



OPERATING
MANUAL

slee solutions
for
pathology

MICROTOME
Cuttec S

MANUAL
SLIDING MICROTOME

DESIGN &
MANUFACTURING
MADE IN GERMANY

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1 INTENDED USE

The sledge microtome Cuttec S is a laboratory device and is used for making thin sections of specimens of varying hardness and texture. The device is intended exclusively for professional routine and research laboratory applications in biology, medicine and industry.

The system reliably cuts samples in the cutting range of 0.5 to 60 µm.

2 SYMBOLS

	Hazards, warnings and preventive measures are marked with this symbol.
	Additional application information and useful tips are marked with this symbol.
	Mechanical components which can lead to injuries during operation of the device are marked with this symbol.

Slee sledge microtomes are provided with the following safety features:

	Cuttec S
Finger protection for disposable- and standard knife holder	•



In order to ensure the performance of the device and ensure safe operation, the user must observe the instructions, recommendations and warnings.

The operating instructions must be read in full before use. The operating personnel must be trained according to the operating instructions.

The device must be placed in a fixed and stable place. The protective devices must not be dismantled.

Before mounting the accessories or a preparation, the carriage must always be locked in the rear position with the fixing.

No blade / blade holder may be clamped when inserting or changing the object clip. When inserting an object into the object clip, the finger guard must be pushed in front of the knife / disposable blade.

The operating personnel must be trained according to the operating instructions.

Always wear protective goggles when working on hard specimens.

When cleaning the appliance, the blade / disposable blade holder must always be removed. No solvents such as acetone may be used. No cleaning agent may enter the appliance.

When transporting, the carriage must be locked in the middle position.

Do not lift by moving parts. Only lift the device by its base.

Maintenance work may only be carried out by the trained service technician.

Despite existing safety constructions there is a residual risk at all times when dealing with the product and the necessary accessories. Cut wounds are to be expected, especially when handling a microtome knife.

4 COMPONENTS

Slee sledge microtomes are delivered with the following standard components:

	Cuttec S, #10040001
Blade rail (for low profile disposable blades)	•
Universal cassette clamp optional with standard-object-clamp	•
Standard knife holder optional with disposable blade holder	•
Section waste tray	•
User manual	•
Dust cover	•
Disposable blades (low, 50 pcs.) Optional with disposable blades high or microtome knife 16 cm C-profile	•
Tool set	•

5 SPECIFICATIONS

General Information

Operating temperature range	+10 to +35 °C
Operating humidity	max. rel. 80 % non-condensing
Storage temperature range	+5 to +55 °C
Storage humidity	max. rel. 80 % non-condensing
Cutting range	0 - 60 µm
Cutting thickness settings	0 - 15 µm in 1-µm steps 15 - 60 µm in 5-µm steps
Automatic delivery	0 – 60 µm
Sample delivery	30 mm
Maximum sample size	50 x 70 x 20 mm
Sample orientation	+/- 8°
Cutting distance	180 mm
Dimensions (length x width x height)	450 x 150 x 200 mm

6 UNPACKING / SETTING UP THE DEVICE

Before unpacking, check the pack for possible damage. If damage is noticed, inform your carrier or supplier.

Open the cardboard box and remove the protective material and small parts.

Remove manual and small parts.

The carriage must remain fixed for transport.

Lift the device only by the base of the unit.

The device must be placed in a fixed place with sufficient working space.

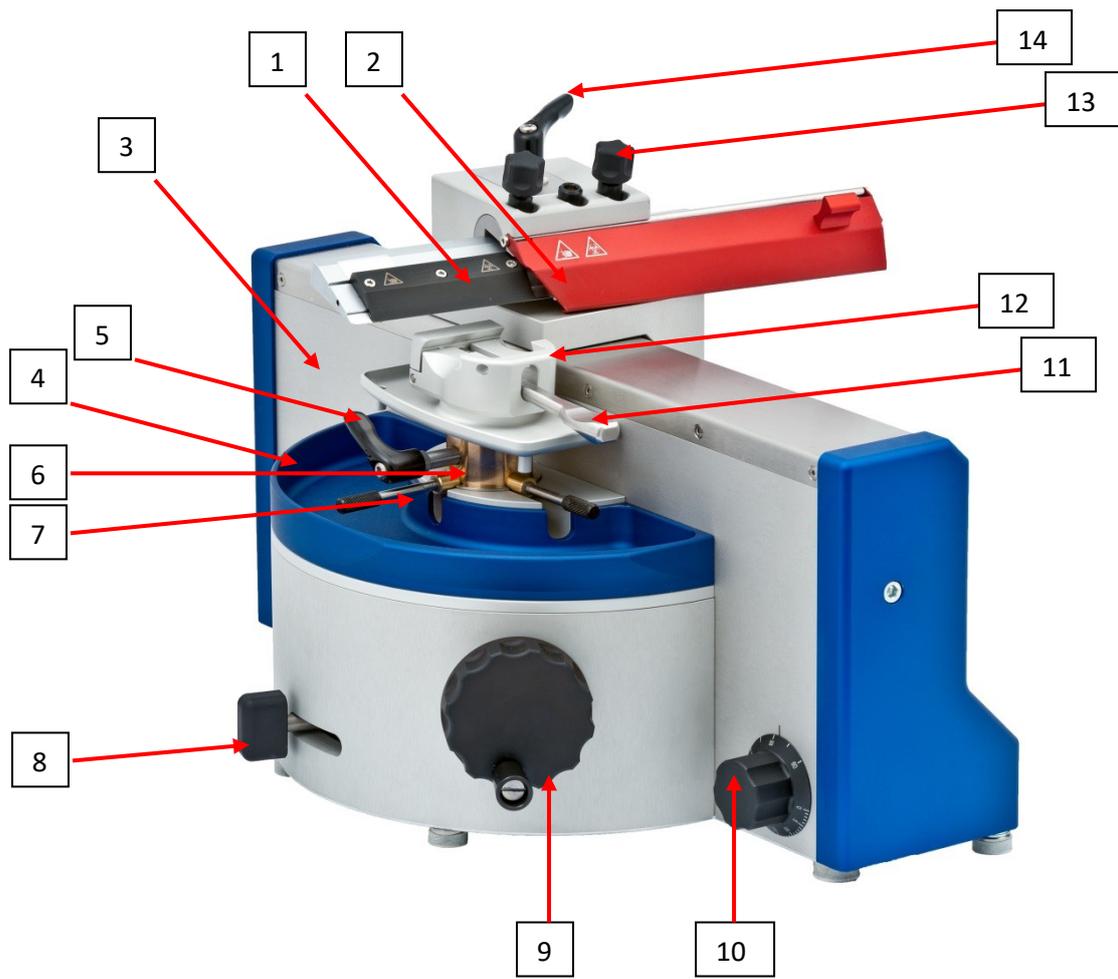
Remove the transport protection.

7 FUNCTIONS OF THE DEVICE

- Horizontal moving sledge / knife holder (cutting motion)
- Locking via brake lever
- Locking automatically
- Process object via coarse feed wheel
- Cutting thickness adjustment
- Feeding movement manually
- Feeding movement automatically
- Object holder clamp
- Object holder orientation
- Knife clamping
- Angle of bevel (for solid section)
- Free angle clamping
- Free angle orientation

8 LIST OF REFERENCE NUMBERS

1	Disposable blade holder
2	Finger protection
3	Basic body
4	Section waste tray
5	Clamp lever object clamp
6	Cylinder
7	Object orientation
8	Feed lever
9	Coarse wheel
10	μm -setting
11	Object clamping
12	Universal cassette clamp
13	Clamping screw for disposable blade holder / knife holder
14	Clamping lever disposable blade holder / knife holder
15	Free angle adjustment
16	Handle for slide movement
17	Adjustment screw automatic infeed
18	Brake



9 OPERATION

1. Use the universal clamp or the standard clamp
2. Insert the sample
3. Align the sample
4. Clamp the sample
5. Adjust the oblique position of the knife holder
6. Adjust the cutting angles
7. Insert the blade holder or knife
8. Tighten the blade / blade holder
9. Adjust the thickness
10. Push the finger protection aside
11. Release the brake on the slide
12. Run the sample with the coarse wheel to the cutting plane
13. Cut the sample
14. Continuous cutting

9.1 WORKING WITH KNIVES AND DISPOSABLE BLADES

Microtome knives and disposable blades have extremely sharp edges and this can lead to injuries. Please be extremely careful when handling microtome knives and disposable blades.



Do not place microtome knives or disposable blades at unsecured areas. Never position microtome knives or disposable blades with the sharp edge pointing upwards.

Store blades in a covered container. Use a container that has guides to hold the blades rigid.

Never try to catch a falling microtome knife.

Always insert the specimen first and then the microtome knife or disposable blade.

In case of multiple use of the knife or blade, use the finger guard.

To increase the usage time of knives and blades, avoid increased wear and tear by cleaning the cutting edge and blade holder regularly.

9.2 PREPARATION OF A CUT PREPARATION

Align the specimen clamped in an object clamp in the horizontal section with the object orientation. Fix the object clip with the clamping lever. Move the blade over the object by moving the carriage. Use the coarse wheel to move the object slowly in the measuring plane. Before first touching the object with the knife, move the preparation upwards using only the infeed lever or the automatic infeed. Do not set the cut thickness above 30 µm. The infeed must only be carried out when the blade is brought into the rear position with the carriage. After each delivery procedure, pull the knife with the carriage forward over the preparation. As soon as the first contact of the blade with the specimen has taken place, set the required cutting thickness and repeat the process until the desired cutting plane is reached.

9.3 ACCEPTANCE OF THE CUT PREPARATION

Pull the sled to the front of the user. In the front end position the carriage is held automatically by spring force. Now the cut can be taken with the help of brushes and wooden sticks.

	<p>Caution When the blade is in contact with the tool, the cutting edge can be damaged! Be careful when handling the blade, risk of cutting.</p>
	<p>After the cut has been cut, always slide the carriage into the rear end position and slide the finger protector in front of the cutting edge.</p>

10 ERRORS AND SOLUTIONS

Error	Reason	Solution
Excessive cutting	Free angle set incorrectly	Adjust the free angle
Excessive cutting	Temperature of preparation too high	Cool the preparation
Thick / thin section	Cutting blunt	Replace the blade
Thick / thin section	Knife not tightly clamped	Check the blade clamping
Thick / thin section	Preparation not tightly clamped	Check the clamping of the specimen
Chatter marks in section	Preparation too hard	Use a knife for harder preparations
Chatter marks in cut	Preparation is not fixed in the object clip	Check the paraffin supernatants on the cassette and scrape them if necessary.

	Please note that you can activate the finger protection during the entire working process (blade change, lateral displacement, trimming, cutting) and thus considerably increase the working safety!
	Do not hold your fingers or hands over or behind the blade or knife holder during operation. To secure or remove the sample and replace the disposable blades or knives, always activate the handwheel lock and the finger guard on the blade or knife holder.

11 CLEANING AND MAINTENANCE

11.1 CLEANING

The frequency of cleaning the microtome depends on the frequency of use and duration.

	<p>Before cleaning the appliance, the blade / disposable blade holder must always be removed. Before cleaning the device, move the sample holder downwards. Use the brush to free the device from cutting residues. Use commercially available household cleaners on cloth cloths for wiping. Do not spray appliance with detergent. Do not immerse the appliance in water. No liquid must penetrate the interior of the appliance.</p>
	<p>For disinfection, the device can be rubbed with a surface disinfectant on a cloth. Metallic surfaces can be cleaned with solvent (e. g. acetone) on a cloth. Cleaning is recommended after each operation. To maintain the cylinder guide, it should be lubricated after the cleaning process.</p>
	<p>The device may only be opened by a trained service technician for maintenance work. To do this, please contact the sales company you purchased the device from.</p>

Wear gloves and protective clothing in accordance with good laboratory practice.

Please observe the safety instructions.

Use only aqueous detergents, no acetone or xylene.

The housing parts should be cleaned with commercially available plastic cleaners. Please do not use any alcoholic or organic cleaning agents to clean the case.

Do not spray any cleaning agents directly on the operating films or the display.

11.2 RECOMMENDED MAINTENANCE AND SERVICE INTERVALS

Daily	Remove section waste from the waste tray. Please use supplied dust cover when device is not in use.
Weekly	Cleaning of blade holder.
Yearly	Annual inspection (performed by authorized SLEE service technician) <ul style="list-style-type: none">• Check of all functions• Lubricating of movable parts• Check of driving system• Complete cleaning

12 SERVICE

Internal components may only be serviced by authorized technicians.

If technical service or spare parts are necessary, please contact your local SLEE medical GmbH distributor. Please have the following information available:

- complete contact details,
- type of device and serial number,
- location of device and name of user,
- purpose of service call,
- delivery date of the unit.

If it is necessary to return the device, it must be cleaned and disinfected before delivery. It must be returned in its original packing.

If the device or parts thereof are sent back in a dirty or non-disinfected condition, SLEE medical GmbH reserves the right to return the parts to the debit of the customer.

13 OPTIONAL ACCESSORIES

13.1 STANDARD ACCESSORIES

Description	Item No.	Cuttec S
Universal cassette clamp, orientable	10090032	•
Standard object clamp, orientable	10090033	•
Dispoable blades (low; 50 pcs.)	28407000	•
Dispoable blades (high; 50 pcs.)	28408000	•
Adhesive foil for pickup of microtome sections	10090029	•
Dissection needle	30030095	•
Microtome knife profile C, length 10 cm	28000002	•
Microtome knife profile C, length 12 cm	28000010	•
Microtome knife profile C, length 16 cm	28000026	•
Microtome knife profile C, length 18 cm	28000034	•
Microtome knife profile C, length 30 cm	28000058	•
Microtome knife profile C, length 16 cm	28000027	•
Microtome knife other versions profile C or D, length 10 to 40 cm	on demand	

14 WARRANTY

SLEE medical GmbH guarantees that the product delivered has been subjected to a comprehensive quality control procedure, and that the product is faultless and complies with all technical specifications and / or agreed characteristics warrant-ed.

SLEE medical GmbH guarantees that the device is manufactured under an ISO 9001:2015 and ISO 13485:2016 quality management system.

Unauthorized modification or repair by third party persons will void the warranty.

Only original SLEE medical GmbH spare parts must be used.

Guarantee claims can be put forward only if the device is used according to this manual and for the purpose described.

Mistakes and errors which occur because of improper use cannot be accepted.

15 DISPOSAL

The device or parts of the device must be disposed of according to existing local applicable regulations.

Notes

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Notes



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