



INTEGRATED BIOREPOSITORY OF H3AFRICA UGANDA

MAKERERE UNIVERSITY

COLLEGE OF HEALTH SCIENCES

STANDARD OPERATING PROCEDURE

TITLE: OPERATING A VORTEX		PAGE 1 of 5
SOP #: IBRH₃AU-SOP-007	Effective Date: 09/01/2014	Next Rev: DEC 2014
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VALIDATION AND RETIREMENT

	NAME	DATE
Validated by:		
Retired by:		

ACKNOWLEDGEMENT OF READING AND UNDERSTANDING

I have received and understood the training on this SOP. If I have not understood the training I have asked the trainer to retrain me to ensure that I completely understand all the requirements.

	NAME	SIGNATURE	DATE
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Supersedes
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1. INTRODUCTION

The vortex mixer comprises an electric motor with a drive shaft that is oriented vertically and attached to a cupped rubber piece mounted slightly off-center. As the motor runs the rubber piece oscillates rapidly in a circular motion. When a test tube or other appropriate container is pressed into the rubber cup or touched to its edge, the motion is transmitted to the liquid inside and a vortex is created enabling uniform mixture of the samples

2. SCOPE

A vortex is a device used to mix small vials of liquids at a high mixing degree. Vortex mixers are used to mix the reagents of an assay or an experimental sample and in cell cultures to suspend cells. Most vortex mixers have variable speed settings and can be set to run continuously, or to run only when downward pressure is applied to the rubber piece.

3. PURPOSE

This SOP is to provide instructions on how to operate and maintain a vortex mixer.

4. SAFETY

- 4.1 Do not lift the vortex mixer by the attachments since they are removable for example the Pop-off Cup and the 3-inch Platform. They will pop off easily if you lift them.
- 4.2 Unplug from power before cleaning. Do not immerse.

5 OPERATION

5.1 Plug the cord into a properly grounded, three pronged outlet.

5.2 Modes of operation:

5.2.1 Touch Mode

5.2.1.1 Place the toggle switch in the TOUCH position and set the speed control to any position between 3 and 10. A setting of 3 is least vigorous mixing and 10 is the most vigorous mixing.

5.2.1.2 When you touch a vessel to the 3-inch Platform or Pop off Cup, the mixer will start automatically. Releasing the pressure on the Platform or Cup will stop the mixer.

5.2.2 Hands Free Mode

5.2.2.1 Place the toggle switch in the ON position and set the speed control to any position between 3 and 10.

5.3 Hands Free mode allows for unattended operation that will continue indefinitely until you stop the mixer by placing the toggle switch into the OFF position.



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5.4 In this mode, you may use any of the accessory attachments available for the vortex-genie mixer.

5.5 Installation of attachments

To change accessory mixing attachments, the following sequence is to be followed explicitly

5.5.1 Turn the power off by placing the toggle switch into the OFF position.

5.5.2 Grasp the installed attachment and pull straight up until it releases from the shaft. Lift the attachment with your finger tips while using your knuckles as a fulcrum to give you the leverage to remove the installed attachment component smoothly.

5.5.3 Hold the part you wish to install so the "flat" part of the shaft is aligned with the "flat" of the receptacle in the attachment. Alternatively, you may place the attachment on the shaft and turn it until you feel the "flats" aligning.

5.5.4 Press attachment firmly downward until it "snaps" into place. The Mixer is now ready to use with the newly installed accessory attachment.

5.6 Care and Handling

5.6.1 Avoid wetting or unnecessary exposure to fumes.

5.6.2 Disinfect using 70% ethanol after every use.

5.6.3 Keep the unit clean by immediately blotting any spills.

Note: The speed control switch should be set between positions 3 and 10 to enable the mixing action to start. After the action has started, you may, if desired, reduce the speed below position 3 for the duration of the run. Before re-starting the mixer, re-set the speed control to a setting higher than position 3.

6 REFERENCES

WHO Laboratory equipment maintenance manual



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7 REVISION HISTORY

Revision No	Effective Date	Description of Changes Made from Preceding Revision	Approved by/ Date

ANNEX 1: DOCUMENTATION OF SUGGESTED CHANGES TO THIS SOP

CLAUSE	SUGGESTION	BY	DATE