



VWR[®] NUTATING MIXER

Instruction Manual



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Table of Contents

Section 1 Inspection and Installation	1-1
Packing List	1-1
Connections	1-3
Structure Diagram	1-4
Section 2 Overview	2-1
Specifications	2-1
Environmental Conditions	2-2
Safety Instructions	2-3
Loads and Speed	2-5
Section 3 Operation	3-1
Operation of the Control Panel	3-1
Settings	3-2
Section 4 Safety Tips and Maintenance	4-1
Section 5 Troubleshooting	5-1
Section 6 Optional Accessories/Spare Parts	6-1
Section 7 Warranty	7-1

Section 1 Inspection and Installation

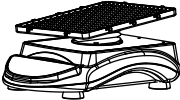
- 1. Inspect package and contents upon receipt of your instrument. If the package is severely damaged or if there are any missing pieces, please contact the manufacturer immediately.
- 2. Unpack the instrument, ensure all parts of the instrument and accessories are not missing or damaged. Make sure to take out all the components before discarding packaging.
- 3. Place the instrument on a level and firm surface to avoid vibration and noise.
- 4. This is the general user manual for three instruments. Please make sure to refer to the corresponding chapter for your instrument.

1.1 Packing List

Table -1 Packing List

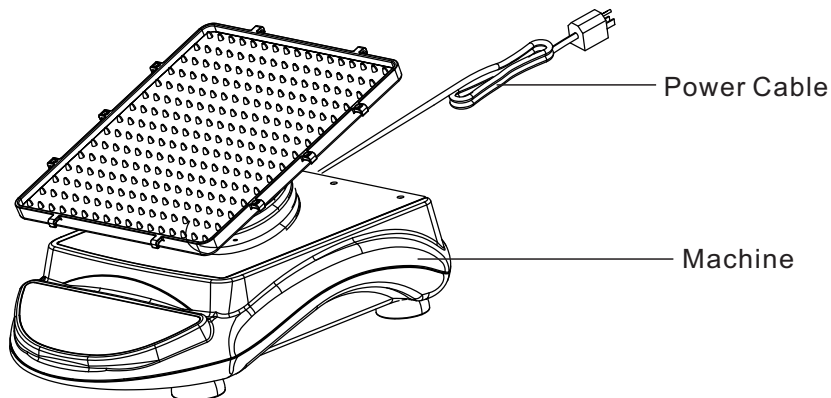
Model	76595-806	Figure
Product Name	Fixed Speed 3D Nutating Mixers	
Dimpled Rubber Mat	1	
US Plug	1	
Rubber Strips	6	
Fuse	2	

Table -1 Packing List

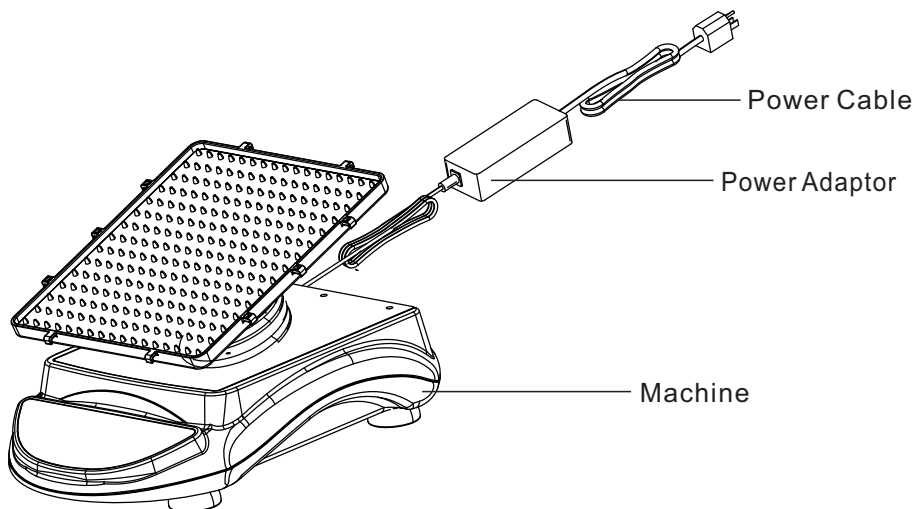
Model	76595-808	76595-810	Figure
Product Name	20 Digital Nutating Mixer	7 Digital Nutating Mixer	
Dimpled Rubber Mat	1	1	
General Power Adaptor	1	1	
US Plug	1	1	
Rubber Strips	6	6	

1.2 Connections

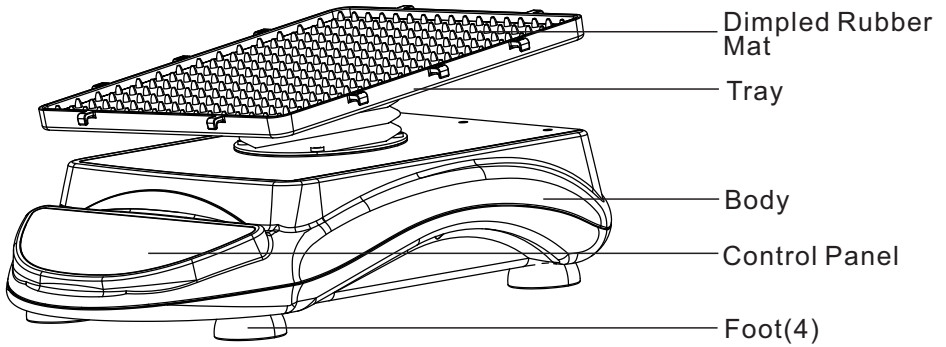
Fixed Speed 3D Nutating Mixers (76595-806)



20° Digital Nutating Mixer/7° Digital Nutating Mixer (76595-808/76595-810)



1.3 Structure Diagram



Section 2 Overview

2.1 Specifications

Rotation Speed			
Product Name	Fixed Speed 3D Nutating Mixers	20 Digital Nutating Mixer	7 Digital Nutating Mixer
Model	76595-806	76595-808	76595-810
Speed Range	24rpm	2 to 60rpm	2 to 80rpm
Display Mode	LED		
Display Accuracy	1rpm		
Speed Accuracy	±1rpm		

Angle			
Product Name	Fixed Speed 3D Nutating Mixers	20 Digital Nutating Mixer	7 Digital Nutating Mixer
Tilt Angle	20°		7°
Tilt Angle Accuracy	±1°		
Rotation Angle	0 to 360°		

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

Load	
Maximum Load (Centered on tray)	0.8kg

Time			
Product Name	Fixed Speed 3D Nutating Mixers	20 Digital Nutating Mixer	7 Digital Nutating Mixer
Timer Range	1min to 99h59min		
Display Mode	LED		

Power Supply			
Product Name	Fixed Speed 3D Nutating Mixers	20 Digital Nutating Mixer	7 Digital Nutating Mixer
Requirement	110V, 60Hz, 0.1A	100~240V, 50Hz/60Hz, 1A	100~240V, 50Hz/60Hz, 0.8A

Size

Product Name	Fixed Speed 3D Nutating Mixers	20 Digital Nutating Mixer	7 Digital Nutating Mixer
Overall Dimensions	440×296×261mm (17.3×11.7×10.3in.)	440×296×255mm (17.3×11.7×10.0in.)	440×296×189mm (17.3×11.7×7.4in.)
Tray Dimensions	327×289×22mm(12.9×11.4×0.9in.)		
Package Dimensions	505×385×360mm (19.9×15.2×14.2in.)		505×385×270mm (19.9×15.2×10.6in.)

Weight

Product Name	Fixed Speed 3D Nutating Mixers	20 Digital Nutating Mixer	7 Digital Nutating Mixer
Net Weight	5.9kg(13lb)	6.7kg(14.7lb)	6.3kg(13.9lb)
Gross Weight	7.9kg(17.4lb)	8.8kg(19.4lb)	8.7kg(19.1lb)

Others

Noise Level	<55 dB with no load when ambient noise is 45 dB
Certificate	ROHS, WEEE, cCSAus, CE Mark

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 (36 to 124°F)
Humidity	20% to 90%, non-condensing

2.3 Safety Instructions

Please read the entire instruction manual before operating the Nutating Mixer.



WARNING: **DO NOT** use the Nutating Mixer 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 not apply if accessories used are not ones provided or recommended by the manufacturer, or if they 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 unplugging it 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 promptly cleaned using approved liquid. 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.

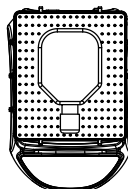
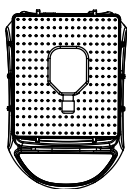
DO NOT operate the unit if it shows signs of electrical or mechanical damage.

Position of Loads

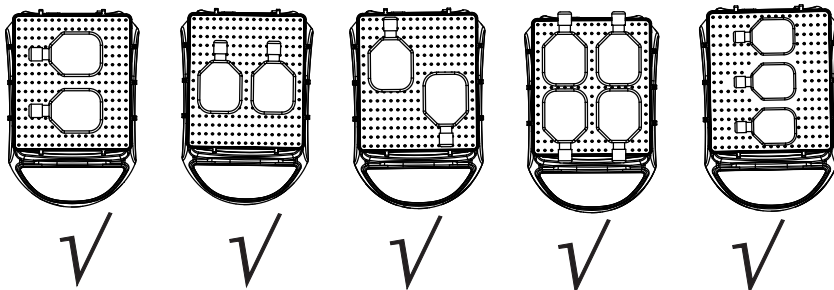
Place the loads in the recommended positions below:

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

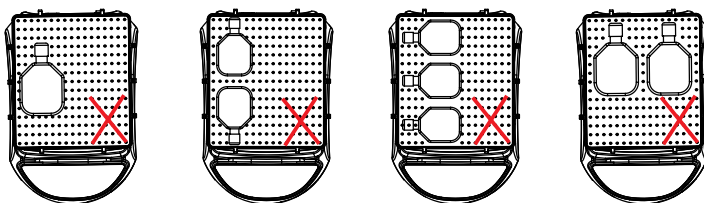


Asymmetrical placement

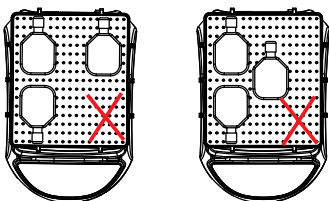
Cornered placement



One-Sided placement



Other Placement



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

2.4 Loads and Speed

20 Digital Nutating Mixer (76595-808)

Cell Culture Flask Specification(cm2)	≤Capacity (ml)	Maximum Speed (rpm)
25	30/40	60
75	225	60
150	450	60
175	600	60
225	800	60

7 Digital Nutating Mixer (76595-810)

Cell Culture Flask Specification(cm2)	≤Capacity (ml)	Maximum Speed (rpm)
25	30/40	80
75	225	80
150	450	80
175	600	80
225	800	80

Warning: The rotation speed is inversely proportional to the load. When the instrument is in use, it is recommended to adjust the rotation speed from low to high, step by step and run the machine at an appropriate speed to avoid accidental spillage of liquids.

For safety, please always using rubber strip to hold samples in place.

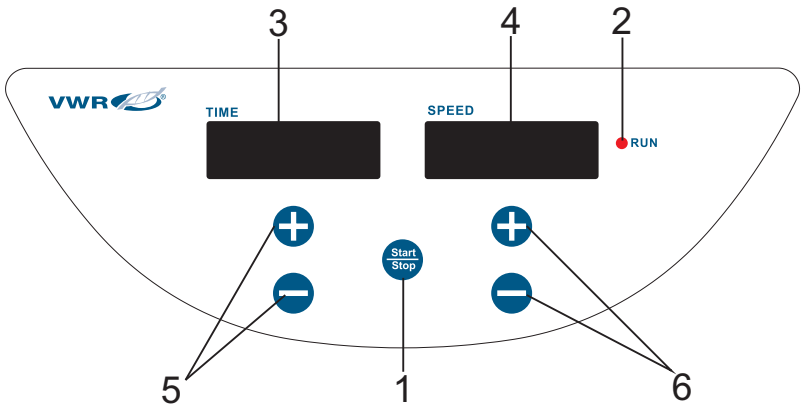
Section 3 Operation

This Chapter covers introduction of the control panel and its operation.

3.1 Operations of the Control Panel

20 Digital Nutating Mixer/ 7 Digital Nutating Mixer

RUN



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 display window:** The window shows cumulative time (in continuous mode) or remaining time (in timer mode). The range of time displayed is 0 to 99 hours and 59 minutes. The accuracy is 1 minute.
4. **SPEED display window:** The window shows set speed (when the instrument is in standby) or current speed (when the instrument is running).
5. **Set Time Buttons:** UP/DOWN Arrow buttons are used to increase/ decrease the set time of the instrument.
6. **Set Speed Buttons:** UP/DOWN Arrow buttons are used to increase/ decrease the set speed of the instrument.

Fixed Speed 3D Nutating Mixers



1. **RUN indicator light:** The light turns on when the instrument is running.

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 to the “|” state and then the instrument is in standby.

3.2 Settings

20 Digital Nutating Mixer/ 7 Digital Nutating Mixer

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 buttons 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 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 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 setting.

Run and Stop

1. Continuous Mode

Press “

2. Timer Mode

Press “

Fixed Speed 3D Nutating Mixer

Turn the power switch to “I” position. The RUN indicator light will be on and the instrument will start rotating at the fixed speed.

Finish Operation

After the operation is finished, please press the power switch at the back right side the instrument and put it into the “O” state. Unplug the instrument and store the instrument according to the storage guide.

Alarm System

When the normal operation is obstructed or stopped by malfunctioning, the instrument will stop running automatically within 2 minutes and the alarm will sound.

Power Recovery

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

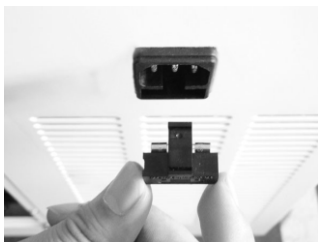
Section 4 Safety Tips and Maintenance

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 non-specified power cable or a 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

- a. This instrument uses a high-accuracy motor. It is high quality and maintenance free, with a long service time and low noise level.
- b. Surfaces can be cleaned with a mild detergent and water. Liquid is not allowed inside the dust cover.
- c. Two fuses are installed inside the power socket at the back of the Nutating Mixer Fixed Speed (one is for operation and the other is for backup). The installation of the fuses is shown in the figure below:



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

Clean Spill

If accidental spillage occurs on the surface of the instrument, 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 not functioning after drying for 24 hours, please contact the manufacturer.

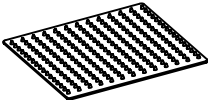
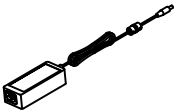
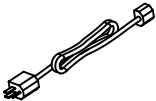
Warning: Disassembling/Assembling without a qualified professional's guidance may cause malfunctioning of the instrument.

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	Load moving	Change Dimpled Rubber Mat or fasten load
	Tray loose	Fasten fixing screws on the tray
	House loose	Fasten fixing screws at the House
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)	
General Power Adaptor	/	AC 100-240V, 50/60HZ	
US Plug	/	125VAC,10A, 1.8m	

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	

