

**Thermo Scientific**  
**SECTION TRANSFER SYSTEM Microm STS**  
**For ROTARY MICROTOMES / ERGOSTAR HM 200**  
**387712 Issue 8**

**INSTRUCTION MANUAL**

## Thermo Scientific Section Transfer System Microm STS

### CERTIFICATION

Thermo Fisher Scientific Microm International GmbH certifies that this instrument has been tested and checked carefully. Its technical data was verified before shipment to be in accordance with the published specifications.

The instrument complies with applicable international safety regulations.



### WARRANTY

This product is warranted against defects in material and workmanship for a period of 1 year. Parts which prove to be defective during the warranty period will be repaired or replaced free of charge by Thermo Fisher Scientific Microm International GmbH. No other warranty is expressed or implied. Unauthorized modification or repair by third party persons will void the warranty.

The warranty will expire in case of improper or wrong use of the instrument and in case the warning and precautionary messages are not observed. Thermo Fisher Scientific Microm International GmbH is not liable for any occurring damage.

Errors and omissions excepted. Subject to amendment and improvement without further notice.

This instruction manual will be supplied together with each instrument. Further copies can be ordered at the nearest sales office by giving the serial number of the instrument, the number of the instruction manual and the date of issue.

This instruction manual is available in the following languages:

	Cat. No.
German:	387711
English:	387712
French:	387713

# Thermo Scientific Section Transfer System Microm STS

## INTENDED USE

*Dear Customer,*

Thank you for buying this Thermo Scientific instrument.

Before putting the instrument into operation, please read these operating instructions carefully to familiarize yourself with its proper operation and functions.

Only skilled or specially trained personnel must operate the instrument, i.e. clamping the specimen, trimming, sectioning and taking off the sections from the instrument. The listed and marked safety measures as well as the regulations and hygiene measures of your respective lab must strictly be observed.

---

Ser. No. : .....

Please enter the serial number, which is placed on the type plate on the rear side of the instrument. This way, questions and service can be handled faster.

Instruction manual no. 387712

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# Thermo Scientific Section Transfer System Microm STS

**Intended use**

**Safety precautions**

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## SAFETY PRECAUTIONS

### WARNING SIGNALS AND SYMBOLS

The installation and routine use of the STS is easy and safe if the instructions in this manual are being observed.

However, the situations which might be risky for the personnel or equipment are specially marked in this manual with the following symbols and messages.



**Note:**

Special instructions regarding operation of the instrument.



**Caution:**

Special precautionary measures to prevent damage to equipment. For a long lifetime of the equipment, please observe these instructions carefully.



**Danger:**

Special warning messages to prevent harm to persons and/or serious damage to equipment. For your own safety, please observe these instructions carefully.



**Biohazard:**

Warning of biological danger.



**Separate taking back of electrical and electronic instruments in the countries of the European Union:**

This is to be applied in the countries of the European Union and other European countries with a separate collecting system within the waste management.

This product, being an electro and/or electronic instrument, must be treated separately within the waste management process (WEEE).

**SAFETY PRECAUTIONS**

**ATTENTION !**

**Please observe the following general precautions during operation of this instrument. Failure to comply with these precautions violates safety standards and the intended use of the instrument. Thermo Fisher Scientific Microm International GmbH is not liable for misuse of the instruments and failure to comply with basic safety requirements.**

**INSTRUMENT GROUNDING**

To avoid injury from electrical current, the instrument must be connected with the safety ground. The instrument is equipped with a three wire ground plug. The power outlet must be connected to the safety ground and must meet the International Electro technical Commission (IEC) regulations.

**CAUTION: MAINS VOLTAGE**

Never remove instrument covers during operation. Component replacements as well as adjustments must only be made by trained service personnel. Unplug the unit before removing or opening the covers. Only original spare parts must be used for replacement work.

**DANGER IN EXPLOSIVE ENVIRONMENT**

The instrument must not be operated in the presence of flammable gases.

**HAZARD OF RADIOACTIVE RADIATION**

When working with radioactive specimens observe all applicable radiation safety procedures. When working with radioactive contaminated material, appropriate safety and disinfection measures must be carried out. According to the rules and regulations concerning the handling of radioactive contaminated material of the respective laboratory, safety clothing (e.g. particle mask, gloves, protective shoe covers) must be worn.

Radioactive contaminated waste must be disposed of according to the respective regulations.

## HAZARD OF WATER

Set up and operate the separate control unit in a way that it is protected from water.

## HAZARD OF BIOLOGICAL DANGER



Specimens used during the intended operation of the instrument might potentially be infectious. For this reason, it is recommended to observe the general laboratory regulations concerning protection against danger of infection.

Information on decontamination media, their use, dilution and effective range of application can be read in the Laboratory Biosafety Manual : 1984 of the World Health Organization.

## HAZARD OF MALFUNCTION

To avoid the hazard of malfunction of an instrument, it must only be operated in a controlled electromagnetic environment. This means that transmitters such as mobile phones must not be operated in their close vicinity.

## DANGER WHEN USING OPERATING MATERIALS



Xylene and other solvents may be considered hazardous. For this reason, please observe the stipulated safety measures to avoid contact with eyes and skin (e.g. wear protective gloves).

## WASTE DISPOSAL

All debris, waste as well as infectious and radioactive contaminated material from operation must be disposed of in accordance with the respective regulations of the lab. Disinfection and cleaning liquids as well as section waste must be disposed of according to the respective regulations for special waste!

# Thermo Scientific Section Transfer System Microm STS

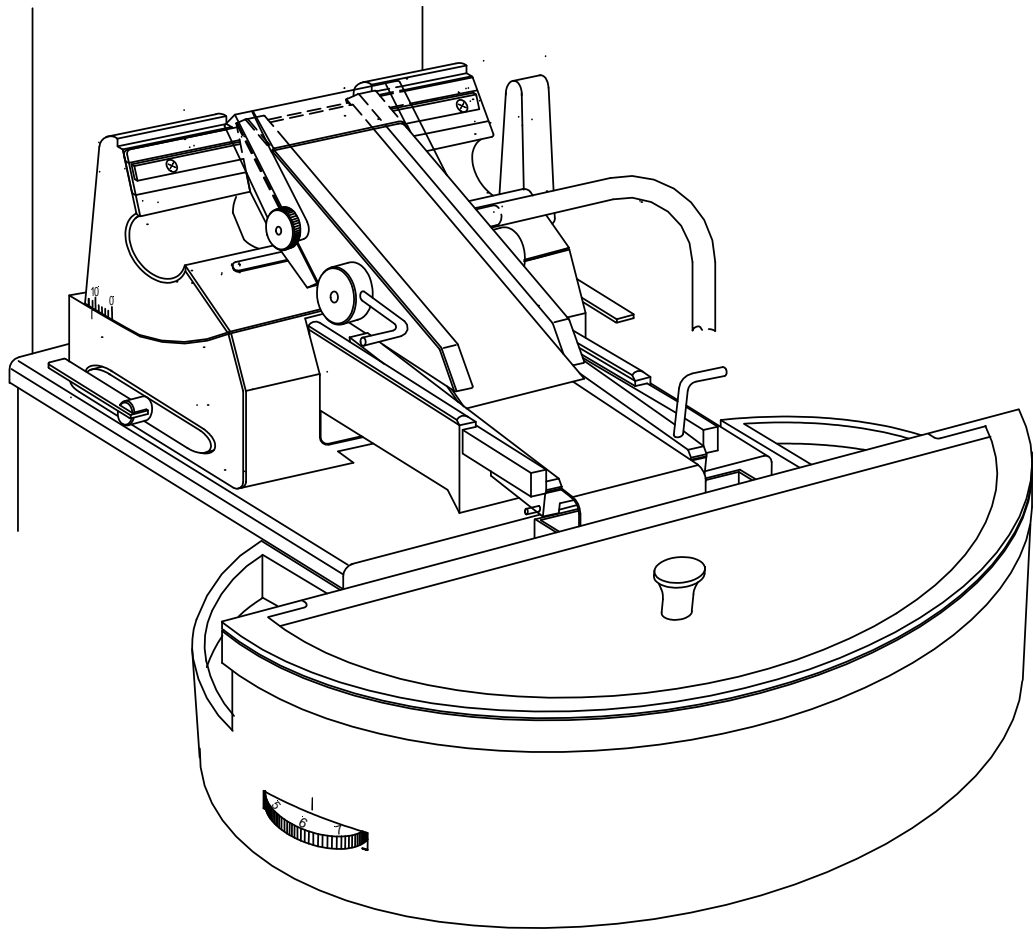


Fig. 1



## 1 INTRODUCTION

### 1-1 Description of the Section Transfer System STS

The system consists of a special disposable blade carrier TE with integrated transfer bridge, a heated water bath as well as a control unit.

The Section Transfer System can be used along with all current rotary microtomes and the Ergostar HM 200.

It takes a few minutes only to upgrade the microtome from the common paraffin sectioning technique to the STS method.

The STS is used solely for tissue specimens embedded in paraffin. During the sectioning process with the STS, sections glide on a water film via the disposable blade carrier TE and the transfer bridge and are then transferred into the water bath.

Water circulation is guaranteed by a pump, the capacity of which can be adjusted.

The water temperature of the water bath can be adjusted between ambient temperature and +45°C.

**Only use demineralized or distilled water!!**

Due to the use of the STS damage to the tissue sections can be diminished by gliding on the water flow. The sections are stretched during the cutting process due to the smooth water flow. This way, extremely thin as well as high-quality sectioning results can be obtained.

The common manual transfer of the sections into a water bath is no longer necessary.

When the sections are generated, their quality can be checked immediately, i.e. when the ribbon or the individual sections are stretched on the water flow of the disposable blade carrier TE. The second quality check can be carried out in the water bath facilitated by the integrated section illumination.

The sections which are not used, e.g. from trimming paraffin blocks, can be guided directly into a waste basket via the water flow on the disposable blade carrier TE.

The water bath, the waste container as well as the waste filter of the STS can easily be removed and cleaned.

The integrated water container for the pump circulation is freely accessible and allows for easy cleaning.

## Thermo Scientific Section Transfer System Microm STS

### 1-2 TECHNICAL DATA SECTION TRANSFER SYSTEM

Heated water bath:	+45°C
Volume of heated water bath:	800 ml
Volume of pump reservoir:	600 ml
Required liquid:	demineralized or distilled water
Flow rate:	0 ml/min. - 500 ml/min.
Operating conditions:	+10°C to + 35°C (at max. 60% rel. humidity of the air) altitude up to 2000 M.S.L. for indoor use only
Pollution degree:	2
Overvoltage category:	II
Acoustic pressure:	40 dB(A)
Power requirements:	220 - 240 V, 50/60 Hz, 0,7 A 100 - 120 V, 50/60 Hz, 1,4 A
Internal protection of the secondary circuit:	1 x T4AH; 1 x T2AH
Weight:	control unit: 2,4 kg STS complete: 4,4 kg disposable blade carrier TE: 2,8 kg
Dimensions of the STS:	Ø 300 mm x height: 130 mm
Dimensions of the control unit:	265 x 160 x 80 mm (long x wide x high)

## 2 OPERATING INSTRUCTIONS

### 2-1 Initial turn-on



**Note:**

The work sequence which is described in this part must strictly be observed.

**To use a rotary microtome together with a Section Transfer System (STS), the following preparations are necessary:**

- Pull off the integrated section waste tray of the rotary microtome.
- Unplug the possibly connected foot pedal and the power cord.
- Then tilt the rotary microtome backwards and replace the shorter rubber feet with the higher feet for correct height adjustment. (If necessary, use appropriate pliers).
- Again bring the rotary microtome into working position.
- Insert the disposable blade carrier TE (fig. 2.3) onto the dovetail guide of the rotary microtome.
- Then evenly slide the STS housing (fig. 2.2) from the front onto the rotary microtome. Place the control cable, which is mounted on the left front side of the STS housing, under the microtome and lead it to the rear side.



**Note:**

The control cable ends in a multi-plug. Insert this plug into the rear wall (fig. 3.1) of the control unit (fig. 4) and secure it via the lateral screws.

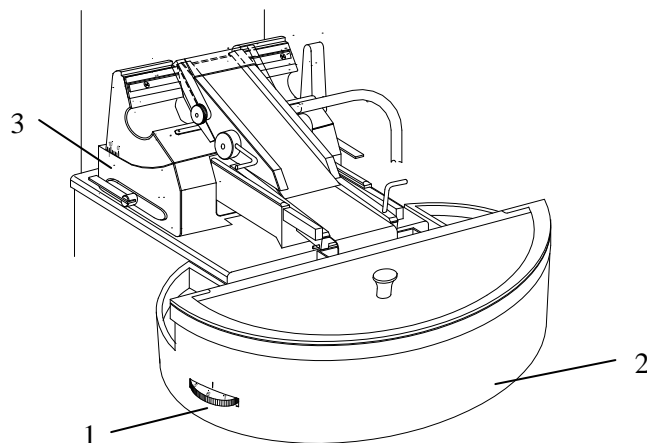


Fig. 2

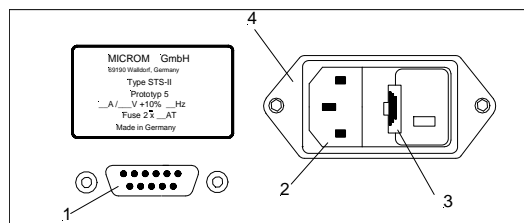


Fig. 3

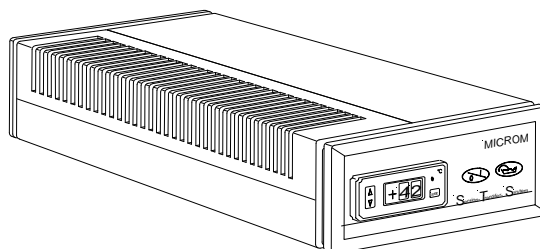


Fig. 4

## Thermo Scientific Section Transfer System Microm STS



### Note:

The control unit must be positioned in a way that the ventilating slots are not covered. The optimal as well as space-saving position is on top of the microtome housing. Moreover, please note that there is always enough space behind the control unit to easily the mains plug unit to the supply.

- Place the water bath (fig. 5.1) onto the heating plate (fig. 5.2).



### Note:

The heating plate of the water bath as well as the section illumination are only activated via an inductive sensor when placing the water bath onto the heating plate. In case the water bath has been removed, the heating and the section illumination are immediately turned off.

- Then place the waste receptacle (fig. 5.3) into the front bearing surface of the pump reservoir (fig. 5.4).
- Place the basket for paraffin waste (fig. 5.5) onto the waste receptacle directly below the transfer bridge.
- The beveled edge of the basket must correspond with the beveled edge of the water bath.
- Now fill the pump reservoir and the water bath with **distilled or demineralized water**.
- For this, fill the water bath with 800 ml water and the pump reservoir with 600 ml via the waste receptacle.



### Caution:

Before turning on the system for the first time, please check if the power requirements indicated on the type plate and on the voltage selector in the power switch unit correspond to the power supply voltage being used.



### Caution:

Before turning on the STS, set the pump power to minimum via the lateral adjusting wheel (fig. 2.1).

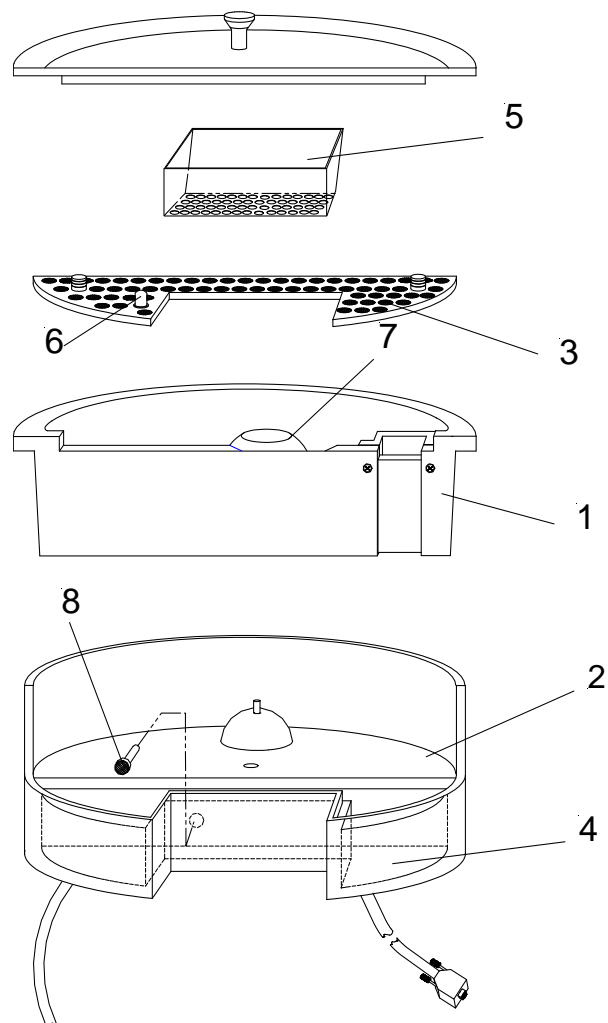


Fig. 5

- Connect the plug of the system into the power outlet.
- Turn on the STS via the touchpad key "0/1" (fig. 6.5) on the control unit.

## Adjust the set temperature of the water bath on the control unit as follows:

1. Press the set button (fig. 6.4) and keep it pressed while setting the temperature.
2. Select the desired temperature via the UP or DOWN buttons (fig. 6.1 and 6.2).
3. Keep the set button (fig. 6.4) pressed for another second. Only then, the selected temperature is stored!!!

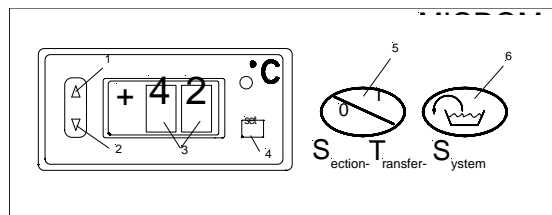


Fig. 6

- Connect the drain hose made of silicone with the connecting piece (fig. 8.9) on the lower right side of the disposable blade carrier TE.



### Note:

Via this hose, water which flows down behind the blade (due to a too high pump capacity) is guided back into the pump reservoir.

- Fill pump and feeding line (fig. 7.3) to the disposable blade carrier TE via attached disposable syringe with water.
- For this, hold the feeding line (silicone hose) (fig. 7.3) with inserted syringe over the waste receptacle (fig. 5.3).
- Pull on the syringe until water flows into the syringe. The pump and the silicone hose are then evacuated.

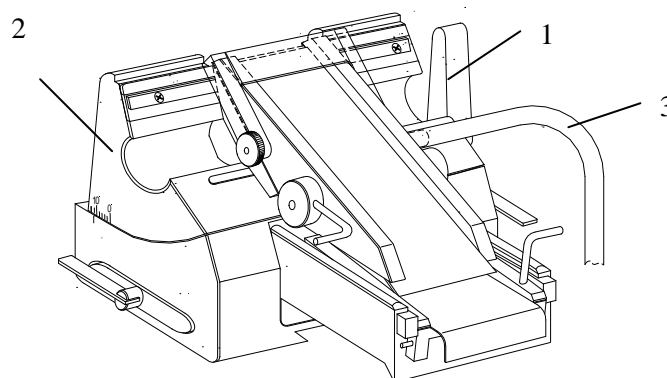


Fig. 7

- Via the lateral adjusting wheel (fig. 2.1) set the pump capacity so that the water does not flow backwards into the hose nor draining from the hose (minimum pumping capacity).
- Carefully put the silicone hose onto the connecting piece (fig. 8.3) of the disposable blade carrier TE.
- Insert the blade into the disposable blade carrier TE from the side and clamp it.
- Then set the suitable clearance angle for disposable blades.

## Thermo Scientific Section Transfer System Microm STS

- Via the lateral adjusting wheel increase the pump capacity that there is an even water flow on the transfer surface (fig. 8.4).
- The pump capacity is too high, in case water flows down behind the blade on the disposable blade carrier TE.



**Note:**

First, thoroughly moisten the dry transfer surface using a brush and having selected a low pump capacity.

Only an even water flow on the transfer surface leads to optimal operation processes with the STS.



**Note:**

The transfer surface is moistened enough when, after having activated the detaching tongue (fig. 8.5) via the detaching lever (fig. 8.6), the sections glide on the water downwards on the transfer surface with an even speed.

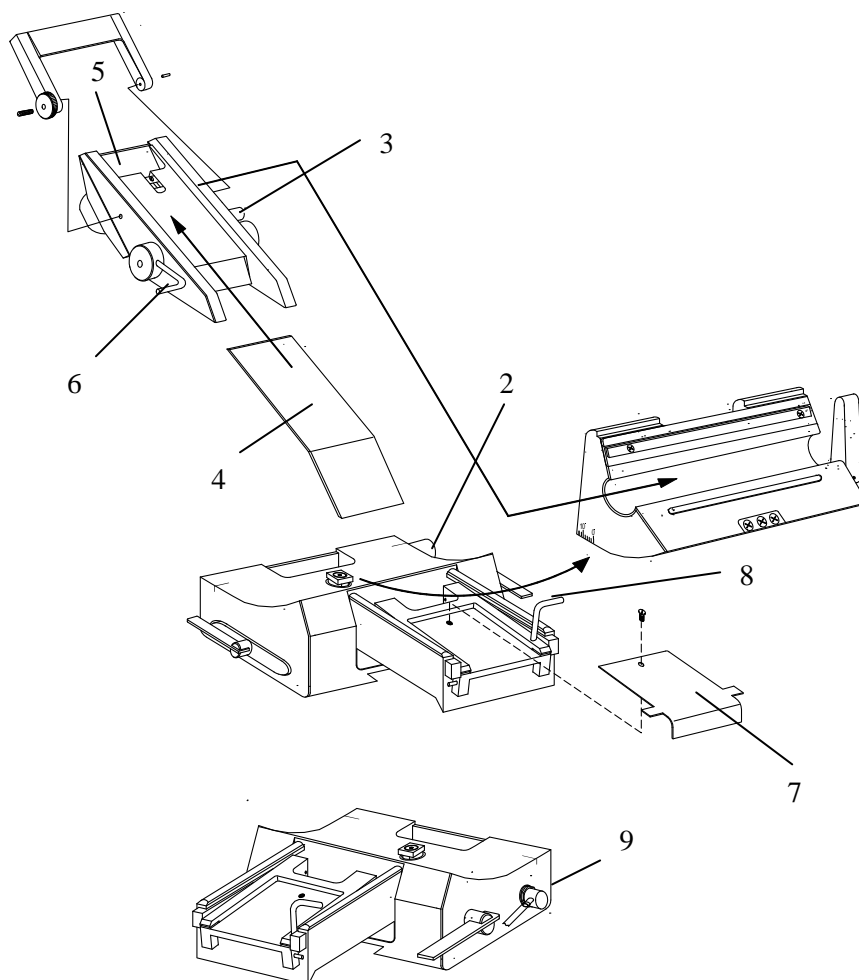


Fig. 8

## 2-2 Trim sectioning of specimens

For the first cuts, approach specimen and disposable blade carrier TE as usual.

- Set the water volume running down the disposable blade carrier, on the lateral adjusting wheel (fig. 2.1) depending on the selected trimming thickness.



**Note:**

The transfer bridge (fig. 8.7) must remain open during trimming, i.e. the lever of the transfer bridge (fig. 8.8) must be pushed backwards.



**Danger:**

To minimize the hazard of being injured, the knife guard should be placed over the blade. It can remain in this position also during the sectioning process.

The generated trim sections glide over the blade, the transfer surface and the open transfer bridge into the basket for paraffin waste. If necessary, trim sections must be removed from the blade edge via the detaching tongue (fig. 8.5).

- Remove the basket with section waste and empty the waste into the intended waste container.
- Dispose of this waste container according to the respective lab regulations.



**Note:**

Before changing from trimming to fine sectioning, activate the lever (fig. 8.6) of the detaching tongue to dispose trimming sections into the waste basket.



**Note:**

Detailed information on setting and generating of trim sections can be found in the instruction manual of the respective rotary microtome under part "Trimming and first cuts".

## 2-3 Fine sectioning of specimens

In general, both single sections as well as ribbons can be generated with the STS.



### Note:

Ribbons can only be generated when the correct clearance angle is selected and the upper and lower edge of the paraffin block is parallel and even.

Ribbons are generated when the upper edge of the last section "clings" to the blade. The lower edge of the following sections is then being pressed on the upper edge of the previous section. This way, the sections stick together.

**When cutting fine sections, the ribbons or single sections are guided directly into the water bath via the closed transfer bridge (fig. 8.7):**

- For this, pull back the lever of the transfer bridge (fig. 8.7) until the bridge lies on the rim of the water bath.
- Activate the lever (fig. 8.8) of the detaching tongue to loosen the sections and/or the ribbon.
- Section and/or ribbon now glide on the water flow into the water bath.
- Then pull back the transfer bridge to minimize the mixture of cold and heated water.



### Note:

The STS offers two different possibilities to evaluate the quality of the sections produced and to make a selection:

### First quality evaluation of sections:

Only after having evaluated the produced fine sections on the transfer surface for good quality, activate the detaching tongue to guide the sections via the closed transfer bridge into the water bath.

### Second quality evaluation of sections:

The stretched sections are illuminated in the water bath by the section illumination (fig. 5.7) from below. This way, evaluation is even better. Sections with the best quality can be picked up by a slide.



## 2-4 Draining and cleaning the water bath and the pump reservoir

### Draining the water bath

- For this remove the water bath (fit. 5.1) from the heating plate (fig. 5.2).

The heating as well as the section illumination are deactivated via the inductive sensor.

- Dispose of the contents of the water bath according to the respective lab regulations.

### Draining the pump reservoir:

- For this pull the feed hose (fig. 7.3) off the disposable blade carrier TE.
- Pump the water into a collecting container. Maximum water volume is pumped, when the button "pump" (fig. 6.6) is being pressed to empty the reservoir.

There is also another possibility to empty the pump reservoir:

- For this, first remove the water bath, the waste receptacle and the basket for paraffin waste. Then pull off the cable connection to the control unit as well as the feed hose on the disposable blade carrier TE. Then empty the contents of the pump reservoir into a collecting container.

### Cleaning the water bath and the pump reservoir:

- Wipe them off dry or use commercially available, water-soluble disinfectants.

### 2-5 Cleaning the pump filter

- To clean the pump filter (fig. 5.8), pull it off.
- Brush down the coarse paraffin particles according to the respective lab regulations and dispose of them.
- Wipe off the finer paraffin particles with a cloth soaked in Xylene.



**Note:**

If the pump filter (fig. 5.8) is obstructed, only a reduced volume of water is delivered.

## 2-6 Disposable blade carrier TE

The disposable blade carrier TE is designed to take all commercially available high and low profile disposable blades. Insert the blade into the slot. When using high profile blades, first loosen the two screws and remove the spacer strip.

- Move the knife guard (fig. 9.4) backwards.
- Turn the clamping lever (fig. 9.1) to the front. A small gap between rail and clamping plate can be seen. Insert the blade and push it from the side to the middle.
- Afterwards, return the clamping lever (fig. 9.1) upright, thus locking the blade in position.
- Move the knife guard (fig. 9.4) again over the blade.

The clearance angle can be shifted and adjusted to the requirements of the tissue to be sectioned.

- Loosen the clamping lever (fig. 9.5) on the right side of the blade carrier and swivel the upper part (fig. 9.2) on the base.
- The adjusted clearance angle can be read on the scale.
- Then turn the clamping lever (fig. 9.5) upwards to lock in the new clearance angle.



**Note:**

By experience, usable cuts are only achieved at clearance angles between 7 and 10°.

Depending on the size of the specimen block, there is the possibility to approach the blade carrier on the dovetail guide to the blade edge via the coarse feed or by moving the blade carrier.

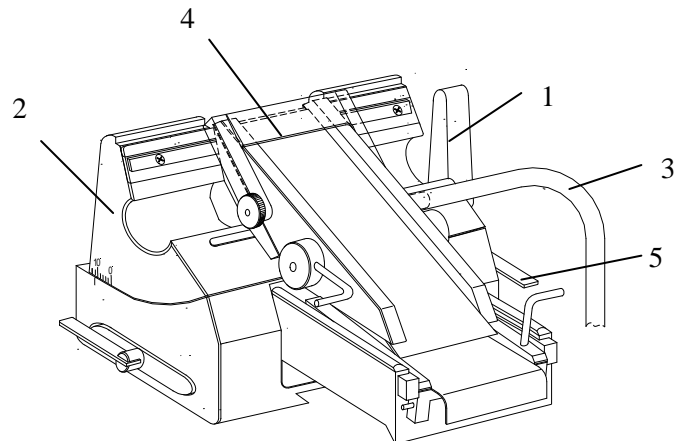


Fig. 9

**If the transfer surface of the blade carrier TE is damaged or used up, it must be replaced:**

- For this open the clamping lever (fig. 9.1) of the clamping plate. Remove the clamping plate from the upper part of the blade carrier to the side.



**Note:**

The transfer surface is glued on two aluminum sheets which differ in size. The smaller one projects over the lower end of the clamping plate.

- This way the entire transfer surface can be pulled off the clamping plate.
- The transfer surface is inserted in the same way until it locks in place.
- Then push back the clamping plate into the upper part of the blade carrier.

## Thermo Scientific Section Transfer System Microm STS

### 2-7 Standard equipment

The Section Transfer System is supplied with the following accessories:

- 1 disposable blade carrier TE
- 1 water bath
- 1 STS basic instrument including heating plate, pump and pump reservoir
- 1 control unit
- 2 transfer surface (2 parts) for replacement (see fig. 8.4 and 8.7)
- 1 screen
- 1 instruction manual

### 2-8 Additional equipment

Cat. no.

Transfer surface (including 2 parts)

575170

**PART 3      THEORY OF OPERATION OF THE SECTION TRANSFER SYSTEM**

**3-1      Water circulation**

A circular pump delivers distilled or demineralized water from a reservoir to a blade carrier for high and low profile blades via a tube.

Below the blade edge and the grid insert, the delivered water is pressed through channels in the direction of the blade edge.

Just in front of the blade edge, the water injects into a cuvette-type groove. The water flows down the transfer track and forms a laminar stream.

On the lower end of the transfer track, the water passes a flexible part of the transfer surface, leading to the transfer bridge. This flexible part serves for an even water flow at different clearance angle settings.

When the transfer bridge is open, the water together with debris flows into the intended basket.

A closed transfer bridge connects the transfer track with the water bath. High quality sections reach the water bath without being damaged.

The water of the water bath is heated and used for stretching single sections.

When the water level in the water bath has reached a certain height, superfluous water flows through the labyrinth spillway back into the waste area. From here, the water flows through several sieve inserts and finally reaches the pump reservoir again.

### 3-2 Cutting and detaching a section

The manual rotary movement of the handwheel of a rotary microtome is converted into a vertical movement of the specimen clamping.

The feed movement between specimen clamping and blade carrier is carried out horizontally.

Sections are made by blades which must be adjusted and fixed on the blade carrier.

With the downward movement of the specimen, sectioning is carried out.

The upward return travel of the specimen is carried out by further turning the handwheel. During this return travel, the automatic retraction is effected to protect blade and specimen.

The selected section thickness is delivered at the upper reversal point of the return travel.

Single sections or ribbons are loosened from the blade edge via a lever.

A detaching tongue is pushed along the blade cutting off sections.

## PART 4 WORKING WITH THE SECTION TRANSFER SYSTEM

### 4-1 Preparing the STS

As already described in part 2-1, prepare the rotary microtome for operation with a STS.

Adapt the removable water bath, put the waste receptacle onto the pump reservoir and place the waste basket on it.

Fill the pump reservoir as well as the water bath with distilled or demineralized water. Via the operating knob for the pump remove the air volume, which is still inside the system.

Connect the tubes with the corresponding parts and select the temperature of the water bath via the control unit.

Select a clearance angle of 10°. Insert the blade into the blade carrier and clamp it.

Wet the transfer track, transfer bridge and flexible part with water by using a brush.

### 4-2 Coarse feed and trimming function

The blade carrier can be moved and the coarse feed or the trimming function can be used to adjust approximately the space between specimen and blade edge.

Turning the handwheel results in the first contact between blade and specimen. Continue this to start trimming the specimen, thus achieving the level of interest.

Keep the transfer bridge open. This way, section waste glides directly into the waste basket.

### 4-3 Sectioning and picking up sections

Set the desired section thickness and start sectioning.

Detailed information on sectioning can be found in part 4 of the instruction manuals of the respective rotary microtome.

When the produced fine sections are evaluated as high quality sections, close the transfer bridge via the lever.

To detach a ribbon, use the lever to push the detaching tongue upwards.

The sections glide on the transfer track down into the water bath. After some time, the sections can be picked up by a slide.

Always use a sharp blade. Moreover, the blade must be free of paraffin.

The quality of the sections diminish (e.g. tissue and paraffin of a section tear apart) if the water temperature of the pump reservoir is too warm. Replace the water of the pump reservoir.



## 4-4 Working with the STS in combination with the Cool-Cut

Two different transfer surfaces for the transfer bridge on the disposable blade carrier TE are included in the standard equipment

Depending on the operation with or without a Cool-Cut, these transfer surfaces must be cut appropriately. They must be placed via a screw onto the transfer bridge. For this, use the attached screwdriver (see standard equipment, part 2-7).



**Note:**

The short transfer surface is used in combination with the Cool-Cut. The long one for the STS solely.

When working with combination STS and Cool-Cut, both additional instruments must be attached to the rotary microtome in the following order:

First, the Cool-Cut must be fastened to the specimen holder via eccentric lever as a conventional specimen clamp.

Then insert the special disposable blade carrier TE for the STS onto the dovetail guide of the rotary microtome and fix it.

Afterwards, install the STS with water bath from the front onto the rotary microtome.

As described in part 4-3, sections can be generated with combination of instruments.

### 4-5 How to avoid malfunctions



#### Caution:

Turn on the STS only after having filled the system with distilled or demineralized water.

- To fill the system, **only** use distilled or demineralized water to keep furring on the transfer track at a minimum.
- Avoid pollution of the pump reservoir water, to protect the pump from malfunctions.
  
- Select a suitable clearance angle. Set a clearance angle adjustment of 5 – 15° according to the facet angle.
  
- The blade should be free of paraffin.
- Make sure that no debris is between detaching tongue and blade.
  
- Carefully wet the transfer track by using a brush. If necessary, repeat process after longer breaks.

Further information to avoid malfunctions can be found in part 4-4 of the instruction manuals of the respective rotary microtome.

## PART 5 MAINTENANCE

### Annual routine maintenance

To secure section quality and functioning of the STS, it is recommended that a routine maintenance should be performed by a trained service technician once a year.

### Service Contract

Thermo Fisher Scientific Microm International GmbH offers a service contract which guarantees that your STS is always in perfect condition. For more information, please contact the nearest sales office.

### Exchange of fuses:

The two mains fuses are installed on the rear of the control unit beside the power switch. To exchange the two fuses, unplug the unit. Open the drawer (fig. 10.3) from the left side by means of a flat screwdriver and pull it out. Pull out the fuse holders and replace them with new ones.

While the drawer (fig. 10.3) is open, it is possible to turn the inserted voltage selector and thus to change the power requirements of the instrument. In doing so, please note that the set power requirements of the instrument correspond with the power supply voltage being used.

For a power supply voltage between 220 and 230 V, set the voltage selector to 230 V.

### Rating of fuses:

For power requirements 100 – 240 V:  
- 2 pieces, T2.5 AH, 5x20 mm

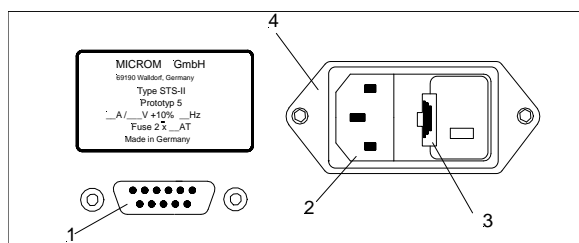


Fig. 10

### Caution:

Any shipping of the instrument requires original packaging materials! Damages caused by shipping with non-conform packaging are not covered by the manufacturer warranty! Any damage repairs resulting in non-conforming package are fully charged to the sending party. We reserve the right depending on seriousness of damage NOT to repair. To order original packaging materials, please contact Thermo Fisher Scientific or your local, by Thermo Scientific authorized, dealer.

### Caution:

The user must care for a clean and safe condition of the instrument when returning it to an appropriate service provider.

### Note:

If the original packaging is no longer available, please contact your local Thermo Scientific representation.

## PART 6 CLEANING AND CARE

### 6-1 CLEANING

#### Cleaning intervals

Cleaning of the STS depends on how frequently the system is used. The more it is used, the more it will need to be cleaned.

#### Cleaning should be done as follows:

- Remove the water bath from the heating plate and dispose of the contents into a waste container.
- Pull hose (fig. 11.3) off the blade carrier and insert it into the hose holder (fig. 5.6). This way, water cannot drain off the pump reservoir.
- Remove the waste receptacle (fig. 5.3) and the waste basket (fig. 5.5) and empty the system.
- Pull the cable off the control unit.
- The complete bath of the STS can be pulled off towards the front.



#### **Danger:**

Before removing the blade carrier, first take the blade out of the blade carrier.

To clean the disposable blade carrier TE, loosen and remove it from the dovetail guide.

With a brush remove paraffin waste by using the solvent Xylene or a Xylene substitute.

Because of furring or other pollution, replace the two parts of the transfer surface with new ones.

Pull off the transfer surface on the lower end of the bridge with a downward movement. Insert the new transfer surface until a locking point can be noticed.

To replace the bridge part of the transfer surface, first remove the water bath to have enough clearance for the replacement work. Now dismount the bridge part from the lower part of the bridge via a screwdriver and mount a new bridge part from the front. Afterwards, place the water bath onto the heating plate.

**Note:**

In case, other cleaning methods should be used, first contact the manufacturer.



### 6-2 DISPOSAL OF THE INSTRUMENT AFTER FINAL SHUTDOWN

After the final shutdown of the instrument, we recommend to contact a local recycling company for the disposal according to the national applicable regulations.



**To be applied in the countries of the European Union and other European countries with a separate collecting system within the waste management.**

The marking of the product and/or the respective literature indicates that, after its final shutdown, it must not be disposed of together with ordinary domestic waste.

- Please dispose of your instrument separately from other waste to not harm our environment and/or human health by uncontrolled waste disposal.
- Recycle your instrument to support the sustainable recycling of material resources.
- **Industrial users** should contact their suppliers and observe the conditions of the contract. This product must not be disposed of together with other commercial waste.
- **Please contact your supplier!!**