



User Instructions

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OPERATING AND SAFETY INSTRUCTIONS for 3-D FLOOR SHAKER

Model: 099A VS50012; 099A VS5503; 099A VS5504, 10.0A, 120V, 50/60 hz.
099A VS50024; 099A VS550324; 099A VS550424, 10.0A, 240V, 50/60 hz.
099A VS50024CE; 099A VS550324CE; 099A VS550424CE, 10.0A, 240V, 50/60 hz.



Read Instructions Before Operation

Unpacking:

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

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 Glas-Col floor shakers provide thorough mixing via a three-dimensional shaking action. The shaking action circulates liquid up and down, sideways and around for the most effective mixing.

The 3D floor shaker is supplied with a motor for handling loads up to 40 pounds. Variable speed from (10 to 170) cycles per minute. Furnished with the power switch, circuit breaker, 3-wire cord digital control with LCD display. The unit is available in 120 volts and 240 volts. See tagging on shaker for voltage.

Operation caution:

If shaker is to be used with the Double 2 Liter Separatory funnel holders it is recommended for speeds above 120 rpm's that the shaker be bolted or secured to the floor to prevent walking of shaker.

The Digital Shaker has the following features:

- Micro-processor based control technology for control of BLDC motors
- Speed 10 to 170 rpm, Speed Display Resolution: 1 RPM, Speed Setting Increment: 10 RPM
- 4-line back-lit LCD display
- Built-in digital timer (seconds, minutes, hours)
- Preset run times of 30, 60, 90 and 120 seconds
- Communication port (USB)
- User-friendly membrane switch interface (4-button)
- Soft Start/Stop of motor
- Optional software for real time data acquisition



Specifications:

Size:	30''w x 24''d x 36'' h
Platform size:	19'' across corners
Voltage:	120 or 240-volt models
Mixer mounts:	Vibration absorbing for minimum transfer to lab bench
On/Off switch:	Located on front of unit
Finish:	Light gray and black powder coat finish
Cord:	Detachable 3-wire 5' long
Load:	Up to 40 lbs max.
Weight:	300 lbs.

Control Menu Operation

Display 0: Displayed a few seconds at boot up.



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



("xxxx" represents actual Seconds of motor run duration selected.

Entry 3: Displayed Select Button



(Displayed if SELECT key pressed from Menu 2.
("xxxx" represents actual Minutes of motor run duration selected.

Entry 4: Displayed Select Button



(Displayed if SELECT key pressed from Menu 3.
("xxxx" represents actual Minutes of motor run duration selected.

Operation:

Once vessels are secured in place you can now use the up arrow button to increase the speed of the mixer to your desired setting, or step through the select function for further system settings (time). 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.

Glassware Holders:

One to four holders may be mounted to the 3D shaker. The load need not be balanced. Interchangeable holders are designed for securing 250mL through 2-Liter separatory funnels and 250mL through 1-Liter Erlenmeyer flasks.

All separatory funnel holders allow glassware to be rotated 180 degrees. The funnel can be filled, inverted for shaking and then reinverted for addition and/or extraction, while the funnel remains in the holder.

Installation of Glassware Holders:

The shaker allows easy, snap-in mounting of glassware holders. (Refer to photo #1). It can accommodate up to four 2-liter separatory funnel holders, up to four 1-liter Erlenmeyer flask holders or any combination of one to four holders. Total load capacity is 40 pounds and balancing of load is not required.

Insert the base of the holder into the slots on the shaker platform. Push the holder toward the center of the platform until it locks into place. Make sure the holders are locked into place before operating the shaker. We also recommend the spring plungers on the underside of the platform be fully tightened. If the shaker comes with the holders attached, this was done at the factory.

Install the front two holders onto the shaker platform. The “lazy Susan” platform rotates to make loading and unloading of holders and glassware easy. Pull the knurled knob near the center of the platform in an upward motion with one hand and rotate the platform with the other hand. Release the knurled knob when rotation of the platform has begun. When the platform has rotated 180 degrees, the plunger of the knob will lock the platform into place. (Refer to photo #2).

After rotating the platform 180 degrees, the remaining two holders may be installed. Glassware may be loaded into the holders at any time after the holders have been installed onto the platform. Make sure the platform is locked into place before operating the shaker.



Photo #1



Photo #2

Loading of Glassware:

Glassware may be placed into the holder at any time after the holder has been installed onto the shaker platform. The holders have a spring-loaded assembly to make loading and unloading of glassware easy.

Separatory Funnels- Install the separatory funnels with the stopper in the up position. If the holder is not already positioned with the stopper retainer in the up position, release the front part of the holder assembly by loosening the black knob at the back of the holder support. Rotate the front part of the holder 180 degrees and secure by retightening the black knob. (Refer to photo #3).

Install the funnel by placing the bottom stopcock end of the funnel into the holder. Pull the handle on the right side of the holder forward. This will extend the top plate of the holder upward. Push the funnel forward into the holder until the top of the funnel comes in contact with the holder. Release the handle to allow the spring loaded top plate to secure the funnel into place. The funnel can now be filled (if not filled prior to installation).

Photo #3



Secure the funnel stopper by positioning the retainer plate above the stopper and tightening the knurled nut. The funnel is now secured and can be inverted for shaking by loosening the knob. Make sure the holder is tightened securely before operating the shaker.

Erlenmeyer Flasks – Install the Erlenmeyer flask by pulling the handle on the right side of the holder forward. This will extend the top plate of the holder upward. Insert the flask into the holder and push it as far into the holder as possible. Release the handle to allow the spring loaded top plate to secure the flask into place. The flask is now ready for shaking. The Erlenmeyer flask holder is designed to shake the flask in the upright position only. NOTE: Use stopper or capped flask only.

Speed:

Pushing the Start/Stop button will start the shaker at a speed of 10 RPM's from a zero speed setting. The up and down arrow keys can then change the speed by 1 rpm intervals. Holding down the up and down arrow keys will change the speed by 10 rpm intervals. Once the operating speed has been achieved, pressing the Start/Stop button will stop the shaker. **Caution: Pressing the Start/Stop button will cause the instrument to repeat the last speed and time setting.**

Select Button:

Pushing the select button advances you to the direction, timing features of the mixer.

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.

Operating Specifications:

Power (depends on model):	120 Vac +/-10%, 3 amps 240 Vac +/-10%, 3 amps 50 to 60Hz. +/- 3%
Operating Environment:	0 to 90% relative humidity 32 to 100 °F/0 to 37 °C
Maximum Altitude	2000m
Pollution Degree	2 (Normally only non-conductivity pollution occurs)
Installation Category II	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 shaker is intended for indoor use in laboratory setting.

Maintenance:

Glas-Col shakers 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 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.

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 20% restock charge of the net price is charged for all standard product returned to stock.

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