



MELTING POINT APPARATUS - TORONMPA™ 100

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Melting Point Apparatus ToronMPA™ 100 is a video-based system designed for routine melting point work in QC and R&D labs. It runs four samples at a time, uses high-definition video for clear melt observation, and supports semi-automatic detection for consistent results. The system also supports direct printing and common data export formats for reporting workflows.

ToronMPA™ 100 combines precise temperature control with a built-in video camera so operators can see melt behavior clearly and document decisions faster. The instrument covers room temperature to 360 °C with 0.01 °C resolution, supporting stable ramp control when melt transitions occur quickly.

A PID-controlled, fully closed furnace design helps keep heating behavior steady between runs and operators. Up to 10 programmable segments support repeatable heating profiles aligned with internal SOPs.

Touch-screen operation and stored methods support daily lab workflow, while permissions and audit features support controlled documentation. The system includes four-level permission management, audit trail, electronic signature, and method locking options when traceability is required. Results can be exported as PDF and Excel, with common interfaces such as USB, Wi-Fi, and RJ45 for lab connectivity.

APPLICATIONS

Melting Point Apparatus - ToronMPA™ 100 Applications

- Pharmaceutical QC and research: Melting point and melting range checks support identity screening and purity trend monitoring for APIs and excipients. Video observation helps standardize visual decisions during investigations and training. Four-sample batches support routine checks without slowing the workflow.

- Chemical manufacturing and incoming inspection: Crystalline chemicals can show melting range shifts when composition changes between lots. Controlled ramp programs support lot-to-lot comparisons under the same heating conditions. Semi-automatic detection supports quick screening under defined SOP steps.
- Food, flavors, and fragrance solids: Many formulation solids have characteristic melting behavior that supports internal benchmarks and batch comparison. Video makes the melt transition easier to confirm and record during routine checks. Stored profiles help repeat the same ramp conditions across teams.
- Dyes and other organic crystalline substances: Dyes and specialty organics often use melting behavior for development screening and process checks. Repeatable heating segments help maintain comparable results across different sample types. Video observation supports clearer documentation during method development.



FEATURES

Melting Point Apparatus - ToronMPA™ 100 Key Features

- AI-assisted parameter setup to speed up routine configuration and reduce operator variation.

- Four-sample testing per run to support higher throughput for daily QC work.
- High-definition video observation to view the melting process clearly without microscope-style viewing.
- Direct printing support to simplify documentation during routine testing.
- PID temperature control with a closed furnace design to keep heating ramps stable and repeatable.
- Up to 10 programmable gradient segments to build repeatable heating profiles for different materials and SOPs.
- Controlled documentation functions including audit trail, electronic signature, method locking, and MD5 export verification.
- PDF and Excel export with common interfaces including USB, RS232, SD, Wi-Fi, RJ45, and U-disk.
- QR-code scan input support to reduce manual sample ID entry steps.







THEORY & METHOD

Theory and Method

Melting point testing measures the temperature or temperature range where a solid transitions into a liquid under controlled heating. A sample is typically packed into a capillary tube, heated at a defined rate, and observed for melt onset and the

clear point. ASTM and pharmacopeial methods emphasize consistent sample preparation, controlled heating rate, and use of suitable reference materials for verification.

ToronMPA™ 100 uses high-definition video so operators can observe the melting process clearly while the furnace follows a programmed heating profile. PID temperature control with a closed furnace design supports stable ramps and repeatable results between runs. Up to 10 programmable segments help match different SOP needs across diverse sample types.

TECHNICAL SPECIFICATIONS

Melting Point Apparatus - ToronMPA™ 100 Technical Specification

Specification	ToronMPA™ 100
Temperature range	Room temperature to 360 °C
Detection method	Semi-automatic
Parameter settings	AI automatic
Sample capacity	4 samples per run
Temperature resolution	0.01 °C
Heating rate	0.1 °C to 20 °C (200 levels, stepless adjustable)
Temperature control	PID control, fully closed furnace design
Program segments	Up to 10 programmable gradient segments
Accuracy (reported)	±0.3 °C (≤200 °C); ±0.5 °C (>200 °C)
Repeatability (reported)	±0.1 °C at 0.1 °C/min

Specification	ToronMPA™ 100
Magnification	Standard 9× (other settings available)
Display	10.4-inch TFT color touch screen
Data storage	32 GB
Stored methods	40 sets
User management	Four-level permission management
Audit trail	Yes
Electronic signature	Yes
Custom method library	Yes
Method locking	Yes
Export verification	MD5 verification supported
Printing mode	Wi-Fi printing and serial printing
Export formats	PDF and Excel
Interfaces	USB, RS232, SD, Wi-Fi, RJ45, U-disk
QR scanner input	QR code scan input supported
Capillary size	OD ϕ 1.3 mm, ID ϕ 1.1 mm
Package size	430 × 320 × 370 mm
Voltage	110–230 V, 50/60 Hz, 120 W
Weight	6.50 kg

Optional Accessories

- Melting point reference material: Naphthalene (GBW(E) 13234)
- Melting point reference material: Adipic acid / 1,6-hexanedioic acid (GBW(E) 130236)
- Melting point reference material: Anthraquinone (GBW 13238)
- Melting point capillary tubes: Standard capillaries
- Agate mortar and pestle (for sample grinding and preparation)
- Thermal printer (for direct result printouts)
- Needle-type printer (impact-style printing option)



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