

FagronLab™ AMS

Magnetic hotplate stirrer

User Manual



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1. Introduction

Thank you for purchasing the magnetic hotplate stirrer FagronLab™ AMS. This manual contains important operating and safety information. You must carefully read and understand the contents of this manual prior to operating this device.

2. Service

In case of any problem, you can always contact the Service Department of the manufacturer for technical support. Please provide the customer care representative with the following information:

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

3. Warranty

This device is under warranty and 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. Warranty is not valid on device which has 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.

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4. Safety instructions



Warning!

- Read the operating instructions carefully before use.
- Ensure that only trained staff works with the device.



Risk of burn!

- Caution when touch the housing parts and the hotplate which can reach temperature of 340°C.
- Attention on the remaining high temperature after switching off.



Protective ground contact!

- Make sure that the power supply is grounded before use.

Always wear protective gloves, clothes, and glasses to avoid the risk of:

- Splashing and evaporation of liquids.
- Release of toxic or combustible gases.

Place the device in a spacious and on a stable, clean, non slip, dry and fireproof surface. Do not use the device in explosive atmospheres, with hazardous substances or under water.

Gradually increase the speed, reduce the speed if:

- Splashing, due to high speed of the stirring bar.
- The device is not running smoothly, or container moves on the base plate.

Temperature must always be set to at least 50 °C lower than the fire point of the point ignition.

Be aware of hazards due to:

- Flammable materials or utensil with a low boiling temperature.
- Overfilling of utensil.
- Unsafe container.

Process pathogenic materials only in closed vessels.

In case the stirrer bar is PTFE, please note:

- Elemental fluorine, three fluoride and alkali metals will corrode the PTFE and halogen alkanes make it expansion at room temperature.
- Molten alkali, alkaline earth metals or their solution, as well as the powder in second and third ethnic of the Periodic Table of Elements will have chemical reaction with PTFE when temperature reaches 300 - 400 °C.

Check the device and accessories prior to each use.

Do not use damaged components. Safe operation is only guaranteed with the accessories described in the “Accessories” chapter. Accessories must be securely attached to the device and can not come off by themselves. Always disconnect the plug before fitting accessories.

When the external temperature sensor is needed, the tip of the measuring sensor must be at least 5-10mm from vessel bottom and wall.

The device can only be disconnected from the main power supply by pulling out the main or the connector plug.

The voltage stated on the label must correspond to the main power supply.

Ensure that the main power supply cable does not touch the hotplate. Do not cover the device.

The device can only be disassembled by experts.

Keep away from high magnetic field.

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5. Proper use

The device is specifically designed for mixing and/or heating liquids in pharmacies, laboratories or factories.

- Observe the minimum distances between the devices, between the device and the wall and above the assembly (min. 100 mm).

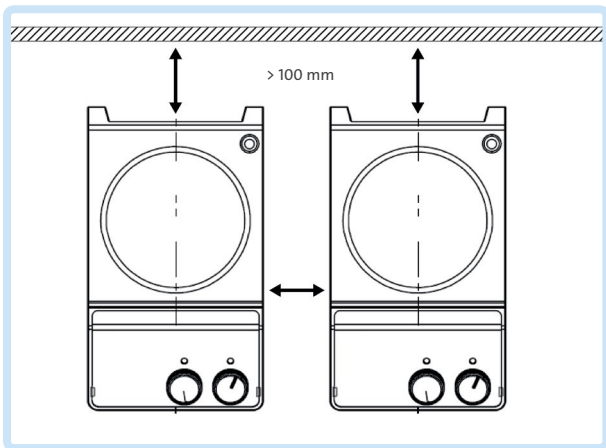


Figure 1. Minimum distance between the devices

6. Review

Unpacking

Unpack the equipment carefully and check for any damages may have arisen during transport. Please contact supplier for technical support.



Note:

- If there is any apparent damage to the system, please do not plug it into the power cable.

Listing of items

The package includes the following items:

Items	Qty
Main unit	1
Power cable	1
Magnetic stirrer	1
User manual	1

7. Trial and custom use

- Make sure that the required operating voltage matches with the power supply voltage.
- Ensure that the socket is properly grounded.
- Plug in the power cable, ensure the power is on and begin initializing.
- Add the medium into the vessel with an appropriate stirring bar.
- Place vessel on the work plate.
- Set the desirable stirring speed.
- Set the desirable temperature.
- Stop both heating and stirring functions. If these operations above are normal, the device is ready for use. If these operations are not normal, the device may be damaged during transportation, please contact supplier for technical support.
- Use a FagronLab™ magnetic rod to remove safely the stirring bar from the vessel.



Warning:

- Forbid to transfer the vessel when the device is working.
- Temperature of the hot plate is not the same as in the vessel. Always check temperature of the medium with an external device (thermometer).

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8. Control

Control elements



Figure 2. Device's control elements

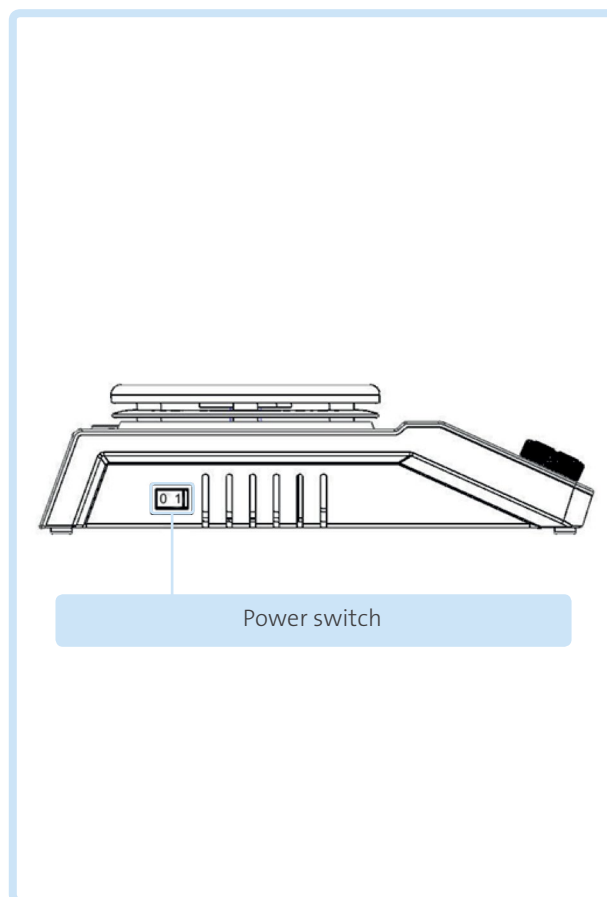


Figure 3. Power switch

Control panel

Items	Description
Stirring knob stir	Set the rated rotary speed
Heating knob heat	Set the rated temperature
LED heat	When the heating function is switched ON, the LED Heat is lit
LED stir	When the stirring function is switched ON, the LED Stir is lit
Power switch	Switch ON or OFF the device

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9. Faults

Device can not be switched ON.

- Check whether the power cable is unplugged.
- Check whether the fuse is broken or loose.

Stir speed cannot reach set point.

- Excessive medium viscosity may cause abnormal speed on the motor.

Heating or stirring function is not starting when knob is turning to ON.

- Switch the device OFF and then switch it ON again.
- Electronic problem, refer the problem to your supplier.

Device can not be switched OFF.

- Unplug the device. Refer the problem to your supplier.

If the fault is still remaining, please contact supplier.

10. Maintenance and cleaning

- Proper maintenance can keep the device working properly and lengthen its lifetime.
- Do not spray cleanser into the device when cleaning.
- Unplug the power cable when cleaning.
- Only use recommended cleansers to maximize the life of your FagronLab™ AMS device:

Substance	Cleaning agent
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 according to the manufacturer that this method will not harm the device. Wear the proper protective gloves during cleaning the device.



Note:

- Electronic device can not clean with cleanser.
- If you require maintenance service, the device must be cleaned in advance to avoid pollution, and be **sent back into original packaging**.
- If the device is going to be out of use for a long time, please switch the device off and place it in a stable, dry, room temperature and clean location.

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11. 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

Associated EU guidelines:

EMC-guidelines: 89/336/EEG

Instrument guidelines: 73/023/EEG

12. Specifications

Specifications	Measurements
Voltage [VAC]	100-120/200-240
Frequency [Hz]	50/60
Power [W]	*550 / 50
Stirring point position quantity	1
Max. stirring quantity (H ₂ O) [l]	20
Max. magnetic bar [L×Ø, mm]	80×10
Motor type	DC brushless motor
Max. power input of motor [W]	18
Max. power output of motor [W]	10
Speed range [rpm]	100-1500, increment: 10
Rotary speed display	LCD
Plate material	Stainless steel/Ceramic coated
Dimensions of workplate (mm)	Ø 135
*Heating power [W]	500
*Temperature range [°C]	RT-340, increment: 1
Dimensions (mm)	280×160×85
Weight [kg]	2.8
Permitted ambient temperature [°C]	5-40
Permitted relative humidity	80%
Protection class acc. to DIN 60529	IP42

