

NEUATION



iSTIR 50L/100L/200L

PRODUCT USER MANUAL

CONTENTS

1. Introduction	1
2. Intended Use	1
3. Symbol	1
4. Features	1
5. Technical Specifications	2
6. Safety Precautions	2
7. Accessories	3
8. Installation	4
9. User Interface And Display	4
10. Operation	5
11. Troubleshooting	7
12. Maintenance & Cleaning	7
13. Warranty Statement	8
14. Product Disposal	8

1. INTRODUCTION

This manual provides important safety information for this high capacity 50/100/200 liter stirrer. It should be kept near this stirrer for quick & easy reference. This stirrer is equipped with maintenance free brushless DC motor drive. This multipurpose digital display assists users by displaying various parameters like Speed, Time, Acceleration rates, Power mode, Pulse mode, Smart mode etc. This high stirring capacity Stirrer is designed with utmost safety & is concealed design meeting IP21 protection.

2. INTENDED USE

This stirrer is used for mixing the liquids with the maximum stirring capacity of 50/100/200 Ltr. It is designed for use in general laboratories, pharmacies, schools and universities.

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.

3. SYMBOL

 Warning	 Waste electrical
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4. FEATURES

- Brushless DC motor for maintenance-free performance
- Microprocessor controlled device and digital display
- Single stirring position with max stirring capacity of 50/100/200 liters
- Adjustable speed ranging from 100-1000 RPM (50L stirrer) & 100-800 RPM (100L stirrer) & 100-600 RPM (200L stirrer) with an increment of 10 RPM and accuracy of +/- 35RPM
- Long timer setting from 1 minute to 99 hours and 59 minutes
- Digital display for accurate setting of Speed, Time, Acceleration rates and intermittent time
- Multiple acceleration rates for the user to choose (A1 to A9 where A9 is the fastest rate and A1 is the slowest)
- Pulse mode feature for clockwise and counter clockwise motion. Programmable Pulse with an adjustable variable time of 30-300 seconds
- Power Intermittent Mode feature in case of power failure where equipment starts automatically and runs for the remaining left time
- Power Overload feature in which if the equipment consumes more power than its capacity, it automatically shuts down itself

5. TECHNICAL SPECIFICATIONS

Max stirring capacity	50 L	100 L	200 L
Motor	BLDC Motor		
Num.of stirring position	1		
Speed Range	100-1000 RPM	100-800 RPM	100-600 RPM
Time Range	1 min & 99:59 hours & Infinite Mode		
Programable Pulse Mode-Direction Change	30-300 secs		
Digital Display	7 Segment 4 Digit LED		
Recommended Stir Bar length	80mm	80 mm	100 mm
Setup plate material	Stainless Steel	Stainless Steel	Stainless Steel
Setup Plate Dimension	215 x 294 mm		
Frame size (L xW xH)	504 X 500 X 164mm (Adjustable height)		
Overall Dimensions	393 X 267 X 105mm		
Protection class	IP 21		
Permissible Ambient Temperature	5-40°C		
Altitude	Use upto an altitude of 2000 m above MSL		
Pollution Degree	2		
Environment	For indoor use only		
Humidity	≤80%		
Net weight	5.5 kg		
Power Adapter Details	Input: 100-240 VAC, 50/60 Hz Output: 24V $\overline{\text{---}}$ 3A		
Power Consumption	41W (50L), 30W (100L), 20W (200L)		
USB pendant control	Optional		

6. SAFETY PRECAUTIONS



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

- Do not place any steel or magnetic material on the base plate except the recommended magnetic stirring bar with a vessel or flask in between. Doing is can affect the magnetism of the device.
- Place the device on a flat, stable, clean, non-slippery and fire-proof surface.
- The base plate must be clean and intact.
- Do not try to mix liquid more than 200 liters with 80 mm magnetic stirring bar on a single stirring position. It may lead to improper mixing.
- Wear protective equipment in accordance with the hazardous category of the

6. SAFETY PRECAUTIONS

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

- ☞ Splashing and evaporation of liquids.
- ☞ Ejection of parts.
- ☞ Release of toxic or combustible gases.
- Do not lift or hold the device from the power cable.
- Do not use a damaged beaker, flask, stirring bar or any other component for operation. It may affect the efficiency of the device.
- Reduce the speed:
 - ☞ If the medium splashes out of the vessel.
 - ☞ If the appliance is not running smoothly.
 - ☞ If the container moves on the base plate.
- Wear protective gloves while cleaning the device.
- Do not touch the base plate immediately after the operation. The base plate may get warm after continuous usage.
- Process pathogenic materials only in a closed vessel under a suitable extractor hood. Do not operate the appliance in explosive atmospheres, with hazardous substances or under water.
- Only use liquid for mixing that will not react dangerously to the extra energy produced through processing. This also applies to any extra energy produced in other ways.

Examples included: through light irradiation, through surrounding temperature etc.

- Abrasion of the dispersion equipment or the rotating accessories can get into the medium you are working on.
- Chemical reaction of PTFE can occur when in contact with molten or dissolved alkaline earth metals, as well as with fine powders of metals from the 2nd or 3rd group of the periodic table at temperatures above 300-400 °C. Only elementary fluorine, chlorine trifluoride, and alkaline metals attack PTFE. Halogen hydrocarbons have a reversible swelling effect.
- The temperature of the stirring media in the beaker and beaker itself should not be more than 45° C.
- The equipment will not restart, both in case of power interruption and in the case of any fault or mechanical interruption.
- Care should be taken based on the sample used for mixing.

7. ACCESSORIES

- Magnetic Stirring Bar
- Power Adapter
- Adjustable frame

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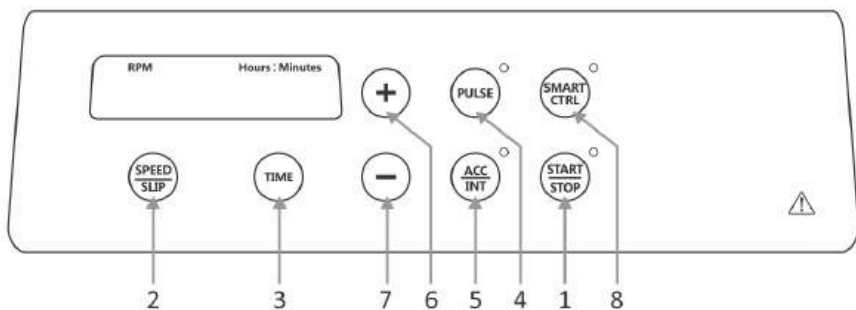
- User Manual and Warranty Card

8. INSTALLATION

Gently take the unit out of the box and place it on a flat, stable and nonslippery surface. Keep 1-inch clearance from all 3 sides of structure frame so that it can be operated easily and safely. Do not lift the instrument by holding the platform. Plug in the power adapter pin before connecting to the power source. The instruction manual and accessories should be kept near the device in a safe storage location for at least 2 years for warranty purposes.

9. USER INTERFACE AND DISPLAY

Below image & table shows the function of user interface buttons :



S.No	Buttons	Function
1	START/STOP	Press this button to turn ON the machine and press again to turn OFF the unit
2	SPEED/SLIP	Single press to set speed value. Long press to activate/ Deactivate Slip detection.
3	TIME	Press this button to select time value
4	PULSE	Single press to activate/ deactivate Pulse mode. Long press to set Pulse time
5	ACC/INT	Acceleration rates for the user to choose from (A1 to A9 with A9 being the quickest rate and A1 being the slowest) In case of power failure stirrer resumes its operation if Power intermittent INT mode is selected

9. USER INTERFACE AND DISPLAY

6	+	Press this button to increase Speed / Time and Pulse time/ACC value
7	-	Press this button to decrease SPEED / TIME and Pulse time/ACC value
8	SMART CTRL	Press this button to activate/ deactivate Smart control mode

10. OPERATION

- Connect the AC power adaptor to the main power supply.
- Fill the beaker or vessel with the medium or liquids to be processed. Then Place the magnetic stirring bar at centre of beaker or vessel.
- Place the vessel or beaker on the center of the base plate.
- Set the speed at which the medium or liquids need to be processed. Minimum speed is 100 RPM and maximum speed is 600/800/1000 RPM.
- Set the time if required. Minimum time is 1 minute & maximum time is 99 hours & 59 minutes & infinite mode.
- Turn on the stirrer by pressing ON/OFF button.

SPEED/ SLIP SETTING

- Single press to enter speed, Speed can be adjusted by '+' & '-' button from 100 RPM to 1000 RPM.
- Single press the increment or decrement button to increase or decrease the value by 10RPM on each press.
- Speed value is saved after 5 blink in display.
- Long press the 'SPEED/SLIP' to activate the slip detection mode and "Slip On " Status shown on display.
- In "Slip ON" Mode if stirrer bar slips during operation will stop the stirrer and will produce a rotaional jerk to bring back the bar to allotted position and start the unit automatically by reducing the speed by 50 RPM.
- Long press 'SPEED/SLIP' to deactivate the slip mode. Display will show "Slip OFF".

TIME SETTING

- Single press the 'TIME' to set Hrs and Miniute by pressing '+' & '-' button for increment or decrement from '00:01' to '99:59'. Value gets saved after 5 blink.
- Long press 'TIME' button will set Infinite time. Long press again will display the previous set time for stirring.
- Single press of '+' & '-' will increase or decrease time of 1hr/1min, Long press the '+' & '-' for fast increment or decrement.

10. OPERATION

- During Running operation time and speed can be changed, once the values blink 5 times the parameters have saved accordingly.

PULSE MODE

- Single press 'PULSE' button activates the pulse mode and LED gets ON.
- Pulse value can be set from 30-300sec by pressing '+' or '-' button.
- Single press again in pulse mode button will Stop the mode and LED of pulse is OFF

SMART CTRL

- This mode can be used in case of viscous solution where the speed does not reach the set RPM then this mode enables to reach maximum possible RPM.
- Single press the 'SMART' Button to activate this mode.
- If unit is consuming more power then its capacity then smart control will run stirrer below safe current limit in order to protect unit from over current.

START / STOP OPERATION

- By single press 'START/STOP' button device will Start operation and LED will blink continuously.
- Single pressing 'START/STOP' button will Stop operation and LED will OFF after stirring RPM reach at zero.

PENDANT OPERATION (OPTIONAL)

- Operation of stirrer can be control by using pendant by connecting with USB port.
- During controlling unit with pendant, main control panel buttons on unit will be disabled. After disconnecting pendant, delay must be more than 5 Sec between re-connection of pendant to unit.

ACCELERATION SETTING

This option is provided if the user wishes to achieve the set RPM as quickly as possible. There are 9 acceleration rates which can be chosen from. Below is the table which shows the maximum and minimum time for all the acceleration rates to the max speed (600/800/1000 RPM).

ACCELERATION RATE

	Minimum	Maximum
50L/100L/200L	(A9): 1Min(60 sec)	(A1): 4Min(240sec)

- Single press "ACC/INT" button to select this feature.
- Press increment (+) & decrement (-) button to modify & set acceleration rate.
- Single press increment (+) or decrement (-) button to increase or decrease the

10. OPERATION

acceleration rate.

- Continuous press increment (+) or decrement (-) button to increase or decrease the speed value at quicker pace.

POWER INTERMITTENT MODE

The function of this particular feature is that in case of power failure, equipment saves the SPEED, TIME and other details as set by the user. When the power returns, equipment runs for the remaining time left with cycle time of +/- 5 mins. Equipment saves the run time every 5 minutes of operation.

To select this feature, long press "ACC/INT" button. Unless and until this feature is not switched on, stirrer will not resume its operation after power failure.

Example : User has set RPM of 500, Time of 3 hours. After completion of 1 hour, there was power cut and it stops the operation. Just before the power cut, remaining time seen on the display was 1 hour and 47 minutes. When the power returns, this stirrer will run for 1 hour and 50 minutes with the set RPM and other operational values.

11. TROUBLESHOOTING

1. Problem: No Display

- Solution:**
- 1) Check mains power supply connection.
 - 1) Check that power adaptor is working properly and it is properly connected at both ends.

2. Problem: OL (Over Load Error)

- Solution:**
- 1) Set lower RPM for stirring or reduce liquid load.
 - 2) Activate Smart Control mode which will automatically set possible stirring RPM under safe power range.

12. MAINTENANCE & CLEANING

Large Capacity Stirrer is built for long, trouble-free, dependable service, No routine or extraordinary maintenance is necessary except periodically cleaning.

1. Disconnect the unit from the power supply and use a damp cloth with a non-flammable non-aggressive detergent.
2. Do not use a cleaning agent or solvent on the front panel or top plate which is abrasive or harmful to plastics.
3. Avoid wetting or unnecessary exposure to fumes.
4. If in doubt about the compatibility of a cleaning or decontamination product, contact the distributor.
5. If the unit ever requires service contact authorized distributor.

13. 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 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 merchantability 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 serial number, date of purchase and supplier here.

Serial No.:

Purchase Date:

Supplier:

14. PRODUCT DISPOSAL

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

14. PRODUCT DISPOSAL

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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