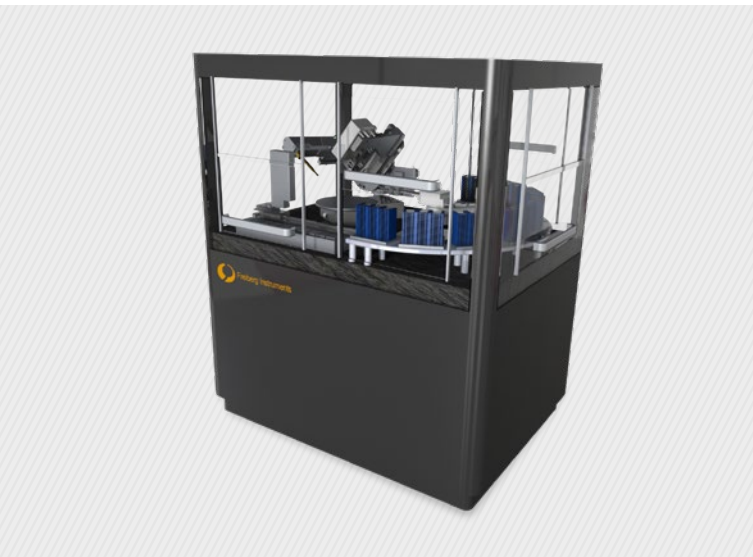
- › Ability to measure very small crystals down to 1 mm as well as large ingots
- › Variety of sample holders and transfer fixtures towards wire saw, grinding, etc.
- › Marking option of lateral crystal direction
- › No water cooling
- › Highest precision: 0.01°



### XRD-OEM

For fully automated production fabs

- › Ready for integration for any automation or processing system
- › Designed for harsh environments (grinding, sawing)
- › Compact, standard industrial interfaces
- › Independent orientation measurement
- › Measurements on flat surface or circumferences
- › Optical notch detection



### Quartz Bar XRD

Fully automated quartz bar aligning machine

- › Fully automated uptake and alignment of quartz bars
- › Automated gluing on adapter plate
- › Alignment precision:  $\pm 0.5^\circ$

### Quartz Wafer XRD

Fully automated quartz wafer analysing machine

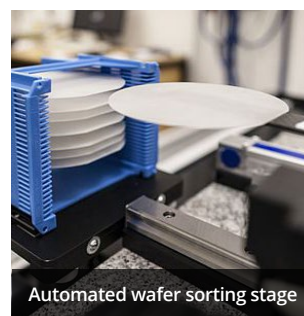
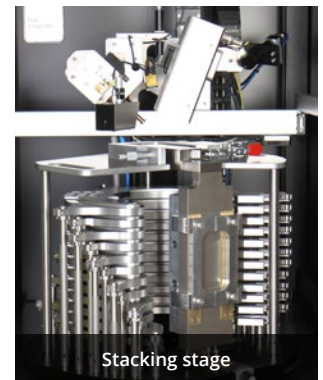
- › Quality check of cutting angle (surface / lattice plane)
- › Automated sorting into quality groups (cassettes)
- › Mapping option determines high-quality areas in a few seconds

### Quartz Blank XRD

Fully automated quartz blank sorting machine

- › Analysis and Sorting of AT and/or SC blanks
- › Quality groups of  $\pm 7.5$  arcsec (minimum)
- › Throughput: up to 1000 blanks/h at standard sorting accuracy

### Additional sample stages



\*All technical parameters are subject to changes based on R&D.

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