

Vortex Mixers (Adjustable and Fixed Speed Models)

User Manual



Adjustable speed Vortex

Fixed speed Vortex

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Preface

Welcome to the “Vortex Mixers (Adjustable and Fixed Speed Models) User Manual” . Users should read this manual carefully, follow the instructions and procedures, and beware of all the cautions.

Service

When help needed, you can always contact the service department of manufacturer or your supplier for technical support.

When calling manufacturer, please provide the following information:

- Serial Number (on the bottom panel)
- Description of problem
- Methods and procedures adopted once to resolve the problems
- Your contact information.

Warranty

This instrument is warranted to be free from defects in materials and workmanship under normal use and service, for a period of 24 months from the date of invoice. The

warranty is extended only to the original purchaser. It shall not apply to any product or parts which have been damaged on account of improper installation, improper connections, misuse, accident or abnormal conditions of operation.

For claims under the warranty please contact your local dealer. You may also send the instrument direct to our works, enclosing the invoice copy and by giving reasons for the claim. You would be solely liable for freight costs.

1 Safety Instructions



Warning!

- Read the operating instructions carefully before use.
- Ensure that only trained staff use the instrument.



Protective ground contact!

- Make sure the socket is earthed (protective ground contact) before use.

- When work , wear the personal guard to avoid the risk from

- Splashing of liquids.
- Mechanical vibration may leads to glass breakage.
- Being trapped of parts of the body, hair or pieces of clothing in the moving parts.
- During manual manipulation:
 - Keep medium vessels vertical as much as possible.
 - Mix the medium in the minimum pressure required.
 - Use attachment supplied when mixing a mass of different medium.
- Set up the instrument in a spacious area on an stable, clean, non-slip, dry and fireproof surface. Do not operate the instrument in explosive atmospheres, with hazardous substances or under water.

- Put the speed control knob to the lowest position. Gradually increase the speed (adjustable model), reduce the speed if :
 - The medium splashes out of the vessel because of too high speed.
 - The instrument is not running smoothly or moves on the stage.
- Safe operation is only guaranteed with the accessories described in the “Accessories” chapter.
- Accessories must be securely attached to the instrument and can not come off by themselves.
- Check the instrument and accessories before hand for damage each time you use them. Do not use damaged components.
- Place a vessel at the centre of the mixing head and spread out others uniformly.
- A sharp edged vessel can wear-out the mixing head.
- Always disconnect the plug before fitting accessories.
- The instrument may heat up when in use.
- The operating voltage required on the label and voltage supply network must match.
- Protect the instrument and accessories from bumps and impacts.
- The instrument may only be opened by qualified and trained technician only.

2 Proper use

The instrument is designed for mixing liquids in schools, laboratories or factories. This device is not suitable for use in residential areas or other areas that may cause danger to the user or instrument as mentioned in Chapter 1.

3 Inspection

3.1 Receiving Inspection

Unpack the equipment carefully and check for any damages which may have arisen during transport. If it happens, please contact manufacturer for technical support.



Note:
If there is any apparent damage to the system, please do not plug it into the power line.

3.2 Listing of Items

The packing includes the following items:

| Items | Qty |
|-------------|-----|
| Main unit | 1 |
| User manual | 1 |

Table 1

Please retain all packing materials. Additional shipping charges will be assessed if packing is unavailable for the system warranty service.

4 Trial run

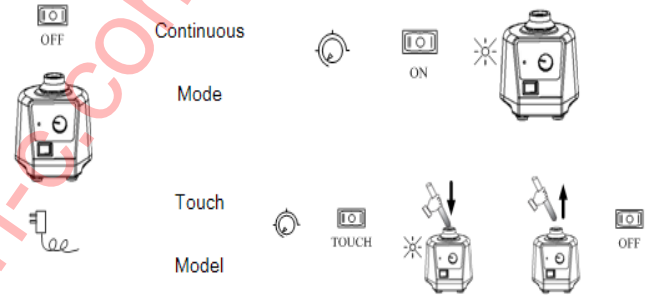


Figure 1



Note:
Ensure the two-direction switch must be in the middle (off state) before powering on.

If these operations above are normal, the instrument is ready to operate following the “operation” chapter. If these operations are not normal, the instrument may be damaged. please contact manufacturer for technical support.

5 Operation

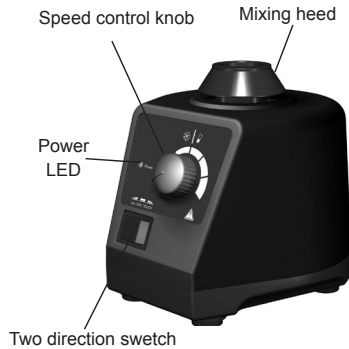


Figure 2

5.1 Continuous operating



Figure 3

- Ensure the speed control knob to the lowest position Put the instrument on the stable and safe place and plug in the main power.
- Push the two-direction switch leftward to ON and power LED is lit. Then the instrument begins to work.

- Turn the speed control knob to set the rated speed (adjustable model).
- If use the Nonstandard accessories, please ensure the speed in indicating range (adjustable model)
- Push the two-direction switch rightward gently to OFF and LED power is closed and the instrument is turned off.

5.2 Touch operating

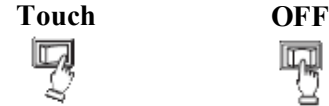


Figure 4

- Ensure the speed control knob to the lowest position Put the instrument on the stable and safe place and plug in the main power.
- Push the two-direction switch rightward to the touch mode.
- Turn the speed control knob to set the rated speed (adjustable model).
- If a test tube is pressed into the mixing head vertically, the instrument will begin to work and the power LED will be lit.
- Push the two-direction switch leftward gently to OFF and the instrument is turned off.



Note:

- Place vessels such as a test tube as vertical as possible into the centre of the mixing head in order to mixing smoothly.
- Adjust the speed control knob slowly in order to have the instrument work smoothly.

- Before using other method for cleaning or decontamination, the user must ascertain with the manufacturer that this method does not destroy the instrument.
- Wear the proper protective gloves during cleaning of the instruments.

NOTE:

- Electrical instruments may not be placed in the cleansing agent for the purpose of cleaning.
- The instrument is a sophisticated electronic products, avoiding severe shake in work and transportation
- The instrument must be cleaned and put it into the initial packaging carton before sending to service for repair, avoiding the contamination of hazardous.
- Switch OFF the instrument and put it in the dry, clean, stable place at room temperature in long-term disuse.

6 Maintenance and cleaning

- Proper maintenance can keep instruments working in a good state and lengthen its life time.
- Be careful not spray the cleanser into the instrument when cleaning.
- Unplug the power line when cleaning.
- Only use cleanser that we advised as below:

| | |
|------------------------|--|
| Dyes | Isopropyl alcohol |
| Construction materials | Water containing tenside / isopropyl alcohol |
| Cosmetics | Water containing tenside / isopropyl alcohol |
| Foodstuffs | Water containing tenside |
| Fuels | Water containing tenside |

Table 2

For materials which are not listed, please request information from manufacturer.

7 Associated standards and regulations

Construction in accordance with the following safety standards:

EN 61010-1

Construction in accordance with the following EMC standards:

EN 61326-1

Associated EU guidelines:

EMC-guidelines: 89/336/EWG

Instrument guidelines: 73/023/EWG

| Items | Parameters |
|------------------------------------|------------|
| Permitted relative humidity | 80% |
| Protection class acc. to DIN 60529 | IP21 |

Table 3

8 Technical data



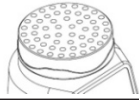
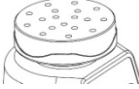
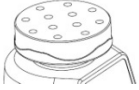
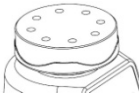
| Items | Parameters |
|------------------------------------|------------------------------------|
| Voltage [VAC] | 220-230 / 110-120 |
| Frequency [Hz] | 50 / 60 |
| Power [W] | 60 |
| Shaking movement | Orbital |
| Orbital diameter [mm] | 4 |
| Motor type | Shaded-pole motor |
| Motor rating input [W] | 58 |
| Motor rating output [W] | 10 |
| Permissible ON time | 100% |
| Speed range [rpm] | 0-2500(adjustable)/ 2500(fixed) |
| Speed display | Scale |
| Run type | Continuous/touch operation |
| Dimensions (mm) | 127 × 130 × 160 |
| Weight [kg] | 3.5 |
| Permitted ambient temperature[° C] | 5-40 |

9 Products and Accessories

| Cat.No. | Description |
|--------------|---|
| 821100170000 | Fixed speed Vortex, with VT 1.1 Standard Attachment, Cn plug, 220v/50Hz |
| 821100180000 | Fixed speed Vortex, with VT 1.1 Standard Attachment, Cn plug, 220v/60Hz |
| 821100130000 | Fixed speed Vortex, with VT 1.1 Standard Attachment, USA plug, 110v/50Hz |
| 821100140000 | Fixed speed Vortex, with VT 1.1 Standard Attachment, USA plug, 110v/60Hz |
| 821100090000 | Fixed speed Vortex, with VT 1.1 Standard Attachment, Euro plug, 220v/50Hz |

Vortex Mixers (Adjustable and Fixed Speed Models)

| | | | |
|--------------|---|--------------|--|
| 821100100000 | Fixed speed Vortex, with VT 1.1 Standard Attachment, UK plug, 220v/50Hz | 821200140000 | Adjustable speed Vortex, with VT 1.1 Standard Attachment, USA plug, 110v/60Hz |
| 821100110000 | Fixed speed Vortex, with VT 1.1 Standard Attachment, Euro plug, 220v/60Hz | 821200070000 | Adjustable speed Vortex, with VT 1.1 Standard Attachment, Euro plug, 220v/50Hz |
| 821100120000 | Fixed speed Vortex, with VT 1.1 Standard Attachment, UK plug, 220v/60Hz | 821200080000 | Adjustable speed Vortex, with VT 1.1 Standard Attachment, UK plug, 220v/50Hz |
| 821100190000 | Fixed speed Vortex, with VT 1.1 Standard Attachment, USA plug, 220v/60Hz | 821200110000 | Adjustable speed Vortex, with VT 1.1 Standard Attachment, Euro plug, 220v/60Hz |
| 821100200000 | Fixed speed Vortex, with VT 1.1 Standard Attachment, USA plug, 220v/50Hz | 821200120000 | Adjustable speed Vortex, with VT 1.1 Standard Attachment, UK plug, 220v/60Hz |
| 821200170000 | Adjustable speed Vortex, with VT 1.1 Standard Attachment, Cn plug, 220v/50Hz | 821200190000 | Adjustable speed Vortex, with VT 1.1 Standard Attachment, USA plug, 220v/60Hz |
| 821200180000 | Adjustable speed Vortex, with VT 1.1 Standard Attachment, Cn plug, 220v/60Hz | 821202000000 | Adjustable speed Vortex, with VT 1.1 Standard Attachment, USA plug, 220v/50Hz |
| 821200130000 | Adjustable speed Vortex, with VT 1.1 Standard Attachment, USA plug, 110v/50Hz | | |

| Accessories | | | |
|---|--|--|-----------------------------|
| | Cat.No and Designation | Serviceable range | Operation mode |
|  | 18900034 VT1.1 standard top | For test tubes and small vessels upto diameter 30 mm | Continuous /touch operation |
|  | 18900035 VT1.3 universal top plate | 100 mm-plate attachment with rubber pad | Continuous operation |
|  | 18900020 VT1.3.1 tube adapte | For 48 Eppendorf tubes | Continuous operation |
|  | 18900021 VT1.3.2 tube adapter | For 18 test tubes Ø10mm for VT 1.3 | Continuous operation |
|  | 18900022 VT1.3.3 tube adapter | For 12 test tubes Ø12mm , for VT 1.3 | Continuous operation |
|  | 18900023 VT1.3.4 tube adapter | For 8 test tubes Ø16mm, for VT 1.3 | Continuous operation |

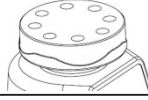

| | | | |
|---|--------------------------------------|--------------------------------------|----------------------|
|  | 18900024 VT1.3.5 tube adapter | For 8 test tubes Ø20mm, for VT 1.3 | Continuous operation |
|  | 18900043 VT1.3.6, platform pad | For < Ø99 mm tubes and small vessels | Touch operation |

Table 4

*NOTE: VT1.3 ~ VT1.3.5 adapter and pad are only suitable to Adjustable speed Vortex
Serial Number and pattern number and accessories names on the type plate must be supplied when ordering other accessories.*

Changing attachment

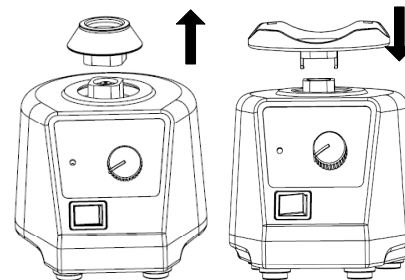


Figure 5