



Leica EM AMW

Automatic Microwave Tissue Processor
for Electron Microscopy

Bringing Speed and Automation to

With more than 130 years experience in the manufacturing of scientific instruments, Leica is proud to introduce the worlds first Automatic Microwave Tissue Processor for electron microscopy specimen preparation. The unique Leica EM AMW has been developed in close cooperation with the scientific community in order to meet the requirement's of today's modern EM facility:

- **Reducing sample turn around time**
- **High level of automation with minimal user interface**
- **Accurate reagent temperature measurement & control**
- **Ease of set up and ease of use**
- **Reproducible results**
- **Safety**

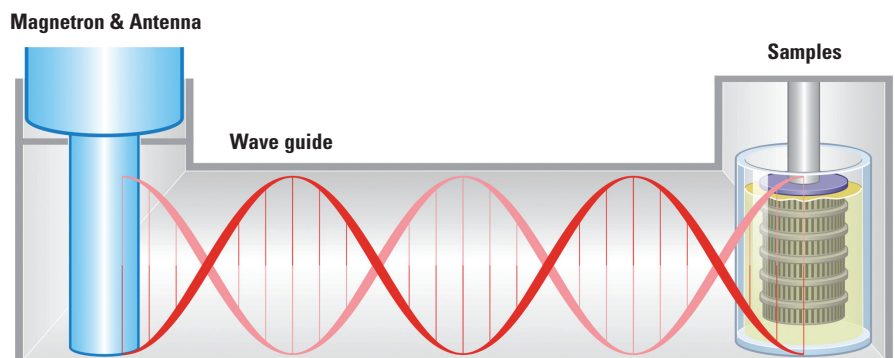
With the Leica EM AMW, tissue can be rapidly processed, embedded and polymerised into resin for subsequent analysis with unmatched automation, in hours rather than days. Automated microwave tissue processing for research, routine, life science and medical research EM applications.

At the nucleus of the new Leica EM AMW resides the technology which makes it so unique

The Mono-mode microwave chamber design directs the microwave energy into a defined area, resulting in a homogenous field pattern surrounding the sample. Guiding the microwave energy in this manner enables the system to provide a uniform effect over the samples & reagents. 100 % of the microwave energy is absorbed by the processing reagent and sample without hot and cold spots and negating the need for water loads.

The other major advantage of the Mono-mode design is the energy density. Even with a low power setting, the energy density is actually much greater compared to a standard laboratory microwave tissue processor.

In addition, the user has the freedom to choose between continuous or pulsed power settings for various applications, such as pulsing for fixation steps and continuous power for dehydration. The software and non-contact infra-red temperature sensor ensures accurate processing parameters are maintained with maximum safety for user and specimens.



EM Tissue Processing

Load Samples ...

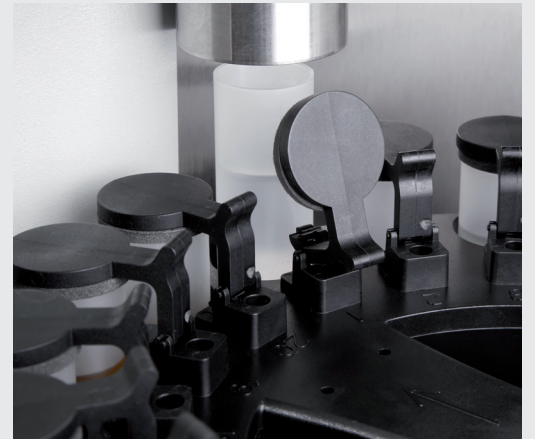
20 polypropylene vials of 20 ml are available to the user for one processing run. Reagents can be pre-loaded in a fume cupboard into the vials already placed onto the carousel. Vials are automatically closed via the sealing lid to avoid escape of toxic vapour when transporting the carousel to the instrument and during processing. The carousel with pre filled vials is slid into place and the Leica EM AMW is ready to start.

Up to 40 specimens are supported in baskets and stacked onto a stem. The microwave lid holds the basket assembly in place while processing.

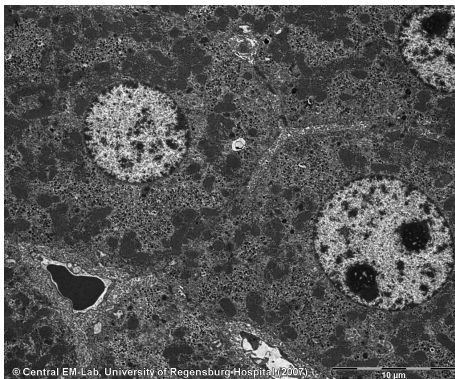
According to the programme in use, the first vial is moved automatically into the microwave chamber where the specimen stack is positioned. A fully automatic run can then be performed.



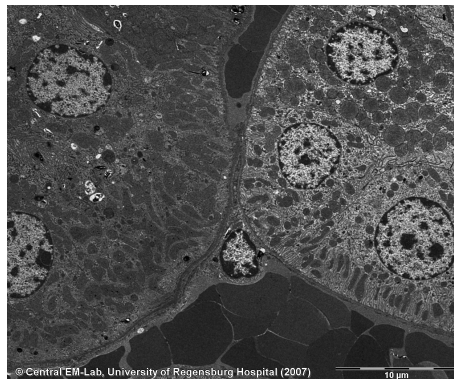
Specimens ready to be inserted into the microwave chamber



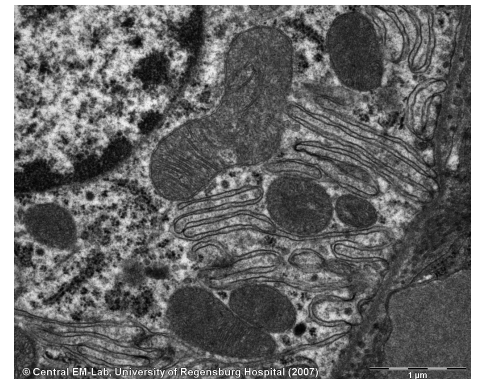
Detail view, carousel in working position, sealing lid open and vial on the way into the MW chamber



Mouse liver (immersion fixed). Hepatocytes with organelle-rich cytoplasm and round cell nuclei containing prominent nucleoli; in between a blood sinusoid with preserved space of Disse and bile canaliculi with numerous microvilli.



Mouse kidney, cortex (immersion fixed); Parts of a proximal and of a distal renal tubule with blood capillaries (filled with erythrocytes) in between.



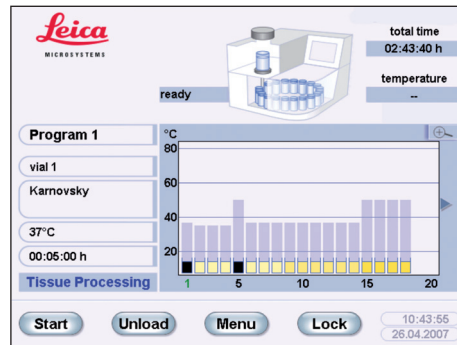
Mouse kidney, detail of a cell of the distal renal tubule; the cytoplasm displays convolutions of the cell membrane and numerous mitochondria.

... and Press START to Process

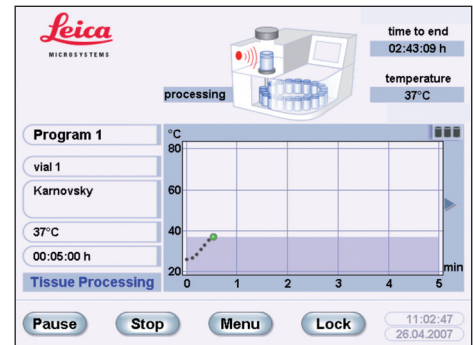
The colour screen and intuitive software makes it the easiest-to-use microwave tissue processor on the market, even for those who have little or no experience with microwave technology in the laboratory. However, the software also offers unmatched flexibility, allowing microwave parameters to be adjusted according to your requirements. The design of the user interface provides all necessary programme information at a glance.

All necessary process information is available with the click of a mouse.

- Vial in process
- Reagent details
- Temperature & time scale graphic
- Actual temperature progression
- Time to end



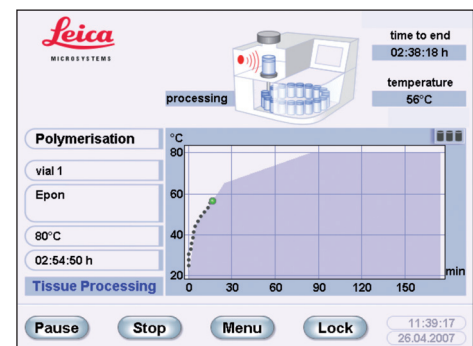
Schematic of the instrument status
Graphic overview of the selected programme with all vials and their set temperatures.



Schematic of the processing run
Showing the temperature profile for each step in use. Data transfer via USB-Stick possible.

... Press START to Polymerize ...

Polymerization of up to 20 specimens per run can also be performed under microwave irradiation within a short time. Samples are placed in re-useable polymerisation forms and stacked. After placing the stack onto the carousel a polymerisation programme can be started. If more samples need to be polymerized, a second or third stack can be placed onto the carousel for automatic polymerization.



Select a polymerisation programme from the memory and press START...
...hardened blocks are ready for ultrathin sectioning.

EM Tissue Processing

Specimen top loading system for easy access

The 6,5" mouse controlled colour screen in combination with the intuitive user interface makes programming a matter of a mouse click. Storing of up to 99 programmes and unlimited temperature slope settings makes the instrument highly flexible.



Leica Design by W. Hölbl

The robotic reagent system handles the 20 reagent vials sitting on the carousel and performs automatic reagent changes according to the programme. Up to 40 specimens located in special re-usable, flow through baskets, can be processed at once without any interaction from the user.

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Leica Microsystems' mission is to be the world's first-choice provider of innovative solutions to our customers' needs for vision, measurement and analysis of microstructures.

Leica, the leading brand for microscopes and scientific instruments, developed from five brand names, all with a long tradition: Wild, Leitz, Reichert, Jung and Cambridge Instruments. Yet Leica symbolizes innovation as well as tradition.

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● Specimen Preparation

We provide comprehensive systems and services for clinical histo- and cytopathology applications, biomedical research and industrial quality assurance. Our product range includes instruments, systems and consumables for tissue infiltration and embedding, microtomes and cryostats as well as automated stainers and coverslippers.

● Medical Equipment

Innovative technologies in our surgical microscopes offer new therapeutic approaches in microsurgery.