

## Thermo Scientific Cryostat Series

Clinical/Research/Industrial



World-Class Sections  
Unmatched Ergonomics  
Leading-Edge Safety



## Unique Solutions for Unique Demands in Clinical and Research Laboratories

### The Clinical Environment

The clinical environment is extremely stressful. The average cost of the surgical suite is \$20–30 per minute and the College of American Pathologists (CAP) mandates the production of a frozen section slide within eight minutes. The most intuitive user interfaces, accelerated freezing capabilities and leading-edge disinfection systems enable even the most pressured staff member to easily obtain great frozen sections.

### The Research Environment

High sample volumes and extreme versatility mean that the cryostat becomes an extension of the user. The ability to handle small samples and esoteric specimens is critical to the researcher. Best-in-class ergonomics, unmatched precision and reliability, as well as leading-edge safety features ensure that even the most demanding research requirements are fulfilled.

### Overview of Cryostat Features

	HM 525	HM 550	Cryotome FE/FSE	HM 560
Recommended Use	Clinical	Clinical/Research	Clinical/Research	Research/Industrial
Disinfection	UV*	Disinfection Delivery System*	Formalin Fumigation	Disinfection Delivery System*
Temperature Controls	<ul style="list-style-type: none"> <li>• Chamber</li> <li>• Peltier</li> </ul>	<ul style="list-style-type: none"> <li>• Chamber</li> <li>• Peltier</li> <li>• Object*</li> </ul>	<ul style="list-style-type: none"> <li>• Chamber</li> <li>• Cryobar</li> <li>• Object**</li> </ul>	<ul style="list-style-type: none"> <li>• Peltier</li> <li>• Object</li> <li>• Knife</li> </ul>
Freezing Stations	27	12	8	2
Touch-Screen Operation	No	No	Yes	No
Motorized handwheel	No	Yes*	No	Yes

\*Optional  
 \*\*FSE only

**Clinical**

## Thermo Scientific Microm HM 525

No-stress, intuitive frozen sectioning for the mid-size clinical laboratory is the distinction of the HM 525. Leading-edge precision, an exceptionally smooth handwheel, innovative safety features and unmatched design enable clinicians to deliver at a moment's notice.

### Intuitive, no-stress sectioning

Immediately recognizable controls and clear, uncluttered design make rapid frozen sections possible without delay.

### Leading-Edge Precision

A Peltier to -60°C and a cryochamber reaching -35°C ensure optimal sectioning temperatures. Stepper motor technology and an extra wide anti-roll plate facilitate consistent, artifact-free frozen sections.

### Safety Without Doubts

A UV option enables surface disinfection of harmful bacteria, viruses and spores.

Automatic specimen retraction and a mechanical handwheel lock ensure safe chamber access.

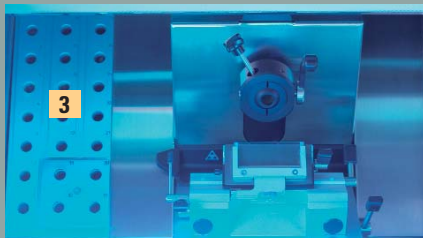


### Physical Specifications

Dimensions without handwheel (D x W x H):  
 30" x 25" x 47" (76 x 64 x 120cm)  
 Weight: 275lb. (125kg)

### UV Option

- 1 Choose any time between 0 – 300 minutes.
- 2 Turn the dial and walk away.
- 3 The 36W UV light source does the rest.



### Suggested Cutting Temperatures for Frozen Tissue

Tissue Type	Chamber Temp. (°C)	Tissue Type	Chamber Temp. (°C)
Unfixed Tissue		Unfixed Tissue	
Brain	-12°	Thyroid	-20°
Liver	-14°	Skin	-25°
Lymph Nodes	-14°	Breast	-25°
Kidney	-16°	Breast with Fat	-30° or below
Spleen	-16°	Adipose Tissue	-30° or below
Muscle	-20°	Fixed Tissue	-12° to -17°

## Clinical/Research

### Thermo Scientific Microm HM 550

The HM 550 provides a perfect solution for high volume, demanding clinical and research environments.

#### Best-in-Class Sectioning

The Automatic Cryo Approach (ACA) advances specimens to the knife's edge and stepping motor technology delivers more consistent sections.

With a patented vacutome to flatten sections, Peltier and cryochamber temperature from 0–35°C, best-in-class sectioning is ensured.

#### Low-Fatigue Ergonomics

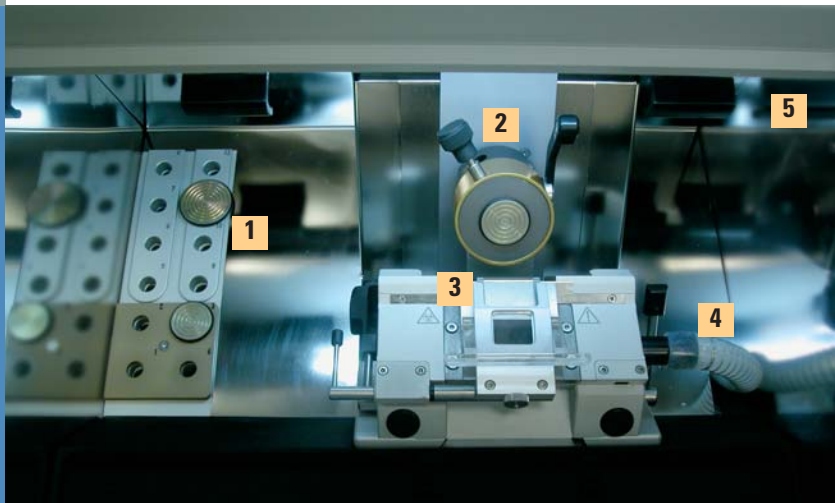
The HM 550 allows users to sit or stand and operate controls on the left and right of the arm rests.

A convenient LCD display, movable chamber illumination to reduce glare and the ability to motorize sectioning by foot or hand reduce the fatigue associated with other cryostats.

#### Unmatched Protection

User safety and infection control permeate the HM 550. The specimen holder always stops in the down position for unimpeded access to the tissue section and an emergency stop is accessible by either foot or control panel.

The unique debris removal system and state-of-the-art disinfection system ensure user safety.



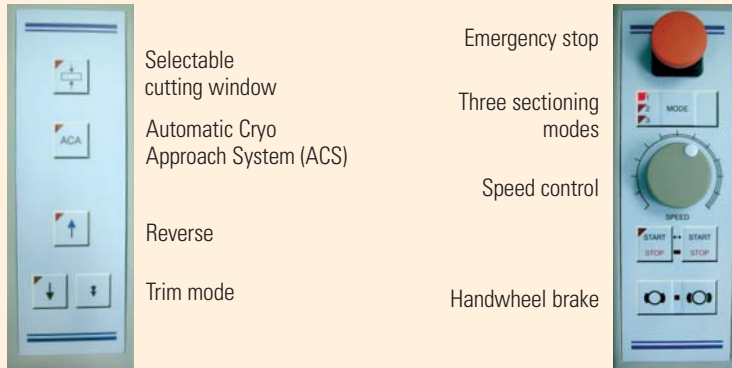
#### The HM 550 Chamber

- 1 Twelve specimen stage stations, including four cooling to -60°C.
- 2 Object cooling head for independent specimen control to -50°C.
- 3 Vacutome gently pulls sections under the anti-roll plate creating reproducible wrinkle-free sections.



**Graphical LCD Menu** indicates section count, remaining travel in microns, number of sections, trim and fine section thickness and retraction function.

**Ergonomically designed control panels**



Selectable cutting window  
 Automatic Cryo Approach System (ACS)  
 Reverse  
 Trim mode

Emergency stop  
 Three sectioning modes  
 Speed control  
 Handwheel brake

**Technical Specifications**

- Open-top cryostat achieves chamber temperature of -35°C
- Stainless steel microtome with cross-roller bearings for horizontal/vertical specimen movements
- Fine section thickness feed from 1 to 100µm
- Trim section thickness feed from 5 to 500µm
- Selectable specimen retraction
- Fast freezing for 12 stations
- Horizontal feed of 28mm
- Vertical stroke of 60mm
- Motorized sectioning from 0 to 250mm/sec

**Physical Specifications**

Dimensions without handwheel (D x W x H): 30" x 25" x 47" (76 x 64 x 120cm)  
 Weight: 275 to 342lb. (125kg to 155kg), depending on model

- 4 Debris removal system eliminates unwanted debris to create a cleaner, safer environment.
- 5 Disinfection delivery system floods the chamber with a 3–5 micron mist, disinfecting even remote areas.

**Accessories for the HM 550**



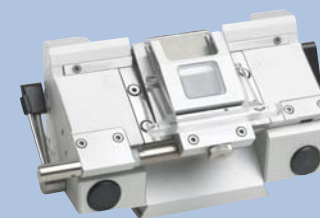
**Standard Knife Carrier**

For standard blades, with clearance angle adjustment, height adjustment and removable clamping jaws. Carrier can be moved on precision dovetail guide with quick clamp system. Includes anti-roll plate.



**Disposable Blade Carrier EC**

For high- and low-profile blades, with clearance angle adjustment. Carrier can be moved on precision dovetail guide with quick clamp system. Includes anti-roll plate.



**Disposable Blade Carrier EV**

For use with Vacutome. For high- and low-profile blades; equipped with a vacuum anti-roll hood to stretch and dispose of waste. The blade carrier slot is automatically opened/closed by Vacutome.

**Magnetic Disposable Blade Carrier MV**

For use with Vacutome system. For disposable magnetic blades; equipped with a vacuum anti-roll hood to stretch and dispose of section waste.

## Clinical/Research

### Thermo Scientific Cryotome FE/FSE

The Cryotome FE/FSE are designed for ease-of-use in high volume clinical settings. No hassle, easy usage and unmatched safety are the hallmarks of the Cryotome FE/FSE.

#### Better Sections

The cryobar, with adjustable temperature and boost feature to prevent freezing artifacts, works together with and the anti-roll plate to produce great sections. Independent temperature control of the specimen head\* enables perfect first-time sections.

#### No Hassle Usage

A touch-screen display with temperature controls, a spacious cryochamber for heavy workloads, color-coded levers and graphics and specially angled clamp plate for easy section pick-up take the stress out of frozen sectioning.

#### Safe and Secure

Multi-level security code protection keeps settings secure. Cleaning is safer due to the unique placement of the microtome outside the chamber. A highly innovative formaldehyde fumigation system eliminates pathogens from even the most remote areas.

\*FSE



#### Touch Screen Display

- Most common settings are easily accessed on main display screen.
- Programmable settings are easily modified.

Wide clamping plate increases blade stability, uniquely labeled levers make functions clear. Lateral movement of holder minimizes blade handling.

## Thermo Scientific Accessories for the Cryotome FSE/FE

### Cryocassettes

#### Cryocassettes for the Cryotome FSE/FE cryostats



**40 mm Cross-hatch Multi-colored** 6 / Pk.



**Annular  
25mm**  
4/pk.



**Annular  
35mm**  
4/pk.



**Annular  
45mm**  
4/pk.



**Annular  
9.5mm**  
4/pk.



**Cross-hatch  
28 x 40mm**  
4/pk.



**Cross-hatch  
25mm**  
4/pk.

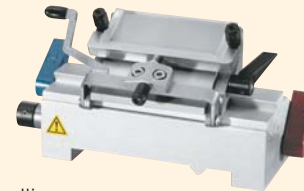
Cryocassette Variety Pack contains one each of the Annular 25, 35, 45 and 9.5mm cryocassettes.

### Universal Blade/Knife Holder



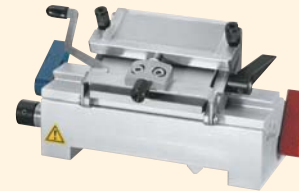
- Accepts standard "C" or "D" profile knife up to 220mm. (120mm is standard length)
- For use with standard steel knives or Disposable Blade Holder.

### Low-Profile Blade Holder



- Lateral movement minimizes blade handling.
- Color-coded levers identify functions.
- Use with low-profile disposable blades.

### High-Profile Blade Holder



- Lateral movement of blade holder minimizes blade handling.
- Color-coded levers identify functions.
- Holder accepts standard or heavy-duty high-profile blades, for a wide sectioning range.

### Technical Specifications

- Touch screen display
- Section thickness adjustment 1-20  $\mu\text{m}$  in 1 $\mu\text{m}$  adjustments and 20–60  $\mu\text{m}$  in 5 $\mu\text{m}$  adjustments
- Vertical cutting stroke 57mm
- Horizontal specimen advance of 25mm
- Cryochamber temperature control 0° to -35°C
- Cryobar and dedicated adjustable cryobar cooling system to -55°C
- Specimen holder temperature control 0° to 40°C ( $\pm 10^\circ$  of chamber temperature) on FSE
- Automatic fumigation cycle to disinfect chamber

### Physical Specifications

Operator Guide Dimensions (D x W x H):

29.5" x 33" (including handwheel) x 41.5" (working height)  
 47.5" (instrument height)

74.5cm x 83cm (including handwheel) x 105cm (working height)  
 120.5cm (instrument height)

Weight: 125kg/275lbs.

Wide-open chamber accommodates large workloads and makes cleaning a breeze. Microtome is located outside the chamber to expand the work space.



## Thermo Scientific Microm HM 560

No cryostat delivers performance in a research environment like the HM 560. World-class sectioning, unmatched ergonomics and phenomenal versatility make all research applications a breeze.

### World-Class Sectioning

The Automatic Cryo Approach (ACA) system advances the specimen right to the blade edge, while the patented vacutome stretches sections to eradicate artifacts.

The unique cooling system; active knife holder cooling, separate object cooling (to -50°C) and a quick-freeze Peltier; enable great first-cut sectioning of even the most difficult samples.

Motorized version makes sectioning of hard specimens simple.

### Unmatched Ergonomics

Height adjustable, users can comfortably sit or stand.

Low-glare chamber illumination and a LCD reduce eye strain.

Motorized sectioning by foot or hand and padded arm rests eliminate the fatigue associated with other cryostats. The motorized version reduces repetitive motion trauma.

### Phenomenal Versatility

Accommodating specimens up to 75 x 55mm and 0.5–100µm section thickness, research applications of any kind are a snap. Individual knife holder, object and chamber cooling allow fantastic sections to be obtained from any specimen.



### Technical Specifications

- Accommodates specimens up to 75 x 55mm
- Section thickness 0.5–100µm
- Separate knife temperature control to -35°C
- Object temperature control to -50°C
- Integrated Peltier fast-freezing device with separate cooling element to -60°C
- Knife carrier horizontal feed range of 48mm
- Vertical specimen stroke of 60mm
- Height adjustable
- Automatic and manual defrost with interrupt
- Interchangeable carrier for reusable or disposable blades
- X, Y, Z orientation of specimen head

## Thermo Scientific Linistat™ Linear Stainer



### Accessories for the HM 560 Series

#### Knife Carrier with Vacutome

For applications with and without Vacutome. Basic part with anti-roll guide for disposable blade holder SEV or standard knives up to 18.5cm.

#### Standard Knife Carrier SM and SMV

Magnetic fixation of knife via smooth running clamping elements with knife guard effect at the same time. The disposable blade holder SEV can be inserted instead of a C- or D-knife. The anti-roll guide can be set via a vertical setting screw.

#### Disposable Blade Holder SEV with Anti-roll Guide System

To be used in Vacutome instruments with low-profile blades. The disposable blade holder SEV is designed to be inserted into the standard knife carrier SMV. The entire holder can be moved to the side without opening the blade clamp. Magnetic fixation of holder via smooth running clamping elements with knife guard effect at the same time.

#### Physical Specifications

Dimensions without handwheel (D x W x H):

37" x 30" x 53" (93 x 77 x 134cm)

Weight: 507lbs. (230kg)

- Great for H&E frozen section protocols.
- Compact footprint to fit on most cryostats.
- Includes 14 staining stations, running water and a 13-slide collection tank.
- Staining time is under five minutes.
- Color-coded slide clips, slides and frozen section embedding media make specimen identification easy.

#### Included with Product\*

Single Station Staining Dishes  
Double Station Staining Dishes  
Slide Clips  
Rinse Water Tubing Kit

#### Physical Specifications

Dimensions (D x W x H): 6.25" x 25" x 18.4" (15.9 x 64 x 27cm)

Clearance Height: 9.75" (24.8cm)

Weight: 16.3lbs. (7.3kg)

\*Contents, packaging and quantities of items listed under "Included with Product" are subject to change without prior notice.



### Thermo Scientific Disposable Blades

Great blades start with the highest grade steel and world-class manufacturing. Our disposable blades deliver exceptional section quality with consistency and value.

## Thermo Scientific Cryostat Accessories

### Heat Extractor

- Speed freezing for frozen section specimens.
- Freezing action in seconds.
- Block planes surface parallel to blade to minimize trimming.
- Use in all cryotomes and cryostats.
- Stainless steel block is 1.2" (3cm) diameter.
- 3" (7.6cm) stem fitted with a plastic knob.



### Brushes



Narrow Brush

Wide Brush

### Camel Hair Brush

- 7.5" (19.1cm) long with wood handle.

### Plastic Knife Guard



## Thermo Scientific Cryotomy Consumables



### Neg-50<sup>®</sup> Frozen Section Medium

Neg-50 is a water-soluble frozen section medium, yielding high-quality sections down to -50°C without chatter. Neg-50 is available for easy specimen identification in pink, blue, green, yellow and orange.

### Cytocool<sup>™</sup> II

Cytocool II Rapid Freezing Aerosol is used to "flash-freeze" tissue specimens in the cryostat or harden difficult-to-cut tissue on the microtome. Cytocool II does not contain chlorofluorocarbons (CFCs), making it environmentally safe.



### M-1 Embedding Matrix

- Particularly effective on specimens with high water content, such as ocular and CNS tissues.
- Water soluble, clear embedding matrix.
- Optimum sectioning temperature of -12° to -13°C.



### Cryostat Lubricating Oil

- Available in 4oz. (118ml) bottle.

### Thermo Scientific Shandon Rapid-Chrome<sup>™</sup> Kwik-Diff<sup>™</sup> Staining Kit



Specially configured to perform quick, high-quality differential stains. Ideal for FNA carts.

#### Kit Components:

- Fixative
- Eosin
- Methylene Blue
- Deionized Water
- Mounting Medium
- Spill-Free Slide Jar
- 1 Plastic Slide Grip
- Secureline<sup>®</sup> Marker
- Thermo Scientific Superfrost<sup>®</sup> Slides
- 24 x 50, No. 1 Coverglass
- 1 Cardboard Slide Folder

### Thermo Scientific Shandon Rapid-Chrome<sup>™</sup> H&E Frozen Section Staining Kit



Produces permanently stained slides. Kit includes Thermo Scientific Shandon Rapid-Fixx<sup>™</sup>, an economical, alcohol-based formalin ideal for fixing frozen section slides.

#### Kit Components:

- Rapid-Fixx Fixative
- Deionized Water
- Eosin Y
- Xylene
- Gill 3 Hematoxylin
- Bluing Reagent
- 100% Alcohol
- Mounting Medium