

Section 3 Overview

3.1 Specifications

Rotation Speed	Speed Range.....5~120rpm Display Accuracy.....1rpm Speed Accuracy..... $\pm 1\text{rpm} \leq 30\text{rpm}$, $\pm 2\text{rpm} > 30\text{rpm}$
Rocking Angle	Operation Mode.....3D Circular Motion Carousel Angle Range.....1°~12°Adjustable
Load	Maximum Load (Centered on tray).....9.8kg
Time	Timing Range.....1min.~99h59min.
Size	Overall Dimensions.....383×295×224mm Tray Dimensions.....316×276×19mm Packaging Dimensions.....487×387×354mm
Weight	Net Weight.....13.5Kg(29.8lb) Gross Weight.....15.8Kg(34.8b)
Power Supply	Requirement.....AC100-240V, 50/60Hz, 0.2A
Others	Certification.....RoHS, WEEE, cCSAus, CE Mark Noise Level..... $\leq 55\text{dB}$ with no load

3.2 Environmental Conditions

Application Environmental Conditions: indoor use	
Temperature.....	5 to 40°C
Voltage Fluctuation.....	$\pm 10\%$ of the nominal voltage
Altitude.....	$\leq 2,000$ m
Humidity.....	20% to 85%

Storage Environmental Conditions
Temperature.....0 to 60°C
Humidity.....20% to 90%, non-condensing

3.3 Safety Instructions

Please read the entire instruction manual before operating the Digital Waving Rotator.

⚠ WARNING DO NOT use the Digital Waving Rotator 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 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. Bio hazard 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.

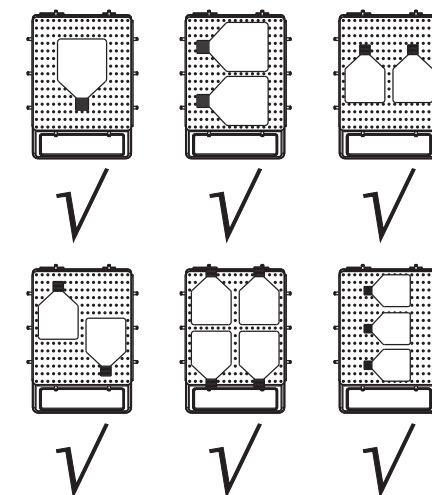
DO NOT operate the unit if it shows signs of electrical or mechanical damage.

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

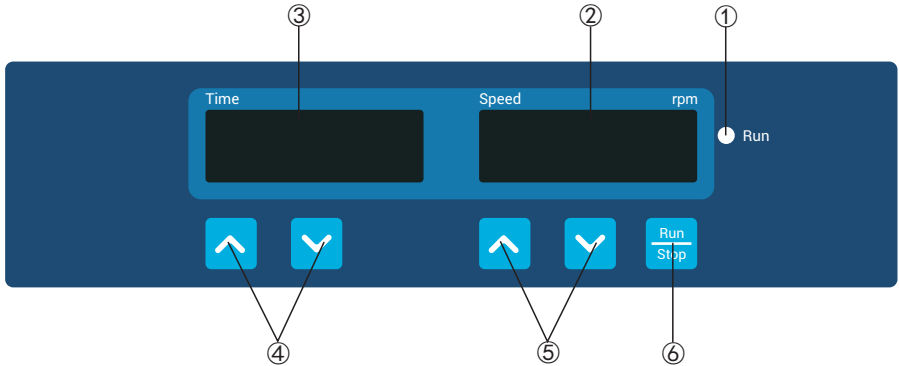
Symmetrical placement



Section 4 Operation

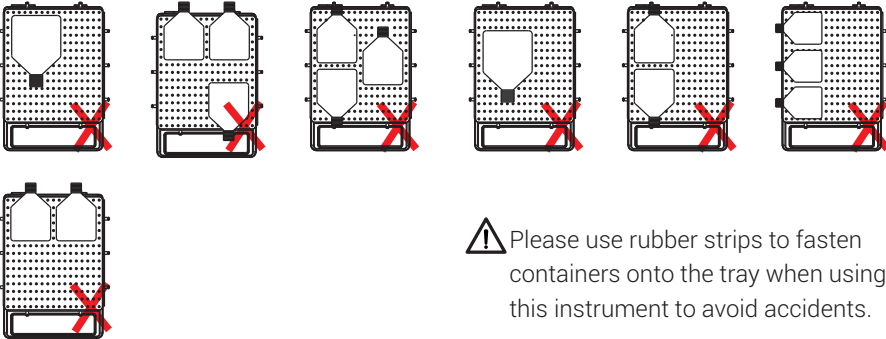
This chapter covers the control panel and its operation.

4.1 Control Panel



- ① Run indicator: The light is on when the instrument is running and off when the instrument is in standby.
- ② Speed display window: The window displays set speed (when the instrument is in standby) or current speed (when the instrument is running).
- ③ Time display window: The window displays cumulative time (in continuous mode) or remaining time (in timer mode).
- ④ Time setting buttons: UP/DOWN arrow buttons are used to increase/decrease the set time of the instrument.
- ⑤ Speed setting buttons: UP/DOWN arrow buttons are used to increase/decrease the set speed of the instrument.
- ⑥ Run/Stop button: Start or stop the instrument.

Asymmetrical placement



⚠ Please use rubber strips to fasten containers onto the tray when using this instrument to avoid accidents.

3.4 Speed and Load

	Load Weight (kg)	Placement of Load	Tilt Angle	Rotation Speed (rpm)
Tilt Angle 0°	9.8	Centered	0°	120
	9.8	Symmetrical	0°	120
Tilt Angle 12°	9.8	Centered	12°	70
	5	Centered	12°	100
	1	Centered	12°	120
	9.8	Symmetrical	12°	70
	5	Symmetrical	12°	100
	1	Symmetrical	12°	120

Warning: The actual maximum rotation speed of the instrument may be affected if the cell culture flask is placed at the corner or one side of the tray. If such placement is needed, please make sure to gradually increase the speed.