



INCUBATOR SHAKER - SHAKING INCUBATOR

What Is an Incubator Shaker?

An incubator shaker — also called a shaker incubator — is a laboratory instrument that combines controlled-temperature incubation with continuous orbital or reciprocating agitation in a single platform. By running both functions simultaneously, a lab shaker incubator eliminates the need for separate heating and mixing equipment, reduces bench space, and ensures that culture conditions remain consistent throughout every run.

Laboratory shaker incubators are essential tools in microbiology, cell biology, biochemistry, pharmaceutical research, and food science. Whether you need to grow aerobic bacterial cultures that depend on dissolved oxygen from constant orbital motion, run multi-day fermentation trials, maintain physiological CO₂ levels for mammalian cell lines, or simply mix enzyme assays at a defined temperature — the right incubator shaker determines the reproducibility, throughput, and traceability of your results.

ToronShake™ offers a complete lineup of shaker incubators engineered for B2B laboratory environments: from compact desktop models for routine culture work, through fully programmable intelligent platforms with audit-trail data logging, to large-format floor-standing vertical and horizontal laboratory shaker incubators capable of running hundreds of flasks simultaneously. Every model in the ToronShake™ range is built around precision temperature control, reliable agitation mechanics, and the operational features that modern research and regulated laboratory environments require.

Why Choose ToronShake™ for Your Laboratory Shaker Incubator?

Precision You Can Trust

Every ToronShake™ incubator shaker is built around the principle that temperature accuracy and agitation consistency are not optional — they are the foundation of reproducible results. PID and BRIGHT I/II intelligent control systems actively compensate for real-time environmental changes, maintaining your temperature setpoint without manual recalibration when

laboratory HVAC cycles or ambient conditions shift. Temperature fluctuation across the intelligent lab shaker incubator range is held to ± 0.3 °C at 37 °C — tighter than many competing platforms.

A Shaker Incubator for Every Scale

The ToronShake™ lineup was designed to scale with your laboratory, not against it. Researchers starting with routine culture work select the compact IS-D desktop incubator shaker. Institutions running high-throughput pharmaceutical bioprocess workflows step up to the ToronShake™ HS-B, ToronShake™ HS-A, or ToronShake™ HS-P horizontal laboratory shaker incubator platforms. Organizations that have outgrown benchtop formats move to the ToronShake™ VI or ToronShake™ VS-A vertical floor-standing shaker incubators at 200 L to 737 L. Space-constrained facilities with multi-protocol requirements choose the ST-S stackable format to multiply throughput vertically. At every scale, the same design philosophy applies: reliable engineering, intelligent control, and the features that matter for professional laboratory work.

Data Management and Traceability Built In

Modern laboratory environments — and especially regulated ones — require documentation. ToronShake™ intelligent shaker incubator models store between 150,000 and 1,000,000 operational records onboard, exportable via USB to external drives. Every alarm event is timestamped automatically. Multi-level permission management prevents unauthorized parameter changes during active runs. Gregorian calendar scheduling allows instruments to start automatically without operator presence. For GLP-adjacent, ISO 17025-relevant, and audit-ready lab shaker incubator workflows, ToronShake™ delivers the data infrastructure the protocol demands.

Programmability for Complex Protocols

Standard on/off temperature and speed control is insufficient for multi-phase protocols. ToronShake™ intelligent laboratory shaker incubator models support up to 30 programmable segments per program — each defining target temperature, agitation speed, duration, and transition behavior — repeatable across up to 999 cycles (or 99 cycles on ToronShake™ IS-I and ToronShake™ VS-A models). Two timing modes — running timing from start and constant-temperature timing from setpoint arrival — give researchers flexibility in how incubation duration is measured for their specific protocol. Reservation scheduling lets runs begin at a set date and time without any operator intervention.

Contamination Management

Long-duration culture runs introduce contamination risk between sequential experiments. ToronShake™ addresses this directly: ToronShake™ IS-I, ToronShake™ VS-A, and ToronShake™ ST-S series models include UV germicidal lamps as standard, supporting programmable timed sterilization cycles before or after incubation runs. R-angle dead-corner-free stainless steel interiors on IS-I and VS-A models channel spilled liquid away from the chamber base and support internal flushing without disassembly. Slow-start and slow-stop motor functions on ToronShake™ IS-I and ToronShake™ VS-A models prevent the sudden acceleration that causes flask-stopper contamination — a meaningful safeguard in biological and cell culture shaker incubation workflows.

Purpose-Built Configurations for Specialized Applications

A general-purpose shaker incubator is not always the right tool. ToronShake™ offers purpose-designed configurations for applications that standard lab shaker incubator platforms cannot support:

- CO₂-controlled shaking incubation (HS-P Series) for mammalian cell culture requiring physiological gas atmosphere alongside orbital agitation and temperature control.
- Full-spectrum illuminated shaking incubation (HS-A Series) for photobiology, algae cultivation, and plant tissue culture requires defined light intensity as an independent experimental variable.
- Water bath shaking incubation (WB-S Series) for hybridization, molecular biology, and temperature-sensitive assays where water's thermal conductivity provides superior temperature uniformity across all vessels.
- Humidity-controlled shaking incubation (ToronShake™ VI-1, ToronShake™ HS-B1, ToronShake™ HS-P1, ToronShake™ ST-1S) for fungal culture, environmental simulation, and moisture-sensitive protocols requiring defined relative humidity alongside temperature and agitation.

For detailed specifications, flask configuration references, or model selection guidance, refer to the individual product pages for each ToronShake™ series.

APPLICATIONS

Applications

ToronShake™ laboratory shaker incubators serve a wide range of scientific and industrial workflows wherever controlled temperature and continuous agitation must operate together.

- **Microbiology & Bacterial Culture** Aerobic bacterial, yeast, and fungal culture requiring orbital agitation for oxygenation and nutrient distribution alongside precise temperature control. The ToronShake™ lineup spans desktop models for single-protocol labs through large vertical incubator shakers capable of running up to 164 × 50 mL flasks simultaneously for high-throughput microbiological workflows.
- **Cell Biology & Suspension Culture** Suspension cell culture, hybridoma production, stem cell expansion, and mammalian cell line propagation requiring gentle, consistent orbital motion at physiological temperatures. Models with CO₂ control (ToronShake™ HS-P Series) and humidity management address the atmospheric requirements of sensitive mammalian cultures that standard lab shaker incubators cannot meet.
- **Biochemical Assays & Enzyme Research** Enzyme kinetics, substrate-enzyme reaction incubation, protein expression, and multi-phase biochemical protocols requiring programmable temperature and agitation profiles. Programmable shaker incubator models support up to 30 configurable segments per program — allowing ramp-and-soak sequences and step-change protocols to run automatically from start to finish.
- **Pharmaceutical Research & Regulated Environments** Drug solubility screening, dissolution studies, biologics upstream process development, and cell-based assays in GLP- and GMP-adjacent environments. Intelligent ToronShake™ models provide 150,000- to 1,000,000-record USB data logging, timestamped event trails, multi-level permission management, and calendar scheduling — the data management infrastructure that regulated laboratory shaker incubator workflows require.
- **Fermentation & Bioprocess Development** Small- to large-scale fermentation trials, seed train propagation, and upstream bioprocess inoculum preparation. Long-timer ranges (up to 9,999 hours), power-off recovery, and reservation scheduling support multi-day unattended fermentation campaigns.
- **Photobiology, Algae & Plant Tissue Culture** Light-dependent protocols including microalgae cultivation, photosynthesis research, plant tissue culture, and circadian rhythm studies. The ToronShake™ HS-A Series adds full-spectrum LED illumination adjustable from 0 to 20,000 Lux alongside temperature and agitation control — the only incubator shaker

configuration in the lineup designed specifically for light-dependent workflows.

- Environmental & Food Testing BOD incubation with agitation, fermentation quality control, spoilage organism culture, and food safety microbiological testing. Programmable profiles and humidity-controlled configurations (available across multiple series) support the defined environmental conditions these protocols require.
- Molecular Biology Hybridization, blotting, nucleic acid preparation, restriction enzyme digestion, and ligation reactions requiring timed, temperature-controlled agitation. Water bath shaker incubator models (ToronShake™ WB-S Series) provide the tight thermal consistency that temperature-sensitive molecular biology assays depend on.

TECHNICAL SPECIFICATIONS

Product Comparison

Product Series	Format	Chamber Volume	Temperature Range	Key Differentiator
ToronShake™ IS-D	Desktop Incubator Shaker	18 L - 70 L	5-60 °C (IS-170D) / RT+5-60 °C	Compact benchtop; PMMA II control; brushless DC motor; IS-170D refrigerated from 5 °C
ToronShake™ IS-I	Intelligent Programmable Incubator Shaker	55 L - 75 L	4-60 °C	BRIGHT I control; 30-segment/99-cycle profiles; 150,000-record USB logging; UV sterilization; Gregorian calendar scheduling
ToronShake™ VI	Vertical Floor-Standing Shaker Incubator	200 L - 600 L	RT+5-60 °C (VI-3) / 4-60 °C (VI-2, VI-1)	1,000,000-record USB logging; 999-cycle profiles; active humidity control on VI-1 (up to 95% RH); inverter compressor
ToronShake™ VS-A	Advanced Vertical Shaker Incubator	324 L - 737 L	4-60 °C	BRIGHT I; UV sterilization; slow-start brushless DC motor; Ø50 mm customizable amplitude; 150,000-record USB logging
ToronShake™ HS-B	Horizontal Shaker Incubator	200 L - 350 L	RT+5-60 °C (HS-B3) / 4-60 °C (HS-B2, HS-B1)	Floor-standing horizontal; 1,000,000-record data storage; humidity control on HS-B1; 30 segments / 999 cycles
ToronShake™ HS-A	Advanced Illuminated Shaker Incubator	200 L - 350 L	4-60 °C	Full-spectrum LED illumination 0-20,000 Lux; designed for photobiology, algae culture, plant tissue culture

Product Series	Format	Chamber Volume	Temperature Range	Key Differentiator
ToronShake™ HS-P	Precision CO ₂ Horizontal Shaker Incubator	200 L – 350 L	4–60 °C	High-precision NDIR CO ₂ sensor; 0–20% CO ₂ control (±0.1% accuracy); designed for mammalian cell culture
ToronShake™ ST-S	Stackable Shaker Incubator	Per unit (multiple tray widths)	RT+5–60 °C (ST-3S) / 4–60 °C (ST-2S, ST-1S)	Stacks up to 3 independent units; each unit fully independent; UV sterilization standard; BRIGHT II control; 150,000 records/unit
ToronShake™ WB-S	Water Bath Orbital Shaker	Benchtop	RT+5–100 °C	Water bath heating for maximum thermal uniformity; orbital, reciprocating, or dual-mode; suited to hybridization and temperature-sensitive assays
ToronShake™ AB-S	Air Bath Orbital Shaker	Benchtop	RT+5–50 °C (AB-92S) / RT+5–65 °C (AB-98S)	Dry air bath; energy-efficient (300–400 W); AB-98S adds built-in chamber lamp; orbital, reciprocating, or dual-mode



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