



A Geno Technology, Inc. (USA) brand name

Mini High Speed Centrifuge

Cat. No. BT617

Thanks for choosing BT Lab Systems' Mini High-Speed Centrifuge. This operation manual describes the function and operation of the instrument. In order to use the instrument properly, please read this manual carefully.

IMPORTANT SAFETY INFORMATION

- Make sure the rotor is in good condition and correctly and tightly affixed before each operation. If there is any irregular noise when operating, press "Start/Stop" key to stop operating. Noise may be caused by rotor or rotor safety cover not affixed tightly.
- Do not use rotor with crack or damage.
- Do not move the instrument when it is in operation.
- Density of sample in the tube should be no more than 1.2g/ml.
- Check the condition of the centrifugal tubes before placing them into the rotor. Do not use a tube with a crack or damage.
- Make sure the tube lid is closed before putting it into the rotor.
- Place the centrifugal tubes in balanced positions.

MAINTENANCE

- Any slight crack or damage to the rotor will lead to potential safety hazard. Properly use the rotor and take care of it.
- Do not use corrosive material on the rotor.
- If fluid spills out during operating, take out the rotor and clean it with non-corrosive cleansing fluid (PH=7±1) immediately.
- Regularly clean the outer shell and the rotor (including holes) separately with diluted alcohol after power line is disconnected.
- Do not dip the instrument into fluid or water.
- After cleaning the outside, check the rotor condition for any cracks or damage. Make sure the rotor is in good condition then affix the rotor tightly to the motor shaft with the knob for rotor fixing.

INTRODUCTION

The miniature high-speed centrifuge is for 1.5ml/2.0ml centrifugal tubes. It is used in laboratory experiments of bioscience, medical science and chemistry.

SPECIFICATIONS

Voltage: 110V 50-60Hz

Power: 105W

Max. Speed: 15000rpm

Max. RCF: 15000rcf

rpm/rcf Unit Exchange: YES

Timing Range: 20sec~99min

Rotor Capacity: 12x1.5/2.0ml tubes

Max. Sample Density: 1.2g/ml

Acceleration to Top Speed: 15 seconds

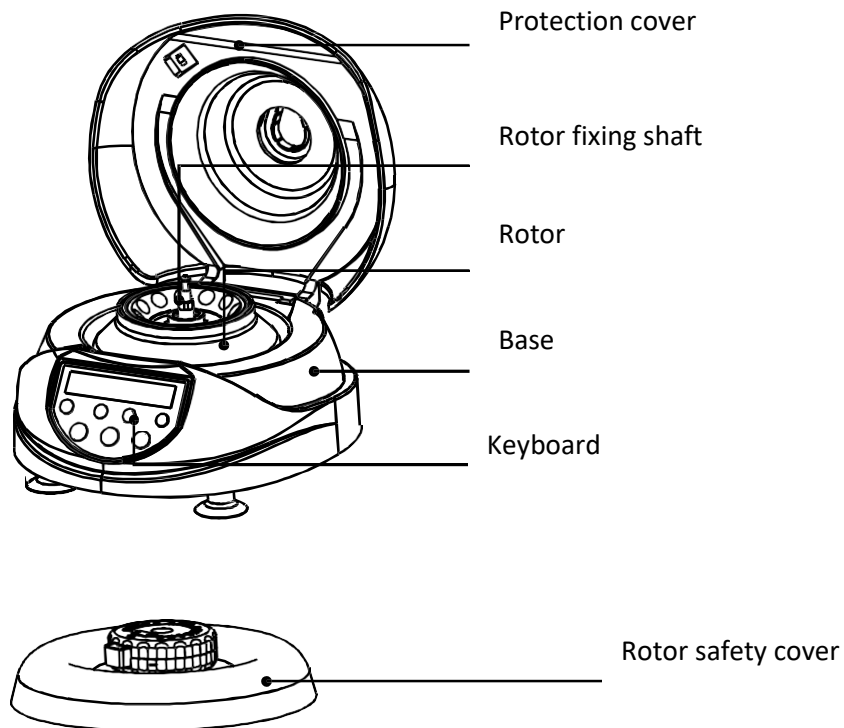
Deceleration to Stop: 15 seconds

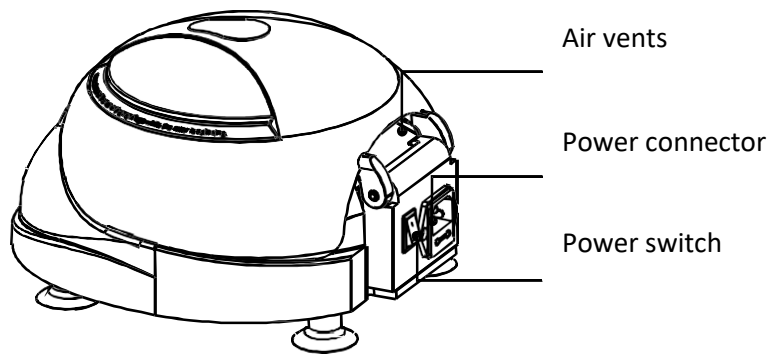
Operation Environment Temp.: 5°C ~35°C

Dimension (WxDxH): 260mmX260mmX150mm

Net Weight (including rotor): 5.1kgs

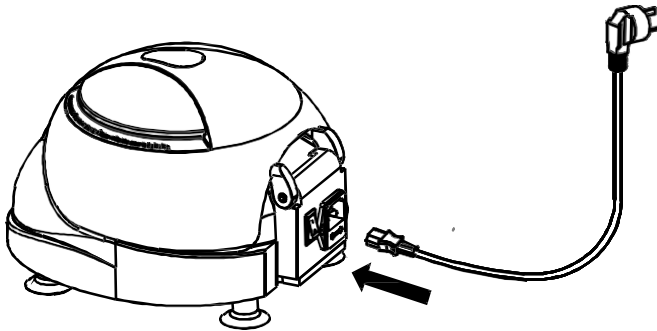
OVERVIEW





INSTALLATION

1. Put the instrument on a stable work table. Affix the suction feet to the table.
2. Connect power as in drawing below. DC socket is on the rear of the instrument. Voltage should be AC110V or 220V.



3. Check air vents on the rear of the instrument. Make sure they are not covered.
 4. Make sure there is no harmful material (or potential harmful material) in 30mm around the instrument.
 5. Power on and open the cover, put the rotor in the motor shaft. Use the rotor fixing knob to affix the rotor tightly. If the rotor already on the motor shaft, check and make sure it is affixed tightly.
- IMPORTANT! Make sure the rotor is affixed tightly before operation whenever you need to use the instrument.

OPERATION

START/STOP: Start or stop operation

SHORT-SPIN: Short operation key. Hold to spin

LID OPEN: Unlocks the cover

+/- Set time or speed value. Hold +/- to adjust value quickly.

Rotor Installation and Uninstallation

1. Affix the rotor to the motor shaft. Hold the rotor, use the Knob for Rotor Fixing which is on the base plate (refer to Figure A below) to the Rotor Fixing Shaft (refer to Figure B below) to rotate the rotor tightly clockwise to affix rotor. The rotor and the Rotor Fixing Shaft should be tight when the rotor is affixed correctly.
2. To uninstall put the Knob for Rotor Fixing to the base plate again. Hold the rotor, and rotate the Knob for Rotor Fixing to the Rotor Fixing Shaft counterclockwise.

Knob for rotor fixing

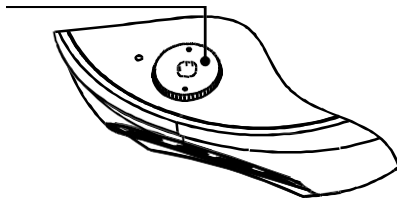
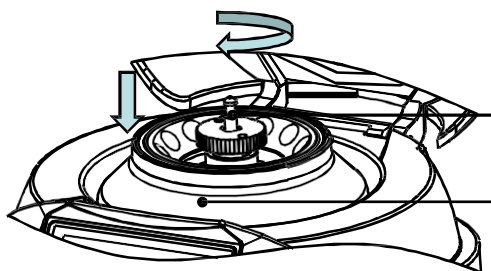


Figure A



Rotor fixing shaft

Rotor

Figure B

IMPORTANT: Make sure the rotor is in good condition, and tightly affixed before operation every time.

Sample Loading

The tubes must be placed in a balanced position in the rotor. Sample in the tubes should be basically the same (including volume and density). Balanced samples make the operation less wearing on the motor shaft and reduces operation noise.

Setting Time and Speed

1. Power on, press “Lid Open” key to open the cover. Check that the rotor is in good condition and tightly affixed.
2. Press + or – of Time key to set timing value. Time range is 20 seconds to 99 minutes. Press + or – of Speed key to set speed. Max. speed is 15000rpm.
3. Place centrifugal tubes in a balanced position in the rotor, close the rotor safety cover and protection cover. Press “Start/Stop” key to start operating. Press it again to stop operating.

When the setting speed is reached, instrument begins keeping time and display of the remaining time. After time ends, the centrifuge stops operating and unlocks the cover automatically.

Short Operation

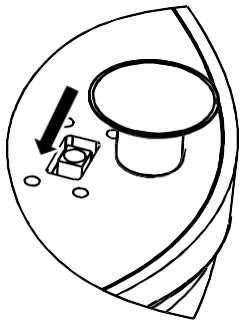
1. Power on, press “Lid Open” key to open the cover. Check that the rotor is in good condition and tightly affixed.
2. Place centrifugal tubes in a balanced position in the rotor, close the rotor safety cover and protection cover.
3. Hold “Short-Spin” key, it spins at the max. speed (15000rpm), release “Short-Spin”, operation stops.

Speed/Force Display

Press + and – of speed key simultaneously, speed unit changes from rpm and rcf. To transfer formula between rpm and rcf please refer to below.

Rcf= $1.118 \times 10^{-5} \times n^2 \times r_{\max}$ where n is for speed (unit: rpm), r_{max}=6cm

To Open Cover without Power



The cover cannot be directly opened without power. If needing to open the cover without power, please disconnect the power line, turn over the instrument, find the gap on the base plate, push the lock bar in the gap to unlock the centrifuge.

TROUBLESHOOTING

| Issue | Possible Causes | Solution |
|---|------------------------------|-------------------------------------|
| Instrument does not operate when power on | Power line problem | Check the power line |
| | No power | Check the power |
| Cannot open the lid | Power off | Power on |
| | Rotor is spinning | Stop device operation |
| | Lid Key broken | Contact the seller |
| Instrument shaking during operation | Rotor not fixed correctly | Fix the rotor correctly and tightly |
| | Tubes are not balanced | Place the tubes in balanced holes |
| Display Er=01 | Unlock circuit broken | Contact BT Lab Systems |
| Display Er=02 | Lock circuit broken | Contact BT Lab Systems |
| Display Er=03 | Motor control circuit broken | Contact BT Lab Systems |

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 info.

E-Mail: info@BTLabSystems.com