TORONTECH

SURGICAL MICROSCOPES – TORONSMTM™ 1500 SERIES

Surgical Microscopes – ToronSMTM™ 1500 Series

Surgical Microscopes in the ToronSMTM™ 1500 Series are built for operating rooms that need bright coaxial illumination, stable positioning, and fast adjustments during delicate procedures.

This platform combines motorized zoom, motorized working distance, and an ergonomic suspension arm so the microscope can be positioned quickly and held steady. Two xenon light sources and selectable filters help maintain visibility across changing tissue conditions. Integrated imaging and touchscreen control support documentation and team viewing.

ToronSMTM™ 1000 E Series Surgical Microscopes are floor-mounted operating microscopes designed for high-magnification visualization in microsurgery. The system uses continuous, motorized magnification and a VarioDist objective to support a working distance range suitable for common OR setups.

Electromagnetic locking and counter-balanced arm geometry support smooth movement with reliable holding after repositioning. A surgeon handle controller and dual touchscreens streamline control of focus, zoom, illumination, and working distance.

This E Series includes two configurations: ToronSMTM™ 1500 A and ToronSMTM™ 1000 Both share the same core optical and illumination concept, while supporting different stand/arm layouts and installation preferences.

Built-in camera capability and monitor viewing can be used for recording, review, and teaching. The result is a Surgical Microscopes solution that fits neurosurgery and other high-precision disciplines with repeatable setup and consistent imaging.

APPLICATIONS

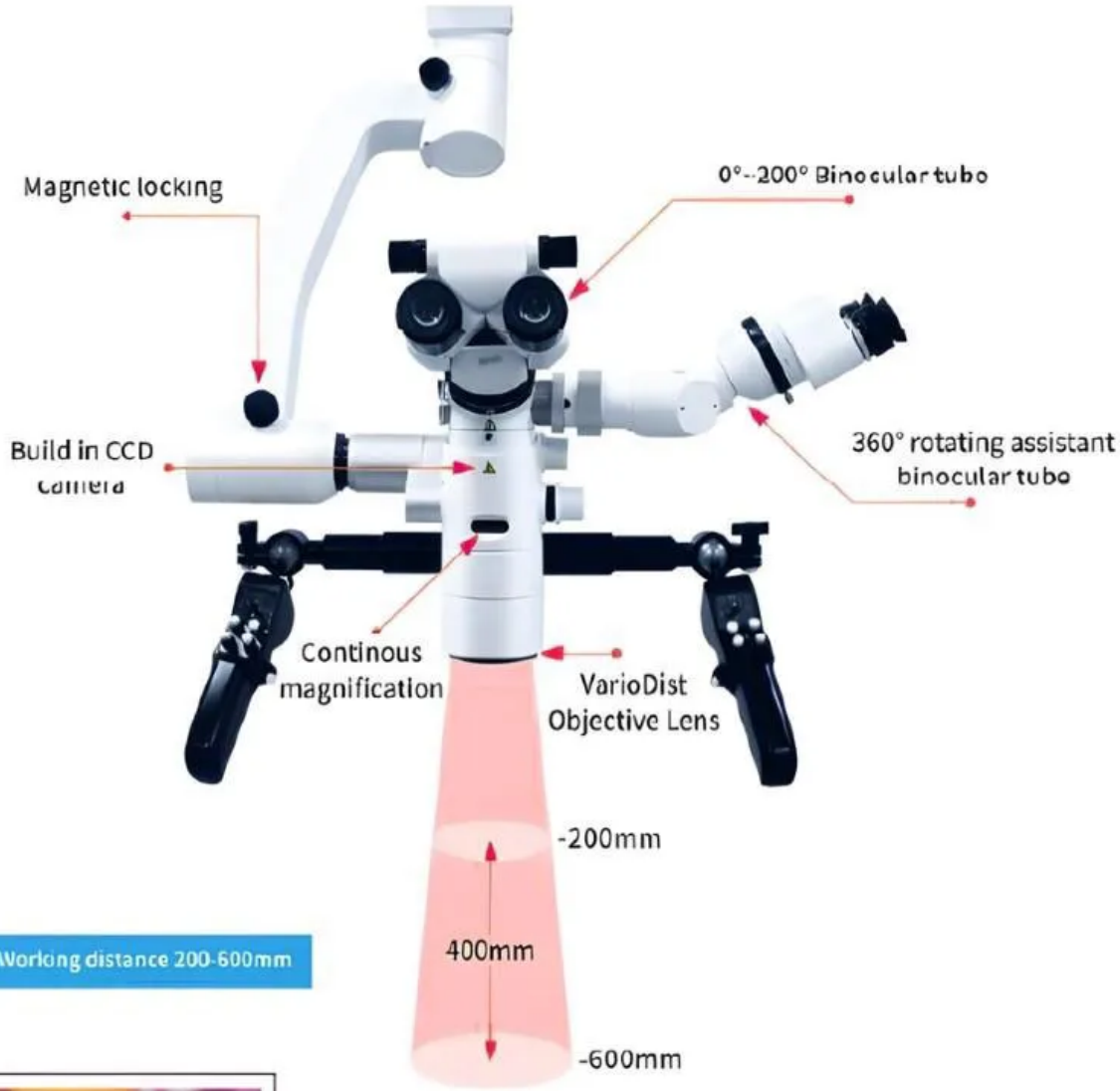
Surgical Microscopes – ToronSMTM™ 1500 Series Applications

- Neurosurgery: High magnification and bright coaxial lighting help visualize fine anatomical structures and deep surgical fields. Electromagnetic locking supports quick repositioning and stable holding once the target is centered. Optional imaging and monitor viewing support documentation and intra-team communication.
- ENT and otologic procedures: ENT cases often require frequent angle changes and compact working space management. The adjustable binocular system and controlled arm motion help maintain ergonomics during long procedures. Filters and small-spot illumination can help improve contrast for fine dissection steps.
- Spine and orthopedic microsurgery: Spine workflows benefit from stable microscope holding and repeatable positioning as the field shifts between levels. Motorized working distance adjustments help maintain focus without constant manual reconfiguration. The assistant tube options support team viewing when a second observer is required.
- Ophthalmic and plastic/reconstructive work: High-clarity optics and consistent illumination help manage reflective surfaces and delicate tissue planes. A high-point eyepiece design can improve comfort for operators wearing glasses. Photo/video capture supports case records and training needs.

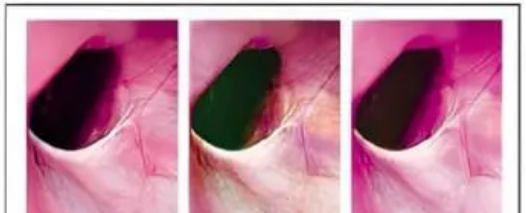
TORONTECH

Standards

- ISO 13485 (medical device quality management systems)



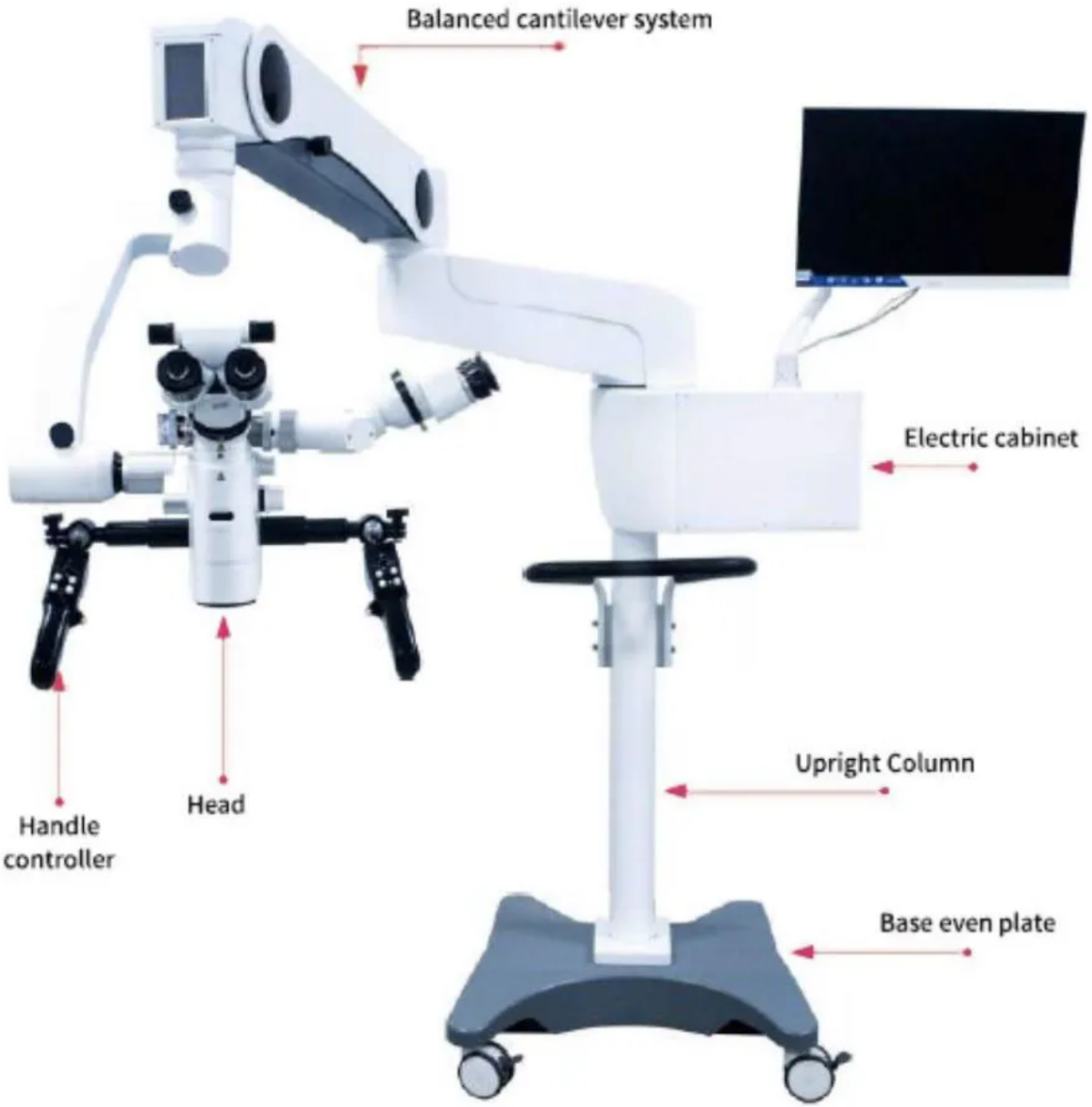
Working distance 200-600mm

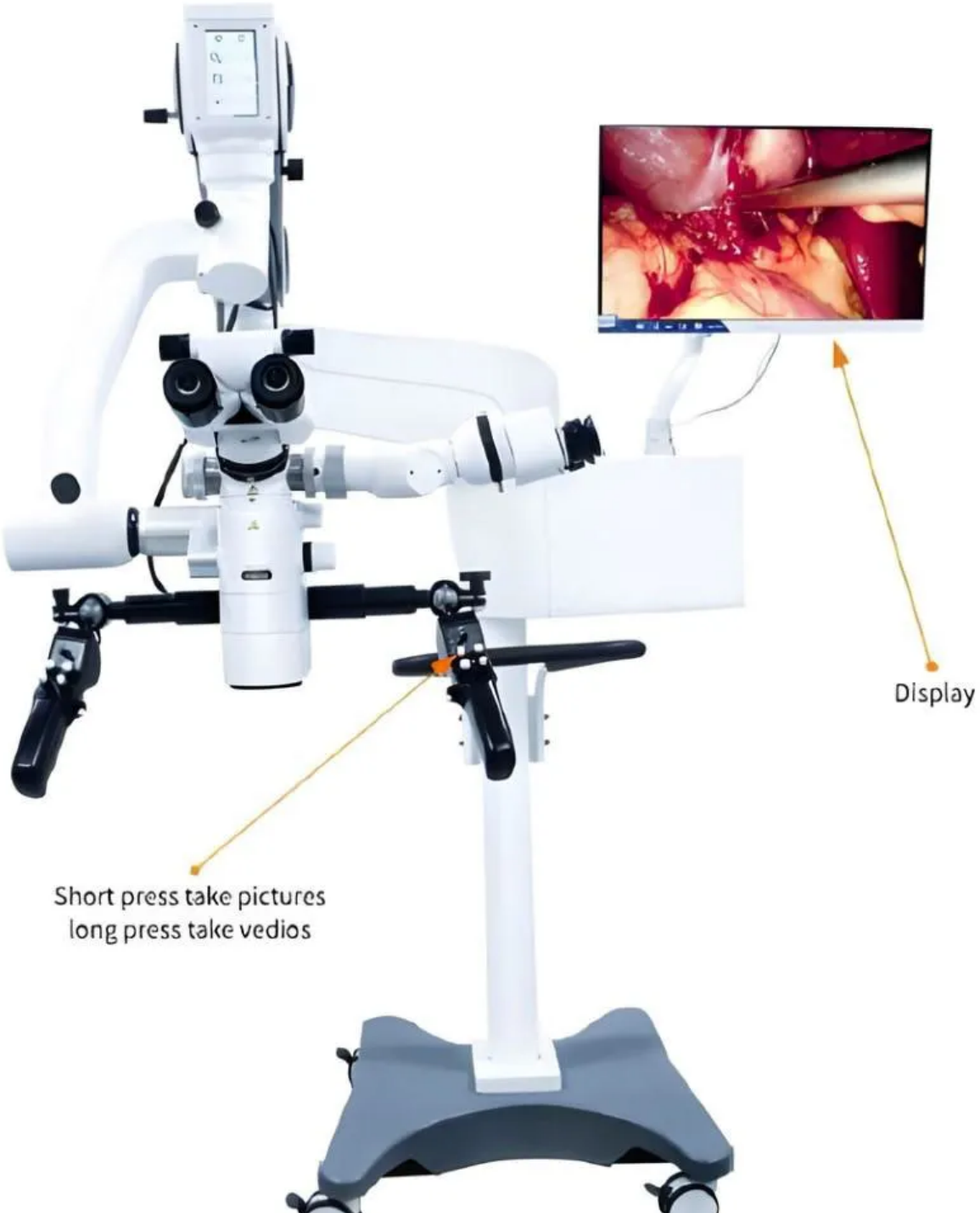


FEATURES

Surgical Microscopes – ToronSMTM™ 1500 Series Key Features

- Continuous motorized zoom with a broad magnification range for smooth transitions from overview to fine detail.
- Motorized working distance (200–600 mm) using a VarioDist objective to support common OR setups.
- Dual xenon illumination system designed to deliver bright lighting with lamp-life tracking shown on-screen.
- Electromagnetic locking + balance system for easy repositioning and stable holding after adjustment.
- Dual touchscreen control for magnification, working distance, and luminance, plus user data storage.
- Surgeon handle controller that supports zoom/focus plus quick photo/video capture (short press photo, long press video).
- Assistant viewing support with rotating assistant tube options and face-to-face viewing configurations for team workflows.
- Built-in imaging workflow (4K option shown) with common output interfaces for recording and display.


Balanced cantilever system
Electric cabinet
Upright Column
Base even plate
Head
Handle
controller


Display
Short press take pictures
long press take vedios

THEORY & METHOD

Theory and Method

Optical principle in an operating microscope

An operating microscope increases usable detail by combining an objective lens, a zoom system, and eyepieces (or a camera output) to deliver a magnified, high-contrast image. Coaxial illumination sends light along the same axis as the viewing path, which helps reduce shadows in deep fields. Multilayer coatings improve light transmission, while achromatic correction helps reduce color fringing and supports clearer edges at high magnification.

How the ToronSMTM™ 1500 is typically used

The microscope is positioned over the field and balanced so movement feels light and controlled. The operator adjusts magnification, focus, and working distance using the handle controller and touchscreens while maintaining sterile workflow. Electromagnetic locking is released for repositioning and re-engaged to hold the set position. If imaging is enabled, the team can record photos or video and review files for documentation or teaching.

TECHNICAL SPECIFICATIONS

Surgical Microscopes – ToronSMTM™ 1500 Series Technical Specification

Specification	ToronSMTM™ 1500 A	ToronSMTM™ 1500 B
Surgical microscope type	Floor stand operating microscope	
Eyepieces	12.5×	

Specification	ToronSMTM™ 1500 A	ToronSMTM™ 1500 B
Pupil distance adjustment	55–75 mm	
Diopter adjustment	+6D to -6D	
Binocular tube	0°–200° variable angle binocular tube	
Magnification / zoom	6:1 zoom, motorized continuous; system magnification 1.8×–19×	
Field of view (main)	Φ12–Φ113 mm	
Assistant binocular tube	Face-to-face assistant tube; magnification 3×–16×	
Field of view (assistant)	Φ13–Φ94 mm	
Illumination	2 sets xenon lamp; illumination intensity 100,000 lux (each set)	
Working distance	Motorized 200–600 mm	
Stand / brakes	Electromagnetic brakes	
Filters	Yellow filter, green filter, small spot	
Maximum arm length	1715 mm	
Height range (objective to floor)	690 mm ≤ H ≤ 1452 mm	
Handle controller functions	10 functions (zoom, focusing, magnetic lock, photo/video, browse, autofocus, brightness adjust)	
Camera system	Built-in camera system; photo/video capture; browse pictures; autofocus function	
Weight	215 kg	

Specification	ToronSMTM™ 1500 A	ToronSMTM™ 1500 B
Best For	OR teams that need flexible assistant positioning and frequent repositioning during cases	OR teams that prefer a consistent, repeatable surgeon–assistant setup for routine workflows
Recommended OR Layout	Rooms where the assistant may switch sides or where space constraints change between procedures	OR layouts where the assistant is typically positioned face-to-face with the primary surgeon for stable collaboration
Key Differentiator	Free-rotatable assistant stereoscope supports dynamic assistant placement and angle changes	Face-to-face tube configuration supports a fixed collaboration geometry and predictable ergonomics
What stays the same	Same motorized zoom platform, motorized working distance, dual xenon illumination, electromagnetic brakes, filters, handle controls, and imaging workflow	Same motorized zoom platform, motorized working distance, dual xenon illumination, electromagnetic brakes, filters, handle controls, and imaging workflow

Built-in 4K camera system (as configured in the brochure)

Camera parameter	Value
Image sensor size	1/1.8 inch
Image sensor type	CMOS
Scanning method	Progressive scanning
Frame rate	60 fps
Effective pixels	3840(H) × 2160(V)
Video coding	H.265
Interfaces (shown)	HDMI 2.0, DVI (DVI25+4), SDI (3G), LVDS (dual 8-bit), RJ45 (1000 Mbit/s), USB 3.0
Minimum illumination	1 lux (F1.2)
Operating temperature	5°C to 40°C
Working humidity	30% to 85% (non-condensing)

Camera parameter	Value
Atmospheric pressure	700 to 1060 hPa
Voltage	DC 12V, 2A
Power consumption	7.3 W (12V 604 mA)
Camera size (shown)	Φ25 mm × 148 × 100 mm

Quick buyer guidance

- Choose ToronSMTM™ 1500 A when the assistant’s position changes often or the room layout varies by procedure.
- Choose ToronSMTM™ 1500 B when your team follows a face-to-face workflow and wants consistent ergonomics case after case.

TORONTECH.com

TORONTECH

Torontech Inc.
251 Consumers Road, Suite 1200
Toronto, Ontario, M2J 4R3, Canada

Phone: +1 416 368 2721 | Fax: +1 416 981 7652
Email: info@torontech.com

Torontech, LLC
601 Brickell Key Drive, Suite 700
Miami, FL 33131, USA

Toll-Free: 1-866-383-7919
Email: sales@torontech.com

Torontech ME FZE
Meydan Grandstand, 6th Floor,
Meydan Road, Nad Al Sheba,
Dubai-261440, UAE

Phone: +971 488 19252
Email: me@torontech.com

USA | Canada | EU | UAE | GCC | KSA | India | Africa | Latin America | Asia