

NEUATION



iRUPT JR.

PRODUCT USER MANUAL

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1. INTRODUCTION

This manual provides important safety information for this homogenizer. It should be kept near the homogenizer for quick & easy reference. This homogenizer is equipped with a powerful & reliable motor, a large digital display & a simple interface for silent & efficient operation in the lab. This homogenizing instrument is meant for grinding samples through high speed agitation motion by metal/silica balls of specific sizes appropriate for sample grinding inside tubes. With wide speed range of agitation & timer setting makes grinding of samples more easier & quicker.

2. INTENDED USE

This homogenizer is designed to be used in laboratory/institutes to grind the samples such as plant leaves/seeds/root tissues, Animal tissues/cells, yeast cells, Bacterial cells, small bone pieces, mammalian cells etc. The agitation motion provides better rupturing/grinding of samples for extraction of cell components for studying purposes. It is widely used in research laboratories & Institutes.

Note: *Before using the homogenizer, 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.*

3. FEATURES

- Agitation motion.
- Large digital display.
- Maximum speed of agitation up to 4000 RPM/min
- Quick acceleration/deceleration time.
- Lid safety interlock.
- Convenient and easy user interface.
- Last run memory feature.
- Wide range of interval (pause) time.
- Countdown timer.
- Low noise.
- Compact foot print

4. STANDARD ACCESSORIES

- Power adapter
- 3 x 2ml tubes
- Product user manual and warranty card

- 3 additional tension springs

5. OPTIONAL ACCESSORIES

- 2ml screw cap tubes, Power adapter
- Homogenizing beads

6. TECHNICAL SPECIFICATIONS

Capacity	3 x 2 ml
Speed	2800 to 4000 RPM
Run Time	3 to 180 Sec
Pulse Mode	Yes
Pulse Mode On Time	3 to 99 Sec
Pulse Mode Off Time	3 to 99 Sec
Operating Condition	4°C to 65°C
Noise Level	< 65dB
Weight	2.8 kgs
Dimensions (W x D x H)	235 x 185 x 140 mm
Ambient Temperature	5 - 40 °C
Permissible Relative Humidity	≤80%
Power Adapter Detail	Input - 100-240 VAC, 50/60 Hz Output - 24V =1.5A
Power Consumption	24 W
Altitude	Use upto an altitude of 2000 m above MSL
Pollution Degree	2
Environment	For indoor use only

7. SAFETY PRECAUTIONS



Read all safety & usage information provided in this manual carefully before using the device.

- Never use the homogenizer in any manner not specified in this manual.
- Using equipment in any manner not specified in this manual or by the manufacturer, will void the warranty.

- Never move the homogenizer while operational.
- The tube holder and holder lid must always be securely fastened. If the homogenizer makes unusual noise during operation, the tube holder or tube holder lid fit needs to be checked. Switch OFF the device immediately by pressing STOP, check tube holder fit & fasten it well.
- The tube holder must be loaded symmetrically. Each tube should be counter balanced by another tube of the same weight.
- Do not use the homogenizer or tube holder that have not been correctly installed or damaged.
- Repairs must only be performed by authorized service technician.
- Using incorrect holder & wrong spare parts will void the warranty.
- Homogenizer may be used for the specified applications only.
- must not be operated in a hazardous or flammable environment and must not be used to instrument explosive or highly reactive substances.
- If liquids are spilled in/on the chamber, the homogenizer must be cleaned carefully and properly before being used again.
- Prior to homogenization, the tubes should be visually inspected for material damage. Damaged tubes may not be used. This is because broken tubes can, in addition to sample loss, create imbalance which can result in further damage to the homogenizer and accessories.
- The maximum sample capacity must not exceed then the mentioned value in the specification table.
- Do not lean on the equipment. It may damage the equipment or the harm the operator.
- When moving the homogenizer from a cold room to a normal room, run the homogenizer for 30 minutes beforehand in the cold room to avoid condensation. Alternately, allow it to warm up in the lab for at least 3 hours before use, but do not plug in the instrument in order to prevent possible damage by condensation.
- Be sure to close the tubes lid tightly prior to homogenization. Open tubes lid can be torn off during homogenization and can damage the instrument or the user.
- Tube holder and holder lid are high graded components which are subject to extreme mechanical strain. Even slight scratches and tears can lead to serious internal material damage. Ensure to check the holders for any signs of damage before use. If tube holder, O-Ring and holder lid showing visible signs of

corrosion or mechanical damage should not be used, contact your local supplier or mfg for replacement tube holder & parts.

- Do not fill tubes while they are in the holders. Liquid spillage may harm the device.
- In the event of contamination caused by aggressive agents, the holder& inner chamber must be cleaned immediately using a natural cleaning liquid (like water). This is particularly important for the bores of the tubes. If any damage is seen, contact the service technician.
- Before using cleaning or decontamination methods, other than those stipulate by the manufacturer, contact the manufacturer to ensure that the intended method will not damage the homogenizer.
- The power adapter given with instrument unit is designed to use for that particular homogenizer. Do not use any other power adapter, using any other power adapter may damage the instrument and will void the warranty.

8. INSTALLATION

Open the box, then remove the packaging and gently take the instrument out of the box. Before using this instrument, open the instrument& remove all packaging from the chamber & ensure tube holder is firmly tightened. The user manual and accessories should be kept near the instrument. Please keep all packaging in safe storage for at least 2 years for warranty purpose.

MOUNTING

Place the instrument on a flat and leveled surface; ensure that the four feet of this instrument stand on the surface firmly. Avoid installing on a slippery surface or surface prone to vibration.

- Ideal ambient temperature is $20^{\circ}\text{C} \pm 5^{\circ}\text{C}$; avoid placing the instrument in direct sunlight.
- Keep clearance of at least 10 cm on both sides and at least 30 cm behind it to guarantee cooling efficiency.
- Keep away from heat or water to avoid sample temperature issues or instrument failures.
- Do not place the instrument in any area where operating the unit maybe difficult.

Note: *This device is supplied with two screws at bottom side to lock movement of tube adapter during transportation, remove the screws before using devise.*

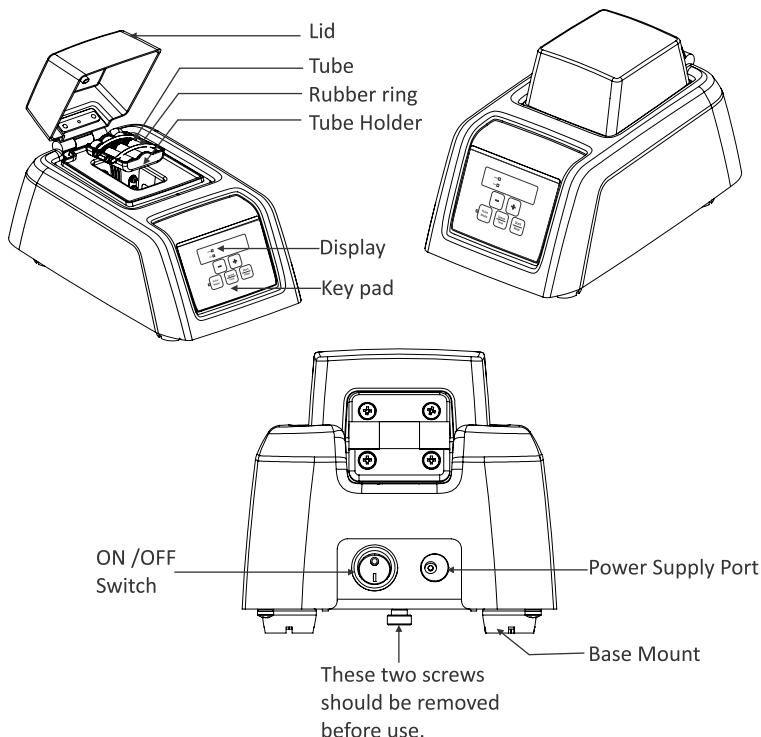
CONNECTING POWER ADAPTER

- Connect one side of power adapter to rear side of instrument and other to

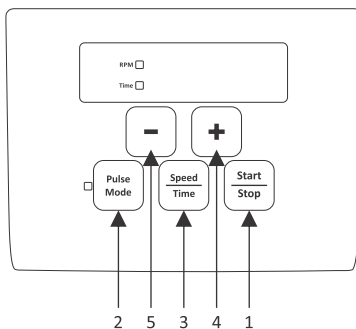
supply as shown in the figure below.

- Insert the power cord at the back of instrument in power input socket (shown in picture). Ensure the power switch is OFF while connecting the power adapter.
- 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).

9. STANDARD PARTS LISTING



10. USER INTERFACE & DISPLAY

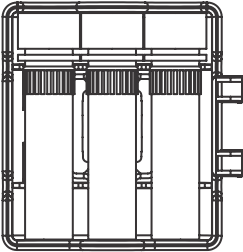


Button No	Indication	Function
1	<u>Start</u> Stop	To start program To stop running program
2	Pulse Mode	To turn on/off Pulse mode
3	<u>Speed</u> Time	To set speed in rpm, it can be adjusted from 2800 to 4000 rpm in 50 rpm increment To set run time in seconds. It can be set from 3 To 180 sec. in 1 sec. Increment
4	+	Increase the value of selected parameters
5	—	Decrease the value of selected parameters

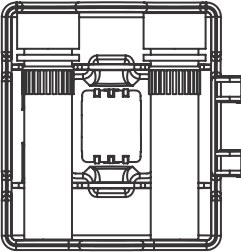
TUBE ALIGNMENT:

The tube should always placed in symmetrical to avoid stress on the shaft upon operation & also keeps the shaft intact for longer usage.

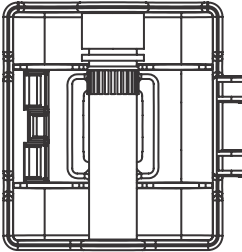
Proper alignment



Alignment -1



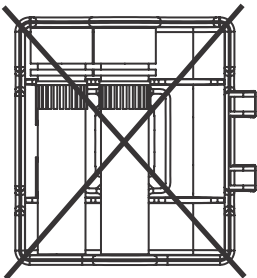
Alignment -2



Alignment -3

IMPROPER ALIGNMENT

Should always avoid.



11. OPERATING THE INSTRUMENT

START UP:

Press power button located on the back of the instrument near power input to turn the machine ON/OFF.

The instrument keys works only when the lid is closed with last run program on the display. There will be a message on the display as “OPEN” if the lid is open. Close the open lid to begin the operation

SETTING SPEED & TIMER:

Press speed/timer, user can select either of the parameters ie either speed or time at one time. The parameter to be set will be indicated by the corresponding LED besides the parameter.

SETTING SPEED:

Speed can be set when the LED for the RPM is on. Speed can be set in the range of 2800 RPM to 4000 RPM. The speed can be increased or decreased by pressing “+” or “-” respectively. The incremental/decremental value always will be in the difference of 50 RPM. Single press of +/- will give a gradual increment or decrement of the 50 RPM & continuous press will add/reduce the values in a quick manner until the finger been removed from the button(+/-). The values saved automatically after 3 blinks of the display.

TIME:

Timer can be set when the LED for the Time is on. Timer can be set in the range of 3-180 Secs. The Timer can be increased or decreased by pressing “+” or “-” respectively. The incremental/decremental value always will be in the difference of 1sec . Single press of +/- will give a gradual increment or decrement of the 1sec & continuous press will add/reduce the values in a quick manner until the finger been removed from the button(+/-). The values saved automatically after 3 blinks of the display.

The parameter - Speed & timer can not be changed while cycles are running er can change speed/Time when he set program, he can not change speed during running of machine.

START/STOP BUTTON:

After setting the speed & timer press “START /STOP” to start and stop the operation.

+ & - BUTTONS:

Increment (+) and Decrements (-) buttons are used to increase or decrease Value of speed (rpm) & run time (Sec).

EG:

To Set & run program with speed 3500 rpm, run time 90 sec, No pulse mode condition.

- Switch on Instrument by pressing ON/OFF switch near power supply.
- Set test samples, lock the tubes with O-Ring & Close the lid.
- Press Speed & Run time button. When LED of speed will be ON. Set speed 3500 rpm by using (+) or (-) button.
- Press Speed & Run time button again. LED of Timer is ON, set run time 90 sec by using (+) or (-) button.
- Check LED of pulse mode is off or on Condition, if LED is on. Press pulse mode button. It will off pulse mode.

Press START/STOP button to start operation.

PULSE MODE:

Pulse mode can be activated by pressing pulse button. The activation of the pulse mode will be indicated by the LED besides it. When pulse mode is activated, the speed would be the last set speed considered, while for Timer setting one can set ON TIME (Run Time) & OFF TIME (Interval Time) ie "ON" Time from 3sec to 99sec & "OF" Time from 3sec to 99Sec.

After setting all the parameters press Start/Stop to start the operation. During operation if the units needed to be stopped then press Start/Stop button to stop the operation.

EG:

1. Press pulse mode to active pulse mode feature
2. Last set speed (RPM) is consider as Pulse Mode speed
3. Display Show "ON12" - First two letter show on time (Run timer), Last two digit show time of Run in seconds, can be set run time from 3 to 99 sec by pressing Increment (+) and Decrements (-) buttons.
4. By pressing pulse mode again, display show "OF12" - First two letter show OFF timer (Pause/Interval time) selection, Last two digit show time of Pause in seconds, can be set pause time from 3 to 99 sec by pressing Increment (+) and Decrements (-) buttons.
5. Press start/stop button to start & stop pulse mode run,
6. To turn of the pulse mode press the pulse mode again.

12. MAINTENANCE AND CLEANING

1. The tube adapter and the outside of the instrument should be cleaned regularly with a moist cloth.
2. Ensure that while cleaning the unit it is not plugged in.
3. Wear protective gloves and safety glasses while operating and cleaning the device.
4. Always keep the instrument housing, tube holder chamber, tube holder and tube holder accessories clean. All parts should be wiped down periodically with a soft cloth. For more thorough cleaning, use a neutral cleaning agent (Ph between 6 and 8) applied with a soft cloth. Excessive amounts of liquid should be avoided. Liquid should not come into contact with the motor.
5. After cleaning, ensure that all parts are dried.
6. It is important to regularly clean the tube holder.
7. If the tube holder chamber needs cleaning, clean it with a cloth or a sponge moistened with a neutral detergent solution (like water).
8. Do not place the tube holder into the cleaning solution!
9. If corrosive, toxic or pathogenic bacteria are accidentally spilled on the tube holder or in the chamber, the instrument must be decontaminated thoroughly.

Warning! This product does not contain bio-seals as per IEC/EN/CSA 61010-2-20 and cannot provide any level of containment in case of a spill or release of toxic, radioactive, or pathogenic micro-organisms thus these materials are not recommended to be used in this product.

13. TROUBLESHOOTING

This instrument has a self – diagnostic function. If a problem occurs, an error/warning code will be displayed on the display screen and the operator can determine the malfunction with the warning code below.

Problem	Possible cause	Action
No Display on Screen	No power on the main power plug	Check power supply and plugged properly
	Faulty power adapter	Change power adapter
	On / Off button broken	Change button
	Others	Contact suppliers

Problem	Possible cause	Action
Instrument cannot run	Faulty Controller	Contact suppliers
	Faulty Motor	
	Faulty hall sensor	
Abnormal running noise	Faulty Bearing or spring	Contact suppliers
Keys do not Work	Pulg connector loose	Contact suppliers
	Faulty key	
	Faulty hall sensor	
	Lid Open	Close lid
Message: OPEN	Lid not properly closed	Close lid properly
	Faulty hall sensor	Contact suppliers

IMPORTANT NOTE:

1. If system gets hung up or gets hot due to over current, turn OFF & turn ON (restart) the instrument and check it again.
2. Maintain a 3 second gap between restarting the instrument. Instant ON-OFF can lead to a reset, erasing last run memory.
3. If the motor gets hot due to which there will be a fluctuation in speed value then allow the instrument to cool for atleast 30 minutes. Do not do any operation for 30 minutes

14. WARRANTY STATEMENT

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

Note: *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 merchant-ability or of fitness for any intended purpose and there are no other remedies or warranties, 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 processed for warranty or service. All items returned for service should be sent with postage prepaid in the original packaging or other suitable packaging, padded to avoid damage. We will not be responsible for damage incurred by improper packaging.

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

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

15. 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 business sphere, to which this product is assigned, may no longer be disposed off 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.

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