CRV-30XC



USER MANUAL

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1. INTRODUCTION

This vortex mixer is designed for laboratory mixing. It assures the highest performance in terms of speed, reliability, precision and safety. The vortex mixer has a variable speed with digital control that allows low RPM start-up for gentle shaking and high speed mixing for vigorous vortexing of samples.

2. INTENDED USE

This vortex mixer is a general laboratory vortex mixer. It is indented for application where vortexing of single or multiple tubes is required.

3. FEATURES

1. Continuous & touch operation
2. Adjustable speed ranging from 300 to 3000 RPM
3. Brushless DC motor for maintenance free long life
4. Orbital diameter of 4 mm
5. Built in counter balance for steady and safe operation
6. Variable timer setting from 1 to 999 minutes for continuous operation
7. Digital display toggles between speed and time every 5 seconds
9. Press activated programmable pulse function
10. Robust construction for stable operation
11. Silent operation
13. Broad range of accessories available

4. ACCESSORIES

1. Power Adaptor: Input Voltage: 100-240V, 50-60Hz, 1.5A
   Output Voltage: 24V ⎓ 1.5A
2. Standard cup head (pre-installed),
3. Universal attachments plus microplate, microtube foam & flask rubber attachments (optional)
4. Product user manual & warranty card

5. TECHNICAL SPECIFICATIONS

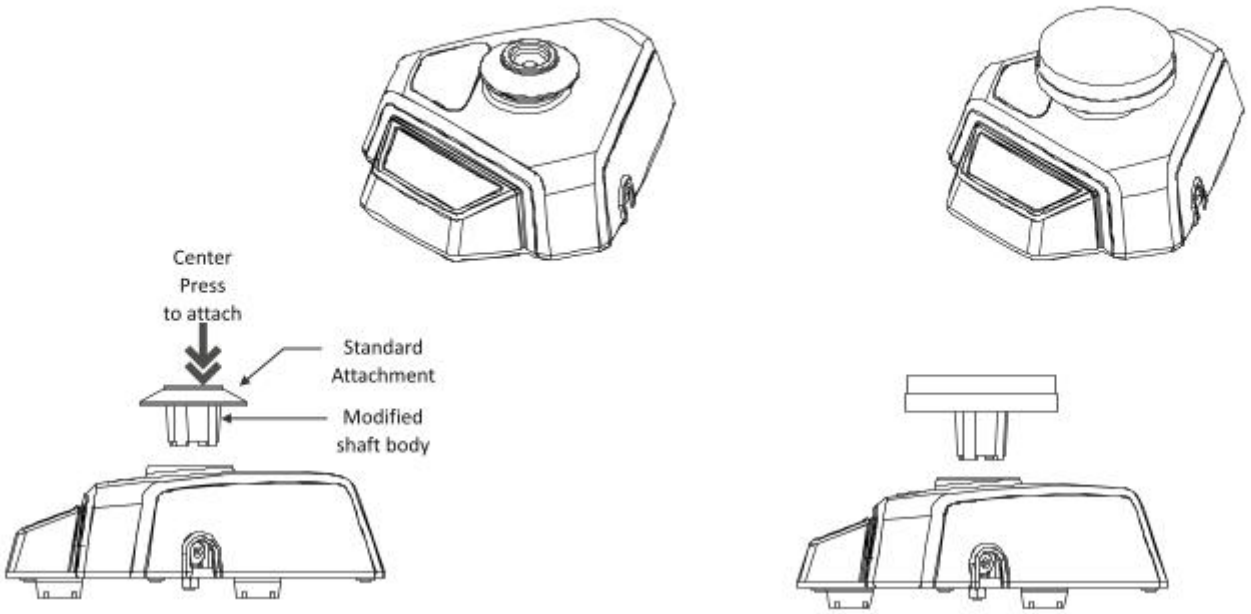
Motion	Orbital
Rotational Speed	300-3000 rpm
Rotational Speed Setting	Digital
Orbit Diameter	4 mm
Max. Load Capacity	500 gms

Operating Mode	Touch, Timer and Continuous(999 Minutes)
Standard Equipment	Standard Attachment, or Circular Attachment with foam.
Overheating Protection	Self-resetting
Permissible ambient Temp.	0 - 50 °C
Protetion Class	IP-21
Permissible Relative Humidity	80%
Designed For Continuous Use	Yes
Weight	4 Kg. aprox
Dimension (W X H X D)	200 X 225 X 110 mm
Input Power	24 V ⎓ 1.5 A
Power consumption	22 W

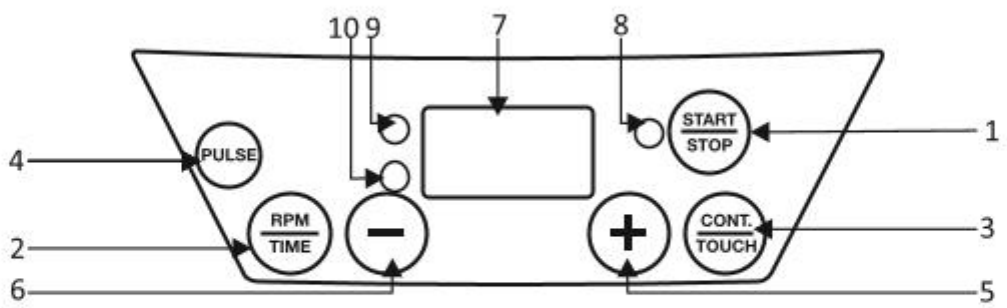
6. SAFETY PRECAUTIONS

1. Do not use the unit if it shows any sign of electrical or mechanical damage.
2. Do not use the vortex mixer in hazardous atmosphere or with hazardous material for which the unit is not designed.
3. Always use the vortex mixer on a level & stable surface for best performance and maximum safety.
4. Do not lift the vortex mixer with the attachments, as every attachment including the cup head are designed to be pulled off for interchanging.
5. Do not rotate or give full rotation to the attachments (cup head, universal attachment, etc) attached to the modified shaft body.
6. Clean the unit with a damp cloth using a mild detergent only. Do not use chemical cleaning agents.
7. If liquid is spilled on the unit, first disconnect the unit from the external (main) power supply and then clean the unit with damp cloth.
8. Do not use accessories which are not recommended by the manufacturer as it may affect the performance.
9. The instrument is designed to be used in the laboratory environment.
10. Liquid spillage may harm the unit. Do not fill microtubes, microplates or flasks while they are attached to the vortex mixer.
11. Refer to the recommended maximum speed for specific attachments for safe usage.

7. STANDARD PARTS LISTING



8. USER INTERFACE & DISPLAY



No	Name/Symbol	Function
1	START/STOP	Start/Stop button is used for the product to start working and another time press Start/Stop button are used for stop working the product
2	RPM/TIME	Press RPM/TIME to set the parameters either speed(RPM) or timer. The selected parameters will be indicated by the corresponding LEDs and the parameters can be changed using +/- buttons.
3	CONT. / TOUCH	Select the button for mixing operation either in continuous mode or in touch mode (automatically start devise when attachment is pressed)
4	PULSE	On pulse button short press machine switch to pulse mode and back to normal mode on further press. In programmable pulse mode ON time and OFF time can be modified Also RPM can be modified.
5	+	The Plus (+) Button increases the value of speed and time
6	–	The Minus (-) Button decreases the value of speed and time
7	DISPLAY	Show the RPM and Time Value will be displayed alternatively. Also show "TOCH" for Touch mode and "CONT" for Continuous mode.
8	START/STOP LED	The Start/Stop LED will glow when Start as continuous mode operation. And LED will not glow when devise is in stop condition
9	RPM LED	The RPM LED will glow when the RPM value is shown or selected
10	Time LED	The Time LED will glow when the time value is shown or selected

9. INSTALLATION & OPERATION

Open the box, open the inner packaging and gently take the vortex mixer out of the box. Before the first use ensure that all the packaging is removed and the cup head is firmly tightened before using the product. The user manual and accessories should be kept near the unit for at least two years for warranty purposes.

TOUCH Mode (Default) :

- Vortex Mixer is ON in default Touch Mode.
- When unit is in Touch Mode it will only show set RPM.
- By default it has 3000 RPM which is MAX RPM of our unit.
- User can change this RPM by Pressing RPM selection and INC/DEC key to increase/decrease RPM.
- Motor runs at SET RPM when pressing the cup head and it will reach MAX RPM within 5 second.
- TIME value can not be set in TOUCH mode as it operates only when the cup head is pressed. When released, operation stops.

CONTINUOUS Mode :

- Press Cont. button to switch to "CONT" Mode and press once again to result in "TOUCH" Mode.
- So alternate selection of "TOUCH" Mode to "CONT" Mode and "CONT" Mode to "TOUCH" Mode.
- Display shows "CONT" in continuous mode.
- Display will show the SET RPM/TIME and SET RPM/CONT alternatively.
- User can modify the speed & time by pressing RPM/TIME button,
- In continuous mode, at any time, the user can modify the speed by once pressing the RPM/TIME button and can also modify time by once again pressing the RPM/TIME button.
- User can START/STOP the unit by pressing the START/STOP button.

Start/Stop :

- The start/Stop button will operate only in "CONT" Mode.
- Once pressing the START/STOP button will result in starting the unit and once again will result in stopping unit.
- During start operation LED indicates ON, During stop operation LED indicates OFF.
- In start mode, the vortex action will start automatically (Without Pressing the cup head) at set speed and time. Set RPM/CONT & RPM/TIME in which remaining time will be displayed alternatively.
- Once again press START/STOP button devise will stop in any situation and LED indicates OFF.

RPM/TIME :

- You can set the RPM with 1st press of RPM/TIME button in CONT mode.

- RPM/TIME Display blinks and RPM LED is ON.
- Default RPM is always 3000.
- When you click the speed button you can increase and decrease the speed by {+} and {-} button. The speed value between 300-3000 RPM with 10 RPM increment/decrements with rollover.
- When you select the speed value it will blink five times and after setting RPM it will blink again 5 times it means the value has been saved in program.
- When you select RPM, display shows a previous set RPM.
- Speed accuracy- ±2%
- You can set the time with 2nd Press of RPM/TIME button in CONT mode, RPM/TIME Display blinks and TIME LED is ON.
- Default Time is][Min
- When you click the time button you can increase and decrease the time by {+} and {-} button. The time value between 1-999 minute with 1 minute increment/decrements.
- When you select the time value it will blink five times and after setting RPM it will blink again 5 times it means the value has been saved in program.
- When machine starts running time display shows remaining time (reverse countdown).
- User can also set infinite time for infinite time duration.

Increment / Decrements :

- Short press {+} and {-} buttons increases and decreases the speed or time values normally.
- Long press {+} and {-} buttons to speed up the increment or decrements speed or time values.

PULSE :

- Press pulse key to activate pulse mode.
- Programmable Pulse Mode (ON & OFF Time Stable) : Pulse mode can be activated only during continuous mode. (Pulse mode remains unfunctional in touch mode)
- Once activated, the Start/Stop LED will start blinking indicating the activation of pulse mode.
- The pulse mode timer has a last run memory, default vortex operation starts ON/OFF from last run memory. Factory setting is for 5 seconds ON/OFF.
- When pressing pulse button machine will switch in Default pulse mode.
- When pressing pulse button the machine switches to pulse mode and gives access to set ON time and OFF time.
- During display of ON time, On time value blinks 5 times and then after display OFF time value blinks 5 times. During the blink we change ON time & OFF time Using {+} and {-} buttons upto 99sec each.

- First Press of Pulse mode will result in access to set ON time and OFF time, Second press of Pulse button will result unit out from Pulse Mode enter in default touch mode .
- User can set Maximum value of ON time and OFF time 99 secs.
- Press the Start button once again to start the pulse mode operation with the modified ON & OFF time values.
- After setting the timer press start
- RPM Display shows set RPM values.
- User cannot set RPM value during run time of unit , when Pulse mode is active.

Press Activated Pulse Function :

- Press activated pulse function when user wants to select specific ON time for repeated operations activated by touch/press.
- Set the ON time as mentioned above. For OFF time, set is as Infinite.

All the parameters get saved automatically after blinking for 5 times.

Error :

- Motor stuck error shows that motor can not rotate when there is over load condition or motor can't rotate due to any reason it will display an Err 52 .
- To remove error, power of machine and start it again.

10. MAINTENANCE & CLEANING

1. Always keep the vortex mixer & its accessories in a safe storage location and clean periodically with moist cloth. After cleaning, ensure that all parts are dry before re-use
2. Ensure that while cleaning the unit is not plugged in.
3. The brushless motor in the vortex mixer requires no routine maintenance. Any required service should be performed by authorized, qualified personnel only. Repairs performed by unauthorized personnel may void the warranty.
4. Do not try to pull the vortex mixer with attached accessories.
5. Do not try to rotate the attachments attached to modify the shaft body.
6. Do not use the vortex mixer & its accessories in direct sunlight or under water.

11. WARRANTY STATEMENT

This products 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 buyer and its 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.

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.

Products received without proper authorization will not be entertained. All items returned for service should be sent postage prepaid in the original packaging or other suitable carton, padded to avoid damage. We will not be responsible for damage incurred by improper packaging.

All items returned for service should be set postage prepaid in the original packaging or other suitable carton, added to avoid damage.

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

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

12. 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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