



**Wolflabs**

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### **Leica CM3050 S Configuration 1:**

Leica CM3050 S Configuration 230 V / 50 Hz with sectioning motor and with specimen temperature control knife holder CE for low profile disposable blades



Freestanding, motorized opentop cryostat with independent specimen temperature control. Spacious, easy-to-clean cryochamber with illumination. Removable heated glass sliding window. Cryochamber temperature setting down to 40 °C in 1° steps. Permanently cooled (down to -45°C) quick-freeze shelf for 10 specimen discs. Programmable automatic 24hour defrost cycle. Defrost cycle duration programmable from 6 to 12 minutes. Additional manual defrost feature. Micro-processor controlled. Foil-protected control panel with locking key to prevent inadvertent changes of programmed parameters. Menudriven operation in 5 languages (German, English, French, Spanish, Italian) via LCD display. Counterbalanced handwheel, lockable in two positions, for manual sectioning. Locking status indicated on display.

#### **Motorized sectioning:**

Motorized sectioning operated via control panel and foot switch. Section counter with reset. Sectioning window adjustment. Handle of the handwheel can be centered in motorized operation. Emergency stop switch. 3 sectioning modes: intermittent, single and continuous stroke.

2 sectioning speed ranges selectable:

- 170 mm/s
- 100 mm/s

Additional maximum speed setting of: 210 mm/s

#### **Specimen temperature control:**



- Specimen head with specimen temperature control.
- Temperature setting range: -10°C to -50°C in 1° steps.
- Specimen quick-freeze feature.
- Manual defrosting.
- Stainless steel rotary microtome

**Section thickness range:**

0.5 to 300  $\mu$ m selectable

in 0.5  $\mu$ m increments from 0.5 to 2  $\mu$ m,

in 1  $\mu$ m increments from 2 to 10  $\mu$ m,

in 2  $\mu$ m increments from 10 to 20  $\mu$ m,

in 5  $\mu$ m increments from 20 to 60  $\mu$ m.

in 10  $\mu$ m increments from 60 to 100  $\mu$ m.

in 50  $\mu$ m increments from 100 to 300  $\mu$ m.

X/Y/Z specimen precision orientation of 8°.

Specimen retraction: 50  $\mu$ m

Total horizontal specimen feed: approx. 25 mm

Total vertical stroke: approx. 60 mm

Programmable trimming: 5 to 150  $\mu$ m, selectable in 6 steps, in 5, 10, 30, 50, 100 and 150  $\mu$ m increments.

Motorized coarse feed: 500  $\mu$ m/s and 1000  $\mu$ m/s

**Additional features of the Leica CM3050 S:**

- Convenient section thickness selection from outside the cryochamber
- Reproducible high quality thin sections via step motor specimen feed
- Programmable reverse section counter (preset counter)
- Spacious cryochamber, easy to clean/disinfect
- Section thickness totalizer
- Low-maintenance design gives convenient access to the cooling system from outside the cryostat housing Low maintenance, durable refrigerating system
- Encapsulated microtome to support efficient low temperature spray disinfection
- Various sectioning programs selectable

**Technical Data:**

- Mains power supply: 230 V/50 Hz
- Admissions: CE, UL, cUL, VDE
- Dimensions:
- Width (excl. handwheel): 800 mm / 31.5 inches
- Width (incl. handwheel): 882 mm / 34.72 inches
- Depth: 766 mm / 30.16 inches
- Height (arm rest): 840 mm / 33.07 inches
- Overall height: 1,040 mm / 40.94 inches
- Weight: approx. 180 kg / 396.48 lbs

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



**Note:**

This configuration comes with knife holder base, knife holder CE for lowprofile disposable blades and knife holder CN for standard knives.

**Standard delivery includes:**

- 1 Cryostat with microtome (14 0470 33534)
- 1 Specimen head fixture (14 0443 25895)
- 1 Handwheel with marking, antibacterial (14 0443 36660)
- 1 Heat extractor, stationary (14 0369 11197)
- 1 Low temperature stabilizer for heat extractor (14 0452 27919)
- 1 90° prism for direct specimen freezing on specimen head with clamping screw to facilitate specimen trimming (14 0443 25949)
- 1 Set of specimen discs (14 0470 43550):
  - 4 Specimen discs, 25 mm (14 0416 19275)
  - 4 Specimen discs, 30 mm (14 0370 08587)
  - 1 Storage shelf, right (14 0443 25723)
  - 1 Storage shelf, left (14 0443 33549)
  - 1 Section waste tray (14 0400 26817)
  - 1 Foot switch with protective guard (14 0502 29977)
  - 1 Rubber mat (14 0443 25732)
  - 1 Freezing shelf cover (14 0443 30783)
  - 1 Brush shelf (14 0398 13088)
  - 1 Tool set (14 0436 43463):
    - 1 Brush, fine (14 0183 28642)
    - 1 Leicabrush with magnet (14 0183 40426)
    - 1 Allen key, size 1.5 (14 0222 10050)
    - 1 Allen key, size 2.5 (14 0222 04137)
    - 1 Allen key, size 3.0 (14 0222 04138)
    - 1 Allen key, size 4.0 (14 0222 04139)
    - 1 Allen key with spherical head, size 4.0 (14 0222 32131)
    - 1 Allen key, size 5.0 (14 0222 04140)
    - 1 Allen key with handle, size 5.0 (14 0194 04760)
    - 1 Allen key, size 6.0 (14 0222 04141)
    - 1 Single-head wrench, size 13 (14 0330 33149)
    - 1 Single-head wrench, size 16 (14 0330 18595)
  - 1 Tissue freezing medium for cryosectioning, 125 ml (14 0201 08926)
  - 1 Bottle of cryostat oil, type 407, 50 ml (14 0336 06098)
  - 1 Knife holder base (14 0419 26140)
  - 1 Knife holder CE for low profile disposable blades (14 0419 33990)
  - 1 Antiroll plate 70 mm (14 0419 37258)
  - 1 EC Declaration of Conformity (14 0443 80011)
  - 1 Instructions for use Leica CM3050 S (14 0443 80001)

**No : 14903050SE1**



# 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**

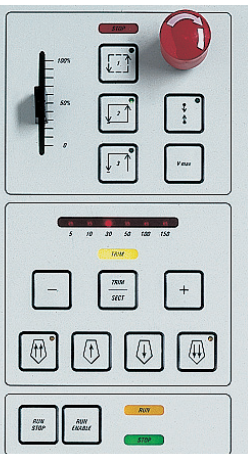
The actively cooled quick freezing shelf (-45 °C) with heat extractor allows extremely fast specimen freezing.

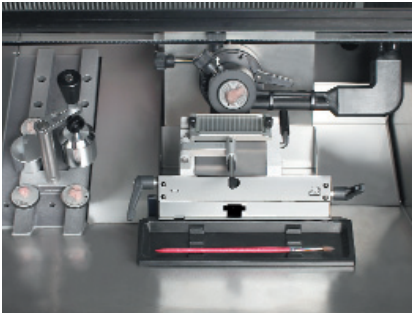
## **Multifunctional: Cabinet height adjustment \***

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.

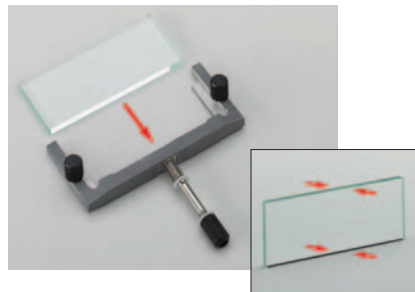


**Precise:**  
**Specimen orientation and specimen feed**

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

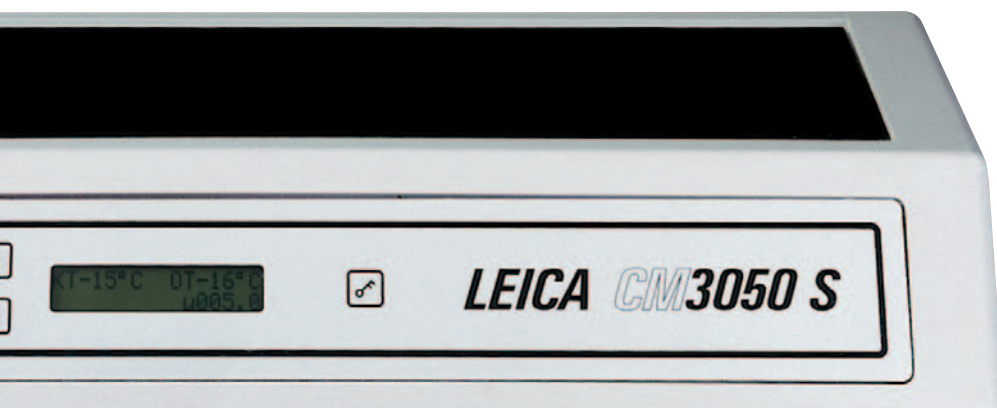
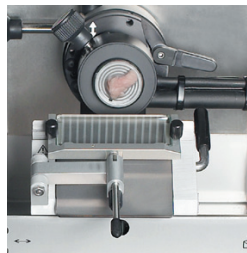
**User safety: Centering the handwheel handle**

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<br>in steps of 5, 10, 30, 50, 100,<br>and 150 µm |

|   |                        |
|---|------------------------|
| Motorized coarse feed<br>at two speeds: | 500 µm/s<br>1,000 µm/s |
|---|------------------------|

## Cutting motor

|                       |   |
|-----------------------|---|
| Cutting speed ranges: | 0.1 mm/s to 170 mm/s<br>0.1 mm/s to 100 mm/s<br>V <sub>max</sub> 210 mm/s |
|-----------------------|---|

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<br>1 automatic defrost cycle/24 h<br>duration: from 6 to 12 min; manual defrosting |
| Freezing shelf temperature: | approx. -45 °C<br>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 |
|-------------|---------|

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.