



**ELMI**

USER MANUAL

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Orbital Shaker S-10L / S-20L



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## Content

Technical specification .....	3
Delivery Package .....	3
General safety.....	4
Electrical safety.....	4
During operation .....	4
Biological safety .....	4
Preparation for use .....	4
Operation controls.....	5
Unpacking and setting up.....	5
Universal roller clips .....	6
Universal magnetic clips.....	6
Disinfection and cleaning.....	6
Transportation and storage .....	6
Warranty statements.....	7
Certificate of approval.....	7

## Orbital Shaker S-10L / S-20L



## Dear user!

Congratulations, you have acquired an ELMi shaker - product of advanced technology and high quality!

S-20L / S-10L shaker is easy to use and reliable in operation. We ask you to carefully read the user manual and observe all maintenance and operation

requirements, as this will ensure long and flawless use of the device.

The shaker is designed to mix up components in different kind of test tubes, flat bottom laboratory dishes, flasks, Petri dishes, etc.

### Technical specification

Size of working platform, mm	415x295
Speed of rotation, RPM	20-500
Type of platform movement	orbital
Environmental temperature, °C	+4 up to +45
Relative moisture of atmosphere ( at 20°C temperature)	not more than 80 %
Voltage and frequency	110-220 V, 50-60 Hz
Power supply adapter:	24VDC – 1A
Maximal power consumption, W	24
Size of the device, mm	415x365x100
Net weight, Kg.	8,5

**ATTENTION!** Amplitude of platform rotation can be 10mm or 20mm. The size of amplitude is specified on the front vertical surface of platform: A=10mm ; A=20mm..

### Delivery Package

Item	Quantity
Shaker	1
Power supply adapter	1
Magnetic clips	8
User manual	1
Packaging	1

## General safety

- Use only as directed in the operating instructions provided.
- The unit should not be used if it has encountered a physical shock or has been dropped.
- The unit must be stored and transported in a horizontal position (see package label).
- After transport or storage allow the unit to dry out (2-3 hrs) before connecting to mains power. Use only original accessories provided by the manufacturer and ordered specifically for this model.

## Electrical safety

- Connect to the mains only with a voltage corresponding to that on the serial number label. Ensure that the switch and plug are easily accessible during use.
- Do not plug the unit into the main outlet without grounding, and do not use extension lead without grounding.
- Before moving the unit, disconnect it from the mains. To turn off the unit, disconnect the power plug from the mains outlet.
- It is the user's responsibility to carry out appropriate decontamination if hazardous material is spilt on or inside the equipment. If liquid is spilt inside the unit, disconnect it from the mains and have it checked by a competent person.

## During operation

- Do not block the platform movement.
- Do not leave the operating unit unattended.
- Do not operate the unit in environments with aggressive or explosive chemical mixtures.
- Do not operate the unit if it is faulty or been incorrectly installed.
- For indoor use only.
- Before using any cleaning or decontamination method except those recommended by the manufacturer, check with the manufacturer that the proposed method will not damage the equipment.
- Do not make modifications to the unit.

## Biological safety

- It is the user's responsibility to carry out appropriate decontamination if hazardous material is spilt on or inside the equipment.

## Preparation for use

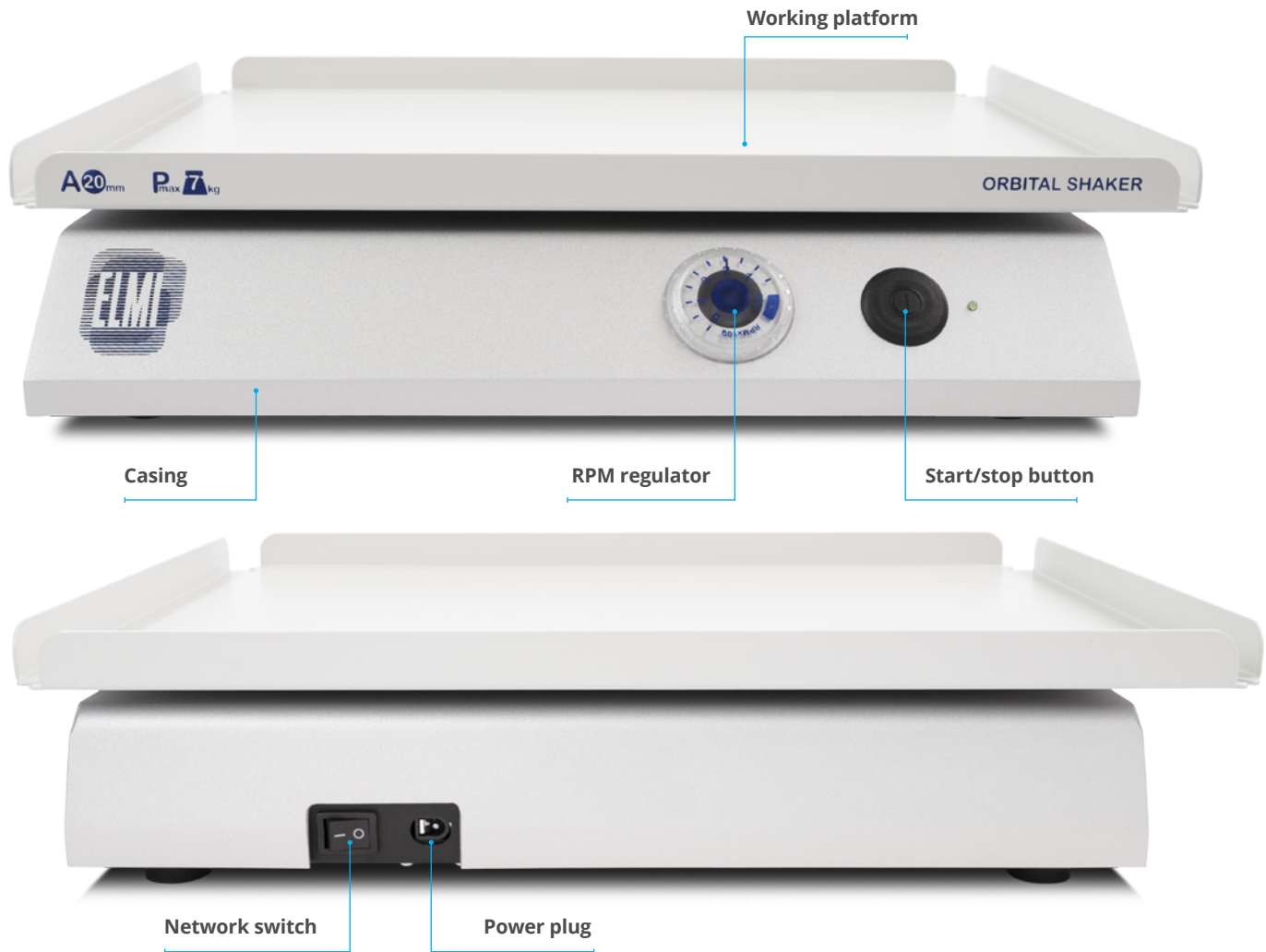
- Unpack the device. Please keep the packaging material for transportation or storage purposes.
- If the machine was stored at a temperature below 0°C, make sure that it is kept at room temperature for at least two hours before turning it on.
- Place the shaker onto a level, horizontal surface.
- Examine the power adapter and appearance of device for damage.
- Connect the power cord to the centrifuge, insert the adapter in to the socket and press network switch at ( I ) symbol. Display will light up on the control panel.
- Check the platform. Try rotating it by hand. There should be no noise or obstacles to smooth running.
- Check the surrounding of device. Safety distance of 30cm must be observed around the device during operation.
- Check for other signs of damage or malfunction.

**ATTENTION!** *If there is any apparent damage or malfunction, DO NOT TURN ON the shaker without consulting a specialist.*

## Operation controls

Control interface is maximally simple and comfortable but however ensures a high accuracy and reliability. Platform rotation speed is regulated by the

RPM regulator. To start and stop the operation use start/stop button.



## Unpacking and setting up

Before turning the machine on, please take a look on adapter. Ensure that the wire and the body of adapter are not damaged. In case of external damage of the adapter, do not plug it in the machine without the supervision of specialist!

1. Plug the adapter into the outlet.
2. Set up the desired rotation speed.
3. Press the start / stop button to start the operation.
4. The shaker automatically protects it self from the overloading. If during the operation the platform is overloaded or there is an obstacle, the platform halts and attempts to start again until the obstacle is removed.
5. It is not necessary to pull out the adapter from the outlet. But if the machine is not used for a long period of time it is recommended to unplug the adapter.

### Universal roller clips

Very effective solution for fixing different flat-bottom laboratory flasks and extra high and unstable laboratory flasks (roller clips are not included in delivery package and should be ordered separately).



### Universal magnetic clips

Excellent solution for easy and fast fixation of any kind of flat bottom laboratory flasks and bottles. Can be used in a combination with roller clips.



### Disinfection and cleaning

Shaker and accessories must be cleaned once a week to avoid corrosion and changes to material. Disconnect the device from mains power supply and clean it separately. The platform, accessories and exterior of the shaker should be cleaned with a moist cloth. Only use neutral agents to clean these

parts. To disinfect, use an alcohol-based disinfectant

(70% isopropanol/water mixture). If corrosive, toxic or radioactive liquids or pathogenic bacteria are spilled on the platform, shaker must be decontaminated thoroughly.

### Transportation and storage

To ensure safety during transportation, the equipment should be packed in the original manufacturer's packaging or similar packaging substitute.

Equipment can be transported in any kind of closed transport; make sure that equipment is tightly fixed and transported accordingly to transportation reg-

ulations. Equipment should be stored in original manufacturers packaging in dry room with humidity not more than 80% and temperature range of +10°C up to +40°C. It is not recommended to store the equipment more than 36 month.

# Orbital Shaker S-10L / S-20L



## Warranty statements

- Warranty applies to 24 month period from the date of purchasing.
- Malfunctions that occur due to a fault of the manufacturer, during warranty period, are repaired free of charge.
- Warranty is is not valid in the following cases:
  - - If the serial number label of the manufacturer is damaged.
  - - If damage occurs as a result of incorrect operation, transportation or storage.
- These documents are necessary if applying for warranty repair:
  - - User manual with serial number of the machine.
  - - Officially signed report, describing the reasons and circumstances of the equipment malfunctions.
- Warranty repair can be performed only if the equipment is delivered in the original manufacturers packaging or equally safe packaging.
- Before returning for warranty repair ensure that the device is fully cleaned, decontaminated and does not present any kind of helth risk to our staff.
- If the above warranty requirements are not met, repair charges are applied to the customer.
- For all further questions concerning usage and maintenance, please contact the manufacturer or product vendor.

## Certificate of approval

Orbital Shaker S3-\_\_L

Nº \_\_\_\_\_

has been inspected for the technical conditions and meets all regulations necessary for this class of device.

Quality control person \_\_\_\_\_  
(name) (signature)

Date of manufacture \_\_\_\_\_

### PLACE FOR STAMP

Certificate of sale Organization \_\_\_\_\_

Phone \_\_\_\_\_

Address 1 line \_\_\_\_\_

Vendor \_\_\_\_\_ (name) (signature).

Address 2 line \_\_\_\_\_

Date of sale \_\_\_\_\_

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