



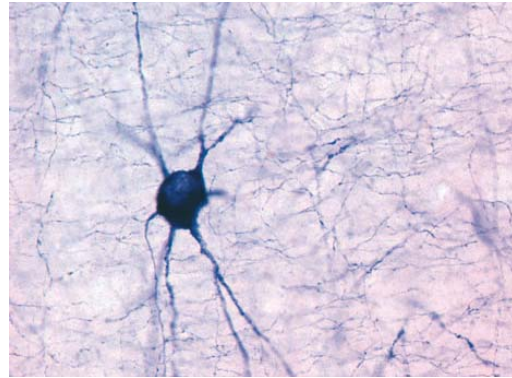
Leica VT1200 Leica VT1200 S

Vibrating Blade Microtomes

Leica
MICROSYSTEMS

Leica VT1200/VT1200 S: Good Vibrations

The Leica VT1200 and VT1200 S are vibrating blade microtomes for sectioning fixed or unfixed tissue specimens, with specific applications for neurosciences. The VT1200 / S microtomes feature a new blade holder design that minimizes vertical deflection of the blade and protects delicate specimens, such as brain, spinal cord and other mammalian tissues, from mechanical damage. Instrument stability and the minimization of vertical deflection result in sections of the highest quality, while retaining viable cells on the section surfaces in greater numbers. The Leica VT1200 / S may also be used to provide superior sections of plant specimens and certain industrial materials.



The **semi-automated Leica VT1200** has been designed for users who prefer to manually control sectioning parameters such as section thickness and cutting stroke for each individual section. The Leica VT1200 vibrating blade microtome offers straightforward, intuitive operation, fast sectioning and a full range of accessories at an attractive price.



Fatigue-free
Palmrests on the control panel or double-volume tray allow a more ergonomic working environment.

The **fully automated Leica VT1200 S** is recommended for multi-user laboratories. Semi-automated and fully automated working modes can be accomplished with the same instrument. The fully automated mode of the VT1200 S offers automatic feeding, specimen retraction, and a cutting window. The Leica VT1200 S stores individual operational parameter settings for up to 8 users.

The Leica VT1200/VT1200 S vibrating blade microtomes were designed in collaboration with Prof. Dr. Peter Jonas and his team at the Institute of Physiology, University of Freiburg, Germany.

Customized Comfort

The separate, foil-protected control panel can be placed on either side of the instrument depending on the personal preference of the user.



ations – Great Sections



Modular Functionality

Both instrument versions can be enhanced with an optional magnifier (2x) or microscope to improve visual acuity.

Precise Preparation

The built in LED illumination provides exceptional lighting without adding heat. On the Leica VT1200 S, the light intensity is 5-step adjustable.

Easy Work

on the ice bath
-walled buffer
a relaxed, ergo-
-working position.

Flexible Performance

The buffer tray can be equipped with a clamp to maintain an oxygen-gassing hose in the correct position.

① The ice bath and buffer tray enable working under physiological conditions. The modules can be removed from the instrument to allow convenient positioning and orientation of the specimen, e.g., under a microscope. Tissues are glued directly onto a specimen holder with cyanoacrylate adhesive, and mounted into a buffer tray, which is filled with physiological buffer and kept cold by crushed ice. The specimen holder is kept firmly attached in the buffer tray by magnets.



② An Epoxy-coated metal buffer tray, which is highly conductive, is part of the standard configuration. An autoclavable plastic buffer tray is available as an accessory. Use of the plastic tray prevents the presence of metal ions in the buffer, which can have a negative effect on the specimens. For both trays, a plastic cover is available to avoid dilution of the buffer by crushed ice. Both trays are conveniently kept in place by magnets.



③ A large-volume, double-walled buffer tray with an optional circulation-cooling device can be used instead of the ice bath and buffer tray. The double-walled buffer tray is equipped with palmrests.



④ A variety of specimen holders, which can be rotated by 360°, are available. Holders are conveniently kept in place by a magnet and can be comfortably inserted and removed with a manipulator.

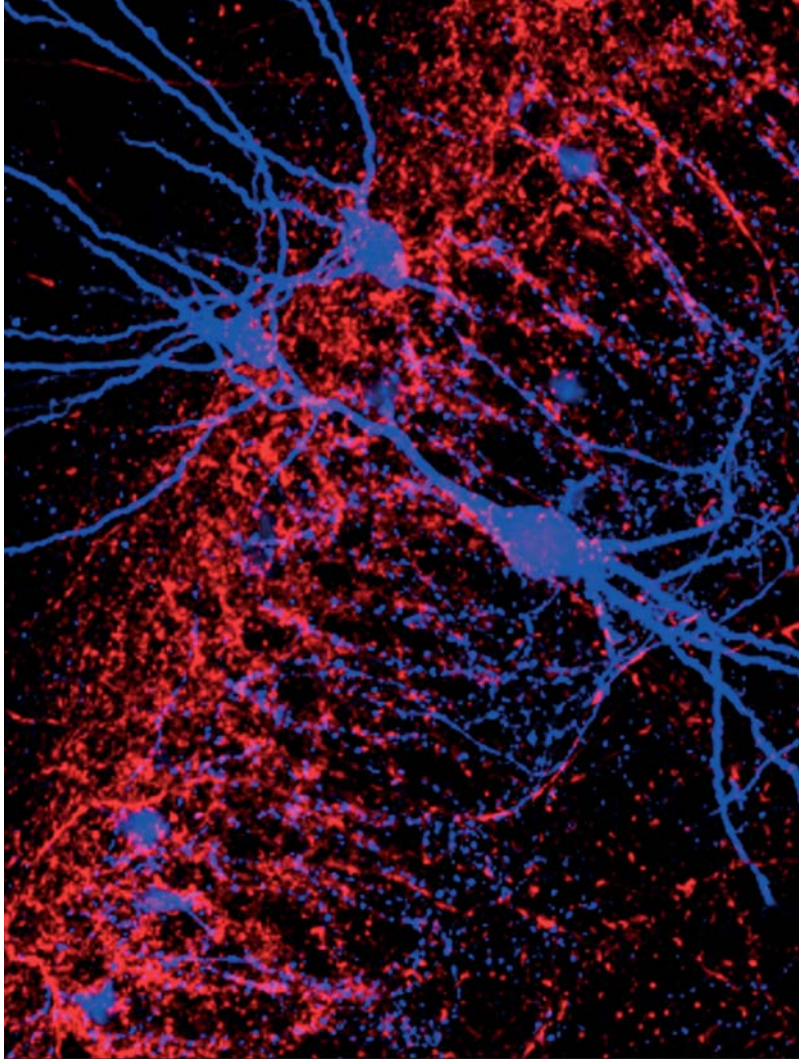


⑤ The optional magnetic specimen holder with engraved degree circles (0°, 5°, and 10°) is available for reproducible orientation.



⑥ The newly designed blade holder can be rotated through 90° to permit safe and accurate insertion of an entire double-edged razor, sapphire or injector blade. The clearance angle is adjustable between 15°, 18°, and 21°. The blade holder is designed to reduce buffer spills during sectioning.





Specification	Leica VT1200	Leica VT1200 S
Adjustable vertical blade deflection	•	•
Safe blade insertion	•	•
Optimized blade holder designed for minimum buffer spillage	•	•
Adjustable amplitude between 0–3 mm in 0.05 mm step	•	•
Fixed frequency (85 Hz +/- 5 Hz)	•	•
Motorized blade holder sectioning speed adjustable between 0.01 to 1.5 mm/sec.	•	•
Selection of buffer trays – metal, plastics (autoclavable) and double walled	•	•
Semi-automated cut mode	•	•
Memory (MEMO) button for stored specimen thickness	•	
Fully automated cut mode		•
Specimen retraction		•
Freely adjustable cutting window with two individually programmable edges		•
Parameter-setting memory for 8 users		•

Optional Measurement Device: Leica Vibrocheck™

The vertical deflection of the blade can be measured by Leica's Vibrocheck™ measurement device. Both vertical deflection (in μm) and rotation direction of the adjustment screw are displayed on the separate, foil-protected control panel. The adjustment screw on the blade holder allows reduction of the vertical deflection to below $1\mu\text{m}$, which significantly increases the number of viable cells.



Leica VT1200 – Technical Specifications

Cutting frequency ($\pm 10\%$)	85 Hz ($\pm 10\%$)
Amplitude	from 0–3 mm, in 0.05 mm increments
Cutting speed ($\pm 10\%$)	0.01–1.5mm/s
Return speed ($\pm 10\%$)	2.5 mm/s
Total vertical specimen stroke	20 mm (motorized)
Cutting range	45 mm (adjustable)
Maximum specimen size:	
With standard blade holder	33 x 50 mm
Specimen orientation, rotating	360°
Specimen plate, swiveling	0–10°
Section thickness adjustment	manual, in 1 μ m increments
Rated voltage range ($\pm 10\%$):	100 V–240 V
Rated frequency ($\pm 10\%$):	50/60 Hz
Power consumption:	35 VA
Size L x W x H (Basic instrument without control unit):	600 mm x 250 mm x 230 mm
Weight (Basic instrument without control unit):	56 kg

Leica VT1200 S – Technical Specification – Same as Leica VT1200 above, plus:

Return speed ($\pm 10\%$):	1 – 5 mm/s, in 0.5 mm increments
Cutting window:	0.5 mm–45 mm
Specimen retraction:	0–100 μ m (adjustable, can be deactivated)
Section thickness adjustment:	manual in 1 μ m increments or automatic max. 1000 μ m

We wish to express our thanks to Prof. Jonas for granting his permission to use the application photographs contained in this brochure.

For additional information we refer to:

Pflügers Arch - Eur. J. Physiol. (2002) 443:491-501

Patch-clamp recording in brain slices with improved slicer technology

J.R.P. Geiger - J. Bischofberger - I. Vida - U. Fröbe

S. Pfitzinger - H.J. Weber - K. Haverkamp - P. Jonas

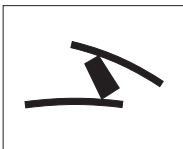
The Leica VT1200 and the Leica VT1200 S have been designed and manufactured in compliance with CSA-us, c-CSA, and IEC requirements.

State-of-the-art development, manufacturing and quality control procedures – certified under DIN EN ISO 9001 – ensure highest quality and reliability.

A wide range of accessories available on request.

Technical specification subject to change without prior notice.

Winner 2005



Innovationspreis
der deutschen Wirtschaft
The World's First Innovation Award

www.leica-microsystems.com

Leica
MICROSYSTEMS