Histological Lab Equipments

















Features:

- 1. Microprocessor Control for temperature, made in the India.
- 2. The Embedding Module and Cryo Module can be assembled freely
- 3. Flexible heating mechanism, Dual-protection; Safe, Reliable and Energy-Saving
- 4. Fully programmable computer controls allow automatic system start and stop anytime within a week
- 5. Automatic Memory and Restoration: After start, all preset temperature data are automatically stored.
- 6. Paraffin Chamber, Paraffin Dispenser, Left and Right Thermal Storage Compartments, and Heating Plate (working area) are individually controlled Optional:
- 8. LuxMed -TEI Cooling Plate:
- 9. Working Temp.: RT-40°C, Temp. can not be adjustable. The lowest can be -30°C.
- 10. Working Size: 320*300mm

















Specifications of Paraffin Dispensing Unit Model: LM-ES-LD-2024

- 1. Capacity of paraffin Tank between 3-5 litres.
- 2. Capacity of Thermal Chambers for storage of molds: min 1.8 litres.
- Temp. Range of paraffin Tank: 50-70° C.
- 4. Temp. Range of thermal chamber: 50-70° C.
- 5. Temp. Range of Hot plates & forceps wells: 50-70° C
- 6. Embedding Station have a connection for electrically heated forceps.
- 7. Embedding Station have six heated wells for normal forceps 3 on either side of the wax dispensing line.
- 8. Embedding Station have Precisely metered and adjustable gravity feed paraffin dispenser to deliver the right amount of paraffin.
- 9. Embedding Station have both finger touch plate and foot switch for control of paraffin flow.
- 10. Embedding Station have a large warm working surface on either side for min 10 cassettes on each side.
- 11. Embedding Station have dor matrix 7 segment display.
- 12. Embedding Station have a Magnifying lens adjustable In any position, large
- 13. Cold spot & illumination for specimen orientation.

Specifications of Cold Console

- 1. Capacity of freezing up to 60 blocks at a time.
- 2. Temp. Range of cold plate: 0-120C, adjustable in steps of 10 C.
- 3. Compressor to be extra quiet to reduce noise fatigue.
- 4. Cold Console can work independently without switching on dispensing console.
- 5. The system Work on 220-240 V,50 Hz. and use CFC free gas and the having ISO certification.
- 6. Standard supply with 1000 Nos. Plastic Embedding Rings for making paraffin blocks.
- 7. LuxMed will provides all Certificate of calibration and inspection.

















Technical Specification

Model: LM-ES-LD-2024

Model		LuxMed TECool
Paraffin Chamber Capacity		3-5L
	Forceps Wells	
	Paraffin-melting Chamber	
	Thermal Storage Compartments	
Temp.Range of	Heated Working Areas	55~70°C
	Paraffin Dispenser	
Temp. Precision		±1%
Material of Work Table		Granite, easy to clean
Paraffin Flow Control		ringer touch plate and optional foot
Power Supply		AC110/220V±10%, 50/60Hz
Consumption		650W
External Size(W*D*H)		525*550*385mm
Package Size(W*D*H)		630*670*520mm
Gross Weight		41kg
Optional Accessory		LuxMed TECool Cooling Plate
Package Size of LuxMed TECool (W*D*H)		700*450*530mm
Gross Weight of LuxMed TECool		37kg













Integrated All Work Station Modules





Model: LM-ES-LD-2024

- * Workstage.
- * Cold Spot.
- * Smart LCD Control Panel.
- * MCB ON/OFF Protection.
- * Mold Warmer.
- * Flow Rate Controller.

- * Heated Forceps holder.
- * Cassetts Bath.
- * Lid.
- * Embedding Station.
- * Cold Plate.
- * Paraffin Dispensing Clip.















AUTOMATIC CRYOSTAT MICROTOME



A cryostat microtome is a machine that cuts thin slices of tissue at low temperatures to create sections for microscopic analysis. It's also known as a cryostat, and is a vital tool in research labs and clinical pathology:

How it works

A cryostat microtome is a microtome, or cutting instrument, placed inside a freezer. The tissue is first placed on a metal mounting base and frozen with a rapidly freezing material. The tissue is then sectioned using the microtome.

Uses:

Cryostat microtomes are used to: Provide quick diagnoses for diseases and medical conditions Examine enzyme histochemistry Study microscopically

Temperature

The temperature inside a cryostat microtome is usually between -15°C and -30°C, depending on the tissue being cut.















AUTOMATIC CRYOSTAT MICROTOME

AUTOMATIC CRYOSTAT MICROTOME

It is designed under overall engineering and ergonomic concept. All the components are processed with computer numerical controlled machine.

Specimen retraction function, protects specimen from blade injury.

Trimming (Motorized) thickness range 10 — 100 micron in 10 micron / cutting button makes it easy to switch from trim and section mode.

Description

- It is designed under overall engineering and ergonomic concept. All the components are processed with computer numerical controlled machine
- Specimen retraction function, protects specimen from blade injury.
- Trimming (Motorized) thickness range 10 100 micron in 10 micron / cutting button makes it easy to switch from trim and section mode.
- Equip with counter to calculate total pieces and thickness.
- Dual compressors, which are made in Germany, freeze the Cryostat chamber, freezing shelf, knife holder and specimen clamp separate with pro-environment refrigerant R404.
- The high-precision microtome is enclosed outside the cryostat chamber to protect it from thermal expansion and contraction and enable minimum service and maintenance.
- Self-explanatory symbols for all functions and displays, easy to learn and operate.
- LCD screen to display date such as sample travel, thickness, function controlling, day, time, temperature, timed on/off and so on.
- Control panel with locking function to avoid wrong operation.
- Hand wheel locking.
- It has cleaning device, easy help customer to clean the
- Specimen orientation XY-8°, Z-360° adjustable at any orientation to ensure precise placement.
- Self-detection function for the temperature sensor, can help to warm the failure on temperature sensor.
- UV option enables surface disinfection of harmful bacteria, viruses and spores by using 35 min after each use. It also has low-voltage DC shadow-less lamp.
 TIEGHNICAL SPECIFICATIONS.
- - Vertical specimen stroke length will be 55-60mm, with a horizontal specimen feed of 25-30mm.
- Specimen size (Section) 50x80mm.
- The cryostat is a floor standing model with power requirements of 220V, 50-60Hz.
- Maintenance free microtome with section thickness setting range from 0 to 60pm will be available
- 0-10µm in 1µm increments
- 10-20µm in 2µm increments
- 20-60µm in 5µm increments
- Motorized coarse feed preferably at two speeds.
- Rabid 0.8mm/sec, Slow-0.2mm/sec,
- Disposable blade holder system with lateral displacement and integrated glass anti-roll guide will
- Instrument will have closed drainage system to allow controlled disposal of fluids.
- Automatic & manual chamber defrost facility will be available with one automatic defrost cycle /24 hours.















SEMI AUTOMATIC CRYOSTAT MICROTOME



SEMI AUTOMATIC CRYOSTAT MICROTOME

- It is designed under overall engineering and ergonomic concept. All the components are processed with computer numerical controlled machine.
- Specimen retraction function, protects specimen from blade injury.
- Trimming (Motorized) thickness range 10 100 micron in 10 micron / cutting button makes it easy to switch from trim and section mode.
- Equip with counter to calculate total pieces and thickness.
- Dual compressors, which are made in Germany, freeze the Cryostat chamber, freezing shelf, knife holder and specimen clamp separate with proenvironment refrigerant R404.



- Freezing chamber temperature range -10°C to -40°C.
- Cooling down time to 2 hours.
- Freeze shelf minimum temperature -40.
- Vertical stroke 60mm, Object feed 20mm.
- Specimen size (Section) 35x35mm.
- Horizontal specimen feed 25mm.
- Voltage and frequency AC220 to 10% 50Hz



Description

- Temperature drops in working condition in 2 hours after switching on.
- Defrost method: manual
- The high-precision microtome is enclosed outside the cryostat chamber to protect it from thermal expansion and contraction and enable minimum service and maintenance.
- Self-explanatory symbols for all functions and displays, easy to learn and operate.
- LCD screen can display date such as sample travel, thickness, function controlling, day, time, temperature, timed on/off and so on.
- Control panel with locking function to avoid wrong operation.
- Hand wheel locking.
- It has cleaning device, easy help customer to clean the unit.
- Specimen orientation XY-8°, Z-360° adjustable at any orientation to ensure precise placement.
- Self-detection function for the temperature sensor, can help to warm the failure on temperature sensor.
- UV option enables surface disinfection of harmful bacteria, viruses and spores by using 35 min after each use. It also has low-voltage DC shadowless lamp.
- Heatable and removable glass door.















TISSUE PROCESSOR

A tissue processor is used for the processing of tissue samples in a histopathology

laboratory. The process involves several steps, including:

Fixation: The most important step, fixation preserves the tissue and cells as close to their lifelike state as possible.

Dehydration: The tissue is soaked in alcohol in graded steps to remove water and fixative.

Clearing: A solvent displaces the ethanol in the tissue, which is then displaced by molten paraffin wax.

Agitation: Fresh medium removes fluid from the surface of the tissue.

Infiltration: The tissue is immersed in at least two changes of liquid paraffin.

Embedding: The tissue is encased in an additional layer of paraffin to make it easier to handle.

Staining: The final step, staining highlights different structures and cellular components.

The type of stain used depends on the tissue type and the components of interest. Tissue processing is important because it removes water and impregnates the tissue with a medium that supports section cutting and staining.













TISSUE PROCESSOR

MICROPROCESSOR BASED TISSUE PROCESSOR

Automatic Tissue Processor is designed to prevent a solution to the rapid processing of tissue in Histology Laboratories. MPTP removes all the water from a tissue sample and replace it with paraffin wax with optimum speed to curtail damage to the tissues caused by dehydration and shrinkage.

Description

Operated by feather touch keyboard with digital display. Display shows: Real time, Date, month and year. Wax bath temperature: set temperature and attain temperature. Station no. is display in which tissue basket is running. Station time and lapse time shown on display.

SALIENT FEATURES

- Empower to do most potentially hazardorous procedures on just a click.
- System is prudent and well guarded.
- Design is stout and proposes unswerving performance on smallest space.



FEATURES

- Safety device for Tissue in case wax not melted the basket stop at the station 10th 11th till the temperature is not attained.
- Trouble free and maintenance free.
- Heavy gauge used in fabrication of body.
- Wax bath stainless steel inner outer with Teflon coated wire used in heater with best quality heating wire with thermal cut out of 75°C.
- External body powder coated to avoid chipping and anti rusting chemical used all moving parts moving on Ball bearing oil sealed.
- Not much maintenance required.
- Main motor used Korean Geared motor to avoid vibration and sound.
- In case of emergency side lifting handle provided to take out Tissue basket in case of Electricity failure.
- Tissue basket capacity of 100 tissue cassette per Basket.
- The instrument microprocessor controlled with adequate memory to save and retrieve at least 6 user selectable programs.
- Rotary head have a lock out facility at the end of run to prevent basket moving from station 12 to station 1.
- Have 10 stations with organic solvent resistant lipless beakers of 2 litre capacity.
- Have a minimum of two temperature controller wax baths of 2 litre capacity.
- Wax bath have user definable temperature range of at least 50 65 degree with a high temp cut off at 75°C +- 5°C.
- Have individual programmable timing sequence for each station from 1 min to 6 hrs in increments of 1 min and programmable delay start time of up to 99 hrs.
- Retain cycle information in case of power failure to continue processing on restoration of power.
- The basket automatically be lowered into the nearest station in case of power failure during transfer of tissue basket from one station to next.
- In case of power disruption during a cycle, then an error msg indicating the station in which there was power failure and the extra immersion time spend by the basket in the station will be flashed.













Tissue Processors - Linear / Slide Staining

Linear slide staining machines are used to automate the process of staining tissue samples for microscopic examination.

They are used in laboratories to stain human, animal, and plant tissues.

Here are some of the benefits of using a linear slide stainer:

Speed

Linear slide stainers can process up to 1,000 slides per hour. This is especially useful when working with large numbers of samples.

Accuracy

Linear slide stainers improve the accuracy of staining, which helps medical professionals quickly identify anomalies.

Efficiency

Linear slide stainers are efficient and dependable, making them essential for the pharmaceutical industry.

Standardization

Linear slide stainers can standardize the staining process for optimal quality and consistency. Linear slide stainers use a mechanism to transport the slide in a straight line. This is usually done with a small link chain or rubber belt















Tissue Processors - Linear / Slide Staining

KEY PRODUCT FEATURES:

- Flexible transmission system, low noise, wear-resistant.
- High-precision, low-noise, and wear-resistant photoelectric positioning system using imported high-quality elements to ensure stable and smooth operation all within an ideal ergonomic design.
- Two sets of operation mechanisms doubles the processing capacity. Tissue specimens can be separately placed into different baskets according to size, texture, and origin, thus improving processing performance.
- Optional single-mechanism mode for processing a small number of tissue specimens easing the operation.
- Scrolling processing mode multiplies the processing capacity of the system one device can do the amount of work equal to multiple single-basket machines.
- A processed basket can be continuously used following another basket that is in processing without interruption, thus achieving a continuous cycling operation and maximizing the processing capacity of the system.
- 20 editable programs for each of A and B mechanisms can be stored in the system.
- Integrated high-quality colored super large LCD Display offers clear display and simple operation; window-scrolling/flipping human-machine conversation interface provides clear instructions for each step (online help).
- Fully intelligent design, enabling timely determination and automatic recovery from an abnormal event.
- · Real-time visual simulation with icons displays working status dynamically, clearly and intuitively.
- Green inner-cycling air purification system to highly efficiently adsorb and remove poisonous gas; well-sealed gas-effluxion mechanism to effectively improve the operation environment, environmentally friendly and safe.
- This system can be automatically started at any time as programmed (Setting Rang 0-99 hours and 0-59 minutes).
- · Processing duration is automatically calculated and displayed on the screen, allowing the user to make a more efficient work plan.
- Power Protection Station: Station 7 for A basket and Station 5 for B basket, ensuring continued operation during a power outage.
- Automated fan control: Stays 'on' all the time when the specimens are not submerged in cup and 10 seconds every minute when the specimens are submerged in cup and in processing.
- Automated light control:- Stays 'on' all the time during programming; stays 'off' during the automatic operation and can be automatically turned
 on' anytime by touching the screen or any key and stays 'on' for 2 minutes.
- Internal dry heating mechanism and triple protection channels offer high-precision automatic gradient temperature Automatically determines
 the time of heating, resulting in energy efficiency.
- Low-energy-consuming control circuit with power protection function
- When power outage occurs, the screen displays as normal with a scrolling bar demonstrating the 'on' status of the power protection system.
- Battery backup with more than 30 hours of running power.
- Manual operation can be conducted anytime during the programmed automatic operation, allowing user to check or add tissue specimens during the operation.
- 250 or more specimens can be processed at the same time.

TECHNICAL SPECIFICATIONS:

- Number of Cups: 14 (10 for reagents, and the cups at the 11th, 12th, 13th, and 14th stations are used for paraffin melting).
- Two baskets.
- Capacity of Each Cup: 2000ml.
- Temperature range: 50-75°C.
- Temperature Control Precision: ±10C.
- Length of Processing Time in the Cup:
- Any length between 0 and 99 hours for the 1st and 2nd cup.
- Any length between 0 and 24 hours for the 3rd to 14th cup.
- Dripping Time: Adjustable within 10s 60s; shake/drip above cup.
- Frequency of Agitation: 0 6 times/min adjustable.
- Dehydration basket is divided into three layers to ease the categorization of tissue.
- Working Voltage: AC 220V±10% 50Hz: (standard model); AC110V±10% 60Hz
- Power: 550W.
- Dimensions: 1370x440x525 mm (WxDxH)
- Weight: 102kg
- The system have built in vacuum with Fume control.
- Audible alarms, error message and warning codes are available.
- Easy editing and changing of programs even during a processing run is available.
- Delayed start function upto 7-9 days is available. Auto restart function is available.
- Infiltration time separately programmable for each station is available.
 Active carbon filter to prevent colour.

ACCESSORIES

100 cassettes stainless steel 6.5cm with in built 4 partitions with lid.















FULLY AUTOMATIC MICROTOME

A fully automatic microtome is used to slice thin sections of biological specimens for a variety of applications, including:

Research: Used in research laboratories for biological, medical, and industrial applications

Histology: Used in histology and histopathology labs **Quality assurance:** Used in industrial quality assurance **Pathology:** Used for biopsies for pathological diagnosis

Fully automatic microtomes can slice a variety of specimens, including:

- 1. Soft materials embedded in paraffin
- 2. Harder specimens that are suitable for manual sectioning
- 3. Tissue samples of animals and plants
- 4. Plastic
- 5. Cork
- 6. Wood7. Polystyrene















FULLY AUTOMATIC MICROTOME

FULLY AUTOMATIC MICROTOME

The machine is a streamline design with advance features stable and reliable performance and ease to use.

The feeding system uses an intelligent control mechanism enable guick switching between manual or automated smart sectioning mode, automatic slicing speed is adjustable.

Advanced drive systems and multiple functions including sectioning, trimming, fast forward/backward, quick mode conversion including automatic retraction.



Description

- Incorporates an international advanced screw motion mechanism to ensure precision, thus achieving superior sectioning performance.
- Pure-green digital display of slice thickness, trimming thickness, slice count and slice speed. Trimming and slicing are operated under a control system and can be switched easily.
- Automatic slicing speed is continuously adjustable with safety and emergency braking system, security alarm systems, driver overload protection and an auto-sleep protection system.
- Hand-wheel balance is precisely adjusted and can be locked at any position to ensure safety of operation.
- Blade holder can be laterally moved to avoid moving the blade with direct contact, thereby enabling.
- The micro protection bar on the blade holder covers the whole length of blade to protect the user and the push bar enable easy changing of the blade.
- Hand-wheel balance is precisely adjusted and can be locked at any position to mourn the safety and convenience of sectioning.
- Large-volume waste tray is easy to remove, and items such as disposable blades can be stored on the top of the housing.
- Provided with motorized sectioning facilities with forward & backward coarse feed speeds.
- Having precision micrometer feeding system with 3-4 modes of sectioning.
- Electro technical feed system for fine and trimming section thickness and backward specimen movements via stepping motor.
- Able to provide section thickness range of 0.5 micron to 100 micron.
- Trimming thickness feed is via precision stepping motor for 5 micron to 600 micron.

SPECIFICATIONS

- Section Thickness Setting Range: 0.25-1010µm, 0.25-2.5µm increment 0.25 2.5-5µm increment 0.5µm 5.0-10µm increment 1 µm, 10-30µm increment 2µm, 30-60µm increment 5µm, 60-100µm increment
- Trimming Thickness Setting Range: 1-600µm 1-10µm increment 1 µm, 010-020µm increment 2µm, 020 050µm increment span 050-150µm increment 10µm 150-600µm increment 50µm.
- Retraction Setting Range: 0-50µm (0 is off) 5-10-15-50 (optional)
- Horizontal Feed 25mm.
- Vertical Specimen Stroke 70mm.
- Specimen Holder Rotation at angle within 360 degrees.
- Movement range of the base of specimen holder 65mm (front to back).
- Movement range of the blade press plate *20mm.
- Specimen clamp rotation at any angle within 360 degree.
- Specimen orientation XY-8°.
- Minimum setting of sectioning thickness 0.25µm.
- Maximum specimen size 70x70mm.
- Precision error-1 %.
- Working voltage AC 220V±10% 50Hz (standard model) AC 110V -10% 60Hz.













SEMI AUTOMATIC MICROTOME

SEMI AUTOMATIC MICROTOME

Ergonomic design, Compact Dimensions, Vertical guidance by zero-backlash and maintenance free cross roller bearings.

Electronic precision feed mechanism with stepping motor technology.

Especially smooth running hand wheel. One hand quick clamp change.



Description

- Ergonomic design, Compact Dimensions, Vertical guidance by zero-backlash and maintenance free cross roller bearings.
- Electronic precision feed mechanism with stepping motor technology.
- Especially smooth running hand wheel. One hand guick clamp change.
- Fine orientation with one hand operation and zero positioning, easy exchange of specimen.
- Specimen retraction during return travel, can be turned off. Indication of all relevant information such as section thickness, trim thickness, number of sections, section thickness remaining travel of the specimen feed as well as time and date. Reduced number of button intuitive operation.
- Patented and ergonomic operation of the specimen feed with variable speed adjustment.
- Indication of cutting parameters, can be switched over to large indication.
- Large section waste tray, covering the entire working area.
- Ergonomically optimized operating elements for non tiring usage.
- Design with highest demands concerning operational safety and ergonomics.

TECHNICAL DATA

- Total section thickness range from 0.5 µm to 100µm.
- Specimen retraction during return travel 0-200µm, selectable.
- Motorized Operation Varying with section speed.
- Horizontal specimen feed Approx. 30mm.
- Vertical specimen feed Approx. 60mm.
- Sectioning Modes 1 Manual Mode.
- Specimen Orientation Horizontal: 8°, Vertical: 8°, Z: 360°.
- Object feed 28mm
- Max. Specimen size 50 x 50mm.
- Operation: Semi-Automatic.
- Fine section thickness feed via precision stepping motor: 0.25µm-0.5µm-0.75µm-1µm-1.25µm— 1.5μ m- 1.75μ m- 2μ m— 2.25μ m- 2.5μ m- 3μ m- 3.5μ m- 4μ m- 4.5μ m- 5μ m- 6μ m— 7μ m- 8μ m- 9μ m- 10μ m— 12μm-14μm— 16μm-18μm-20μm-22μm-24μm— 26μm-28μm-30μm-35μm-40μm-45μm-50μm-55μm-60µm-70µm-80µm-90µm-100µm
- Trimming thickness feed via stepping motor: 1µm-2µm-3µm-4µm-5µm-6µm-7µm-8µm—9µm-10µm-12µm-14µm-16µm-18µm-20µm-25µm-30µm-35µm-40µm-45µm-50µm-60µm-70µm-80µm-90μm—100μm-110μm-120μm-130μm-140μm-150μm—200μm-250μm—300μm-350μm-400μm-450µm-500µm-550µm-600µm.
- Nominal Voltage: 220V,50Hz / 110V,60Hz.















ADVANCE ROTARY MICROTOME

A fully automatic microtome is used to slice thin sections of biological specimens for a variety of applications, including:

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Histology: Used in histology and histopathology labs **Quality assurance:** Used in industrial quality assurance **Pathology:** Used for biopsies for pathological diagnosis

Fully automatic microtomes can slice a variety of specimens, including:

- 1. Soft materials embedded in paraffin
- 2. Harder specimens that are suitable for manual sectioning











user during intensive, long-term use.



ADVANCE ROTARY MICROTOME

ADVANCE ROTARY MICROTOME

This is an ideal device for use in histology due to its ergonomic design, compact structure, high precisior and stable and reliable performance.

KEY PRODUCT FEATURES

The perfect all — around solution for the histology lab

Efficient operation and maximum performance for optimum comfort

Accurate feed mechanism and coarse feed system in sealed and high ergonomic design

High volume waste tray, xylene resistant

Description

- Ideal sectioning for using disposable blade.
- Large-volume removable waste convenient to use.
- Imported cross-roller guide rails and high-precision screw motion mechanism.
- Advanced high-precision micro-drive feed system enable high-precision sectioning.
- Small coarse-advance hand-wheel is close to the operator, in accordance with an ergonomic desian.
- The precise positioning system is not only easy to use, but also provides accurate X-and Y-axis adjustment.
- Hand-wheel balance is precisely adjusted and locked at any position, ensuring safety and convenience of sectioning.
- Blade holder can be laterally moved without direct contact, enabling use of the entire length of the blade.
- Cassette holder can be locked at any position along each of the three axes, enabling easy adjustment of the specimen sectioning angle.
- 100% stainless steel construction provide unparalleled quality.
- The feed indicator located in front of microtome is operated by the latest 'CAM DRIVE SYSTEM' for

Supplied with the following accessories

- Steel Razor 120 mm, with back and handle in box: 1
- Universal vice: 1 pc
- Oil can: 1 pc.
- Universal Razor Holder: 1 pc
- Honing Stone in box : 1 pc
- Dust Cover: 1 pc
- Object holder (set of three): 1 pair
- Disposable Blade Holder with 5 Nos. Disposable Blades











