

SCIGENICS BIOTECH PVT. LTD.(SCIBIO) was set up in 1997, as a pioneering venture to address the instrumentation needs of Life Sciences and Biotechnology scientists in India. Over the years and several thousand shakers and other lab products later, brand **ORBITEK**[®] is highly trusted and occupies the pride of place in numerous leading labs across the country, thanks to the company's unequivocal emphasis on quality all through. ISO 9001-2015 certified, SCIBIO's products are CE certified to comply with international safety norms. Today SCIBIO has presence in Japan, USA, Germany, Italy, Thailand, Finland, Vietnam, Malaysia, Tunisia and Guam.

ORBITEK[®] **LT/LE Lab Stackable Series Shakers**

ORBITEK[®] LT/LE Lab Stackable Series Shakers are Temperature Controlled Shakers that are robust yet flexible to use in research & industrial applications. These shakers are stackable up-to Two units as well as placed over/under bench. The proven triple eccentric counterbalanced drive mechanism coupled with high efficient temperature control module delivers the desired results in shake flask culturing of microorganisms. Wide Speed and temperature range enables the growth of varied cell types.



ORBITEK[®] **LE Part No. LE-BT-AH**

Salient features

Shaking:

- Shakers are stackable up-to Two units as well as be placed over/under Bench/Table
- Orbital Diameter: 26mm/50mm (factory fitted)
- Maintenance free Brushless AC / Brushless DC motor
- Speed control with slip compensation facility, ensure minimum deviation from set value
- Triple-Eccentric counter balanced drivewith 7 permanently lubricated ball bearing for uniform agitation
- Incremental /Decremental speed control of 1 RPM
- Smooth Start/Stop cycle to prevent spillages or cell shear Programmable timer for Speed
- Programmed acceleration and deceleration circuit for speed

Temperature:

- Temperature range : Ambient+5°C to 80°C - LT series & 5°C to 80°C - LE series
- Finned tubular air heater for better heat transfer
- Incremental /Decremental Temperature control of 0.1°C
- PID for precise temperature accuracy ensuring conducive environment for cultures to grow
- Low energy consumption and Hermetically Sealed CFC free refrigeration system
- Forced air circulation inside the chamber ensures uniform distribution of air into all culture flasks
- High grade insulation on all sides for uniform temperature maintenance

Construction:

- Robust construction for noiseless operation
- All corrosion resistantstainless steel 304/316 interior for cleanability& disinfection
- Large chamber volume - two stationary trays addsincubation space in the shaker
- Optional LED /FluorescentIllumination
- Flexibility to extend for various applications including anaerobic, algal, microbial & plant cell culture etc.,
- Universal platform to accommodate Erlenmeyer, Round bottom, Volumetric flasks, Test tube holders, Micro-plate holders, etc.,Dedicated platform available for dedicated clamps capacity.
- The instrument has a humidification tray for humidifying the chamber so as to reduce sample evaporation. Pluggabledrains are provided to capture accidental spillage in the chamber.
- Provision of analog output (4-20mA/0-10V) available for recorder /any other device
- Non- Volatile memory with automatic power failure restart.
- Moisture Proof electrical outlet available inside the chamber as option.
- Large toughened front Double Glazed window with one LED / Fluorescent Lamp for Chamber visibility
- Single piece SS non-welded clamps with Springs tied.
- Stacking Kits standard (for more than one unit).

HMI Variants:

- Powerful Program Logic Control (PLC) systems provides highly precise & expandable PI D control system for working parameters
- Multiple steps (20 Steps) programmable controls (User Selectable) automatically changes parameters (up-to 4) at timed intervals.
- Optional auto ramping facilities of Speed/Temperature up/down or stop agitation on a timed basis.
- Sensitive Touch Screen operation for speed & temperature and other parameters
- Audible (with muting facility) and Visual alarm for deviation of Speed (± 5 RPM) and Temperature ($\pm 1^\circ\text{C}$)
- Large LCD Touch Screen (Screen Color selectable) has Human Machine Interface for user friendly operations
- Data logging facility for Speed and temperature available through Standard USB port
- RS232/RS485/Ethernet ports available for Data logging/ any external Building management Software (BMS) /external conventional lab management software

Safety features

- Safety stop switch / Proximity sensor during door openings
- Deviation alarm for Temperature (Audio/Visual)
- Thermostat cut-off for temperature over shoot
- Residual Current Circuit Breaker (RCCB)for user safety
- In built imbalance sensor to stop the movement if excess vibration is detected
- Spill-cover protecting electronic and mechanical components
- Abnormal Condition System Shutdown (ACSS) feature ensures system safety
- Chamber high temperature warning for operator safety when door is open
- Optional UV-C lamp for de-contamination / UV-B Lamp

LAB STACKABLE SERIES SHAKERS MODEL ORBITEK[®] LT/LE With variants

PART NO.			LT-BT-D	LE-BT-D	LT-BT-A	LE-BT-A	LT-BT-BH	LE-BT- BH	LT-BT -AH	LE- BT- AH
Speed range	26mm Orbit	Single Stack	25-400RPM							
		Double Stack	25-400RPM							
	50mm Orbit	Single Stack	25-350 RPM							
		Double Stack	25-300 RPM							
Speed Drive			Permanent Magnetic DC		Brushless AC		Brushless DC		Brushless AC	
Speed Change via			Potentiometer		Soft Touch Keypad		Colour LCD HMI Touch Screen			
Speed Accuracy			± 2%RPM		± 1RPM					
Temperature range			Amb +5°C to 80°C- LT Models 5°C to 80°C - LE Models ¹							
Temperature Accuracy ^{2,4}			± 0.1°C							
Temperature Uniformity ³			± 0.3° C							
Temperature Sensor			PT100							
Temperature Control			Microprocessor based PID				PLC with PID			
Power watts			750W / 1200W							
Electrical Requirement			6A, 230V, 50Hz, 1Ø - LT Models / 16A, 230V, 50Hz, 1Ø - LE Models							
Display			Digital LED				7.5" Colour LCD with Touch Screen			
Material of Construction			Exterior - MS Powder Coated / Interior - Stainless Steel							
Weight			150 Kg/175kg							
Tray Size			460x 460mm(18" x 18")							
Dimension (W x D x H) Internal			530 x 530 x 500 (W x D x H) mm							
Dimension (W x D x H) External			800 x750 x 865 (W x D x H) mm							
Flask holding Capacity for Universal Tray (Erlenmeyer)										
10 ml			53							
25/50 ml			49							
100/125 ml			36							
150/250 ml			25							
500 ml			16							
1000 ml			9							
2000/3000ml			6							
4000/5000ml			4							
6000 ml			2							
2800 ml (Fernback / Haffkin)			4 / 1							
Optional Accessories & Features										
Test Tube / Microplate Holders			Of variable sizes available							
Photosynthetic Light Bank (Illumination) ⁴			LED / 5000 lux							
Stationary Tray for Incubation ^{5,6,7}			2							
UV-C lamp for De-contamination			Yes							
Sticky Mat with Anodized Tray ⁸			Yes							
Timer for Speed, Temperature (Cyclic & Real)			Clock mode 00.00 to 23.59 Hr 00.01 to 999.99 Hr continuous (Optional)				Clock mode 00.00 to 23.59 Hr 00.01 to 999.99 Hr continuous 00.02 (Default)			
Data logging facility			Yes				Default		Default	
Gas purging (6 Ports X 4 max)& Humidity Measurement			Yes							

1. Minimum settable 4°C @ambient ≤ 26°C

2. Temperature accuracy @ 37°C at an ambient temperature ≤ 28.0°C

3. Nominal Temperature uniformity of ±0.3°C at 37°C across the tray, for Illumination Temperature Uniformity ±1.0°C across the chamber

4. Temperature Accuracy for Illumination ± 1°C in 5°C to 10°C, ±0.5°C in 10°C to 80°. Temperature Uniformity for Illumination: ±1.0°C across the chamber.

5. Maximum clamps Capacity with 1stationary tray is 4000ml with 2 stationary trays is 1000ml.

6. To unload 4000ml flasks, stationary tray should be removed (or) if use upto 2000ml, flask can be removed without disturb the stationary tray;

7. For Illumination one stationary tray only can be used with max. clamps 4 Ltr.

8. With Sticky Mat: Max. Speed 250rpm, Operable Temperature range 16°C to 60°C

9. Other Optional Accessories like Spring wire rack, other holders, suitable stabilizer etc. available.

10. Standard Permissible ambient conditions: 10°C to 35°C at 20% to 80% Humidity

11. Specifications/Model/Part Nos. are subjected to change without notice

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