

PROGRAMMABLE ELECTRIC HEATING INCUBATOR



Programmable Electric Heating Incubator – ToronCubator™ EH-P

ToronCubator™ EH-P is a programmable electric heating laboratory incubator engineered for laboratory environments that require more than basic temperature control. Available in seven chamber sizes from 40 L to 1001 L, this series of incubators extends beyond the standard EH platform with a wider temperature range of RT+5 to 85 °C, an LCD interface, 6-stage fan speed regulation, and a programmable 10-segment/100-cycle design giving researchers the flexibility to run complex multi-phase thermal protocols alongside straightforward fixed-temperature incubation. For laboratories that operate across diverse incubation workflows and need a scalable, programmable heating incubator, the ToronCubator™ EH-P delivers the capability and capacity to match.

The ToronCubator™ EH-P is a heating-only electric incubator. Its operating range begins at room temperature +5 °C and extends to 85 °C. It does not include a refrigeration system and is suited to warming, heating, and programmable thermal incubation protocols rather than controlled cooling applications.

The ToronCubator™ EH-P is a full-featured programmable electric heating incubator built for laboratory workflows ranging from simple fixed-temperature incubation to complex, multi-phase thermal profiling. Seven chamber volumes (40 L, 76 L, 142 L, 234 L, 452 L, 655 L, and 1001 L) span from compact benchtop configurations through industrial-scale floor-standing units, making this series one of the widest-capacity electric heating incubator ranges available in the ToronCubator™ lineup.

The exterior housing is manufactured from cold-rolled steel with a static spray-plastic surface coating. The interior working chamber uses mirror-finished stainless steel for corrosion resistance and ease of post-run cleaning. Shelving is optionally adjustable to accommodate varying sample heights, with configurations ranging from 2 standard shelves (maximum 4) on the smallest model up to 4 standard shelves (maximum 18) on the three largest. An observation window on the door allows users to check on samples without opening the chamber, preserving the internal thermal environment during active incubation runs.

Sealing performance is delivered by nano-material magnetic door seal strips combined with heat-preservation insulation material along the full door perimeter. The PMMA I operating system provides temperature control, timing, and over-temperature alarm functions on an LCD display a step up from the LED interface of the ToronCubator™ EH. The

programmable design supports up to 10 segments and 100 repeatable cycles, enabling researchers to define ramp-and-soak sequences, step-change protocols, and multi-phase incubation profiles for applications that require a defined temperature history rather than a single fixed set-point. Power recovery functionality retains all programmed settings after any power interruption, protecting complex program configurations and active run data from loss

How the ToronCubator™ EH-P Compares to the ToronCubator™ EH-E

Here's the comparison table:

Feature	ToronCubator™ EH-E	ToronCubator™ EH-P
Display	LED	LCD
Control System	PMMA I	PMMA I
Temp. Range	RT+5 to 65°C	RT+5 to 85°C
Fan Speed	Fixed	6-stage adjustable
Timer Range	0-999 min/h	0-9999 min/h
Programmable Profiles	Not available	10 segments / 100 cycles
Available Sizes	4 sizes (40-234 L)	7 sizes (40-1001 L)

Quick takeaway for buyers:

The ToronCubator™ EH-E is the straightforward choice for routine incubation needs simple operation, fixed airflow, and a compact size range at an accessible price point.

The ToronCubator™ EH-P steps up with a wider temperature ceiling, programmable multi-segment profiles, adjustable fan speed, and a broader volume range suited for laboratories that need more flexibility and protocol control from their incubator.

APPLICATIONS

Programmable Electric Heating Incubator - ToronCubator™ EH-P

Applications

The ToronCubator™ EH-P serves a broad range of B2B laboratory applications where programmable heating capability, extended temperature range, and large chamber capacity are required alongside reliable electric incubation performance.

- Biochemical Research: multi-phase enzyme assays, protein thermal stability studies, and temperature-gradient biochemical protocols requiring programmable segment control over precise heating timelines.
- Microbiology: bacterial and fungal culture incubation at defined temperatures, including extended-temperature protocols above 65 °C not accessible on standard-range heating incubators.
- Material & Component Testing: accelerated aging, thermal cycling, and heat-stress testing of materials, electronic components, and packaged goods requiring repeatable multi-cycle thermal profiles.
- Pharmaceutical QC: stability screening, dissolution test pre-warming, and reagent conditioning at defined temperatures, with timed and scheduled run management for regulated workflows.
- Food Science & Safety: pasteurization simulation, microbiological testing, and shelf-life incubation studies require stable heating across a wide temperature range with reproducible timed cycles.
- Industrial & High-Volume Labs: large-format incubation (452–1001 L models) for batch processing, multi-rack sample throughput, and high-volume quality control workflows requiring consistent thermal conditions at scale.



FEATURES

Programmable Electric Heating Incubator - ToronCubator™ EH-P Key Features



- Cold-rolled steel housing with static spray-plastic finish; mirror stainless steel interior working chamber with optionally adjustable shelving positions
- PMMA I operating system with LCD display for temperature set-point, run-time management, and over-temperature alarm monitoring
- Imported motor and fan assembly with 6-stage speed regulation for precise, sample-appropriate airflow control across all shelf positions
- Programmable multi-segment design supporting up to 10 segments and 100 repeatable cycles for complex thermal profile incubation protocols
- Extended temperature range of RT+5 to 85 °C 20 °C wider than standard electric heating incubators for high-temperature biological and material testing applications
- Timer function supporting 0-9999 min/h for flexible long-duration and multi-day incubation scheduling

- Transparent observation window on the door for non-intrusive sample monitoring without opening the chamber and disrupting the thermal environment
- Nano-material magnetic door seal strips combined with heat-preservation insulation material for minimal door-interface heat loss and consistent thermal stability
- Power recovery function retains all programmed segment profiles and run-state data after any power interruption or system halt
- Seven chamber sizes from 40 L to 1001 L with scalable shelf configurations from 2-shelf benchtop to 18-shelf floor-standing to match any laboratory throughput requirement

THEORY & METHOD

Theory and Method

Forced-Air Electric Heating with 6-Stage Fan Regulation

The ToronCubator™ EH-P generates heat through electric resistance elements and distributes conditioned air using an imported motor and fan assembly. Unlike the fixed-speed fan of the ToronCubator™ EH-E, the ToronCubator™ EH-P Series provides 6-stage fan speed regulation allowing users to select airflow intensity to match the sensitivity of their samples. Lower fan speeds suit open-vessel cultures and fragile biological samples; higher speeds accelerate temperature equilibration after door opening or at the start of a new incubation cycle. Temperature fluctuation is rated at ± 0.5 °C at 37 °C, with uniformity of ± 1.0 °C for models up to ToronCubator™ EH 234 and ± 2.0 °C for the three larger-volume models (ToronCubator™ EH-452P, ToronCubator™ EH-652P, ToronCubator™ EH-1001P).

Programmable Multi-Segment Thermal Profiles

The PMMA I operating system on the ToronCubator™ EH-P Series supports up to 10 programmable segments arranged across 100 repeatable cycles. Users can define ramp rates, target temperatures, soak durations, and step transitions to

create complex thermal profiles that run automatically without operator intervention between phases. The timer function extends to 0-9999 min/h tenfold longer than the ToronCubator™ EH-P accommodating multi-day incubation scheduling and long-duration thermal cycling programs. This programmability is particularly relevant for material testing, multi-phase biochemical assays, and any protocol where the temperature history of the sample affects the outcome.

LCD Control Interface and Over-Temperature Alarm

All operational parameters are managed through a backlit LCD display that provides a real-time readout of current temperature, set-point, program status, and elapsed run time. The over-temperature alarm activates when the internal temperature exceeds the defined threshold, alerting operators before samples are exposed to damaging thermal excursions. Temperature resolution is 0.1 °C across the full RT+5 to 85 °C operating range 20 °C wider than the ToronCubator™ EH-E covering applications that require incubation temperatures above the range of most standard laboratory incubators in this category.

Nano-Material Magnetic Door Sealing

Nano-material magnetic door seal strips combined with heat-preservation insulation material provide a consistent, compression-sealed door interface across the full temperature operating range. The magnetic seal eliminates gaps along the door perimeter that would allow warm air to escape or ambient air to infiltrate the chamber during active runs. This contributes directly to the ± 0.5 °C fluctuation specification and reduces the energy required to maintain set-point stability particularly relevant on the larger ToronCubator™ EH-452P, ToronCubator™ EH-652P, ToronCubator™ EH-1001P models where door seal performance has a proportionally greater impact on overall chamber thermal stability.

Power Recovery and Data Protection

The power recovery function retains all programmed segment profiles, cycle counts, and active run-state data following any power interruption or system halt. When power is restored, the incubator resumes from its last known operational state without requiring manual reprogramming protecting complex multi-segment programs and long-duration incubation runs from data loss. This function is especially important for the larger-volume models used in batch processing and high-volume quality control workflows, where restarting a full incubation cycle after a power event has significant cost and time implications.

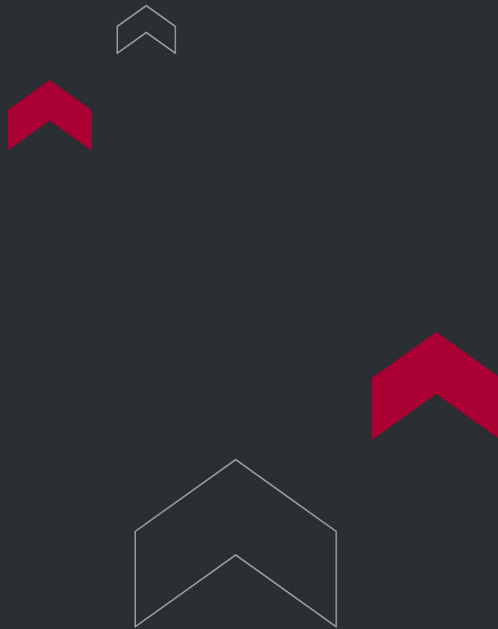
TECHNICAL SPECIFICATIONS

Programmable Electric Heating Incubator - ToronCubator™ EH-P

Technical Specifications

Parameter	ToronCubator™ EH-40P	ToronCubator™ EH-76P	ToronCubator™ EH-142P	ToronCubator™ EH-234P	ToronCubator™ EH-452P	ToronCubator™ EH-655P	ToronCubator™ EH-1001P
Chamber Volume	40 L	76 L	142 L	234 L	452 L	655 L	1001 L
Heating Method	Forced-air electric heating						
Display	LCD						
Temperature Range	RT+5 to 85 °C						
Temperature Resolution	0.1 °C						
Temp. Fluctuation at 37 °C	±0.5 °C						
Temp. Uniformity at 37 °C	±1.0 °C				±2.0 °C		
Fan Speed Regulation	6-stage variable speed						
Voltage	220V ±10%, 50Hz ±2% (110V is also available)						
Rated Power	300 W	450 W	450 W	750 W	1500 W	2200 W	3150 W

Parameter	ToronCubator™ EH-40P	ToronCubator™ EH-76P	ToronCubator™ EH-142P	ToronCubator™ EH-234P	ToronCubator™ EH-452P	ToronCubator™ EH-655P	ToronCubator™ EH-1001P
Timer Range	0-9999 min/h						
Programmable Segments / Cycles	10 segments / 100 cycles						
Internal Dimensions (W×D×H)	350×330×350 mm	450×380×450 mm	550×470×550 mm	600×520×750 mm	600×580×1300 mm	720×650×1400 mm	1100×650×1400 mm
Housing Dimensions (W×D×H)	640×556×505 mm	740×606×605 mm	840×696×705 mm	890×746×905 mm	774×845×1704 mm	865×866×1730 mm	1220×850×1730 mm
Shelves (Standard / Max.)	2 / 4	2 / 5	3 / 7	3 / 10	4 / 18	4 / 18	4 / 18
Net Weight / Gross Weight	37 / 47 kg	50 / 61 kg	68 / 91 kg	88 / 111 kg	/	/	/
Package Size (W×D×H)	740×696×645 mm	840×746×745 mm	960×856×855 mm	1010×906×1055 mm			
Refrigeration	None (heating-only instrument)						
Door Seal	Nano-material magnetic seal strips with heat-preservation insulation						



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