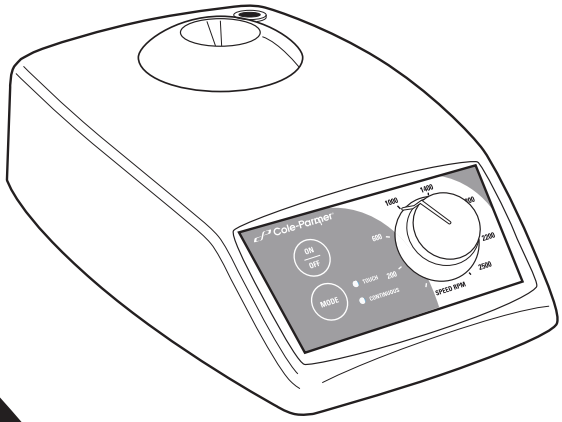
Variable-Speed Vortex Mixer



User Guide

Cole-Parmer®

Version 1.1

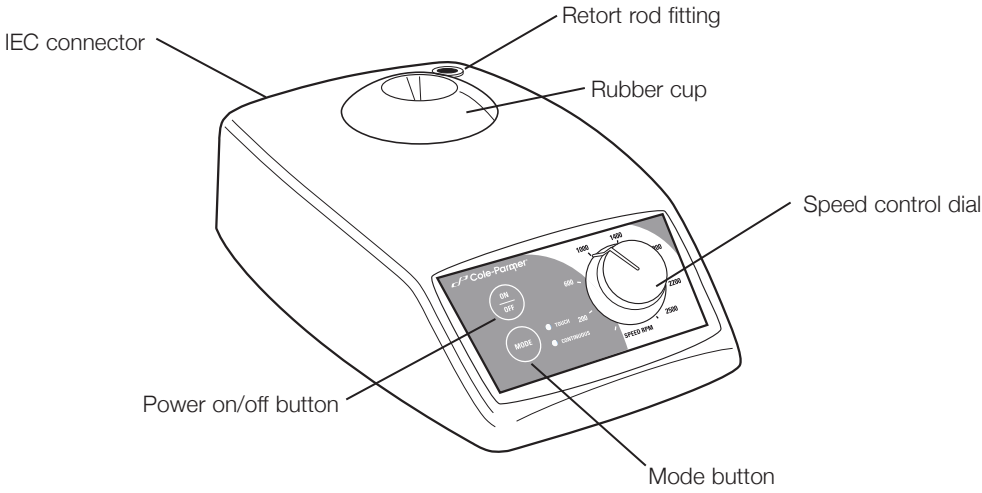


Figure 1: Vortex Mixer

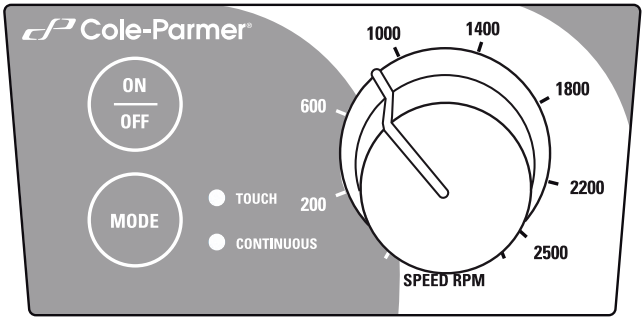


Figure 2: Front panel

Variable-Speed Vortex Mixer

Introduction

Thank you for purchasing this Cole-Parmer product. To get the best performance from the equipment, and for your own safety, please read these instructions carefully before use. Before discarding the packaging check that all parts are present and correct.

This equipment is designed to operate under the following conditions:

- For indoor use only
- Use in a well ventilated area
- Ambient temperature range +5°C to +40°C (+41°F to +104°F)
- Altitude to 2000m (6500 ft)
- Relative humidity not exceeding 80%
- Power supply fluctuations not exceeding 10% of nominal
- Overvoltage category II IEC60364-4-443
- Pollution degree 2 IEC664
- Use with a minimum distance all round of 200mm (8 in.) from walls or other items

If the equipment is not used in the manner described in this manual and with accessories other than those recommended by the manufacturer, the protection provided may be impaired.

Electrical Installation

THIS EQUIPMENT MUST BE GROUNDED

Before connection please ensure that the line supply corresponds to that shown on the rating plate located on the base of the unit.

Power requirements:

04750-51 20W Universal 90-240V

The Vortex Mixer is provided with a UK 3-pin and a “Schuko” 2-pin plug for 230v installations and a NEMA 5-15 plug for 120v installations.

Should the cable not be suitable for connecting to the power supply, replace the plug with a suitable alternative.

THIS OPERATION SHOULD ONLY BE UNDERTAKEN BY A QUALIFIED ELECTRICIAN.

NOTE: Refer to the equipment rating plate to ensure that the plug and fusing are suitable for the voltage and wattage stated.

The wires in the power cable (230V) are colored as follows:
BROWN - HOT/LIVE
BLUE - NEUTRAL
GREEN/YELLOW - EARTH

The wires in the power cable (120V) are colored as follows:
BLACK - HOT/LIVE
WHITE - NEUTRAL
GREEN - EARTH

IF IN DOUBT CONSULT A QUALIFIED ELECTRICIAN

Should the power cable need replacing, a cable of 1mm^2 of harmonized code H05W-F connected to an IEC320 plug should be used.

The appropriate power cable should be connected BEFORE connection to the power supply.

General Description

The Variable-Speed Vortex Mixer allows scientists to control the mixing speed by selecting from 200rpm for more gentle mixing to 2500rpm for vigorous agitation. Choose between `touch' on mode and continuous operation simply by pressing a button on the front panel. A robust die-cast body avoids unnecessary movement during use. The ergonomic low profile design makes everyday vortexing comfortable for the user. Integral retort rod fitting allows vessels to be secured above the vortex action for long-term mixing. The Vortex Mixer comes with a standard rubber cup for tubes, small flasks, and bottles. Mixer can also accommodate a variety of other vessels when used in conjunction with the optional accessories. Please visit the Cole-Parmer website www.coleparmer.com for further information.

⚠ Safety Advice

Users should be aware of the following safety advice:

- The unit should be carried using both hands with the fingers under the side edges.
- NEVER move or carry the unit with containers on the top or while still connected to the power supply.
- DO NOT mix combustible liquids or use the equipment in hazardous atmospheres.
- In case of power interruption, a fault or mechanical failure, the unit will NOT continue to operate on removal of fault.
- Mechanical energy can lead to breakage of glass vessels. Use with care.
- DO NOT position the unit such that it is difficult to disconnect it from the power by removing the power cable from the socket at the back.
- NEVER use a retort rod longer than 600mm (23.6 in.).

Operation

Position the vortex mixer on a firm level surface and connect to the power supply.

Setting the Mixing Mode (Fig. 1)

Ensure that the speed control dial is fully to the left. Connect the unit to the power.

Turn ON by pressing the <On / Off> button once (a green light indicates the unit is in the touch mode).

To mix tube, press base firmly down onto the rubber cap. Once the contents of tube are mixed, lift clear. Select the optimum mixing speed by turning the control dial to the right.

To select continuous mixing mode, press the <MODE> button (the light will change to show continuous mode). The unit will now remain ON until either the <MODE> button is pressed to select touch mode or the unit is switched OFF.

Using with an Accessory Head

NOTE: Accessory heads should always be used in the continuous mode.

To change the head, remove the rubber cup by pulling upwards and store in a safe place. Insert the accessory head ensuring that the two slots in the head are in line with the lugs in the vortex mixer top.

NOTE: The microtiter plate holder should not be used at speeds above 800rpm.

Cleaning and Care

⚠ **WARNING:** Ensure the unit is disconnected from the power supply before attempting maintenance or servicing.

The unit should be cleaned using a damp cloth and a mild detergent solution.

Cleaning is made easier if spillages are attended to promptly. In any case, spillages of acids and alkalies MUST be removed immediately as these chemicals can attack and damage the casework finish. Ensure that the appropriate safety precautions are observed.

Servicing and Repair

This product range does not require any routine servicing.

Note: There are no internal user replaceable parts.

In the event of product failure it is recommended that any repair is only undertaken by suitably qualified personnel. For advice, please contact Cole-Parmer quoting the model and serial number.

Only spare parts supplied by the manufacturer or its agent should be used. Fitting of non-approved parts may affect the performance of the safety features of the instrument.

If in doubt, please contact Cole-Parmer.

Accessories

Accessory Heads

A number of accessory heads are available for use with the vortex mixer.

Retort Rod

The optional Retort rod is available to support apparatus used with the instrument. The instrument is equipped with a fitting on the rear to accept the support rod accessory.

Rubber Mixing Cups

Additional rubber mixing cups are available from Cole-Parmer.

Please visit the Cole-Parmer website www.coleparmer.com for further information.

Warranty

Cole-Parmer warrants this equipment to be free from defects in material and workmanship, when used under normal laboratory conditions, for a period of **three (3)** years. In the event of a justified claim, Cole-Parmer will replace any defective component or replace the unit free of charge.

This warranty does NOT apply if:

- ❖ Any repair has been made or attempted other than by the manufacturer or its agent.
- ❖ Any minor coating chips or scratches occur during normal use (i.e., wear and tear).
- ❖ Damage is caused by fire, accident, misuse, neglect, incorrect adjustment or repair, damage caused by installation, adaptation, modification or fitting of non-approved parts.

Technical Specification	**04750-51**
Speed	250 to 2,500 rpm
Orbit	4.2 mm (0.165 in.)
Continuous mode	Yes
Accessory heads	Yes
Maximum load	1 Kg (2.2 lb)
Overall dimension	78 x 135 x 215 mm (3 x 5.3 x 8.5 in.)
Net weight	3.2 kg (7 lb)
Electrical supply	90 - 240V, 20W

CE These products meet the relevant EC harmonized standards for radio frequency interference and may be expected not to interfere with, or be affected by, other equipment with similar qualifications. We cannot be sure that other equipment used in their vicinity will meet these standards and we cannot guarantee that interference will not occur in practice. Where there is a possibility that injury, damage or loss might occur if equipment malfunctions due to radio frequency interference, or for general advice before use, please contact the manufacturer.

Declaration of Conformity

Catalog Number:	Description:
04750-51	VORTEX MIXER, VARIABLE SPEED

This product complies with the requirements of the EU Directives listed below:

2004/108/EC	**EMC Directive**
2006/95/EC	**Low Voltage Directive (LVD)**
2011/65/EC	**RoHs Directive**



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