



MELTING POINT APPARATUS - TORONMPA™ 700

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A Melting Point Apparatus helps QC and R&D teams confirm identity and screen purity by measuring melting range under controlled heating. ToronMPA™ 700 is a fully automatic, video-based system that records the full melting process and reports initial melting and final melting with consistent ramp control.

It supports 4 samples per batch, helping labs increase throughput without relying on subjective microscope interpretation. ToronMPA™ 700 combines HD video observation with programmable temperature control to support repeatable melting range testing.

The platform includes AI-assisted parameter setup to streamline routine runs. It is designed for regulated and production-facing workflows that require controlled documentation, including audit tracking and electronic signatures. Export options support PDF and Excel reporting, and direct printing is supported for fast documentation.

APPLICATIONS

Melting Point Apparatus - ToronMPA™ 700 Applications

- Chemical and pharmaceutical research: Melting range data helps compare batches during synthesis, purification, and formulation work. Video capture supports review when transitions need verification in lab records.
- Production QC for organic crystalline substances: Used for routine checks in food, drugs, spices, dyes, and similar materials. Standardized heating and recorded observation improve consistency across shifts.
- Incoming inspection and raw material identification: Melting behavior can be compared against internal reference ranges to screen mix-ups or off-grade lots. This supports practical material verification in QC receiving workflows.
- Traceable documentation for regulated environments: Audit tracking, electronic signatures, and method locking support controlled reporting. This helps labs align documentation practices with compliance-driven SOPs.



Standards

- 21 CFR Part 11 expectations may apply when electronic records/e-signatures are used in regulated environments.

FEATURES

Melting Point Apparatus - ToronMPA™ 700 Key Features

- Fully automatic video melting range measurement with recorded transition review.
- 4 samples per batch to increase daily testing throughput.
- QR code scanner input support to scan and load sample information quickly.
- AI-assisted parameter setup for standardized routine methods.
- Automatic recording of initial and final melting for consistent endpoint reporting.
- Programmable gradient temperature control (up to 10 segments) for SOP alignment.
- Zoomable spectrum/image viewing for detailed transition inspection.
- Audit trail and electronic signature support for controlled documentation.
- Direct printing plus PDF/Excel export with MD5 verification option.
- Connectivity options include USB, RS232, SD, Wi-Fi, RJ45, and U disk.







THEORY & METHOD

Theory and Method

A prepared sample is packed into a capillary tube and inserted into the heating chamber. The system heats at a programmed rate and records the phase transition using video observation. The software records the melting range by capturing endpoints such as the first visible melt and the final clear melt. Programmable gradient segments help standardize

ramp conditions across operators and materials for better comparability.

TECHNICAL SPECIFICATIONS

Melting Point Apparatus - ToronMPA™ 700 Technical Specification

Specification	ToronMPA™ 700
Temperature range	Room temperature to 420 °C
Test mode	Melting point, sliding point
Sample types	Multiple sample types supported
Detection method	Fully automatic (manual operation compatible)
Processing capacity	4 samples per batch
Temperature resolution	0.01 °C
Heating rate	0.1 °C to 20 °C (200 adjustable levels)
Temperature program	Up to 10 programmable gradient segments
Spectrum / image zoom	Any zoom available for detailed viewing
Accuracy	±0.2 °C (<250 °C); ±0.4 °C (>250 °C)
Repeatability	±0.1 °C at 0.1 °C/min
Magnification	Standard 9× (other magnifications can be set)
Display	10.4-inch TFT color touchscreen
Data storage	128 GB

Specification	ToronMPA™ 700
Map / image storage	50,000 groups
Method storage	200 sets
User management	Four-level authority management
Audit tracking	Yes
Electronic signature	Yes
Custom method library	Yes
Method locking	Yes
Export verification	MD5 verification supported
Printing	Wi-Fi printing; serial port printing
Export formats	PDF, Excel
Interfaces	USB, RS232, SD, Wi-Fi, RJ45, U disk
Scanner input	QR code scanner supported
Small capillary size	OD ϕ 1.4 mm; ID ϕ 1.0 mm
Large capillary size	OD ϕ 4.0 mm; ID ϕ 3.8 mm
Packing size	430 × 320 × 370 mm
Voltage	110–230 V, 50/60 Hz, 120 W
Gross weight	6.50 kg

Optional Accessories

- Melting point reference material: Naphthalene (GBW(E) 13234)

- Melting point reference material: Adipic acid (GBW(E) 130236)
- Melting point reference material: Anthraquinone (GBW 13238)
- Standard melting point capillary tubes
- Agate mortar
- Thermal printer
- Needle-type printer



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