

TRO Series Metallographic Preparation & Analysis Equipment

Professional Product Introduction | 2026

A complete equipment portfolio for metallographic sectioning, mounting, grinding and polishing, intelligent sample preparation, microscopy and hardness testing.

LANBO TRO series equipment is designed for material laboratories, automotive and EV component suppliers, electronics manufacturers, metal processors, heat-treatment workshops, universities and quality teams that need reliable metallographic preparation and analysis capability.

Product Range at a Glance

Model	Product	Core Function	Typical Use
TRO-CT2300	Compact Manual Cut-off Machine	Sectioning	Desktop sectioning for PCB boards, semiconductor components, wafer ceramics, quartz glass and small metallographic samples.
TRO-CT250S/250V	Manual Sectioning Machine	Sectioning	Manual abrasive cutting for metal and non-metal materials before mounting, grinding and polishing.
TRO-FlexPRESS-M/S	Automatic Modular Hot Mounting System	Mounting	Flexible hot mounting system for laboratories that need scalable throughput and stable sample encapsulation.
TRO-MT-1H/2H	Auto Mounting Press	Mounting	Hydraulic hot mounting for epoxy resin, bakelite powder, acrylic powder and routine metallographic samples.
TRO-Alpha-335G	Floor-standing Grinding Machine	Grinding & Polishing	Automatic coarse grinding for larger or higher-volume samples in factory laboratories and material labs.
TRO-Alpha-335P	Automatic Grinding and Polishing Machine	Grinding & Polishing	Fast grinding and polishing for high-volume samples with repeatable preparation quality.
TRO-WIT-1	Fully Automatic Intelligent Sample Preparation System	Intelligent Preparation	Automated cross-section preparation for semiconductor, PCB and precision electronics inspection.
TRO-MultiPol	Fully Automatic Grinding and Polishing Machine	Grinding & Polishing	High-reproducibility full-process preparation for industrial metallographic laboratories.
TRO-MV70	Brightfield/Darkfield Inverted Metallurgical Microscope	Imaging & Analysis	Inverted metallurgical observation for material analysis, process inspection and quality reporting.
TRO-MR43	Research-grade Metallurgical Microscope	Imaging & Analysis	Advanced metallurgical microscopy for laboratories requiring encoded settings and higher analysis reliability.

TRO-7MHVS-1000A	Digital Micro Vickers Hardness Tester	Hardness Tester	Micro Vickers hardness testing for metals, coatings, surface treatments, heat-treated parts and precision components.
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Product Details

TRO-CT2300 | Compact Manual Cut-off Machine



Recommended application: Desktop sectioning for PCB boards, semiconductor components, wafer ceramics, quartz glass and small metallographic samples.

Key features:

- Compact bench-top structure for routine laboratory sample cutting.
- Supports dry and wet cutting modes for different material conditions.
- Transparent cover and T-slot clamping support observation and stable sample fixing.
- Suitable for small specimens with maximum cutting diameter up to 30 mm class.

TRO-CT250S/250V | Manual Sectioning Machine



Recommended application: Manual abrasive cutting for metal and non-metal materials before mounting, grinding and polishing.

Key features:

- 250 mm class cutting wheel for common metallographic sectioning tasks.
- Manual chop cutting with ergonomic handle and simple control panel.
- Safety lock, emergency stop and observation window support safer operation.
- Independent cooling tank and filtration help reduce debris and extend machine life.

TRO-FlexPRESS-M/S | Automatic Modular Hot Mounting System



Recommended application: Flexible hot mounting system for laboratories that need scalable throughput and stable sample encapsulation.

Key features:

- Modular design allows one main unit to connect multiple mounting modules.
- Automatic or manual sliding cover options support different operating habits.
- Touchscreen process control supports preset process parameters.
- Top and circumferential heating with three-stage cooling improves mounting consistency.

TRO-MT-1H/2H | Auto Mounting Press



Recommended application: Hydraulic hot mounting for epoxy resin, bakelite powder, acrylic powder and routine metallographic samples.

Key features:

- Available in single-sleeve and dual-sleeve configurations.
- 7-inch touchscreen supports intuitive operation and parameter storage.
- Low-noise, compact hydraulic system for stable sample preparation.
- LED status indication and optional water tank support daily laboratory use.



TRO-Alpha-335G | Floor-standing Grinding Machine



Recommended application: Automatic coarse grinding for larger or higher-volume samples in factory laboratories and material labs.

Key features:

- Designed for coarse grinding of samples up to 180 mm class fixture diameter.
- High material removal rate improves preparation efficiency.
- Supports simultaneous preparation of multiple samples.
- Integrated dressing system and flushing pipe help maintain grinding performance.

TRO-Alpha-335P | Automatic Grinding and Polishing Machine



Recommended application: Fast grinding and polishing for high-volume samples with repeatable preparation quality.

Key features:

- Automatic grinding and polishing workflow for routine metallographic laboratories.
- Touchscreen interface and customizable program library support repeatable methods.
- Quick clamping system simplifies fixture installation and removal.
- Multiple liquid dispensing pumps support stable polishing suspension supply.

TRO-WIT-1 | Fully Automatic Intelligent Sample Preparation System



Recommended application: Automated cross-section preparation for semiconductor, PCB and precision electronics inspection.

Key features:

- High-definition CCD camera supports accurate grinding position calibration.
- Automates rough grinding, fine grinding, fine polishing and cleaning.
- Pressure and speed control help reduce cracking and sample damage.
- Suitable for solder joints, solder balls, hole copper and other key electronics structures.

TRO-MultiPol | Fully Automatic Grinding and Polishing Machine



Recommended application: High-reproducibility full-process preparation for industrial metallographic laboratories.

Key features:

- Center-loading and pressure-applying technology improves process repeatability.
- Automatic grinding amount control supports precise material removal.
- Multiple drip systems support different polishing liquids.
- Compatible with 250 mm to 300 mm class grinding and polishing discs.

TRO-MV70 | Brightfield/Darkfield Inverted Metallurgical Microscope



Recommended application: Inverted metallurgical observation for material analysis, process inspection and quality reporting.

Key features:

- Supports brightfield, darkfield, polarization and DIC observation configurations.
- Modular optical system supports different inspection tasks.
- Compatible with camera and imaging software options.
- Useful for metals, coatings, electronic materials and precision components.

TRO-MR43 | Research-grade Metallurgical Microscope



Recommended application: Advanced metallurgical microscopy for laboratories requiring encoded settings and higher analysis reliability.

Key features:

- Encoded microscope configuration synchronizes hardware settings with analysis software.
- Illumination memory helps maintain consistent observation conditions.
- Supports professional objective lens configurations for metallographic inspection.
- Suitable for research, failure analysis and advanced QC reporting.

TRO-7MHVS-1000A | Digital Micro Vickers Hardness Tester



Recommended application: Micro Vickers hardness testing for metals, coatings, surface treatments, heat-treated parts and precision components.

Key features:

- Suitable for micro-hardness analysis of metallic and selected non-metallic materials.
- Touchscreen operation supports direct hardness-scale selection and result display.
- Integrated image capture and data functions support documentation and reporting.
- Useful for hardened layers, carburized and quenched zones, coatings and heat-affected weld zones.

Equipment Selection Guide

- For cutting equipment, confirm sample material, sample size, required wheel diameter and whether wet cutting is required.
- For mounting equipment, confirm hot or cold mounting process, sleeve quantity, sample throughput and resin type.
- For grinding and polishing equipment, confirm sample holder size, batch quantity, required surface finish and automation level.

- For intelligent preparation, confirm PCB/semiconductor inspection workflow, positioning accuracy, cleaning process and reporting requirements.
- For imaging and hardness testing, confirm magnification range, camera/software requirements, hardness scale and data output needs.

Application Segments

Segment	Typical Requirement
Automotive & EV	Die-cast aluminum, battery housing, power electronics, gears and heat-treated parts.
Electronics & PCB	Copper hole inspection, solder joint cross-section and semiconductor packaging analysis.
Metal Processing	Heat treatment verification, coating inspection, weld quality and failure analysis.
Research & Education	Teaching laboratories, material research and multi-material experimental workflows.

Contact

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