# Vibrating Microtomes

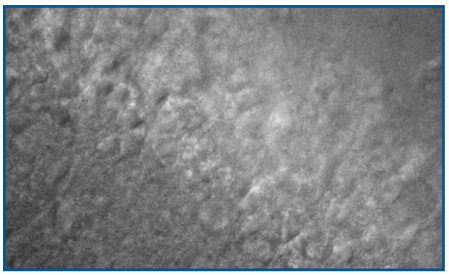
## Precision Tissue Sectioning


Campden Instruments

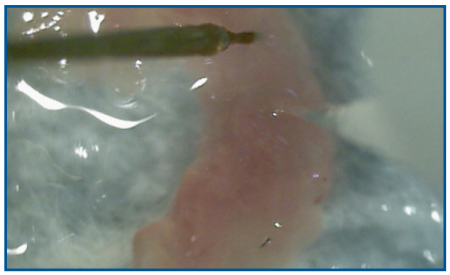
# 7000SMZ-2

The culmination of over 30 years of tissue slicer research and development, the Campden Vibrating Microtome 7000smz-2 provides an optimal slice surface, perfect for techniques such as visual patch-clamp recording or high resolution imaging.

- Minimal Z-axis deflection (less than 1 µm) at all speeds and amplitudes
- Tissue sample is automatically retracted before blade returns to start point
- The full range of adjustable parameters for the expert user with 8 Customizable User profiles
- Manual, Semi or Fully automatic operation
- Leaf spring vibratory mechanism for optimal longevity and accuracy



Mouse Hippocampus



Rat Heart

Rat Calyx of Held


# 5100MZ & 5100MZ-PLUS

New budget microtome is perfect for techniques such as histology, organotypic slice culture and low resolution imaging.

- Shares many features with the flagship 7000smz series
- Mechanism Z axis error of less than 10µm
- Manual or Semi automatic operation
- Control handset allows full remote control

The 5100mz-Plus is designed for techniques requiring viable slices for longer durations such as electrophysiological field recordings or ISME's.

- Optimal Z-axis deflection 2 µm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# SPECIFICATIONS

| | 7000smz-2 | 5100mz-Plus | 5100mz |
|---|---|---|---|
| Optimal Z-Axis Deflection | Sub-µm ( ±0.1 µm) | 2.0 µm ± 0.1 | ≈5-8 µm |
| Opti-cal Vertical (Z-axis) Calibration Device* | Included as standard | Included as standard | Optional Accessory |
| Blade Oscillation Frequency Range | 50-120 Hz | 50-80 Hz | 50-80 Hz |
| Blade Oscillation Amplitude | Minimum: 0.5 mm (nominal)<br>Maximum: 2.5 mm (nominal) | Minimum: 0.5 mm (nominal)<br>Maximum: 1.5 mm (nominal) | Minimum: 0.5 mm (nominal)<br>Maximum: 1.5 mm (nominal) |
| Amplitude Step Size | 0.25 mm (nominal) | 0.5 mm (nominal) | 0.5 mm (nominal) |
| Advance Speed Resolution During Slicing | 0.01 mm/sec | 0.1 mm/sec | 0.1 mm/sec |
| Specimen Retraction as Blade Retracts | Yes | Yes | Yes |
| Max Specimen Size | 33x50x19 | 33x50x19 | 33x50x19 |
| Memory to Store Section Thickness | Yes | Yes | Yes |
| Multiple User Settings | 8 different | 8 different | 8 different |
| Operating Modes | Manual, semi-automated Slice Window or fully automated Profile Repeat | Manual or semi-automated Slice Window | Manual or semi-automated Slice Window |
| Cooling Options | Ice bath or optional Model 7610A Tissue Bath Cooler | | |
| Dimensions<br>(not including accessories or controls) | 16.5" x 15.7" x 10.6"<br>420 x 400 x 270 mm | 13.7" x 17.7 x 13.7"<br>350 x 450 x 350 mm | 13.7" x 17.7 x 13.7"<br>350 x 450 x 350 mm |
| Accessories | Magnifier, Cold Light, and Microscope, Tissue Bath Cooler, Stainless Steel or Ceramic Blades | Integrated Cold Light and Magnifier, Tissue Bath Cooler, Stainless Steel or Ceramic Blades | Integrated Cold Light and Magnifier, -Plus Upgrade Kit, Tissue Bath Cooler, Stainless Steel or Ceramic Blades |

* Campden's 'Opti-cal' is calibrated with metrology equipment traceable to National Standards

Full comparative specifications available on request.

# RESEARCH

Studies of visual patching and extracellular recording of neurological, heart, kidney and lung tissue have been published using our Vibrating Microtomes for over 30 years. More published research is available upon request.


Ankri L, Husson Z, Pietrajtis K, Proville R, Léna C, Yarom Y, Dieudonné S & Uusisaari MY (2015). A novel inhibitory nucleo-cortical circuit controls cerebellar Golgi cell activity. *eLife*; DOI: 10.7554/eLife.06262.

Perbellini F, Liu AKL, Watson SA, Bardi I, Rothery SM & Terracciano CM (2017). Free-of-Acrylamide SDS-based Tissue Clearing (FASTClear) for three dimensional visualization of myocardial tissue. *Sci Rep* **7**, 5188.

Pilati N, Linley DM, Selvaskandan H, Uchitel O, Hennig MH, Kopp-Scheinpflug C & Forsythe ID (2016). Acoustic trauma slows AMPA receptor-mediated EPSCs in the auditory brainstem, reducing GluA4 subunit expression as a mechanism to rescue binaural function. *J Physiol* **594**, 3683–3703.

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## Contact Us for a Quotation, a Full Bibliography, and More


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