



MELTING POINT APPARATUS - TORONMPA™ 600

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A Melting Point Apparatus supports identity checks and purity screening by measuring melting range under controlled heating.

ToronMPA™ 600 is a fully automatic, video-based system that records the entire melt transition and reports melting range endpoints with consistent ramp control. It processes four samples per batch, helping QC and R&D labs increase throughput while reducing subjective interpretation.

ToronMPA™ 600 combines high-precision temperature control with a high-definition camera to provide stable, repeatable melting point results. HD video observation replaces traditional microscope viewing, making melt behavior easier to verify during reviews and training.

Automatic detection with real-time spectrum display supports consistent endpoint decisions across operators. AI-assisted parameter setup streamlines routine runs and supports standardized methods.

Documentation tools support controlled workflows, including audit trail, electronic signature, and data export protection features. Results can be exported to common file formats and printed directly for fast reporting.

APPLICATIONS

Melting Point Apparatus - ToronMPA™ 600 Applications

- Chemical and pharmaceutical R&D: Melting range testing helps characterize compounds during synthesis, recrystallization, and formulation work. Video records and spectrum display support internal documentation when transitions need verification.

- Production QC for organic crystalline substances: Used for routine checks in food, drugs, spices, dyes, and other organic crystalline materials. Standardized heating conditions improve comparability across lots and shifts.
- Incoming inspection and raw material identification: Melting range trends can be compared against internal reference expectations to screen mix-ups and off-grade material. This supports practical receiving QC when fast confirmation is needed.



Standards

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

FEATURES

Melting Point Apparatus - ToronMPA™ 600 Key Features

- AI-assisted parameter setup to streamline routine operation.
- Four samples processed per batch to improve daily throughput.
- High-definition video observation replaces microscope viewing.
- Automatic recording of melting range, initial melting, and final melting.
- Direct printing support for rapid documentation.
- Audit trail and electronic signature support aligned with controlled documentation needs.
- Up to 10 programmable temperature segments for SOP consistency.
- QR code scanner input support for faster sample information entry.
- Export formats include PDF and Excel, with MD5 verification support.
- 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 placed in the heating chamber. The instrument heats at a programmed rate while the HD camera records the phase transition. Automatic detection and real-time spectrum display help determine the melting range based on defined endpoints. Programmable temperature segments support repeatable

ramps for better lot-to-lot comparison. Recorded video supports review, training, and documentation.

TECHNICAL SPECIFICATIONS

Melting Point Apparatus - ToronMPA™ 600 Technical Specification

Specification	ToronMPA™ 600
Temperature range	Room temperature to 420 °C
Detection method	Automatic (manual compatible)
Processing capacity	4 samples per batch
Temperature resolution	0.01 °C
Linear heating rate error	±5%
Heating rate	0.1 °C to 20 °C (200 levels, stepless adjustable)
Temperature control method	PID precise temperature control, fully closed furnace design
Temperature program	Up to 10 programmable gradient segments
Spectrum viewing	Zoomable spectrum view for detailed inspection
Accuracy	±0.2 °C (≤200 °C); ±0.4 °C (>200 °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™ 600
Atlas storage	1,000 groups
Method storage	1,000 sets
Method locking	Yes
User management	Four permission levels
Audit trail	Yes
Electronic signature	Yes
Custom method library	Yes
Export verification	MD5 verification supported
Export formats	PDF, Excel
Data interfaces	USB, RS232, SD, Wi-Fi, RJ45, U disk
Scanner input	QR code scanner supported
Capillary size	OD ϕ 1.3 mm; ID ϕ 1.1 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 / 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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