



# Leica CM3050 S

The versatile cryostat for research and routine histology

Living up to Life

**Leica**  
MICROSYSTEMS

# Quality and reproducibility

Time is a decisive factor for both operational efficiency and economic performance in any routine and research laboratory. Thus, the Leica CM3050 S ensures efficient specimen processing by offering fast and reliable sectioning results. Based on 125 years of experience and international acknowledgement, Leica now offers the new Leica CM3050 S which features paramount user comfort and excellent safety standards. An innovative heat insulation system guarantees constant stable temperatures and less power consumption, therefore helping to keep running costs low. With its versatility and easy operation the Leica CM3050 S even meets the highest demands perfectly. The applied technology and ergonomics stand for Leica's extraordinary know-how in the design of modern cryostats.



## **Powerful: Quick freezing shelf**

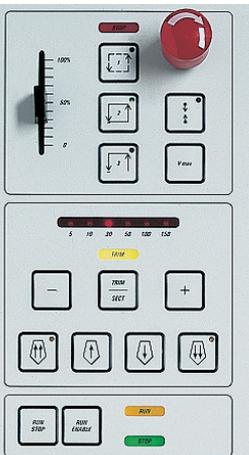
The actively cooled quick freezing shelf (-45 °C) with heat extractor allows extremely fast specimen freezing.

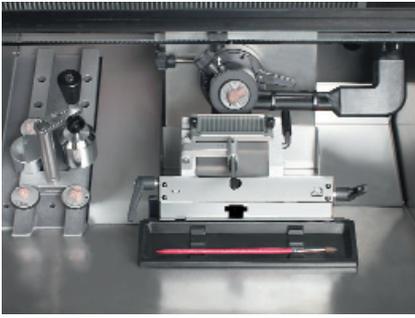
## **Multifunctional: Cabinet height adjustment \***

The highly flexible hydraulic cabinet height adjustment gives the user freedom to work comfortably while sitting or standing. All functional keys are easily accessible in any position.

## **Clearly arranged: Control elements**

The most important settings such as cutting speed range, cryochamber and specimen temperature, defrost time and duration, coarse feed and object temperature can be conveniently and accurately preselected by simply pushing a button. A new feature that has been added is the section thickness selection from outside the cryochamber – now conveniently located at the control panel.





**Spacious:**  
**Stainless steel cryochamber**

The easily accessible cryochamber provides large space for convenient handling and specimen storage.

**Efficient:**  
**Changing the specimen temperature \***

A high throughput and enhanced efficiency are guaranteed by the powerful specimen temperature control which ensures fast and precise changes of the specimen temperature at an extremely fast rate of cooling.

**Innovative:**  
**Insulation system**

Highly efficient insulating materials used in the vacuum panels lead to power savings of approximately 10 % compared to regular heat insulation systems. This new feature enhances the durability of the refrigerating system and safeguard stable cryochamber temperatures, even when there are unfavorable environmental conditions at the installation site.

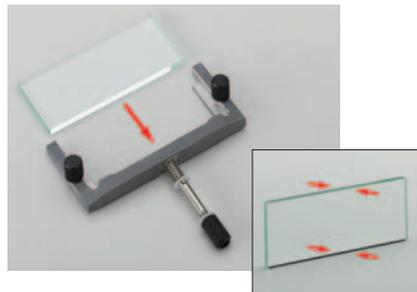


**Precise:**  
**Specimen orientation and specimen feed**

Particularly when working with large specimens – for example in neuroscience – the precise specimen orientation and the new specimen feed system via step motor guarantee reproducible thin sections of maximum quality.

**Convenient:**  
**Programmable reverse section counter**

With the new section counter a pre-selected number of sections can be carried out in both sectioning and trimming mode.



The new anti-roll system with four usable glass insert edges for cryostat knife holders Leica CE and CN.

**Additional features of the Leica CM3050 S**

- Convenient section thickness selection from outside the cryochamber
- Indication of total section thickness
- Reproducible high-quality thin sections via step motor specimen feed
- Programmable reverse section counter
- Maximum section thickness: 300 µm
- Spacious cryochamber, easy to clean and disinfect
- Low-maintenance design due to convenient access to the cooling system from outside the cryostat housing
- Low-maintenance, durable refrigerating system
- Encapsulated microtome to support efficient spray disinfection

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

\* Option

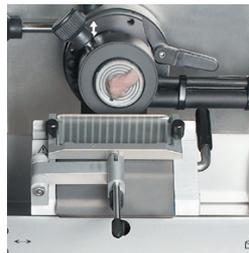
**User safety: Centering the handwheel handle**

During motorized operation, the handle of the handwheel can be centered so that it spins in place instead of rotating in an outward motion.



**Functional:**  
**The knife holder CE \***

The lateral displacement feature of the knife holder CE for disposable blades allows the use of the whole blade length without need to reposition the blade within the holder. When displacing the knife holder the integrated glass anti-roll guide will automatically be carried along.



# Leica CM3050 S – Main product features

- Cooling via two separate refrigeration systems in units with specimen cooling (optional)
- Actively cooled quick freezing shelf (-45 °C)
- Optional separate specimen cooling adjustable down to -50 °C
- Automatic hot gas defrost cycle, programmable
- Fast and accurate changing of specimen temperatures
- Manual defrosting, independent operation for the cryochamber and the specimen head
- Usage of both standard and all Miles®-specimen discs possible
- Battery-powered electronic memory back-up
- Optional hydraulic height adjustment

## Leica CM3050 S – 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 µm
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 <sub>max</sub> 210 mm/s
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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.

State-of-the-art development, manufacturing and quality control proce-

### Cryochamber cooling

Temperature setting range:	0 °C to -40 °C
Defrosting:	programmable 1 automatic defrost cycle/24 h duration: from 6 to 12 min; manual defrosting
Freezing shelf temperature:	approx. -45 °C at an ambient temperature of 22 °C

### Specimen cooling (optional)

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

dures – 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.

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