

Rotary Microtome for Paraffin Sectioning

Operating Manual

Laboratory Equipment

Intended use

Manual rotary microtome for cutting thin sections from paraffin-embedded tissue blocks for microscopic examination.

Intended users

Trained histology, pathology and research laboratory personnel; students under supervision.

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

- Microtome blades are extremely sharp. Handle blades only with forceps or a blade-handling tool, and never touch the cutting edge.
- Lock the hand wheel before placing hands near the blade, mounting or removing a block, or changing the blade.
- Use the blade guard whenever you are not actively sectioning.
- Remove the blade from the holder before cleaning the microtome.
- Dispose of used blades immediately in a sharps container.
- Tissue blocks may contain residual fixative; wear gloves and follow your laboratory's chemical safety procedures.
- Lift and move the microtome with assistance and correct technique; it weighs about 28 kg.

2. Specifications

Type	Rotary microtome, manual advance
Section thickness	1-25 μm in 1 μm increments; coarse feed to 50 μm
Section thickness precision	+/- 0.5 μm typical
Specimen clamp	Universal, for standard paraffin blocks up to 40 x 30 x 15 mm
Blade	Standard steel microtome blade (blades sold separately)
Blade holder	Adjustable angle
Base	Heavy cast iron
Vertical stroke	Approx. 55 mm
Dimensions	Approx. 450 x 350 x 300 mm
Weight	Approx. 28 kg
Power	None required (manual)
Not suitable for	Frozen sections (requires a cryostat)

3. Unpacking and setup

- 1 Place the microtome on a stable, level, vibration-free bench with good lighting.
- 2 Check that the hand wheel turns smoothly and the lock engages.
- 3 Lock the hand wheel.
- 4 Fit a new blade in the blade holder using forceps and secure it. Set the blade angle as required by your laboratory method.
- 5 Engage the blade guard.
- 6 Prepare a water bath, slides and tools for collecting sections.

4. Operation

Mounting and trimming the block

- 1 With the hand wheel locked, fit the paraffin block in the specimen clamp and tighten it.
- 2 Orient the block face parallel to the blade edge.
- 3 Move the blade holder so the blade is close to, but not touching, the block face.
- 4 Release the blade guard and unlock the hand wheel.
- 5 Use the coarse feed to trim the block face until the full tissue surface is exposed.

Sectioning

- 1 Set the section thickness required by your laboratory method.
- 2 Turn the hand wheel at a slow, steady, even speed to cut sections.
- 3 Lift the ribbon of sections gently with a brush or forceps as it forms.
- 4 Float the sections on the water bath and pick them up on slides.
- 5 Lock the hand wheel and engage the blade guard whenever you stop sectioning.
- 6 When finished, lock the hand wheel, engage the guard and remove the block from the clamp.

5. Cleaning and disinfection

- Lock the hand wheel and remove the blade before cleaning.
- Brush paraffin debris from the clamp, blade holder and base with a soft brush.
- Wipe surfaces with a cloth lightly dampened with a cleaning agent compatible with the finish. Avoid getting liquids into the advance mechanism.
- Dry all parts. Lightly oil exposed moving steel parts as needed to prevent rust.

6. Maintenance and storage

- Cover the microtome to keep dust off when not in use.
- Store with the hand wheel locked and no blade fitted.
- Lubricate moving parts periodically with a light machine oil, keeping oil away from the blade and specimen area.
- Check section thickness consistency periodically according to your laboratory's quality procedures.
- Refer repairs to the advance mechanism to qualified service personnel.

7. Troubleshooting

Problem	Likely cause	What to do
Sections vary in thickness	Loose block, clamp or blade	Tighten the block, clamp and blade holder.
Chatter marks on sections	Dull blade, wrong blade angle or cutting too fast	Change the blade, check the angle and cut more slowly.
Sections crumble	Paraffin too cold or poor infiltration	Adjust block temperature per lab method; check tissue processing.
Sections do not form a ribbon	Block edges not parallel or blade dull	Retrim the block edges parallel and use a fresh area of blade.
Sections compressed or wrinkled	Blade dull or cutting too fast	Use a fresh blade and a slower, steady speed.
Hand wheel stiff	Paraffin debris or lack of lubrication	Clean and lubricate; refer for service if it persists.

8. Disposal

- Dispose of used blades in a sharps container.
- Dispose of paraffin waste and tissue according to your laboratory's waste procedures.
- Dispose of the microtome as metal waste 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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