



VWR[®] Large Capacity 2D Rocker Instruction Manual



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Section 1 Inspection and Installation

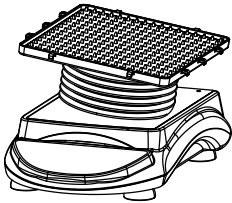
1. Inspect package and contents upon receipt of your instrument. If the package is severely damaged or if there are any missing pieces, please contact VWR Customer Service.

2. Unpack the instrument, ensure all parts of the instrument and accessories are not missing or damaged. Make sure to take out all the components before discarding packing. If any parts or accessories are missing or damaged, please contact VWR Customer Service.

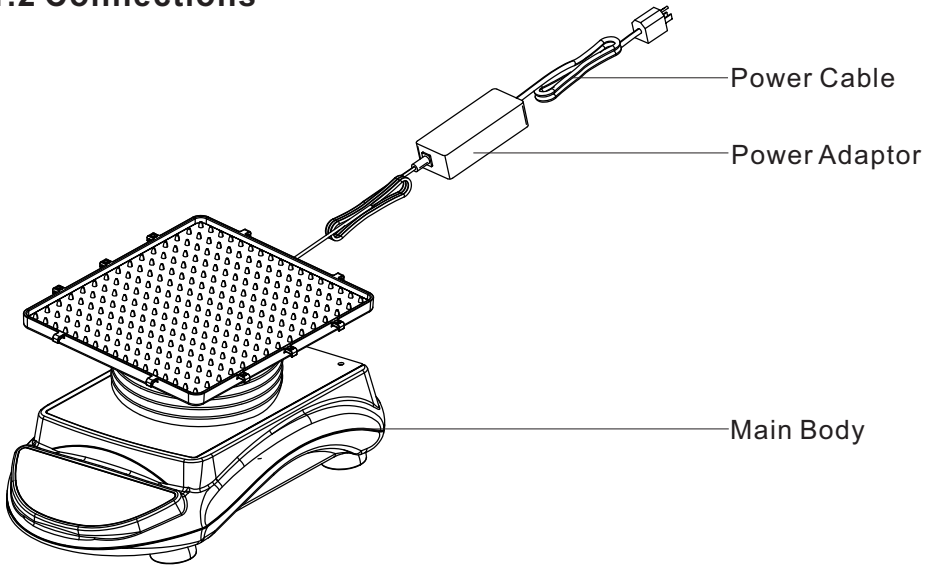
3. Place the instrument on a level and firm surface to avoid excess vibration and noise.

1.1 Packing List

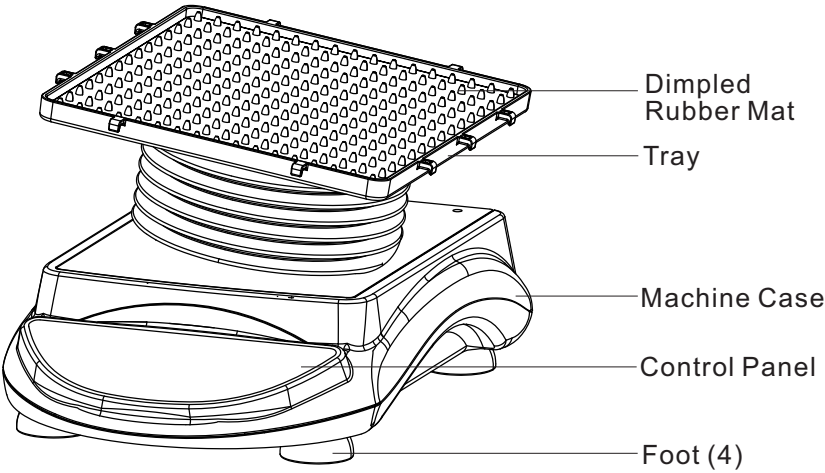
Table -1 Packing List

Model	76595-814	
Dimpled Rubber Mat	1	
General Power Adaptor	1	
US Plug	1	
Rubber Strip	6	

1.2 Connections



1.3 Structure Diagram



Section 2 Overview

2.1 Specifications

Speed

Speed Range	1 to 50 rpm
Speed Accuracy	±1 rpm
Display	LED
Display Accuracy	1 rpm

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

Rocking Angle

Angle Range	1°~15°
Angle Accuracy	±1°
Display	LED
Display Accuracy	1°
Rocking Mode	Left right reciprocating motion

Load

Maximum Load (Centered on tray)	4.5 kg (Clamps Included)
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Power Supply

Power Supply Requirement	AC100-240V, 50Hz/60Hz, 0.1A
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Time

Timing Range	Continuous Mode (Time displayed as 0) 1s to 9999 min
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Size

Overall Size	440×296×209mm (17.3×11.7×8.2in.)
Tray Size	327×289mm (12.9×11.4in.)
Packaging Size	505×385×360mm (19.9×15.2×14.2in.)

Weight

Net Weight	11.2Kg (24.6lb)
Gross Weight	13.5Kg (29.7lb)

2.2 Environmental Conditions

Application Environmental Conditions: indoor use

Temperature	5 to 40°C (41 to 104°F)
Humidity	20% to 85%
Altitude	≤2,000 m
Voltage Fluctuation	±10% of the nominal voltage

Storage Environmental Conditions

Temperature	0 to 60°C (32 to 160°F)
Humidity	20% to 90%, non-condensing

2.3 Safety Instructions

Please read the entire instruction manual before operating the Large Capacity 2D Rocker.



WARNING: DO NOT use the Large Capacity 2D Rocker 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 accessories used are not provided or recommended by the manufacturer or if accessories are used in a manner not specified by the manufacturer.

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 service. Any spills should be removed promptly. Biohazard spills should be cleaned using approved liquid promptly. Solvent spills are a fire hazard. Stop the unit immediately, and **DO NOT** operate until clean up is complete and vapors have dissipated.

DO NOT immerse the unit for cleaning.

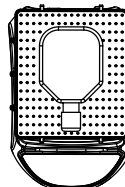
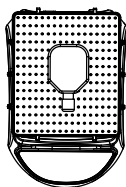
DO NOT operate the unit if it shows signs of electrical or mechanical damage.

Position of Loads

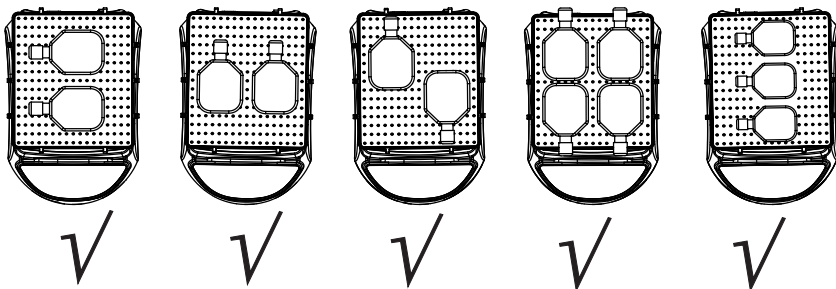
Place the loads in the recommended positions below:

1. Place load at the center of the tray
2. Place loads symmetrically around the center of the tray
3. Make sure to use rubber strips to fasten containers onto the tray

Centered placement

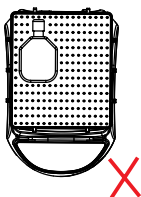


Symmetrical placement

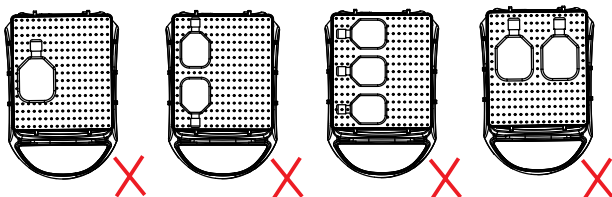


Asymmetrical placement

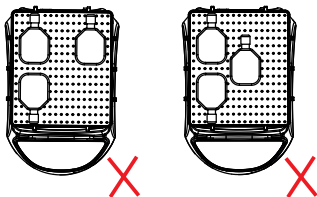
Cornered placement



Sided placement



Other Placement



 Asymmetric loading or unloading may affect the normal operation of the instrument and may even cause unpredictable damage.

This Large Capacity 2D Rocker is applicable to various mixing operations in different areas, including gel colorization/decolorization, sample cleaning, antibody staining, hybridization, immunoprecipitation, blot, and small volume tissue culture.

To avoid any accidents during operation, please use rubber bands to fasten containers onto the tray.

2.4 Loads, Angle and Speed

Tilt Angle	Placement	Maximum Speed (rpm)	Maximum Weight (Kg)
15°	Centered	50	4.5
1°	Centered	50	4.5
15°	Corner	20	1
1°	Corner	20	1
15°	Sided	30	1.5
1°	Sided	30	1.5

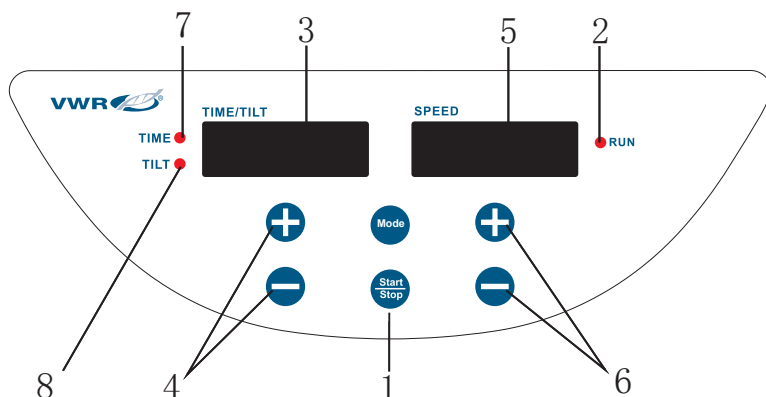


Warning: The maximum speed of the instrument may be affected if the load of cell culture flasks is unbalanced. If cornered or one-sided placement is required by the experiment, please make sure to increase the speed gradually.

Section 3 Operation

This Chapter covers the control panel and its operation.

3.1 Operations of the Control Panel



The front panel contains all the controls needed to operate the unit.

1. **Start/Stop button:** Start or stop the instrument.
2. **RUN indicator light:** The light is on when the instrument is running and off when the instrument is in standby.
3. **TIME/TILT display window:** The window shows cumulative time (in continuous mode) or remaining time (in timer mode). The range of time displayed is 0s to 9999 minutes.
4. **Set Time/Tilt buttons:** UP/DOWN arrow buttons are used to increase/decrease the set time/tilt angle of the instrument.
5. **SPEED display window:** The window shows set speed (when the instrument is in standby) or current speed (when the instrument is running). Speed range is 1 to 50 rpm and the accuracy is 1 rpm.
6. **Set Speed Buttons:** UP/DOWN arrow buttons are used to increase/decrease the set speed of the instrument.
7. **TIME indicator light:** The light is on when the instrument is running in Timer Mode.
8. **TILT indicator light:** The light is on when the instrument is in Tilt Adjustment Mode.

Preparation

1. Connect all the components according to the figures shown on page 1-3 of this manual. Make sure to use a grounded power outlet.
2. Press power button on the back right side of the instrument and put it into the “I” state. Then the instrument is in standby.

3.2 Settings

Time Settings

1. Continuous mode

Press the “” or “” arrow button below the TIME display window. When the number shown on the display window starts flashing, press “” arrow button to decrease the time to 00:00 and then release the button. The time setting is finished after the number shown on the display window has flashed twice.

2. Timer mode

Press the “” or “” arrow button below the TIME display window. When the number shown on the display window starts flashing, press “” or “” arrow button to increase or decrease the time value. Release the button when the time shown on the display window reaches the desired set value. The time setting is finished after the number shown on the display window has flashed twice.

Speed Settings

Press the “” or “” arrow button below the SPEED display window. When the number shown on the display window starts flashing, press “” or “” arrow button to increase or decrease the speed value. Release the button when the speed shown on the display window reaches the desired set value. The speed setting is finished after the number shown on the display window has flashed twice.

Note: Press the “” or “” arrow button for a longer time to accelerate the changing of the setting.

Set Tilt Angle

1. Press “” button and the TILT indicator light will be on.

2. Press the “” or “” arrow button on the left to choose the tilt needed. The range of tilt displayed on the window is 1 to 15°. After 3 seconds, the LED display window will flash and the instrument will automatically take the value shown as the set tilt.
3. Press “” button and the instrument will start rocking in the left-right reciprocating mode at the set tilt angle.

Set Rocking Time

1. Press “” button and the TIME indicator light on the left will turn on.
2. Press the “” or “” arrow button on the left. The display window on the left will show the time value. When the time shown is between 00:01 to 99:59, the default step of the instrument when changing the time is 1 second. Continue to press “” arrow button and the value 0100 will show on the display window. When the time shown in between 0100 to 9999, the default step is 1 minute. 3 seconds after the rocking time is chosen, the LED display window will flash and the instrument will automatically take the value shown as the set rocking time.
3. Press “” button and the instrument will start working with the time set and the display window will show the remaining time. When the timer goes off, the instrument will stop running and the alarm will sound.

Run and Stop

1. Continuous Mode

Press “” button and the instrument will start running with the specified settings and the RUN indicator light will be on. The TIME display window will show the cumulative time and the SPEED display window will show the current speed. Press “” button again and the instrument will slow down until it stops. The instrument will then be in standby and the two display windows will show the set values.

2. Timer Mode

Press “” button and the instrument will start running with the specified settings and the RUN indicator light will be on. The TIME display window will show the remaining time and the SPEED display window will show the current speed. Press “” button again and the instrument will slow down until it stops. The instrument will then be in standby and the two display windows will show the set values.

Finish Operation

When you are finished operating the unit, press the power switch at the back right side the instrument and put it into the “O” position. Unplug the instrument and store according to the storage guide.

Alarm System

The instrument will stop running in 2 minutes and alarm will sound if the normal operation is obstructed or the instrument is malfunctioning.

Power Recovery

If the power supply is cut off suddenly while the instrument is operating, the unit will automatically run at the previously set parameters upon power restoration. The display window will flash. Press any button to stop flashing.

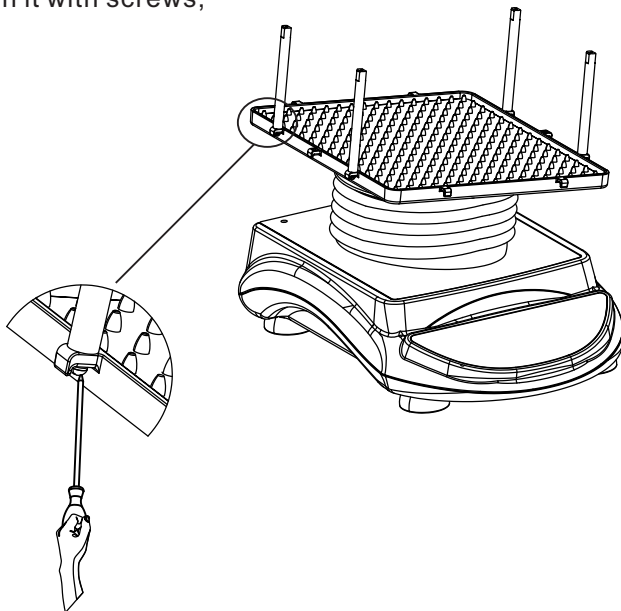
Mechanical Zero Correction

To ensure accurate and quality rocking, the instrument will automatically run mechanical zero correction in the following situations:

1. First operation after the machine is turned on;
2. First operation after the rocking speed is reset;
3. After 3 hours of continuous operation.

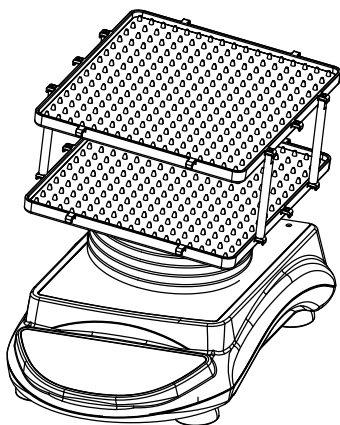
3.3 Installation of two trays

1. As shown in the figure below, place the four support columns (found in the spare parts) into the pits on exterior edge of the machine's work tray then fasten it with screws;

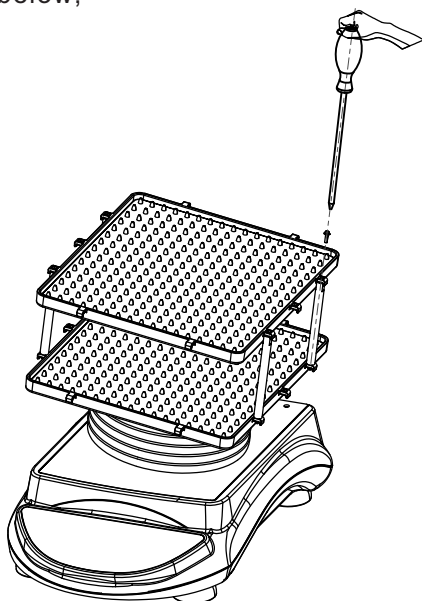


Note: Unscrew the screw for rubber strip on top of the strut if can't stick trays.

2. As shown in the figure below, place the bottom of hook on the tray into the four support columns previously mentioned;



3. Fasten the tray on the support column with screws of the spare parts shown in the figure below;



Section 4 Safety Tips and Maintenance

Safety Tips

1. Use an independent power supply.
2. Check if the local power supply voltage is suitable for use.
3. Do not drag the power supply cable when unplugging.
4. Do not use a non-specified power cable or damaged cable.
5. Service should only be performed by a qualified professional.
6. The power supply must be unplugged under the following situations:
 - a. when the unit is moved
 - b. when the electrical cabinet or the moving component is opened
 - c. when the equipment is malfunctioning
 - d. when the equipment is not in use

Maintenance

Instrument case and tray surface can be cleaned with a cloth with mild detergent and water.

Surface of the dimpled rubber mat can be cleaned with mild detergent or water and then wiped with clean cloth.

Warning: Avoid dripping detergent or water into the inside of the instrument during cleaning.

Clean Spill

If accidental spills occur on the surface of the instrument due to mishandling or a broken container, please shut down the instrument and clean up the liquid immediately.

If the liquid has already spilled into the unit, cut off the power supply first and immediately clean up the liquid at the surface of the instrument. Place the instrument in a ventilated and dry environment for 24 hours before reuse. If the instrument is still not functioning after drying for 24 hours, please contact the manufacturer.

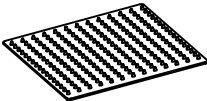
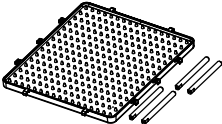
Warning: Disassembling/Assembling without a qualified professional's guidance may cause malfunctioning of the instrument.

Section 5 Troubleshooting

Please refer to the following table to troubleshoot if any malfunction occurs.
If the problem still exists, contact your local sales representative.

Error	Cause	Solution
Cannot start machine, LED display window off	Power disconnected	Connect the power
	Power adaptor failure	Replace power adaptor
	Switch off	Switch on
No shaking of the tray	Electrical malfunction	Contact VWR
	Mechanical malfunction	Contact VWR
	Over-weighted or unbalanced load	Adjust the weight and position of load, decrease rotation speed
Loud noise	Machine vibrates	Place instrument at a level and firm surface
	Tray is loose	Fasten tray screws
	Machine case loose	Fasten machine case screws
Other	Keep record for maintenance	

Section 6 Optional Accessories/ Spare parts

Description	Cat. No.	Dimensions	Figure
Dimpled Rubber Mat	76595-818	298×258mm	
Rubber Strips	76595-816	180×7mm (6pcs/pack)	
Stacking Tray Assembly	76595-820	306×266×108mm	

WARRANTY CARD

Save this card carefully please. When you need service, contact the service company with card & invoice.

Warranty Card

User Name		Telephone	
Address			
Zip Code		E-mail	
Product Name		Model	
Serial number		Purchase Date	

- **Warranty Scope:**
 1. Warranty period is 24 Months from purchase date.
- **Warranty is not valid under the following circumstances:**
 1. Warranty term is expired.
 2. Damage due to improper use, maintenance or handling.
 3. Unmatched serial numbers, or modification of serial numbers.

Customer service hotline: please contact VWR's customer service department at 1-800-932-5000.

User: the above information should be completed by the seller.

Maintenance records

Completed by maintenance organizations, and they should help customers to paste maintenance records in the appropriate position!

The 1 time	Maintenance company's name		Maintenance Date	
	Address		Tel	
	Maintenance documents No.		Maintenance personnel to sign	
The 2 time	Maintenance company's name		Maintenance Date	
	Address		Tel	
	Maintenance documents No.		Maintenance personnel to sign	
The 3 time	Maintenance company's name		Maintenance Date	
	Address		Tel	
	Maintenance documents No.		Maintenance personnel to sign	

