

# User's Manual

## Benchtop Platform Shaker

This Guide applies to:

Modes: SciQuip Orbitor

SciQuip Reciprocator

SciQuip Rocker



# Safety Instructions!

Please be sure to follow these instructions, which are really important for your safety.



**danger! (Warnings against likely injury or death.)**

1. Grounding outlet to avoid accidental electric shock or fire disaster.
2. Do not attempt to repair the product yourself, any mishandling will result in fire or electric shock.
3. Please use the independent mains jack socket. Make sure the proper plug with outlet. Loose connection will result in overheating, electric shock, or even fire disaster.
4. Do not pull out the plug when it is operating. Do not drag the wire to plug the outlet.
5. Do not damage the wires or use the undesignated wires. Do not try to extend the wires or attach wires at the middle by yourself. Improper handling of wires will result in fire or electric shock.
6. Plug the outlet with wet will get risk of electric shock.
7. In case of malfunction or burning smell, the unit must be immediately unplug and ceased for further checking, or use a circuit breaker to cut off the power supply. Continuance of abnormal state will result in fire caused by overheating.
8. Make sure that the platform is in static state before extracting culture solution.
9. The electric power supply must be cut off under following situations:
  - 9.1. When opening the door of power box. Without cutting off power supply, the opening of the door will probably result in electric shock.
  - 9.2. When replacing the fuse. Highly risk of electric shock will be involved when replacing the fuse without cutting off the power supply.
  - 9.3. When the malfunction occurs. Otherwise, further damage of equipment or accidental injury on operators will result from mis-operations.
  - 9.4. When not using for a long period of time. When the equipment will be left unused for long term. The dust accumulated on the outlet would possibly lead to electric leakage and fire.
  - 9.5. When moving the equipment. Highly risk of electric shock will be involved when moving the equipment without cutting off the power supply.



## **Attention!**

Instructions to keep the normal life and proper operations of the equipment!

- 1.The unit must be placed horizontally on solid, flat floors and provide with sufficient clearance on all sides of the unit, at lease 10cm.
- 2.Do not leave the unit in a location exposed to direct sunlight or near heater.
- 3.Verify the local voltage of power supply before start. Voltage of power that doesn't meet the requirement will cause damage to the equipment or malfunction.
- 4.When the tray is in operation, a certain distance should be maintained between the operator and tray so as to avoid accidental injury on operator or affect the normal operation of the equipment.
- 5.The exterior of equipment must be kept away from volatile, flammable, explosive liquids or gases.
- 6.Regular check should be conducted on fixed screw of flask clamp in order to prevent noise or the falling of clamp.
- 7.For SciQuip Reciprocator, machine oil must be added to the swing link pedestal after the equipment being used for 3 days.



## **Attention!**

Apart from the above warnings and instruction, there are several other special reminder with a exclamation point within a triangle, please read and follow.

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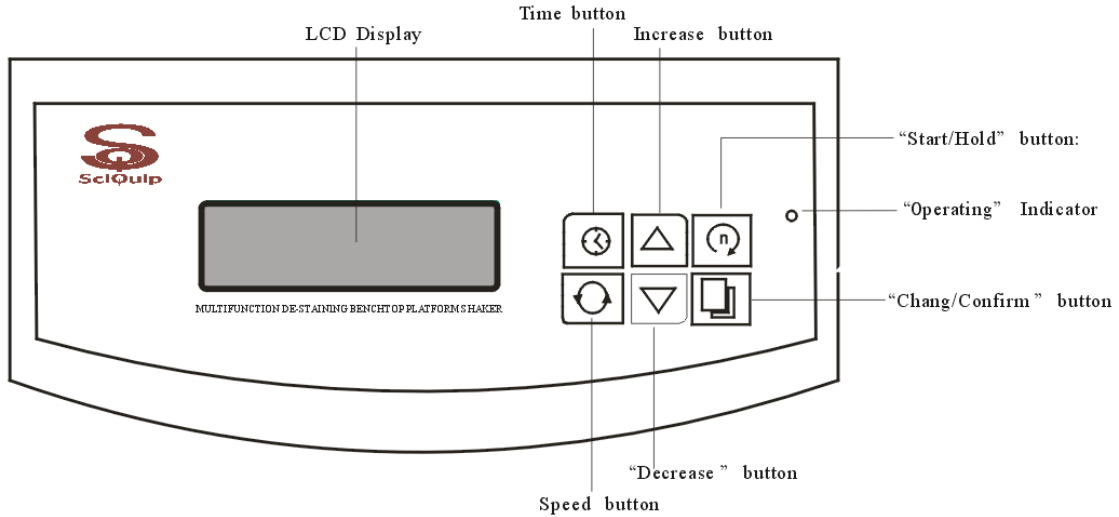
## 1. Key features

- 1.P.I.D environmental scanning micro-processing controller and intelligent audio and visual alarm, and patterning menu.
- 2.The large LCD screen clearly indicates the preset and real parameters.
- 3.Provided with power-off recovery function, the equipment can automatically recover to run according to the originally designed programs when the external power is recovered after a sudden cut off.
- 4.The operating parameter locked by encryption prevents misoperation.
- 5.Operating parameter memory function avoids monotonous operations.
- 6.Timer up to 500 hours and audio and visual alarm will be activated when shaking terminates.
- 7.DC brushless motor long-life design, free from maintenance.
- 8.Wiring of the acceleration control ensures soft start, smooth acceleration and the security of samples.
- 9.The luxurious streamline mould involving aesthetic designing.
- 10.Large variety of clamps for need of different experiment.

## 2. Technical Specifications

Model	Orbitor	Reciprocator	Rocker
Action Mode	Orbital	Reciprocal	Rocker
Speed Range (/min)	30-300 rounds	30-300 strokes	20-80 tilts
Speed Variation (/min)	±1 round	±1 stroke	±1 tilt
Stroke	Ø30 mm	20, 24, 30, 40 mm	5°, 8°, 10°, 12°
Tray Dimensions (mm)	330x350	330x350	330x350
Accessory Included	Rubber Bar Tray	Clamp Tray	Tray with non-slip mat
Timer	1 minute to 500 hours	1 minute to 500 hours	1 minute to 500 hours
Maximum Load (kg)	7.5	7.5	4
Overall Dimensions (mm) (WxDxH)	400x360x235	400x350x150	400x360x160
Packing Dimensions (mm) (WxDxH)	520x470x340	520x470x300	520x470x310
Net / Gross Weight (kg)	25/37	21/31	10/20
Safety Features	Non-volatile Memory, Power-off Recovery, Timer,		
Power (W)	50		
Electricity	220-240V 50/60 Hz		
Approval	CE, ISO		

### 3. Control Panel



**“Change /Confirm ”button:**

Press the “ Chang/Confirm” button to change the parameter, and press it again to confirm the changed.



**“ Increase ”button:**

Press the “Increase ” button to adjust the parameter you want to set, and changing speed will be accelerated if this button is held on.



**“ Decrease ” button:**

Press the“ Decrease ”button to adjust the parameter you want to set, and changing speed will be accelerated if this button is held on.



**“ Time ” button:**

Press the “Time ” button, LCD displaying the preset time value and the preset state of the power-off recovery switch. Press the “Time ” again, LCD displaying the balance of time.



**“ Speed ” button:**

Press the “Speed ” button, LCD displaying the preset speed value. Press the“ Speed ”again, LCD displaying the measured value of speed.



**Start/Hold ” button:** Press “ Start/Hold ” button, Platform begin to oscillate and the Operating Indicator will be light. Press this button again to stop oscillating and the




(Operating Indicator)

Operating Indicator goes out.

## 4. Preparation and Start-up

- 1.The unit must be placed horizontally on solid, dry and flat floors, kept from direct sunlight and provide with sufficient clearance on all sides of the unit, at least 10cm.
- 2.Configuration of power supply of AC 220~240V 50/60Hz with socket reserved for the use of the equipment.
- 3.Connect the plug of power supply with the especially reserved socket, turn on the master switch on the right side of the equipment, power is applied to the unit.

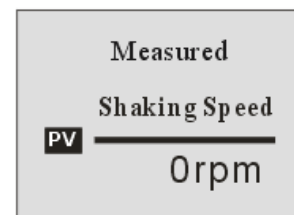
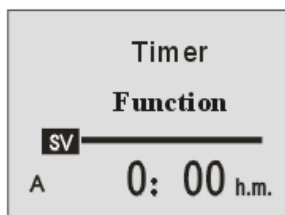
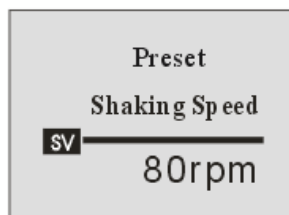
### Simplified instruction for SPEED set point



**Attention**

Only use a properly grounded outlet, verify the local voltage of power supply before start, we are not responsible for damages caused by incorrect voltage of power supply.



**Switch on the main power on the right side, LCD will display below information in turn:**



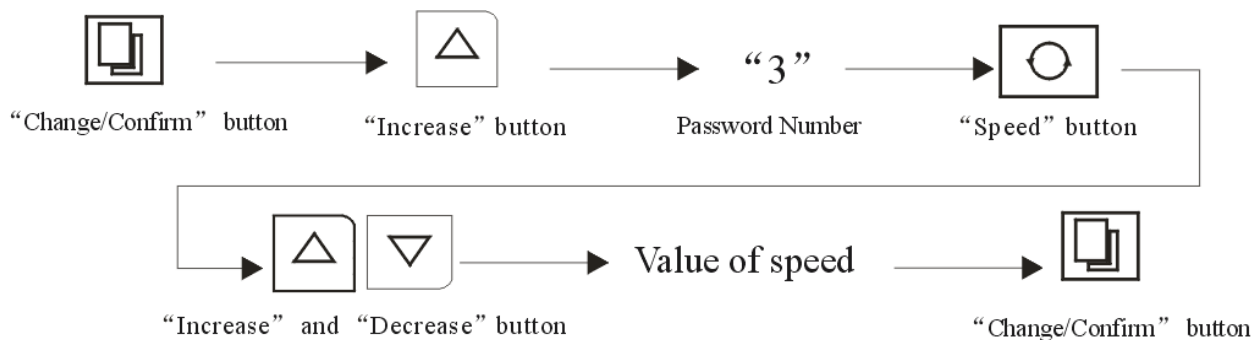
**Now, according to the preset parameter, the unit is in a state of readiness.**

## 5. Setting Speed

Speed amount to the oscillating frequency.

1. Press the “Change/Confirm” button  , then press the “Increase ”button to “3” , press the “Speed” to enter into the state of setting of speed parameter. LCD displays the preset value of speed, SV twinkles, press “Increase ”or “Decrease” button to change the value of speed.
2. After the adjustment of setting, press “Change/Confirm” button again  to confirm the setting.

### Simplified instructions on the setting of speed parameter:

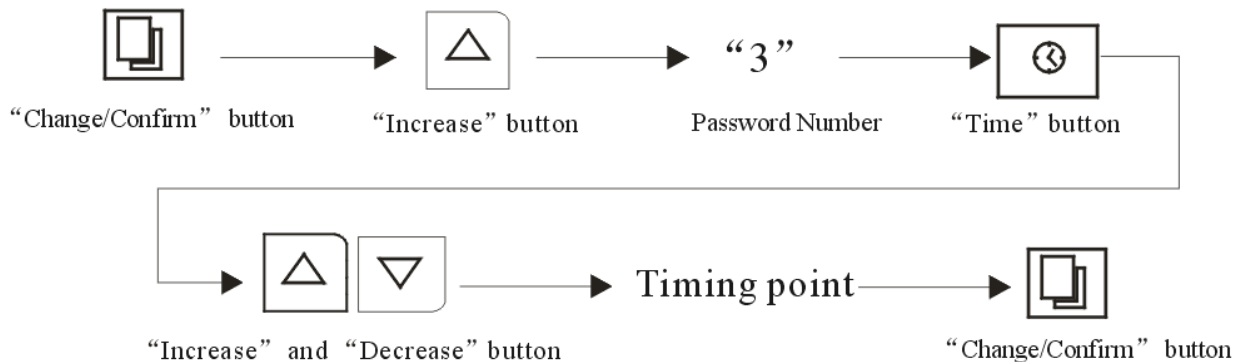


## 6. Setting the Timing Parameters

1. Press “Time” button, LCD displays the preset timing point, press “Time” button again, LCD displays the remaining time.
2. Press the “Change/Confirm” button, then press the “Increase” button to “3”, press the “Time” to enter into the state of setting of timing parameter. LCD displays the preset timing point, SV twinkles, press “Increase” or “Decrease” button to change the timing point.
3. When adjusting the timing point:
  - within the period of “0” to “12” hour, the timing point increase or decrease by minute.
  - within the period of “12” to “500” hour, the timing point increase or decrease by half an hour.
4. After the adjustment of setting, press the “Change/Confirm” button again to confirm the setting.
5. When in operation: The platform will stop oscillating automatically when the remaining time reduce to “0: 00” . Timing set at “0” means continuous oscillating.



## Simplified instructions on the setting of timing parameter:



## 7. Adjusting Oscillation Amplitude

Only for SciQuip Reciprocator reciprocating mode and SciQuip Rocker tilting mode.



Before adjusting the Oscillation Amplitude, turn off the master switch and cut off the power supply.

SciQuip Reciprocator reciprocating mode: Having four adjustable Oscillating Amplitude(20mm, 24mm, 30mm, 40mm)

SciQuip Rocker tilting mode: Having four adjustable Incline Angle( $\pm 5$  、 $\pm 8$  、 $\pm 10$  、 $\pm 12$  )

1. Remove the fixed screw of tray, disassemble the tray. On the faceplate of the platform exterior, you can see a  $\Phi 65$ mm hole with eccentric and connecting rod.
2. Loosen the bolt which connect the connecting rod and eccentric, move it to the right screw hole and tighten the bolt.
3. After adjusting, assemble the tray on the platform, tighten the tray fixed screw to finish adjustment.



Eccentric wheel have four screw holes, each of which represent one eccentric distance, the more the distance, the bigger the oscillating amplitude.

### SPECIAL ATTENTION!



The maximum shaking speed should decrease when the shaking diameter is increased. Please see the chart below for the recommended maximum speed for diameter adjustments for your reference.

Maximum Speed limit is also subject to the loading weight, such as the flasks, type of shaking tray!

SciQuip is not liable for any damages, as a result of not complying with the chart below.

#### SciQuip Reciprocator

Shaking Stroke	Maximum Speed
20mm	300rpm
24mm	280rpm
30mm	180rpm
40mm	150rpm

## 8. Setting of Power-off Recovery Function

1.If the power-off recovery function is set, the equipment can automatically recover to run according to the originally designed programs when external power is recover after a sudden cut off.

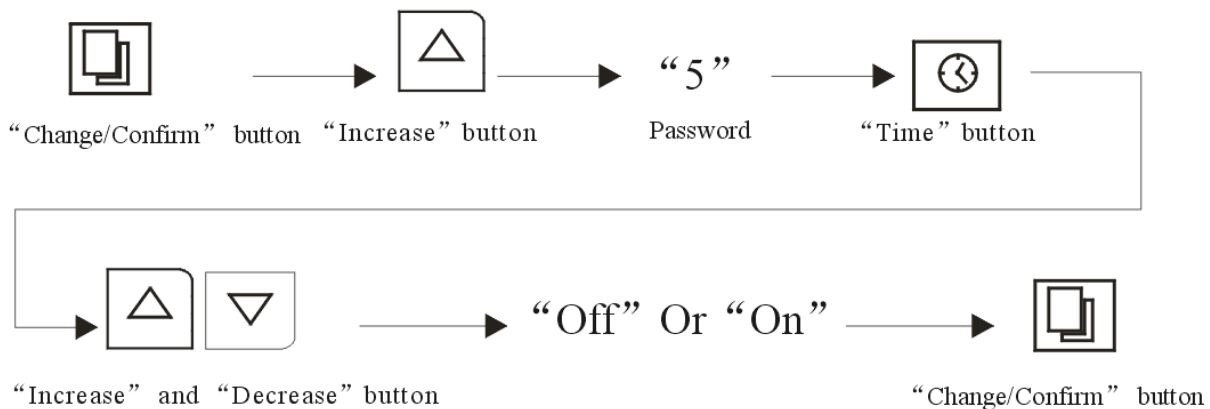
2.Press the “Change/Confirm” button, then press the “Increase” button to “5”, press the “Time” to enter into the state of setting of power-off recovery function. LCD displays the character “Off” or “On”, press “Increase” or “Decrease” button to change the setting, press the “Change/Confirm” button again to confirm the setting.

3.When displaying “Off”, the power-off recovery function is not activated.

4.When displaying “On”, the power-off recovery function is activated.

5.Press the “Time” button, if character “A” appears on the lower left corner of the screen, then the power-off recovery function is activated, otherwise not.

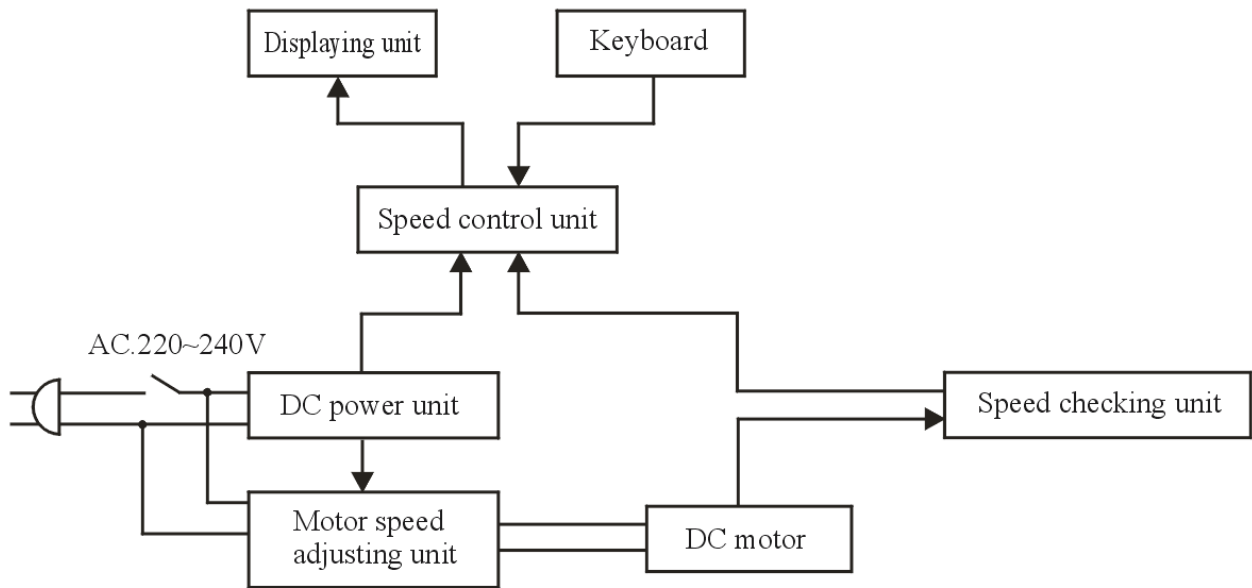
Simplified instructions on the setting of power-off recovery function :



## 9. Operating/Stopping

1. When completing the above setting, press the “Start/Hold” button, the equipment will start to run according to the originally designed programs. The red Operating Indicator is on.
2. When in operation, press the “Start/Hold” button to stop oscillating, press the “Start/Hold” button again to continue operation.
3. The platform will stop oscillating automatically when the remaining time reduce to “0: 00” . The buzzer will keep buzzing for 2 minutes. Press the “Time” button to terminate the alarm.
4. Turn off the master switch on the right side of the equipment to switch off the unit.

## 10. Electric theorem



## 11. Normal malfunction and debugging

Encountered symptoms	Possible cause	Debugging
Power on without display	<ol style="list-style-type: none"> <li>1.Power supply is not connected.</li> <li>2.Block have access to jack socket.</li> <li>3.The fuse is broken</li> </ol>	<ol style="list-style-type: none"> <li>1.Check the power supply system to see if there is voltage.</li> <li>2.Check the reliability of power supply plug</li> <li>3.Replace the fuse</li> </ol>
Oscillating of tray Unstable	<ol style="list-style-type: none"> <li>1.Equipment is placed on an uneven surface.</li> <li>2.Malfunction of control circuit.</li> <li>3.Screw of tray connector is loose.</li> </ol>	<ol style="list-style-type: none"> <li>1.Adjust the legs on feet to make the equipment stable.</li> <li>2.Call for manufacture to repair the electric circuit.</li> <li>3.Check transmission connector, tighten screw</li> </ol>
Equipment has big noise	<ol style="list-style-type: none"> <li>1.Equipment is placed on an uneven surface.</li> <li>2.The fix screw of the flask clamp is loose.</li> <li>3.The fix screw of the tray is loose.</li> <li>4.Mechanical failure of transmission</li> </ol>	<ol style="list-style-type: none"> <li>1.Adjust the legs on feet to make the equipment stable.</li> <li>2.Tighten the fixed screw of the flask clamp</li> <li>3.Tighten the fixed screw of the tray</li> <li>4.Lubricate the bearing to debug or notify the manufacturer.</li> </ol>