



TORONTECH



LABORATORY TISSUE EMBEDDING SYSTEM (COOLING COMBINATION)

Laboratory Tissue Embedding System (Cooling Combination) - ToronTES™ 4500

Laboratory Tissue Embedding System (Cooling Combination) ToronTES™ 4500 is a bench-top Tissue Embedding System designed for paraffin embedding with an integrated cooling combination for higher-volume daily block preparation. The ToronTES™ 4500 combines an embedding unit with a separate cooling part, allowing the heated workstation and cold plate to work together as one coordinated Embedding System. This model is integrated construction, fast heat-up, strong sealing performance, reduced wax dripping, and long working life.

This system is intended for laboratories that need controlled paraffin dispensing, stable heating zones, scheduled startup, and dedicated cooling support within the same workflow. It includes a large-capacity paraffin bath, heated working areas, a small cold spot in the worktable, and a separate cold plate for block cooling after embedding.

ToronTES™ 4500 is a practical fit for pathology, histology, and research labs that want a more robust paraffin embedding platform with both hot and cold functions in one station. Its layout supports smoother specimen handling, cleaner wax management, and more efficient routine operation.

APPLICATIONS

Laboratory Tissue Embedding System (Cooling Combination) - ToronTES™ 4500 Applications

- Histology and pathology laboratories: this Tissue Embedding System is suitable for routine paraffin embedding in histology and pathology workflows where specimens must be oriented, embedded, and cooled before microtome sectioning. The combined hot-and-cold layout helps streamline the transition from embedding to block stabilization.

- Hospital and clinical laboratory workflows: ToronTES™ 4500 fits hospital and clinical laboratories that need predictable paraffin handling, programmable startup and shutdown, and dedicated cold-plate support for daily tissue block preparation. The scheduled timing function helps the station be ready before the workday begins.
- Research and teaching laboratories: this Embedding System also works well in research and teaching settings where users need a controlled paraffin workstation with integrated cooling, direct temperature visibility, and optional magnified lighting for specimen positioning.



FEATURES

Laboratory Tissue Embedding System (Cooling Combination) - ToronTES™ 4500 Key Features

- Integrated embedding and cooling design: ToronTES™ 4500 combines an embedding system and a cooling part in one coordinated workstation. The layout can be arranged flexibly between the embedding machine and the cooling part.
- Fast and even heat-up: the system uses button-panel control, updated heating materials, and nano-heating technology intended to deliver quick and even temperature rise across the heated sections.
- Programmable memory and auto-recovery: memory and auto-recover functions allow the system to store settings and operate according to preset time and temperature schedules.
- LCD temperature display: the LCD screen shows the temperatures of the paraffin bath, thermostatic bath, and paraffin nozzle, helping the operator monitor the main working zones more easily.
- Low-voltage lighting system: a low-voltage lighting system is included to improve visibility during embedding work.
- Small cold spot in the worktable: the worktable includes a small cold spot for localized cooling during specimen positioning and paraffin handling.
- Large-capacity paraffin bath: the paraffin bath is sized to hold enough paraffin for routine use at one time, which helps reduce interruptions during daily embedding work.
- Multilevel safety protection: the heating system includes multilevel safety protection for routine laboratory operation.
- Heated forceps positions: there are three forceps-heating holes on each side of the paraffin nozzle, helping keep tools ready during embedding.
- Paraffin collection drawer: a collection drawer is included to gather paraffin from the working table and support easier cleanup.
- Optional magnifying lamp: a magnifying glass with lamp is available as an optional accessory for more detailed specimen positioning.

THEORY & METHOD

Theory and Method

A Tissue Embedding System works by keeping paraffin at a controlled dispensing temperature while providing a heated work area for specimen orientation in molds. After the tissue is positioned and paraffin is dispensed, the block is moved to a cooler zone so the wax can solidify into a stable block for trimming and sectioning.

ToronTES™ 4500 follows this method through a heated embedding station paired with a dedicated cold plate and a small cold spot built into the working table. This arrangement supports a more efficient workflow by bringing embedding and cooling functions together within one Embedding System platform.

The system also includes programmable timing plus memory and auto-recovery functions. That allows the user to preset operating temperature and startup or shutdown timing so the station can return to scheduled working conditions for daily laboratory use.

TECHNICAL SPECIFICATIONS

Laboratory Tissue Embedding System (Cooling Combination) - ToronTES™ 4500 Technical Specification

Parameter	ToronTES™ 4500
Product type	Tissue Embedding System / Embedding System
System configuration	Embedding system plus cooling part

Parameter	ToronTES™ 4500
Paraffin pan capacity	6000 mL
Paraffin pan temperature range	0 to 99°C
Working table temperature range	0 to 99°C
Left and right warming box temperature range	0 to 99°C
Cold plate freezing range	0 to -20°C
Small cold spot temperature range	0 to -10°C
Control mode	Manual touch plate or foot switch
Hot reservoir capacity	About 120 molds or 140 cassettes for each hot reservoir
Cold plate capacity	About 50 to 80 tissue molds or cassettes
Ambient operating temperature	0 to 40°C
Time control	24-hour optional switch-on and switch-off setting
Nominal voltage	AC 110 to 220 V $\pm$ 10%
Rated frequency	50/60 Hz
Power consumption	Dispenser part: 10 A / 1800 W; cold plate part: 5 A / 130 W
Dimensions	Embedding center: 60 × 66 × 42 cm; cold plate: 47 × 66 × 42 cm
Gross / net weight	Cold plate: 50 / 25 kg; embedding unit: 115 / 60 kg

Standard Accessories

- Steel structure (1 pc)
- Tissue cassettes (10 pcs)

- Foot switch (1 pc)
- Tissue molds (4 pcs)
- Power wire (1 pc)
- Fuse (2 pcs)

Optional Accessories

- Magnifying glass with lamp
- Paraffin
- Tissue molds



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