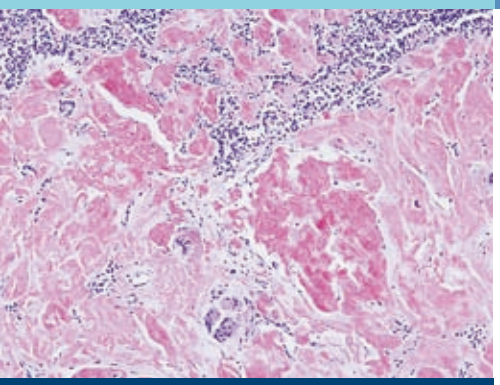
Thermo Scientific Microm HM 560 Cryostat-Series



Designed to be above

The perfect solution for your cryo application

*Accessories not included. *Cryostat stage optional.

Unachieved performance for all applications in cryotomy

The cryostat HM 560 sets new standards with its combination of highest operator comfort and reliability with reproducible, optimal sectioning results. With this new cryostat line, Microm achieved to combine ergonomy and user protection with the renowned efficiency of our instruments. The well-known modularity with the options Vacutome, specimen cooling, cutting drive motor, active deep freezing device as well as the height adjustment offers for each application and individual need the optimal instrument concept.

Unique freezing system by controlled specimen and knife cooling

Due to the controlled knife temperature, the later rolling up of the section below the anti-roll guide is avoided. The normal heating up of the blade and/or knife carrier during ribboning with an open sliding window can be avoided as well. As the temperature of specimen and knife and/or blade carrier can be set independently of each other, you have the opportunity to adjust them to your tissue in an optimal way. The specimen cooling is integrated into the microtome. This way, the chamber remains in its entire volume.

Efficient fast freezing station to avoid freezing artefacts

An integrated Peltier element allows a surface temperature of down to –60°C resulting in a fast freezing-on of the tissue onto the chuck. Freezing artefacts can mainly be avoided via these deep temperatures.

Tissue detach function inside the cryochamber

The temperature of +5°C on the integrated and temperature controlled detach element guarantees a fast detaching inside the cryochamber which helps avoiding carryover of pathogenes from the cryochamber.

Precision and constancy of the section thicknesses

A precise stepping motor for the feed of the selected section thickness guarantees constant and reproducible section thicknesses. The section thickness is set by pressing a key outside the chamber. Trim and fine section thickness are both shown on the display. The section thicknesses can be set from 0,5 µm to 500 µm.

Highest operator comfort and maximum user benefit

The ideal positioning of all operating elements allows for an easy operation. The desired values of knife and/or specimen temperatures, trim and fine section thicknesses, cutting window, activation of the automatic approach and fast freezing station can easily be activated via the keyboard. Both the set values and the actual temperatures are shown on the large LC display. Ideal temperature settings for different tissue samples can be stored. Adjustment of cutting window for disposal and stretching of the section via the Vacutome as well as for the motorized cutting drive is carried out by pressing a button.

Electronical handwheel brake

The electronical handwheel brake can be adjusted in any position.

Innovative knife carrier for conventional knives and disposable blades

This patented knife carrier can be used for both conventional knives and disposable blades by a simple alteration. The anti-roll guide can be oriented optimally to the cutting edge of the blade and/or knife.

Adjustable chamber illumination and heated arm rests

The chamber illumination which is integrated in the handle of the sliding window can be set to the desired position to avoid reflections onto the anti-roll plate and to illuminate the cryochamber optimally. A heated arm rest increases the comfort.

Precise specimen orientation

The specimen can be oriented 8° in either direction via the specimen fine orientation. The parallel positioning of the chuck towards the knife is guaranteed via the zero position. The "quick release" mechanism for clamping chucks allows for a fast changing of specimens.

Protection against debris inside the cryochamber

The spacious cryochamber is made of stainless steel which can easily be cleaned. The rotary microtome is completely outside the chamber and thus protected against debris. The easily removable section waste tray with integrated brush shelf is positioned below the blade carrier and/or specimen.

Modularity for individual requirements

Vacutome: Section stretching and decontamination of section waste

The Vacutome is an integrated, patented module for stretching sections already during sectioning. Thin sections can be generated more easily. Section waste is automatically transferred into a coarse filter. The suction air is then filtered via a micro filter.

Motorized cutting drive

The motorized cutting drive is a valuable feature for routine work as well as for problematic tissue. The cutting speed can be selected continuously depending on the respective needs.

Ergonomy for sophisticated needs

The working height of the cryostat can be adjusted motorized and continuously to your desired working position or size. A storage surface on the upper side of the cryostat hood offers enough space for staining kits.

Technical data/accessories

Technical data HM 560
Indication of data such as set and actual temperature, section sum, remaining travel, number of sections, actual time, trim and fine sectioning thicknesses, retraction function
Automatic approach system (ACA)
Electronical handwheel brake – can be locked in any position
Separate temperature control for knife carrier down to -35°C
Temperature for specimen clamping +10°C to -50°C
Heated sliding window
Standby and sleep mode for saving energy
Automatic defrosting device with immediate defrosting and additional interruption function
Detach function for the fast detaching of specimens from the chucks
Heavy-duty rotary microtome
Section thicknesses from 0,5 µm to 100 µm: up to 2 µm in 0,5 µm-increments up to 10 µm in 1 µm-increments up to 20 µm in 2 µm-increments up to 50 µm in 5 µm-increments up to 100 µm in 10 µm-increments Trimming section thicknesses from 5 µm to 500 µm: 5 – 10 µm in 5 µm-increments 10 – 100 µm in 10 µm-increments 100 – 200 µm in 20 µm-increments 200 – 500 µm in 50 µm-increments
Specimen retraction that can be turned off
Horizontal feed range: 48 mm
End position indication and automatic turn-off when reaching the front and rear end positions of the horizontal feed.
Motorized coarse feed and reset movement with three different speed settings
Vertical cutting stroke: 60 mm
Max. specimen size: 70 x 55 mm
Specimen can be rotated in Z-axis, 360° and specimen orientation
0-positioning of the chuck
Cutting speed can be controlled continuously
Accelerated return travel for fast operation
Cutting window that can be selected
Optional
Three operating modes: interval, single and continuous stroke
Can be activated either via the foot pedal or manually
Motor brake and emergency stop switch for safe operation
Integrated Vacutome system for stretching cryosections as well as for the suction of debris
Integrated fast freezing device with separate cooling element (Peltier) down to max. -60°C

Dimensions: (W x D x H): 769 (w/o handwheel) x 932 x 578 (w/o stage) mm
Weight: 141-145 kg (depending on the model)

Cryostat stage with height adjustment
Depending on the version, the cryostat can be adjusted to the desired working position either mechanically or motor-driven. The vertical adjustment range is 180 mm.

Neg –50 Cryomedium
Using the freezing medium Neg –50, the automatic approach can be carried out down to a specimen temperature of –50°C.

Disposable blades
SEC 35 blades are made of high-quality steel and coated with a unique, newly developed layer allowing for longevity of the knife at best cutting results.

Additional storage unit for chucks
Inside the cryochamber, this accessory serves as an additional storage unit for six chucks. Outside the cryochamber, the storage unit is used for detaching the tissue specimens from the chuck.

Rev. 11/08

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