



PORTABLE DIGITAL MICROSCOPE - TORONMM™-SM500

The ToronMM™-SM500 Portable Digital Microscope is a compact, self-contained solution designed for metallographic inspection in both laboratory and field environments. As part of our range of affordable metallurgical microscopes, it offers precise imaging capabilities without the need for bulky equipment, ideal for quality control professionals, maintenance engineers, and researchers on the move.

This metal surface inspection microscope features a magnetic stand that mounts securely to ferrous surfaces at any angle, enabling reliable non-destructive testing (NDT) on flat, curved, or irregular components.

Compatible with digital cameras and CCD imaging systems, the SM500 allows users to capture, store, transfer, and analyze high-resolution images—making it a practical tool for failure analysis, weld evaluation, and surface condition monitoring in industrial settings.

APPLICATIONS

Metallurgical & Materials Science Industry - On-site inspection of microstructures, surface conditions, and material phases without the need for laboratory-based equipment.

Automotive & Transportation - Non-destructive evaluation of welds, coatings, and metallic components in vehicles, ensuring safety, durability, and manufacturing quality.

Aerospace & Defense - Portable surface inspection of high-performance alloys and structural components under field conditions for rapid quality verification.

Industrial Maintenance & Field Services - In-situ failure analysis, wear detection, and surface defect identification on machinery, pipelines, and structural parts.

Electronics & Semiconductor Industry - Mobile inspection of microstructures, solder joints, and coatings on electronic components during manufacturing or field testing.

Petrochemical & Energy Industry - Rapid, non-destructive inspection of pipelines, storage tanks, and reactor components to detect corrosion, cracking, or surface degradation.

Research & Academic Institutions - Portable solution for teaching, field-based studies, and remote research projects requiring metallographic analysis.

Quality Assurance & Certification Labs - Convenient, portable metallographic inspection tool for verifying material quality in compliance with ASTM, ISO, and other international standards.

FEATURES

Portable Digital Microscope ToronMM™ -SM500 Features

1. Ergonomic Handheld Design: Enables effortless in-situ metallographical inspection in both lab and field environments.
2. Magnetic Stand: Securely mounts to ferrous metal surfaces at any angle for stable, hands-free operation.
3. X-Y Slideway Movement: Enhances inspection precision and ease of use during analysis.
4. Photography-Ready: Easily integrates with digital or 35mm cameras for convenient image capture.
5. Non-Destructive Testing (NDT): Ideal for surface-level metallurgical examination without damaging the sample.

Standard Configuration Includes:

1. Main Unit
2. 10X & 12.5X Eyepieces
3. 10X & 40X Objectives
4. Built-in Illuminator
5. Power Supply

6. Durable Carrying Case

Optional Accessories:

1. Small Sample Stand
2. Digital Camera
3. 35mm Camera
4. Camera Adapters (for digital and film cameras)
5. 4X Photo-Eyepiece
6. 20X & 25X Objectives
7. Mini Grinder
8. Electrolytic Polisher
9. Replacement Bulb

TECHNICAL SPECIFICATIONS

Microscope:	100-500X (extendable 1500X)
Eyepiece (largeview):	10X, 12.5X (extendable15X)
Objective :	10X, 40X, (extendable 100X)
Photo Objective :	15X
Slideway :	X-direction 15mm, Y-direction12mm
Camera :	35mm
Illuminator:	6V 15w
Power supply :	110V or 230V 50/60Hz - Please specify when ordering

Stand :	On-off magnetic stand
Size :	210×160×95mm (8.2 x 6.3 x 3.75 ")
Weight :	2.5kg - 5.5 lbs



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