



Model YR05005
Multi-tube Vortex
Instruction Manual

Thank you very much for purchasing our Model YR05005 Multi-tube Vortex

Please read the “Operating Instructions” and “Warranty” before operating this unit to assure proper operation. After reading these documents, be sure to store them securely together with the “Warranty” at a hand place for future reference.



Warning: Before operating the unit, be sure to read carefully and fully understand important warnings in the operating instructions.



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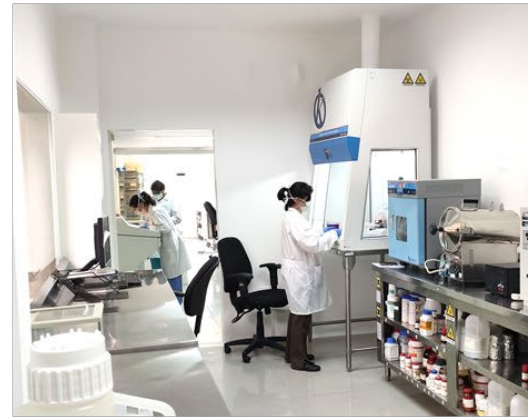
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Quick Response

Our work team is always available to response all your consults or questions, in order to support you in any situation.



#Letsgivemore

Thanks to your purchase, a donation will be made to a non-profit foundation that fights against breast cancer and helps most vulnerable communities.



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Enjoy of personalized advice for the correct preventive and corrective maintenance of your equipment, thanks to Kalstein's manuals and articles, special catalogues and video tutorials.



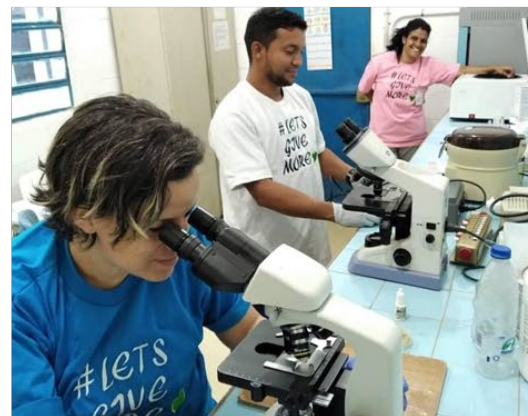
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With more than 25 years growing with our customers, Kalstein's multiformat and modern content, is now present in more than 10 countries and increasing.





Foreword

Thank you for purchasing our Products: Multi-Tube Vortexer. This Manual for users contains function and operation of the Instrument. In order to use the instrument properly, please read this manual carefully before using the Instrument.

Opening Check

Please check the Instrument and Appendix with the packing list when you first open the instrument packing case. If you find there is something wrong with the Instrument and the Appendix, do contact the vendor or the producer.



Safety Warnings and Guidelines

1. Important operation information of the security:

Before the users' operation, they should have a perfect conception of how to use the Instrument. Therefore, read this Manual carefully before using it.



Operation before reading the Manual is forbidden. Read the guidelines and directions below and carry out the countermeasure according to them.

2. Security:

The operation, maintenance and repair of the Instrument should comply with the basic guidelines and the remarked warning below. If you don't comply with them, it will have effect on the scheduled using life of the Instrument and the protection provided.



This product is a normal and an indoor Instrument which conforms to Standard B style- I type- GB9706.1.



Before using the device, read the Manual carefully. These units are designed for use in laboratory environments. The device must be used by skilled personnel with the appropriate training.



The operator should not open or repair the Instrument by himself, which will result in losing the qualification of repair guarantee or occur accident. If there is some wrong with the Instrument, the company will



A.C. power's grounding should be reliable to safeguard against an electric shock. The 3-pin plug supplied with thermo-shaker's power cable is a safety device that should be matched with a suitable grounded socket.



Before power on, guarantee the voltage used should be accordant to the voltage needed, and the rated load of electrical outlet should not lower than the demand. If the electric line is damaged, you should replace it with the same type. You should assure there's nothing on the electric line and you should not put the electric line in the ambulatory place. Hold the jack when you pull out the electric line, and don't pull the electric line.



Power off when you finish your work. Pull off the connector plug when there's long time no use of the Instrument and cover it with a cloth or plastic paper to prevent from dust.



Pull the connector plug from the jack at once in the following cases, and contact the vendor:

- There is some liquid flowing into the Instrument;
- Drenched or fire burned.
- Abnormal operation: such as abnormal sound or smell.
- Instrument dropping or outer shell damaged.
- The function has obviously changed.

3. The maintenance of Instrument

The platform and clamp should be cleaned by the cloth stained with a little alcohol. If there are smudges on the Instrument, clean them by soft cloth stained with cleaning cream.



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Chapter 1 Introduction

The Multitube Vortexer is designed for mechanical and chemical cell lysis, mixing suspensions, and general sample agitation. This vortex mixer gives a distinctly different motion than shaking a sample. With vortexing, greater shearing forces are placed on materials in the bottom of a tube, thus promoting either disruption or solubility.

The multi-tube vortex mixer is a tool to provide that extra degree of mixing, however it accommodates full racks of tubes or microwell plates as opposed to single tubes. Consequently, this unit is useful for higher throughput mixing of samples.

Features

- LCD display, it is easy to setup and use.
- Procedure restored function; when it power-down suddenly and then re-power-on, the device can return to the set procedure automatically.
- Timing function. It can be set mixing time within 00:00~99:59h, display window shows the remnant time to do timing.
- Brushless motor with precise speed, long-lifetime, and without maintenance



Chapter 2 Specifications

1. The normal operating condition: Ambient temperature : 4°C ~ 45°C The relative humidity: ≤70%
Power supply: AC100-230V 1.5A

2. The basic parameters and function

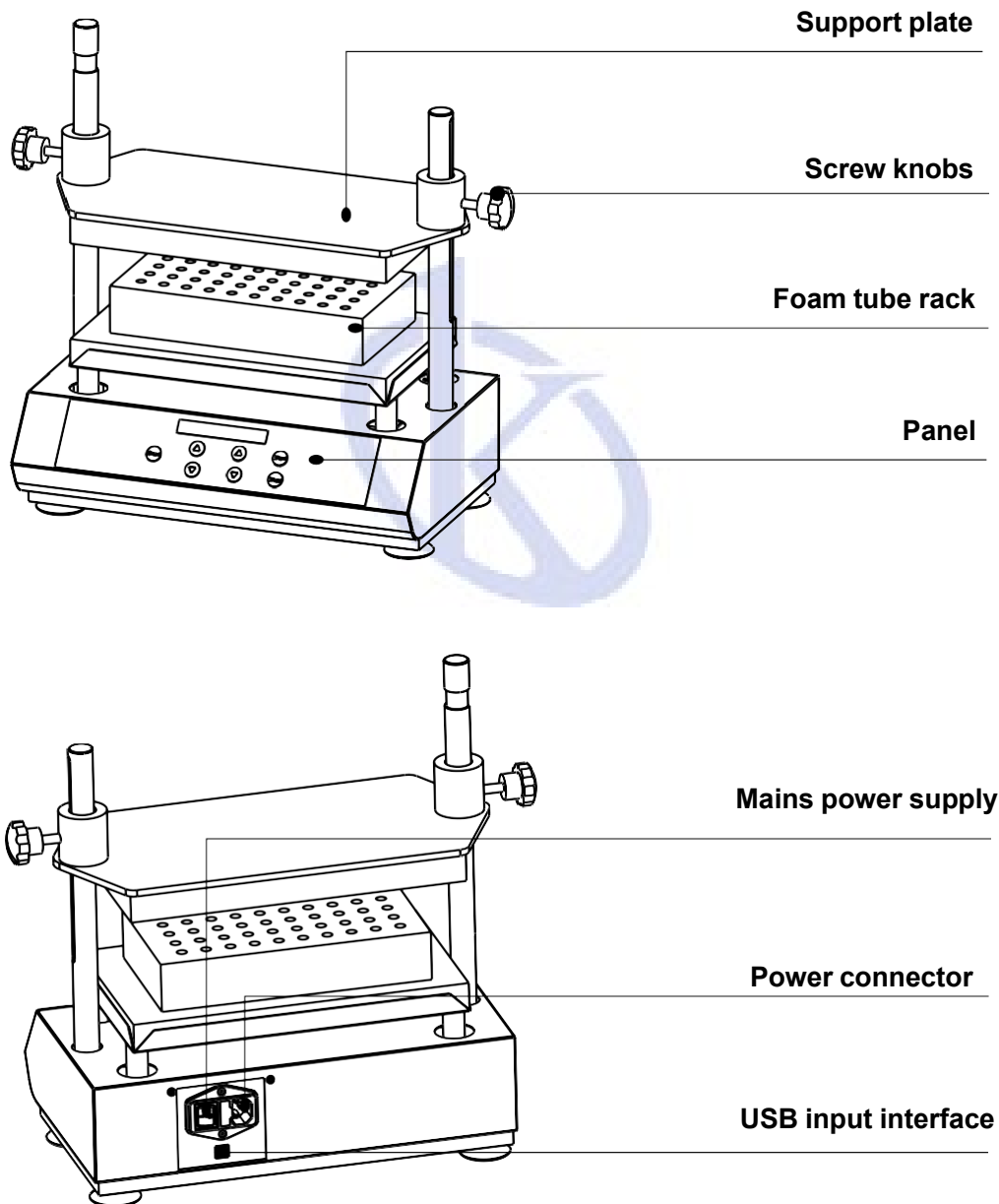
Parameter \ Model	YR05005
Speed	500~2500rpm
Orbit	4mm
Time setting	1min ~ 99h59min
Max. load	5kg
Input power	60W
Outer dimension(mm)	240×420×430
Weight(kg)	14



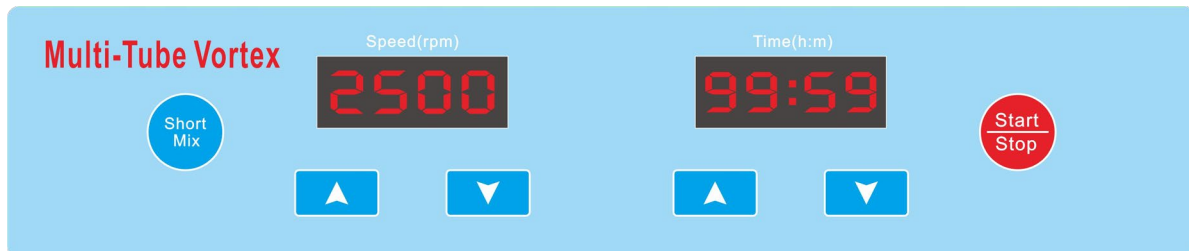
Chapter 3 Preparations

This chapter introduces Multi-Tube Vortexer's mechanical structure and the central panel's functions and some preparations before power-on. You should be familiar with this chapter before the Multi-Tube Vortexer is first operated.

1. Structure Description



2. Keyboard and Display panel



Short mix key: the machine mixes in the highest speed by pressing this key continuously, and will stop running when leaving go of it.



Start key, short pressing this key to start the procedure



Stop key, short pressing this key to start the procedure



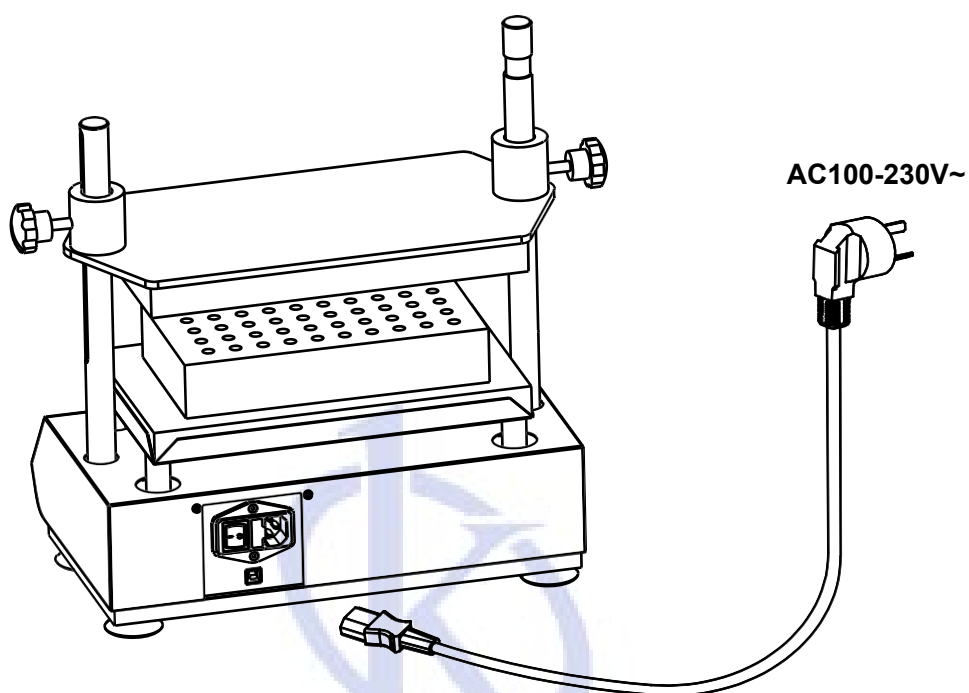
Increasing key for speed and time, it can setup speed and time



Decreasing key for speed and time, it can setup speed and time

3. Power connection

Place the Multi-Tube Vortexer on a level bench or table. Plug the extend power supply unit into the socket at the rear side of the machine. The external power supply unit (power adapter AC100-230V) ensures the external safety of the unit.



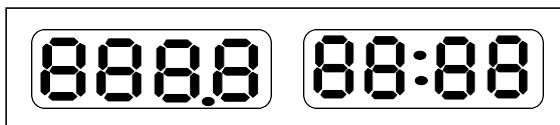
4. Exchangeable Tube Foam Rack

Type	Parameter	Tube Capacity	Dimension (mm)
STV-B01	10mm	50	245X132X45
STV-B02	12mm	50	245X132X45
STV-B03	13mm	50	245X132X45
STV-B04	16mm/15ml	50	245X132X45
STV-B05	25mm	15	245X132X45
STV-B06	29mm/50ml	15	245X132X45
STV-B00	Replacement traypad set	/	305X178.5X25

Chapter 4 Operation Guide

1. Shaking speed and timing setting

- a) When the instrument powers on, display screen will show “8” one by one with the sound of “du...”. The instrument goes into the initial state after it flicks one times.



- b) After about 2s later, time display window shows 9:30 as the set timing time. It means that the timing time is 9 hours and 30 minutes. The speed display window shows 2000. It means the set shaking speed is 2000rpm.



- c) Press speed's “□” or “□” key, tens digits of set value will increase or decrease, and also increase or decrease in hundred digits and thousand digits. For instance, press the key and hold on for 2s, the digits will be moved from tens to hundreds, increasing the alteration range.





- d) Press time's "□" or "□" key, units will increase or decrease, and also increase or decrease in tens, hundreds and thousands. For instance, press the key and hold on for 2s, the digits will be moved from units to tens, increasing the alteration range. If you press the key for 2s again, the digits will be moved from tens to hundreds quickly.

2000 rpm  09:30 h/m

- e) If you want to set speed 2400rpm and timing 2hours, press Speed's "□" key, and the set value will be increase to 2400rpm. Keep off the key, the device will save the value automatically. Then press time's "□" key, the set value will be decreased to 02:00; keep off the key, the device will save value automatically. In this way, the speed and time are set. Press the key "start", the device will run in 2400rpm and 2hours timing.

2400 rpm  09:30 h/m

2400 rpm  02:00 h/m

Chapter 5 Failure analysis and handling

Failure analysis and processing procedures

No.	Phenomenon	Cause	Remedy
1	No display	No power	Check the connection of power
		Switch Failure	Exchange the switch
		Others	Contact the seller
2	Shaking too big	Mixing samples are placed asymmetrically	Place the mixing samples symmetrically
3	The actual speed is different from the displayed speed	Failure in control board	Contact the seller
4	"ERR" in the display	Shaking speed is out of control	Contact the seller
5	Press invalid	Press-key failure	Contact the seller