



**MILESTONE**

H E L P I N G  
P A T I E N T S



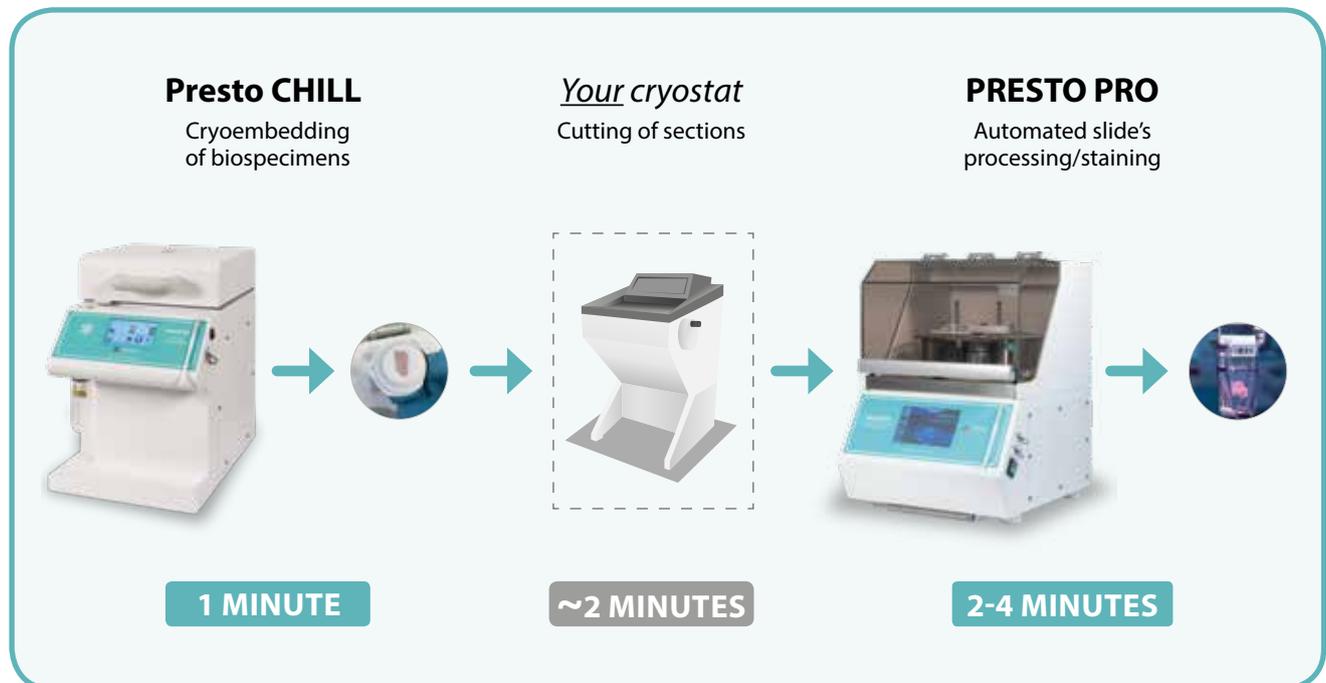
**FOR  
FATTY  
TISSUES  
TOO**

## **Presto CHILL**

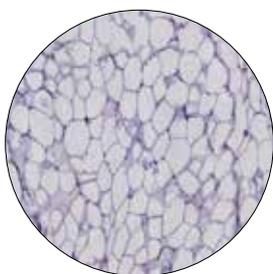
The game changer in cryoembedding  
for frozen sections of permanent-like quality

## THE PRESTO TECHNOLOGY: PrestoCHILL

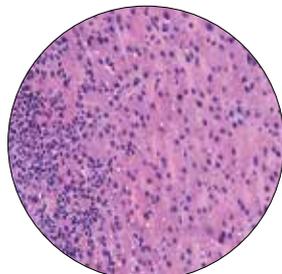
The goal of frozen sections permanent-like quality can be achieved by combining the advanced cryoembedding technology of the **Presto CHILL** unit, with the performance of the **PRESTO PRO** automatic processor/stainer.



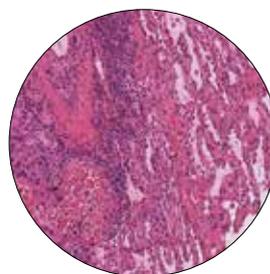
From fresh biospecimens to six stained frozen sections of permanent-like quality in less than **10 minutes**.



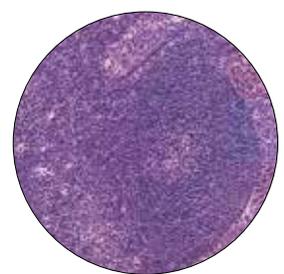
*Human breast*  
40x



*Human liver*  
40x



*Human lung*  
20x



*Human lymphnode*  
20x

## NEED GOOD RESULTS? START WITH A GOOD PREPARATION

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The optimal frozen section begins with an evenly and completely frozen tissue block in which, the block face to be sectioned is flat and includes a complete, full faced section of the tissue submitted. The section should be free of ice crystal artifacts, knife lines and/or tears. The speed and simplicity of Presto CHILL's operations revolutionize the rapid freezing process, keeping the microscopic appearance of tissues "true-to-life".

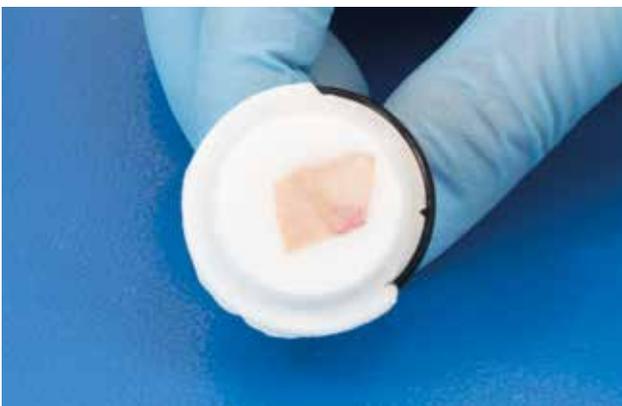


*Presto CHILL - Benchtop cryoembedding station*

## TIME TO REDEFINE FROZEN SECTIONS

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- ▶ **Reduce freezing time to 60 seconds.**
- ▶ **Eliminate freezing artifacts** through ultrafast freezing, preventing the formation of ice crystals.
- ▶ **Obtain perfectly "flat plane" surfaces** to reduce trimming time and to easily cut while using the patented\* "face down" embedding technique.
- ▶ **Eliminate the compression of artifacts** caused by extremely ultra low temperatures.
- ▶ **Eliminate the retraction of tissues;** for example, Glomeruli from Bowman's capsule and vacuolation spaces around nucleated brain cells, related to formalin fixed, paraffin-embedded (FFPE) sections.
- ▶ **Cut fatty tissues** like breast or lymph nodes without any sort of difficulty and without the distortion of delicate honeycomb structures.



*Freezing time 60"*

## Presto CHILL. THE FIRST STEP TOWARDS HIGH-QUALITY FROZEN SECTIONS

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## THIS IS HOW CRYOEMBEDDING SHOULD BE

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NO FREEZING ARTIFACTS  
60 SECOND FREEZING TIME  
AN ALL-DRY SYSTEM  
FULL DOWNLOADABLE DOCUMENTATION

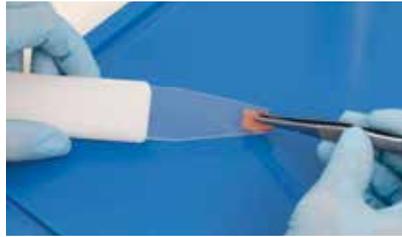
**NO LIQUID NITROGEN**  
**NO CO<sub>2</sub> - NO ISOPENTANE**  
**NO CRYOSTAT'S FREEZING**

## SIMPLE. INTUITIVE OPERATIONS

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- 1** Place a drop of cryo-embedding compound on the tip of the spatula.



- 2** Orient the specimen.



- 3** Transfer the specimen to the bottom of the mold.



- 4** Add the cryo-embedding compound to fill the mold.



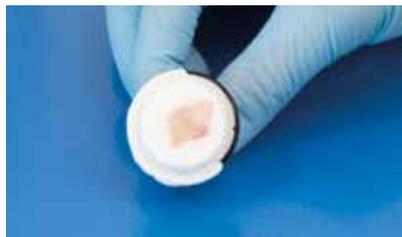
- 5** Place the chuck into the mold.



- 6** Add the extractor and close the cover.



- 7** Start the timer.  
After 60 seconds...



- 8** ... A frozen block with a perfectly "flat plane" surface is ready for cutting.

## WHAT SETS US APART ?

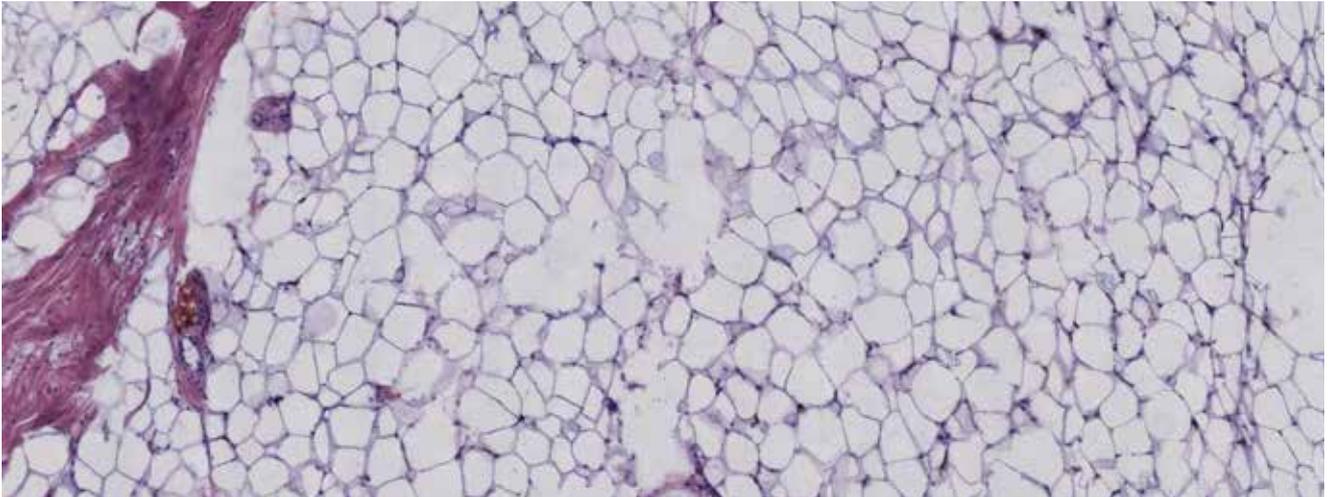
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THE UNIQUE COMBINATION OF THE  
PATENTED\* FACE-DOWN EMBEDDING TECHNIQUE,  
TOGETHER WITH A STATE-OF-THE-ART, RAPID  
STIRLING COOLING DEVICE AT -40°C.

\*US PATENT 6,536,219 B2

## FROZEN SECTIONS OF PERMANENT-LIKE QUALITY OF FATTY TISSUES.

This is a frozen section of human breast obtained in 13 minutes or less!



Breast and fatty tissues in general are some of the most difficult tissues to process as frozen sections. With the Presto CHILL, Milestone has developed a breakthrough freezing technology, which combined with the patented “face down embedding” technique and with dedicated protocols for automatic processing and staining of frozen sections, offers an innovative and rapid solution to this challenge.

## THE MILESTONE'S BREAKTHROUGH CRYOEMBEDDING FOR FATTY TISSUES.

### PRIMARY FREEZING



**1** Place the specimen in a Presto CHILL mold and fill it with the MCC medium.



**2** Freeze the specimen at -40°C for 4 minutes.

### TRIMMING



**3** Rapidly transfer the specimen to the cryostat kept at a temperature of -20°C or below. Rapidly trim the specimen.

### SECONDARY FREEZING



**4** Transfer the trimmed block back to the PrestoCHILL.



**5** Start a second freezing step for 1 minute. Transfer the specimen to the cryostat.

### CUTTING



**6** Immediately start cutting with a rapid movement of the wheel.

## CRYOEMBEDDING OF DELICATE TISSUES - SMALL FRAGMENTS/MOHS SURGERY

\*\*During the practice of frozen section pathology, pathologists often encounter the task of embedding tissues that are extremely delicate because of the nature of their consistence and structure. This is a situation that occurs daily during Mohs surgery, in which the technologist handles delicate slivers of skin with the goal of accurately embedding these tissues to completely visualize the epidermis and its margin. The Presto CHILL paper embedding technique offers a safe and rapid solution to these problems.

*\*\*The Art of Embedding Tissue for Frozen Section. Part I: A System for Precision Face Down Cryoembedding of Tissues Using Freezing Temperature-Embedding Wells. Stephen R. Peters - The Journal of Histology / Vol. 16, No.1 / March 2003*

## THE SCIENCE OF PAPER CRYOEMBEDDING



- 1 Wet both sides of a small section of lens paper with the cryo-embedding compound.



- 2 Position the specimen on the lens paper. Check its orientation.



- 3 Gently slide the specimen, paper side down, into the mold. Add the cryo-embedding compound, the chuck and the heat extractor.



- 4 After 60 seconds, the specimen is ready for section cutting.

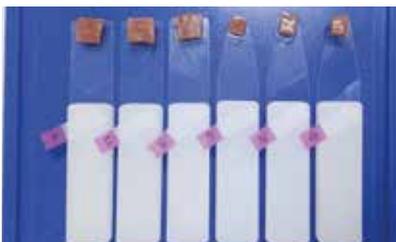


- 5 The lens paper is eliminated during the initial trimming of the block.



- 6 The final result.

## HIGH THROUGHPUT OPERATIONS



Each mold can be separately timed through the built-in control panel.

Up to **6 samples** can be frozen in parallel or in sequential order in less than **4 minutes**.

## ACCESSORIES FOR EASIER OPERATION

### MCC an optimized cryoembedding compound

MCC is a proprietary formulation of glycols and resins specifically developed for optimal support during cryotomy of dissected tissues down to  $-40^{\circ}\text{C}$ . Being water soluble, MCC doesn't leave residue on the slides, eliminating non specific background staining. Additionally, MCC will not dull microtome knives.



### Lens paper disks for easy mounting



Lens paper disks are an excellent support for freezing small fragments or delicated specimens making the difficult task simple and rapid. Available in 3 sizes (diameters of 16, 22, 30 mm).

### Molds to fit every requirement



A wide variety of molds with different diameter and depth are available to fullfill every freezing requirement.

### 24/7 operations with fully automatic defrost feature

To eliminate the potential formation of ice on the freezing platform, an automatic defrost cycle is provided.

## TECHNICAL SPECIFICATIONS

- Stirling cooler freezing module
- Anodized aluminium freezing platform
- 4,3" touchscreen terminal, 1 USB port
- Weight: 22Kg (48.5 lbs)
- Power supply: 230V~ 50/60Hz or 115V~ 60Hz (250W)
- Dimensions:
  - Height:* 45 cm (17.7") (with opened cover 73 cm / 28.8")
  - Width:* 30 cm (11.8")
  - Depth:* 54 cm (21.3")



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