

#### **USER MANUAL MS-D DIGITAL MAGNETIC STIRRER**

# 1. Safety instructions

$\wedge$	•	Read the instructions carefully before use
$\angle ! \setminus$	•	Make sure that only qualified personnel use this tool
	•	Before use, make sure that the instrument is connected to an earthed socket
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During work, staff must prevent risks of:

- Splashing and / or evaporation of liquids;
- o Emission of toxic or combustible gases.
- Place the instrument in a suitable area, on a stable, clean, non-slip, dry and fireproof surface;
- Do not use the instrument in explosive atmospheres, containing dangerous substances or under water;
- Pay close attention to the risks due to: flammable materials or samples with low boiling temperature, excessive filling of samples, unsafe and / or unsuitable containers for heating;
- Use any pathogenic samples only in closed containers;
- Check that the instrument and accessories are in optimal condition before use. Never use damaged components. Optimal safety and operation are guaranteed only if the instrument and accessories described are in order. The accessories must also be firmly connected to the device;
- The instrument can be disconnected by disconnecting it from the power supply or by disconnecting the cable;
- The operating voltage indicated on the instrument label must correspond to that of the network to which it is connected;
- Make sure that the power cable does not touch the heating plate;
- The tool can only be opened by specialized technicians;
- Keep the instrument away from electromagnetic fields;
- Respect the minimum distance between the devices and between the device and the wall (minimum 10 cm).

# 2. Controls and lights



CONTROL	DESCRIPTION
Stirring knob	Set the desired rotation speed between 0 and 1500 rpm.
	The stirring function is activated / deactivated by pressing on the knob.
Display LED	The display shows the number of selected RPM.
On/Off Switch	Turn the instrument on or off.



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# 3. Operation

- Place the device on a stable surface, make sure that the temperature control knob is at minimum and connect the mains power supply;
- Turn on the instrument by pressing the On / Off key, located on the side;
- Place a container (max: 3 liters) with liquid, inside which there is already a special magnetic stir bar (supplied).
- Turn the speed adjustment knob to set the desired rotation speed;
- · Press the knob to activate the stirring;
- The LED displays the speed value on the screen during stirring.

# 4. Cleaning and maintenance

- Proper maintenance of the instrument guarantees its good condition and extends its life;
- Disconnect the power supply cable during cleaning;
- During cleaning, be careful not to spray the detergent inside the instrument;
- Use only non-aggressive detergents that do not contain corrosive substances;
- Before proceeding with cleaning or with any decontamination, the user must ensure that the method adopted does not damage the instrument;
- Wear appropriate protections when cleaning with chemicals;
- If the instrument is to be sent to technical assistance, it is necessary to provide for proper cleaning and possible decontamination by pathogens of the same. It is also advisable to put the instrument back in its initial packaging to send it to the repair service.

#### 5. Malfunctions

- In case of instrument failure, it is recommended to turn it off;
- Turn off the main ON / OFF switch for a few seconds and turn the unit back on;
- Possibility of malfunctions shown by the instrument:

Error code	Description of the problem
E01	LED off (no function)
E03	No stirring
E05	No speed control

• If one of the above problems occurs, contact technical assistance.

### 6. Reference standards

The instrument was built in compliance with the following safety regulations:

EC Council Directive 2014/34/EU

Low Voltage Directive 2014/35/EU

The instrument has been manufactured in compliance with the following EMC standards:

EN 61326-1:2013



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### 7. Technical features

Alimentation	220V – 50/60 Hz
Absorbed power	15 W
Maximum stirring quantity (water)	3 litres
Stirring modes	1
Maximum size of the anchor	50 mm
Engine	Induction motor (Brushless)
Stirring speed	0 – 1500 rpm
Speed indication	Digital (LED Display)
Material Working plate	Nylon+GF
Working plate diameter	135 mm
Motor power (output)	3 W
Motor power (input)	5 W
Dimensions (L x W x H)	260 x 150 x 80 mm
Weight	1,8 kg
Use temperature	10 – 40 °C
Max. Use humidity	80%
IP protection	IP42



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# 8. Disposal of electronic devices



Electrical and electronic equipment marked with this symbol cannot be disposed of in public landfills. In accordance with EU directive 2002/96 / EC, European users of electrical and electronic equipment have the option of returning the used equipment to the Distributor or Manufacturer when purchasing a new one. Abusive disposal of electrical and electronic equipment is punished with a pecuniary administrative sanction.