

NEUATION

TECHNOLOGIES



iSTIR PENTA+

PRODUCT USER MANUAL

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1. PRODUCT DESCRIPTION

This is an Ultra Slim 5 Station Magnetic Stirrer with 2L stirring capacity per position designed to give perfect homogeneous mixing of the sample. It comes with IP protection class (IP 42- Resistant to splashes). The setting of speed and time is simple & easy with a digital display. For better mixing, pulse mode is provided in which the stirring changes its motion between clockwise & counter-clockwise in between 30 and 99 seconds.

2. INTENDED USE

Applications include dissolving solids in liquids, stirring of volatile solutions, as well as other general Microbiology and Biochemistry applications that require light agitation or vigorous convulsing.

Note: *This user guide is intended to assist with the operation and care of the unit only and not for its repair. The customer should not attempt to service or repair the unit. If repairs are required, please contact the supplier.*

3. FEATURES

- BLDC motor for quiet operation and maintenance free long life
- Low aspect ratio (just 45 mm thick)
- Microprocessor controlled stirrer with variable speed and time setting and with last run memory feature
- Adjustable speed from 100 to 2200 RPM in steps of 10 RPM
- Software driven gradual acceleration
- Timer range up to 99 hours and 59 mins and infinite mode
- Programmable Pulse mode for vigorous stirring in clockwise and counter-clockwise direction
- Universal power supply - small wall mount adaptor
- IP 42 compliant design
- Corrosion resistant SS top surface for better chemical resistance

4. ACCESSORIES

- Stirrer bar with PTFE coated.
- Power Adaptor: Input Voltage - 100 - 240 VAC, 50 / 60 Hz
Output: 24V --- 1.5A

5. TECHNICAL SPECIFICATIONS

Motor Type	Brushless DC
Stirred Quantity (Max) (Tested in H ₂ O)	2L per position
Number of stirring positions	5
Speed Range	100 - 2200 RPM (10 RPM in Step)
Speed Accuracy	± 100 RPM
Time Range	Upto 99 hours and 59 mins & infinite mode
Auto Direction Change Time Interval	Adjustable from 30 to 99 seconds
Auto Direction Change/Pulse Mode	Yes
Digital Display	Yes
Recommended Stirring Bar Length	35 mm
Set-up Plate Material	Stainless Steel
Set-up Dimensions (L x W)	573 x 305 mm
Dimensions (W x D x H)	594 x 332 x 45 mm
Distance between Stirring position	175 mm
Protection Class	IP 42
Permissible Ambient Temperature	5 - 40°C
Humidity	80%
Weight	8 kg
Input Voltage	24V $\overline{\text{---}}$ 1A
Power Consumption	24 W

6. MAINTENANCE & SAFETY PRECAUTION

Read the following safety instruction before using this magnetic stirrer for your safety & the safety of the equipment.

1. Do not place any steel or magnetic material on the base plate except the recommended magnetic stirring bar with a beaker or flask in between. Doing this can affect the magnetism of the device.

2. Place the device on a flat, stable, non-slippery & fire-proof surface.
3. The base plate must be clean and intact.
4. Do not try to mix liquid more than 2L per position with 35 mm magnetic stirring bar on the stirring position. It may lead to improper mixing.
5. Wear protective equipment in accordance with the hazardous 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.
6. Do not lift or hold the device from the power cable.
7. Do not use a damaged beaker, flask, stirring bar or any other component for operation. It may affect the efficiency of the device.
8. 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.
9. Wear protective gloves while cleaning the device.
10. Do not touch the base plate immediately after the operation. The base plate may get warm after continuous usage.
11. 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.
12. 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.
13. Abrasion of the dispersion equipment or the rotating accessories can get into the medium you are working on.
14. The 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 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.
15. The temperature of the stirring media in the beaker and beaker itself should not be more than 45° C.



16. The equipment will not restart, both in case of power interruption and in the case of any fault or mechanical interruption.
17. Care should be taken based on the sample used for mixing.



7. INSTALLATION & OPERATION

Open the box, then remove the packaging and gently place the device on a firm and leveled surface. Gently unpack and do not pull the power adaptor as it is attached to the device. The user manual should be kept near the device. Please keep all packaging in safe storage for at least two years for warranty purpose.

Below table shows the function of user interface buttons.

	Start / Stop	Press this button to either turn ON or turn OFF the unit
	Speed	Press to change RPM parameter
	Time	Press to change TIME parameter
	Increment	Press button to increase Speed / Time values
	Decrement	Press button to decrease Speed / Time values
	Pulse & LED	Press pulse button and start button to activate pulse mode indicated by blinking LED. To stop pulse mode press stop button. (Will stop complete stirring operation)

Fill the beaker or vessel with the medium or liquids to be processed. Then place the magnetic stirring bar in the beaker or vessel. Place the vessel or beaker on the center of the base plate. Turn on the magnetic stirrer by pressing ON/OFF button.

Set the speed at which the medium or liquids need to be processed. Minimum speed is 100 RPM and maximum speed is 2200 RPM.

Maximum time that can be set is upto 99 hours and 59 minutes. By default, time is always infinite.

SPEED SETTING

- Single press “SPEED” to feed value of RPM.
- Single press increment (+) or decrement (-) button to increase or decrease speed value by 10 RPM on each press.
- Once activated, continuous press increment (+) or decrement (-) button to increase or decrease time value at a faster pace.
- After modifying, wait for multiple blinks to set time.
- Speed Steps 10 RPM/ 50 RPM /Steps [short press for 10 RPM increment (+) / decrement (-) & Long press for 50 RPM increment (+) / decrement (-)]

TIME SETTING

- The default timer is set as infinite “][” when stirrer starts.
- Single press the “TIME” button, to activate time mode. By default the timer will be infinite and will be seen as “][” on display.
- Once activated, single press increment (+) or decrement (-) button to increase or decrease time value by 1 minute on each press.
- Once activated, continuous press increment (+) or decrement (-) button to increase or decrease time value at a faster pace.
- After modifying, wait for multiple blinks to set time.
- Upon selection of Hour mode to change hour, after then short press of increment / decrement key will increment / decrement ± 1 hour, long press of increment / decrement key will increment / decrement ± 5 hour.
- Upon selection of min mode to change min, after then short press of increment / decrement key will increment / decrement ± 1 min, long press of increment / decrement key will increment / decrement ± 5 min.
- Speed can be modified after reaching set RPM. The speed modified between on-going time will not affect the time & timer continuous to be countdown.
- Press any button except the power button to start the stirring operation with last run speed and time.

Note: *Timer will be set to default (infinite) once the magnetic stirrer is restarted.*

PULSE MODE

Press “PULSE” to activate Pulse mode. In pulse mode, the stirring direction is reversed for every 30 seconds.

In order to select the pulse mode press the pulse mode once.

To start PULSE MODE, press pulse button, LED at the top of pulse button will blink to indicate activation of pulse mode. and then press start button to activate pulse mode and stirring will start.

Subsequently, upon long pressing of PULSE button, motion reversal time can be

adjusted from 30 to 99 seconds.

Example: User has set RPM of 2200 and operational time of 35 mins. After activating Pulse mode, press START to initiate stirring. For 30 secs stirring will be Clockwise direction followed by 5 sec pause and then 30 secs stirring in Counterclockwise direction.

Press the ON/OFF button again to stop the ongoing operation as well as to switch OFF the stirrer.

After every restart (ON/OFF), stirrer will start operating at last run speed & infinite time.

Note: *In case of slippage, first turn OFF and turn ON again. If slippage still occurs, then reduce the speed for efficient operation.*

8. 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 another suitable packaging, padded to avoid

damage. We will not be responsible for damage incurred by improper packaging.

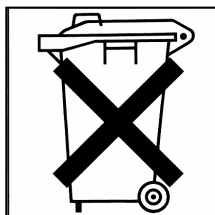
Note: *This warranty is valid only if the warranty is registered with the supplier within 30 days from the date of purchase.*

9. 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 electronics equipment (WEEE). According to these regulations, any devices supplied after 13.06.05 in the business to a 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.

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

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