



## Shakers

BIS Series - Incubated Shakers

BS Series - Orbital Shakers

## being Introduction

*BEING is an economically priced, high-end, high-performance laboratory equipment brand. We are committed to providing users with intelligent, intuitive, and professional laboratory equipment that modern laboratories require.*

*Besides the BS and BIS orbital shakers, BEING offers laboratories a broad portfolio of incubators, ovens, heated magnetic stirrers, water baths, circulators, chillers, and vacuum pumps.*

## BS / BIS Orbital Shakers



### **Our orbital shakers are the 'Smart Choice' for agitating and mixing samples and solutions and culture growth.**

With 6 different models to choose from, BEING offers one of the largest selections of incubated and platform lab orbital shakers on the market. They are ideal for material dissolution, liquid mixing, cell culture, protein expression, fermentation, water quality analysis, DNA amplification, and many more applications in chemistry, clinical, pharmaceutical, and research laboratories.

All of our shakers are energy efficient, have excellent temperature regulation capabilities, and come with a host of features that provide safe and easy operation — and are economically priced. They're all designed, manufactured, and tested to the DIN 12880-2007 standard, providing a long service life.

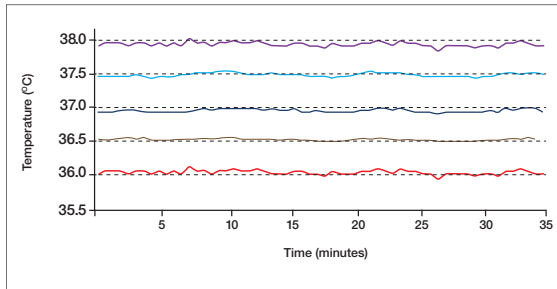
This combination of selection, specifications, features, quality, and value makes BEING shakers the smart choice.



## Precise temperature control

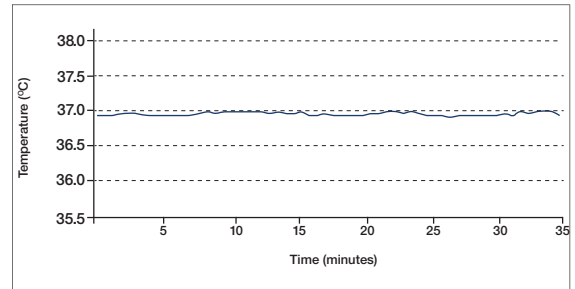
BEING BIS series incubated shaker provide a precise and steady heating environment that ensures consistent product quality, lowers the chances for rework and helps achieve reliable production results while reducing your laboratory's energy costs by being energy efficient.

### Temperature Uniformity



The incubated shaker's chamber's temperature uniformity ( $\leq \pm 1.5^\circ\text{C}$ ) enables all samples to be heated evenly.

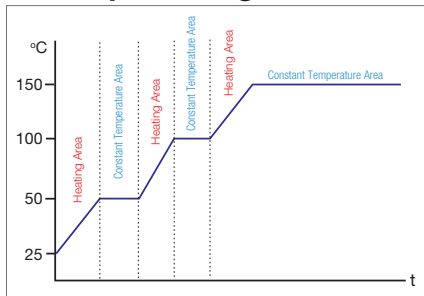
### Temperature Stability



The incubation chamber's temperature stability of  $\pm 0.1^\circ\text{C}$  ensures experiment stability.

Note: The stability and uniformity are measured at steady-state with an empty chamber according to DIN 12880.

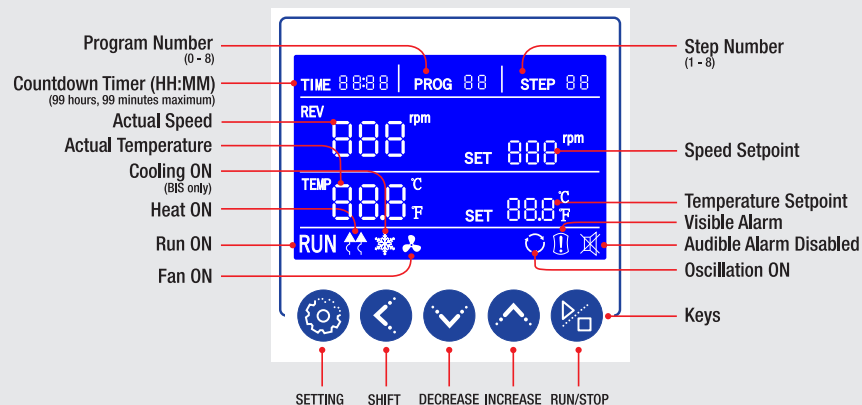
### Step Heating Control



In program control mode, the controller allows the operator to set up step heating control.

Controller & Safety Feature		Incubated Orbital Shakers	Orbital Shakers
<b>Series</b>		BIS	BS
<b>Controller</b>	Automatic power on/off	√	√
	PID automatic control	√	√
	Programmable functions	√	√
	Fixed-value programs	√	√
	Multi-step programs	√	√
	Program cycling	√	√
	Timed & Untimed	√	√
	Oscillation speed - Adjustable	√	√
<b>Ports</b>	RUN delay	√	√
	Accessory Access	√	X
<b>Safety</b>	Drain	√	X
	Over-temperature protection	√	X
	Temperature limit protection	√	X
	Over-current protection	√	√
	Power off memory	√	√
	Anti-scalding protection	√	X
	Load Imbalance	√	√
Audible & visual alarms	√	√	

# Professional LCD Controller Features

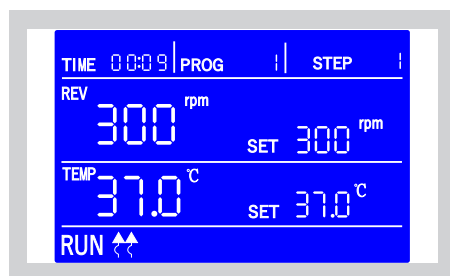


The BEING L-series professional controller has a 3.1-inch easy-to-read, real-time LCD display to select the various functions with all the parameters — temperature, time, program number, and step — on a single screen, providing quick and easy setting of temperature, time, and other parameters — and convenient operation.



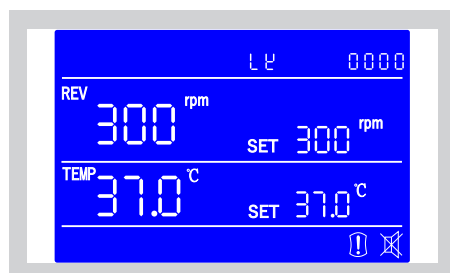
## Easy to use

Simple and intuitive setting of all the operating parameters thanks to easy-to-understand icons and symbols.



## Programmable control at your fingertips

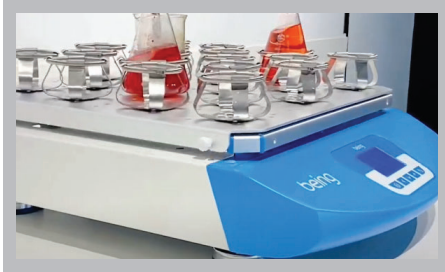
The shaker is designed to be used immediately out of the box with a single (fixed value) basic timed (1 minute to 99 hours and 59 minutes) or untimed program. But, if you need to simplify complicated testing processes and realize automatic control, that can be easily achieved. You can store and run up to 8 multistep programs with 8 steps each. Need to start your experiment at a specific time? The On/RUN delay makes it easy to do. Want to cycle your multistep program numerous times? That can be done up to 99 cycles.



## Password Protected

The controller has 4 settings access levels. Each level is password protected to avoid accidental changes to “sensitive” parameters.

# Shaker Features



## Toolless Accessory Platform Connection

The BEING orbital and incubated shakers are equipped with thumb screws that enable quick, easy, and toolless connection of platforms.



## Patented Drive Technology

BEING shakers' rotation is controlled by a patented, maintenance-free, single-axis, eccentric drive and balancing technology utilizing a low energy consumption brushless DC motor that provides a large start torque and stable operation with a wide speed adjustment and low noise emission.



## Large Transparent Chamber Door (BIS only)

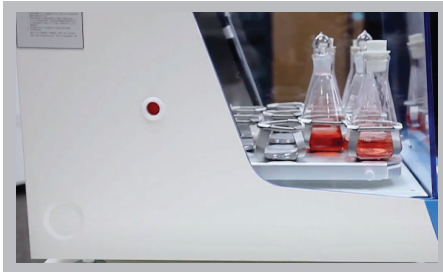
The large transparent chamber door allows researchers and lab technicians to observe the incubation effects on the samples in real-time.



## Gas Strut Door Support

Two gas struts smoothly control the opening of the BEING BIS Series incubated shaker's chamber door. They also hold the chamber door in any position. Platform rotation, heating element, and chamber fan are shut down when the chamber door is raised more than 25°.

# Shaker Features



## Temperature Test Hole (BIS only)

BEING BIS Series incubated shakers have an Ø18mm test hole and accessory port to allow multiple external temperature probes to be inserted into the chamber to validate temperature settings to the actual chamber temperature.



## Condensate Drain (BIS only)

BEING BIS Series incubated shakers are designed to whisk away condensate that is generated during incubation. The chamber's bottom has channels on the edges to collect and direct the condensate to the drain on the back of the unit. The drain can be opened and closed with a push of a button.



## Preventing damage from overheating (BIS only)

All incubators have dual overheating protection to prevent specimen and equipment damage. The controller's over-temperature protection is adjustable. It shuts down the heating element and fires an alarm until the temperature drops below the set point if the incubator exceeds the set temperature and the alarm setting. The independent overheating switch is adjustable.



# Orbital Shaker

Model	BS-1	BS-2	BS-3
Maximum Capacity (ml)	2000	4000	9000
Platform Size (W x D) (in / mm)	10.0 x 10.0 250 x 250	13.8 x 13.8 350 x 350	17.7 x 17.7 450 x 450
Speed Range (rpm)	40 - 250	40 - 300	
Frequency Accuracy (rpm)	±1		
Amplitude (mm)	20		
Control	LCD Microprocessor PID		
Display Resolution	0.1		
Timer (hh:mm)	00:01 – 99:59		
Exterior Dimension (WxHxD) (in / mm)	11.4 x 14.8 x 4.3 290 x 375 x 110	15.4 x 19.5 x 4.5 390 x 495 x 125	19.3 x 23.8 x 5.4 490 x 605 x 137
Net Weight (lb / Kg)	44.1 / 20	66.2 / 30	88.2 / 40
Electrical Requirement	100V - 240V 50/60Hz		
Electrical Plug Type	NEMA 5-15		
Power Consumption	60W		
Catalog Number	OS1511U	OS1512U	OS1513U