USER GUIDE

AHN myLab® Vortex Mixer 2800 RPM | 4200 RPM

AHN

Distributed by AKRIBIS



Digital Vortex Mixer 4200 rpm

AHN myLab VT-03



Instruction Manual

TABLE OF CONTENTS

1. Product Description..... 1
1.1 Introduction
1.2 Intended Use
1.3 Features
1.4 Technical Specifications
1.5 Accessories
2. Safety Precautions..... 2
3. Installation..... 3
3.1 Location
3.2 Connecting Power Adaptor
4. Standard Parts Listing..... 4
5. User Interface and Display..... 5
6. Optional Attachments & Their Installation.... 6
7. Operation.....10
7.1 Connecting Power Adaptor
7.2 Setting Speed and Time
7.3 Standby, Touch & Continuous Mode
7.4 Touch Mode Operation
7.5 Continuous Mode Operation
7.6 Pulse Mode
8. Maintenance and Cleaning..... 15
9. Warranty Statement..... 15
10. Product Disposal..... 17

1. PRODUCT DESCRIPTION

1.1 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.

1.2 INTENDED USE

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

1.3 FEATURES

1. Continuous / touch operation
2. Adjustable speed ranging from 300 to 4200 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
8. Programmable pulse mode
9. Press activated pulse function
10. Robust construction for stable operation
11. Silent operation
12. Universal power supply
13. Broad range of accessories available

MYCRO www.labfinder.com sales@labfinder.com

1.4 TECHNICAL SPECIFICATIONS

Motor	Brushless DC Motor
Orbital Diameter	4 mm
Speed	Variable 300 - 4200 RPM
Run Time & Modes	1 minute to 999 mins & infinite mode
Speed Accuracy	± 10 RPM
Maximum Load Capacity	500 gm
Different modes	Continuous & Touch mode
IP Rating	IP21
Ambient Temperature	5 - 40 °C
Permissible relative humidity	≤80%
Dimensions (W x D x H)	206 x 138 x 144 mm
Weight	2.8 Kg
Power Adapter Detail	Input: 100-240 VAC, 50/60Hz Output: 24V⎓ 1.5A
Power Consumption	20 W
Altitude	Use upto an altitude of 2000 m above MSL
Pollution Degree	2
Environment	For indoor use only

1.5 ACCESSORIES

2. Standard cup head (pre-installed), Rubber disk attachment

3. Universal attachments plus microplate, Round disk attachment, microtube foam & Flask rubber attachments (optional) 4. Product user manual & warranty card, 5. Power adapter

2. SAFETY PRECAUTIONS

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

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.

AKRIBIS · www.akribis.info · contacto@akribis.info

3. Always use the vortex mixer on a level & stable surface for best performance and maximum safety.
4. Do not the lift 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 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 this may affect 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. (Refer table on page: 7)

3. INSTALLATION

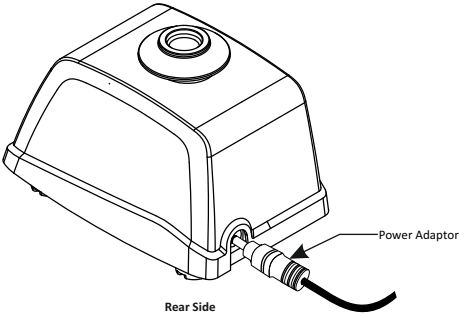
Open the box, open the inner packaging and gently take the vortex mixer out of the box.Before the first use ensure that all the packaging is removed and the cup head is firmly tightened before using the product. The user manual and accessories should be kept near the unit for at least two years for warranty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

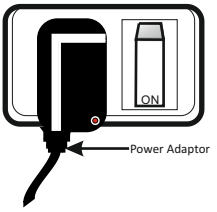
AKRIBIS · www.akribis.info · contacto@akribis.info

3.1 LOCATION

Take the unit out and place it on the leveled & stable surface near the grounded electrical outlet. The surface should be clean and free from dust to ensure that the feet grip the surface firmly. Keep a clearance of 10 cm on all sides of the unit for proper ventilation.Keep the unit away from heat & direct sunlight to avoid sample temperature issues.

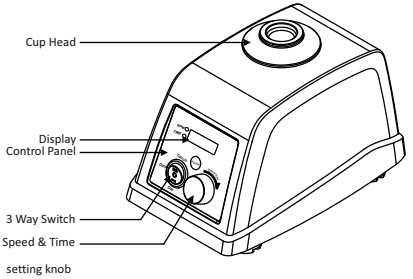
3.2 CONNECTING THE POWER ADAPTOR

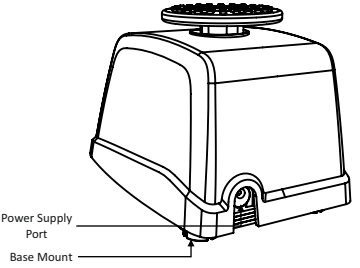




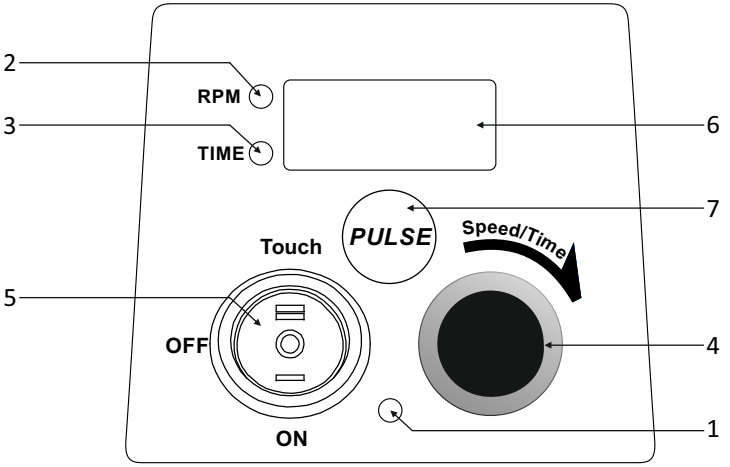
Connect one end of the power adaptor pin to the rear side of the unit and another end to main supply as shown in the above figure. Make sure that the main switch is not switched “ON” until the adaptor is connected to both sides.

4. STANDARD PART LISTING





5. USER INTERFACE & DISPLAY



No.	Name/Symbol	Function
1	Power LED	The power led shows the status of mains power. Glow - power connected, No Glow - power disconnected
2	Speed LED	The speed LED will glow when the speed value is shown or selected.
3	Time LED	The Time LED will glow when the time value is shown or selected.
4	Speed & Time Setting Knob	Press the knob to toggle between speed & time selection mode. Rotate clockwise to increase & counter clockwise to decrease speed & time value.
5	3 way Switch (Mode Selection)	The rocker switch is used to select different mode in the vortex mixer. The modes are “OFF” (stand by), Continuous and Touch operation.
6	Display	The digital Display shows speed value, time value and pulse parameters.
7	Pulse	The pulse button is activated only on continuous mode. In pulse mode, power LED will start blinking giving indication of activated pulse mode. In Pulse mode user can set ON & OFF time of vortex action as per their need.

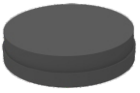
AKRIBIS · www.akribis.info · contact@akribis.info

6. OPTIONAL ATTACHMENTS & THEIR INSTALLATION

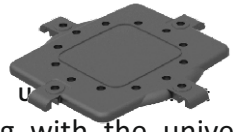
The standard attachment is normally used for vortexing samples in tubes. The vortex mixer can accommodate optional attachments when combined with the optional universal attachment. Optional attachments include the universal attachment, which can combine with other foam attachments and can be used for mixing samples in microplates, microtubes & flasks.



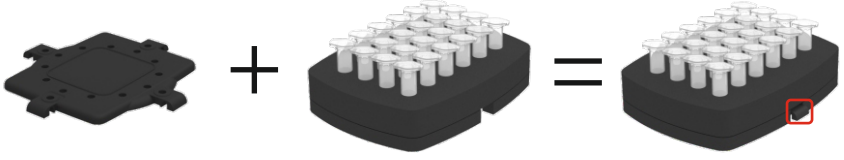
Standard Attachment



Optional Attachment



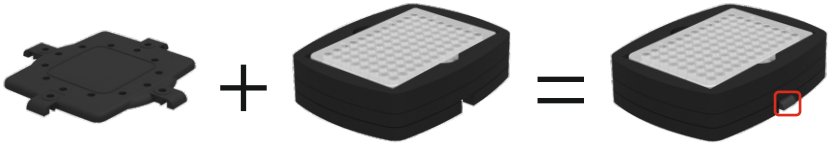
The below additional foam attachments along with the universal attachment can be used for mixing samples in microplates & microtubes (1.5/2.0ml). First, attach the universal attachment, place the tubes in the foam sheet & then combine it with the universal attachment.



Universal Attachment

24 Tubes Foam attachment

Note: The 24-tube foam attachment can operate at a maximum speed of 700 RPM with no more than 75% filling of the sample. Do not fill the tubes while they are in the foam attachment, as liquid spillage might harm the attachment or unit.



Universal Attachment

Microplate Foam attachment

Note: The microplate foam rubber attachment can operate at a maximum speed of 700 RPM with no more than 75% filling of the microplate. Do not fill the microplate while it is in the foam rubber attachment, as liquid spillage might harm the attachment or the unit.

The below additional rubber attachments, when in combination with the universal attachment, can be used for mixing samples in 250ml flask.

First, always attach the universal attachment, then place the flask on the universal attachment & tighten it with the rubber attachment firmly, as shown in the figure below.

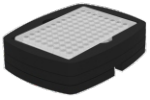


Universal Attachment Flexible Rubber Attachment

To tighten the flask, place the rubber attachment as shown in the figure above and lock it with the universal attachment by stretching the rubber attachment.

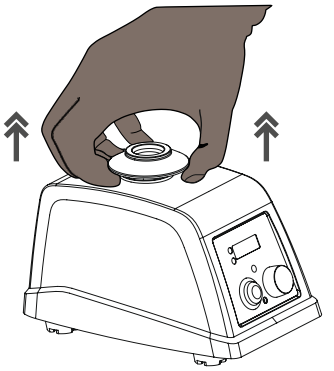
Note: The 250ml flask used with this rubber attachment can be operated at a maximum speed of 400 RPM with no more than 250ml of sample. Care must be taken while attaching or filling the flask with the sample to avoid liquid spillage, which may cause damage to the user or unit.

Max. Recommended Speed Table

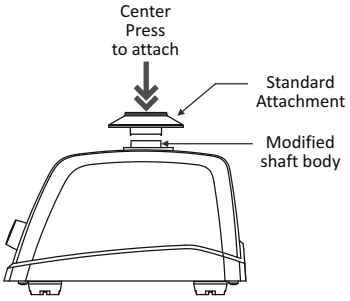
Attachments	Image	Max. Fill	Max. Recommended Speed
Microtubes Foam Attachment		75%	700 RPM
Microplate Foam Attachment		75%	700 RPM
Flask Rubber Attachment		250ml	400 RPM

To remove the standard attachment, pull the standard attachment up with one hand as shown in the figure below. To attach, place the standard attachment on the modified shaft body & center press the attachment as shown in the figure below, until it snaps in place.

AKRIBIS · www.akribis.info · contacts@akribis.info



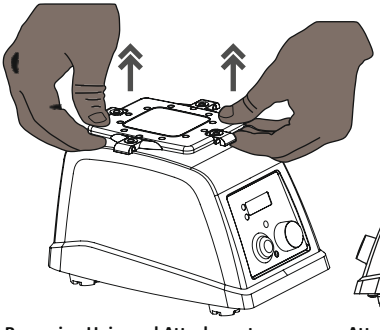
Removing Standard Attachment



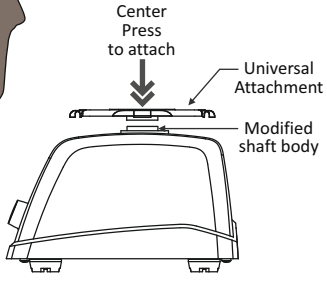
Attaching Standard Attachment

Note: Do not rotate the universal attachment or any attachments attached to the modified shaft body.

To remove the universal attachment, pull the universal attachment up with both hands as shown in the figure below. To attach, place the universal attachment on themodified body shaft & center press the attachment as shown in the figure below until it snaps into place. Ensure that it is attached firmly with the modified shaft body.



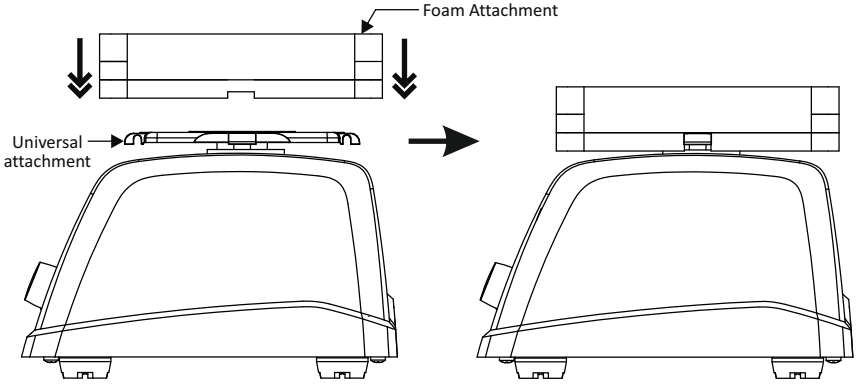
Removing Universal Attachment



Attaching Universal Attachment

Note: Do not rotate standard attachment or any attachments attached to the modified shaft body.

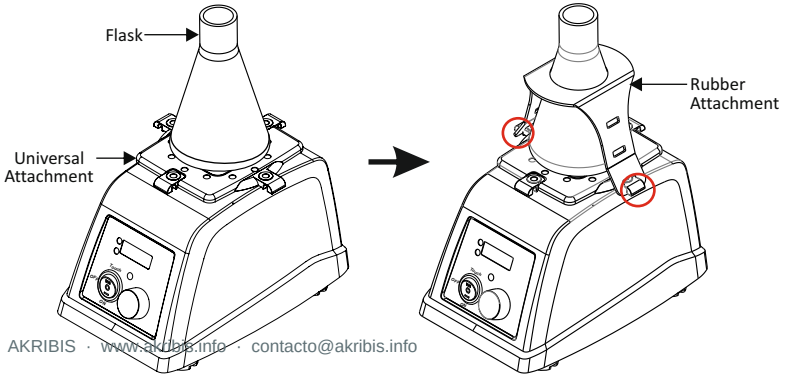
To attach the microtube or microplate foam attachment, first install the universal attachment then place the foam attachment as shown in the image below. Ensure that foam attachment is securely placed on the universal platform.



Place the microplate or microtubes first in the foam attachment and then place the foam attachment on the universal attachment attached to the vortex mixer.

Inserting filled microplate or microtubes in the foam attachment attached to vortex mixer, can lead to spillage of samples.

To attach the flask, first attach the universal attachment then place the flask on it and then tighten / lock with the rubber attachment. Ensure that it is securely placed on the universal platform.

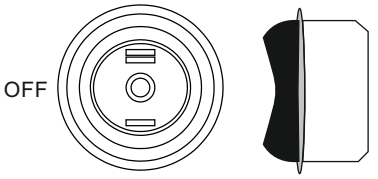


AKRIBIS · www.akribis.info · contacto@akribis.info

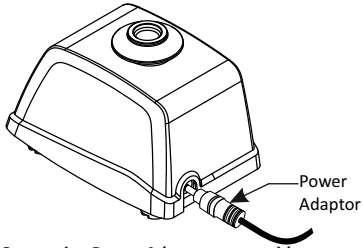
7. OPERATION

7.1 CONNECTING THE POWER ADAPTOR

Always connect the power adaptor to the unit first & then to the adaptor port. Before connecting to both ends, ensure that the vortex mixer is in STANDBY mode and the cup head (attachment) is firmly tightened with the modified shaft body. Below is the image showing the STANDBY mode of the vortex mixer.



Standby mode

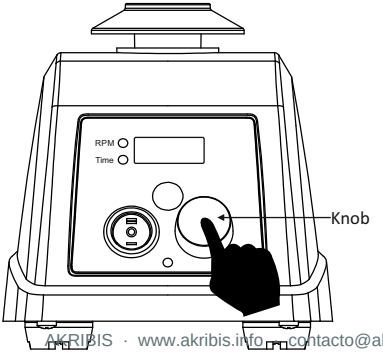


Connecting Power Adaptor at rear side

Connect the power adaptor at the rear side of the vortex mixer as shown in the above image.

7.2 SETTING SPEED AND TIME

Always set the required speed and time first before doing any mixing operation. Rotate the knob to select and set the speed value. By default, speed will be selected every time the knob rotates. LED adjacent to "RPM" will glow while setting speed. The minimum and maximum speed of the vortex mixer is 300 RPM and 4200 RPM respectively.

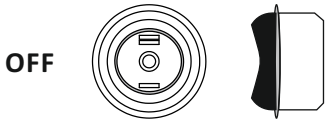


To activate the timer, press the knob once and the LED adjacent to "Time" will glow. Rotate the knob clockwise to increase value & counter-clockwise to decrease value. The timer can be set from 1 min to 999 mins and a continuous/infinite mode. Infinite time mode is shown by symbol '∞'.

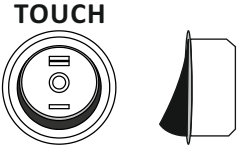
AKRIBIS · www.akribis.info · contacto@akribis.info

7.3 STANDBY, TOUCH & CONTINUOUS MODE

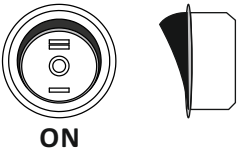
Placing the 3-way switch in the STANDBY position will keep the vortex mixer in an OFF state i.e. it will not operate as TOUCH or CONTINUOUS mode. Below is the position of the 3 way switch showing the vortex mixer is in STANDBY mode. It is recommended to use STANDBY mode while replacing attachments or when not in use. It is recommended to used STANDBY mode while setting operation parameters



Press the 3-way switch up towards the “Touch ” side to enable the TOUCH mode. The TOUCH mode is generally used with the standard attachment. In TOUCH mode, vortex action will start only when the cup head is pressed. Below is the position of the 3 way switch showing the vortex mixer is in TOUCH mode.



Press the 3-way switch down towards the “ON” side to enable the CONTINUOUS mode. In CONTINUOUS mode, the vortex action will start automatically (without pressing cup head) at the set speed and time. Below is the position of the rocker switch showing the vortex mixer in CONTINUOUS mode.



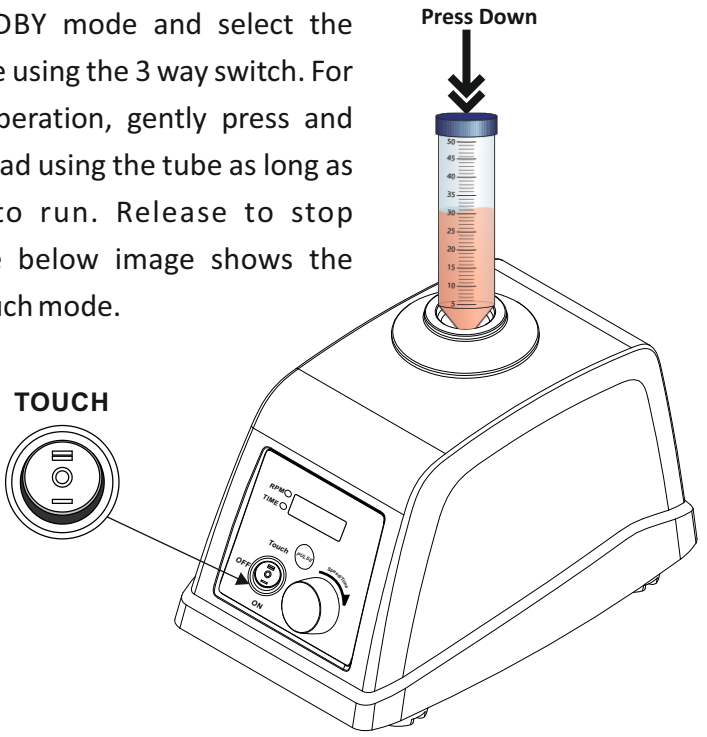
Note:

1) CONTINUOUS mode is generally used with attachments (refer chart on page7).
2) STANDBY mode is generally used while setting parameters or when not in use.

ARMED Innovations Pvt. Ltd. sales@armedin.com

7.4 TOUCH MODE OPERATION

Before operating, check that the upper cup head is firmly tightened to the modified shaft body. Set the required speed using the knob in STANDBY mode and select the "TOUCH" mode using the 3 way switch. For touch mode operation, gently press and hold the cup head using the tube as long as you want it to run. Release to stop operation. The below image shows the operation in touch mode.



Note: "Time" value cannot be set in "TOUCH" mode as it operates only when the cup head is pressed. On release, operation stops.

7.5 CONTINUOUS MODE OPERATION

Before operation, keep the vortex mixer in standby mode and set the operation parameters. Check the attachment you are using is firmly tightened with the modified shaft. Select the "ON" mode to start continuous mode operation. The speed value will blink for 3 seconds giving indication of set speed.

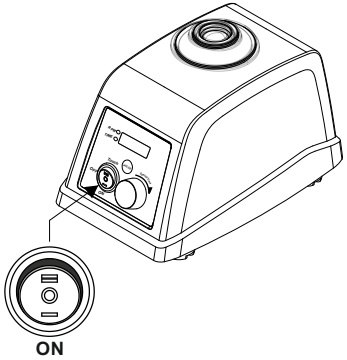
In Continuous mode, the vortex action will start automatically (without

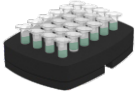
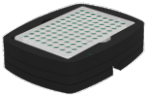
Machines Now and Ready Ltd. Contact@xrmachine

pressing the cup head) at set speed and time. In continuous mode, set RPM & remaining time will be displayed alternatively.

In continuous mode, at any time, the user can modify the speed by rotating the knob and can also modify time by pressing the knob once then rotating it.

For the universal attachment , make sure to fill the liquid or samples before placing the attachments (microtubes foam / microplate Foam / Flask rubber attachment) on vortex mixer.



Max. Recommended Speed for different Optional Attachments in Continuous Mode			
Attachments	**Image**	**Max. Fill**	**Max. Recommended Speed**
Microtubes Foam Attachment		75%	700 RPM
Microplate Foam Attachment		75%	700 RPM
Flask Rubber Attachment		250ml	400 RPM

7.6 PULSE MODE

The pulse mode is used for intermittent shaking. In this mode the shaking action works on run-stop-run mode. This vortex mixer comes with default pulse mode and user programmable pulse mode. In default pulse mode, the ON & OFF time are pre-set for 5 seconds each and in

the programmable pulse mode, the user can set the ON time & OFF time as per requirement.

7.6.1 DEFAULT PULSE (ON & OFF Time Stable)

Pulse mode can be activated in the continuous mode only. To activate pulse mode, press the pulse button under continuous mode. Once activated, the power LED with start blinking indicating the activation of pulse mode. In default Pulse mode, vortex operation remains ON for 5 seconds and OFF for 5 seconds.

7.6.2 PROGRAMMING PULSE (Setting ON & OFF Time)

This vortex has a programmable pulse mode in which ON time & OFF time can be modified. In this mode, users can select ON time & OFF time alternatively under continuous mode. Below is the step by step process to use this feature:-

1. Activate pulse mode by pressing pulse button. Once activated, power ON LED will start blinking. **2.** Press the knob to select the ON time and rotate to modify ON time value. When the ON time is set, press the knob again to select the OFF time and rotate to modify the OFF time value. **3.** Press the knob once again to start the pulse mode operation with the modified ON & OFF time values. The user can set the ON & OFF time between 1 sec to 99 secs.

7.6.3 PRESS ACTIVATED PULSE FUNCTION

The press activated pulse function is used when the user wants to select a specific ON time for repeat operations activated by touch/press. Set the ON time as mentioned above. For OFF time, set it as infinite ∞.

For example: 10 similar samples require vortex action at X speed for 8 seconds. So, set 8 seconds ON time and infinite (∞) OFF time under user programmable pulse mode. Once the 8 seconds for one sample is over, take another sample, press & hold cup head to start another 8 seconds

AKRIBIS · www.akribis.info · contacto@akribis.info

of vortex action. Follow this process for all 10 similar samples.

Note:

1) To reset or modify the pulse time value, restart the pulse mode (i.e. turn off & turn ON).
2) It is recommended to used the pulse mode with the standard attachment.
3) Default and programmable pulse mode can be used with the universal attachment only if the maximum speed of universal attachment is taken into consideration to avoid spillage.
4) It is not advisable to use the press activated pulse mode with the universal attachment.

8. 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.

9. WARRANTY STATEMENT

This product is warranted to be free from defects in material and workmanship. Your product will be duly repaired upon prompt

AKRIBIS · www.akribis.info · contacto@akribis.info

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 product or damages caused by its use. The buyer and its customer shall be responsible for the product or use of product as well as any supervision required for safety. If requested, the product 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 details regarding the warranty period, please refer to the warranty card provided with the product.

AKRIBIS - www.akbis.info - contato@akribis.info

10. 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.

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

AKRIBIS · www.akribis.info · contacto@akribis.info

AHN Biotechnologie GmbH
Uthleber Weg 14
D-99734 Nordhausen
Germany

Phone: +49(0)3631/65242-0
Fax: +49(0)3631/65242-90

E-Mail: info@ahn-bio.com
www.ahn-bio.com

AKRIBIS · www.akribis.info · contacto@akribis.info

© 2020 AHN Biotechnologie GmbH

0201-97-0000-02-003-R5