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	ChamberPeltier	ChamberPeltierObject*	ChamberCryobarObject**	PeltierObjectKnife
Freezing Stations	27	12	8	2
Touch-Screen Operation	No	No	Yes	No
Motorized handwheel	No	Yes*	No	Yes

*Optional

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.

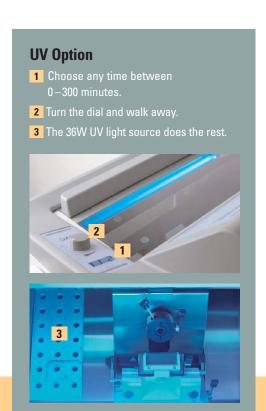
Leading-Edge Precision

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)

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.



2 1 3 4

The HM 550 Chamber

- 1 Twelve specimen stage stations, including four cooling to -60°C.
- Object cooling head for independent specimen control to -50°C.
- 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





Technical Specifications

- Open-top cryostat achieves chamber temperature of -35°C
- Stainless steel microtome with cross-roller bearings for horizontal/vertical specimen movements
- $\bullet~$ Fine section thickness feed from 1 to 100 μm
- 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 highand 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.

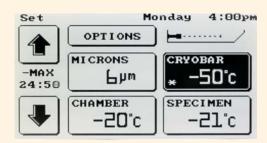
Safe and Secure

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 µm in 1µm adjustments and 20-60 µm in 5µm 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 (±10° 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.

Research/Industrial

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

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): $37" \times 30" \times 53"$ (93 x 77 x 134cm)

Weight: 507lbs. (230kg)

Thermo Scientific Linistat™ Linear Stainer



- 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.



Plastic Knife Guard



Camel Hair Brush

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

Thermo Scientific Cryotomy Consumables



Neg-50[™] 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[™] 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 Kwik-Diff⁻ 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[®] Marker
- Thermo Scientific Superfrost* Slides
- 24 x 50, No. 1 Coverglass
- 1 Cardboard Slide Folder

Thermo Scientific Shandon Rapid-Chrome^{**} H&E Frozen Section Staining Kit



Produces permanently stained slides. Kit includes Thermo Scientific Shandon Rapid-Fixx™, 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

HM 550

Description	Order Number
HM 550 P (with Peltier)	956424
HM 550 PD (with Peltier, Disinfection)	956424D
HM 550 VP (with Vacutome, Peltier)	956444
HM 550 O (with Object Cooling)	956434
HM 550 OD (with Object Cooling, Disinfection)	956434D
HM 550 OP (with Object Cooling, Peltier)	956454
HM 550 OPD (with Object Cooling, Peltier, Disinfection)	956454D
HM 550 M (with Motorized Sectioning)	956514
HM 550 MD (with Motorized Sectioning, Disinfection)	956514D
HM 550 MP (with Peltier, Motorized Sectioning)	956524
HM 550 OM (with Object Cooling, Motorized Sectioning)	956534
HM 550 OMD (with Object Cooling, Motorized Sectioning, Disinf	ection) 956534D
HM 550 OMP (with Object Cooling, Motorized Sectioning, Peltier	r) 956554
HM 550 OMPD (with Object Cooling, Motorized Sectioning, Peltier, Disinfection)	956554D
HM 550 VP (with Vacutome, Peltier)	956544
HM 550 VPD (with Vacutome, Peltier, Disinfection)	956544D
HM 550 OVP (with Object Cooling, Vacutome, Peltier)	956464
HM 550 OVPD (with Object Cooling, Vacutome, Peltier, Disinfect	
HM 550 MVP (with Motorized Sectioning, Vacutome, Peltier)	956544
HM 550 MVPD (with Motorized Sectioning, Vacutome, Peltier, Di	sinfection) 956544D
HM 550 OMVP (with Object Cooling, Motorized Sectioning, Vacutome, Peltier)	956564
HM 550 OMVPD (with Object Cooling, Motorized Sectioning, Vacutome, Peltier, Disinfection)	956564
HM FEO Crysostat Booksgoo*	Ouder Number

HM 550 Cryostat Packages*	Order Number
HM 550 P Package	956424A
HM 550 VP Package	956444A
HM 550 OP Package	956454A
HM 550 MP Package	956524A
HM 550 MVP Package	956544A
HM 550 OVP Package	956464A
HM 550 OMP Package	956554A
HM 550 OMVP Package	956564A

^{*}Packages include disposable blade carrier (EC or EV depending on model), heat extractor and cryomold.

Available Accessories for HM 550 Series	Order Number
Non-Vacutome Knife/Blade Carriers	
Standard Knife Carrier	705460
Disposable Blade Carrier EC	705470
Glass Anti-roll Plate, 69.5mm (2)	449980
Glass Anti-roll Plate, 39.5mm (2)	449990
Vacutome Knife/Blade Carriers	
Disposable Blade Carrier EV	705580
Glass Anti-roll Plate	449990
Magnetic Disposable Blade Carrier MV	705590
Heat Extractor	524510
Freezing Disc	715690
Cryo-Molds, 10mm	570400
Cryo-Molds, 15mm	570380
Cryo-Molds, 22mm	570390
Specimen Stages	
Specimen Stage, 20mm	715700
Specimen Stage, 30mm	715710
Specimen Stage, 40mm	715720
Specimen Stage, 50 x 50mm	715730
Specimen Stage, 55 x 55mm	715740
Specimen Stage, 60 x 55mm	715750
Specimen Stage, 70 x 55mm	715760

HM 550 continued

Description	Order Number
Metal Coarse Filter	281080
Coarse Filter Bags, 25/pk.	281090
Fine Filter	281060
Accessories for Sectioning Paraffin	
Standard Specimen Clamp	546130
Universal Cassette Clamp	546060
Fixed Adapter	532040

HM 525

Description 0	rder Number
HM 525 Cryostat with EC70 disposable blade holder system	956624DH
HM 525 Cryostat with knife holder system	956624KH
HM 525UV Cryostat with EC70 disposable blade holder sys	tem 956634DH
HM 525UV Cryostat with knife holder system	956634KH
Available Assessavies for UM E2E	Order Number

Available Accessories for HM 525	Order Number
Disposable Blade Carriers	
Disposable Blade Carrier EC70	705630
Standard Knife Carrier	705460
Glass Anti-Roll Plate	449980
Specimen Stages	
Specimen Stage, 30mm	715220
Specimen Stage, 40mm	715230
Heat Extractor	524490
Freezing Disc	715690

Cryotome FE and FSE

Description	Order Number
Cryotome FE 230V, 50Hz	A78900001
Cryotome FE 115V, 60Hz	A78900002
Cryotome FSE 230V, 50Hz	A78900003
Cryotome FSE 115V, 60Hz	A78900004

Cryotome FSE 23UV, 5UHZ	A78900003
Cryotome FSE 115V, 60Hz	A78900004
Available Accessories for the FE and FSE	Order Number
Low-Profile Disposable Blade Holder	A78910032
High-Profile Disposable Blade Holder	A78910033
Universal Blade Holder	A78910047
Glass Anti-roll Plate	A78930200
Plastic (perspex) Anti-roll Plate	A78910075
XY orientation head (FE only)	A78910016
Cryobar Cassette Identification Label, 4/pk.	A78910054
Cryobar Cover	A78910041
Cryocassette, 40mm diameter crosshatched, 6/pk. (multi-colore	ed) A78910031
Cryocassette, 25mm annular, 4/pk. (with handle)	77210150
Cryocassette, 35mm annular, 4/pk. (with handle)	77210151
Cryocassette, 45mm annular, 4/pk. (with handle)	77210152
Cryocassette, 9.5mm annular, 4/pk. (with handle)	77210153
Cryocassette, 40mm diameter annular, 4/pk.	A78910055
Cryocassette, 25mm diameter crosshatched, 4/pk.	A78910056
Cryocassette, 28 x 40mm crosshatched, 4/pk.	A78910057
Handle, 4/pk.	A78910058
Debris tray	A78910039
Heat Extractor, Standard	A78910014
Heat Extractor, Half-weight	A78910036
Heat Extractor, Double-weight	A78910037
Tool Shelf, 60mm width	A78930121
Narrow Shelf, 56mm width	A78930166
Wide Shelf, 80mm width	A78930063
Wide Brush (Debris)	P12257
Narrow Brush (Sections)	P12940
#4 Camel Hair Brush, 12/pk.	1910

HM 560

Descrip	tion Order	Number
HM 560	Standard version	956010
HM 560	Motorized driven	956050
HM 560	Standard version with vacutome	956310
HM 560	Motorized driven with vacutome	956350
HM 560	Cryostat stage with mechanical height adjustment	956100
HM 560	Cryostat stage with vacutome and mechanical height adjustmen	nt 956160
HM 560	Cryostat stage with motorized height adjustment	956120
HM 560	Cryostat stage with vacutome and motorized height adjustment	956200

TIM 300 Gryostat stage with vacutome and motorized height adjustment	
Available Accessories for HM 560 Series Order	Number
Blade Carrier	
Knife Carrier w/Vacutome	566790
Disposable Blade Holder SEV with Anti-roll Guide System (only in combination with basic cat# 566790)	705720
Glass Anti-roll Plate	449990
Heat Extractor	524510
Cryo-Molds,10mm	570400
Cryo-Molds,15mm	570380
Cryo-Molds, 22mm	570390
Specimen Stages	
Specimen Stage, 30mm	715600
Specimen Stage, 40mm	715610
Specimen Stage, 60mm	715620
Specimen Stage, 50 x 50mm	715630
Specimen Stage, 50 x 75mm	715640
Metal Coarse Filter	281080
Coarse Filter Bags (25/pk.)	281090
Microfilter	624100

Linistat

Linistat 110-120V, 60Hz	B1000200
Linistat 220-240V, 50Hz	B1000201
Available Accessories for the Linistat	Order Number
Double Station Staining Dishes, 5/pk.	6754004
Single Station Staining Dishes, 10/pk.	6754003
Slide Clips, Pink, 25/pk.	6754005
Slide Clips, White, 25/pk.	6754002
Slide Clips, Blue, 25/pk.	6754006
Slide Clips, Yellow, 25/pk.	6754007
Slide Clips, Green, 25/pk.	6754008
Anti-evaporation Lid (Single Station)	231644
Anti-evaporation Lid (Double Station)	231645
Anti-evaporation Lid (Triple Station)	231646
Stainless Steel Holding Tank	7860260

Cryotomy Accessories

Description	Order Number
Plastic Knife Guard	A77210064
Wide Brush (Debris)	P12257
Narrow Brush (Sections)	P12940
#4 Camel Hair Brush, 12/pk.	1910
Heat Extractor	2821

Cryotomy Consumables

Description	Order Number
Cryostat Lubricating Oil Each	291
M-1 Embedding Matrix 180ml x 1	1310
Rapid-Chrome H&E Frozen Sectioning Kit 100 Slide Capacity/Kit	9990001
Rapid-Chrome Kwik-Diff Staining Kit 100 Slide Capacity/Kit	9990702
Cytocool II Rapid Freezing Aerosol, 11oz, 12/case	8323
Neg-50 Frozen Section Medium	
Colorless Neg-50, 4oz, 2/case	6502
Colorless Neg-50, 4oz, 6/case	6506
Multi-pack*, 4oz, 6/case	6506M
Blue Neg-50, 4oz, 2/case	6502B
Green Neg-50, 4oz, 2/case	6502G
Pink Neg-50, 4oz, 2/case	6502P
Yellow Neg-50, 4oz, 2/case	6502Y
Orange Neg-50, 4oz, 2/case	65020
*Contains one of each color	

Disposable Blades

Description	Order Number
MB DynaSharp Low Profile, 50/pk.	3050836
MX35 Premier+ Low Profile, 50/pk.	3052835
MX35 Premier Low Profile, 50/pk.	3051835
MB35 Premier Low Profile, 50/pk.	3050835
MB22 Premier Low Profile, 50/pk.	3050822
HP35 Coated High Profile, 50/pk.	3150734
HP35n High Profile, 50/pk.	3152735

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Anatomical Pathology

Richard-Allan Scientific

Evaporation Cover, 18" (46cm)

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