Leica EM UC6

Operating Manual

Order Number 16200032
Leica EM UC6 - E - 05/04

Leica
MICROSYSTEMS

Important Note

Leica reserves the right to change technical specifications as well as manufacturing processes without prior notice. Only in this way is it possible to continuously improve the technology and manufacturing techniques used to provide our customers with excellent products.

Issued by:

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Hernalser Hauptstrasse 219
A-1170 Vienna

Leica EM UC6

Operating Manual

Leica EM UC6 Serial Number:

Date of purchase:

For the instrument serial number, please refer to the name type label on the back of the instrument!

Please read this instruction manual carefully before operating the instrument.

Table of Contents

1. Safety Instructions

The instrument has been so designed and manufactured that the user is not exposed to any danger if the instrument is used as intended.
Please read the instruction before use. It is advisable for the user to be trained in the use of the ultramicrotome.
The instruments are only allowed to be opened by authorized service personnel.
Before opening, the instrument must be disconnected from the electrical mains supply.
The instrument is equipped with protected ground. Before connecting it to the local electrical supply make sure that the mains has the required ground and that the instrument is connected to it in accordance with the legal regulations.

Danger of injury when contacting knives
Extremely sharp knives are used for sectioning which can lead to injury when touched.
The knife must therefore only be mounted just before sectioning and must be removed from the knife holder after section collection.
As long as a knife is in the knife holder, the overhead illumination must be left switched-on.
Safety rules must also be observed for the breaking of glass knives.
The local regulations must be observed for the disposal of glass knives.

Danger of injury during trimming of specimens
Trimming of specimens can be carried out with razor blades. Doing this, the specimen is clamped in a trimming-block and the excess material removed with a razor blade.
Extreme caution is advised when using the razor blade !
For safety, Leica recommends the use of a trimming machine.

Symbols in this manual and their meaning:

Attention, take extra care.

Important infromation for the user

2. Installation of the UC6

When the instrument is supplied with a working table the UC6 is packed in a special carton fastened below the working table . When the UC6 is supplied without working table it is housed in a second carton. Cut open the first carton on the top and take out the second carton. Pull off the upper part of the carton and unfold the four lateral walls of its lower part.

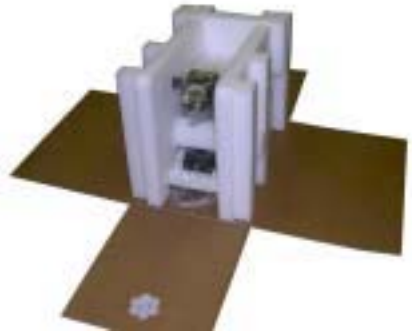
Cut off the transport ribbons.

Lift the outer carton above the handle on both sides.

Remove the outer carton.

Cut the sticky tape on the edges.

Unfold the four lateral walls of the inner carton.



Remove the rear foam pad.

Remove the front foam pad.

Put left -and right hand pads to the side.

Remove plastic bag covering the instrument.

Two persons should lift the instrument.

Important:

The instrument has to be lifted only by means of the lateral carrying ledges on the base plate.

Do not operate the knobs which are now accessible until the transport lock has been removed.

2.1 Installation of the antivibration table

The instrument table with its special antivibration system is delivered assembled. By using this table the UC6 built-in antivibration system will be disabled.

Remove the foam transportation lock from the antivibration insert.

Remove Allen key and unscrew retaining screws from the cross beam.

Mount the shelf on the table cross-beam, wider part to the rear.

After placing the table in its exact position the right leg has to be adjusted to compensate for unevenness of the floor. This adjustment has to be carried out before putting the instrument on the table.

Place plastic sheet symmetrically over the antivibration insert of the table.

Place the UC6 centrally on the antivibration insert. The feet of the instrument are inserted in the recesses.

Mount the armrests in such a manner that the tongue rests on the groove of the guide bar. Clamp the armrest with the star-handle against the screw nut.

Adjustment screws of the armrest: star-handle for longitudinal and lever for height adjustment .

2.1.1 UC6 built-in antivibration system

The UC6 is equipped with a built in antivibration system. The instrument may be placed on any stable and even table. For installation of the UC6 masonry laboratory tables are particularly recommended (tiled chemistry tables).
Standard laboratory tables provide good results as long as they have a table top of at least 35 mm thickness and absolutely rigid legs standing on a stable floor and are not in direct mechanical contact with other laboratory furniture.
With an unstable floor it is recommended to mount a wall console (steel profile 50 x 50 x 50 mm with wooden top of 40 mm) provided the supporting wall is strong enough.

2.1.2 Removal of Transport Lock

Remove the knurled head clamping screw, hold specimen arm in position and pull out the red plastic insert towards the front. Now lower specimen arm slowly on to its stop. Replace the clamping screw.

Before moving the UC6 again the transport lock has to be replaced.

After attaching the transport lock the hand wheel must not be rotated. Shipment without transport lock as well as without special carton may cause damage. The special carton and the transport lock with packing hints is available from your local Leica Agency or from Leica Microsystems GmbH, A-1170 Vienna, Austria.

2.2 Mounting of the stereo microscope

Insert stereo microscope in the adaptor and clamp it with the knurled screw in front of the adapter ring.

2.2.1 Mounting the breath shield of the S6 or S4 stereo microscope

Screw in one of the provided slot screws on the side of the stereo adaptor.

Place the breath shield on the screw.

Screw in the second screw on the other side of the adaptor.

2.2.2 Mounting the breath shield of the MZ6 stereo microscope

Mount the breath shield on the under side of the stereo adapter with the Allen screws provided.

2.3 Mounting the room temperature items

2.3.1 Knife stage

Place the knife stage on the support.
Clamp it with the locking lever.

2.3.2 Segment arc

Insert the segment arc into the specimen arm and clamp it with the knurled screw.

2.3.3 Peristaltic pump

The peristaltic pump can be mounted either on the left hand side or on the right hand side of the armrest.

Remove the armrest from the instrument.
Loosen the screw from the inside surface and mount it on the outer side.

2.3.4 Mounting the antistatic electrode for room temperature work

Insert the electrode into the cover of the stereo carrier.

Pull the cable of electrode out of the cable channel.

Mount the gooseneck on the stereo adapter of the S6 or S4 stereo microscope.

or

Mount the gooseneck on the adaptor of the MZ6 stereo microscope.

Secure the gooseneck by tightening the lock nut.

Mount the electrode in its adaptor and clamp it on the gooseneck by tightening the Allen screw.

Clamp the cable of the electrode with the clip on the gooseneck.

2.4 Control Unit (electrical connections)

Power supply cable with retaining screw has to be tightened on the socket

UC6 cable. Tighten the plug with the two screws onto the socket of the control unit.

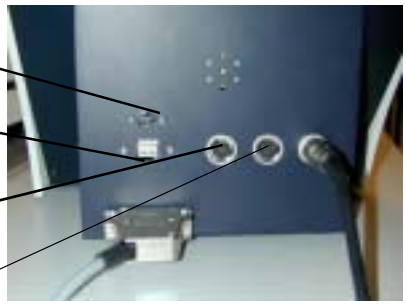
UC6 cable. Tighten the plug with the two screws on the socket of the UC6 body.

PS2 (mouse)

USB (mouse - recommended)

Foot-switch

Antistatic transformer



ON /OFF switch on side of control unit

The control unit is equipped with a full range power supply for a voltage input range from 100 to 240VAC 50/60 Hz.

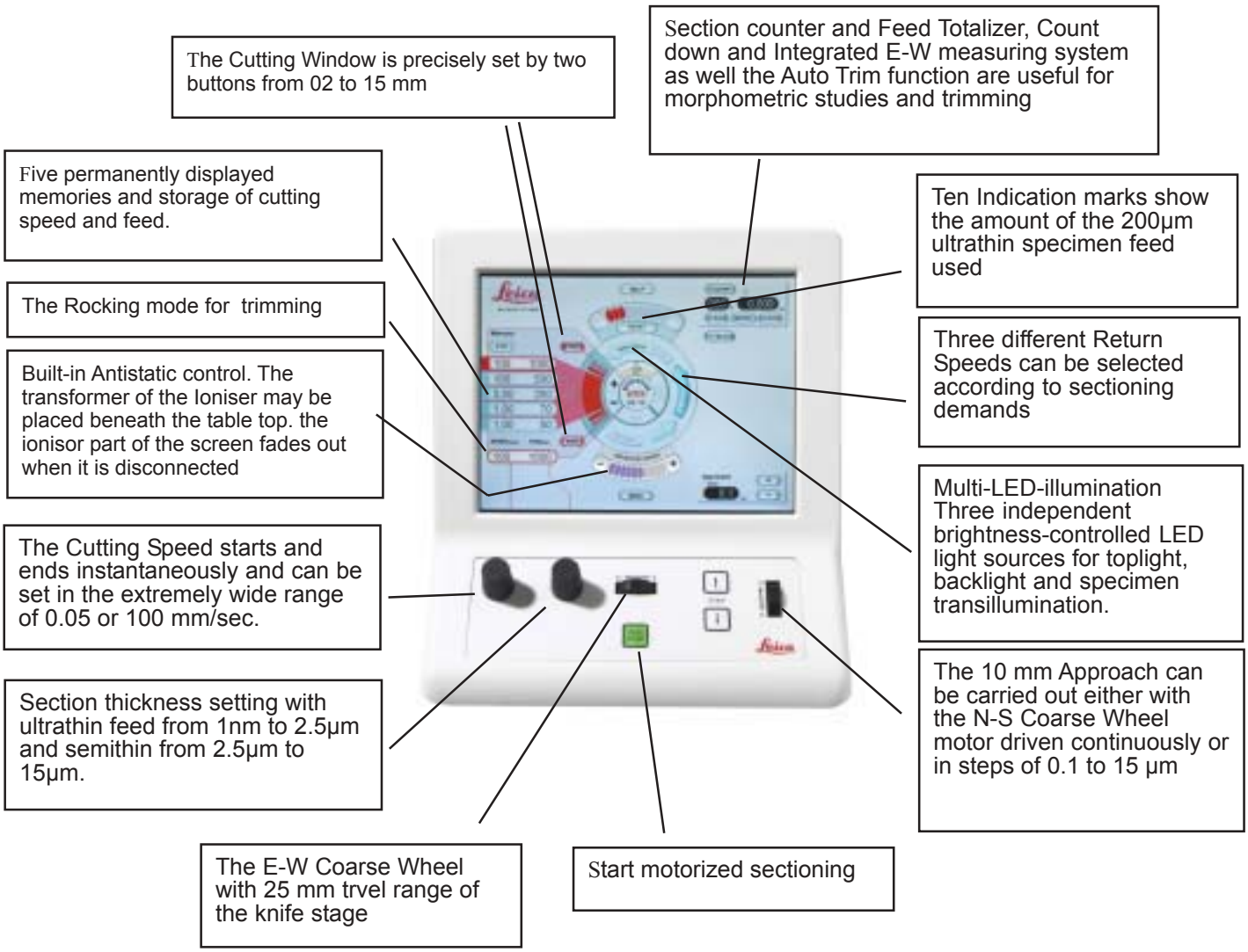
3. Operation of the touch sensitive controller

Environmental specifications of the touch screen:

Operating temperature:	0°C to 60°C (no condensation)
Operating humidity:	less than 90% RH (no condensation)
Storing temperature:	-20°C to 70°C (no condensation)
Storing humidity:	less than 95% RH (no condensation)

Cleaning of the touch screen can be carried out with a commercially available damp, lint-free cloth .

After switching on the controller with the rocker switch the initialisation process starts. The user interface will appear after about 45 seconds.

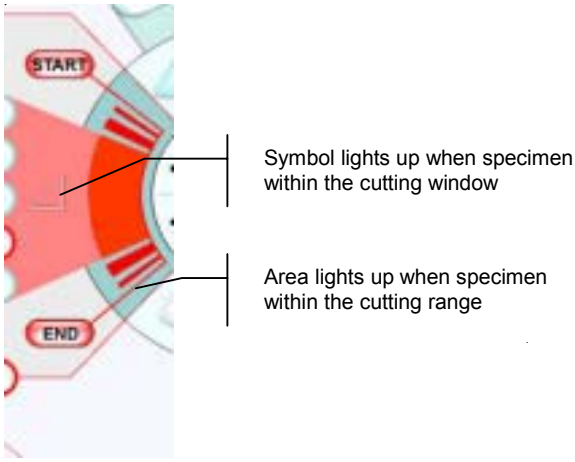


RUN/STOP: switches on and off the motor of the specimen arm.

HELP:
by touching this button followed by the button in question on the touch screen the appropriate function will be described.

CUTTING WINDOW: set the cutting window with buttons START and END

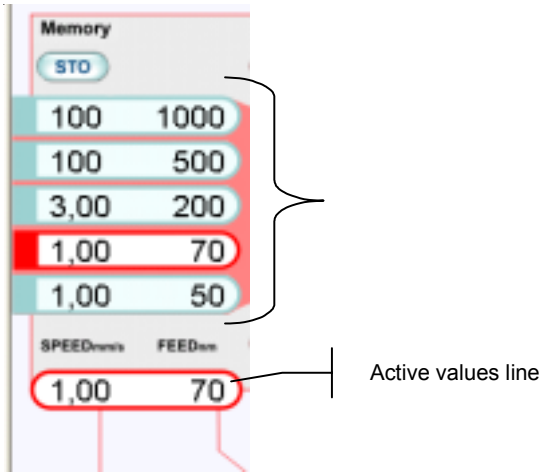
The length of the cutting window on the UC6 has to be set the following way:
Turn the handwheel so the specimen is in the forward cutting stroke. Move the lower edge of the block face by means of the handwheel to approx. 1mm above the knife edge.
Press the button START.
Now move the blockface down until the upper edge of the block face is below the knife edge .
Press the button END.
This can be done for cutting window sizes from 0,2mm up to 15mm.



When the mouse is connected the cutting window can be set by clicking on the right mouse button and dragging to the north (START) and south (END) when this action is enabled in the menu (right-mouse button-drag-configuration).

SPEED / FEED:

Memory lines: by touching one of these lines the instrument operates with the displayed values. Activated memory is indicated by a red frame and the values are displayed in the “Active values” line.



Set Cutting speed and feed:

Rotate knob to adjust speed of the specimen between 0.05 and 100mm/sec and feed between 1nm and 15µm.
Values are indicated in the “active values” line.

Storing SPEED / FEED values:

Set speed and feed by turning the knobs, press STO followed by one of the five memory lines.

ANTISTATIC Control:

As soon as the antistatic device is connected the control area will be displayed on the screen.
- decreases the intensity of the electrode
+ increases the intensity
By touching Antistatic ON/OFF control button fades to grey.

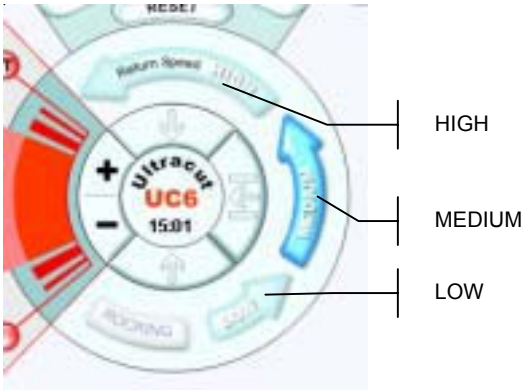
APPROACH: of the knife towards the specimen

Coarse control with the track wheel and jog control by using STEP buttons. If continuous approach is enabled (menu) the knife stage will move towards the specimen while STEP is pressed. Continuous return of the knife stage can be achieved while STEP is pressed.

Step size can be set using +/- buttons on the screen.

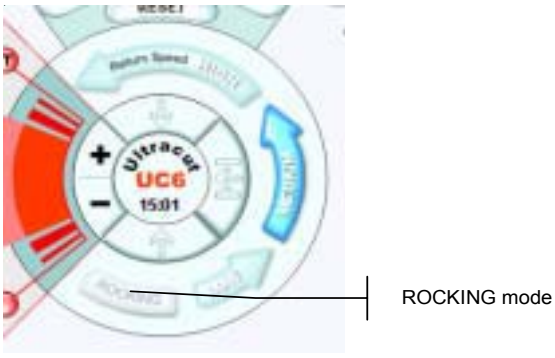
RETURN:

Return Speed: choice of three different speeds.



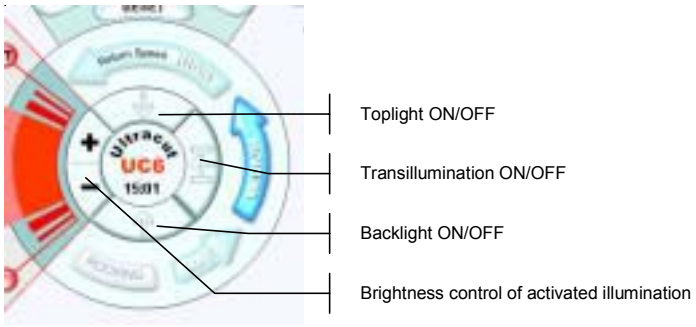
ROCKING mode:

Enables fast up and down manual movements of the specimen arm using the hand wheel, in conjunction with an advance of the selected feed.
This mode is used for fast trimming procedure. Advance of the specimen arm will be performed when specimen arm is moved above the cutting window. Therefore setting the cutting window is a prerequisite.
Rocking mode switches off as soon as another



ILLUMINATION:

The UC6 is equipped with three different types of LED illumination.
The intensity of each light switched on can by controlled by using the + or — button.
After switching off the light the value of the intensity is stored.



RESET:

Advance indicator and reset control.
Each mark indicates the beginning of 20µm of feed.
When the last indication mark lights up, an accoustic signal and blinking alerts the operator of the end of the specimen advance. An automated reset will be performed at the end of the advance (200µm).
Instant resetting may be carried out at any time by pressing the reset utton.

COUNTER:

MODE toggles through the four modes: Section counter and Feed Totalizer, Count down, Integrated E-W measuring system and AutoTrim function.

SECTION COUNTER and FEED TOTALIZER:
(Green arrow points upward)
display shows the total advance and the total number of sections cut from the moment of CLEAR setting.

COUNT DOWN:
(Green arrow points downward)
enables sectioning and trimming to a predefined total thickness or predefined amount of sections of up to 200µm or to 999 sections.

After pressing SET either for “N” (sections) or “µm” (thickness) a numerical keypad appears. Choose desired value and press OK. Start motorised sectioning. Sectioning will be done until zero is reached.
For further runs press SET again, change or leave value and press OK. Start motorised sectioning again.

Note: as soon as zero is reached the instrument stops cutting. To continue with standard sectioning change to another counter mode.

E-W MEASUREMENT:

the Integrated E-W measuring system offers the possibility to determine the size of the block face and inclusions.
Measuring procedure:

- Use the corner of the knife as a reference
- Move the knife to the starting point of measurement
- Clear the value indicated
- Move the same knife corner to the end position of the part to be measured

AUTOTRIM:

This is a useful function of the touch sensitive controller which saves time during trimming samples with a double sided trimming knife (e.g. diamond trimming knife). Before programming make sure the knife block is swivelled into the 0° position.

By pressing the mode button the AutoTrim function can be selected. An information window on the left upper corner appears to prompt you through the programming procedure.
In order to trim the blockface to size automatically the knife width has to be entered by pressing the SET button. The knife width can be measured with the measuring system by pressing the MODE button for change-over (see E-W MEASUREMENT description). Once the measurement is done by pressing the MODE button again the AUTOTRIM function can be recalled and the measured value can be entered. This value is stored and has to be changed when the knife width of other trimming knives varies.

After setting the start position (origin) for block-facing the depth of sectioning has to be entered.

Upon entering the trimming depth, the knife is then moved to the right to determine the position of the right edge of the blockface. The instrument starts in that E-W position regardless of the N-S position. N-S is determined by the origin position (step 1).

By using a 45° beveled trimming knife blade it has to be taken into account that the position of the right edge of the specimen block will be shifted by approx. 1.25x of the trimming depth.

By using a 45° beveled trimming knife blade it has to be taken into account that the specimen width will be reduced by approx. 2.5x of the trimming depth, e.g. in order to receive a 500µm blockface-size with a total depth of trimming of 200µm the entered specimen width should be 1000µm.

For safety reasons after pressing START button the knife moves approx. 500µm backwards before moving E-W and starts sectioning at the position of the 1st step

The progress of the cutting step is indicated on the status line. It might be that trimming the blockface needs to be interrupted and skipped. This can be done by pressing the green RUN/STOP button followed by YES in the “Blockface ready?” box.

Once the blockface is ready cutting of the left and right edges of the blockface starts automatically. For safety reasons the knife moves approx. 500µm backwards before moving E-W.

Every step can be interrupted by pressing the green RUN/STOP button. An information window appears on the left corner. By pressing the START button of the AUTOTRIM window the pre-programmed trimming cycle starts from the 1st step onwards. By pressing the green RUN/STOP button the trimming cycle will be resumed. By pressing the CLEAR button a new program can be written or MODE to leave AUTOTRIM,

Once the blockface, the right and left edge of the sample has been trimmed, the knife moves to the right edge of the sample. An acoustic signal is given and an information window prompts you:

After the sample has been turned 90° clockwise, the position of the new right hand edge has to be determined.

By using a 45° beveled trimming knife blade it has to be taken into account that the position of the right edge will be shifted by approx. 1.25x of the trimming depth.

The specimen width in step 5 is recalled for step 8. For changing the specimen width in order to get a rectangular blockface the desired value has to be entered by pressing the SET button.

By using a 45° beveled trimming knife blade it has to be taken into account that the specimen width will be reduced by approx. 2.5x of the trimming depth, e.g. in order to receive a 500µm blockface-size with a total depth of trimming of 200µm the entered specimen width should be 1000µm.

The total depth of trimming for the upper and lower edges are taken over from step 4. After pressing the START button of step 8 the instrument starts trimming the last two edges.

Once the upper and the lower edge of the sample is trimmed an acoustic signal is given. Turn the sample counterclockwise and change to another mode e.g. count up for sectioning the sample.

- By using a 45° beveled trimming knife blade it has to be taken into account that the defined position of the edges will be shifted by approx. 1.25x of the trimming depth.
- By using a 45° beveled trimming knife blade it has to be taken into account that the specimen width will be reduced by approx. 2.5x of the trimming depth, e.g. in order to receive a approx. 500µm blockface-size with a total depth of trimming of 200µm the entered specimen width should be 1000µm.
- Before programming make sure the knife block is swivelled into the 0° position.
- The AutoTrim works only with a double sided trimming tool (e.g. diamond knife)
- After pressing START the program will be executed. It stops automatically before the specimen has to be rotated 90°.
- The FEED of the knife will be performed by the knife stage. The step size of the FEED is 100nm. It can be changed during AutoTrimming by using the feed control knob.
- The status bar indicates the progress of the cutting step.
- For safety reasons before the knife moves to its predefined positions the knife will retract 0.5mm.
- While the programme is running it can be interrupted by pressing the green RUN/STOP button and resumed by pressing this button once again.
- With the CLEAR button the programme can be started again from step 1 onwards.
- Once the program is interrupted, pressing the START button will restart the program from the beginning.

MENU: by touching this button up to seven different user/ sample profiles can be set and recalled by pressing the corresponding name of the user or sample.
Every parameter e.g. brightness of the illumination, speed/feed, memory or the AutoTrim setting are stored for each profile.

RENAME: key in the name of the operator or sample.

EDIT: The following settings can be selected

- **Manual Cutting** - sectioning can be performed using the handwheel.
- **Cutting Animation** - The segment of the cutting range, the indication of the cutting window and the selected return speed lights up on the control panel when the specimen arm is in that position.
- **Standby** / screensaver - after the selected time the light of the screen is switched off.
- **Beep Volume** - increases or decreases the volume of the acoustic signals.
- **Stage Feed Minimum** - advance of the stage will be performed when the selected FEED corresponds or exceeds that value.
- **Continuous Approach** - by pressing the north step button of the control panel the knife moves towards the sample while this button is pressed.
- **Show Info Messages** - the instrument indicates information messages in the upper right corner if the box is ticked.
- **Show Confirm Messages** - for safety reasons, confirm messages will be displayed when the RESET and the FC Mount button is pressed.
- **Button-Click Beep** - on/off

Right-Mouse button-Drag-Configuration:
By clicking the right mouse button and dragging to left, right, up or down, four different instrument operations can be performed. The different configurations can be selected by the list box e.g. E-W / N-S movement, **s**etting START and END of the cutting window.

Reset Profile - reset to factory settings

SAVE - saves changes of the profile

SETUP: Change - setting date and clock
Reset Factory Setting - in respect of Speed / Feed values
BACK - return to the UC6 control screen

MOUSE:

All buttons of the touch screen can be operated using the left mouse button of the mouse included in delivery.
Connecting the mouse on the PS2 port

- switch off the instrument
- connect the mouse on the PS2 port on the rear side of the controller
- switch on the controller

As soon as the mouse is connected to the USB port it is ready for use.

4. Operation of the key-pad controller

Graphic Display indicates selected step size of the

Buttons for **Step Size** setting of the approach.

Graphic Display indicates FEED and SPEED setting, amount of the feed used and

The **Cutting Speed s**tarts and ends instantanously and can be set in the extremely wide range from 005 to 100 mm/ sec.

Section thickness setting with ultrathin feed from 1nm to 2.5µm and semithin from 2.5 µm to 15 µm.

E-W Coarse Wheel allowing 5 mm travel of the knife stage left and

FC6 Control buttons with 3 memories and storage of temperature.
Ioniser control, START, HEAT, LN2 STOP and Alarm OFF buttons. In conjunction with FC6 Cryochamber

Multi-LED illumination
3 independent LED light sources provide outstanding illumination for toplight, backlight and specimen transillumination.

The **Cutting Window** is precisely set by two buttons from 0.2 to 15 mm.

Four memories and storage of cutting speed and feed.

The 10mm **Approach** can be carried out either with the **N-S Coarse Wheel** mtor driven continuously or in steps of 0.1 to 15µm

Start motorized sectioing and stop.

RUN/STOP: of the motorised cutting movement

Pressing this button switches on and off the motor of the specimen arm.
If feed setting > 2000 nm press longer than one second.

APPROACH: of the knife towards the specimen

Coarse control with the track wheel and jog control by using STEP buttons. If continuous approach is enabled (setup 1 menu) the knife stage will move towards the specimen while STEP is pressed. Continuous return of the knife stage can be achieved while STEP is pressed.

Step size can be set using +/- buttons between the displays.
The step size is indicated on the display above the buttons.

CUTTING WINDOW:

Move the lower edge of the blockface by means of the handwheel to just above the knife edge.
Press the button CUT START.
Move the blockface down until the upper edge of the block face is below the knife edge .
Press the button CUT END.
This can be done for cutting window sizes from 0,2mm up to 15mm.

SPEED / FEED:

Set Cutting speed and feed:

Rotate knob to adjust speed of the specimen between 0.05 and 100mm/sec and feed between 1nm and 15µm.
Values are indicated in the “active values” line.

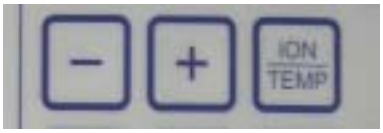
MEMORY:

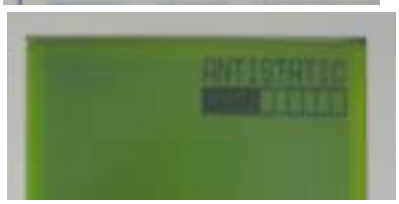
By pressing one of these four buttons blinking figures indicate the stored values on the display. Pressing the button once again the instrument operates with these values.

Storing SPEED / FEED values:

Set speed and feed by turning the knobs, press STORE followed by one of the four buttons.

ANTISTATIC Control:





With the remote controlled transformer of the antistatic device the intensity of the antistatic electrode can be controlled by pressing + or - button. To enable it the ION/TEMP button has to be pressed. The intensity will be indicated on the upper display.

ILLUMINATION: the UC6 is equipped with three different types of LED illumination.

Top light for observation of the cutting process and judgment of the section thickness.

Transillumination for locating and identifying interesting structures within the specimen block when trimming with the MESACUT or with the trimming block. Mounting the transillumination see point 5.3

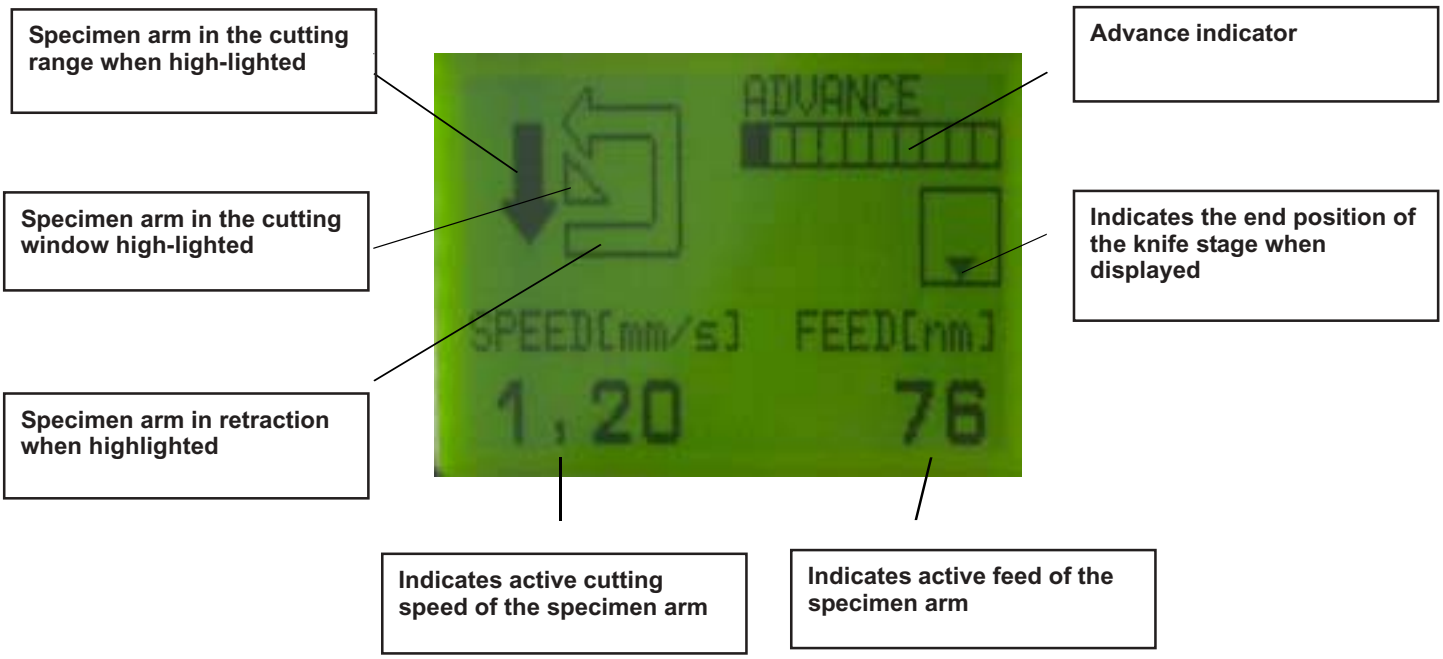
Back light for alignment of the diamond and glass knives with the sample and for knife inspection for contamination and flaws (nicks) before sectioning.

The intensity of each light can be set in the submenu (see point 4.1).

RESET:

Advance indicator and reset control.
Each mark indicates the start of 20µm of feed. When the last indication mark lights-up, an acoustic signal and blinking alerts the operator of the end of the specimen advance. An automatic reset is activated at the end of the advance (200µm). Resetting may be carried out at any time by pressing the reset button longer than one second.

DISPLAY:



4.1 SUBMENU:

By pressing the alarm off button longer than 1 second you enter the submenu. To leave it press button once again.
Note: the alarm button is normally used in conjunction with the FC6 cryochamber (described in the FC6 manual).

Use CUT START and CUT END button to select desired parameter which would like to be changed.

Use — or + button of step size setting for changing the parameter.

Setup 1 menu

- Manual: to enable manual sectioning using the hand wheel.
- Volume: changes the loudness of acoustic signals.
- Ret.speed: 3 different retraction speeds of the specimen arm can be selected.
- Cont. Appr.: to enable continues approach of the knife while the STEP north button is pressed.
- Light: press + button (step size) to enter Light menu

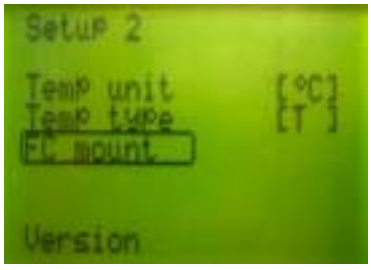
The brightness can be controlled using — or + button

- TL: Top light
- SP: Specimen transillumination
- BL: Back light
- FC: Cryochamber illumination
- Exit: leave menu by pressing + button

Setup 2 menu

Continuation when CUT END is pressed at the end of Setup 1

- Temp Unit: changes to °C, °F or °K (see FC6 manual)
- Temp Type: type of displayed temperature (see FC6 manual)
- FC mount: stage moves in south end and east-west middle positon, top light goes on when + button (STEP SIZE) is pressed.
- Version: software information by pressing + button, - to leave.

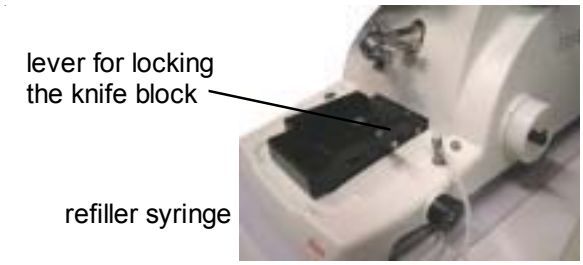


5. Description of the Instrument

The following instructions for the use of the instrument will mediate all information of the proper use and maintenance of the Ultramicrotome. May we suggest you familiarize yourself with the operating elements and run through the following manipulations before starting sectioning.

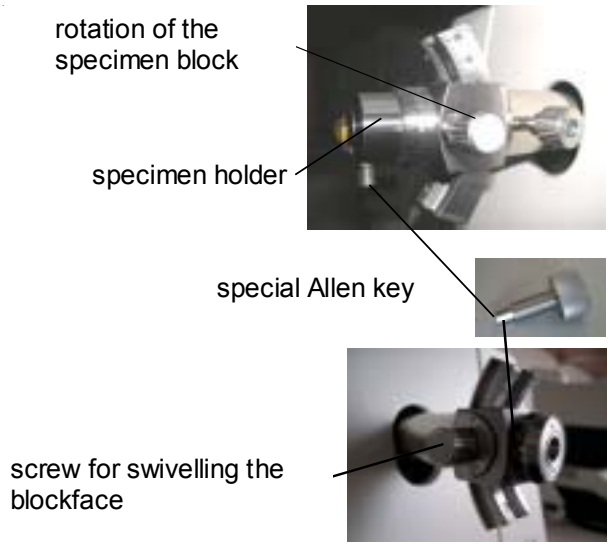
5.1 Specimen-Knife Area

Move the microscope carrier to the left or right. Place the REFLEXOMAT refiller syringe with its magnetic base on one of the steel plates. Unlock the lever and lift the knife block upwards out of its guide and put it aside. After removal of the knife block, the segment arc and specimen holder are completely freely accessible and all manipulations can be easily carried out.

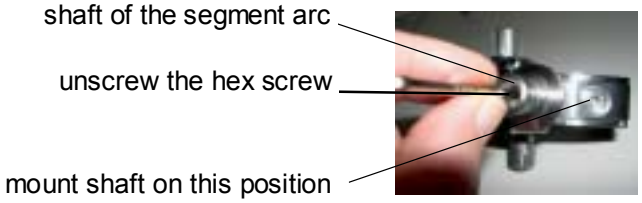


5.2 Segment Arc

The specimen is fixed in the specimen holder by means of a special Allen key. The same key fastens the specimen holder in the segment arc. Store special key in either the right or the left opening of the armrest. With the segment arc in the vertical position the specimen block may be rotated about its long axis with the knurled knob and swivelled about its cutting face. Both controls of the segment arc are self-locking precision drives.



For longitudinal or radial sections the shaft of the segment arc can also be placed at the end position of the segment arc. This is done by unscrewing it from the centre position and tightening it again at the end position of the segment arc.



5.3 Transillumination

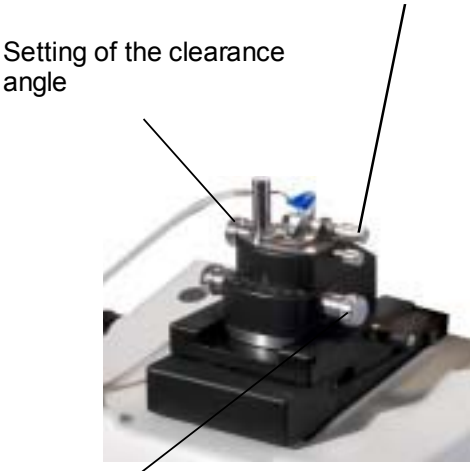
The transillumination is connected with the connecting cable and its plug to the outlet. The other side with the LED is inserted into the swivelling part of the segment arc. Swivel the arc into the upper position and insert the LED mounting, clamping screw (plastic head) facing you.

5.4 Trimming Block / Trimming Adapter

For inspection of the block and the cutting face as well as for manual trimming with a razor blade a trimming block is available. It is placed into the guide track of the knife support in place of the knife block and clamped by the lever.
After clamping the trimming block, the standard segment arc or the trimming adapter can be put into the opening of the trimming block and clamped with lever. For expedient working coarse alignment of the specimen block in the stereo is made by opening the clamping of the trimming block and moving its guide into the centre of the field of view and by swivelling the stereomicroscope left to right. Fine adjustment at high magnification can be done with knife support controls and as well as the stereomicroscope N-S control. To start the zoom control should be set to the lowest magnification.

5.5 Knife Block

The knife block consists of the knife holder, the upper portion and the lower part. For coarse and quick movement of the knife about the vertical axis the upper portion of the holder is pivoted by hands in its self-locking bearing. Fine adjustment can be carried out with the self-locking precision drive.
For moving or exchanging the knife holder the clamping screw has to be released. The clearance angle may be set from –2° to +15° with the calibrated control to the position marked on it using dark field illumination.
When inserting the knife the front of the knife has to be pressed against the stop plate.



Precision drive for pivoting the knife.

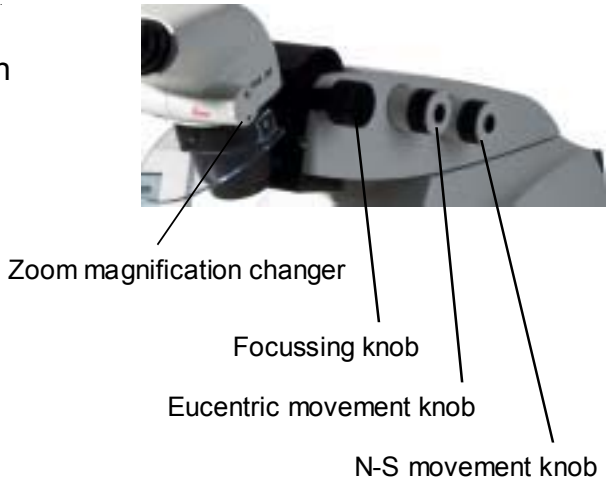
5.6 Drive System

To switch on the motor drive, the green button has to be pressed.
The motor runs and the handwheel rotates.
Turning the SPEED knob varies the cutting speed between 0,05 and 100 mm/s.
When choosing a very slow speed e.g. 0,05 mm/s it will be easy to see that the specimen is moving very slowly in a certain part of its downward movement (cutting window) and thereafter much faster.
The cycling will be indicated by the highlighted segments on the control unit. During the return stroke the specimen is automatically retracted by approx. 0,2 mm so that the cutting edge of the knife is not touched by the specimen in the return stroke.
If the specimen arm is in its retracted mode the segment on the display lights up.

5.7 Stereo Carriers

5.7.1 with eucentric movement of the stereo microscope

The eucentric movement of the Leica EM UC6 viewing system allows examination of sections, even with a lowered water level (e.g. for Lowycryls) and dry sections. Defined position marks provide optimum positioning of the stereo microscope for alignment with glass and diamond knives for approaching the sample towards the knife edge. The click stop position in the middle of the movement is used for diamond knife approach. The upper end position is used for glass knife approach.



Example using the eucentric movement at lowered water level.

without eucentric movement

with eucentric movement

5.7.2 without eucentric movement of the stereo microscope

6. Technical specification

Magnification	MZ6: 8x-51x
	S6E: 10x - 64x
	S4E: 10x - 48x
Ergo-Wedge	5°-25°
Eucentric movement of the stereo carrier	+5°/-8°
Built in control of antistatic device	yes
Top-light	LED
Back-light	LED
Transillumination	LED
Cutting transmission	vibration decoupled gravity stroke
Specimen advance	200µm
Reserve warning	20µm
Segment arc	360° rotatable specimen
eucentric movement	+/- 22°
90° indiction marks for alignment	yes
Knife block	360° rotatable
self locking	yes
graduation	+/-30° graduation
Clearance angle adjustment	-2° to 15° with 1° scale
Knife holder	for 6-12 knives
Coarse knife-movements N-S:	10 mm stepping motor
E-W.	25mm stepping motor
Cutting window	0.2 - 15 mm adjustable
Cutting speed	0.05 - 100 mm/s wheel controlled
Section thickness	0-15000nm wheel controlled
FEED/SPEED storage (combined)	5 touch controller 4 key pad controller
Return speeds	10, 30, 50mm/s
Step control	0.1 - 15 µm steps

EC Declaration of Conformity
EG Konformitäts-Erklärung
Déclaration CE de Conformité

We / Wir / Nous **Leica Mikrosysteme GmbH**
Hernalser Hauptstrasse 219
A-1170 Wien Austria

declare in exclusive responsibility that the product
erklären in alleiniger Verantwortung, daß das Produkt
déclarons sous notre seule responsabilité que le produit

Model **Leica EM UC6**
Modell **Leica EM UC6**
Modèle **Leica EM UC6**
Type / Typenbezeichnung / type **705801/655825**
705802/655826

to which this declaration relates is in conformity with the following standards:
auf das sich diese Erklärung bezieht, mit den folgenden Normen übereinstimmt:
auquel se réfère cette déclaration est conforme aux normes:

EN 61010-1
EN 50081-1
EN 50082-1
EN 61000-4

following the provisions of directive
gemäß den Bestimmungen der Richtlinie
conformément aux dispositions de directive

89 / 336 / EEC (Electromagnetic compatibility)
(Elektromagnetische Verträglichkeit)
73 / 23 / EEC (Low Voltage Equipment)
(Niederspannungsrichtlinie)
89 /392 EEC (Maschinery)
(Maschinen)

Wien, 13. Dezember 2003

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