

Micro plate Mixer

User Manual



Micro Plate Mixer

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.

Ver.20180830

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Preface

Welcome to the **Microplate Mixer 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.

Please provide the customer care representative with the following information:

- Serial Number (on the rear panel)
- 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. You would be solely liable for freight costs.

1. Safety Instructions



Warning!

- Read the operating instructions in full before use and follow the safety instructions
- Ensure that only trained staff work with the appliance.



Protective ground contact!

- Make sure that socket is earthed (protective ground contact) before use.

- When work, wear the personal guard to avoid the risk from:
 - Splashing of liquids.
 - Release of toxic or combustible gases.
- Set up the instrument in a spacious area on an even, stable, clean, non-slip, dry and fireproof surface, do not operate the instrument in explosive atmospheres, with hazardous substances or under water.
- Gradually increase the speed, reduce the speed if :
 - The medium splashes out of the vessel because of too high speed.
 - The instrument is not running smoothly.
- Beware of hazards due to:

- Overfilling of media
- Unsafe container

- Process pathogenic materials only in closed vessels.
- Always disconnect the plug before fitting accessories. Do not use damaged components.
- The operating voltage required on the type plate and voltage supply network must match.
- Ensure that the mains power supply cable does not touch the hotplate. Do not cover the instrument.
- Single microplate clamp and double microplate clamp can not be changed more than 10 times, otherwise increases the risk of screw slip.
- The instrument may only be opened by experts. Observe the minimum distances between the devices, between the instrument and the wall and above the assembly (min. 100 mm).

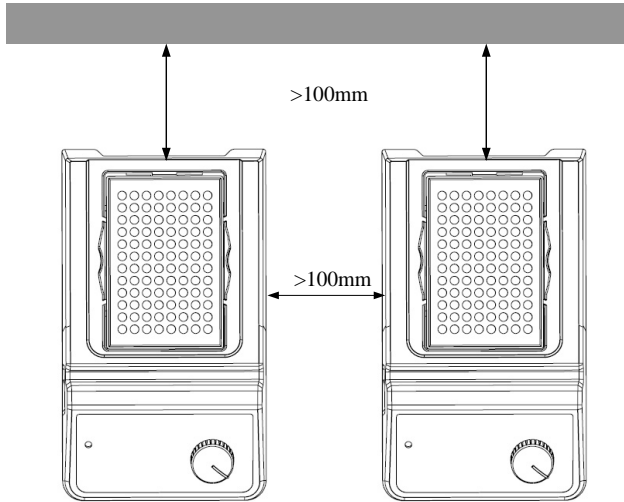


Figure 1

2. Proper use

The instrument is designed for schools, laboratories or factories. This device is not suitable for use in residential areas or other areas that may cause danger to the user or instrument as mentioned in Chapter 1.

3. Inspection

3.1 Receiving Inspection

Unpack the equipment 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 plug it into the power line.

3.2 Listing of Items

The package includes the following items:

| Items | Qty |
|---------------|-----|
| Main unit | 1 |
| Power adaptor | 1 |
| User Manual | 1 |

Table 1

4. Operation

- Make sure that the required operating voltage and power supply voltage match.
- Ensure the power be off and the speed control knob at the lowest position. Plug in the power adapter.
- Place a microtiter or other vessel in holder
- Power ON the device and the Power LED is lit
- Set the rated speed regulation and the device begins to work..
- Set the rated speed regulation to „0“and the device stop to work.
- Power OFF the device.

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

5. Control

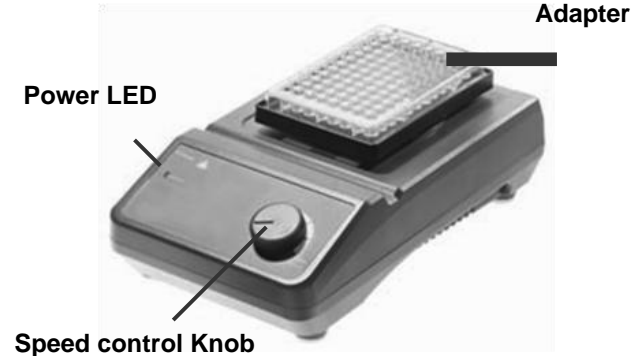


Figure 2

6. Maintenance and cleaning

Proper maintenance can keep instruments working in a good state and lengthen its lifetime. Be careful not spray the cleanser into the instrument when cleaning.

Unplug the power line when cleaning. Only use cleanser that we advised as below:

| | |
|------------------------|--|
| 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 does not harm or destroy the instrument.
- Wear the proper protective gloves during cleaning of the instrument.
- Forbid to place the instrument in the cleanser to clean.
- The instrument must be cleaned and put it into the

initial packaging carton before sending to service for repair, avoiding the contamination of hazardous.

- Switch off the device and put it in the dry, clean, stable place at room temperature in long-term disuse.

7. Associated standards and regulations

Construction in accordance with the following safety standards:

EN 61010-1

Construction in accordance with the following EMC standards:

EN 61326-1

Associated EU guidelines: EMC-

guidelines: 89/336/EEG Machine

guidelines: 73/23/EEG

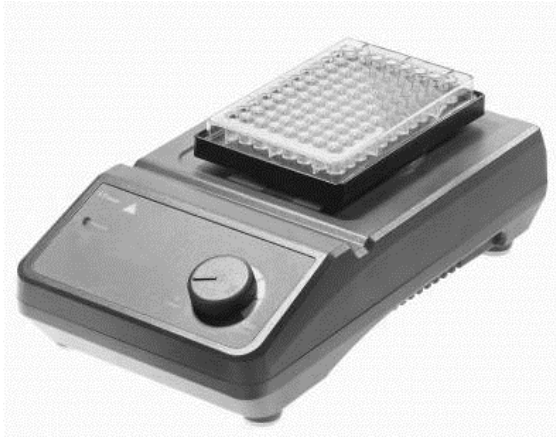
8. Technical data

| Items | Parameters |
|---|--|
| Voltage [VAC] | 100~240 |
| Frequency [Hz] | 50/60 |
| Power [W] | 20 |
| Shaking movement | Orbital |
| Orbital diameter [mm] | 4.5 |
| Max. shaking weight (with attachments) [kg] | 0.5 |
| Motor type | External rotor brushless motor |
| Motor rating input [W] | 18 |
| Motor rating output [W] | 10 |
| Permissible ON time [%] | 100 |
| Speed range [rpm] | 0-1500 0-1000 (Double microplate clamp) |
| Speed display | Scale |
| Microplate working | Yes |

| Items | Parameters |
|------------------------------------|----------------------------------|
| Microplate amount | 1 2 (Double microplate clamp) |
| Dimensions (mm) | 260×150×80 |
| Weight [kg] | 3 |
| Permitted ambient temperature[°C] | 5 – 40 |
| Permitted relative humidity | 80% |
| Protection class acc. to DIN 60529 | IP21 |

Table 2

孔板混匀仪



使用说明书

孔板混匀仪

请仔细阅读说明书并在其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《孔板混匀仪使用说明书》。用户在使用本仪器前请仔细阅读此说明书，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，制造商的联系方法如下：

请您准备以下资料：



- 产品序列号（仪器铭牌上）
- 质保卡
- 问题现象的描述
- 您为了解决问题所采取的方法及操作步骤
- 您的电话、传真和 Email 地址等联络方式

质量保证

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维修。

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。 | <ul style="list-style-type: none">• 样品过量灌装• 使用不安全的容器• 混匀致病样品时, 必须使用密闭的容器。• 更换附件必须断电, 不要使用已经破损的附件。• 请确保使用电源电压跟铭牌要求的一致。 |
|  | <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。 | <ul style="list-style-type: none">• 仪器运行过程中, 不要遮盖仪器。• 只有经过专业训练的人员才能打开本仪器。• 单双孔板托盘更换次数不能超过 10 次, 否则会有划丝风险。 |
| <ul style="list-style-type: none">• 工作时, 请穿戴合适的防护设备, 否则可能由于以下事项引发危险:<ul style="list-style-type: none">- 混匀液体溅出- 释放出的有毒、易燃气体• 请把仪器置于宽敞通风的区域内使用, 并确保工作台面平稳、干净、防滑、干燥及防火。请勿在室外、危险物质环境及水中运行本仪器。• 缓慢调节转速, 出现下列情况时, 请调低转速:<ul style="list-style-type: none">- 转速过高导致液体溅出- 仪器运行不稳• 注意避免进行以下危险操作: | | <ul style="list-style-type: none">• 保证仪器间、仪器与墙壁、的最小距离为 100mm。 |

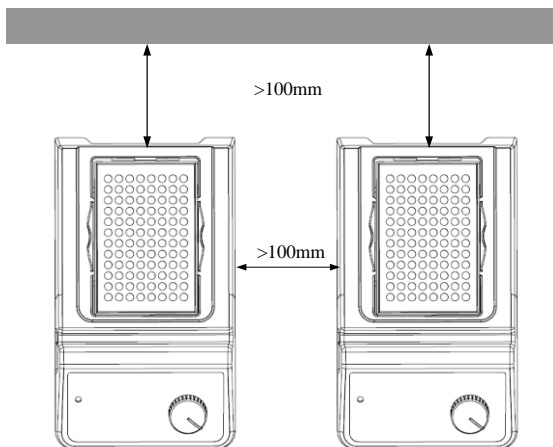


图 1

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，用于对液体进行混合。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。

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，请联系制造商/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 | 1 个 |
| 使用说明书 | 1 本 |

表 1

4. 控制



图 2

5. 操作

- 检查铭牌上指定的工作电压与电网电压是否匹配；
- 插入电源适配器；
- 安装孔板或装夹其他待操作容器；
- 打开电源，电源指示灯点亮；
- 缓慢调节速度调节旋钮设置运行速度并启动混匀仪；
- 缓慢调节速度调节旋钮，使指针置于“0”位，关闭仪器电源开关；

如果上述操作运行正常，说明仪器可以开始正式使用。如果运行不正常，仪器可能已经在运输过程中损坏，请联系制造商/供货商。



注意：

安装附件前，必须切断电源！

6. 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，可以延长仪器的使用寿命。保持仪器整洁，切勿使清洗溶液流入机内。
- 维护和清理之前必须断电，请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 | 含活性剂的水溶液/异丙醇 |
| 化妆品 | 含活性剂的水溶液/异丙醇 |
| 食物 | 含活性剂的水溶液 |
| 燃油 | 含活性剂的水溶液 |

- 上表没有列出的材料，可以咨询仪器制造商。在采用其他清理方法之前，用户必须与制造商确认该方法不会损坏仪器。清理仪器时，请戴上合适的防护手套。
- 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、平稳的环境。
-

7. 相关标准

仪器结构符合以下安全标准：

EN 61010-1

仪器结构符合以下电磁兼容标准：

EN 61326-1

符合以下欧盟标准

EMC 标准： 89/336/EWG

机械标准： 73/023/EWG

8. 技术参数

| 项目 | 参数 |
|----------|---------|
| 电压 [VAC] | 100~240 |
| 频率 [Hz] | 50/60 |

| 项目 | 参数 |
|-----------------------|--|
| 功率 [W] | 20 |
| 运行方式 | 圆周 |
| 周转直径 [mm] | 4.5 |
| 允许震荡承重量 (含夹具) [kg] | 0.5 |
| 电机类型 | 直流无刷电机 |
| 电机输入功率 [W] | 18 |
| 电机输出功率 [W] | 10 |
| 允许连续运转时间 [%] | 100 |
| 速度范围 [rpm] | 0-1500 (单孔板托 盘) 0-1000 (双孔板托 盘) |

| 项目 | 参数 |
|----------------|------------------------|
| 转速显示 | 刻度 |
| 用酶标板工作 | 是 |
| 酶标板数 | 1 (单孔板托盘) 2 (双孔板托盘) |
| 外形尺寸 [mm] | 260×150×80 |
| 重量 [kg] | 3 |
| 允许环境温度 [°C] | 5—40 |
| 允许相对湿度 | 80% |
| 保护等级 | IP21 |

表