



ECONOMICAL DESKTOP ELECTRIC HEATING INCUBATOR

Economical Desktop Electric Heating Incubator – ToronCubator™ EH-E

ToronCubator™ EH-E is an electric heating laboratory incubator designed for dependable, straightforward temperature-controlled incubation across a broad range of B2B laboratory applications. Available in four chamber volumes (40 L, 76 L, 142 L, and 234 L) this series of incubators combines a PMMA I control system, an imported motor and fan assembly, nano-material magnetic door seals, and an LED display interface to deliver consistent, easy-to-operate warming performance from RT+5 to 65 °C. For laboratories that need a reliable, low-complexity heating incubator without refrigeration overhead, the ToronCubator™ EH-E is a practical and cost-efficient solution.

The ToronCubator™ EH-E is a heating-only electric incubator. Its operating range begins at room temperature +5 °C and extends to 65 °C. It does not include a refrigeration system and is suited to warming and thermal incubation protocols rather than controlled cooling applications.

The ToronCubator™ EH-E is a forced-air Economical Desktop Electric Heating Incubator built for routine laboratory incubation workflows that require stable warmth, straightforward controls, and a compact, durable footprint. Four chamber volumes (40 L, 76 L, 142 L, and 234 L) provide a scalable range of options from small benchtop setups to larger floor-standing configurations, making the series a flexible choice for research labs, quality control environments, and educational institutions.

The outer housing is manufactured from cold-rolled steel with a static spray-plastic surface coating, while the interior working chamber uses mirror-finished stainless steel for corrosion resistance and easy post-use cleaning. Shelving is optionally adjustable to accommodate samples of varying heights, and each model supports a defined standard and maximum shelf configuration with generous load capacity per shelf level. A transparent observation window on the door allows users to monitor samples and check on incubation status without opening the chamber and disrupting the internal thermal environment.

Sealing is handled by nano-material magnetic door seal strips combined with heat-preservation insulation material, minimizing heat loss at the door interface and maintaining stable internal conditions even when the unit is operated in varying ambient temperatures. The PMMA I operating system provides temperature control, run-time management, and an

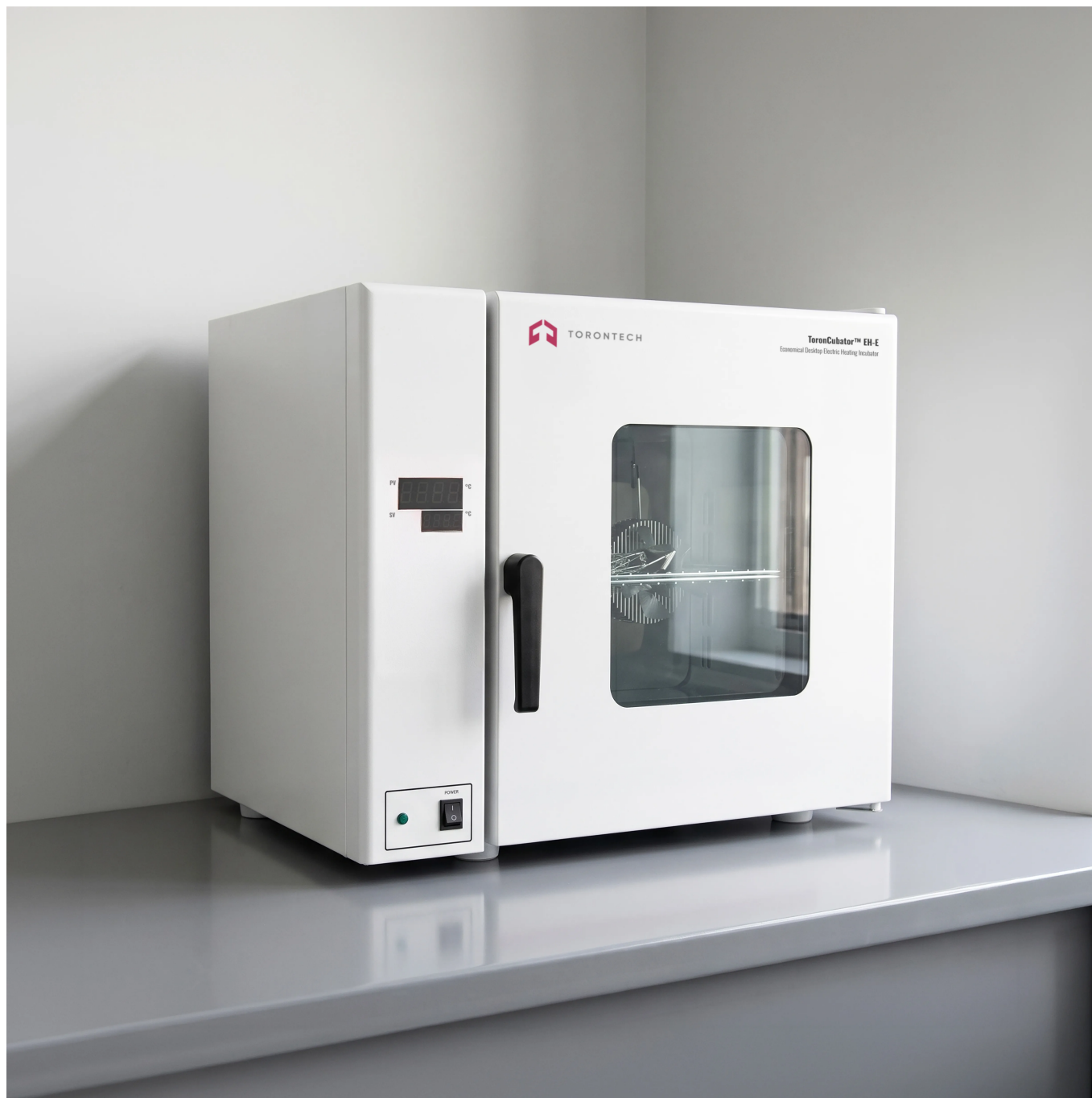
over-temperature alarm in a straightforward interface presented on an LED display. Power recovery functionality retains all programmed settings after any power interruption, protecting active incubation runs from data loss and parameter reset.

APPLICATIONS

Economical Desktop Electric Heating Incubator - ToronCubator™ EH-E Applications

The ToronCubator™ EH-E is suited to a wide range of B2B laboratory environments where reliable electric heating incubation at or above room temperature is the primary requirement. Its simplicity, four-size scalability, and stable thermal performance make it a practical instrument across multiple scientific disciplines.

- Microbiology: bacterial and yeast culture incubation at standard growth temperatures, including 37 °C protocols for clinical and research-grade microbiological workflows.
- Biochemical Assays: enzymatic reactions, hybridization protocols, and temperature-sensitive biochemical assays requiring stable, sustained warmth over defined incubation periods.
- Cell Biology: pre-warming of culture media, reagent conditioning, and short-duration cell incubation at physiological temperatures in research laboratory settings.
- Clinical & Diagnostic Labs: sample pre-conditioning, reagent warming, and specimen preparation at controlled temperatures for diagnostic and point-of-care laboratory workflows.
- Food Science & Quality Control: microbiological shelf-life testing, fermentation trials, and food safety incubation studies at stable, reproducible heating temperatures.
- Educational & Research Institutions: general-purpose laboratory incubation for academic research, student laboratory courses, and multi-discipline science programs requiring a dependable heating incubator.



FEATURES

Economical Desktop Electric Heating Incubator - ToronCubator™ EH-E Key Features

- Cold-rolled steel housing with static spray-plastic finish; mirror stainless steel interior working chamber with optionally adjustable shelving
- PMMA I operating system with LED display for temperature set-point control, run-time management, and over-temperature alarm monitoring
- Imported motor and fan assembly for forced-air convection an intelligent temperature controller that maintains consistent thermal distribution across all shelf levels
- Integrated timer function supporting 0-999 min/h scheduling for precise, unattended incubation cycle management
- Transparent observation window on the door for non-intrusive sample monitoring without opening the chamber
- Nano-material magnetic door seal strips combined with heat-preservation insulation material for minimal door-interface heat loss and consistent thermal performance
- Power recovery function retains all programmed data and settings after any power interruption or system halt, protecting active incubation runs
- Four chamber sizes (40 L to 234 L) with scalable shelf configurations to match laboratory throughput and space requirements

THEORY & METHOD

Theory and Method

Forced-Air Electric Heating

The ToronCubator™ EH-E generates heat through electric resistance heating elements and distributes conditioned air throughout the working chamber using an imported motor and fan assembly. This forced-convection approach circulates warm air continuously across all shelf positions, achieving a temperature uniformity of ± 1.5 °C at 37 °C and a fluctuation of ± 0.5 °C. The fan ensures that the upper and lower sections of the chamber reach and maintain their set-point temperatures simultaneously a clear advantage over gravity-convection designs in chambers where multiple shelf levels are loaded with samples of varying thermal mass.

PMMA I Temperature and Timer Control

The PMMA I operating system governs temperature set-point, run duration, and over-temperature alarm functions through a dedicated LED display interface. Temperature resolution is 0.1 °C across the RT+5 to 65 °C operating range. The integrated timer function supports run scheduling from 0 to 999 min/h, allowing users to define precise incubation durations for timed assays, culture cycles, and quality control incubation protocols without manual monitoring. The over-temperature alarm activates when the internal temperature exceeds the defined threshold, alerting operators before samples are exposed to harmful thermal excursions.

Nano-Material Magnetic Door Sealing

Door-interface heat loss is one of the primary sources of temperature instability in Economical Desktop Electric Heating Incubators. The ToronCubator™ EH-E addresses this with nano-material magnetic door seal strips combined with heat-preservation insulation material along the full door perimeter. The magnetic seal provides consistent compression across the door contact surface, eliminating gaps that would allow warm air to escape or ambient air to infiltrate the chamber. This design contributes directly to the ± 0.5 °C fluctuation performance and reduces the energy required to maintain set-point temperatures during extended incubation runs.

Power Recovery and Data Protection

The ToronCubator™ EH-E Series includes a power recovery function that retains all programmed set-points and timer settings following an unexpected power interruption or controlled system halt. When power is restored, the incubator resumes from its last known operational state without requiring manual reprogramming. This protects active incubation runs

particularly long-duration microbiological or biochemical assay protocols from data loss and avoids the need to restart a full incubation cycle after a power event.

TECHNICAL SPECIFICATIONS

Economical Desktop Electric Heating Incubator - ToronCubator™ EH-E
Technical Specifications

Parameter	ToronCubator™ EH-40E	ToronCubator™ EH-76E	ToronCubator™ EH-142E	ToronCubator™ EH-234E
Chamber Volume	40 L	76 L	142 L	234 L
Heating Method	Forced-air electric heating			
Display	LED			
Temperature Range	RT+5 to 65 °C			
Temperature Resolution	0.1 °C			
Temp. Fluctuation at 37 °C	±0.5 °C			
Temp. Uniformity at 37 °C	±1.5 °C			
Voltage	220V ±10%, 50Hz ±2% (110V is also available)			
Rated Power	300 W	450 W	450 W	750 W
Timer Range	0-999 min/h			
Internal Dimensions W×D×H	350×330×350 mm	450×380×450 mm	550×470×550 mm	600×520×750 mm
Housing Dimensions W×D×H	640×556×505 mm	740×606×605 mm	840×696×705 mm	890×746×905 mm

Parameter	ToronCubator™ EH-40E	ToronCubator™ EH-76E	ToronCubator™ EH-142E	ToronCubator™ EH-234E
Shelves (Standard / Max.)	2 / 4	2 / 5	3 / 7	3 / 10
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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