

tissue sampling

Vibratome®

Tissue Sectioning Systems



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- The world standard for tissue sectioning systems for 30+ years
- Cuts fresh or fixed tissues without distortion
- Patented vibrating blade principal
- Sections as thin as 6 μm (using sapphire blade)
- Less damage than oscillating blade systems
- Automatic and refrigerated models available
- Simple and quiet operation
- Easily maintained
- Secure specimen holding vice
- Stable blade holder insures no unintentional setting changes
- Cool lamp magnifier — minimizes heating effect and provide shadow-free illumination

The Vibratome® series of fresh tissue sectioning systems allows sectioning of fresh or fixed tissue without freezing or embedding. The patented vibrating blade principle moves the sectioning blade edge in a reciprocating arcuate path as it penetrates the specimen. The reduced effective edge angle from the transverse movements, with the lateral distribution of the cutting edge penetrating pressure, minimize elastic deformation of soft tissue specimens that are simply held or capsulated in position during the sectioning operation.

Uniform sections can be made of delicate soft, tissue specimens. Sections are free of observable compressive distortion in the direction of cut, as would be typical with conventional microtomes using oscillating blade actions. Preservation of ultrastructure is maintained in the sections from a lack of cellular damage on their surfaces. Sectioning takes place in a liquid bath. The liquid serves to lubricate the sectioning blade, to maintain specimen temperature, enhance or preserve desirable characteristics of the specimen, and facilitate the easy retrieval of the sections generated.

Using the technique described, the Vibratome® series of microtomes deliver superior performance using ordinary injector type razor blades. Sectioning of uniform fresh tissue sections can be cut from 20 μm up, although thinner sections may be realized, depending on the type of tissue involved, and operator technique. For conventional use, expensive blades made from exotic materials are not required, cutting the costs of normal operation and maintenance. If a more precise and finer tissue slice is required, use a sapphire blade which provides slices as thin as 6 μm . All Vibratomes® can work with standard, glass, sapphire or injector knife holders.

Typical applications include: Enzyme histochemistry, tissue pathology, autoradiology, water soluble compounds, immunocytochemistry, immunohistochemistry, fluorescent microscopy, tissue pathology, botanical studies, preparation step prior to Electron Microscopy, invaluable teaching aid, etc. Five different Vibratomes® available to fit your applications and your budget.

Vibratome® 1000 Classic

The original Vibratome® semi-automatic fresh or fixed tissue sectioning system has maintained a long reputation as a rock solid tissue sectioning system. Researchers from around the globe have relied on the Vibratome® 1000 Classic for their fresh tissue sectioning needs for over 30 years.

Vibratome® 1000 Plus

The Vibratome® 1000 Plus utilizes the same mechanical sectioning components with enhanced specifications and features such as: smaller section thickness increments, increased sectioning speed, faster return stroke speed, increased maximum sectioning range, drain function, standard dual bath, and finer height adjustment. A stroke pause switch and adjustable light and magnifier are also part of the Vibratome® 1000 Plus system. The Vibratome® 1000 Plus is a solid addition to the Vibratome® family of products.

Vibratome® 3000 Plus

The Vibratome® 3000 Plus sectioning system provides a versatile means of sectioning fresh or fixed, animal, or plant tissues. This system employs a vibrating blade principle which allows sectioning without freezing or embedding. The creation of artifacts, the alteration of morphology, the destruction of enzyme activities, and other deleterious effect inherent in freezing or embedding procedures are thus avoided. The Vibratome® 3000 Plus incorporates a full english text display for added ease and usability. The 3000 Plus utilizes the Vibratome® Companies "ZERO-Z" Technology which dramatically reduced z-axis vibrations. This system also has a dynamic stability system and deluxe bath system as standard. The Vibratome® 3000 Plus provides the best quality section in the Vibratome® product line.

Vibratome® 3000 Deluxe

The Vibratome® 3000 Deluxe includes all the enhanced features of the 3000 Plus sectioning system plus a built in thermoelectric cooling device for the specimen bath. The refrigeration is a great benefit for those researchers trying to maintain constant temperature and constant chemical makeup of buffer solution.