

# 3D Shaker



PRODUCT USER MANUAL



# TABLE OF CONTENT

1. Introduction . . . . .	1
2. Intended Use. . . . .	1
3. Features . . . . .	1
4. Technical Specification . . . . .	2
5. Accessories . . . . .	2
6. Safety Instructions . . . . .	2
7. Standard Parts Listing . . . . .	4
8. Installation . . . . .	4
9. User Interface & Display . . . . .	6
10. Operation . . . . .	7
11. Warranty Statement . . . . .	8
12. Product Disposal . . . . .	10



## 1. INTRODUCTION

This manual provides important safety information for this Digital 3D Shaker. This 3D Shaker is equipped with BLDC motor for maintenance-free operation and can be used upto 5Kg of shaking weight. The speed selection range is from 10 to 120 RPM with a timer function. The digital display simultaneously assists users by displaying various parameters like time, speed, mode of operation, etc. It also comes with a programmable pulse mode for better mixing and allows users to set favorite programs. The space saving 3D shaker is designed with utmost safety.

## 2. INTENDED USE

This 3D shaker finds its usage from simple mixing to catalytic reactions, homogeneous mixing in Petri dishes & tubes, cultivation of cell cultures, any type of ELISA reactions, staining & destaining of cells with maximum shaking weight of 5 kg.

## 3. FEATURES

1. Three dimensional motion and adjustable speed for smooth and homogeneous mixing.
2. Brushless DC motor for long life and maintenance-free operation.
3. Microprocessor controlled device with the digital display.
4. Easy operation with the touch keypad.
5. Adjustable speed from 10 to 120 RPM.
6. Adjustable timer from 1 to 999 Min & Infinite mode
7. Favorite Mode Function - User can save and run 9 different programs.
8. Programmable pulse mode for better mixing.
9. Easy to clean
10. Nonslip rubber feet for stable operation.

**NOTE:** Before using the instrument, please read this user manual carefully. This user manual is intended to assist with the operation and care of the unit only and not its repair. For repair please contact the supplier.

## 4. TECHNICAL SPECIFICATIONS

Motor	Brushless DC
Speed Range	Variable, 10 - 120 rpm
Speed increment step	1 RPM
Type of Movement	Tumbling
Tumbling Angle	± 7° Fixed
Permissible Shaking Weight (incl. attachment)	Upto 5 Kg
Timer Range	1 min - 999 min & Infinite
Digital Display	7 Segment LED
Platform size	350 mm x 350 mm
Dimensions (W x H x D)	206 mm x 192 mm x 372 mm
Weight	9 kg approx
Permissible ambient temp.	4 - 50°C
Permissible relative humidity	80%
Input Voltage	24V---0.7A
Power Consumption	17 W

## 5. ACCESSORIES

- Anti-Skid Tube Mat (2ml-50ml Tube Mat)
- Elastic Band
- Power Adaptor: 100-240VAC 50/60Hz (Input)  
24V---3A (Output)
- User Manual and Warranty Card

## 6. SAFETY INSTRUCTIONS

**In order to use this unit properly & safely, every user must read user manual & observe safety instructions.**

1. Place the device on a flat, stable, clean, non-slippery and fire-proof surface.
2. Check if the accessories and vessels are firmly held at their respective position otherwise shaking vessels could get damaged or can fly out.
3. The top surface must be clean and intact. Wear protective gloves while cleaning the device. Use soft mild cloth to clean.
4. Wear your personal protective equipment in accordance with the hazardous

## 6. SAFETY INSTRUCTIONS

category of the media to be processed. Otherwise, there is a risk from:

☞ Splashing and evaporation of liquids.

☞ Ejection of parts.

☞ The Release of toxic or combustible gases.

5. Do not lift/hold any device from shaking platform during its operation and while moving or installing make sure that device is lifted with both hands from the base.
6. Do not use damaged component for operation as it may affect the efficiency of the device. Check the accessories and appliance every time before using them.
7. Reduce the speed:
  - ☞ If the medium splashes out of the vessel because of high speed.
  - ☞ If the appliance is not running smoothly.
  - ☞ If the base plate starts to move around.
8. Position the shaking vessels on mat such that they get evenly spread out.
9. Do not move the device when its connected to power supply or is under operation.
10. Only those liquids should be used for mixing which does not react dangerously to the extra energy produced through processing. This also applies to any extra produced other ways.

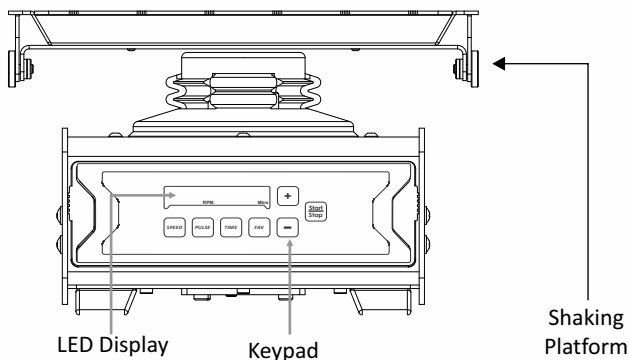
For example: Through light irradiation, through surrounding temperature etc.
11. Ensure that the product is used for specified operation. It should not be used for shaking hazardous or reactive solutions.
12. Process pathogenic materials only in a closed vessel under a suitable extractor hood. Do not operate the appliance in explosive atmospheres, with the hazardous substance or under water.
13. Disconnect the device from the power supply before fitting accessories.

## 6. SAFETY INSTRUCTIONS

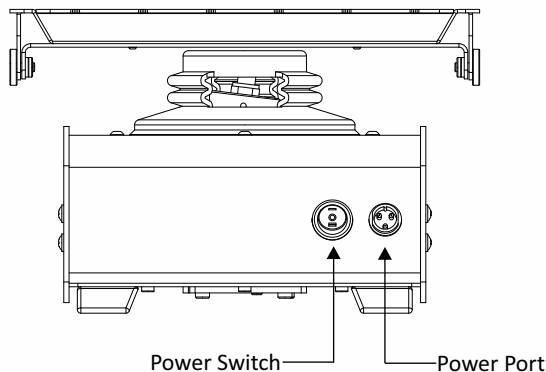
14. The shaker does not restart automatically once power outage has occurred.
15. For protection and proper operation of equipment, voltage stated must correspond to the main voltage and equipment should be operated with original plug-in power supply unit.
16. Never touch any moving parts as there is a risk of getting injured.

## 7. STANDARD PARTS LISTING

### Front Side



### Rear Side



## 8. INSTALLATION

The digital 3D Shaker is provided in a box. Open the box, remove the packaging and gently place the device on the firm & leveled surface. Gently unpack the equipment and remove all its accessories. The user manual should be kept with the device for



## 8. INSTALLATION

easy access. Please keep all packaging in safe storage for at least two years for warranty purpose.

### 8.1 LOCATION & MOUNTING

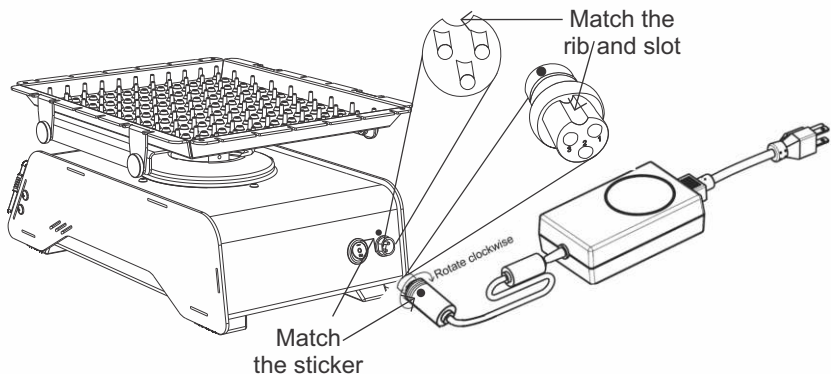
Place the equipment on a flat and leveled surface and ensure that all the four legs stand on the surface firmly. Avoid installing on a slippery surface or surface prone to vibration.

1. Ideal ambient temperature is  $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$ ; avoid placing the unit in direct sunlight.
2. Keep clearance of at least 20 cm from all sides for safety.
3. Keep the unit away from heat or water to avoid sample temperature issues.
4. Do not place the equipment at a place where it becomes difficult to operate it.

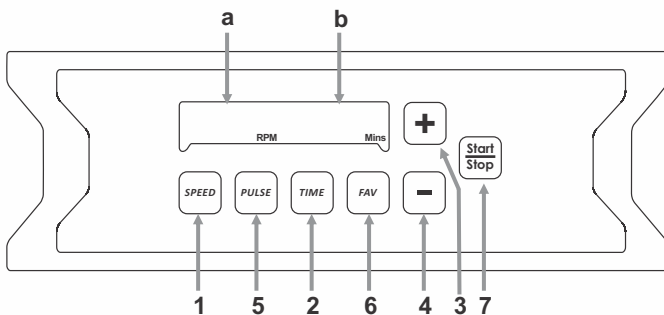
### 8.2 CONNECTING POWER ADAPTOR

1. Connect one side of power adaptor to rear side of 3D shaker and other to supply as shown in the figure below.
2. Rotate clockwise the adaptor nut to tighten the adaptor with the centrifuge. Ensure the power switch is OFF while connecting the power adaptor.
3. The sticker on the body & jack are indicating the position of the rib on the jack. While fitting the adaptor to the unit-please match the sticker position as shown in the figure below & gently push it in.
4. If matched correctly the plug will go in easily without much force (do not try to force the plug in if it is not matched properly). Once the plug is inserted into position, turn the loose upper ring clockwise to tighten & to secure the fitment.

## 8. INSTALLATION



## 9. USER INTERFACE & DISPLAY



Display	
Display indicates current value of SPEED	Display indicates current value of TIME

### User Interface

- |                     |  |
|---------------------|--|
| <b>1) Speed</b>     | : Press "Speed" to select Speed value. Then press "+/-" to set speed value in RPM.         |
| <b>2) Time</b>      | : Press "Time" to select time value. Then press "+/-" to set to set time value in minutes. |
| <b>3) Increment</b> | : Press "+" to increase values.  |
| <b>4) Decrement</b> | : Press "-" to decrease values   |

## 9. USER INTERFACE & DISPLAY

**5) Pulse Mode** : Press “Pulse” to activate the pulse mode in any operation. Long pressing “Pulse Button” lets user select timings for pulse mode from 30sec to 90sec.

**6) Favorite Mode:** Long Press “FAV” to Enter Or Exit favorite mode

**7) Start / Stop** : Press “Start / Stop” to Start or Stop the operation.

## 10. OPERATION

### 10.1 Switching On the device

Plug the power adapter pin into its socket on the rear panel and then connect the power cord to AC power output. Now switch ON the mains and switch ON the shaker from the rear side. The LED on its front panel will light up.

**Important Note:** *Values of any parameter or mode will get set saved only when left idle, The respective display blinks for multiple times indicating the value is saved.*

### 10.2 Setting Time

The time in the display is in minutes. The shaker timer set for operation is in between 1 min to 999 mins. Press “Time” to select time value and press “+ / -” to set time. When time button is pressed, the “Mins” display will blink and once time value is selected, single press “+/-” will increase or decrease time value by 1min. Long press “+/-” to quickly increase or decrease time value. Time value gets saved after 5 blinks. The timer is a countdown timer showing remaining time left. Once time is over, the shaker stops.

### 10.3 Setting Speed

Speed is displayed as RPM. The minimum and maximum speed of this shaker is 10 RPM and 120 RPM respectively. When the equipment is used for the 1st time, the speed will be set to zero and shown as “00”. Once speed value is selected, single press “+/-” will increase or decrease speed value by 1 RPM. Long press “+/-” to quickly increase or decrease speed value. Speed value get saved after 5 blinks.

### 10.4 Pulse Mode Operation

The pulse mode allows the shaker to operate in a run-pause-run mode. Press “Pulse” button to start pulse mode operation. In pulse mode, the shaking will be in the clockwise direction for every 30 seconds followed by a pause of 2 seconds and then for 30 seconds in counter clockwise direction. The first segment of Timer LED will

## 10. OPERATION

toggle between top and bottom segment of “00”, indicating that pulse mode is activated. Again press the “Pulse” button to STOP pulse operation.

### 10.5 Programmable Pulse Mode Operation

By default, the pulse mode cycle time is 30 seconds. The user can modify cycle time from 30 secs to 90 secs with programmable pulse mode. To program the pulse time, long press the pulse button to select pulse mode cycle time. The timer will display current set cycle value. For example, “30” means that pulse cycle time is set to 30 seconds. Then press “+/-” to modify cycle time between 30 secs to 90 secs.

### 10.6 Favorite Mode

Favorite mode operation allows the user to save upto 9 favorite programs which can have different speed and time parameters. The user can use any of these programs simply by turning ON the favorite mode.

To turn ON the favorite mode, Long press “FAV” and then RPM display will blink and show “F ON” indicating that FAV mode is activated. Now again press “FAV” and to select any program from “F1 to F9” press “+/-”. Once all values are set, the display showing program number will blink 5 times indicating all the selected values of different parameters are saved in respective program. Now press “Start” to start operation in Favorite Mode. Follow the same process to set any other programs. If user wants to modify previously saved program then, first Long press the FAV button to activate the favorite mode and then select the favorite program which user wants to modify by pressing “+/-” button. After selecting the program, change the parameters and once all parameters are saved, the program will be saved automatically with new values after the display showing the selected program number blinks 5 times.

To come out from the “Favorite” mode, long press “FAV button” the display will show “F OFF” indicating that now Favorite mode is off.

## 11. WARRANTY STATEMENT

This product is warranted to be free from defects in material and workmanship for a period of two (2) years from the date of purchase. Your product will be duly

## 11. WARRANTY STATEMENT

repaired upon prompt notification in compliance with the following conditions

This warranty is valid only if the product is used for its intended purpose and within the guidelines specified in this instruction manual. This warranty does not cover damage caused by accident, neglect, misuse, improper service, natural forces or other causes not arising from defects in original material or workmanship. This warranty does not cover any incidental or consequential damages, commercial loss or any other damages from the use of this product.

The warranty is invalidated by any non-factory modification, which will immediately terminate all liabilities on us for the products or damages caused by its use. The buyer and its customer shall be responsible for the product or use of products as well as any supervision required for safety. If requested the products must be returned to the distributor in well packed and insured manner and all shipping charges must be paid.

Some states do not allow limitation on the length of implied warranties or the exclusion or limitation of incidental or consequential damages. This warranty gives you specific legal rights. This warranty is given expressly in lieu of all other warranties, expressed or implied.

The purchaser agrees that there is no warranty of merchantability or of fitness for any intended purpose and that there are no other remedies or warranties, expressed or implied, which extend beyond the description on the face of the agreement. This warranty is only applicable to the original purchaser.

Products received without proper authorization will not be entertained. All items returned for service should be sent postage prepaid in the original packaging or

## 11. WARRANTY STATEMENT

another suitable carton, padded to avoid damage. We will not be responsible for damage incurred by improper packaging.

This warranty is valid only if the warranty is registered with the supplier within 30 days from the date of purchase.

For you reference, make a note of serial number, date of purchase and supplier here.	
Serial No.:	Purchase Date:
Supplier:	

## 12. PRODUCT DISPOSAL



In case the product is to be disposed of, the relevant legal regulations are to be observed.

### **Information on the disposal of electrical and electronic devices in the European Community**

The disposal of electrical devices is regulated within the European Community by national regulations based on EU Directive 2012/19/EU on waste electrical and electronic equipment (WEEE). According to these regulations, any devices supplied after 13.06.05 in the business to the business sphere, to which this product is assigned, may no longer be disposed of in municipal or domestic waste. They are marked with the following symbol to indicate this.

As disposal regulations within the EU may vary from country to country, please contact your supplier if necessary.



Distributed By: