

Dental Operating Microscope with LED, 3-Step Magnification

Operating Manual

Dental Equipment

Intended use

Binocular operating microscope with LED illumination that provides a magnified, illuminated view of the treatment area for restorative, endodontic, periodontal, oral surgery and implant procedures.

Intended users

Dentists, dental specialists, oral surgeons and dental students under supervision. For use by trained healthcare professionals. 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.
- Unplug the unit before cleaning or any maintenance. Do not allow liquids into the light source, head or electrical parts.
- Do not look directly into the light output. Avoid directing the light into the patient's or staff's eyes; provide eye protection per facility protocol.
- Use the lowest light intensity that gives an adequate view.
- Make sure the table clamp or floor stand is secure and the floor stand casters are locked before positioning the arm.
- Balance the arm correctly so the head does not drift or fall. Do not hang objects on the arm.
- Do not use if the power cord, housing or arm is damaged.

2. Specifications

Head	3-step optical system, 45 degree inclined binocular
Magnification	3 steps: 5x, 10x, 20x
Eyepieces	SWF 12.5x, paired
Objective lens	F = 250 mm
Focusing	Manual fine focus
Light source	LED, 100 W (as listed), continuously variable intensity
Arm	Counter-balanced pantographic arm, 320 degree rotation
Stand / accessories	Varies by variant: fixed table mount or wheeled floor stand; with none, beam splitter, beam splitter + CCD camera, or beam splitter + CCD camera + LCD monitor
Power supply	AC 220V or 110V (as ordered; check the marking on the unit)

3. Unpacking and setup

- 1 Unpack and check all parts against your order.
- 2 For the table mount, fix the clamp securely to a stable table or dental unit that can support the microscope's weight. For the floor stand, place it on a level floor and lock the casters.
- 3 Mount the arm and microscope head according to the assembly instructions supplied with the unit.
- 4 Fit the eyepieces in the binocular tubes.
- 5 If ordered, fit the beam splitter between the head and binocular, and attach the camera to the C-mount port and the monitor according to their instructions.
- 6 Check that the supply voltage marked on the unit matches your local supply and connect to a grounded outlet.
- 7 Adjust the arm balance so the head stays in position when released.

4. Operation

Adjusting for the user

- 1 Set the eyepiece interpupillary distance so you see one round image with both eyes.
- 2 Set each eyepiece diopter to zero, then adjust each to your vision while focused on a flat target.
- 3 Adjust the binocular angle and seating position for an upright, comfortable posture.

Using the microscope

- 1 Switch on the light and set the intensity to a low level.
- 2 Position the head over the treatment area using the handles, at about the 250 mm working distance.
- 3 Select the lowest magnification step (5x) to locate the area.
- 4 Bring the image into focus with the fine focus control.
- 5 Change to 10x or 20x as needed and refocus with the fine focus control.
- 6 Adjust light intensity as needed during the procedure.
- 7 Reposition the head with the handles only; do not pull on the eyepieces.
- 8 When finished, reduce the light intensity, switch off, and move the arm to its parked position.

Documentation (camera models)

- 1 Switch on the camera and monitor according to their instructions.
- 2 Focus through the eyepieces first, then check the image on the monitor.
- 3 Record or capture images using the camera controls.
- 4 Store patient images according to your practice's privacy and record-keeping rules.

5. Cleaning and disinfection

- Switch off and unplug the microscope before cleaning.
- Wipe the handles and external surfaces with a soft cloth lightly dampened with a disinfectant suitable for plastics and painted metal, per facility protocol.
- Use barrier covers on handles between patients if required by your facility.
- Clean eyepiece and objective lenses with lens tissue and lens cleaner only. Do not use abrasives, and do not use alcohol on coated lenses unless the labeling allows it.
- Do not spray liquids directly onto the microscope. Do not autoclave any part unless labeled as autoclavable.

6. Maintenance and storage

- Cover the microscope with a dust cover when not in use.
- Keep the objective lens capped or covered to protect it from splatter and dust.
- Check the arm balance, clamp tightness and cables regularly.
- Refer repairs to the LED, electrical parts or optics to qualified service personnel. Do not open the housing.

7. Troubleshooting

Problem	Likely cause	What to do
Light does not switch on	No power, loose cord or blown fuse	Check the outlet and cord; have the fuse checked by qualified personnel.
Image is blurred	Out of focus, diopters not set or dirty lens	Refocus, reset the eyepiece diopters and clean the lenses.
Double image or eye strain	Interpupillary distance not set	Adjust the eyepiece spacing until you see one image.
Head drifts up or down	Arm out of balance	Readjust the arm balance per the assembly instructions.
Image dark	Light intensity low or objective dirty	Increase intensity and clean the objective lens.
No camera image on monitor	Camera or monitor not connected or switched on	Check cables and power to the camera and monitor.

8. Disposal

- Clean and disinfect before disposal.
- Dispose of the microscope, camera and monitor as electronic waste in accordance with local regulations. Do not discard in household waste.

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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