



Vibrating Microtome

9000SMZ

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Note, pink features are not currently available with present version of firmware.

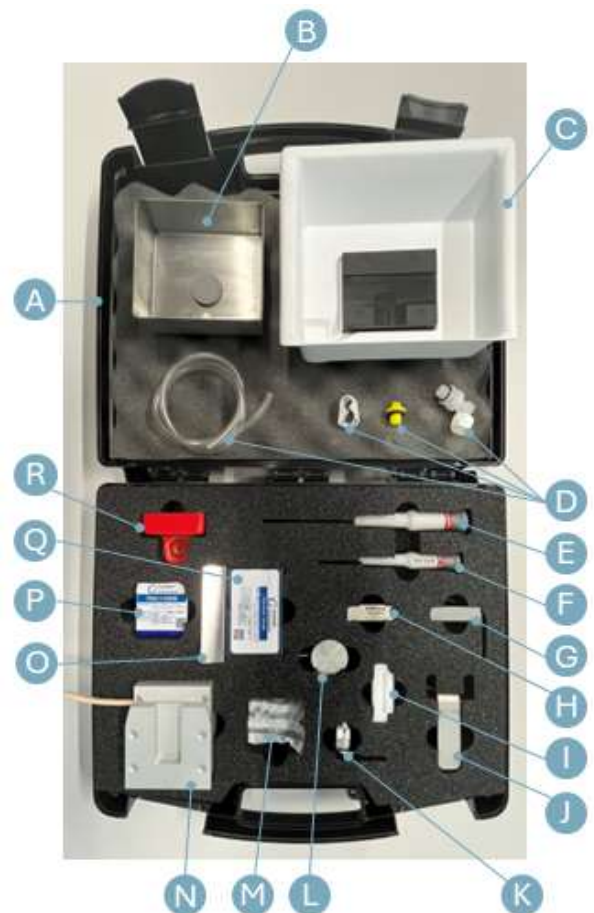
01 Packaging

Please retain the original packaging for future use.

Instruments will not be accepted for service or repair unless the unit has been adequately and properly packaged. Additionally, instruments will not be accepted without prior authorisation and have been certified as being uncontaminated with any material that may be hazardous to the health of service personnel. A Returns Authorisation and Decontamination Certificate blank form is included at the end of this manual and may be photocopied as required. Blank forms can also be obtained by contacting Campden Instruments.

Packing List

Item	Qty
Vibrating Microtome 9000smz	1
A: Accessories Case	1
B: Specimen Bath	1
C: Outer Bath	1
D: Outer Bath Drain Accessories	1
E: Hex Driver 2.5mm	1
F: Hex Driver 1.5mm	1
G: Rectangular Specimen Mount	1
H: USB Flash Drive	1
I: Blade Holding Tool	1
J: Specimen Holder Handle	1
K: Fixed Specimen Mount	1
L: Adjustable Angle Specimen Mount	1
M: Blade Holder	1
N: Opti-Cal Calibration Unit	1
O: Splash Guard	1
P: Box of 50 Stainless steel blades (7550-1-SS)	1
Q: Box of 3 Sample Ceramic blades (7550-1-C)	1
R: Blade Guard	1
Operator's handbook	1
Quick Start Guide	1
Transit Crate	1



Microscope, cold light source, magnifying glass and other optional extras: as ordered.

02 Instrument Setup

Find a suitable workspace

The slicer requires a sturdy bench. It will need to safely support 35Kg (77lbs).

Unpack Instrument - **SAFETY WARNING! SEE UNPACKING INSTRUCTIONS SHEET**

Due to its weight, two people are required to unpack and situate the slicer.

Connect power and switch on

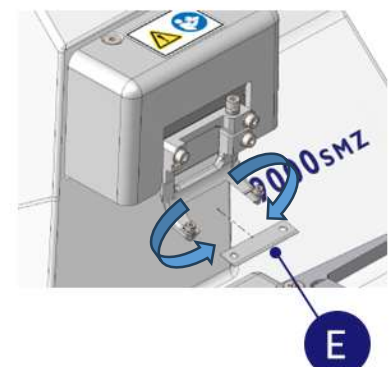
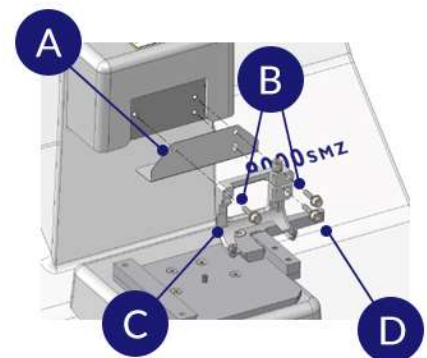
The power cord attaches to the rear left; the power switch is on left hand side. When powered on, the slicer will fully retract the 'Advance' drive (y-axis) and lower the 'Stage' (z-axis) to the 'Load' position. Once ready the Start screen will be displayed.



9000smz Start Screen

Install Blade Holder

Item	Qty
A: Splash Guard	1
B: Mounting Screws	2
C: Blade Holder	1
D: Lock Off Screw	1
E: Blade	1



CAUTION

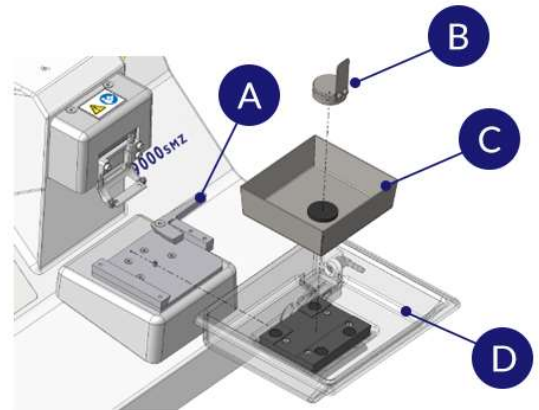
The blade is very sharp. Please use the holding tool provided.

The left-hand blade mounting screw has a left-handed thread, turn anticlockwise to tighten

Load a Specimen onto the Instrument

The specimen mounts on a specimen holder (typically with 'Super glue') The specimen holder is part of the bath assembly - this consists of an outer 'ice bath' an inner 'specimen bath' and a 'specimen mount'. They magnetically attach.

Item	Qty
A: Lock Lever	1
B: Specimen Holder	2
C: Specimen Bath	1
D: Ice Bath	1



The bath assembly mounts on the slicer, by placing it on the stage and sliding gently backward whilst pressing the 'Lock Lever' back.

Get Slicing

There are three on-screen options to continue:

1. **Slice:** Choose this option to continue with slicing.
2. **Custom:** To select user created settings for slicing a particular type of tissue or using a pre-defined method.
3. **Preparation:** Allows the Blade to be changed/calibrated and the type of specimen holder to be selected.

03 Selecting Slice

The machine will move the bath and blade edge to their 'Home' positions. 'Home' positions the blade edge in line with the rear edge of the selected specimen holder and the stage moves to a convenient height (this height can be preset). The instrument will display the **Move Screen**. Note: Press and hold the help button to reveal extra screen information

Move Screen

A: Step Size

B: Step Control

C: Position

D: Speed

E: Mark Home

F: Help

G: Slice

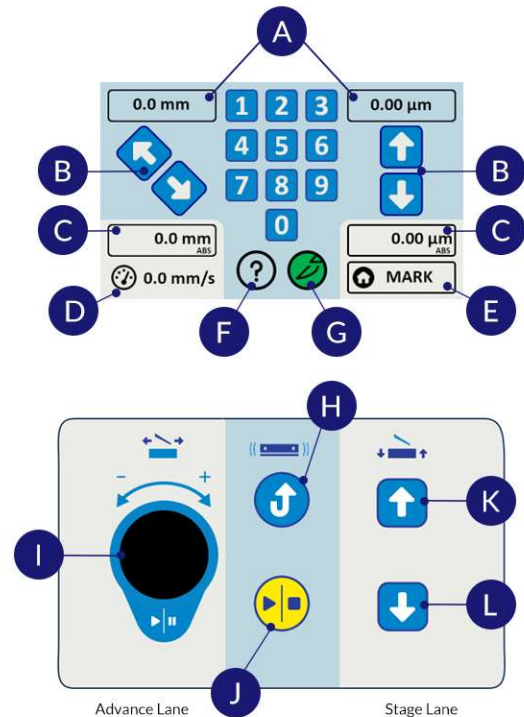
H: Return

I: Advance Dial (Press ON/OFF)

J: Slice ON/OFF

K: Stage Up

L: Stage Down



Move in two ways

- Step:** Enter the Step Size and use the Step Control to move the step amount. To enter Step Size, press the desired digit and use the numpad.
- Continuous:** Using the Keypad controls
 - Move the 'Advance' position using the Rotary dial. Rotate for speed, press on/off.
 - Move the 'Stage' position using the Up / Down buttons. Press and hold to move, release to stop

Position

Press Advance or Stage Position to select ABS (absolute) or INC (Incremental).

{When in Incremental mode the displays in either the Advance and/or Stage Position Windows the displacements from user defined datums}

- Advance ABS:** Distance from blade edge to rear edge of specimen holder
- Stage ABS:** Distance from blade edge to top of specimen holder

Mark Home

Press **MARK** home to save the stage position for future setup.

When satisfied with the position, select the Slice button to proceed. It is possible to return to this screen at any point.

Slice Screen

A: Slice Mode

B: Slice Window / Profile

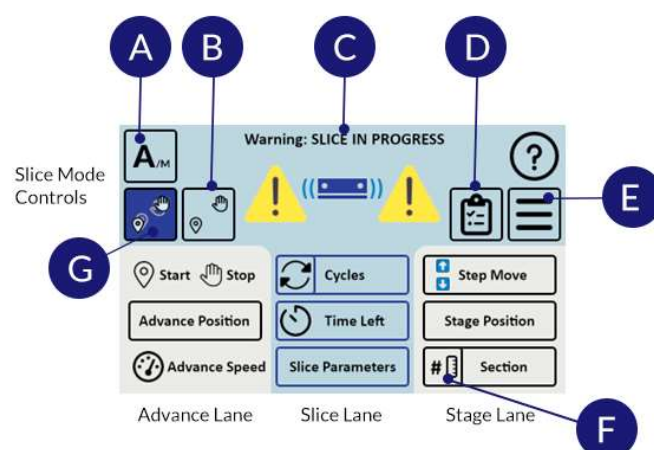
C: Status

D: Preparation

E: Menu

F: Section Selector

G: Auto-Mark



Fine Tune Start Position

The start position can be adjusted using the Advance dial and the Stage Up / Down buttons.

Quickly take a slice

Press the yellow slice button. Use the Advance dial to change the advance speed. Press the Advance dial to toggle the advance on/ off.

Return to Start Position

After taking a slice press the Return button.

Edit Slice Parameters

Enter the Parameters screen by pressing Cycles, Slice parameters or Section. (page 8)

Return to Move screen

Press Advance position or Stage position.

Slice Mode

Determine Start and Finish points or create a Slice Profile. Press A/m (Auto/Manual) to select:

- **Auto Slice mode:** Auto-Mark a Start point, Finish point and a slice profile which can be used for subsequent slices
 - To create, ensure the Auto-Mark button is selected before returning for the next slice. If the Mark button is not selected, then the previous profile is kept.
 - When a profile is available select the Profile button to toggle between Off, Window and Profile.
- **Manual Slice mode:** Manually mark a Start point and a Finish point
 - To mark a Start (Auto-Mark button becomes Start button) or Finish (Profile button becomes Finish button) point, select and hold. The position will be displayed
 - To switch a Start or Finish point on or off, quick select.

Cycle

When a start and stop point are marked then multiple slices can be taken automatically. Press the Cycle symbol to switch to feature on / off. Press the Cycle number to change.

Time Remaining

Remaining time for slice or press for multiple slices. Requires a stop point to be set.

Slice Parameters

Press to change frequency and amplitude.

Step (Key) move

Select the step move made when pressing the Keypad up/down buttons. 50µm, 100µm and 250µm options.

Section

This is the amount the stage is incremented by after a return to start.

- Three preset sections are available
 - To select toggle the Section Select button. The stage will move to the required selection
 - To edit the preset selection, press the Section button.
- To move to a different section thickness. This will create an additional # section thickness
 - Press the Keypad up/down buttons.
 - Press the Stage position button to enter the move screen.

Preparation

To prepare to slice a new tissue sample, press and hold the Preparation button. The axis will move to the 'Load' position allowing the removal / replacement of the Specimen Bath / Outer Bath.

Slice Parameters Screen

Change Blade frequency, Section thickness and Cycle count.

A: Cycle Button

B: Cycle Number

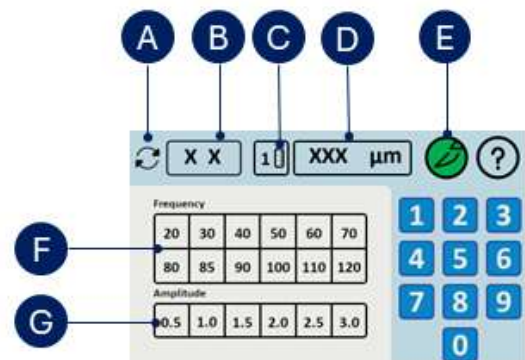
C: Slice Option Number

D: Slice Thickness

E: Slice

F: Frequency Selection

G: Amplitude Selection

**Blade frequency and amplitude**

Select the desired values using the selection matrix. Available options will be highlighted in a lighter colour.

Section

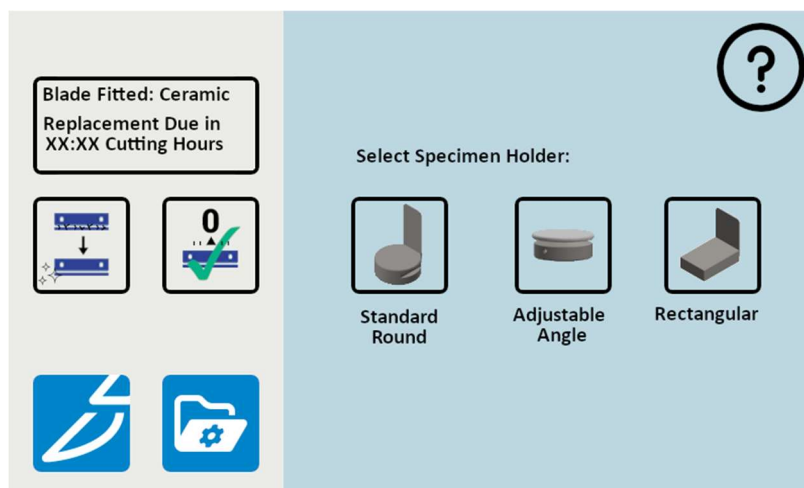
Change the preset section thicknesses.

Cycles

Change the number of repeat cycles.

Preparation Screen

Change Blade frequency, Section thickness and Cycle count.



Select Specimen Holder

Selecting the correct specimen holder allows the instrument to use the correct datum points.

Z-axis Calibration

Select the Calibration button to enter the Opti-Cal routine.

Change Blade

Select the Change Blade Type button to toggle between Ceramic or Stainless Steel.

Replacement Blade

A timer can be set as part of the blade change to indicate when a blade change is required

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