



Vortex Mixer

User Manual & Setup Guide

TVM RANGE

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**General
Warning Sign**

Warning sign: signifies a general warning, and indicates a risk to people specified by the supplementary sign that if not avoided, may result in death or serious injury.



**Warning;
Flammable**

Warning; Flammable: signifies a flammable warning, and indicates a risk of flammable content as specified by the supplementary sign that if not avoided, may result in a fire by igniting flammable material.



**Warning;
Electricity**

Warning; Electricity: signifies a electricity warning, and indicates a risk of contact with electricity as specified by the supplementary sign that if not avoided, could result in injury.



**Warning; Hot
Surface**

Warning; Hot Surface: signifies hot surface warning, and indicates a risk to people specified by the supplementary sign that if not avoided, will result in contact with hot surface.



**General
Prohibition Sign**

General Prohibition: signifies a prohibited action, indicates a risk to people specified by the supplementary sign that if not avoided, will result in death or serious injury.



**Do Not Expose
Outside**

Do Not Expose Outside: signifies prohibiting the exposure to direct sunlight, and indicates a raised temperature due to sunlight or placement on hot surface can cause harmful damage to cabinet.

This user manual is intended for Thermoline's range of vortex mixers. We recommend that you read this user manual the whole way through before you start using the vortex mixer. Consider this manual as a component of the vortex mixer and an integral part to its function. We recommend keeping it close and within easy access.

Intended Use

The variable-speed vortex mixer has a rotary dial for speed selection. It has two operating modes: touch and continuous. A three-way power switch changes the mode of operation from 'touch' to 'continuous'. The sturdy metallic base and perfect dynamic balancing eliminate any movements and dampen vibrations while mixing.





Dimensions

(WxDxHmm)

TVM-1

External

107x166x146

Technical Specifications

Operation Mode

Continuous/Touch Operation

Type of Movement

Orbital

Speed Range (rpm)

0-3000

Orbital Diameter

6mm

LED Display Accuracy

±0.1°C

Electrical

36W/230V

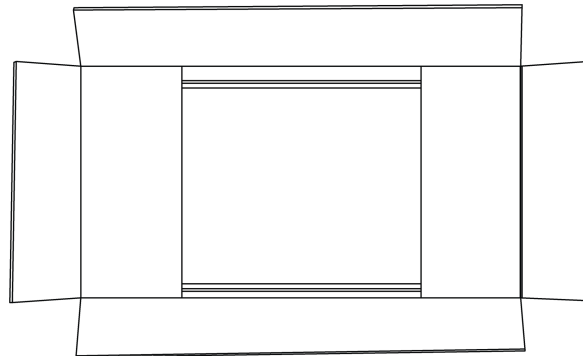
Weight

2.6kg

Unpacking

Unpacking Process:

- The vortex mixer will be delivered packed in a carton.
- If upon opening your package damage is present, notify the detail of any damage to your supplier or to Thermoline Scientific without delay at +61 2 9604 3911 or email at service@thermoline.com.au.



Packing List

TVM-1

Vortex Mixer

1

Power Pack and Lead

1

Operating manual

Downloaded from the Thermoline Website

Setup

Vortex Mixer Components



Location

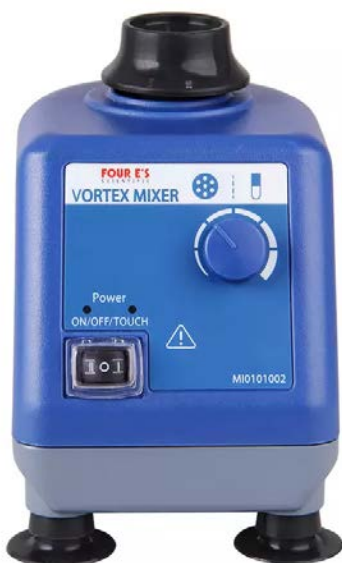
Ensure the vortex mixer is placed in the correct environment, away from direct sunlight or direct heat sources. The product shouldn't be placed in a room where the ambient temperature exceeds that of which it was designed to operate. The vortex mixer should be stored inside at all times.

Extreme Operating Environment:

- **Temperature:** +5°C to +40°C
- **Humidity:** Up to 80%RH

Ensure the vortex mixer is placed on a level surface and that the mains plug and the switch are easily accessible.

The vortex mixer requires space on the sides and back to aid with accessibility. Thermoline suggests at least 100mm.



Setup

Electrical Connections

The vortex mixer requires a 10amp 230V 50hz power supply.

All vortex mixers should be used plugged into a dedicated outlet. Do not use power boards or the like. The vortex mixer includes a removable mains power pack that then connects to the lead on the mixer.



Setup

Cleaning

Careful cleaning of the exterior of the unit can be done using a soft cloth and soapy water. Never use abrasive cleaners or scouring pads, as these will scratch the unit and may result in corrosion. Never use caustic-type cleaning agents.

The vortex mixer has electrical components such as the speed controller and stirring motor. These should not be subjected to moisture.

Note: Always switch the vortex mixer off and unplug it from the power before cleaning.



Vortex Mixer Warnings



Vortex mixers should be stored inside at all times. Failure to adhere to this could cause significant drops in performance and damage to items stored inside.



The vortex mixers are not suitable for use with flammable solvents! They are fitted with components that may be the source of ignition.



When you remove packaging from the vortex mixer you should be careful when using knives to cut tape and cardboard.

Pre Use Procedure

- Before proceeding, please make sure that all internal and external packaging has been removed from the vortex mixer and that all tape, plastic bags and foam pieces have been removed.
- Take the supplied lead from the power pack and plug it into the lead attached to the mixer. Plug the power pack into the power socket (GPO).
- Turn the main switch on the front of the unit to either touch or continuous.

Vortex Mixer General Controls

TVM-1 Controls

③ Adapter

④ Speed Control Knob

① Mode Indicator Light

② Mode Switch



Item	Description	Function
①	Mode Indicator Light	The left one is for continuous working mode and the right one is for touch working mode.
②	Mode Switch	It's the continuous mode when the switch is on the left side and the left mode LED is light. It's the touch mode when the switch is on the right side and the right mode LED is light.
③	Adapter	Different adapters are used for various mixing applications
④	Speed Setting	To set the speed in the range of 0-3000rpm/min by horizontal rotation of the knob

Vortex Mixer Attachments

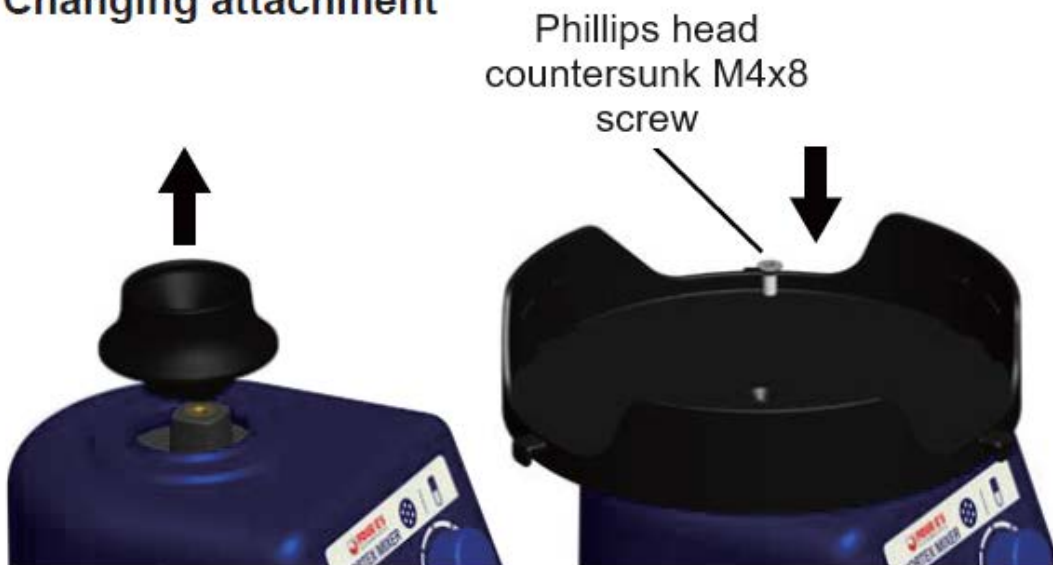
Attachments

The vortex mixer can be used with several different attachments. The standard TVM-13 top must first be replaced with the TVM-14 universal top plate to allow for use of the other attachments. The TVM-13 standard top slides off the shaft. The TVM-14 universal top plate is then screwed into place.

Note: Take care to make sure that the insert is placed evenly in the TVM-14 universal top plate before use.

Note: Only the TVM-13 standard top can be used at speeds over 500 rpm.

Changing attachment



Using insert



Vortex Mixer Attachments

The various attachments have different speed capabilities. High speed is anything above 500rpm to the maximum 3000rpm and low speed is up to a maximum of 500rpm.

Accessory	Adjustable Speed Model 400-3000rpm			
	Touch Mode		Continuous Mode	
	High Speed	Low Speed	High Speed	Low Speed
TVM-13	Y	Y	Y	Y
TVM-31 plus TVM-14		Y		Y
TVM-32 plus TVM-14		Y		Y
TVM-33 plus TVM-14		Y		Y
TVM-34 plus TVM-14		Y		Y
TVM-35 plus TVM-14		Y		Y
TVM-36 plus TVM-14		Y		Y
TVM-38 plus TVM-14		Y		Y

Vortex Mixer Attachments

Various applications with different interchangeable attachments.



TVM-13
Standard top



TVM-14
Universal top plate



TVM-37
Erlenmeyer flask attachment
100-250ml, used with TVM-14



TVM-38
Platform pad for $\Phi 99\text{mm}$
tubes & small vessels



TVM-31
Test Tube Attachment, 54 x $\Phi 6\text{mm}$,
used with TVM-14



TVM-32
Test Tube Attachment, 18 x $\Phi 10\text{mm}$,
used with TVM-14



TVM-33
Test Tube Attachment, 12 x $\Phi 12\text{mm}$,
used with TVM-14



TVM-34
Test Tube Attachment, 8 x $\Phi 16\text{mm}$,
used with TVM-14



TVM-35
Test Tube Attachment, 8 x $\Phi 20\text{mm}$,
used with TVM-14



TVM-36
Microtiter plate attachment,
used with TVM-14

Problem	Fix
Does not mix	No Power Make sure the device is turned on and that the switch is set to the correct position. If this does not resolve the issue, please contact your preferred electrician or technician to diagnose the problem.
Media splashes when mixing	Reduce the mixing speed.

Technical and Repair Support

When contacting Thermoline regarding information about the product, it is important to have the Serial Number and other related information with you. The serial number is on a white sticker, usually located near the power lead.

Contact Thermoline service on +61 2 9604 3911 or email at service@thermoline.com.au



Model:
Serial No:
Watts/Amps:
Volts:

Phone: +61 2 9604 3911
Email: hello@thermoline.com.au



Have the following information available when you contact the service department. Model number and serial number. This is generally found on the exterior of the vortex mixer in the form of a stick-on label. The company name, address, contact name, contact phone number. A brief description of the problem. All warranty claims must be reported to, and agreed to by a Thermoline representative prior to any work being carried out.

Standard 24 Month Warranty

Thermoline Scientific Equipment Pty Ltd ABN 80 000 859 129 ('Thermoline')

Thermoline warrants to the original purchaser that this product will perform to its product specification for a period of 2 years from date of purchase, provided that the installation of the product has been carried out in accordance with the latest version of the manufacturer's instructions and further provided that the use of the product complies with that specified in the relevant specification. Thermoline is not responsible for any loss or damage arising from incorrect usage, usage outside the suitability of the product as stipulated in the manufacturer's instruction, damage caused by accident, fire, flood, act of God or failure to properly install, operate or maintain the goods in accordance with the printed instructions provided.

The following statement applies only to product sales that fall within the definition of a Consumer Sale set out in the Australian Consumer Law contained within the Competition and Consumer Act (Cth) 2012:

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. Notwithstanding the preceding clause and to the extent permissible by law, the liability of Thermoline is limited, in relation to the warranted product and at the option of Thermoline to:

Replacing the product or the supply of equivalent product;
The repair of the product;
The payment of the cost of replacing the product or of acquiring equivalent product; or
The payment of the cost of having the product repaired.

To the extent permitted by law, all other warranties whether implied or otherwise, not set out in this Warranty are excluded and Thermoline is not liable in contract, tort (including, without limitation, negligence or breach of statutory duty) or otherwise to compensate the Purchaser for:

any increased costs or expenses;
calibration/certification services;
any loss of profit, revenue, business, contracts or anticipated savings;
any loss or expense resulting from a claim by a third party.
Any special, indirect or consequential loss or damage of any nature whatsoever caused by Thermoline's failure in complying with its obligations or the purchaser's failure due to accident damage, impact, misuse or negligence.

The benefits given to the purchaser in this Warranty are in addition to other rights and remedies under a law in relation to the products or services to which this warranty applies. This warranty applies only to products purchased and installed in Australia and does not cover any consumable items e.g. filters, light globes, ultrasonic nebulizers. The warranty does not extend to labour and freight costs where the warranted product is located outside Australia.

To make a warranty claim, contact Thermoline on 02 9604 3911 or service@thermoline.com.au.

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We will continue to invest in Australian
manufacturing.

