



ECONOMICAL BIOCHEMICAL INCUBATOR

Economical Biochemical Incubator - ToronCubator™ BC-E

ToronCubator™ BC-E is a reliable laboratory incubator engineered for biochemical research, mould cultivation, and temperature-controlled biological studies. Featuring a PAMMA I control system with built-in timing functions and a power recovery mechanism, this series of laboratory incubators provides consistent, stable performance across a 5–50 °C operating range — a practical solution for research facilities, quality control labs, and academic institutions across North America.

The ToronCubator™ BC-E is a dual-purpose biochemical incubator and mould incubator designed for laboratories that need dependable, low-maintenance temperature control. Available in three chamber volumes — 100 L, 150 L, and 250 L — the series supports a broad range of sample loads and can be configured with different shelf arrangements to suit varying workflow demands.

The exterior housing is constructed from cold-rolled steel with a static spray-plastic finish, combining structural durability with a clean laboratory aesthetic. The interior working chamber uses mirror stainless steel for easy cleaning and corrosion resistance, with shelving that can be repositioned to accommodate samples of different heights. A large-angle, heat-preserving vacuum toughened glass window on the door allows users to check on samples without opening the chamber and disrupting the internal environment.

An integrated lighting device illuminates the working chamber for clear sample visibility. Power recovery functionality safeguards active run data and programmed settings during unexpected power interruptions, ensuring that long-duration incubation cycles are not compromised by electrical events. These characteristics make the ToronCubator™ BC-E a sensible and dependable incubator for laboratories where uptime and repeatability matter.

APPLICATIONS

Economical Biochemical Incubator - ToronCubator™ BC-E Applications

The ToronCubator™ BC-E series is suited to a broad range of B2B laboratory environments. Its dual biochemical incubator and mould incubator design makes it a flexible platform across multiple scientific and industrial disciplines.

- Microbiology: mould cultivation, fungal growth studies, and microbial culture incubation under stable, controlled temperatures.
- Biochemical Research: enzyme activity assays, metabolic studies, and temperature-sensitive biochemical reactions requiring precise thermal control.
- Environmental Testing: biochemical Oxygen Demand (BOD) analysis and controlled sample degradation studies per standard laboratory methods.
- Pharmaceutical QC: short-term stability screening of biological compounds and pharmaceutical samples at regulated temperatures.
- Food Science: microbial safety evaluations, fermentation trials, and spoilage testing under reproducible thermal conditions.
- Agricultural Science: seed germination trials, plant pathogen incubation, and soil microbiology research in a controlled thermal environment.



FEATURES

Economical Biochemical Incubator - ToronCubator™ BC-E Key Features

- Cold-rolled steel exterior with static spray-plastic finish; mirror stainless steel interior working chamber with optionally adjustable shelving positions
- PAMMA I control system for reliable temperature regulation with clear set-point management and process monitoring
- Built-in programmable timer function supporting incubation cycles from 0 to 999 hours for flexible, unattended operation
- Interior lighting device for clear visibility of samples; UV light included on mould incubator variants for sterile environment applications
- Large-angle, heat-preserving vacuum toughened glass door window for non-intrusive sample observation without opening the chamber
- Power recovery function retains all active programmed data and settings after a power interruption or system halt, protecting long-cycle incubation runs



THEORY & METHOD

Theory and Method

Dual-Mode Temperature Control

The ToronCubator™ BC-E uses a PAMMA I microprocessor-based control system to regulate internal chamber temperature. The system continuously monitors the chamber sensor and adjusts heating or cooling output to maintain the programmed set-point. Temperature resolution is 0.1 °C, with fluctuation rated at ±1 °C during heating cycles and ±2 °C during active cooling — suitable for biological and biochemical incubation protocols that require stable, reproducible thermal conditions over extended periods.

Convective Heat Distribution

Conditioned air is distributed throughout the working chamber using natural or forced convection, maintaining a temperature uniformity of ±2 °C at 37 °C across the full chamber volume. The mirror stainless steel interior promotes even thermal reflection, minimizing localized temperature gradients across shelf positions. This approach supports consistent sample treatment whether the chamber is partially or fully loaded.

Programmable Timer Function

The integrated timing system allows users to pre-program incubation duration from 0 to 999 hours. Once the set time elapses, the incubator completes its cycle without requiring manual intervention. This function is especially useful for overnight, multi-day, or precisely timed biochemical and mould incubation runs where unattended operation is required.

TECHNICAL SPECIFICATIONS

Economical Biochemical Incubator - ToronCubator™ BC-E Technical Specifications

Parameter	ToronCubator™ BC-100E	ToronCubator™ BC-150E	ToronCubator™ BC-250E
Chamber Volume	100 L	150 L	250 L
Type	Biochemical Incubator		

Parameter	ToronCubator™ BC-100E	ToronCubator™ BC-150E	ToronCubator™ BC-250E
Internal Dimensions W×D×H	450×380×585 mm	500×335×955 mm	505×450×1100 mm
Housing Dimensions W×D×H	580×570×1070 mm	595×580×1232 mm	615×620×1597 mm
Temperature Range	5-50 °C	5-50 °C	5-50 °C
Temperature Resolution	0.1 °C	0.1 °C	0.1 °C
Temp. Fluctuation (Heating)	±1.0 °C		
Temp. Fluctuation (Cooling)	±2.0 °C		
Temp. Uniformity at 37 °C	±2.0 °C		
Rated Power	300 W	300 W	360 W
Timer Range	0-999 h		
Shelves (Standard / Max.)	2 / 3	3 / 5	3 / 7
Load per Shelf	15 kg		
Net Weight / Gross Weight	62 / 73 kg	79 / 91 kg	100 / 118 kg
Package Size W×D×H	680×670×1240 mm	730×680×1400 mm	720×720×1800 mm
Voltage	220V / 50Hz (110V is also available)		



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