- 2. Load the rotor symmetrically to avoid accidents and damage to the centrifuge.
- 3. Close the lid & start centrifugation. Operator should make sure all the set parameter performing properly through out centrifugation.
- 4. Once the centrifugation is completed, press stop key to gradually stop the rotor.
- 5. After the rotor has stopped, automatically opens the lid simply lift the lid back on the hinge.
- 6. If you want to stop the centrifuge quickly, press stop button and the rotor will stop within a few seconds.

In the following pages the routine centrifuge operation procedures are explained in brief.

## 10. MAINTENANCE AND CLEANING

This personal centrifuge and its rotor should be cleaned periodically & ensure that while cleaning the unit is not plugged in to the main power supply. To clean the personal Centrifuge, use a damp cloth and a mild, noncorrosive detergent. Do not immerse the centrifuge in liquid or pour liquids over it. Excessive amounts of liquid should be avoided, Liquid should not come into contact with the motor. After cleaning, ensure all parts are dried thoroughly before attempting to operate the unit.

Should a spill of infectious materials occur within the rotor or rotor chamber, the unit should be disinfected. This should be performed by qualified personnel with proper protective equipment. Do not use any cleaning or decontamination methods except those recommended by the manufacturer, check with the manufacturer that the proposed method will not damage the equipment.

## 11. 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 merchantability or of fitness for any intended purpose and that there are no other remedies or warranties, expressed or 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

#### 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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# **NEUATION**



# **iFUGE M5K COMBI**

**PRODUCT USER MANUAL** 

#### 1. INTRODUCTION

This Micro Centrifuge offers versatility, simplicity, safety, and ease of usage in a single package. This product has been designed after studying centrifuges and its usage in numerous scenarios of the lab environment.

This Micro centrifuge is specially suitable for microfiltration, cell separations, centrifugal tube sedimentation, and spin down applications. Please read this manual thoroughly before operating the centrifuge.

## 2. INTENDED USE

This combi mini centrifuge is designed to separate, sediment, spin down aqueous solutions & solvent suspensions of differing densities in compatible sample containers.

**NOTE:** Before using the centrifuge, please read this user manual carefully. This user manual is intended to assist with the operation and care of the unit & is not a document which aids in repair. For repair please contact the supplier.

# 3. FEATURES

- Combi rotor with 12 x 1.5 / 2 ml MCT+ 4 x 8x0.2 ml PCR strip
- Electronic safety brake on lid opening for user safety
- Starts and stops in seconds
- Smooth and silent, discreet running
- Small footprint can be fit in hoods & small work places
- Low voltage power consuming device

# 4. STANDARD ACCESSORIES

- Combi rotor with 12 x 1.5 / 2 ml MCT + 4 x 8x0.2 ml PCR strip
- Product User Manual, Warranty Card and Declaration Conformity
- Power adapter

## 5. TECHNICAL SPECIFICATIONS

Motor Type	Brush DC motor		
Rotor Capacity	12 x 1.5 / 2 ml MCT & 4 x 8x0.2 ml PCR strip		
Speed	5500 RPM 2084 x g (Max RCF)		
Acceleration Time	10±3 seconds		
Deceleration Time	05 seconds		
Time	Infinite mode		
Size (w X D X H)	270 x 190 x 120 mm		
Weight	2.1 kgs (with rotor)		
Power Adapter Detail	Input: 100-240VAC, 50/60Hz Output: 24V		
Power Consumption	11.5 W		

Permissible Relative Humidity	≤80%			
Ambient Temperature	5-40°C.			
Altitude	Use upto an altitude of 2000 m above MSL			
Pollution Degree	2			
Environment	For indoor use only			

# 6. SAFETY PRECAUTIONS



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

The personal micro centrifuge is designed to be safe under the following conditions when operated with necessary precautions mentioned below:

- Indoor use only along with ambient temperature of 4°C to 45°C.
- Main supply voltage fluctuations not to exceed +/- 10% of the nominal voltage.
- Position at least 20 cm from walls, 20 cm from ceiling and 20 cm between other products. Do not keep any hazardous materials within this CLEARING ENVELOPE and do not stay longer without operational reasons
- Make sure to always install the centrifuge on stable flat surfaces only & place it near the electrical outlet.
- Always load the rotor symmetrically. Each tube should be counterbalanced by another tube.
- Make sure to always use only specified micro centrifuge tubes made from plastic and designed to withstand centrifugal forces of at least 2000 g.
- Do not operate the centrifuge without the rotor being properly attached to the shaft. Re-check by trying to pull it up manually, especially after the rotor has been changed or re-assembled.
- Do not move the centrifuge neither lean on while it's under operation.
- Do not fill the tubes while they are in the rotor. Liquid spillage may harm the unit.
- Do not put hands in the rotor chamber unless the rotor has completely stopped.
- Do not centrifuge flammable, explosive or corrosive materials.
- Do not use solvents or flammable media near this or other electrical equipment.
- In case the unit is dropped from the table, please check the casing for any cracks/damage.
- The centrifuge and its components are non autoclavable.
- Do not use the centrifuge in any manner not specified in these instructions.

# 7. INSTALLATION





This micro centrifuge is supplied in a packaging box. Open the box, then gently remove the centrifuge from the box and plug in the power adaptor pin before connecting to the main power source. The instruction manual and the accessories should be kept with the centrifuge. Please keep all packaging in safe storage for at least 2 years for warranty purposes.

Make sure the rotor is tight to avoid any accident. Load the rotor with the micro tubes for centrifugation. Place the ON/OFF switch to "o" front and close the lid to start centrifugation.

For more clarification refer to the RCF chart below:-

RCF Chart (Fixed)							
RPM		PCR strip/tube					
	0.2ml	0.5ml	1.5ml	2ml	0.2ml		
3000	441	514	592	620	569		
4500	992	1157	1332	1395	1280		
5500	1481	1728	1990	2084	1910		

## 8. ROTOR BALANCING

1. Always balance the rotor before centrifugation. The following are symmetrical loadings and unsymmetrical loadings of centrifuge tubes to the rotor.





Symmetrical

Unsymmetrical

- 2. Ensure that the samples in the tubes are of equal volume.
- Symmetrical loading of tubes in the rotor is necessary, otherwise vibration can occur which can cause serious damage to the centrifuge.

# 9. OPERATION

To operate the micro centrifuge, the below steps should be followed:

1. Connect the power adaptor & Switch 'On' from the front side.