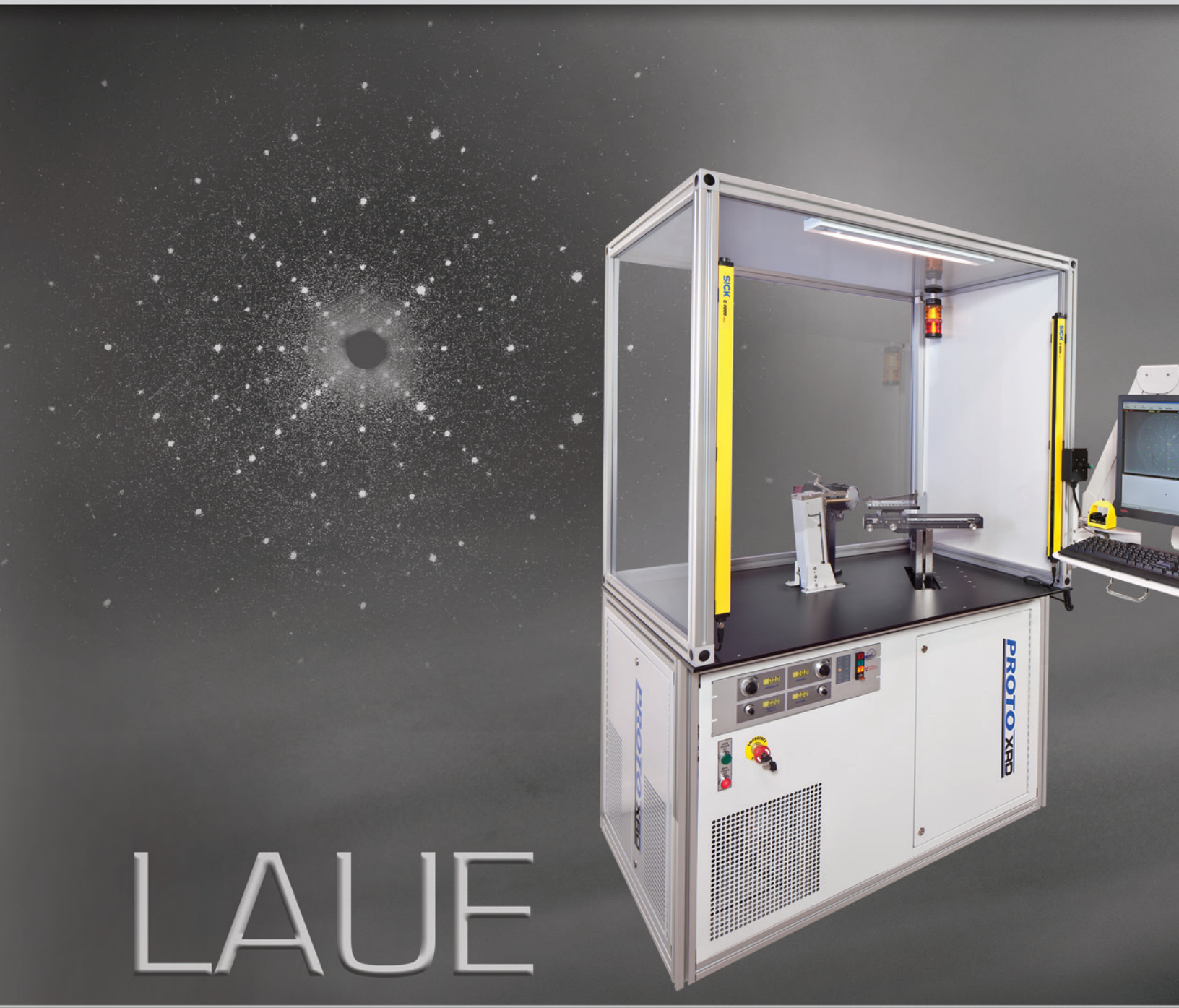


PROTO
MANUFACTURING



Single Crystal Orientation Systems

LAUE MODEL OPTIONS

LAUE-COS

Small crystal orientation system. Utilizing the Laue technique and a 150 mm x 100 mm back reflection camera, small single crystals can be oriented in a few minutes. Designed for research labs and production environments. Manual and motorized options for X,Y stages. Manual and motorized goniometer options for χ , ψ and ϕ rotation. Optional adapters for saw cutting, for easy transfer of single crystals from the Laue system to a saw.

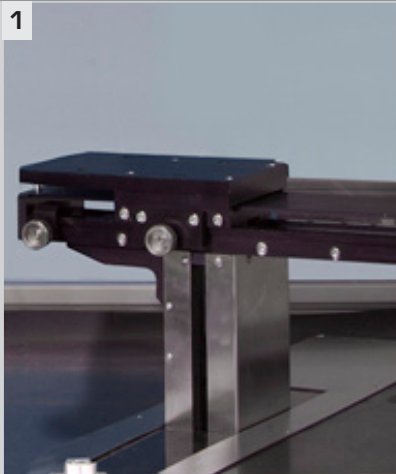
LAUE-HT

High-throughput single crystal orientation measurements. Utilizing the Laue technique, measurements can be performed in as little as a few seconds. Designed for heavy duty "round the clock" operation. Easy access maintenance features are designed to keep you up and running year after year. Excellent for nickel-based alloy single crystal orientation turbine blade inspection. Available with a side reflection camera for high speed measurements or with a back reflection camera for large sized samples.



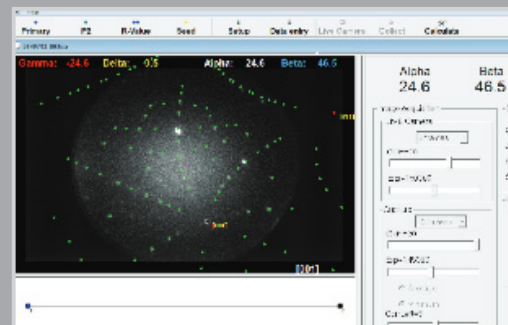
FEATURES

1. AUTOMATED SAMPLE POSITIONING
2. MANUAL 3 AXIS GONIOMETER
3. BACK REFLECTION CAMERA
4. SIDE REFLECTION CAMERA
5. 3D JOYSTICK FOR MATCHING OVERLAYS
6. MANUAL DOOR



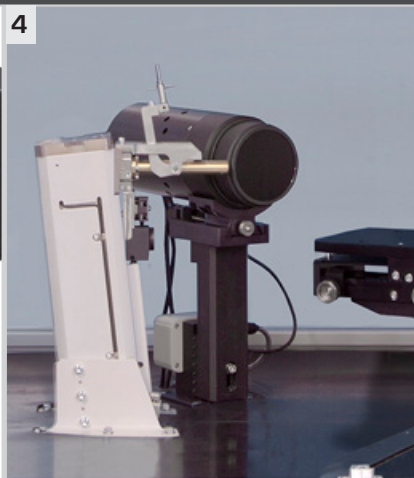
XRDWIN 2.0 LAUE SOFTWARE

Our XRDWIN 2.0 Laue software is designed for both operating our single crystal Laue orientation systems and data analysis of Laue patterns. Standard features include a comprehensive set of tools for analyzing patterns, indexing and reorienting crystals. A high-speed production mode simplifies high-throughput orientation of single crystal components such as turbine blades.



	LAUE-HT	LAUE-COS
Dimensions (L x W x H)	1280 mm x 900 mm x 1980 mm 50 x 35 x 78 in	1000 mm x 660 mm x 1900 mm 39 x 26 x 75 in
Power Requirements	200-240V, 30 Amp, 50/60Hz, Single Phase	200-240V, 30 Amp, 50/60Hz, Single Phase
X-Ray Tube	Tungsten (W)	
X-Ray Power Supply	3000 W	1200 W
Geometry	side reflection back reflection (optional)	back reflection
Side Reflection Camera	75 mm diameter, scintillation based intensified CCD	n/a
Back Reflection Camera	80 x 80 mm, scintillation based intensified CCD	150 x 100 mm, scintillation based intensified CCD
Sample Positioning	automated X axis (200 mm), Y axis (175 mm), manual Z axis (200 mm)	manual or automated X, Y axis (100 mm), Z axis manual (100 mm)
Goniometers	n/a	manual or automated 3-axis
X-ray Beam Apertures	0.5, 0.8, 1.0, 1.2, 1.6, 2.0 mm	0.2, 0.5, 0.8, 1.0, 1.2, 1.6, 2.0 mm
Cabinet Features	independent warning light beacons for "x-ray on" and "shutter open", emergency stop with lockout key, enclosure light, fully interlocked, clear view windows, hand- held motion control pendant	
Cabinet Door Options	light curtain, manual door, automated door	manual door
Computer	desktop computer included	
Software	PROTO XRDWIN 2.0 Laue	
System Compliance	ANSI N43.2, CE	

Proto Manufacturing engages in continuous research and development, therefore specifications in this publication are subject to change. Please call for details. Various items and methods in this brochure are covered by patents or patents pending.





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