

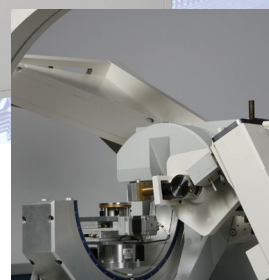
# Thermo Scientific ARL EQUINOX 6000

Four Circle X-Ray Diffractometer

The Thermo Scientific™ ARL™ EQUINOX 6000 is a multi purpose X-ray diffractometer designed specifically for high level research applications. The system utilizes an unique tall vertical goniometer in  $\theta/\theta$  or  $\theta/2\theta$  mode with an attached high precision Eulerian cradle. It is the perfect diffraction system for materials science including thin layer analysis, reflectometry, micro diffraction, residual stress analysis, texture measurements. Data is measured in “real time,” which present many advantages in kinetics experiments or combined analyses.



Perfect for advanced research applications.



Research

Environment / Geology



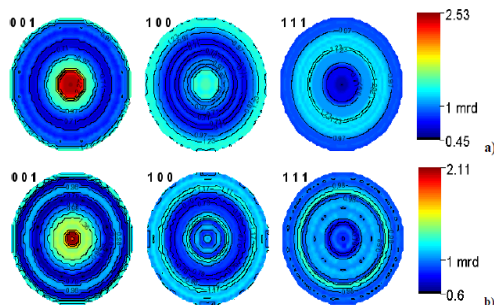
Polymers /  
Biomaterials

Metallurgy



Electronics

Photovoltaic



{001}, {100} and {111} pole figures recalculated from the OD refined by combined analysis for the a) as-cast and b) cast and sintered PZT samples synthesised by the pure PbO flux route. Linear density scale, equal area projection.

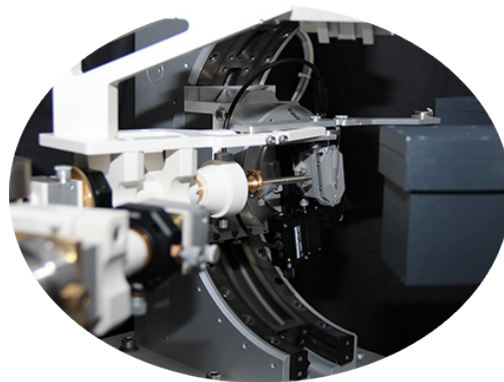
Real time acquisition  
Extremely accurate  
Easy to use  
No alignment needed

Very reliable  
Superb resolution  
No maintenance

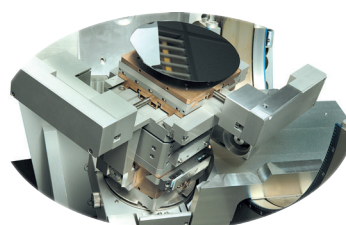
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## Specifications

X-ray source	Generator: 3500 W (60kV/60mA - Option 30kV limitation) Standard sealed X-Ray tube (Cu, Co, Cr, Mo, ... radiation)
Detector	Curved Position Sensitive X-ray Detector, CPS120 Curvature radius: 250mm Acquisition in real time over 120° 2Theta Option: CPS590 (500mm, 90° 2Theta)
Goniometric table	Theta / Theta or Theta / 2 theta column Centered Eulerian Cradle, Chi 180° / Phi rotation Motorization per step with encoder, up to 5/10000° Acquisition in asymmetric mode
Sample holders	Bulk, Thin film, Powder Reflection or transmission mode Zero background sample cup Support with adjustment in height and oscillation Mapping attachment (X, Y translations)
In-situ camera	High and low temperature attachment Tensile stage
Optic	Monochromatic (Germanium, Graphite or X-ray mirror) Collimation device (collimator, X-ray capillary)
Computer	Windows© 8, 7 Vista, XP
Software	Simultaneous data acquisition in real time Combined analysis - Texture, stress, reflectivity, phase, ... Texture analysis - Graphic analysis of ODF, PFs, IPFs, ... Stress analysis - Scan Phi or sin2(Psi) Reflectivity fitting by various models Thin film and multilayer analysis (Film thickness, absorption models, ...) Peak search and deconvolution with several shapes Microstructure analysis Search match and quantification Degree of crystallinity determination Cell parameters, crystallite size, lattice strain Crystal structure analysis Microstructure analysis Rietveld analysis Phase transition, dynamic studies Free open database, COD Option : ICDD PDF2 or PDF4 databases
Power	30-32A / 208-230V / 50-60 Hz
Cooling water	Flow: ≈ 3,5 L/min - T°C: ≈18 to 25 °C
Weight	~500 kg
Dimensions	1966 mm H x 1145 mm D x 1433 mm W



4 circle diffractometer in horizontal configuration with dual X-ray source (Cu / Mo) and dual detection (XRD / XRF).



Multi axis sample handling thin film attachment.



4 circle high temperature attachment  
DHS 1100, dome hot stage for 4 circle goniometers  
Non ambient X-ray studies up to 1100°C.

### [www.thermoscientific.com/xrd](http://www.thermoscientific.com/xrd)

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