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Data Sheet

Microtome Cryostat with retraction MC5050



Version 1.3

Histo-Line Laboratories s.r.l.

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Manufacturer: Histo-Line Laboratories s.r.l

In vitro diagnostic-medical device

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1.Features



1.2 Information and specified use

The MC5050 is a cryostat microtome cryostat last born in Histo-Line Laboratories home, able to offer precision cutting, operator safety and maximum cleaning the instrument.

The semi-automatic cryostat, is a medical device regulated by the first national class, is used for the rapid freezing of pathological fresh sections of human and animal tissue.

It is used in most cases for the pathological diagnosis, analysis and research in hospitals, medical schools, and forensic experts and pathological research institutes.

Ergonomic, attractive and modern design features rounded corners and easy-to-use **Pad Control**. Convenient working height.

The instrument consists of 4 major parts:

- The touch-screen control panel is in top area. Displays the temperature, the settings and the general working conditions of the instrument.
- The cryochamber, wide and spacious with constant low temperature, ergonomic storage and flat freezing shelf.
- In the cryochamber is located the fully encapsulated microtome with stepper motor feed-in.
- The lower area is the heart of the refrigeration system, with the compressor unit.

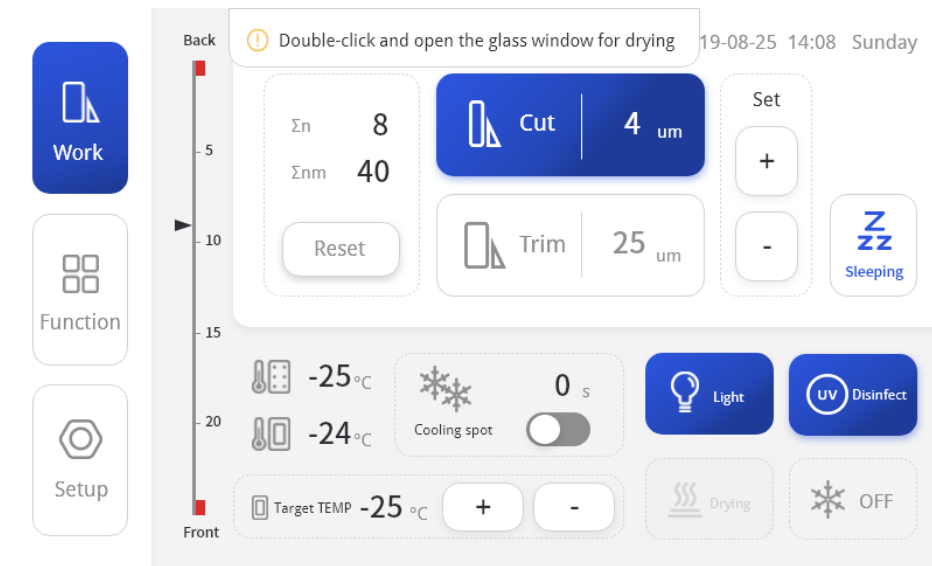


The freezing chamber is wide and spacious. The sliding window is anti-fog and anti-reflection and when open, the UV lamp is automatically disabled.

The holder disks are located on left side of chamber and can be stored on shelf area in 20 refrigerated places. On frontal touch-screen display, it's possible to check and regulate all necessary parameters for excellent cut like thickness, temperature, sample retraction and so on.

On frontal left side, a useful Pad Control allow an easy control for sample forward and backward and further sets for cutting operations.

All these operations can be easily performed with eyes on cut operations.

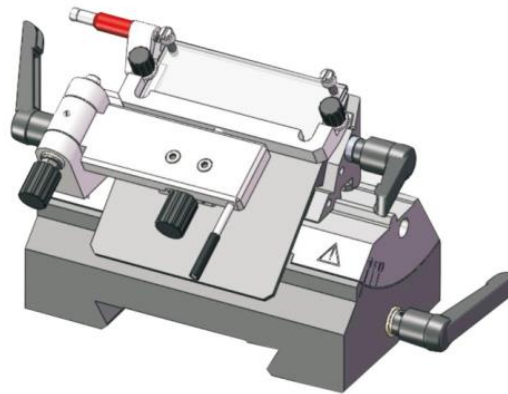


1.3 Reliability and precision of the cut

The dell'MC5050 highlights are:

1. Advance and retreat of the sample with the step motor, controlled system with the **Pad Control**.
2. Device blade holder with the adjustable cutting angle for the use of any type of disposable blades.
3. Integrate **anti-roll system**.
4. The uniform orientation of the system allows perfect alignment of the sample.
5. Orientation of the sample in the X-Y-Z of 12 °
6. Equipped with two Peltier units for rapid cooling down to -60 ° C.
7. Blade holder equipped with levers with plastic handles and contact points that reduce the risk of frostbite injury when adjusting the blade holder.
8. Sample holder discs have a large freezing surface, have numerous grooves to allow maximum stability during cutting.
9. Samples freeze quickly because the pre-cooled discs have a large back surface in contact with the freezing bar. The support discs are located on the left side of the chamber and can be allocated over an area to accommodate 18 refrigerated places.

The cryostat allows both normal, hard and/or large samples to be cut due to the robust blade holder equipped with a dovetail attachment system that provides robust stability.



Schematic blade holder

The narrow-band and wide-band disposable blade holder evenly distributes clamping pressure over the entire length of the blade, ensuring vibration-free sectioning.

1.4 Safety and operator comfort

Maximum precision and comfort for the operator:

1. The **glass anti-fog system**.
2. The blade protection system built-in support.
3. **Liquid collection system** of condensation in an integrated PVC container and removable.
4. Locking system for the cutting crank in each position.
5. **Extractor stainless steel** to give shape to the sample.



1.5 Disinfection systems

An indispensable feature for the operator:

1. Settable disinfection through the control panel with **UV light**
2. **Manual and automatic defrost system**, and immediate.
3. Large room and easy to clean by the operator.
4. Ample space for access to the working chamber.
5. It equipped with a collection system of the washing liquids, disinfecting, and defrost water, in a transparent container of large capacity easily removable from the instrument.



2. Technical specifications

2.1 Electrical data

Protection class:	I Category, Type B
Power supply:	AC220V, 50Hz(±10%)
Maximum power draw:	650 VA

2.2 Cooling features

Refrigeration chamber	Chamber temperature	-10°C ~ -35°C Adjustable
	Defrosting	manual/automatic
	Refrigerating capacity	690 W
	Refrigerant	R404a, 300g±10g
	Compressor oil	0.6L EMKARATE RL-22S, ICI
Freezing plate	Minimum temperature	-45 °C
	Number of freezing station	18
	Peltier number	2

2.3 Cutting specifications and advancement

Section thickness range: 1µm -100µm	Value	Move value/step
	1µm - 10µm	1µm
	10µm - 20µm	2µm
	20µm - 50µm	5µm
	50µm - 100µm	10µm
Trimming thickness range: 1µm - 600µm	Value	Move value/step
	1µm - 20µm	2µm
	20µm - 50µm	5µm
	50µm - 100µm	10µm
	100µm - 600µm	50µm
Horizontal stroke:	25mm	
Vertical stroke:	59mm	
Specimen's max size:	55mm X 55mm	
Specimen orientation:	X, Y 12° and Z 360°	
Specimen fast moving speed:	0.7mm/s	

2.4 Dimensions and weight

Width:	780 mm (760 mm without hand wheel)
Depth:	700 mm
Height:	1280 mm
Weight:	145 kg
Weight with packaging	190 kg

2.5 Instrument equipment

- 1 holder blades
- 1 disc for standard samples
- 1 bottle (50 ml) of microtome cryostat oil
- 1 box of 50 disposable blades type S35
- Power cable
- Manual instructions