

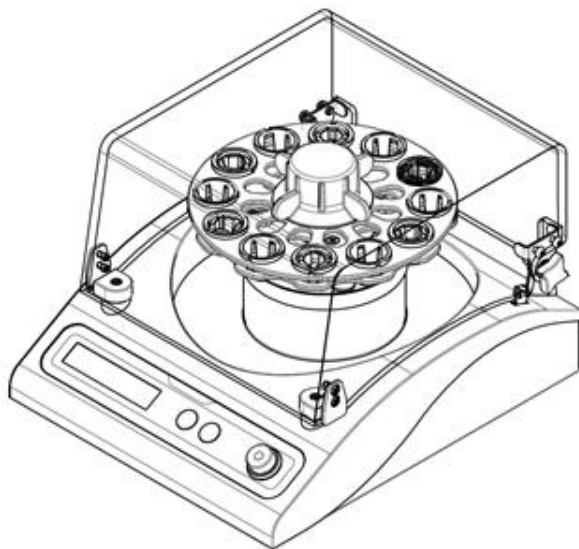
INSTRUCTION MANUAL

Multi-Tube Vortex Mixer

Model No.

Tornado 100

Tech support



ROCKER

Please read this instruction manual before using this product.

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1. Important Notice

This instrument is designed for laboratory usage only. Please read this manual carefully before installing and operating. The instrument shall not be modified in any way. Any modification will void the warranty and may result in potential hazard. We are not responsible for any injury or damage caused by any non-intended purposes and modifying the instrument without authorization.

1. Check the voltage specified on the name plate and ensure it matches the line voltage in your location.
2. Tighten the fixing cap before starting oscillation. Improper fixing may damage the instrument.
3. Always close the protective cover before starting oscillation to prevent liquid splashes and hazards.
4. Use the same brand of centrifuge tubes in each batch. Do not mix 15 mL and 50 mL tubes to avoid clamp failure.
5. Keep instrument away from flammable or explosive materials. Install it in a clean, dust-less and ventilated area.
6. When cleaning or performing maintenance, please disconnect power from the instrument.
7. In case of any issues with instrument, please contact the manufacturer or your service agent for assistance. Do NOT disassemble it improperly.
8. Please discard packing materials in accordance with relevant local regulations.
9. Visit the official website and refer to the latest product guide for more information.
10. Operating Condition
 - (a) Ambient temperature: 5 ~ 40°C
 - (b) Relative humidity: 80% RH Max.
 - (c) Power supply: 100-240V~, 50/60Hz, 80W
 - (d) Fuse: T1.6A, 250V~
 - (e) Altitude: Up to 2000 m
 - (f) Pollution degree: II
 - (g) Indoor use

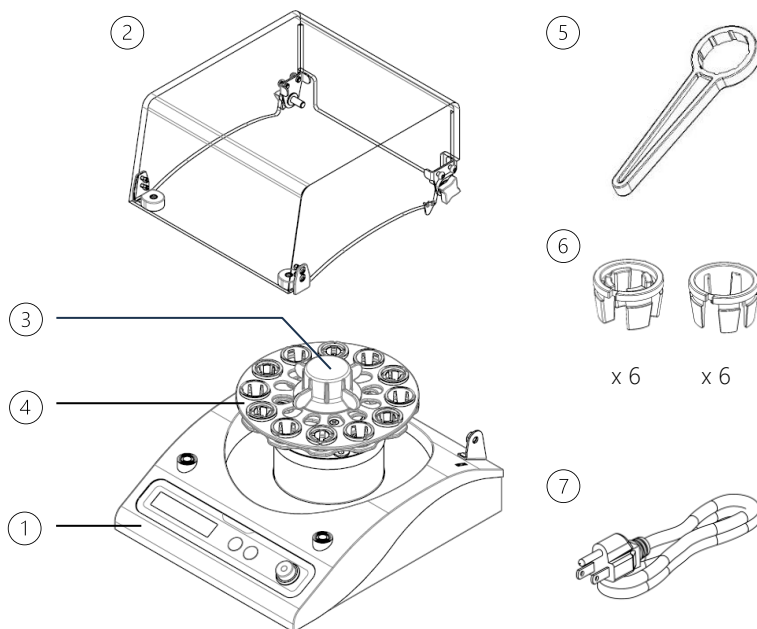


Please turn off and unplug the instrument before replacing the fuse.

** Before operation, please check whether the compatibility of contact materials of instrument with sample solution.*

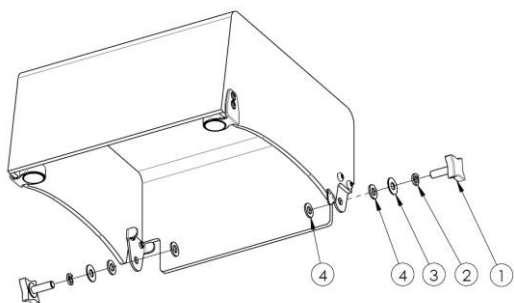
2. Unpacking

Please check if the package is complete without any damage before unpacking. When unpacking, please make sure you have all accessories that indicated on the list. If there is any problem, please keep the serial number along with packing case and contact your local distributor immediately for assistance.

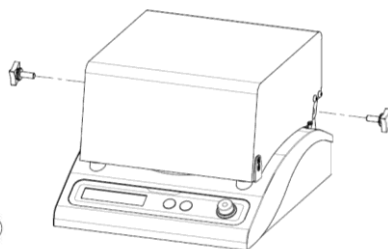


Model	Standard Package Includes:	
Tornado 100	1	Tornado 100, Multi-Tube Vortex Mixer
	2	Protective Cover
	3	Fixing Cap
	4	Rack
	5	Wrench
	6	Tube Clamp (15 mL x 6 & 50 mL x 6)
	7	Power Cord

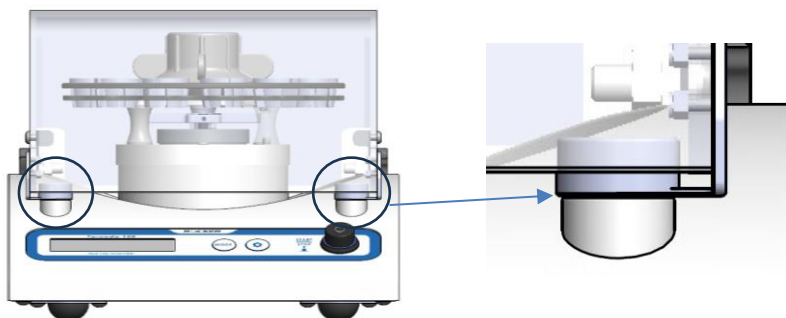
3. Installation



▲ Figure 1



▲ Figure 2



▲ Figure 3

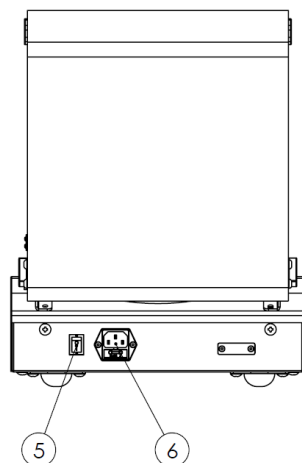
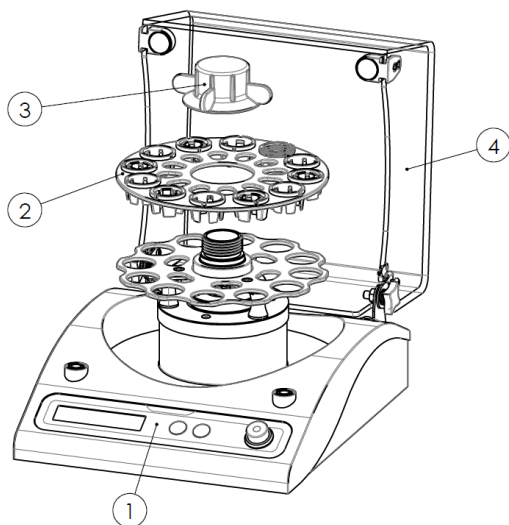
Item	Designation	Item	Designation
1	Thumb Screw	3	Metallic Washer
2	Spring Washer	4	Plastic Washer

(1) Installation of Protective Cover

Refer to Figures 1 & 2. Attach screws to both sides of the main unit. Tighten one side before the other. Ensure the magnetic plate at the front of the cover is aligned with the electromagnet (see Figure 3). Then fully tighten both screws.

* Assembly tutorial available online: [YouTube Playlist](#)

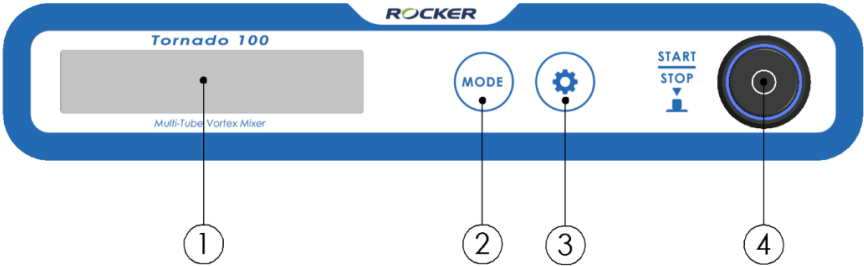
4. Main Part Diagram



Item	Designation	Item	Designation
1	Operation Panel	4	Protective Cover
2	Rack	5	Power Switch
3	Fixing Cap	6	AC Socket and Fuse Holder



5. Panel / Button / Symbol Descriptions

(1) Operation Panel



Item	Designation	Item	Designation
1	OLED Display	3	Setting
2	MODE	4	Knob (Start / Stop)

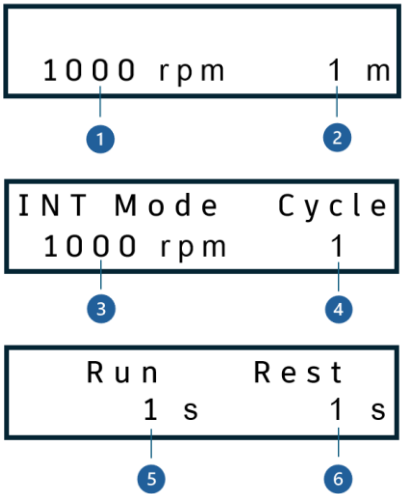
(2) Buttons

Button	Designation	Description
MODE	MODE	Switch between Continuous and Intermittent Modes
	Setting	Select the adjustable parameter
	Start / Stop	Press to start/stop; Rotate to adjust speed / time / cycle count

(3) Symbol

Symbol	Description
↑	Switch between Normal and Intermittent Modes
↓	Adjust speed, time, and cycle count

(4) Display

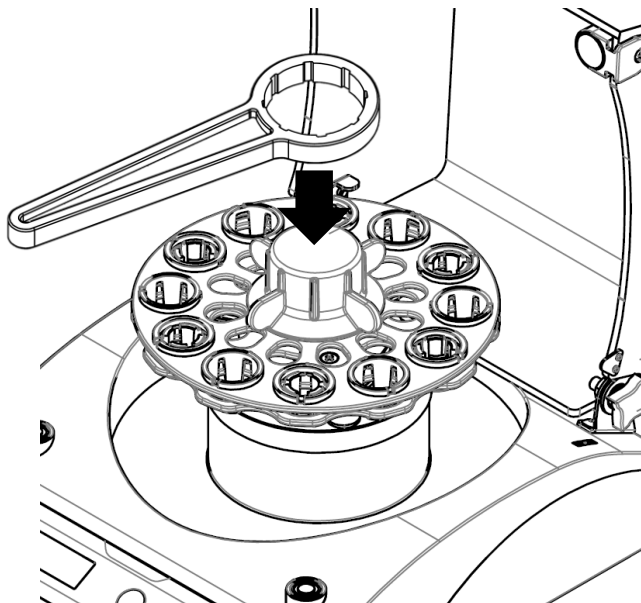


Mode	Item	Designation
Normal	1	Speed (rpm)
	2	Timer
Intermittent	3	Speed (rpm)
	4	Cycle Count
	5	Run Time
	6	Rest Time

6. Main Unit Operation

(1) Wrench Operation

Insert the wrench into the fixing cap and turn clockwise to tighten or counterclockwise to loosen.



(2) Rack Operation

- A. Remove fixing cap and take out the rack. Insert tubes fully into the clamps. Place at least 2 and up to 6 tubes each batch.

** Tubes must be symmetrically placed to avoid imbalance.*

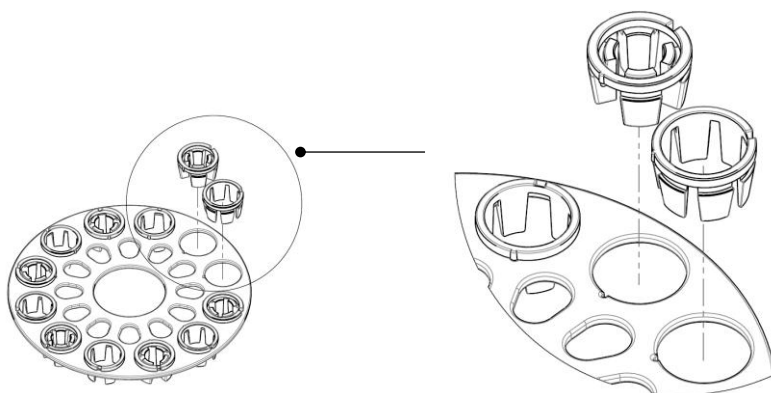
** Do not mix 15 mL and 50 mL tubes.*

- B. Reinsert rack and tighten the cap. Check by gently rotating a tube—if loose, reinstall.
- C. Follow section [7. Program Operation](#) for programming.
- D. After operation, loosen the cap to remove tubes.

(3) Clamp Replacement


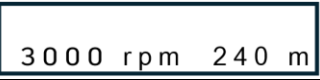

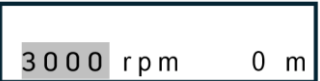

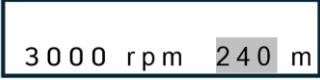



The tube clamps are consumable parts and may become worn or damaged due to friction. If a tube can still rotate easily despite proper installation, please replace the clamps using the following steps:

- A. Compress the existing tube clamp and remove it from the rack.
- B. Take a new clamp, compress it, align it with the slot, and insert it into the tube rack.



7. Program Operation

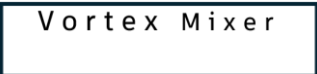
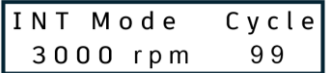

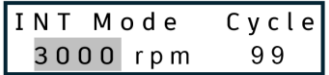

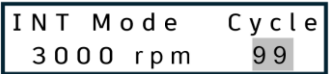

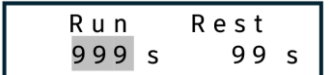

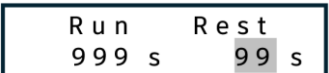

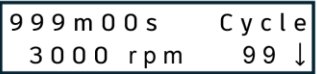
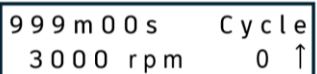
(1) Continuous Mode

Step	Operation	Display
1	Power on → Logo appears	
2	Wait for 3 seconds → Last used parameters show	
3	Press  → Speeds blinks → Rotate the knob to adjust the speed (300~3000 rpm)	
4	Press  → Timer blinks → Rotate the knob to adjust the time (0~240 min) - 0 min: Count-up timer - > 0 min: Countdown	
5	Press  knob to start - Countdown: stops automatically - Count-up: press again to stop	 ▲Count-up  ▲Countdown

* Cover must be closed to operate. Do not open during operation.

* If the selected field is left unchanged for more than 3 seconds, the program will be saved automatically, and the same settings will be displayed the next time Continuous Mode is used.

(2) Intermittent Mode

Step	Operation	Display
1	Power on → Logo appears	
2	Press "MODE" to switch to Intermittent Mode (INT Mode)	
3	Press  → Spees blinks → Rotate the knob to adjust the speed (300~3000 rpm)	
4	Press  → Cycle Count blinks → Rotate the knob to adjust the Cycle Counts (0 / 1~99) - 0: Unlimited; user must stop manually	
5	Press  → Run Time blinks → Rotate the knob to adjust the Run Time (1~999 sec)	
6	Press  → Rest Time blinks → Rotate the knob to adjust the Rest Time (1~99 sec)	
7	Press  knob to start - Cycle 1~99: stops automatically - Cycle 0: press again to stop	 ▲ Cycle count from 1~99  ▲ Cycle count at 0

* Cover must be closed to operate. Do not open during operation.

* If the selected field is left unchanged for more than 3 seconds, the program will be saved automatically, and the same settings will be displayed the next time Intermittent Mode is used.

8. Maintenance

1. Please operate the instrument in a well-ventilated area and keep it clean. Ensure to unplug it before cleaning.
2. The instrument is NOT autoclavable. Please clean the surface by pure water or 75% ethanol.
3. Clean housing, cover, and rack with neutral detergent or water. Clamps can be rinsed with water.
4. If there's any solution drop or splash to instrument, please switch off and unplug it immediately and clean the surface to prevent damage from penetration or corrosion.
5. If fuse blows, please troubleshoot and solve problems first. When replace fuse, get the spare fuse from the fuse holder by a flathead screwdriver.
6. Tube clamps are consumable parts and may break during use. If so, replace them promptly.

9. Troubleshooting

Issue	Cause and Solution
Tube slips	<ul style="list-style-type: none">• Clamp damaged → Replace
Fail to start / No display	<ul style="list-style-type: none">• Loose plug → Reconnect plug to power supply• Power switch disorder → Contact distributor for assistance• Burnt fuse → Replace with a new fuse• Display or components failure → Contact distributor for assistance• Power supply disorder → Contact distributor for assistance
Warning Error: Motor or Driver	<ul style="list-style-type: none">• Connector loose or failed → Contact distributor for assistance
Warning COVER OPENED!	<ul style="list-style-type: none">• Cover not closed → Close cover• Sensor fault → Contact distributor for assistance
Others	Contact distributor for assistance.

Ordering information

193100-01(020	Tornado 100, Multi-Tube Vortex Mixer,AC100-240V, 50/60Hz, US plug (EU plug)
193000-01	Rack, 50 mL x 6 + 15 mL x 6
193000-01-2x6	15 mL tube clamp, 6 pcs
193000-01-3x6	50 mL tube clamp, 6 pcs

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