



SURGICAL MICROSCOPES - TORONSMTM™ 1000 SERIES

Surgical Microscopes - ToronSMTM™ 1000 Series

Surgical Microscopes in the ToronSMTM™ 1000 Series support clear, stable visualization for microsurgical workflows. This series is designed for OR environments where consistent illumination, fast focusing, and reliable positioning matter during long procedures. The platform is available in two configurations under the same family, supporting different room layouts and mounting preferences. Options can include integrated video capture and monitor-based viewing for documentation and team visibility.

ToronSMTM™ 1000 Series Surgical Microscopes are optical systems built to magnify fine anatomical detail under bright, even coaxial lighting. They combine motorized zoom with smooth focusing so operators can adjust magnification without breaking workflow. The stand and arm geometry are designed to hold position with controlled movement for ergonomic positioning. Depending on model, the system can support in-procedure photo and video capture with autofocus.

ToronSMTM™ 1000 is focused on compact, high-output LED illumination with a variable working distance objective. Support routine and advanced microsurgical use where clarity, stability, and documentation are required.

Surgical Microscopes in the ToronSMTM™ 1000 Series support high-magnification visualization during delicate clinical procedures. This series uses a motorized zoom optical system, bright coaxial illumination, and an ergonomic binocular tube to help maintain a stable, comfortable view. Motorized focusing and head movement controls help the operator reposition quickly while keeping the field centered. An assistant binocular tube option supports teaching and collaborative workflows. Camera and autofocus options support documentation needs when required.

APPLICATIONS

Surgical Microscopes - ToronSMTM™ 1000 Series Applications

- Neurosurgery: Fine structures and narrow surgical corridors demand stable illumination and clear depth perception. Motorized zoom and focusing support rapid changes in working depth while keeping image quality consistent. Optional recording supports case review and training.
- ENT: ENT procedures often involve confined spaces and frequent repositioning. The microscope's head swing and motorized controls help maintain the target in view while adjusting angles. Bright illumination improves contrast when working in deeper cavities.
- Brain Surgery: Precise tissue differentiation requires consistent lighting and accurate magnification control. Continuous zoom supports smooth transitions from overview to detail work without changing posture. Optional autofocus can reduce refocus steps during frequent depth changes.
- Dental / Microsurgery: Dental and microsurgical work benefits from controlled magnification and a comfortable viewing posture during long cases. Variable-angle binocular viewing helps reduce neck strain. Optional imaging supports documentation and patient record requirements.



Standards

- ISO 13485:2016 - Medical Devices – Quality Management System

FEATURES

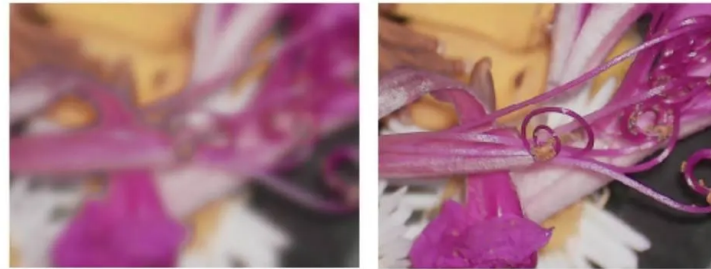
Surgical Microscopes – ToronSMTM™ 1000 Series Key Features

- Motorized 6:1 continuous zoom for smooth magnification changes during procedures
- High-intensity illumination designed for bright, uniform lighting at the working field
- Variable-angle binocular tube options to support ergonomic posture across long cases
- Motorized focusing to maintain sharpness while changing working depth
- X-Y head swing control to reposition the view and stop at selected angles
- Assistant binocular tube option for teaching, observation, and teamwork
- Optional autofocus to reduce manual refocusing during frequent depth changes
- Optional camera system for photo/video capture and image browsing via handle control





200-450mm VarioDist
Objective Lens



One button autofocus

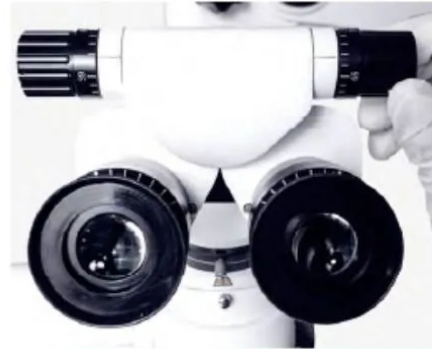




Adjustable eyecup in eyepiece suitable for with glass and without glass



Small light spot, blue filter and Yellow filter



Pupil distance 55mm~75mm



Electric & manual infinite zoom



0°-200° Binocular tube can
suitable for different Surgeons



Left and right pendulum moterized
controlled by handle, Inclination
range: $\pm 45^\circ$



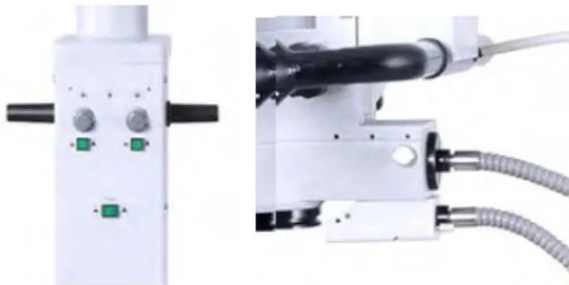
Forward and backward pitching moterized controlled by handle , Inclination range: $\pm 80^\circ$



With double-sided splitter, the rotating assistant tube can be on either side, another side directly connect to the camera interface.



Yellow filter, Green filter and small spot



LED illumination and halogen lamp for backup



Equipped with spare light bulb, it can be switched quickly during operation

THEORY & METHOD

Theory and Method

A Surgical Microscope forms a magnified image of the surgical field using an objective lens, zoom optics, and eyepieces. Coaxial illumination directs light along the same axis as observation, improving visibility in deep or narrow operative sites.

The operator selects a magnification level with continuous zoom, then uses motorized focusing to lock sharpness at the working distance. Head swing controls help reposition the view in X and Y directions without losing alignment. When equipped, an imaging module captures photos or video for documentation and training.

Technology

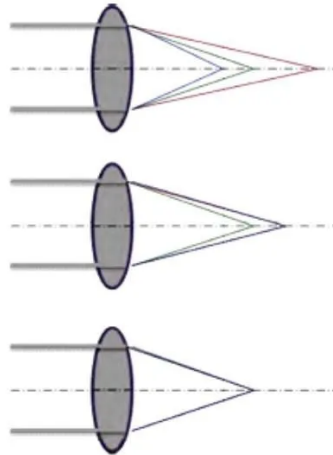
- Multilayer coating technology, the light transmittance is up to 98%



Through multilayer coating technology, we can reduce light reflection attenuation, increase light transmission and improve brightness. The multilayer coating technology we use can achieve optical energy passing rate of 98%.

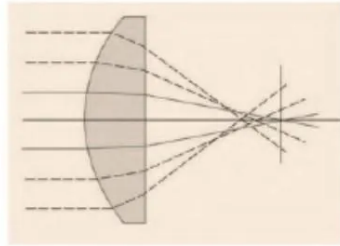
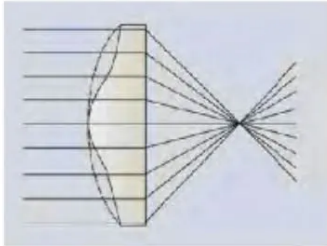
- Complex achromatic objective lens

Optical design of apochromatic correction can not only red green and blue three colors. Can correct the aberration of red, blue two color lights. Improve image resolution, contrast and depth of field



Technology

● Aspheric lighting technology, better light gathering effect



The spherical illumination can not refract the light to the same surface, and cause the light to be more dispersed on the surface. The aspheric technology can increase the concentration effect and improve the brightness.

● 12.5X high point eyepiece

The unique design of the optical system, convenient for doctors with glasses.

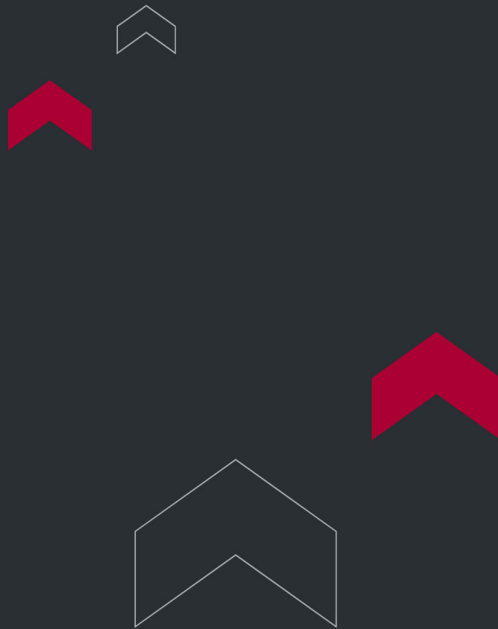


TECHNICAL SPECIFICATIONS

Surgical Microscopes - ToronSMTM™ 1000 Series Technical Specification

Specification	ToronSMTM™ 1000
Eyepieces	12.5×; pupil distance 55-75 mm; diopter +6D to -6D

Specification	ToronSMTM™ 1000
Binocular tube	0°-200° variable angle; added pupil distance adjustment
Zoom / magnification	6:1 zoom, motorized continuous; 1.8×-21×
Field of view	Φ13-Φ110 mm
Assistant binocular tube	360° rotating; 3×-16×; FOV Φ74-Φ12 mm
Illumination	100 W LED; lifetime >100,000 hours; up to 100,000 lux
Objective / working distance	Motorized 200-450 mm (VarioDist style)
Focusing	Motorized 200-450 mm
X-Y swing	X: ±45° motorized; Y: +90°; stops at any angle
Filters	Yellow filter, green filter, small spot
Max arm length	1200 mm
Stand / height range	Carrier arm swing 0-300°; objective-to-floor 800 mm < H < 1250 mm
Handle controller	12 functions (zoom, focus, X-Y swing, photo/video, browse images, autofocus, brightness adjust)
Camera system	Optional built-in 4K camera; photo/video; image browsing
Autofocus	Optional
Weight	169 kg
Typical departments	Neurosurgery, ENT, brain surgery, dental



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