



Instruction Manual

Rocking Platform Shaker

3-D Rotator Waver



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PACKAGE CONTENTS

Rocking Platform Shaker or 3-D Rotator Waver
92" (234cm) detachable power cord
Non-skid rubber mat
Instruction manual
Warranty card

WARRANTY

Manufacturer warrants this product to be free from defects in material and workmanship when used under normal conditions for two (2) years. Please complete and return the enclosed warranty card. For your reference, make a note of the serial number, date of purchase and supplier here.

Serial No.: _____ Date of Purchase: _____

Supplier: _____

INSTALLATION

Upon receiving the VWR Rocker/Waver, check to ensure that no damage has occurred in shipment. It is important that any damage that occurred in transport is detected at the time of unpacking. If you do find such damage the carrier must be notified immediately.

After unpacking, place the Rocker/Waver on a level bench or table, away from explosive vapors. Ensure that the surface on which the unit is placed will withstand typical heat produced by the unit and place the unit a minimum of six (6) inches from vertical surfaces. Always place the unit on a sturdy work surface.

The Rocker/Waver is supplied with a power cord that is inserted into the IEC connector on the back of the unit first, then it can be plugged into a properly grounded outlet. The 120V unit plugs into a 120 volt, 50/60 Hz source. The 230V unit plugs into a 230 volt, 50/60 Hz source.

MAINTENANCE & SERVICING

The Rocker/Waver is built for long, trouble-free, dependable service. No lubrication or other technical user maintenance is required. It needs no user maintenance beyond keeping the surfaces clean. The unit should be given the care normally required for any electrical appliance. Avoid wetting or unnecessary exposure to fumes. Spills should be removed promptly. Do not use a cleaning agent or solvent on the front panel which is abrasive or harmful to plastics, nor one which is flammable. Always ensure the power is disconnected from the unit prior to any cleaning. If the unit ever requires service, contact your VWR representative.

ENVIRONMENTAL CONDITIONS

Operating Conditions: Indoor use only.

* For use in CO₂ environments, incubators or cold rooms ranging from -10 to 60°C (14 to 140°F).

Humidity: 80% relative humidity, non-condensing

Altitude: 0 to 6,562 ft (2000 M) above sea level

Non-Operating Storage:

* Temperature: -20 to 65°C (-4 to 149°F)

Humidity: maximum 80% relative humidity, non-condensing

Installation Category II and Pollution Degree 2 in accordance with IEC 664.

* **Avoid cold starts:** Unit is not designed to start after being in a cold room environment. Bring unit into cold room from a room temperature environment, operate and remove unit from cold room as soon as operation is complete.

SAFETY INSTRUCTIONS

Please read the entire instruction manual before operating the Rocker/Waver.



WARNING! DO NOT use the Rocker/Waver in a hazardous atmosphere or with hazardous materials for which the unit was not designed. Also, the user should be aware that the protection provided by the equipment may be impaired if used with accessories not provided or recommended by the manufacturer, or used in a manner not specified by the manufacturer.

Always operate unit on a level surface for best performance and maximum safety.

DO NOT lift unit by the platform tray.



CAUTION! To avoid electrical shock, completely cut off power to the unit by disconnecting the power cord from the unit or unplug from the wall outlet. Disconnect unit from the power supply prior to maintenance and servicing.

Spills should be removed promptly. Biohazard spills should be cleaned up using approved laboratory procedures. Solvent spills are a fire hazard. Stop the unit immediately, and **DO NOT** operate until clean up is complete and vapors have dissipated (motor brushes arc and may ignite flammable vapors).

DO NOT immerse the unit for cleaning.

DO NOT operate the unit if it shows signs of electrical or mechanical damage.



Earth Ground - Protective Conductor Terminal



Alternating Current

STANDARDS & REGULATIONS

Henry Troemner LLC hereby declares under it's sole responsibility that the construction of this product conforms in accordance with the following standards:

Safety standards:

IEC 61010-1 Safety requirements for electrical equipment for measurement, control and laboratory use. Part I: General Requirements.

IEC 61010-2-051 Part II: Particular requirements for laboratory equipment for mixing and stirring.

UL Std. No. 61010-1

CSA/CAN C22.2 No. 0-M91

CSA/CAN C22.2 No. 61010-1-04

EMC standards:

EN61326-1 Class A EN6100-3-3

EN6100-4-5 FCC-B

EN61000-4-4 EN55022-B

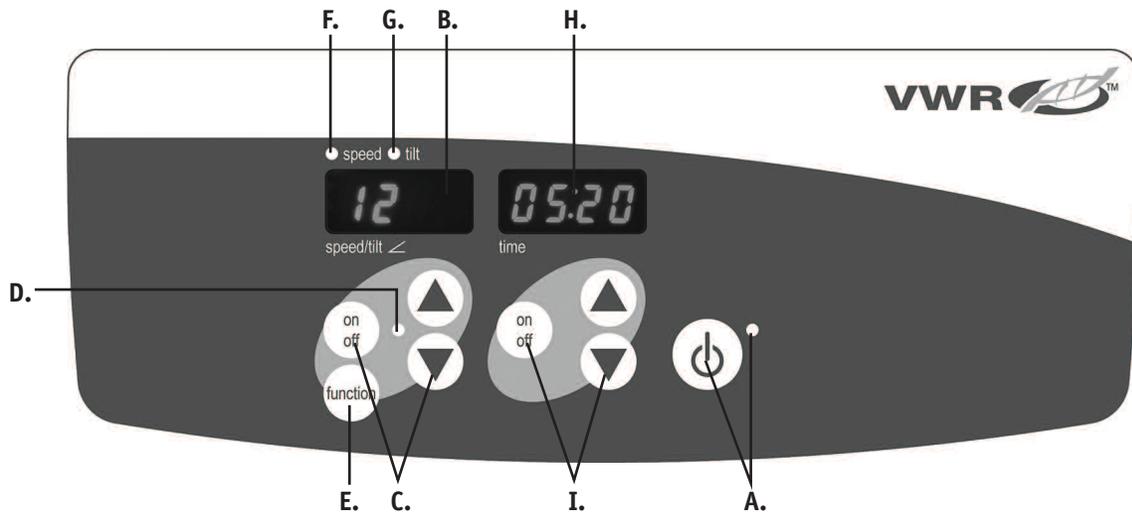
EN61000-4-2 EN61000-4-3

EN61000-4-11 EN61000-4-6

Associated EU guidelines:

EMC directive 2004/108/EC

LVD directive 2006/95/EC



CONTROL PANEL

The front panel of the Rocker/Waver contains all the controls and displays needed to operate the unit.

A. Standby button/standby indicator light: The standby indicator light will illuminate when the unit is plugged in. The unit will be in standby mode. Press the standby button to activate the speed/tilt and time functions. The standby indicator light will shut off and the speed/tilt display and time display will illuminate. Press the standby button again and the unit will once again be in standby mode.

B. Speed/tilt display: Displays the speed and tilt of the unit. **C.** Up/down arrows for set-point control. On/off button starts/stops the rocking/waving function. **D.** The speed/tilt indicator light will be illuminated when the unit is rocking/waving.

E. Function button: Press to choose the function you are setting: speed or tilt.

F. Speed indicator light: Illuminates when the speed is displayed.

G. Tilt indicator light: Illuminates when the tilt angle is displayed.

H. Time display: Displays accumulated time (continuous mode) or how much time is remaining (timed mode). **I.** Up/down arrows for set-point control. On/off button starts/stops the time function. The display range is from 0 to 9,999 minutes in one (1) second increments. The display will indicate minutes and seconds until the timer reaches 99 minutes and 59 seconds (99:59), then the display will automatically display minutes up to 9,999.



VWR Rocker with glassware and plasticware accessories

Overall dimensions (L x W x H):	17 x 11 x 5" (43.2 x 27.9 x 12.7cm)
Platform dimensions (L x W):	12.75 x 10" (32.4 x 25.4cm)
Electrical (50/60 Hz):	120 volts AC, 5 amps, 25 watts 230 volts AC, 5 amps, 25 watts
Fuses:	5mm x 20mm, 5 amp quick acting
Speed range:	1 to 50rpm*
Speed accuracy:	±1rpm
Tilt angle:	0 to 15°*
Weight capacity:	10lbs (4.5kg)**
Timer:	digital, 1 second to 9999 minutes (increased in 1 second increments)
Controls:	see page 4
Ship weight:	15.5lbs (7kg)

* Maximum speed/tilt angle may vary with heavy or unbalanced loads.

** Centered on tray.

WAVER SPECIFICATIONS

Overall dimensions (L x W x H):	17 x 11 x 6" (43.2 x 27.9 x 15.2cm)
Platform dimensions (L x W):	11.75 x 8.75" (29.9 x 22.2cm)
Electrical (50/60 Hz):	120 volts AC, 5 amps, 25 watts 230 volts AC, 5 amps, 25 watts
Fuses:	5mm x 20mm, 5 amp quick acting
Speed range:	1 to 30rpm*
Speed accuracy:	±1rpm
Tilt angle:	0 to 20°*
Weight capacity:	5lbs (2.3kg)**
Timer:	digital, 1 second to 9999 minutes (increased in 1 second increments)
Controls:	see page 4
Ship weight:	16lbs (7.3kg)

* Maximum speed/tilt angle may vary with heavy or unbalanced loads.

** Centered on tray.



VWR Waver with plasticware and glassware accessories

ROCKER/WAVER OPERATING INSTRUCTIONS

The VWR Rocker/Wavers are used for gentle mixing of laboratory samples. These units have been designed for the speed/tilt and time functions to work independently of one another. The speed/tilt can be re-set without re-setting the timer and the timer can be stopped and started without interrupting the rocking/waving functions.

1. Getting ready:

- a. Plug the power cord into a properly grounded outlet. The standby indicator light will illuminate, verifying power to the unit. Manually move the platform tray to a near horizontal "home" position before powering unit.
- b. Press the standby button to move the unit from standby mode. The standby indicator light will shut off and the speed/tilt and time displays will illuminate and display the previously used settings.



2. Setting tilt: Electronic tilt enables the user to adjust the angle of tray movement while the unit is rocking/waving or while the unit is stopped.

- a. Press the function button below the speed/tilt display until the tilt indicator light illuminates. You are now ready to set the tilt angle.
- b. Press the up/down arrows below the speed/tilt display until you reach the desired angle. When you release the arrow button, the display will blink off and then on indicating the new set angle has been accepted. The unit will complete one rotation at the previously set angle, then smoothly change to the newly programmed angle. The tilt indicator light will flash until the transition to the new tilt angle is complete.

3. Setting speed:

- a. Press the function button below the speed/tilt display until the speed indicator light illuminates. You are now ready to set the speed.
- b. Press the up/down arrows below the speed/tilt display until you reach the desired speed. When you release the arrow button, the display will blink off and then on indicating the new set speed has been accepted.

- c. Press the on/off button to start the rocking/waving function. The indicator light below the speed/tilt display will flash until the transition to the set speed is complete, then the light will stay illuminated indicating the rocking/waving function is in use.
- d. To stop rocking/waving function, press the on/off button below the speed/tilt display. The unit will complete one full rotation then stop in the horizontal "home" position. The speed indicator light will flash until the rotation is complete. When the cycle is complete, the unit will automatically move to standby mode and the standby indicator light will illuminate.

OPERATING TIPS

When the unit is running at slow speeds or high angles, making large changes to the tilt angle or speed may take several minutes to complete. The quickest way to make large changes to the speed or tilt angle is to stop the unit, change the speed or tilt angle, then restart by pressing the on/off button below the speed/tilt display.

4. **Setting time to zero (0:00) and continuous mode:** Accumulated time.
 - a. Press and hold the on/off button below the time display. After three (3) seconds, the display will indicate the previous set time.
 - b. Simultaneously press both the up and down arrows, the display will indicate zero (0:00). The unit time is now set to zero (0:00) minutes. Alternately, you can use the up/down arrows to get to zero (0:00).
 - c. Press the on/off button below the time display. The display will indicate the accumulated time. The up/down arrows will become inactive. To stop timer, press the on/off button again. **IMPORTANT:** This will **NOT** interrupt the rocking/waving function. Press the on/off button below the speed/tilt display to interrupt the rocking/waving function.
 - d. To re-set, press and hold the on/off button below the time display. After three (3) seconds, the display will indicate the previous set time, which was zero (0:00).

5. Setting timed mode: Programmed time.

- a. Press the up/down arrows below the time display until you reach the desired time.
- b. Start this function by pressing the on/off button below the time display. The unit will run for the selected time, the up/down arrows will become inactive while the timer is running. The unit will stop rocking/waving when time display reaches zero (0:00). Four (4) audible beeps will indicate the time down function is complete. The time display will default back to the set time. To repeat for the same time, simply depress the on/off button again.
- c. To interrupt an automatic timing cycle before it is completed, press the on/off button below the time display. The time display will flash off and on to indicate the time function is on "hold". **IMPORTANT:** This will **NOT** interrupt the rocking/waving function. Press the on/off button below the speed/tilt display to interrupt the rocking/waving function. Restart the timer by pressing the on/off button below the time display. Unit will continue counting down to zero (0:00). When the display reaches zero (0:00), you will hear the four (4) audible beeps that indicate the time down function is complete and the rocking/waving function will cease.

6. Turning unit off:

- a. To turn the unit off, press the standby button. The speed/tilt and time displays will be blank, the standby indicator light will illuminate. The Rocker/Waver should be kept in standby mode when not in use. To completely cut off power to the unit, disconnect the power cord from the unit or un-plug from the wall outlet.

OPERATING TIPS

Built-in memory maintains the last used speed/tilt and time settings during a power interruption.

A built-in program will shut power off to the motor if the platform tray is prevented from rocking/waving, or the unit is overloaded beyond its recommended weight capacity.

TROUBLESHOOTING

During operation, any rattling or ticking sounds may indicate a loose screw on the platform tray, tray attachment or accessory. All accessories should be sufficiently tightened in place before starting the unit.

<u>Error Code</u>	<u>Software Test</u>	<u>Cause</u>
E04	unit overloaded	maximum load exceeded

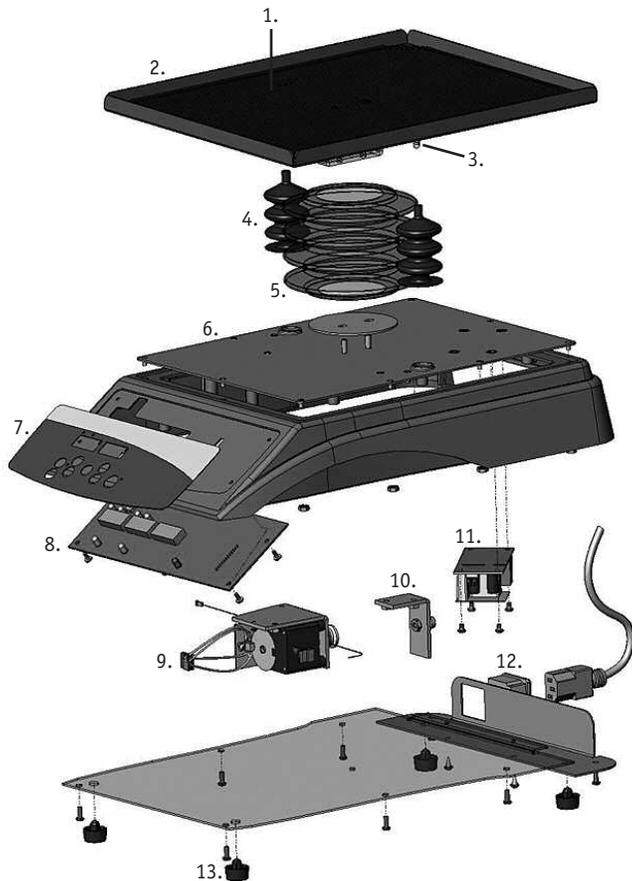
The E04 error can be addressed by the user. Press the standby button to clear this error. Be sure the load is within the maximum load specification before restarting the unit. If the E04 code persists, un-plug the unit and contact your VWR representative for repairs.

<u>Error Code</u>	<u>Software Test</u>	<u>Cause</u>
E03	drive system failure	mechanical obstruction ceased motor drive belt broken

The E03 error can be addressed by the user. Press the standby button to clear this error. If the E03 error persists, along with grinding, knocking or rubbing noises, un-plug the unit and contact your VWR representative for repairs.

In the event of an errant E03 error, such as someone inadvertently touching the platform tray while the unit is running, the unit will automatically go to the horizontal "home" position and restart. In the event of an obstruction left under the tray, which would cause the unit to continually restart, the unit will attempt to auto home and restart four (4) times and then stop running, displaying an E03 error. This error can be cleared by the user by pressing the standby button.

ROCKER REPLACEMENT PARTS



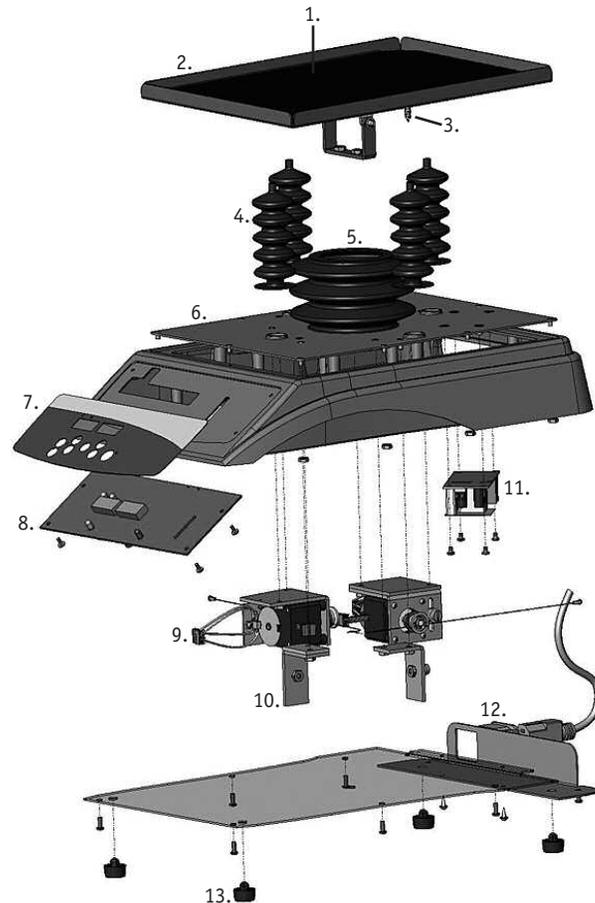
DESCRIPTION	PART NUMBER
1. Non-skid rubber mat	580076-00
2. Tray assembly	880523-00
3. Spring	180060-00
4. Bellows rocker	280436-00
5. Bellows center	280434-00
6. Platform tray	280405-00
7. Front panel	380724-00
8. Circuit board	380735-00
9. Motor assembly	880533-00
10. Idler assembly	880531-00
11. Power supply	386453-00
12. Power entry module 120V	380755-00
230V	380237-00
Fuse	380238-00
13. Feet	149023-00
Detachable 92" (234cm) power cord, 120V	330100-00
EURO	330101-00
UK	330102-00
SWISS	330103-00

WAVER REPLACEMENT PARTS

DESCRIPTION

PART NUMBER

1. Non-skid rubber mat	580077-00
2. Tray assembly	880522-00
3. Spring	180060-00
4. Bellows waver	280435-00
5. Bellows center	280434-00
6. Platform tray	280406-00
7. Front panel	380726-00
8. Circuit board	380735-00
9. Motor assembly	880532-00
10. Idler assembly	880531-00
11. Power supply	386453-00
12. Power entry module 120V	380755-00
230V	380237-00
Fuse	380238-00
13. Feet	149023-00
Detachable 92" (234cm) power cord, 120V	330100-00
EURO	330101-00
UK	330102-00
SWISS	330103-00





DIMPLED MAT

Designed to hold centrifuge tubes, vials, culture tubes, and micro-tubes securely in place. Mat can be easily removed for cleaning and transporting tubes from bench to tray.

<u>DESCRIPTION</u>	<u>PART NUMBER</u>
Dimpled mat, 12.75L x 10W" (32.4 x 25.4cm), Rocker	12985-030
Dimpled mat, 11.75L x 8.75W" (29.9 x 22.2cm), Waver	12985-034



STACKING TRAY

Easily attaches to the lower platform tray to add a second tier for higher capacity applications. Second tier tray mounts 3.5" (8.9cm) above the lower tray.

<u>DESCRIPTION</u>	<u>PART NUMBER</u>
Stacking tray, Rocker	12620-914
Stacking tray, Waver	12620-924

MANUFACTURED BY:

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