



**MILESTONE**

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



THE NEW ERA OF DECALCIFICATION:  
NO MANUAL STEP. EVER.



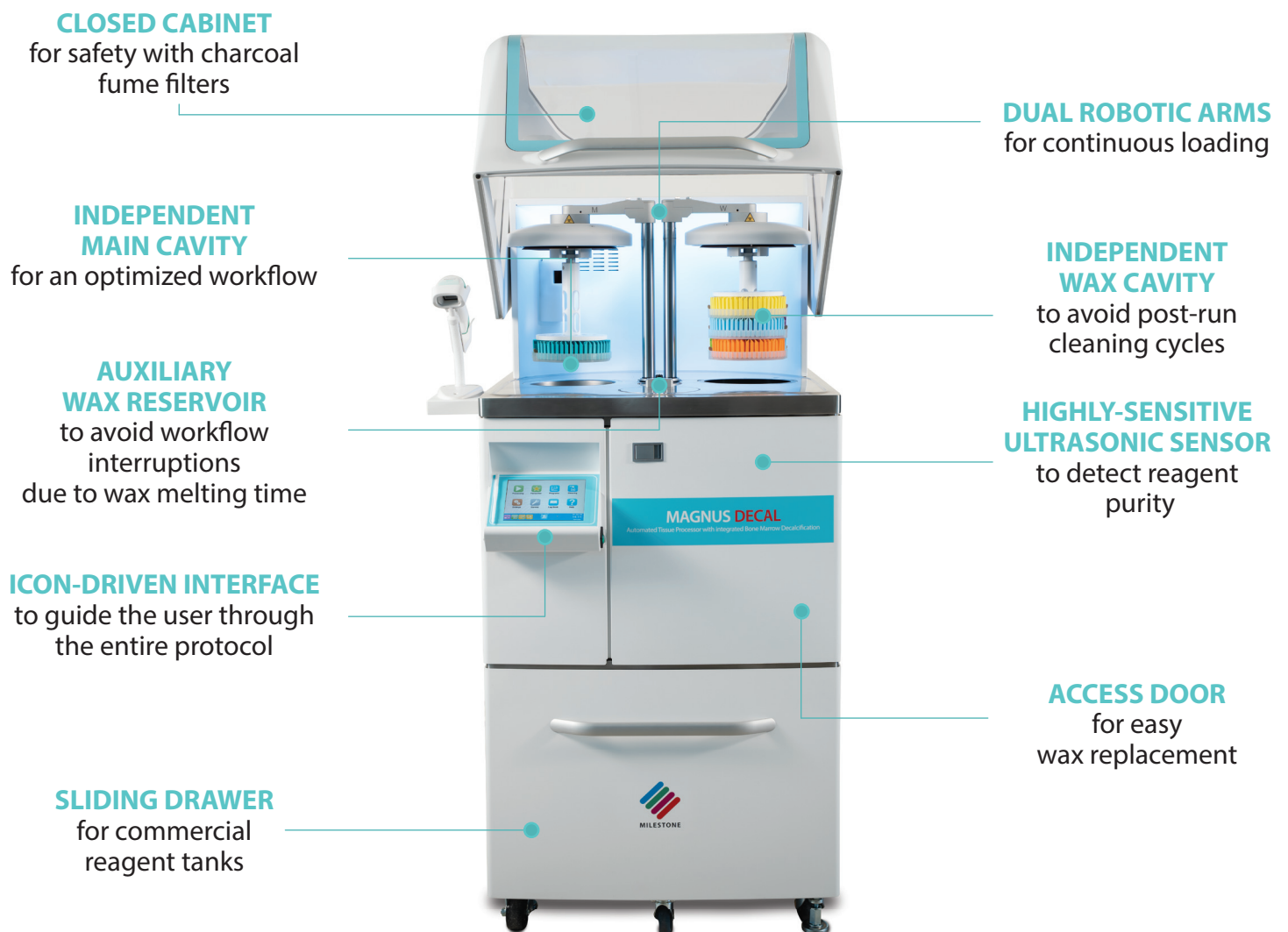
## **MAGNUS FAST **DECAL****

Automated Tissue Processor with  
integrated Bone Marrow Decalcification

# WHERE DECALCIFICATION MEETS AUTOMATION

Decalcification is a critical step in bone tissue processing, essential for **removing calcium components and ensuring optimal preparation** for downstream analysis. In Anatomical Pathology laboratories, bone marrow specimens represent the most frequently analyzed bone samples. Due to their unique composition—significantly different from standard bone tissue—they require highly specialized protocols and gentle reagents to preserve morphology, cellular detail, and diagnostic integrity. Yet, in many laboratories today, decalcification is still performed manually—leading to variability, limited standardization, and increased turnaround times.

MAGNUS FAST DECAL changes the paradigm. Designed for maximum flexibility, this advanced automatic tissue processor **accommodates all specimen types and laboratory workloads**—from urgent biopsies to small samples—without compromising performance. When required, the decalcification step can be seamlessly integrated into the processing workflow thanks to dedicated bone marrow-optimized protocols developed to ensure tissue preservation. Its hybrid processing technology, dual-cavity system and automated arm configuration work together to enhance workflow efficiency and deliver standardized, reproducible results.





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**FULLY AUTOMATED PROCESSING**

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**CONTINUOUS LOADING**

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**INTEGRATED DECALCIFICATION**

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**MAXIMUM FLEXIBILITY**

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**HIGH QUALITY RESULTS**

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## | FULLY AUTOMATED PROCESSING AND CONTINUOUS LOADING

MAGNUS FAST DECAL features **advanced automation technologies** that transform decalcification and processing into fully standardized automatic steps, significantly reducing operator dependency while optimizing protocol efficiency and reproducibility. With continuous loading, a second protocol can start while the first is still running—ensuring uninterrupted workflow and maximizing productivity (up to 600 cassettes at full capacity with dual run modality).



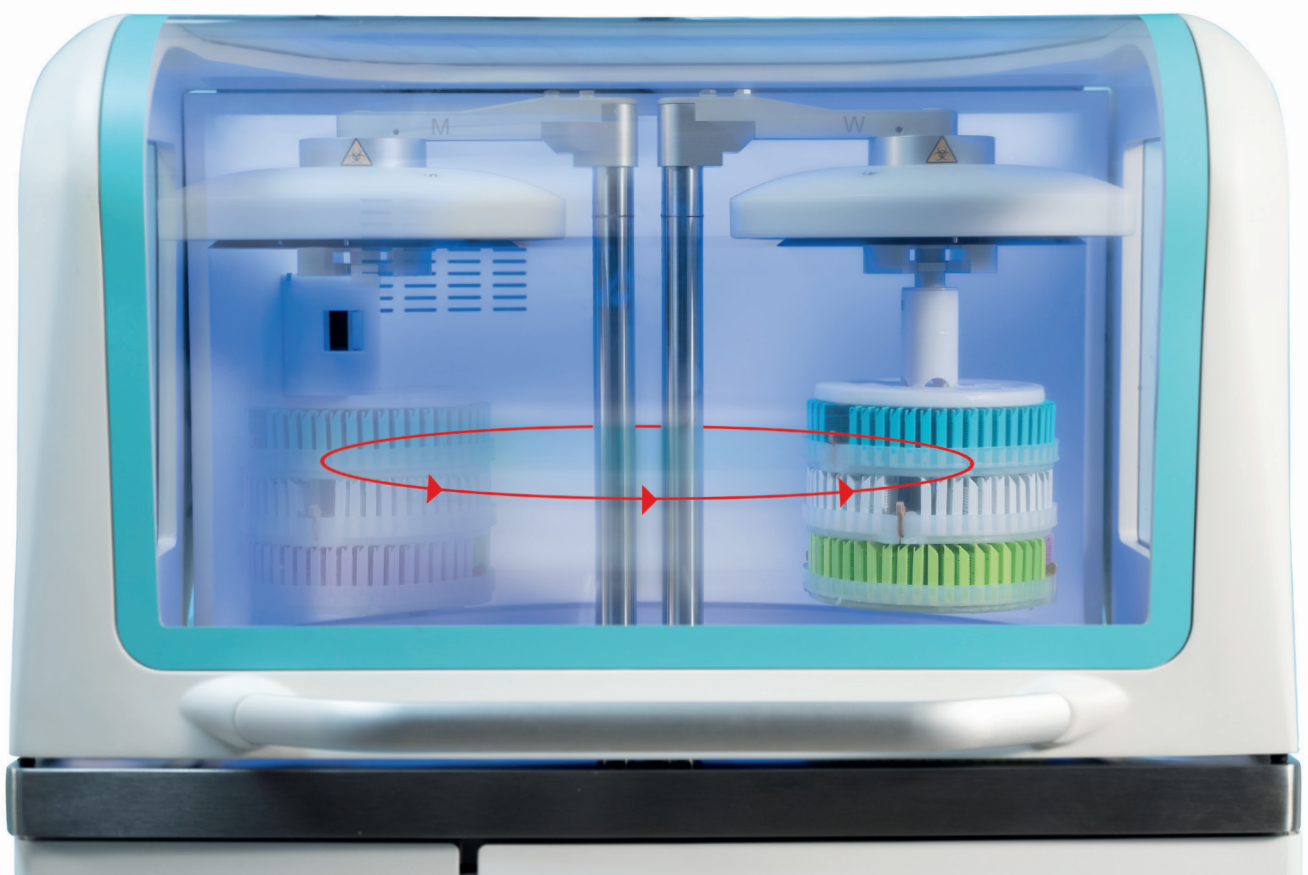
The robotic arm **automatically transfers the rack from the main cavity to the wax cavity**, freeing up the first cavity for a new rack.



The presence of a dedicated wax cavity **eliminates the need to transfer wax into the main cavity**, eliminating time-consuming cleaning cycles and issues associated with wax clogging.



The wax reservoir allows **automatic paraffin replenishment**, transferring molten wax directly into the wax cavity without delays.



# DECALCIFY. CHECK. GO.



## | THE PERFECT MATE

Milestone has developed its proprietary EDTA solution, MoL-DECALCIFIER, formulated with a stoichiometric mixture of dibasic and tribasic EDTA to achieve a stable pH of 7.2–7.4—the optimal range for faster decalcification—without the need for acid or base buffering agents. **MoL-DECALCIFIER** can be perfectly paired with MAGNUS FAST DECAL, enhancing fixation and accelerating the decalcification of bone marrow samples, delivering results within just a few hours. Moreover, reagent changes are simplified through seamless compatibility with readily available commercial tanks. This design reduces exposure to toxic fumes, minimizes time spent on decanting and spill cleanup, and prevents potential technical errors thanks to barcode-guided reagent positioning.

## | INTEGRATED DECALCIFICATION

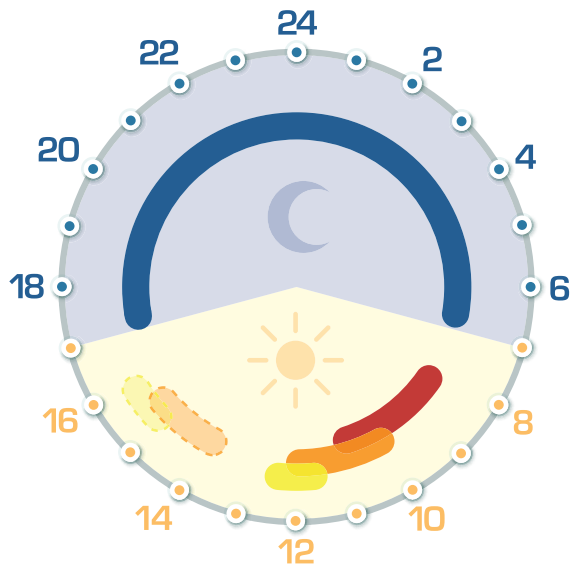
MAGNUS FAST DECAL delivers **fully automated bone marrow decalcification**, with adjustable temperature settings designed to accelerate processing while maintaining tissue integrity. At a dedicated checkpoint during the protocol, the system prompts the operator to verify decalcification status. Once confirmed, the workflow seamlessly advances to the next step; if additional time is required, decalcification continues automatically until the process is complete—guaranteeing precision, control, and consistent results.



# ONE DEVICE, MULTIPLE PROCESSING MODALITIES.

## MAXIMUM FLEXIBILITY

The system supports a **wide range of protocols**, seamlessly adapting workflows to meet diverse laboratory needs—from processing urgent biopsies and delivering same-day breast specimen diagnoses to performing decalcified bone marrow processing within overnight for protocols. Moreover, MAGNUS FAST DECAL eliminates the need for wax loading and unloading thanks to its dedicated wax cavity. This feature removes the requirement for end-of-run cleaning cycles, leading to substantial savings in time and reagent costs.



**OVERNIGHT PROTOCOL**  
(including decalcification)



**SURGICAL SAMPLES** (3 mm)

**ROUTINE BIOPSIES** (2 mm)

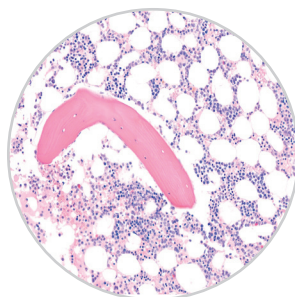
**URGENT BIOPSIES** ( $\leq 1$  mm)



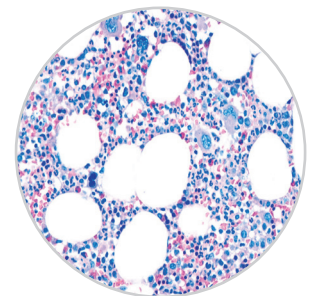
*\* Example of a standard laboratory routine. In the afternoon, the unit can accommodate additional routine or urgent biopsy protocols, depending on the laboratory's needs.*

## HIGH QUALITY RESULTS

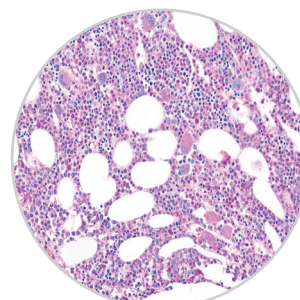
MAGNUS FAST DECAL workflows are based on rapid processing protocols, which have been validated to **secure optimal specimen morphological and molecular preservation and ensure proper fixation** (and decalcification when needed) of the tissue prior to processing.



H&E 20x



GIEMSA 15x



PAS 20x

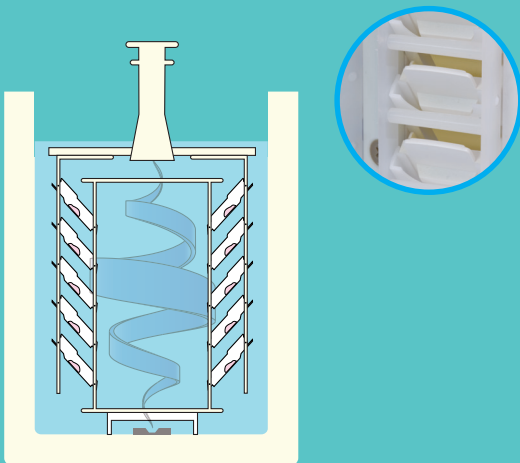
# OPTIMIZE YOUR WORKFLOW WITH THE PERFECT COMPLEMENTS

## I SYNERGY, THE AUTO-EMBEDDING SYSTEM

Milestone's Synergy, a revolutionary patented system, allows for **automatic embedding of up to 45 cassettes per run during regular processing protocols**. The unique design of the rack allows the assembled mould to be moved into two positions, one for the processing step and one for the embedding one, within the same run.

### ANGLED POSITION

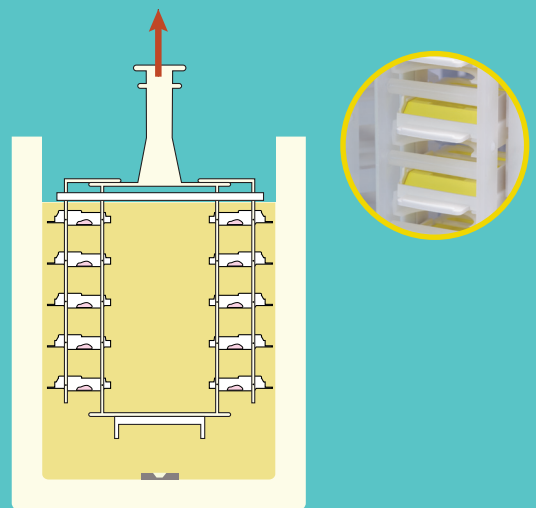
This position, set during fixation and the subsequent reagent steps, allows **free reagent circulation**.



*\*The Synergy rack is not compatible with decalcification protocols.*

### HORIZONTAL POSITION

This position allows the moulds to **collect the required paraffin and embed the tissue**.



## I MILEWATCH INTEGRATION

MAGNUS can be integrated with MileWATCH, the **advanced 24/7 Tracking and Monitoring System from OR to AP**. MAGNUS in combination with MileWATCH ensures:

- **Complete specimen traceability**
- **Remote system control**
- **Workflow management**



**MileWATCH**  
24/7 Monitoring and Tracking

## | OTHER MILESTONE SOLUTIONS FOR DECALCIFICATION



### **DecalMATE**

Automatd Fixation and Decalcification System for Bone Tissues



### **LeanDECAL**

Automated Bone Marrow Decalcification System



### **BoneSTATION**

Advanced System for Fixation and Decalcification of Bone Tissues



### **KOS**

Multifunctional Microwave Tissue Processor

## | THE PERFECT PARTNERS TO YOUR MAGNUS FAST DECAL



### **MileWATCH**

24/7 Monitoring and Tracking



### **Synergy**

Processing and Embedding all-in-one



### **Tracking Line**

Automatic Basket and Rack Scanner



### **HistosMATE**

Wax Cleaning System

# MILESTONE HELPING PATIENTS

Milestone is a company headquartered in Northern Italy and was founded in 1988 as a corporation specializing in advanced microwave instrumentation for analytical and organic chemistry labs. As the technology leader in pre-analytical instrumentation, Milestone supports a worldwide installed base of over 25.000 systems. In 1994, Milestone established a separate Medical Division to expand our expertise in the crucial pre-analytical phase to the world of histopathology. We pioneered the first microwave rapid tissue processor for same-day diagnosis and the first macro-digital system to enhance the grossing step. Today, our rapid tissue processors, macro-digital imaging systems, and pre-analytical instrumentation are used every day in the most renowned clinical and research laboratories around the world. But we never stop. We continue to lead the industry with constant innovation and improvement. Driven by the leading principle we live by, Helping patients.

*Specifications are subject to change without notice*

**MILESTONE**



HELPING  
PATIENTS

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