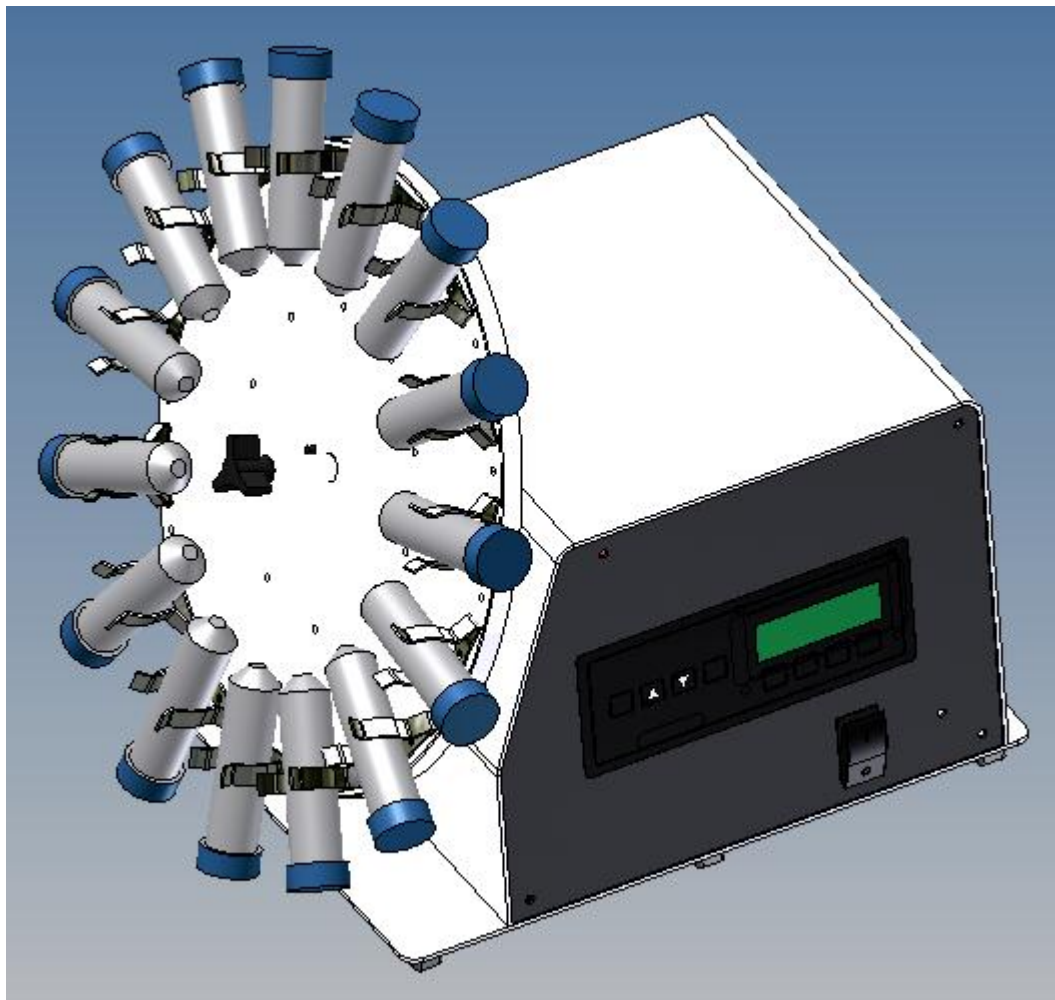


User Instructions

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OPERATING AND SAFETY INSTRUCTIONS for DIGITAL ROTATOR

**Model: 099A RD7512, 3.0 amps, 120 volts, 60 hz.
099A RD7524CE, 3.0 amps, 240 volts, 50/60 hz.**



Read Instructions Before Operation



Unpacking

Due to the weight of the mixer, it is recommended that two people lift the mixer from the shipping package and place on a sturdy bench.

If the mixer is delivered from an environment that is below ambient conditions, let the mixer equalize for about 1 hour to current room conditions.

Introduction

The Digital Pulse Mixer with hinged lid is designed to mix the contents of a test-tube rack. Place the mixer on a sturdy bench that is clean and dust free. Be sure the vibration absorbing feet are resting flat and not bent, or distorted when placing on the bench.

The Digital Rotator has the following features:

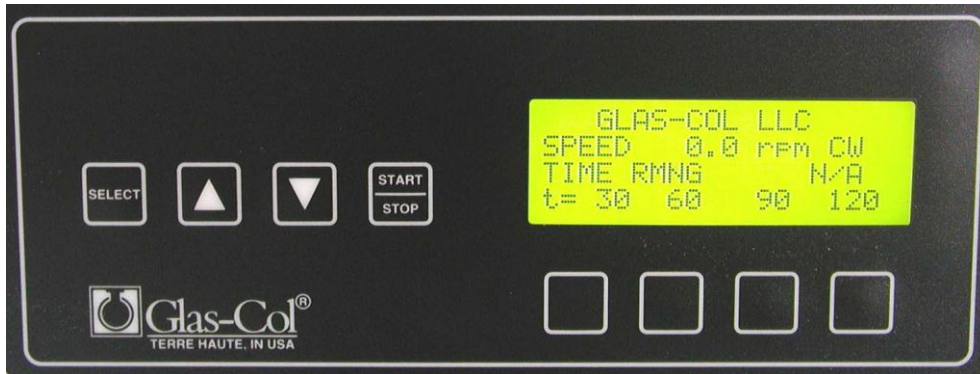
- Speed 30 to 83 rpm, Speed Display Resolution: 1 RPM, Speed Setting Increment: 10 RPM
- 4-line back-lit LCD display
- Built-in digital timer (seconds: 1-60, minutes 1-60, hours 1-24)
- Preset run times of 30, 60, 90 and 120 seconds
- Communication port (USB)
- Fail Safe Mode to prevent speed fluctuations
- User-friendly membrane switch interface (4-button)
- Soft Start/Stop of motor
- Optional software for real time data acquisition

Specifications:

Voltage:	120 or 240-volt models
Mixer mounts:	Vibration absorbing for minimum transfer to lab bench
On/Off switch:	Located on side of unit
Finish:	Light gray and black powder coat finish
Cord:	Detachable 3-wire 5' long

Control Menu Operation

Display 1:



Menus Operation:

SELECT key advances from Display 1 to Entry 2, Entry3, etc.
Up and Dn keys increment/decrement value of variable chosen.
Start/Stop utilizes values selected.

Entry 2: Displayed Select Button



(Duration 11 sec. without key press.)
("xxxx" represents actual Seconds of motor run duration selected.)

Entry 3: Displayed Select Button

(Duration 10 sec. without key press.)
(Displayed if SELECT key pressed from Menu 2.
("xxxx" represents actual Minutes of motor run duration selected.

Entry 4: Displayed Select Button

(Duration 10 sec. without key press.)
(Displayed if SELECT key pressed from Menu 3.
("xxxx" represents actual Minutes of motor run duration selected.

Rotator Set Up

Unpack the rotator and set it on the bench where desired. The cord-attached controller can be positioned next to the rotator on the bench top or away from the rotator if the unit is to be used in an enclosure such as a fume hood.

Plug the power cord from the controller into a grounded 120-volt (240 volts for RD4524 and RD5524) outlet. The power switch, fuse and speed dial are all located on the front of the controller.

The rotator is furnished with a test tube holder 099A RD65, for holding tubes 10mm to 30mm in diameter. Small test tubes 10 to 18mm in diameter and up to 125mm long can be held by attaching the smaller clips to the holder. Large test tubes 20 to 30mm in diameter can be held by attaching the larger clips to the holder. Large and small clips can be attached to hold both large and small tubes simultaneously.

Attaching Clips to Disk

The friction drive test tube head is shipped without clips attached to the disk to allow the user to attach whichever clip size is needed for the application. To attach the clips to the disk, see Figure 1. By using a nut-driver or wrench to hold the nut on the backside of the disk, the screw can be tightened to achieve proper tension to securely hold the test tube. When using the small clips, tighten the screw to achieve a distance of 1/8", see Figure 2. This tension will accept a tube from 10mm to 18mm in diameter. The large clip is attached in the same manner as mentioned above; however, due to the size of the clip, every other hole in the disk must be used. The larger clip will accept a tube from 20 to 30mm in diameter at its pretension adjustment.

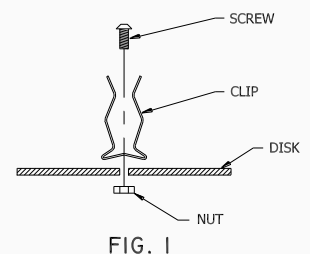


FIG. 1

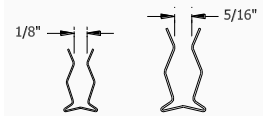


FIG. 2

Attaching Disk to Rotator

Slide the aluminum disk over the drive bar and align pin into small hole in disk. Slide the nylon spacer over the aluminum drive bar, then flat washer and then tri-pointed knob. Tighten knob so there is no back and forth movement of the nylon spacer.

Placing Tubes in Clips

Tubes can be inserted or removed by one of two methods. Tubes can be slid radially from the side of the clip. This method is preferable because the tube is less likely to break. As the diameter of the tube increases, inserting them using this method requires a bit more effort. It may be necessary to loosen the screw slightly to allow the larger tubes to slide through easier yet maintain proper tension to hold the tube in place. Tubes can also be inserted from the top, and removed in the same way.

**EXERCISE CAUTION WITH ALL GLASSWARE
WHEN INSERTING INTO THE CLIPS.**

Operation:

Once vessels are secured in place you can now use the up arrow button to increase the speed of the rotator to your desired setting. You may stop the mixing action at anytime by pushing the start/stop button. Pushing the start/ stop button again will bring the mixer to the last speed setting and/or timer setting.

Example:

With the rotator stopped, press the **Select Button** (this takes you to the timer selects: seconds, minutes and hours). Next use the up arrow key to increase the speed to your desired setting. Press the **Start/Stop** button to stop the mixer; pressing the **Start/Stop** button again repeats the profile that was previously input.

Speed:

Use the UP/DOWN arrow keys to adjust speed of mixer.

Select Button:

Pushing the select button advances you to the timing section of the rotator. Time can be increased/decreased using the up/down arrow keys.

Safety:

This product has been designed for safe operation when in normal use. Please read the following Safety Information before operating the equipment.

- Unless specifically designated otherwise, Glas-Col mixers are not intended for use with flammables or in hazardous areas.
- Do not charge or remove a vessel while still in motion.
- Check the mixer before each operation. Damaged mixers should be removed from service immediately.
- Do not place hand around drive plate edge during operation.

Agency Approvals:

The Rotator product defined in the document is CE marked and conforms to the following standards:

EMC: EC Directive 89/336/EEC
EN55011 class B also referred to as CISPR 11 class B
EN50082-1

Safety: Safety Directive 73/23/EEC
EN601010-1: 1993 safety requirements for electrical equipment for measurement, control and laboratory use-General requirements.

UL file number (E207546)

UL® is a registered trademark of Underwriter's Laboratories, Inc.

Operating Specifications:

Power:	RD7512	120 Vac +/-10%, 3 amps
	RD7524CE	240 Vac +/-10%, 3 amps

50 to 60Hz. +/- 3%

Operating Environment:	0 to 90% relative humidity
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Maximum Altitude
Pollution Degree
Installation Category II

32 to 100 °F/0 to 37 °C
2000m
2 (Normally only non-conductivity pollution occurs)
Local Level (Connect to branch circuit and not directly to a main circuit, such as a fuse panel)

Storage

0 °C to 60 °C
Relative Humidity 5 to 80%
Non-condensing @30 °C



This mixer is intended for indoor use in laboratory setting.

Maintenance:

Glas-Col rotators do not require regularly scheduled maintenance. However, regular inspection is recommended. Glas-Col mixers should be protected from chemical spillage, mechanical damage and corrosive atmospheres so far as possible. Contamination, overheating and general misuse will greatly reduce the life of a mixer.



Do not remove or tamper with the grounding means of this instrument. A qualified service technician should do maintenance on this instrument.

Decontamination/Cleaning:

Follow site procedures for decontamination. Prior to any type of service performed on the instrument, decontaminate and document according to site procedures. Prior to servicing or shipping, the instrument must be free of any biohazardous material. When shipping, a copy of the decontamination form must be attached to the shipping documents.



Adherence to Department of Transportation (DOT) regulations must be followed when shipping any decontaminated instrument.

Decontamination of equipment parts and any other surfaces potentially contaminated with biohazardous material must be cleaned with 0.5% sodium hypochlorite in water (diluted bleach) or a bleach alternative, allowed to stand for 15 minutes and rinsed with water, as described in the Maintenance section.

Decontamination Form:

The completion of this form is a requirement to help reduce the risk of injury during equipment servicing. Decontamination procedures must be completed and documented appropriately on this form.



Decontamination of equipment parts and any other surfaces potentially contaminated with biohazardous residue must be cleaned with 0.5% sodium hypo chlorite in water (diluted bleach) or a bleach alternative, allowed to stand for 15 minutes and rinsed with water, as described in the Maintenance section.

The completed form must then be attached to the equipment prior to shipment and/or servicing. A copy of this form should also be included in the shipping documents.

Equipment Type: _____ Serial Number: _____

Date of decontamination: _____

Type of disinfectant used: _____

Name: _____

Company: _____

Address _____

Phone: _____

Signature _____

**Limited Warranty:**

Glas-Col warrants products of its manufacture to be free from defects in material and workmanship for one year and agrees to repair or replace without charge any products found defective upon examination at the factory. With proper care and operation, Glas-Col products will give long and efficient service. Chemical spillage, overheating, overloading and general misuse will greatly reduce the service life. Glas-Col is not responsible for damage to apparatus due to improper installation or through attempts to operate the apparatus beyond its rated capacity, intentional or otherwise. Normally expendable parts are not covered by this warranty.

In the event of an incident due to a defective replacement component, Glas-Col will accept responsibility only if the component was defective from the outset. Glas-Col reserves the right to deny responsibility for the incident if the user fails to comply with any instructions provided by using spare parts, which are not guaranteed.

APART FROM SUCH WRITTEN STATEMENT OF WARRANTY, THERE ARE NO WARRANTIES, EXPRESSED, IMPLIED OR STATUTORY WHICH EXTEND BEYOND THE DESCRIPTION OF THE PRODUCTS ON THE FACE HEREOF.

Glas-Col products are intended only for legal and legitimate purposes in commercial, laboratory and industrial settings.

Glas-Col reserves the right to make product refinements without prior notice.

Returns:

Call or fax Customer Service for a Return Goods Authorization (RGA) number before returning a Glas-Col product.

Reference the RGA number on the shipping box and on a written description of the problem.

A 15% restock charge of the net price is charged for all standard product returned to stock.

Glas-Col, LLC

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