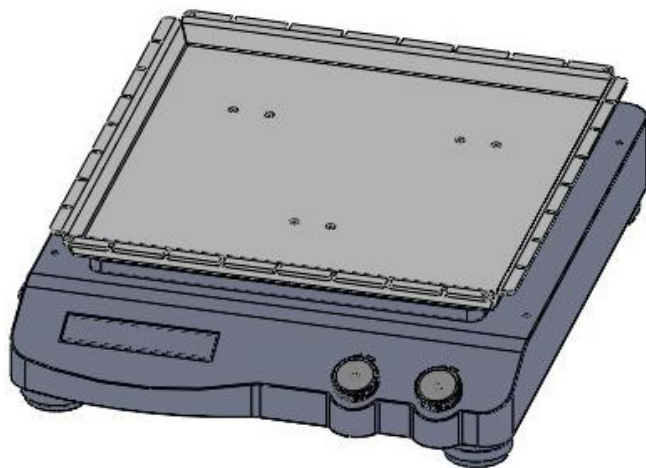


Fixed Top LCD Digital Orbital Shaker

User Manual



Please read the User Manual carefully before use, and follow all operating and safety instructions!

Technical specifications and outline are subject to change without prior notice.

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Preface

Welcome to the “Rocking Shaker & 3D Shaker User Manual”. Users should read this manual carefully, follow the instructions and procedures, and beware of all the cautions when using this instrument.

Service

When help needed, you can always contact the service department of manufacturer for technical support in the following ways:

Please provide the customer care representative with the following information:



- Serial number (on the rear panel)
- Certification
- Description of problem (i.e., hardware or software)
- Methods and procedures adopted to resolve the problems
- Your contact information

Warranty

This instrument is warranted to be free from defects in materials and workmanship under normal use and service, for a period of 24 months from the date of invoice. The warranty is extended only to the original purchaser. It shall not apply to any product or parts which have been damaged on account of improper installation, improper connections, misuse, accident or abnormal conditions of operation.

For claims under the warranty please contact your local supplier. You may also send the instrument directly to manufacturer, enclosing the invoice copy and by giving reasons for the claim.

1. Safety Instructions

	<p>Warning!</p> <ul style="list-style-type: none"> • Read the operating instructions carefully before use. • Ensure that only trained staff works with the instrument.
	<p>Protective ground contact !</p> <ul style="list-style-type: none"> • Ensure the socket must be grounded (protective ground contact) before use.

- When working wear personal safety guards to avoid the risk of:
 - Splashing liquids
 - Broken glass containers
- Follow the safety instructions, guidelines and accident prevention regulations.
- Do not touch the running parts, moving instrument care not rolling your fingers.
- Set up the instrument in a spacious area on a stable, clean, non-slip, dry and fireproof surface. Do not operate the instrument in explosive atmospheres, with hazardous substances or under water.

- If the instrument does not run smoothly, please decrease the motor speed.
- Firmly secure the accessories and vessels in place to avoid damage or risk.
- Preparation of samples may lead to dangerous flammable. Only process samples that will not react dangerous.
- Use the standard accessories listed in the “accessories” section, and follow the instructions to use accessories to ensure safety. Please switch off the power before assembly of accessories, confirm the instrument and accessories are intact before switch on each time.
- The instrument only be opened by expert, please switch off before use.
- The voltage stated on the nameplate must correspond to the mains voltage.
- Do not cover the instrument during running. Prevent the collision and extrusion to instrument and accessories.
- Keep away from high magnetic field.

2. Proper Use

The instrument is designed for mixing sticky substance in schools, laboratories or factories. It can be installed on a variety of impeller, for different viscosity of the medium. This instrument is not suitable for using in residential areas or other constraints mentioned in Chapter 1.

Do not use the accessories recommended by the manufacturer, or failure to use the instructions, may be caused unsafe situation.

3. Inspection

3.1 Receiving Inspection

Unpack the instrument carefully and check for any damages which may have arisen during transport. If it happens, please contact manufacturer/supplier for technical support.

**Note:**

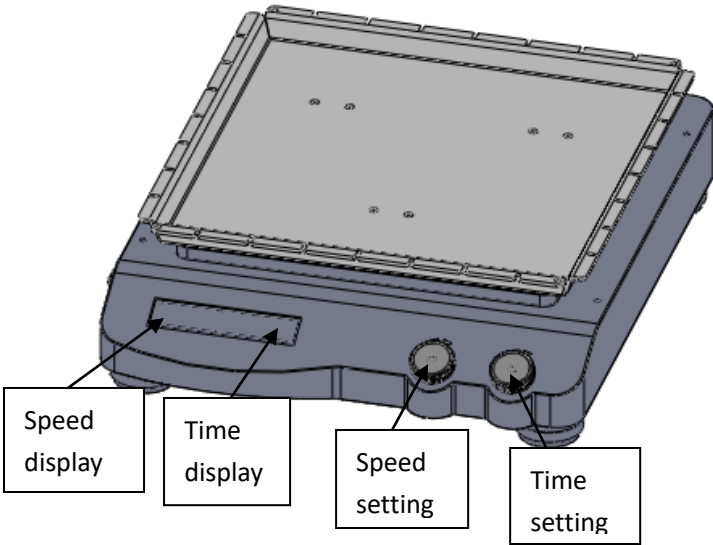
If there is any apparent damage to the system, please do not connect to the power line.

3.2 Listing of Items

Items	Qty
Main unit	1
Power cable	1
User manual	1

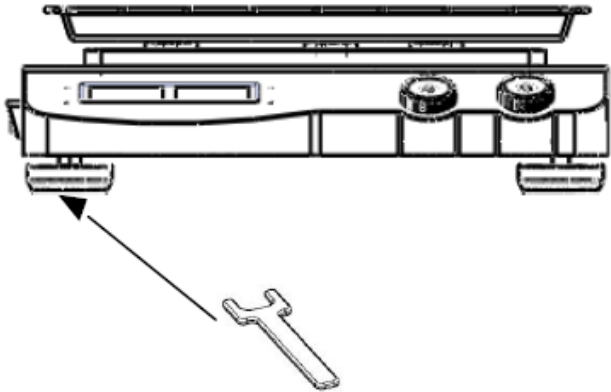
Table 1

4. Control and Display



Items	Descriptions
Speed control knob	Set target speed. Push on/off the knob to start/stop the shaking function.
Timer control knob	Set target time. Push on/off the knob to start/stop the shaking function.
Speed display	Display the set and real speed values.
Time display	Display the set and remain time values.
Power switch	Switch ON/OFF instrument.

- The instrument feet height can be adjusted to make sure its stable running.



5. Operation

- Place the instrument in safe and stable surface, ensure the required operating voltage and power supply voltage matched, and the socket must be earthed reliably.
- Connect the power cable.
- Switch ON instrument.
- The instrument begins self-checking.
- When initialization is over, LCD displays the last running values of speed.
- Rotate the speed control knob to set target speed.
 - a. Press the speed control knob to start shaking function. Press the speed control knob again to stop shaking function.
 - b. Rotate the timer control knob to set target time. Press the timer control button to start shaking function at the set speed and time. During operation, motion can be stopped at any time by pressing the speed control knob or timer control knob. If the timer control knob is pressed again, the shaking function will start again and the timer will restart countdown. When the timer reaches zero, the unit will be automatically

halted and an alert will sound.

If these operations above are normal, the instrument is ready to operate. If not, the instrument may be damaged during transportation, please contact technical support of manufacturer/supplier.



Note:

The speed value can be altered during shaking.

6. Faults

- When switched ON, the instrument does not work.
 - Check whether the power cable is connected.
 - Check whether the fuse is broken.
- Shaking speed can't reach set value
 - Check whether the load weight exceed the maximum load 3KG;
- When press the timer button, the instrument doesn't work.
 - Check whether the time set value is "0";

7. Maintenance and Cleaning

- Proper maintenance can keep instrument working

properly and lengthen its lifetime.

- Do not spray cleanser into the instrument when cleaning.
- Do not remove the power line when cleaning. Only use recommended cleansers:

Dyes	Isopropyl alcohol
Construction materials	Water containing tenside / Isopropyl alcohol
Cosmetics	Water containing tenside / Isopropyl alcohol
Foodstuffs	Water containing tenside
Fuels	Water containing tenside

- Before using other method for cleaning or decontamination, the user must ascertain with the manufacturer that this method will not damage the instrument. Wear the proper protective gloves during cleaning of the instrument.



Note:

- Electronic device cannot clean with cleanser.
- If you require maintenance service, must be cleaned the instrument in advance to avoid pollution of hazardous substances, and to

send back into original packing.

- If the instrument will not use for a long time, please switch off and place in a dry, clean, room temperature and stable location.

8. Associated standards and regulations

Construction in accordance with the following safety standards:

EN 61010-1

UL 3101-1

CAN/CSA C22.2(1010-1)

EN 61010-2-10

Construction in accordance with the following EMC standards:

EN 61326-1

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are

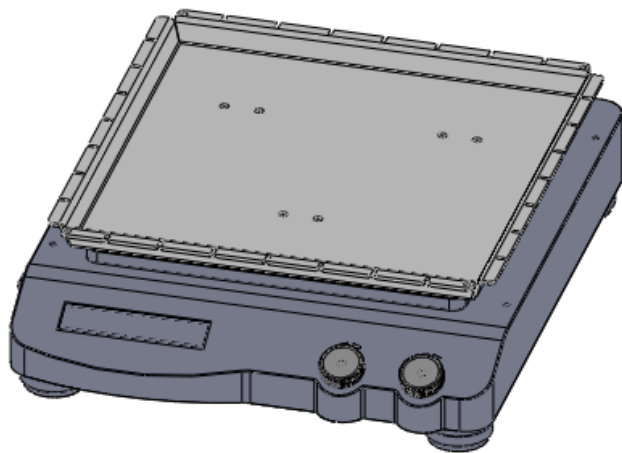
designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

9. Specifications

Items	Specifications
Voltage [VAC]	100-240
Frequency [Hz]	50/60
Power [W]	25
Max. Shaking Weight [kg]	3
Motor Type	DC brushless motor
Speed range [rpm]	70-400

Items	Specifications
Orbital diameter	10mm
Speed display	LCD
Timer range [min]	1-1199
Timer display	LCD
Motor Input Voltage	20W
Motor Output Voltage	15W
Run type	Timer/Continuous operation
Noise	≤48dB
Plate Size[mm]	335x335
Overall Dimensions [mm]	420×370×100
Weight [kg]	13.5
Permissible ambient temperature [°C]	5-40
Permissible relative humidity	80%
Protection class acc. to DIN EN60529	IP21

固定托盘LCD数控圆周摇床



用户使用说明书

请仔细阅读说明书并在说明书的操作指导下安全使用本仪器。

外形和性能指标如有变动，概不另行通知。

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前言

欢迎使用《翘板摇床&三维摇床使用说明书》。用户在使用本仪器前应仔细阅读本说明书，了解相关注意事项，并按照说明书中的指导和规范进行操作。

如何获取帮助

如果您在安装和使用的过程中遇到任何问题或需要帮助，请及时与制造商/供货商的售后服务部门取得联系



请您准备以下资料：

- 产品序号（在仪器背板上）
- 质保卡
- 问题现象的描述
- 您为了解决问题所采用的方法和操作步骤
- 您的电话、传真和 E-mail 地址等联络方式

质量保证书

根据制造商的质量保证条款，在本说明书规定的正常使用条件和操作方法下使用该仪器时，该仪器的保修期为 24 个月（自购买之日起）。由于错误安装与操作、私自拆卸与维修以及其他违反说明书中规定的操作条款造成的仪器性能下降和损坏，不能按照本质量保证进行保修。如出现质保条款中的相关问题，请联系制造商/供货商。

1. 安全事项

	<p>警告！</p> <ul style="list-style-type: none">• 在使用仪器之前请仔细阅读本说明书，并根据以下安全说明进行操作。• 只有经过专业培训的人员才可以操作本仪器。
	<p>安全接地保护！</p> <ul style="list-style-type: none">• 为保证安全，使用本仪器前请确认电源插座接地良好。

- 工作时，请穿戴个人防护工作服，以避免可能由以下事项引发危险：
振荡液体飞溅
机械振荡力导致玻璃容器破碎
身体、头发、衣服及首饰等被卷入
- 根据安全事项说明和职业安全准则操作仪器，避免意外伤害。
- 不要触碰仪器的运动部件，避免头发、衣服等卷入仪器。搬动仪器时注意不要碾压到手指。
- 请把仪器置于宽敞通风的区域内使用，并确保工作台平稳、洁净、干燥、阻燃且具有一定的摩擦力。请勿在室外，危险物质环境，水中运行本仪器。

- 设置仪器转速时请注意振荡板上放置的容器，避免样品溅出。如果仪器运行不平稳，请调低电机转速。
- 配件必须可靠连接，容器必须稳固放置，避免发生危险。
- 制备易燃样品可能会导致危险。只能制备在振荡过程中不会产生危险反应的样品。
- 请使用“配件”章节中列出的标准配件，并按照本说明书使用配件以确保安全。在装配附件之前请先切断电源，每次开启仪器之前请确认仪器及其附件未被损坏。
- 只有专业人员才能打开仪器，打开仪器之前请拔出电源插头。
- 铭牌上指定的工作电压必须与电网供电电压相匹配。
- 仪器在使用过程中不要遮盖仪器。防止撞击和挤压仪器及配件。
- 请勿在强磁场区域使用本仪器。

2. 使用范围

本仪器是为学校、实验室和工厂等应用环境设计的，用于对液体进行振荡混匀。本仪器可以安装多种配件，适用多种规格的试管。本仪器不适合在住宅区以及第 1 章

中规定的一些限制条件下应用。
未使用制造商推荐的配件，或者未按使用说明进行操作，可能会出现不安全的情况。

3. 检查

3.1 开箱检查

用户如发现任何包装损伤，请在收据上注明。在打开包装后如果发现任何内部损伤，请联系供货商。



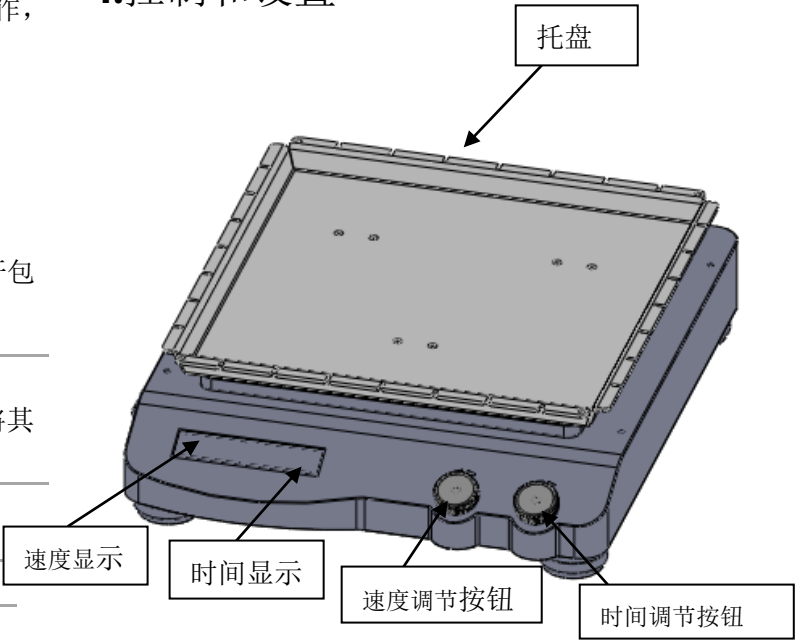
注意：
如发现仪器上有任何明显的损伤，请不要将其连接到电源。

3.2 装箱清单

名称	数量
主机	1 台
电源线	1 根
使用说明书	1 本

表 1

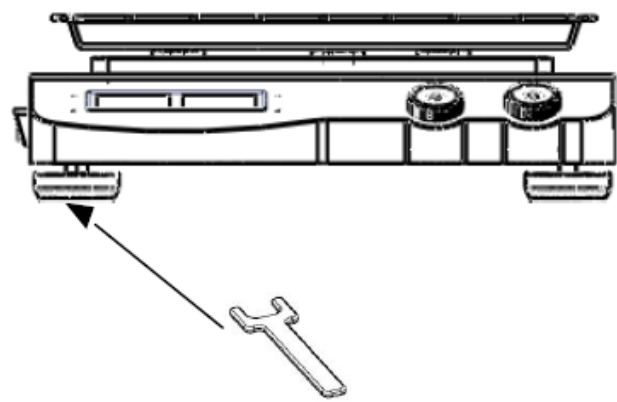
4.控制和设置



名称	说明
速度调节按钮	设定电机旋转转速，按下旋钮开启/关闭振荡功能。
定时调节按键	设定振荡时间，按下旋钮开启/关闭定时的振荡功能。
速度显示屏	显示仪器设置转速及当前转速。

时间显示屏	显示仪器设置定时时间及当前剩余定时时间。
电源开关	打开/关闭仪器主电源。

- 如果放置仪器的表面不够平坦，可以用扳手调节地脚高度，提高仪器运行的平稳性。



5. 操作

打开仪器电源开关，振荡和定时功能是关闭的。液晶屏显示上次存储的速度设置值和时间设置值。开启仪器，液晶屏按下列流程显示：

- 左侧液晶屏显示“SAF”字符，右侧液晶屏显示振荡速度上限值（单位是 rpm）。上电之前先按住speed按钮不松，然后显示屏初始化，显示“SAF”和“350”，此时旋转速度调节旋钮，可设置速度上限值。设置完后重新启动整机。



- 左侧液晶屏显示电机转速设定值，右侧液晶屏显示时间设定值。旋转速度调节按钮可设置振荡速度，旋转时间调节按钮可设置定时时间。



- 当速度和时间值设定后，单独按动时间调节按钮（或先后按下速度调节与时间调节按钮）仪器进入定时振荡状态，当剩余工作时间为0时工作停止；单独按下速度调节按钮，仪器进入持续工作状态（定时功能未开启）



注意：

振荡工作进行中，可修改设定值。在定时工作状态下，按动速度调节按钮或时间调节按钮均可以停止工作。

6.故障诊断

- 打开电源仪器不启动
 - 请检查电源线是否连接紧密
 - 请检查电源保险管是否损坏或松动
- 转速无法达到设定值
 - 请检查摇床载重是否超过最大承重量
- 按动时间调节按钮时混匀和定时功能无法启动
 - 请检查仪器时间设定是否为零

7. 维护和清理

- 正确地使用和维护仪器，使其处于良好的工作状态，有利于延长使用寿命。保持仪器整洁，切勿将溶液流入机内。
- 维护和清理之前必须切断电源，只能使用我们推荐的方法清理仪器。祛除方法：

染料	异丙醇
建筑材料	水溶表面活性剂/异丙醇
化妆品	水溶表面活性剂/异丙醇
食物	水溶表面活性剂
燃料	水溶表面活性剂

- 没有列出的材料，请先咨询制造商售后服务部门。
- 在采用其他清理方法之前，用户必须与制造商/供货商确认该方法不会损坏仪器。
- 清理时，请戴上防护手套。



注意：

- 电子设备不能用清洁剂清理。
- 送修仪器必须清理，同时避免危险物质的污染，并把仪器放回原始包装箱发送。
- 当产品长期不用时，请将仪器断电存放，并置于干燥，洁净，常温，平稳处。

8.相关标准

仪器结构符合以下安全标准：
EN 61010-1
UL 3101-1
CAN/CSA C22.2(1010-1)
EN 61010-2-10
仪器结构符合以下电磁兼容标准：
EN 61326-1

9.技术参数

项目	330 经济款圆周摇床
电压 [VAC]	100-240
频率 [Hz]	50/60
功率 [W]	25
运转方式	圆周
运转直径振幅[mm]	10
最大载重量（带夹	3

项目	330 经济款圆周摇床
具) [kg]	
电机类型	直流无刷电机
电机输入功率[W]	20
电机输出功率[W]	15
速度范围 [rpm]	70-400
转速显示	LCD
时间设置范围[min]	1-1199
运转方式	定时/连续运转
噪音	≤48dB
盘面尺寸[mm]	335x335
外形尺寸 [DxWxH mm]	420×370×100
重量 [kg]	13.5
允许环境温度 [°C]	5-40
允许相对湿度	80%
DIN EN60529 保护方式	IP21