

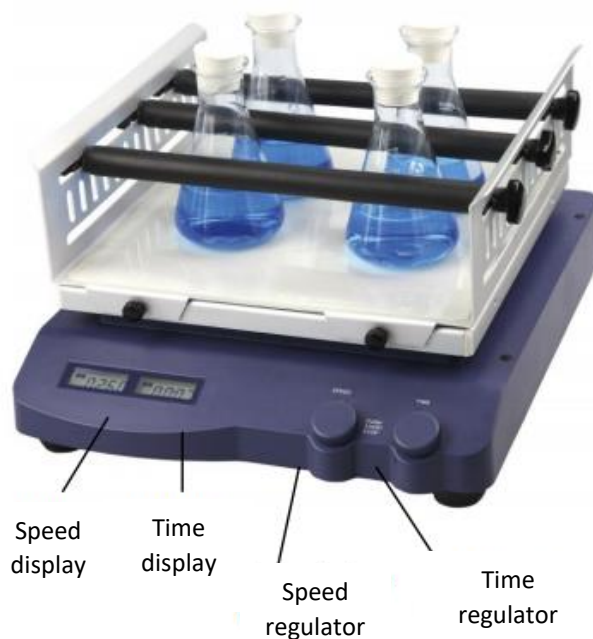


Safety instructions

	<ul style="list-style-type: none">• Read the instructions carefully before use• Make sure that only qualified personnel use this tool• Do not heat easily flammable or highly volatile substances
	<ul style="list-style-type: none">• Before use, make sure that the instrument is connected to an earthed socket

- During work, staff must prevent risks of:
 - Spilling liquids.
 - Mechanical vibrations that can cause breakage of glass containers.
- Keep away from people not authorized to use.
- Pay attention to your hands and fingers while the tool is moving.
- 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.
- Check the liquid level while setting the instrument speed to avoid sample spills. Reduce engine speed if necessary.
- The accessories must be properly fixed and the liquid containers well positioned on the instrument.
- It is not recommended to stir combustible or easily flammable substances because the energy that the instrument gives to the material could be dangerous.
- 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 securely connected to the device.
- The operating voltage indicated on the instrument label must correspond to that of the network to which it is connected.
- The tool can only be opened by specialized technicians.

Controls



Controls	Description
Speed regulator	Set the desired speed and start stirring by pressing the knob
Time regulator	Set the desired time and start the time by pressing the knob
Display LCD	Displays the status of the instrument and each setting
On/off switch	Switches the instrument on and off

- Place the instrument on a stable surface and connect it to the power supply.
- Switch it on using the ON / OFF button located on the left side.
- The instrument starts the self-test.
- The instrument displays the set speed and time
- Turn the speed knob to set the desired speed (the relative display flashes) by pressing the time knob while the instrument goes, speed and time stop. By pressing again, the stirring resumes with the preset time.
- Press the knob and the stirring starts.
- Press the knob again and the speed display starts flashing and the agitation stops
- Turn the time knob to set the desired value (the relative display flashes)
- Press the knob and the time starts running.
- Press the knob again and the time display starts flashing and the time stops.

Settings

Time setting

The stirring time can be set by turning the knob to the right. If the continuous stirring mode has been selected: the instrument will continue to work at the set speed for an indefinite time; If the "timed" shaking mode has been selected: the instrument shakes for the preset time.

If the instrument is set in mode:

A, by pressing the time knob while the instrument goes, speed and time stop. By pressing again, the stirring resumes with the preset time.

B, pressing the time knob while the instrument goes, speed and time stop. By pressing again, the stirring resumes but not with the preset time and the time flashes on the right display. By pressing the time knob again, the time starts again from the set value.

Note: The set time can be changed at any time, even during operation.

Speed setting

The set speed and the limit speed can be varied by acting on the speed adjustment knob (see figure 6). The "continuous" operating mode is activated by pressing the speed adjustment knob without having set the time and is turned off by pressing the same knob again. Adjust the speed so that the instrument works smoothly without excessive vibrations which can cause the agitated sample to come out.

Note: The set speed can be changed at any time, even during operation.

Operating modes

Mode A

Operating mode A is among the initial factory settings. After switching on the instrument, the agitation and time functions are in standby. The LCD displays show the set speed and time. After switching on, the following process appears on the display:



The left display shows the word "SAF" and the right display the upper limit speed (rpm) which can be set by pressing and turning the speed knob. The left display shows the wording "StA" and the right one shows the operating mode "A" or "B" for about 2 seconds.



The set speed is shown in the left display while the time in the right display. By turning the speed and time knobs the respective values can be changed.



After pressing one of the two knobs, the instrument starts to shake at the set speed. The current speed and remaining time are shown on the LCD display. When time reaches zero the shaker stops. Once stopped, by pressing only the speed knob the instrument starts working in "continuous mode".



Note: The set values can be changed at any time, even during operation. The tool can be stopped by pressing one of the two knobs.

Mode B

When the instrument is turned on and speed and time are at zero they can be set.

The speed limit is set in mode A and in mode B it is only displayed, but cannot be changed. After the instrument is turned off, it does not go into mode B automatically, but it is necessary to put it into manual if desired. After turning on the instrument and selecting the type of rotation desired (clockwise or counterclockwise, in the case of an orbital instrument), the following process is shown on the display:

The left display shows "SAF" and the right one the limit speed value (rpm) which as mentioned cannot be changed.



The set speed and time are shown in the left and right display respectively. By turning the speed and time knobs the respective values can be changed.



After pressing one of the two knobs, the instrument starts to shake at the set speed. The current speed and remaining time are shown on the LCD display. When time reaches zero the shaker stops.



Note: The set values can be changed at any time, even during operation. The tool can be stopped by pressing one of the two knobs.

Change of operating mode

To change the operating mode:

- Switch off the instrument with the main switch
- Keep both knobs pressed and at the same time switch on the instrument. After about 5 seconds the knobs can be released.
- Change the operating modes from A to B.

Maximum load

To ensure safety, the shaker must be used with loads not exceeding the permissible load.

Make sure that the support surface of the instrument is always clean and flat. Make sure that the container or containers are always resting in a safe and well balanced manner on the support surface of the shaker.

Malfunctions

- When the instrument is on and not working:
 - Check that the cable is well connected
 - Check that the fuse is intact
- The speed does not reach the set value
 - Check that there is not too much load
- The shaker does not start by pushing either one or the other knob
 - Check that the time is not set to zero

Cleaning and maintenance

- Proper maintenance of the instrument guarantees its good condition and extends its life.
- Disconnect the power cable during cleaning.
- During cleaning, be careful not to spray the detergent inside the instrument.
- Use only mild 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.

Reference standards

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

EN 61010-1

UL 3101-1

CAN/CSA C22.2(1010-1) EN 61010-2-10

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

EN 61326-1

Technical features

Voltage	100 – 240 VAC
Frequency	50 – 60 Hz
Power	SKO-D XL Lineare e SKO-D XL orbitale: 30 W SKO-D 3D: 40W
Movement	SKO-D XL Linear: linear SKO-D XL Orbital: orbital SKO-D 3D: 3D orbital
Oscillation	SKO-D XL Linear: 10 mm SKO-D XL Orbital: 10 mm
Tilt angle	9°
Maximum agitation load	SKO-D XL Linear: 7,5 kg SKO-D XL Orbital: 7,5 kg SKO-D 3D: 5 kg
Dimensione piatto senza supporti	320 x 320 mm
Motor	Brushless
Range di velocità	SKO-D XL Linear: 100 -350 rpm SKO-D XL Orbital: 100 – 500 rpm SKO-D 3D: 10 – 70 rpm
Speed display	LCD display
Timer	Present
Time display	LCD display
Time range	1 min – 20 h or continuous
Operating modes	Default or continuous time
Dimensions	SKO-D XL Linear: 420 x 370 x 100 mm SKO-D XL Orbital: 420 x 370 x 100 mm SKO-D 3D: 430 x 360 x 106 mm
Weight	SKO-D XL Linear: 13,5 kg SKO-D XL Orbital: 13,5 kg SKO-D 3D: 9 kg
Operating temperature	5 – 40 °C
Operating humidity	<80% R.H.
Protection classes DIN EN60529	IP21
RS232 port	Present

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.