ORBITEK®

Range of Bio-equipment

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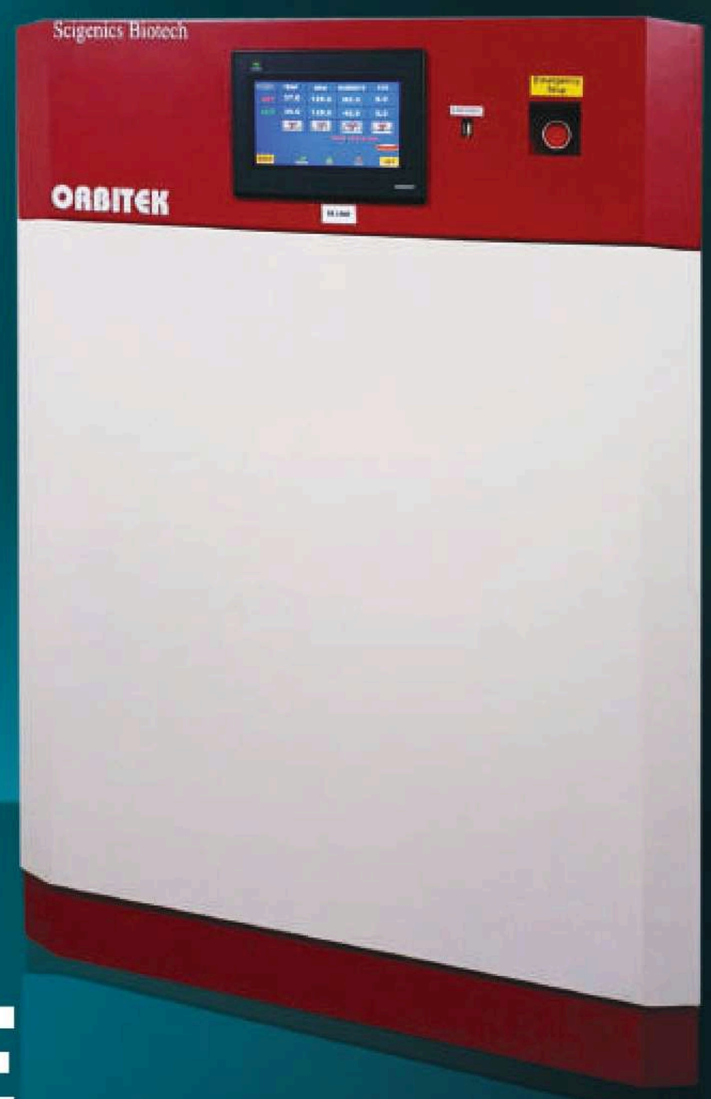
CELEBRATING 25+ YEARS OF TRUST



CELL CULTURE SHAKER

ABOUT US

Scigenics Biotech Pvt Ltd. (SCIBIO) was setup in 1997 as a pioneering venture to address the instrumentation needs of Life Sciences and Biotechnology scientists in India. With an installed base of several thousand shakers and other lab products, brand ORBITEK® is currently the leading player among the Indian Manufacturers. In the country and abroad among multiple indigenous and global suppliers.

PRODUCT DESCRIPTION

Optimize your suspension cell culture workflows with our advanced **Cell Culture Shaker**, designed for high-efficiency growth of mammalian, insect, and other animal cells. Engineered for precise environmental control and smooth orbital motion, this system ensures ideal conditions for reproducible cell expansion and protein expression.

Designed for precision, performance, and space efficiency, our Compact **Cell Culture Shaker** delivers optimal conditions for cultivating suspension cell lines such as CHO, Hybridomas, mAbs and others. Engineered to standards, this unit offers **superior environmental stability, smooth orbital motion, and flexible flask capacity**-all within a compact footprint ideal for benchtop or stacked installations.

APPLICATIONS

- **Suspension culture of CHO and other cell lines**
- **Mammalian cell based viral vector production**
- **Recombinant protein production and antibody generation**
- **Scale-up of suspension cultures in research and production environments**
- **Adherent cell cultivation**
- **Biosimilar production**
- **And several more such applications**

COMMON FEATURES

SHAKING

- The rugged triple - eccentric counter balanced drive, mounted on permanently lubricated sealed bearings ensures optimal growth of culture.
- Trusted by labs worldwide for over 25 years- this drive system delivers proven long-term performance.
- A fully stainless-steel integrated drive system offers lasting protection from accidental spills and moisture, ensuring long-term durability.
- Smooth start/stop cycle with programmed acceleration and deceleration circuit to prevent cell shear and contamination due to cotton wetting etc.

SAFETY FEATURES

- Thermostat cut-off for temperature over shoot
- Audible (with muting facility) and visual Alarm for deviation of speed (+/- 5 RPM) and temperature (+/-1 ° C)
- Chamber high temperature warning for operator safety when door is opened.
- Electrical fuses/residual current circuit breaker (RCCB) for user safety
- Non-volatile memory for automatic power failure restart.
- In-built imbalance sensor to stop the movement if excess vibration is detected.
- Safety stop switch for movement is available during door opening.
- The UV-C lamp is switched off when door is opened
- Spillage protection for the movement components

VERSATILE

- Powerful program logic controller (PLC) provides precise and expandable control system.
- Multiple steps (20 steps) programmable control (user selectable) automatically changes parameters (up to 4) at timed intervals.
- HMI (Human machine interface) with 7" large LCD touch screen
- Optional auto ramping facilities of speed/ temperature.
- User friendly sensitive touch screen operation.
- User password protection for control operation.
- User adjustable calibration for speed & temperature.

ROBUST CONSTRUCTION

- Stackable Shaker has optimal foot print with robust structure for stable noiseless operation.
- Large toughened double glazed glass viewing window for chamber visibility.
- Noiseless operation, less than 55 db.

DATA LOGGING

- Data logging facility for speed and temperature available through standard USB port.
- Optional 21CFR part 11 compliant system available to meet GMP requirements.
- RS485/Ethernet ports available for data logging/connecting to any external building Management Software (BMS)/external conventional lab management software.

Model: LTBT Part No. LT-BT-BH-1-0-HC-CC

FEATURES

a. LARGE CHAMBER SPACE TO ACCOMMODATE SHAKER PLATFORM AND TWO SHELVES (OPTION)

- The chamber, is large enough to accommodate the shaker platform and additionally two pull-out stainless-steel shelves for loading flasks, petri dish etc.
- Supports simultaneous cultivation of adherent and suspension cell lines.
- Suitable for large volume inoculum reparation.

b. HUMIDIFICATION SYSTEM

- The humidification above 85% is achieved by using water tray. Natural evaporation of water along with the heat produced by flexible heaters enveloping the chamber, ensure optimum surface evaporation to maintain the relative humidity within the chamber. This combination of technics ensures minimum loss of medium by evaporation.

c. VARIETY OF HOLDERS

- The orbital shaker can accommodate and be used along with a variety of flask holders.
- Sticky mat option is also available.
- Can accommodate up to a maximum of 5L/6L flasks.

d. DISINFECTION

- UV-C lamp (200 nm to 280 nm) located near the circulation fan and heaters pushes sterile air into the chamber, ensuring chamber disinfection
- This UV lamp not only ensures disinfection of the chamber but also of the shaking platform.

e. ANTI-BACTERIAL FILTER

- In addition to the provision UV–C lamp, a HEPA filter, to trap microbes helps to maintain a sterile environment.
- This combination of UV–C lamp and HEPA filter, makes available contamination free ambience for growth of cultures.

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f. HYGIENIC INTERIOR

- The inner chamber is constructed with stainless steel SS 304 material with rounded and curved corners to ensure cleanability.
- The rounded curved corners help uniform maintenance of various parameters such as CO_2, temperature and humidity.

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g. HIGH PRECISION CO_2 CONTROL FOR EXPERIMENTAL CONSISTENCY

- The system is engineered for chamber atmosphere uniformity of CO_2 with NDIR sensor plus the smart control system.
- Accurate pH control is enabled by the homogenous CO_2 environment.

h. UNIFORM TEMPERATURE CONTROL

- The heating is achieved by a wrap-around flexible silicon heater on all the six sides.
- The PLC with ***SMART*** PID control logic helps in maintaining of uniform temperature across the chamber complying with international standards.
- High grade insulation on all sides for uniform temperature maintenance and low energy consumption.

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i. STACKABLE SYSTEM

- Minimal foot print is achieved by stacking up of the shakers. This is particularly useful for labs with space crunch. This stackable feature also ensures two different batches to be run simultaneously since the two systems are independent.
- The stackable configuration also enables concurrent operation of the two independent systems, allowing separate batches to be processed simultaneously.

SPECIFICATION

Part No.	LT-BT-BH-1-0-HC-CC	LT4676-BH-1-0-HC-CC
Increment / Decrement CO2	+/-0.10%	
Stability	Downtime from 5% to 4% in 5 hrs(incase power failure)	
Humidity range	Above 85% @ 30°C to 40°C	
Display	LCD	
Parameter setting	HMI Touch Screen	
Construction Material of construction (MOC): Internal	Stainless steel (SS 304)	
Construction Material of construction (MOC): External	MS Powder Coated	
Universal platform Size (W x D)	460 x 460 mm (18" x 18")	800 x 542 mm (31 " x 21 ")
Equipment Size Internal Dimension (W x D x H)	555 x 535 x 580 mm	930x685x505mm
External Dimension (W x D x H) per unit	725 x 790 x 1080 mm	1400 x 800 x 735 mm
Noise Level	Less than 55 db(A)	
Net Weight	140 kg	210 kg
Chamber Capacity	150 Litres	260 Litres
Erlenmeyer Flask Size & Range (on standard Universal Platform)	10mL to 6L	
Electricals	16 A, 1 phase, 230 VAC	

NOTES

2. @37°C at an Ambient temperature <26°C		3. Uniformity Across the tray

SPECIFICATION

Part No.	LT-BT-BH-1-0-HC-CC	LT4676-BH-1-0-HC-CC
Shaking Frequency[1] (26mm Amplitude) LT-BT can stack upto 2 units & LT4676 upto 3units	"25-400 RPM (Clamps) 25-250 RPM (Sticky mat)"	"25-400 RPM (Clamps) 25-250 RPM (Sticky mat)"
Frequency (50mm Amplitude)	30-350 RPM (Clamps)	30-350 RPM (Clamps)
	30-250 RPM (Sticky mat)	30-250 RPM (Sticky mat)
Deviation	± 1 RPM	
Diameter of Orbital Motion	26/ 50 mm (1inch/2inchs)	
Drive	Brushless DC motor	
Temperature Range	Ambt +5°C to 50°C	
Accuracy	+/- 0.1°C @ 30°C to 40°C	
Uniformity[2,3]	+/- 0.3°C @ 37°C	
Sensor	DIN 1/3 PT 100	
Control	PLC with Inbuilt PID	
CO2 Range	0.1 to 20%	
Accuracy	0.1 to 10% with accuracy +/- 0.1 % 10 to 15% with accuracy +/- 0.3% 15 to 20% with accuracy +/- 1.5%	
Sensor	IR, NDIR	

1. Achievable Maximum speeds dependent on load

Model: ORBITEK® LT4676 Part No LT4676-BH-1-0-HC-CC

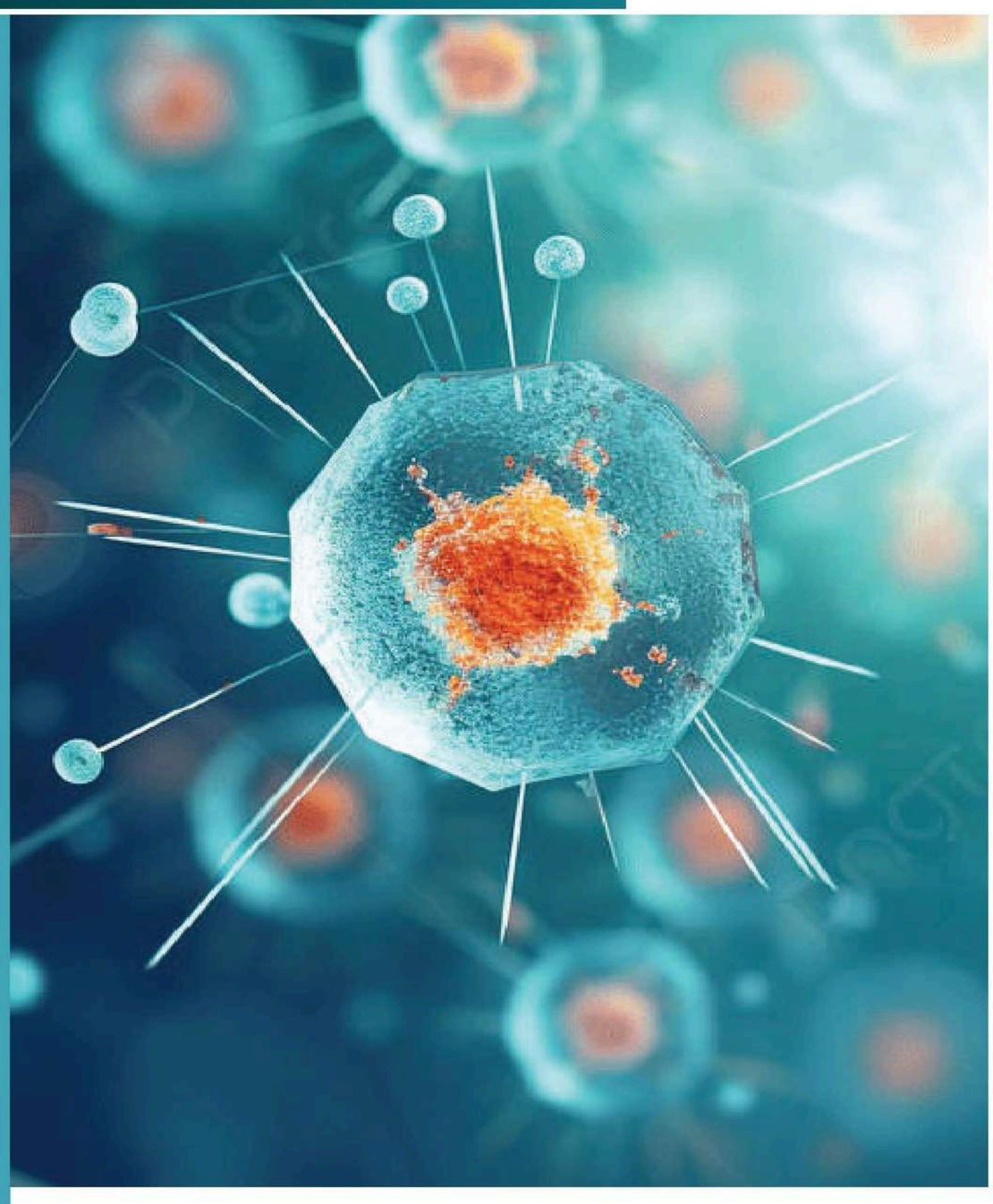
FEATURES

a. LARGE CHAMBER SPACE TO ACCOMMODATE SHAKER PLATFORM

- The chamber, is large enough to accommodate the shaker platform and one pull-out stainless steel shelf (optional) for loading of flasks, petri dish etc.
- Supports simultaneous cultivation of adherent and suspension cell lines.
- Suitable for large volume inoculum preparation.

b. HUMIDIFICATION SYSTEM

- Humidity above 85% RH is maintained through a heated water pan that provides a steady supply of moisture. Powerful convective air circulation distributes this humidity evenly, ensuring uniform conditions throughout the chamber.



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- The rounded curved corners help uniform maintenance of various parameters such as CO_2, temperature and humidity.

g. HIGH PRECISION CO2 CONTROL FOR EXPERIMENTAL CONSISTENCY

- The system is engineered for chamber atmosphere uniformity of C02 with NDIR sensor plus the smart control system.
- Accurate pH control is enabled by the homogenous CO2 environment.

h. UNIFORM TEMPERATURE CONTROL

- The heating is achieved by tubular finned air heaters made of SS 304, placed in the air path.
- The PLC with ***SMART*** PID control logic helps in maintaining of uniform temperature across the chamber complying with international standards.

  High grade insulation on all sides for uniform temperature maintenance and low energy consumption.

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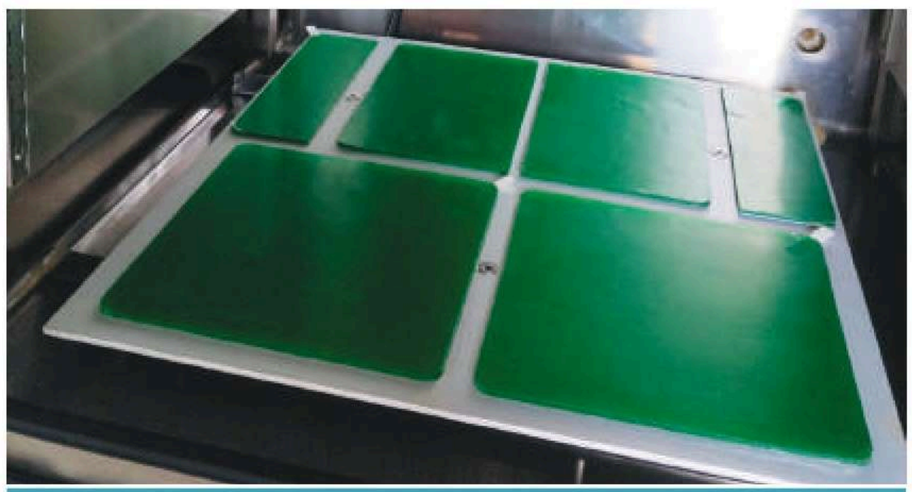
ACCESSORIES

		Capacity	
Clamps Size	Flasks Type	"Universal Tray 460 X 460 mm"	"Universal Tray 542 X 800 mm"
10ml	Erlenmeyer Flasks	53	74
25ml	Erlenmeyer Flasks	49	70
50ml	Erlenmeyer Flasks	36	60
100 ml/125ml	Erlenmeyer Flasks	25	40
150ml	Erlenmeyer Flasks	25	40
250ml/300ml	Erlenmeyer Flasks	25	40
500ml	Erlenmeyer Flasks	16	24
1L	Erlenmeyer Flasks	9	15
2L	Erlenmeyer Flasks	6	12
3L	Erlenmeyer Flasks	4	6
4L	Erlenmeyer Flasks	4	6
5L	Erlenmeyer Flasks	4	6
6L	Erlenmeyer Flasks	2	5

OPTIONAL ACCESSORIES

HEPA FILTER



STICKY MAT

CO_2 REGULATOR

UNIVERSAL PLATFORM

STATIONARY TRAY

OTHER ORBITEK® RANGE OF PRODUCTS

P-A

PXL-A

PDX

LE4676-AH

PE-A

GC-350

INC - 100

LE-BT-AH

CINC - 100

LE-TT-AH

WO-E-D

LE4676 - AS-AH

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SCIGENICS BIOTECH
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