



INSTRUCTION MANUAL



Laboratory Equipment Pty Ltd

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Description:

The TRO-1300 multi-purpose programmable mixer and rotator is a heavy-duty and spacing versatile device. It is like having three mixers/rotators in one. It rolls, rocks and shakes! It can be easily programmed to fit your specific motion and timing requirements and the program is memorized for repeating use next time you turn the TRO-1300 on.

The TRO-1300 first rotates at the programmed speed for the rotation time set on the rotation timer. It then reciprocates and immediately shakes (vortex-mixes); it repeats the reciprocation and shaking (vortex-mixing) for the period of time set on the reciprocation and vortex-mixing timer.

The TRO-1300 will repeat the whole rotation and reciprocating/vortex-mixing for the time set on the total running timer.

Specifications:

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Capacity (with platform 1)	22 tube holding positions(1.8ml ~ 15ml tubes)	Installed
Capacity (with platform 2)	8 tube holding positions (6 holes for 5ml-50ml tubes; 2 holes for 1.2ml -15ml tubes)	Not installed
Total Running Time (Max.)	12 hours (1 minute increment)	Programmable
Speed Range (RPM)	5-30 (1 RPM increment)	Programmable
Rotation Time (Range)	1- 999 sec	Programmable
Reciprocation Turning(rocking) Angle	15-90° (15° increment)	Programmable
Reciprocation and Vortex-mixing Time (Range)	1 - 999 sec	Programmable
Vortex-mixing Turning Angle	1- 5° degree or 0 degree (off)	Programmable
Vortex-mixing times	0-5 times	Programmable
Power	100V-240VAC / 12DC	
Weight	7 lbs (3Kgs)	
Dimensions	342x177x192 mm	

Unpacking

Each TRO-1300 has been packed with utmost care. Please take a moment to examine the outer and inner cartons for any visual damage. We recommend that you keep all of the packing material until you have fully assembled, examined and tested your new rocker. If you note any damage, please contact the shipping company or your authorized distributor.

The standard TRO-1300 package includes the following items:

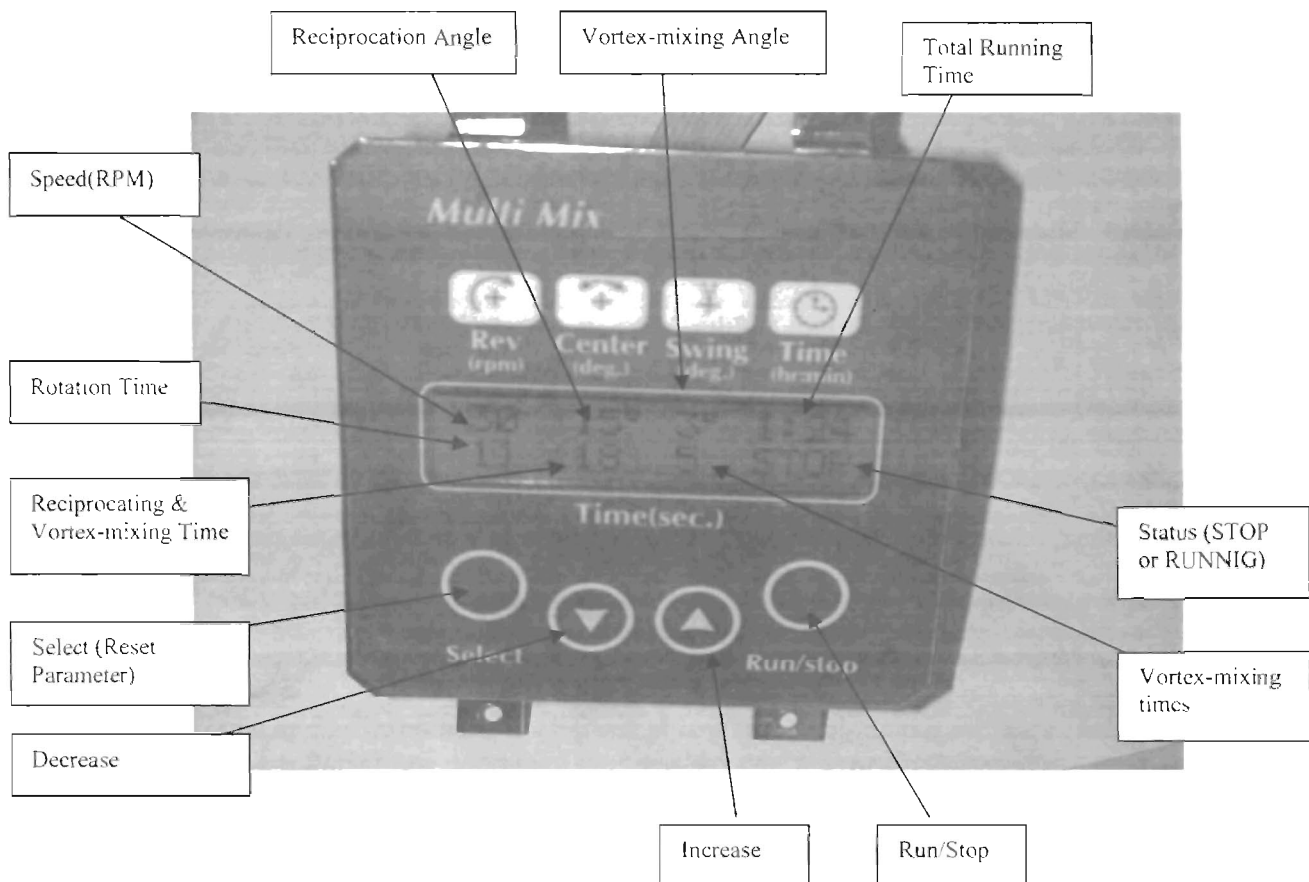
1. TRO-1300 Multi-purpose mixer	1
2. 22-position platform (22 place tube holder)	1 (installed)
3. 8-position platform (8 place tube holder)	1
4. 100-240VAC/12DC Power Adapter	1
5. Operation manual	1

Operation:

1. Put TRO-1300 on a solid bench top.
2. Make sure the tube holder platform is securely locked on. If you need to change to a different platform. Unlock the two locking screw and install the desired on. Lock it firmly.
3. Install your tubes on the platform. Make sure they are held securely. To prevent the tube from hitting the TRO-1300 base while rotating, make sure to hold the center portion of the tube(s).
4. Plug in the AC/DC adapter to the back the TRO-1300.
5. Check the parameter setting. Reprogram the setting to your specific need (refer to the programming the TRO-1300 section).
6. Press “Run/Stop” button to start.
7. To interrupt/stop running press Run/Stop button. To restart press Run/Stop button again.

Controls and Parameter Setting (Programming)

TRO-1300 has built-in micro processor, large LCD display and easy to use touch buttons. The parameters can be easily reprogrammed and the programmed parameters are memorized for repeat use until new set of parameters are entered.



The LCD displays:

Speed(RMP): The rotation and reciprocation speed (RPM). Speed rang: 5 – 30 RPM

Rotation Time: The set rotation time. Range: 1 – 999 seconds

Reciprocation Angle: The rocking angle. Selection Range: 15°30°45°60°75°90°

Reciprocating & Vortex-mixing Time: The set rocking and shaking time. Range:1-999 s

Vortex-mixing Angle: The shaking angle. Range: 1 - 5 °

Vortex-mixing times: The shaking times. Range: 0 – 5 times (when set 0,displays " OFF")

Total Running Time: The set total running time. Range: Max 12 hrs in 1 min. increment

Status (STOP or RUNNIG): Display the status of TRO-1300.

Control Buttons

SELECT: Set/Reprogram the parameter.

Increase: Increase the parameter setting value

Decrease: Decrease the parameter setting value.

Run/Stop: Start or Stop Running.

Parameter Setting (Programming to specific setting):

The program is user friendly written. If you can set your alarm and change date/time on your clock, you can program TRO-1300.

Press SELECT button to reset the parameters. The to-be-set parameter will flash. Use UP arrow (Increase) or DOWN arrow (Decrease) to change the parameter value. Then press Select to confirm that parameter and the next parameter will flash.

Repeat the same process to set all the parameters to your specific needs. The reset parameters will replace the previous ones and will be memorized for repeat use when the TRO-1300 is turned on next time.

CAUTION

DO NOT hold down the moving platform to load or unload specimens.

Instrument DAMAGE may occur, and WARRANTY may be voided.

Cleaning:

Do not use strong solvents on plastic parts. A solution of weak bleach or other disinfectant solution can be used to clean and disinfect the tube pad. Do not immerse the unit in any fluid.

Electrical Shock Hazard:

Do not attempt to operate this instrument near water or liquid spill. Unplug the unit before cleaning or repairing. Periodically check the condition of the power cord for cuts or damage. Do not operate with a damaged cord.

Biohazard:

If a specimen breaks, a biological hazard may exist. Unplug the instrument. Clean using approved laboratory procedures. Always wear the proper protective clothing and gloves.

Use a suitable disinfectant and dispose of the sample properly. Refer to the guidelines set forth by OSHA, CLIA, etc. Always use protective eyewear when operating.