



■ A Lafayette Instrument Company
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**“Vibroslice™” Oscillating Microtomes,
Tissue Bath Temperature Controllers
And Accessories**



In use worldwide for twenty years in the sciences of
neuroscience,
electrophysiology,
dermatology,
embryology
pathology.

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contact:



red box direct

Think inside the box

Tel. +353 1 440 3775

Fax. +353 1 443 0784

VIOP 3318@blueface.ie

email info@redboxdirect.com

Web www.redboxdirect.com

There are three models of 'Vibroslice' and two Temperature Controllers, Cold Light Source and Inspection Microscope in the Campden range as follows:

Model HA752 with manual tissue transport.

Model MA752 with motorized tissue transport.

Model ROMA752 with motorized tissue transport and remote operation.

Model 765LP Low power temperature controller.

Model 765HP High power temperature controller.

Model 752LS Free standing cold light source

Model 752IM Free standing inspection microscope

A range of accessories and consumables including autoclavable cutting heads and tissue baths are also available.

General Description.

Campden Instruments has manufactured the 'Vibroslice' for 20 years from the original design concept of Prof. John Jefferys, (University of Birmingham Medical School, UK). The instrument has been designed to cut 50 to 700 micron sections of fresh, unfixed tissue for in vitro recordings, tissue culture and microassay work. It can also be used to section fixed tissue down to 20 microns without previous embedding or freezing.

The Vibroslice has also been redesigned and considerably upgraded in its performance from the original specification and will section tissue such as brain stem, and liver maintaining the integrity of surface cells for recording.

A vibrating blade slices tissues without the traumatic damage of other methods. The blade oscillates at a fixed lateral displacement of 1.0mm at a frequency set by the user and then actuated by a footswitch. If damage should occur to the blade this lateral displacement minimizes scoring of the tissue.

Both frequency of the blade oscillation and the rate of advance of the section are important in producing good quality sections.

The Vibroslice is designed to be flexible in its operation and has a removable tissue holder and bath, which allows tissue to be prepared and stored ready for later use, provides easy cleaning and prevents carryover of fixative between fixed and unfixed tissue.

Recent product redesign has incorporated a variable angle blade holder for the first time. The advance speed on the motorized models is now ultra-low being half of the previous model and the speed of oscillation has been raised again. Changing of drive belts is now much easier with the readily removable molded cover.

All models are supplied with a standard tissue bath and holder and 10 stainless steel blades.

The Vibroslice has been designed for many years of trouble free operation, particularly with sealing against the ingress of physiological fluids. Nevertheless regular checking of the moving parts and servicing by a skilled engineer are recommended to maintain the very optimal performance.

For latest information see our webpage at www.campdeninstruments.com

E-mail us from our web page if you require further details, have a special application or require the details of our agent in your country.

The manual tissue transport model HA752.



The manual advance of the section gives complete control during sectioning. The HA752 is recommended for use in producing a small number of sections or for use on tissues with differing mechanical properties.

The motorised tissue transport model MA752.

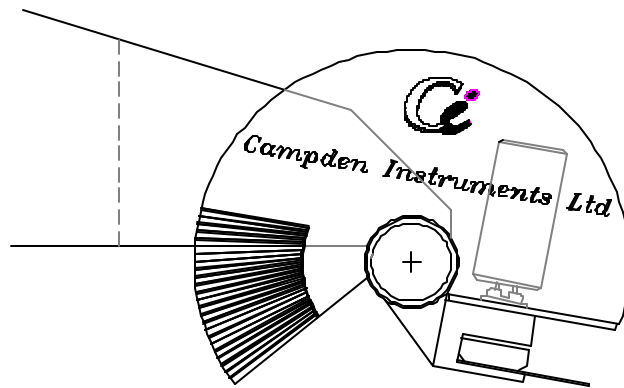


Control of the speed of advance of the tissue to be sectioned is set on a rotary dial and the user then presses a footswitch leaving both hands free during operation. This

model is recommended for use in cutting serial sections for reconstruction or for producing multiple sections.

Both the HA752 and the MA752 can be fitted with the tissue both and holder and a cutting head that can be removed for autoclaving in applications where sterility is important.

One of the new features on the latest Vibroslice is the variable blade angle. A protractor is provided and the angle is set by simply slackening the clamping screw positioning to the required angle and retightening. As a general rule the softer the tissue the steeper the angle is required for optimum slice integrity.

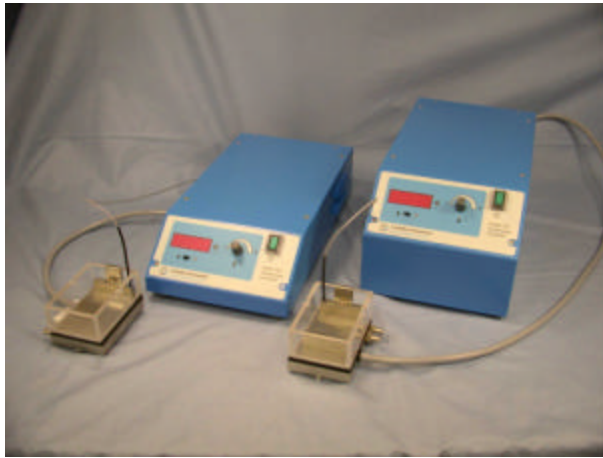


The 'remote motorized' model ROMA752.



This machine was designed especially for work with hazardous tissues such as those containing Prions or rabies infection. The cutting head, tissue bath and associated drive mechanisms are operated on an umbilical from the control box and thus can be placed inside a controlled environment such as a thin film isolator. A tissue bath and cutting head capable of withstanding autoclaving at 140 Celsius are included with this machine.

Campden Temperature Controlled Tissue Baths for the Vibroslice.



The 765LP and 765HP Temperature Controlled Tissue Baths are designed for use with the Campden Instruments tissue cutters models HA752 and MA752. Research has shown that unfixed brain slices sectioned at 4°C give better tissue preservation and are viable for longer in-vitro recordings. Additionally, some enzyme histochemical techniques give better staining results when sectioned at low temperatures.

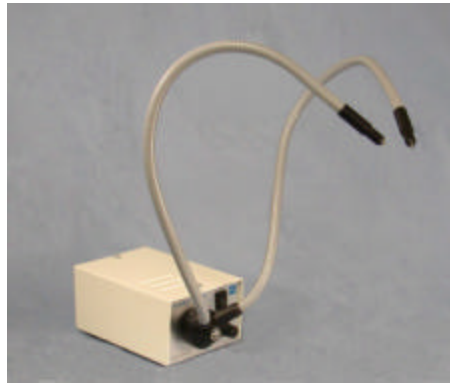
The bath assembly will fit onto a Campden Instruments Vibroslice without modification and the bath chamber has the same volume as the standard Campden Instruments tissue bath (752/2B). The tissue holder is the standard Campden Instruments tissue holder (752/2A).

Vibroslice MA752 with Temperature Controller 765LP.



Current from the power supply flows through one side of the thermoelectric elements, which act as heat transfer units. Heat is drawn off, cooling the solution in the tissue bath. The heat generated by this process is removed by the water supply fed through the heat exchanger. The unit uses proportional temperature control. This will take the bath temperature to within 0.5 °C at the point of measurement. The temperature feedback sensor is located in the stainless steel temperature feedback block (the high power 765HP has an additional heatsink block) and will indicate the temperature at the point of measurement. There will, however, be a small variation in temperature vertically through the bath. Experience will show the best temperature to be set for any given requirement and ambient temperature.

Cold Light Source 752LS



To facilitate the careful slicing operation it is most important that the progress of the blade through the tissue can be clearly observed to ensure the control of the speed of advance and of the oscillation of the blade. To achieve this clear observation two elements are required, light and magnification. Because temperature stability is most important for slice quality it is essential that the light source does not induce heat into the tissue or surrounding a.c.s.f.

The 752LS cold light source consists of a 12V/20W halogen lamp with an approximate life of 2000 hours. Intensity is adjustable by a rotary dial knob. The light is transmitted to exactly where it is required by two flexible fibre optic light guides of 500mm in length.

Inspection Microscope 752IM



In order to properly observe the progress of a slicing operation a magnification of x20 to x30 is required. Therefore whilst a magnifying glass offering only x3 to x4 is not sufficient the Campden binocular inspection microscope with x10 to x40 magnification, a zoom range of x1 to x4 and a working distance of 80mm is ideal for the task.

Specifications, Vibroslice™ Oscillating Microtomes.

Section thickness:

Minimum: Fixed tissue 20 microns
Fresh tissue 50 microns
Maximum: 700 microns
Step size: 5 microns
Tissue bath: 55 x 82 x 31mm in dimension and 140ml volume.

Bath Advance:

HA752 Manual
MA752 Motorized with variable speed from 0.07mm/second
ROMA752 Motorized with variable speed from 0.07mm/second

Bath Return:

HA752 Manual
MA752 Fixed speed motorized
ROMA752 Fixed speed motorized

Section thickness:

HA752 Manual
MA752 Manual
ROMA752 Dual speed motorized
Vibration speed: User adjustable with handsfree operation in all models.
Blade displacement: 1mm nominal in all models
Power supply: 230V ac, 50Hz or 115V ac 60Hz
Power rating: HA752, 15W
MA752 and ROMA752, 20W

Specification, Tissue Bath Temperature Controllers.

Display Resolution 0.1 °C
Temperature Accuracy +/- 1 °C
Temperature Range 765LP +40 °C to -1 °C
Temperature Range 765HP +40 °C to -10 °C

(Note that the actual temperatures achievable will be dependent upon the solutions used and local temperature conditions)

Voltage requirements LP (HP) 230v 50Hz Fused at 1A, (2A)
110v 60Hz Fused at 2A, (4A)
Set via switch on rear of unit.
Power requirement LP (HP) 250W (350W)

Specification, Observation Accessories.

752LS Cold Light Source
20W/12V Halogen lamp, 2000 hour life approx.
Fan and electronic power supply
Adjustable with potentiometer
Twin 500mm fibre optic light guides

752IM Inspection Microscope.
Binocular, 45° inclined
x1 to x4 zoom
x10 to x40 magnification
WFx10/20mm Eyepiece
80mm working distance

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