

OPERATING
MANUAL

slee solutions
for
pathology

MTR

BENCH TOP QUICK-FREEZING UNIT

SLEE MTR

35.00

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DESIGN &
MANUFACTURING
MADE IN GERMANY

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1 INTENDED USE

The quick-freezing unit MTR was developed to provide a simple and reliable way to cool your sample during processing with your microtome. The cooling block cools down to -45 °C. Combined with the standard specimen clamp (not included with the quick-freezing unit), you can certainly achieve a significantly lower temperature (relative to the ambient temperature) within your sample.

The MTR provides a manual defrost function, in case the cooling block will be covered with ice, which could happen at extreme ambient humidity.


2 SYMBOLS

	<p>Dangers, warnings and cautions are marked by this symbol.</p>
	<p>Special instructions regarding the operation of the device are marked by this symbol.</p>

Slee bench top quick-freezing units are provided with the following safety features:

	MTR
Self-optimized controller for temperature accuracy	•
Manual defrost	•

The equipment that the appliance is equipped with and the persons who work with the appliance are waiting or repairing, are responsible for a safe use.

	<p>The cooling block of the device is extremely cool during operation and can cause frostbites if touched directly. The airing slots at the backside and the right side must never be covered and need minimum 20 cm distance to the wall or next object.</p>
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4 COMPONENTS

Slee bench top quick-freezing units are provided with the following standard components:

	MTR
Allen key size 2, 3 & 6	•
Operating instructions	•

5 SPECIFICATIONS

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
Dimensions [width x depth x height]	410 x 485 x 310 mm
Hose Length	2.000 mm (with connected cooling block)
Weight (without accessories)	28 kg
Cooling capacity	max. -45 °C (-49 °F)
Defrost Temperature	5 °C (41 °F)
Power Consumption 230 V / 50 Hz device	300 VA / ~ 1,5 A
Power Consumption 115 V / 60 Hz device	300 VA / ~ 3 A

6 UNPACKING AND INSTALLATION

6.1 UNPACKING THE DEVICE


Remove the upper cover and the upper supporting foams.
Lift the device out of the wooden transportation case.
For repacking use the original cases. Keep the packing material.
Place the device onto the selected bench.

6.2 INSTALLATION

The site for installation should meet the following requirements:
The unit should be positioned onto a plane, vibration-free surface.
A free ventilation of fresh air behind the device should be guaranteed.
The vicinity of the work area must be free of oil and chemical vapors.

6.3 ELECTRICAL POWER CONNECTION

Make sure that electric power is constant:

	<p>This should be examined during installation of the unit by a competent person.</p> <p>Use a dedicated fuse for the unit.</p> <p>Before turning on the device, check if the voltage of the mains supply is identical with the name plate of the unit.</p>
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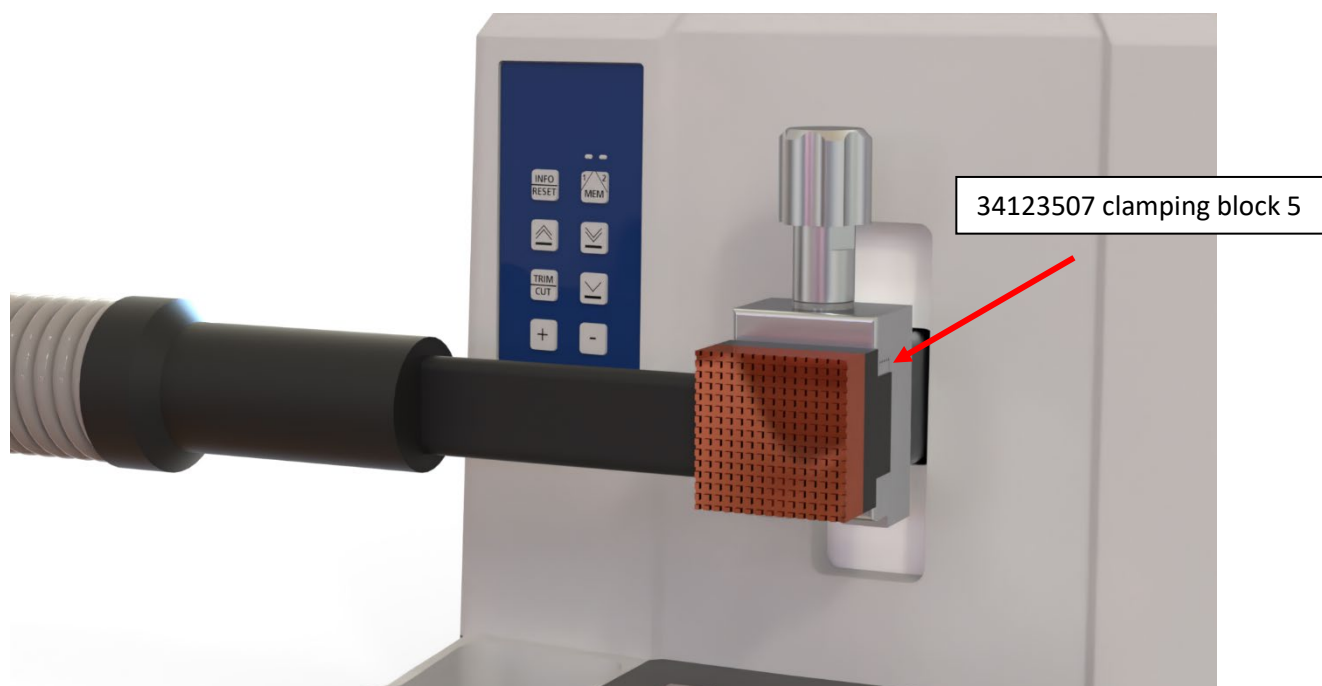
Connect the unit to the main supply and switch on with mains switch at the rear of the unit.

7 OPERATION OF THE MTR

7.1 ASSEMBLING THE COOLING BLOCK

The MTR cooling head with screwed-on insulation element is already pre-assembled. It can be positioned centrally in the standard object clamp. In order to ensure a permanently secure connection, the knurled screw should be hand-tightened with a 17mm open-ended spanner. The samples can now be frozen on the front of the structured surface.

The supplied clamping block must be clamped in the upper position to ensure the central alignment of the cooling head.



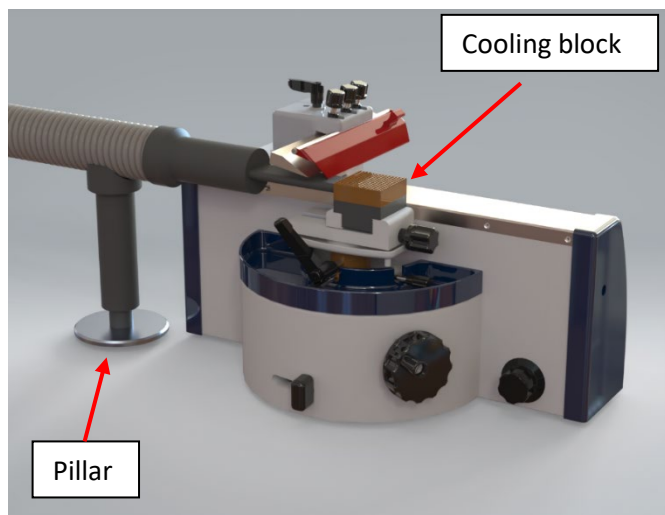
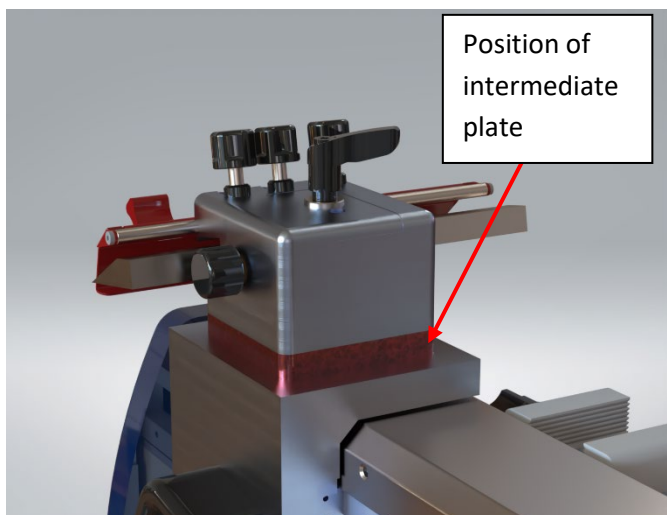
Your device is now ready for use and should look as shown above.




Assure that the hose can move up and down freely.

7.2 MOUNTING THE COOLING BLOCK ON THE SLED MICROTOME

The MTR cooling block with screwed on insulation element is already pre-assembled. It can be positioned centrally in the standard clamp. To ensure a permanently secure connection, the knurled screw should be hand-tightened with a 17 mm open-end wrench. Samples can now be frozen on the top of the structured surface. In order to be able to use the MTR in the optimum cutting range with the Cuttec S, different intermediate plates according to need must be mounted.



	<p>Please be sure to note the following combinations of intermediate plate and screws:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">5 mm plate:</td> <td style="width: 50%;">35 mm length of the screw</td> </tr> <tr> <td>10 mm plate:</td> <td>40 mm length of the screw</td> </tr> <tr> <td>5 mm + 10 mm plate:</td> <td>45 mm length of the screw</td> </tr> <tr> <td>30 mm plate:</td> <td>60 mm length of the screw</td> </tr> </table> <p>Non-observance can lead to collateral damage to the device!</p>	5 mm plate:	35 mm length of the screw	10 mm plate:	40 mm length of the screw	5 mm + 10 mm plate:	45 mm length of the screw	30 mm plate:	60 mm length of the screw
5 mm plate:	35 mm length of the screw								
10 mm plate:	40 mm length of the screw								
5 mm + 10 mm plate:	45 mm length of the screw								
30 mm plate:	60 mm length of the screw								

Your device is now ready for operation and should look as shown above.

7.3 STANDARD ACCESSORIES MOUNTING MTR ON SLED MICROTOME

Description	Item no.
Pillar	37185030
Intermediate plate Cuttec S - Blade holder - 5 mm	45170001
Intermediate plate Cuttec S - Blade holder - 10 mm	45170002
Intermediate plate Cuttec S - Blade holder - 30 mm	45170005
Cylinder screw ISO 4762 - M8 x 35 - A2	70010835
Cylinder screw ISO 4762 - M8 x 40 - A2	70010840
Cylinder screw ISO 4762 - M8 x 45 - A2	70010845
Cylinder screw ISO 4762 - M8 x 60 - A2	70010860

7.4 PROGRAMMING THE MTR

The MTR has a central operating panel containing a display. The display shows two different temperatures (see picture 7.1) whereat the upper line states the actual temperature and the line below shows the programmed temperature configured by the user.

The temperature of the cooling block is configurable by pressing the



or




(like shown in picture 7.1).

The value of the temperature is displayed in degree Celsius (°C) by factory settings, but your authorized Slee technician can easily change to °F.

7.5 FIXING THE SAMPLE

To attach the sample to the cooling block, switch on the MTR quick-freezing unit. After reaching the desired temperature, remove the block from the standard object bracket. Turn the block so that the screened surface of the block is aligned horizontally. Apply the embedding media together with the sample to the screened surface. When everything is solid, fix the block in the standard object clip to start cutting.

7.6 DEFROSTING THE COOLING BLOCK

	<p>Do not dip the cooling block into warm or hot liquids.</p>
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Depending on the configured temperature and the ambient conditions (humidity), the cooling block is covered with ice. The MTR features a defrost function that allows the user to actively melt the ice by pressing the defrost button (see Figure 7.1). After the ice has melted, press the defrost button again to stop defrosting.

The temperature for the defrost function is programmed to 5 °C (41 °F).



Figure 7.1: Central operating panel

8 MAINTENANCE

Besides regular cleaning, the device is basically maintenance-free.

For cleaning the units only use alcoholic media, not acetone or xylene. For the hood it is best to use a commercially available cleaner for plastics. The hood should not come in contact with alcoholic or other solvents.

Never spray or use cleaning medium directly onto operating foils.

Please take note of the safety aspects of the device.

Wear protective clothing and disposable gloves according to Good Laboratory Practices.

9 SERVICE

Internal components should only be serviced by technicians authorized by SLEE medical GmbH.

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
- Place 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.

10 OPTIONAL ACCESSORIES

As the MTR bench top quick-freezing unit is supplied with the guidance space for the cooling block, all necessary tools and the operating instructions, there are no more accessories to be offered.

11 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 warranted.

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.

12 DISPOSAL

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

Notes



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