

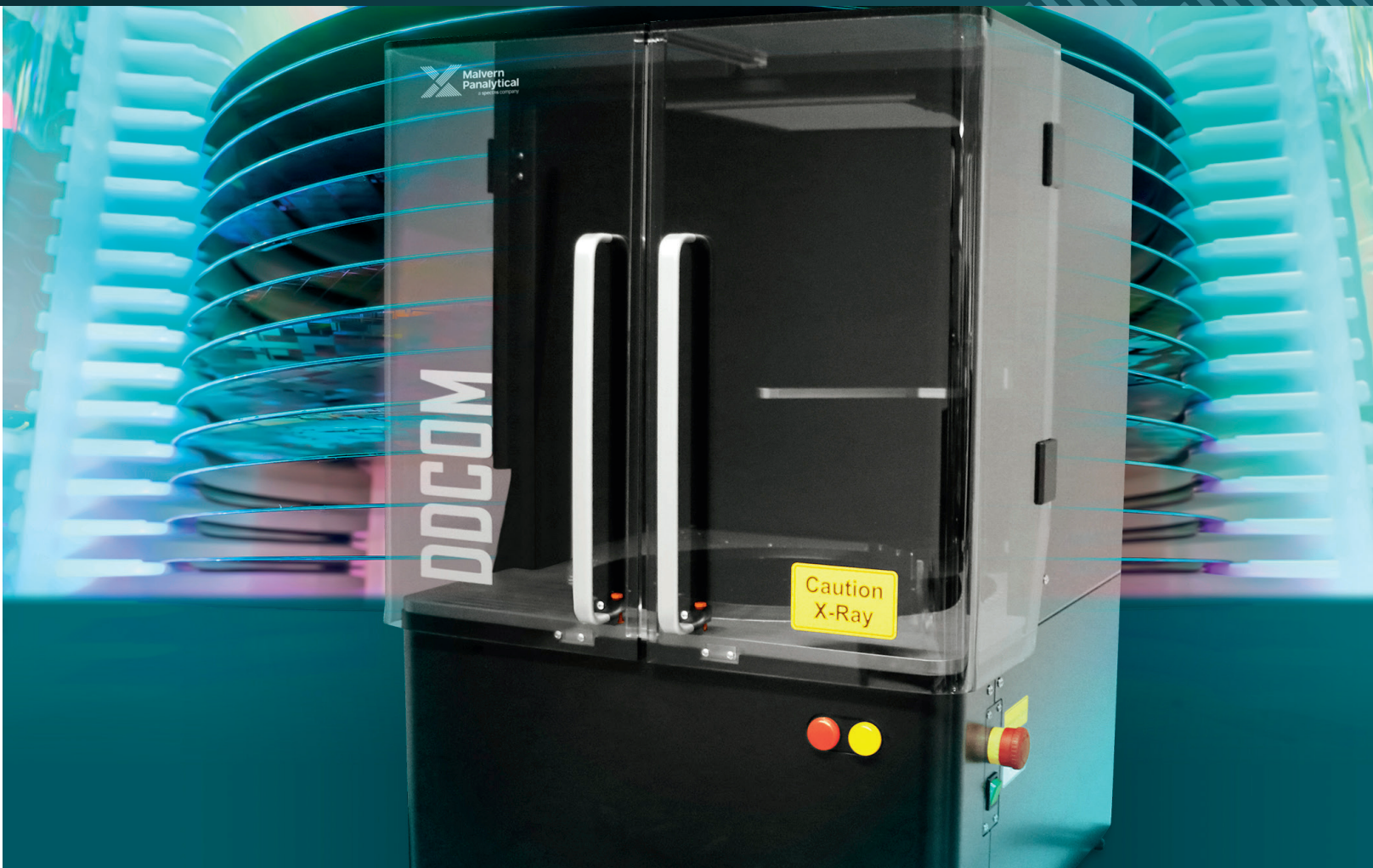


**Malvern
Panalytical**
a spectris company

DDCOM

Panalytical X-ray technology

for ultra-fast crystal orientation measurement
using Omega-scan methode



DDCOM for ultra-fast crystal orientation measurement

The Desktop X-ray Diffractometer for Crystal Orientation Measurement (DDCOM) is an automated tool to determine the orientation of various crystals.

Ultra-fast scan approach

- 200 times faster than Theta-scan method
- Automatic evaluation of the complete lattice orientation in 3D
- **Determination of entire crystal orientation within 10 seconds**

Efficient workflows for quality control

- For standard research and industrial workflows
- Azimuthal setting and marking of crystal orientation
- Preprogrammed cubic crystal parameters
- State-of-the-art and convenient software
- High precision, i.e up to $(1/100)^\circ$

Compact, user friendly and cost effective

- Convenient sample handling and easy to operate
- Low energy consumption and operating costs due to air cooled X-ray tube (no water cooling required)

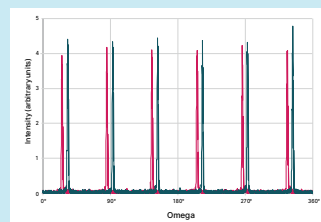


Control of cutting, grinding and lapping

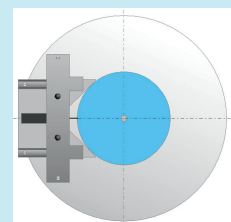
- Complete lattice orientation of single crystals
- Suitable for a unique variety of materials in a large range of size and weight, such as:
Wafers from 2-12" and Ingots up to 20kg

Highlights

- Determination of the complete lattice orientation of single crystals
- Ultra-fast crystal orientation measurement
- Determination of the arbitrary unknown orientation of cubic crystals
- Designed especially for azimuthal setting and marking of lattice directions
- Air cooled X-ray tube, no water cooling required
- Appropriate for research and production quality control



Azimuthal-scan diagram (Quartz)



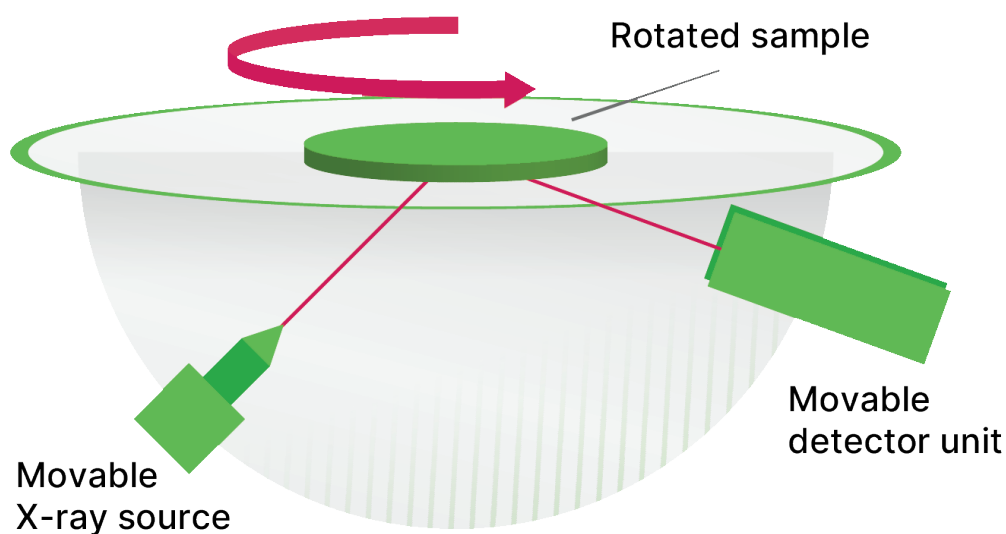
Easy sample alignment



Suitable for a vast variety of materials

Scan method

All desired crystal orientation parameters are captured in one rotation within 10 seconds.



Technical specifications

Specifications	
X-ray source	30 W air-cooled X-ray tube, Cu anode
Detectors	Two
Sample holder	Precise turntable, setting accuracy 0.01°, tools for defined sample positioning and marking
Dimensions	600 mm × 600 mm × 850 mm
Weight	80 kg
Power supply	100-230 V, 500 W, single phase
Room temperature	≤ 30° C
Examples of measurable materials	
Cubic / arbitrary unknown orientation: Si, Ge, GaAs, GaP, AlAs, AlP, InP, NaCl, AgCl, CaF ₂	
Cubic / special orientation: Ag, Au, Ni, Pt, GaSb, InAs, InSb, AlSb, ZnTe, CdTe, SiC 3C, PbS, PbTe, SnTe, MgO, LiF, MgAl ₂ O ₄ , SrTiO ₃ , LaTiO ₃	
Tetragonal: MgF ₂ , TiO ₂ , SrLaAlO ₄	
Hexagonal / Trigonal: SiC 2H, 4H, 6H, 15R, GaN, ZnO, LiNbO ₃ , SiO ₂ (quartz), Al ₂ O ₃ (sapphire), GaPO ₄ , La ₃ Ga ₅ SiO ₁₄	
Orthorhombic: Mg ₂ SiO ₄ , NdGaO ₃	
Further materials according to the customers' demands	

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



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