

Dental Operating Microscope, 5-Step Magnification

Operating Manual

Dental Equipment

Intended use

Binocular operating microscope with coaxial illumination to provide a magnified, lit view of the treatment area during endodontic, restorative, periodontal and oral surgical procedures.

Intended users

For use by trained healthcare professionals (dentists, dental specialists and assistants). Follow your facility's protocols and applicable regulations.

Read this manual completely before first use and keep it with the product. This document provides general operating, care and safety guidance. Where the product is supplied with manufacturer labeling or instructions, those take precedence. For questions, a replacement copy, or a digital copy of this manual, email sales@scimedstore.com.

1. Safety

Safety warnings and cautions

- For use by trained healthcare professionals. Follow your facility's protocols and applicable regulations.
- Connect only to a grounded outlet with the supply voltage marked on the unit.
- Switch off and unplug before cleaning, changing lamps or fuses, or moving the unit.
- Do not allow liquids to enter the housing, light source or electrical connections.
- Use the lowest light intensity needed and avoid directing the beam into the patient's or staff's eyes. Prolonged high-intensity light can heat tissue and cause discomfort.
- Halogen lamps and the lamp housing become hot. Let them cool before touching.
- Lock the floor stand casters before use and balance the arm correctly so the microscope does not drift.
- Do not bend the fiber-optic light guide sharply; this can damage the fibers.

2. Specifications

Magnification	5-step: 4x, 6x, 10x, 16x, 25x (with 10x eyepieces)
Eyepieces	10x wide-field
Binocular tube	0-180 degrees inclinable
Objective	200 mm focal length
Field of view	50 mm (at low magnification)
Field of illumination	70 mm
Interpupillary distance	55-75 mm
Focus	Manual fine focusing knob
Illumination	15 V 150 W twin halogen lamps, coaxial fiber-optic; > 80,000 lux
Fiber-optic light guide	1.5 m
Arm	Counter-balanced pantographic arm, 320-degree rotation, 250-300 mm vertical travel
Mount	Varies by variant: fixed table mount or wheeled floor stand
Floor stand base	Approx. 600 x 500 mm; total height approx. 1,500 mm; weight approx. 65 kg
Documentation options	Varies by variant: none, beam splitter with C-mount, beam splitter + CCD camera, or beam splitter + CCD camera + LCD monitor
Power	220 V, 50/60 Hz (110 V on request)

3. Unpacking and setup

- 1 Assemble the stand or table mount, arm and microscope head according to the supplied instructions, with assistance for heavy parts.
- 2 On a floor stand, position the unit beside the dental chair and lock the casters.
- 3 Connect the fiber-optic light guide and any documentation accessories.
- 4 Check that the supply voltage marked on the unit matches your local supply, then connect to a grounded outlet.

- 5 Adjust the arm counter-balance so the microscope stays in place when released.
- 6 Set the interpupillary distance and eyepiece diopters for each user, focusing on a flat target at the lowest magnification.
- 7 Incline the binocular tube to a comfortable posture.

4. Operation

Positioning and focusing

- 1 Position the patient and the operator seat first.
- 2 Move the microscope over the treatment area using the handles; it should float and hold position.
- 3 Switch on the illumination and start at low brightness, increasing only as needed.
- 4 Select the lowest magnification and bring the field into focus with the working distance and fine focus knob.
- 5 Increase magnification in steps as required, refocusing with the fine focus knob.
- 6 Reposition the arm or binocular angle as needed during the procedure, keeping a neutral posture.

Documentation (if fitted)

- 1 Connect the camera to the beam splitter C-mount port and to the monitor or recording device.
- 2 Focus the microscope first, then adjust the camera image according to the camera's own instructions.
- 3 Handle and store recorded patient images according to your facility's privacy policies.

After use

- 1 Turn the brightness to minimum and switch off the illumination.
- 2 Fold the arm into its parking position and lock it if a lock is provided.
- 3 Fit the dust cover once lamps have cooled.

5. Cleaning and disinfection

- Switch off and unplug before cleaning.
- Wipe handles and other touch surfaces between patients with a disinfectant compatible with the materials, per facility protocol. Use barrier covers on handles if your protocol requires them.
- Wipe external surfaces with a soft cloth lightly dampened with mild detergent. Do not spray liquids directly on the unit.
- Clean eyepieces and the objective lens with lens tissue and lens cleaner only. Do not use abrasives, solvents or alcohol on coated optics.
- Do not autoclave any part of the microscope.

6. Maintenance and storage

- Cover with a dust cover when not in use.

- Replace halogen lamps only with the type marked on the unit (15 V 150 W). Let them cool first and avoid touching the bulb glass with bare fingers.
- Replace fuses only with the rating marked on the unit.
- Check the arm balance and the casters periodically.
- Inspect the fiber-optic light guide for kinks or damage.
- Refer electrical, optical and arm repairs to qualified service personnel.

7. Troubleshooting

Problem	Likely cause	What to do
No illumination	No power, blown lamp or fuse, or light guide disconnected	Check power, light guide connection, lamps and fuse.
Microscope drifts up or down	Arm counter-balance not set	Adjust the counter-balance for the fitted accessories.
Image blurred at high magnification	Eyepiece diopters or focus not set	Reset diopters at low magnification, then refocus.
Dim or uneven light	Lamp aging, dirty optics or damaged light guide	Replace the lamp, clean optics, inspect the light guide.
Camera image out of focus while eyepiece view is sharp	Camera adapter not focused	Adjust the camera focus per the camera instructions.
Stand moves during use	Casters not locked	Lock all casters.

8. Disposal

- Dispose of the unit and any camera or monitor as electronic waste in accordance with local regulations. Do not discard in household waste.
- Dispose of used lamps in accordance with local regulations.

9. Warranty and support

Products are covered by SciMed's standard warranty (12 months from purchase unless a different period is stated on your invoice). Warranty terms: scimedstore.com/pages/warranty.

Support, spare parts and additional copies of this manual: sales@scimedstore.com. Please include your order number and a photo of the product or issue.

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