C O R E H I S T O L O G Y S O L U T I O N S

LEICA CM3050 S

THE CRYOSTAT FOR LONG SECTIONING SESSIONS

Advancing Cancer Diagnostics
Improving Lives

Leica
BIOSYSTEMS

Consistent and Reproducible Sections – All Day Long

Processing multiple specimens and performing serial sections comes with its own challenges. Permanent attention to detail and many hours in front of the cryostat can be exhausting for the user. Yet, the high number of sections need to be produced without compromising consistency and reproducibility. The Leica CM3050 S cryostat is designed to help with exactly these time-consuming jobs.

Ergonomics – Sitting Comfortably

The low working height of the CM3050 S cryostat and available knee space mean that the user can find a comfortable and stable sitting position with both feet on the ground. This is a prerequisite for day-long worksessions.

Ergonomics and Safety – Handwheel

The microtome is off-center to the right, making the handwheel easily accessible for manual section. During motorized operation, the handwheel handle can be centered to spin in place, thus helping to avoid getting caught when the wheel turns.

Ergonomics – Height Adjustment

The optional electrohydraulic height adjustment lifts the cryostat up, providing users a choice of more kneespace or even working in a standing position.

The optional CryoJane Tape-Transfer System helps to create thin frozen sections. Sections are wrinkle-free, uncompressed, and intact when bonded to the microscope slide, delivering a morphology that is similar to paraffin sections. CryoJane is suitable for sectioning a large variety of tissues, including difficult samples such as fatty breast tissue and undecalcified bone.

Efficiency – Organized Workspace

Freezing stage and tool tray in a large cryochamber, as well as an easily accessible storage area on top of the cryostat help the user staying organized. With critical items at hand, the user can focus on sectioning.

Quality – Precision Sectioning

Accurate specimen orientation and feed are crucial, especially for large samples. The precise specimen orientation system with zero position provides for x/y adjustment of up to 8°. The specimen feed system with 25mm horizontal feed allows for reproducible thin sections.

Reproducibility – Object Head Cooling

An independent refrigeration system for the object head ensures efficient and reproducible specimen temperature control to adjust for difficult samples such as brain or fatty tissue.

Efficiency – Automatic Section Counting

Section thickness totalizer and counter help keeping track when working through large samples. With the reverse section counter, a preselected number of sections can be carried out in both sectioning and trimming mode.

Quality – Motorized Sectioning

The sectioning motor can be operated by foot-pedal so that the user has both hands free when sectioning. The blade holder CE provides a flat area for section processing and can be laterally moved, allowing the use of the entire blade length.

Reproducibility – Chamber Cooling

Efficient insulating materials and a dedicated cooling system support stable cryochamber temperatures, even when producing serial sections all day long.

TECHNICAL SPECIFICATIONS

Microtome	
Section thickness setting	0.5 to 300 µm
Maximum specimen size	40 mm x 55 mm
Horizontal specimen feed	25 mm
Vertical specimen stroke	59 mm
Specimen retraction	50 pm
Specimen precision orientation	by 8° (x/y/z axis)
Trimming	5 to 150 µm ± 0,5 µm in steps of 5, 10, 30, 50, 100, and 150 µm
Motorized coarse feed at two speeds	500 µm/s 1,000 µm/s
Cutting Motor	
Cutting speed ranges	0.1 mm/s to 170 mm/s 0.1 mm/s to 100 mm/s V_{max} 210 mm/s

Cryochamber Cooling via separate refrigeration system	
Temperature setting range	0°C to -40°C
Defrosting	programmable 1 automatic defrost cycle/24 h duration: from 6 to12 min; manual defrosting
Freezing shelf temperature	Approx. -43°C at an ambient temperature of 22°C
Specimen Cooling (optional) via separate refrigeration system	
Temperature setting range	-10°C to -50°C (+/-3 K)
Defrosting	manual defrosting
Cryocabinet	
Dimensions (w/h/d)	882 x 1040 x 766 mm
Weight (incl. microtome)	approx. 180 kg
Power draw	1800 VA

All specifications related to temperature are valid for a room temperature of 22 °C and an air humidity of less than 60%.

The Leica CM3050 S cryostat is equipped with sectioning motor and available with and without object cooling.

As confirmed by the successful c-CSA-us certification, the Leica CM3050 S has been designed and manufactured in compliance with UL, CSA and IEC requirements.

Contact your Leica Biosystems representative today to learn more about our Core Histology solutions

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Leica Biosystems is a global leader in workflow solutions and automation. As the only company to own the workflow from biopsy to diagnosis, we are uniquely positioned to break down the barriers between each of these steps. Our mission of "Advancing Cancer Diagnostics, Improving Lives" is at the heart of our corporate culture. Our easy-to-use and consistently reliable offerings help improve workflow efficiency and diagnostic confidence. The company is represented in over 100 countries. It has manufacturing facilities in 9 countries, sales and service organizations in 19 countries, and an international network of dealers. The company is headquartered in Nussloch, Germany. Visit LeicaBiosystems.com for more information.

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