

Vortexer PV1

Operating instructions

For version V.1GW



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1. Safety

The following symbol means









Caution: Make sure you have fully read and understood the present operating instructions before using the equipment. Please pay special attention to sections marked by this symbol.







GENERAL SAFETY

-  Use only as specified in the operating instructions provided.
-  The unit should not be used if dropped or damaged.
-  After transportation or storage keep the unit under room temperature for 2-3hrs before connecting it to the electric circuit.
-  Use only cleaning and decontamination methods recommended by the manufacturer.
-  Do not make modifications to the design of the unit.


ELECTRICAL SAFETY

-  Connect only to the external power supply unit with voltage corresponding to that on the serial number label.
-  Use only the external power supply unit provided with this product.
-  Ensure that the external power supply is easily accessible during use.
-  Disconnect the unit from the electric circuit before moving.
-  Disconnect the external power supply unit from power socket to turn off the unit.
-  If liquid penetrates into the unit, disconnect it from the external power supply unit and have it checked by a repair and maintenance technician.

DURING OPERATION

-  Use only the tubes smaller or equal to 28.5 mm in diameter.
-  Do not stop the vortex head rotation with a hand.
-  Do not operate the unit in environments with aggressive or explosive chemical mixtures.
-  Do not operate the unit if it is faulty or has been installed incorrectly.
-  Do not start operation at maximum speed.
-  Do not use outside laboratory rooms.

BIOLOGICAL SAFETY

-  It is the user's responsibility to carry out appropriate decontamination if hazardous material is spilt on or penetrates into the equipment.

2. General information

Vortexer PV1 is designed for mixing substances in tubes using the eccentric mechanism. The vortexer can be used in a variety of applications including general test tube mixing, tissue samples mixing, cell suspension vortexing, chemical reagents mixing, etc.

The Vortexer is equipped with 20 mm diameter single Polystyrol mixing cup for mixing one tube at a time.

Vortexer PV1 is intended for two operations:

- continuous mixing;
- impulse mixing (activated by touching the mixing cup with a test tube).

Vortexer PV1 operates at variable speeds from 750 to 3000 rpm providing different mixing intensity (from gentle shaking to intensive vortexing).

3. Getting started

3.1 Unpacking

Remove packing materials carefully and retain them for future shipment or storage of the unit.

Examine the unit carefully for any damage incurred during transit. The warranty does not cover in-transit damage.

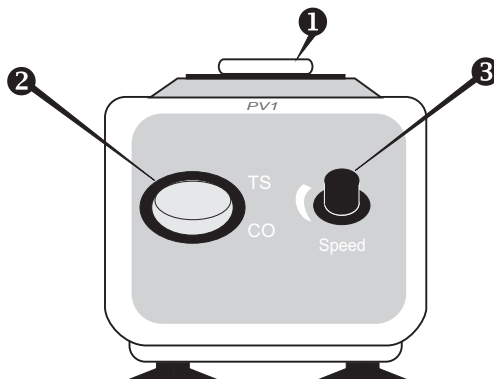
3.2 Thermo-Shaker set includes:

- Vortexer PV11 piece
- external power supply unit1 piece
- Operating instructions; Declaration of Conformity1 copy

3.3 Set up

- place the unit on the working area;
- plug the external power supply unit into the 12 V socket at the rear side of the unit.

4. Operating instructions



4.1. Connect the external power supply to electric circuit.

4.2. Continuous operation mode – CO

- 4.2.1. Turn the **TS/CO** switch (❷) into CO position.
- 4.2.2. Set the required speed using the **Speed** knob (❸).
- 4.2.3. Gently holding a tube with fingers at its upper part dip the tube's lower part into the conical cup of the vortex head (❶).
- 4.2.4. Control the intensity of mixing by varying pressure of the tube to the vortex head.
- 4.2.5. After finishing the operation turn the **TS/CO** switch into TS position.

4.3. Touch operation mode – TS

- 4.4.1. Turn the **TS/CO** switch (❷) into TS position.
- 4.4.2. Gently holding a tube with fingers at its upper part press the tube's lower part to the vortex head conical cup (❶). Vortex will be activated when pressing the mixing cup with a test tube.
- 4.4.3. Set the required speed (desired mixing level) using the **Speed** knob (❸).
- 4.4.4. Control the intensity by varying pressure of a tube to the vortex head (❶).

4.4. After finishing the operation disconnect the external power supply unit from electric circuit.

5. Specifications

The product is designed for operation indoors in a laboratory at altitudes up to 2000 m, with ambient temperature from +4°C to +40°C and maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C.

- Speed control range750–3000 rpm (max. speed depends on loading)
- Maximum continuous operation time8 hrs
- Mixing module for tubesfrom 1.5 to 50 ml
- Maximum mixing volume30 ml
- Orbit4 mm
- Dimensions90x150x80 mm
- Input current/power consumption12 V, 320 mA / 3.8 W
- External power supply unit input AC 100-240 V 50/60 Hz, output DC 12 V
- Weight *0.8 kg

* Accurate within $\pm 10\%$.

Grant is committed to a continuous programme of improvement, specifications may be changed without notice.

6. Guarantee and Service

6.1 **Guarantee**

When used in laboratory conditions and according to these working instructions, this product is guaranteed for TWO YEARS against faulty materials or workmanship.

6.2 **Service**

For service, return for repair to our Service Department in the UK or, in other countries, to our distributor.

6.3 **Cleaning & Disinfection**

Standard ethanol (75%) or other cleaning agents recommended for cleaning of laboratory equipment can be used for cleaning and disinfection of the unit.

Declaration of Conformity

Manufacturer:

BIOSAN LTD.
Ratsupites 7, build.2, Riga, LV-1067, Latvia

Equipment name/type number:

PV1

Description of Equipment:

Personal vortex

Directive:

EMC Directive 2004/108/EC
Low Voltage Directive 2006/95/EC

Applied Standards

EN 61326:

Electrical equipment for
measurement, control and laboratory use -
EMC requirements

Part 1: General requirements

Harmonized Standards:

EN 61010:

Safety requirements for electrical
equipment for measurement, control and
laboratory use.

Part 1:

General requirements

I declare that this apparatus conforms to the requirements of the above Directive(s)


Svetlana Bankovska
Executive Director
Biosan Ltd.

Dated 31.01.2011



**Grant Instruments
(Cambridge) Ltd**

Shepreth

Cambridgeshire

SG8 6GB

UK

Tel: +44 (0) 1763 260811

Fax: +44 (0) 1763 262410

Email: scientificsales@grantinstruments.com

www.grantinstruments.com