

Orbital Shaker, 50-300rpm, Timer feature

Cat. No. BT935

OPENING CHECK	3
IMPORTANT SAFETY INFORMATION.....	3
INSTRUMENTS MAINTENANCE	4
WARRANTY	4
INTRODUCTION.....	4
FEATURES.....	4
SPECIFICATIONS	4
NORMAL OPERATION CONDITION.....	4
PREPARATION	5
STRUCTURE DESCRIPTION.....	6
KEYBOARD AND DISPLAY PANEL.....	6
KEY FUNCTION	7
POWER CONNECTION	7
PLATFORM INSTALLATION	7
PLATFORM INSTALLATION STEPS:	8
OPERATION GUIDE.....	8
SPEED AND TIME SETTINGS	8
START/STOP	9
FAILURE ANALYSIS AND TROUBLE SHOOTING.....	9
FAILURE ANALYSIS AND PROCESSING PROCEDURES	9
TECHNICAL SUPPORT	9
APPENDIX A: WIRING DIAGRAM OF ORBITAL SHAKER 50-300RPM TIMER FEATURE	10

Thanks for choosing Orbital Shaker, 50-300 rpm, Timer feature. This manual describes function and operation of the instrument. In order to use the instrument properly, please read this manual carefully before operating the Instrument.

OPENING CHECK

Please check the instrument and appendix with the packing list when you first open the packing case. If anything does not match with the packing list, please contact BT Lab Systems.

IMPORTANT SAFETY INFORMATION

- Users should have an entire conception of how to use the instrument properly before operating it. Please read this operation manual carefully before using the instrument.
- This product is a normal and an indoor Instrument which conforms to Standard B style- I type- GB9706.1.
- These units are designed for laboratory use by persons knowledgeable in safe laboratory practices.
- The operator should never open or repair the instrument. Opening or repairing the instrument will void the guarantee and can cause accidents.
- Before connecting the power supply, ensure that the voltage of the power supply is consistent with the voltage required by the instrument. Ensure that the rated load of the power socket is not less than the requirements of the instrument.
- If the power cord is damaged, it must be replaced. Replace with a power cord of the same type and specification. Do not press anything on the power cord when this instrument is in use. Do not place the power cord where people are walking
- Be sure to hold the plug when pulling out the power cord. Make sure that the plug is fully plugged into the socket and do not pull the power cord when pulling out the plug.
- The instrument should be placed in area with low humidity, little dust, no water, no sunshine or hard light, and of good aeration, no corrosively gas or strong disturbing magnetic field, and far away from central heating, camp stove and other hot resource. Do not put the instrument in wet and dusty place.
- The vent on the instrument is designed for aeration. Do not wall up or cover the vent.
- Power off when operation is complete. If do not use the instrument for a long period, pull off the connector plug, cover a piece of cloth on the instrument to prevent from dust.
- Pull the connector plug from the jack at once in the following case and contact the vendor.
 - There is some liquid flowing into the instrument.
 - Drenched or fire burned.
 - Abnormal operation: such as abnormal sound or smell.
 - Instrument dropping or outer shell damaged.
 - The instrument functions abnormally.

INSTRUMENTS MAINTENANCE

The instrument and the accessories should be cleaned by cloth drenched with alcohol. If the surface of the instrument is smudged, it can be cleaned with a soft cloth dampened with a cleaning paste.

WARRANTY

- The instrument is warranted against defects in materials and workmanship for 1 year. If any defects occur in the instrument or accessories during this warranty period, BT Lab Systems will repair or replace the defective parts at its discretion without charge.
- For any inquiry or request for repair service, contact your local BT Lab Systems office. Inform BT Lab Systems of the model and serial number of your instrument.
- Freight from user to maintenance department will be borne by user. Freight for instrument resent to user will be borne by the company.
- Repair out of warranty will be charged at reasonable cost.

NOTE: Breakdown due to improper use, operation in inappropriate conditions, maintain or refitting without authorization are not in warranty coverage.

INTRODUCTION

Orbital Shaker, 50-300rpm with timer feature is widely used in coomassie blue dyeing and swaying during decolorization, fixation of electrophoresis gel, fixation, dyeing and saliency in silver nitrate dyeing. It is also used in development and fixation of X-ray film in autoradiography experiments. It is also used in further processing of cellulose membrane after electrophoretic transfer such as molecular hybridization, antigen-antibody reactions and staining.

FEATURES

- Compact appearance, space saving, powerful function and strong compatibility.
- Suction cup type machine feet, super shockproof, high speed and smooth, no noise.
- large platform design, placing more samples, strong load capacity.
- Three models are available, the configuration performance is from low to high, to meet more choices.

SPECIFICATIONS

Normal Operation Condition

- Ambient Temperature: 4°C ~ 45°C
- Relative Humidity: ≤70%
- Power: AC110 / 220V, 50/60Hz

Type	BT935 (Orbital Shaker, 50-300 rpm, Timer Feature)
Speed Range	50~300rpm
Time Range	1min~99h59min
Digital Display	Time/speed display
Radius of gyration	10mm
Max Load Capacity	2.5Kgs
Motor Parameters	DC motor stepless speed regulation
Platform Size	330mm×430mm
Voltage	AC110 / 220V,50/60Hz
Power	30W
Fuse	250V,1A, ϕ 5×20
Dimension	330mm×490mm×145mm
Net Weight	10Kgs

PREPARATION

This section mainly describes the instrument's mechanical structure, the keyboard and functions of each key, as well as preparations before power on. Please read well before the orbital shaker is to be operated for the first time.

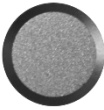
Structure Description

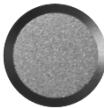


Keyboard and Display Panel



Key Function

Left side  Turn the knob to the right to increase the time. Rotation to the left is the opposite.

Right side  Turn the knob to the right to increase the speed. Rotation to the left is the opposite.
Press the knob to start the operation, press the knob again, and the instrument stops running.

Power Connection

Place the instrument on a stable, horizontal worktable. Insert the cylindrical socket of the power cord into the power input socket at the back of the instrument as shown. Connect the other end of the power cord to the power grid. The grid voltage is required to be 110V or 220V.



Platform Installation

The Orbital shaker, 50-300 rpm, timer feature series can be equipped with four type of platforms: BT934-A, BT934-B, BT934-C, BT934-D.



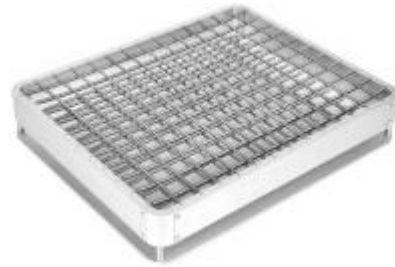
BT934-A: Platform with Rubber Mat



BT934-B: Platform, 12 x 250ml Flasks

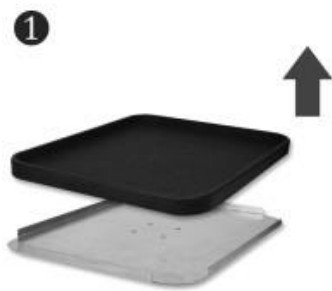


BT934-C: Platform, 20 x 100ml Flasks



BT934-D: Uniform platform with Springs

Platform installation steps:



1 Remove the rubber pad from the platform.



2 Fasten the tray to the main unit with four screws.



3 Put the anti-slip mat back on the platform.

OPERATION GUIDE

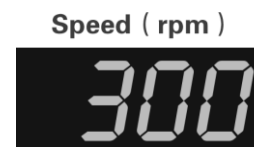
Speed and time settings

- Turn on the power switch, the instrument enters the initialization, and the display is as shown on the right, accompanied by the sound of “di”



- **Speed setting:**

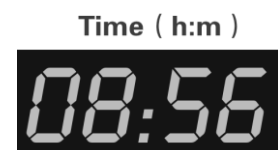
Turn the right knob to set the speed value immediately. After stopping the knob, the instrument automatically confirms the execution of the new set value and saves the set value, as shown on the right. If you want to increase the range of modification turn the knob quickly.



As shown on the right, it is 300.

- **Time setting:**

Turn the left knob to set the time. After stopping the rotation knob, the instrument automatically confirms the execution of the new set value and saves the set value. As shown on the right. If you want to increase the range of modification quickly turn the knob. As shown in the figure



on the right is 8:56, there will be a buzzer at the end of the operation.

Tip! When time is set to 00:00, the time run value is infinity.

Start/Stop

1. Short press the right knob to run the current program. The timer ends, the operation stops, and the buzzer sounds an alarm.
2. After the end of the operation, the instrument waits for the command at the end interface. At this time, turn the knob to the right to reset the speed or time; directly press the right knob to start the program according to the last set speed time parameter.
3. During operation, short press the right knob to stop. Press this button again to restart the operation.

FAILURE ANALYSIS AND TROUBLE SHOOTING

Failure Analysis and Processing Procedures

No.	Phenomenon	Possible Causes	Processing Procedure
1	No signal display when power on.	No power	Check the power
		Broken switch	Exchange the switch
		Others	Contact with the seller
2	Shaking heavily	Samples placed imbalanced	Place the samples evenly
3	Actual speed and displayed speed are not matching	Broken controller	Contact with the seller
4	Err displays	Speed out of control	Contact with the seller
5	Knob does not work	Broken button	Contact with the seller

TECHNICAL SUPPORT

BT Lab Systems offers technical support for all of its products. If you have any questions about the product's use or, operation, please contact BT Lab Systems at the following:

E-Mail: info@BTLabSystems.com

APPENDIX A: WIRING DIAGRAM OF ORBITAL SHAKER 50-300RPM TIMER FEATURE

(Below diagram is just for reference. It is subject to change without prior notice.)

