



Vibrator

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Dear Customer

We thank you for your selectivity and trust in purchasing domestically produced products, and we are pleased that after continuous efforts, we have been able to manufacture Vibrator device and put it at your disposal.

This product has been designed by our technical and engineering team of experienced and committed people in the fields of mechanical, electronics and computer engineering, and by utilizing updated technology and building upon 25 years of experience in manufacturing dental equipment, this product has reached production of export index quality.

In designing the product, three principles of accuracy, reliability and safety performance and also technique of user friendly have been considered, so in order to correctly and completely utilize product features, we ask you to read the instruction manual carefully and if you have any questions or you need more information, contact the after-sales unit.

The instruction manual is a comprehensive reference for the efficient and safe use of the product. Following the instructions of this manual has a great role in reducing consumable costs, avoiding risks and ultimately increasing product life. The instruction manual should always be kept near the product and the user should periodically read it.

Please impart us with your constructive guidance, so that we can benefit from your comments, recommendations, and gain knowledge about your needs.

**We hope that you will find using Vibrator to be an enjoyable and successful experience,
Polaris Engineering and Manufacturing**



Introduction

(1-1) How to use the manual

This manual presents the instructions about use, installation, and maintenance of Vibrator device made by Polaris Co. It should be noted that:

- The product should be used according to the instructions of this manual. Thus, all parts of it should be read carefully before starting and installing the tool. Special attention should be paid to the highlighted parts. (refer to section 2-1).
- Observing the instructions of the manual assures the health and safe operation of the tool.
- Manual is an integral part of the product. Thus, it should always come with the product and should be used optimally as a reference for use during the operation of the product. It should be available even during the sale of the product, or even when it is not used.
- In case of losing or damaging the manual, get a replacement one from the after-sales service department of Polaris Co.

The following are explained in detail in this manual:

- Installation and start up of the product
- Operation details of the product and its parts
- Maintenance condition
- Primary safety and preventive details

(1-2) Terminology and signs

Knowledge of signs meanings is of great importance. A list of signs has been introduced in the following for initial recognition and reference to them if necessary.



Danger!

Indicates compulsory warnings.



Warning!

Indicates functional recommendations.



Forbidden!

Indicates forbidden activities.



Caution!

Refers to user instructions of the tool.



General Information

(2-1) Company liabilities

Polaris is not liable for any problem involving the following: Failure to follow the instructions of this manual (incorrect use of the product), repair by an unauthorized person and part replacement without coordination with the after-sales service department, failure due to power fluctuations.

(2-2) Guarantee

Guarantee of this product includes repairs, supply, and replacement. If used appropriately, the guarantee of Polaris Co, covers all main parts of the device for 18 month.



Following cases and parts are not covered by guarantee:

- power fluctuations
- incorrect transportation of device
- inappropriate and frequent use of device despite having obvious flaws
- not observing the maintenance instructions
- any repair or replacement by unauthorized persons.
- power cable and key



Commutation fees of company representatives to install or repair during guarantee period will be received from buyer at site.



The device can't be used before installation and insurance of correct operation of protective parts.



It is highly recommended that user has a general knowledge of this manual before using this device. The cases which appear to be operation flaws in the device should be registered by user and they should be sent to the after-sale service department.

General Information

- Authorized representatives of Polaris Co.
These persons are endorsed by the company to work on the device under any operational circumstances. They are also authorized to do any electrical and mechanical adjustment/repair, maintenance program and authorized parts replacement.



Device Introduction

(3-1) Main parts description

This device is designed to be user-friendly. This device is used to cast different porcelains and precious and none-precious alloys.

- The main parts of Vibrator Device are the following:

1. The device on/off button
2. Device power adjustment two mode button
3. Device vibration power adjustment gauge
4. Rubber base
5. Power cable
6. Dampers
7. Transformer
8. board

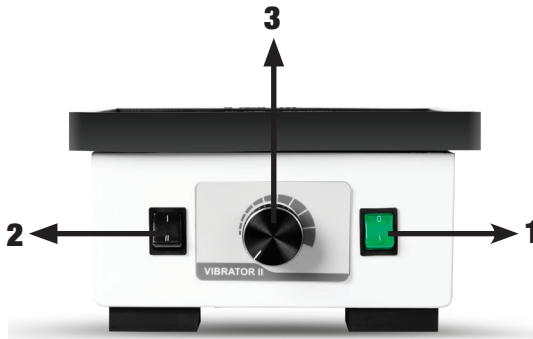


Fig-1 Vibrator anterior view



Technical Features

(4-1) Technical features and operation rules of device

Polaris Co. products are manufactured based on the latest technologies and are of the highest qualities. The most recent design and manufacturing methodologies are employed to increase the lifetime and quality of products.

(4-2) Technical details

Technical specifications of the Vibrator are given in Table 1:

Power supply	210-240V AC 50/60 Hz
Power	Lower than 72 dB
Device height	150 mm
Device width	270 mm
Device depth	180 mm
Net weight	7 Kg

Table 1 The device technical specifications

Accessories

The device box includes Vibrator device, electricity cable, and this instruction manual.



**Transportation and
installation**

In order to avoid accidents, it is really important to follow the following instructions during the installation and fixing of equipment. All steps are explained in detail:

(5-1) Unboxing

Having received the device, make sure that the main box is sealed and intact. Otherwise, inform the after-sales service department of Polaris Co, or its authorized representatives.

(5-2) How to move the device

The device should be moved as follows:

- 1 During transportation, being lightweight and low volume can lead to drastic movements and damage to the device. Thus, it is recommended that for device transportation, it should be put inside the box and be carried carefully.
- 2 Unplug it from the electricity
- 3 The device should remain in a vertical position during movement. For more safety and prevention of any injury due to neglecting the technical details, refer to section 4-1.



Failure to follow the aforementioned instructions results in device being damaged, and Polaris Co, won't be held liable.

(5-3) environmental circumstances

It is important to choose an appropriate environment during installation and operation for personal safety, correct operation and long lifetime. This environment not only should be big enough but also should be on enough, have proper ventilation and should be kept away from dust and direct sunlight. It should be noted that the device must be placed in a way, so that the connections may be managed easily.

Workplace temperature: 0-40°C

Maximum humidity: 75%



The device should not be used in a place where there is danger of explosion or firing

The light of the place should be high enough so that all parts of the device can be seen clearly.



The device should never be exposed directly to sunlight or humidity of rain, etc.

The following should be done before the use of the device:

- 1 Vibrator has been designed to be put on a stable and firm worktable in parallel with the ground. The stability of all parts of the worktable should be checked.
- 2 Plug the device into the outlet after input power and mains electricity are checked (device working voltage is based on AC 220 electricity).



The grid single-phase electricity should match the power supply specifications of device.

(5-4) device installation

- 1 Get the device out of its box carefully. To do so, take out all the protective material (Plastofoms) around it, take out the vibrator, and put it on a flat and standard laboratory table such that the space within 25 cm radius of the device is empty. Make sure that the surface and legs of the table are not made of metal.



There is a danger of electrocution, if the surface or legs of table are made of metal and they are in contact with the ground. Thus, put your vibrator on a wooden table or fiberglass.

- 2 The vibrator should not be exposed to sunlight directly.
- 3 An appropriate cord should be used to connect the device to its nearby power supply.
- 4 An electrical protector must be put on the way of the socket by the user, so overload or indirect currents don't have contact with the protective parts of the device.



Device Application

(6-1) Device initiation

Before using the device, put it on a firm, flat and stable surface and follow these steps. The vibrator device is presented to the dear buyers intact and ready to use.

- 1 Put the device on the work table according to part (4-5).
- 2 Plug the device into the mains electricity and make sure that the device is connected according to part (4-5).
- 3 Put the desired specimen on the device special surface.
- 4 Turn on the vibrator with the device On/Off button.
- 5 Adjust the power of the device with the two-mode button.

(6-2) Device full operation

In order to have more control for the user on vibration process, Polaris company has designed a vibration power adjustment gauge for the Vibrator device (turning clockwise to increase vibrations and counterclockwise to decrease vibrations).



When the device two-mode button is on state 1, the device start to vibrate, even if the power adjustment gauge is put on the minimum.



The device has main power 1 and 2 and the intensity of each of them is adjusted by the intensity adjustment gauge.

POLARIS Vibrator

Safety

(7-1) general safety

Users are required to read and always follow the listed suggestions and warnings here; following these instructions will assure a long-term, flawless operation for the product.



Make sure that all parts of the device are installed correctly before using the device.



You should never use the device if its accessories are defected, otherwise, the device operation will be affected, and it will no longer be covered by guarantee. Thus, make sure all parts are flawless before operation.



Never use a defected device.

- The place should be clean and well-lit and free of obstacles.
- If you see any flaws in the device operation, stop operating the device immediately, unplug it, and call the after-sales service department of Polaris Co and inform them about that.
- Never disassemble the electrical or pneumatic parts.
- Never replace the power supply or parts which are directly related to the plug.
- Operation of this device for applications other than those mentioned is forbidden.
- Make sure the device is disconnected from the main sockets before cleaning.

Device safety measures

Polaris Co. makes use of high quality raw materials for advanced production processes to promote the safety level. Quality control is performed in three stages of input, middle control, and final control through several control stations, a procedure which minimizes error and defects chances.

POLARIS Vibrator

Maintenance

(8-1) cleaning

Keep the device body clean using a dry cloth. Wet the cloth with little water or a non-greasy solution, if needed (only do this for body cleaning).

Users should make sure the device is kept clean and free of dust water and other unexpected solutions.

At the end of each operation and when the device is on OFF mode and stable, cleaning should be done.

If the user decides that the internal parts need cleaning, he/she should contact the after-sales service department.



Put the main button on the off position before cleaning external parts of the device. It is forbidden to clean the device while it is plugged.



Never use combustible, corrosive, base or toxic solutions for cleaning the device.



When using compressed air in cleaning, eye guard and face mask should be used. Do not let anyone stand near the device, because one can be harmed by suspended particles.

(8-2) periodic maintenance

Inspection and periodic cleaning of the device depend on the operation level. It is suggested for the user to inform the company experts about the workflow through consultation after installation and learn the appropriate time for an inspection and periodic cleaning from them. If the user detects any damage or exhaustion during periodic inspections, he/she should contact the after-sales department, so that measures are taken for maintenance and compulsory service.

Periodic service should be determined by the user and is performed by the after-sales service department. It is suggested that the maximum time interval for periodic repairs be 12 months.

If a user detects any defects or problems on the device, he/she should place a warning sign on the device to indicate that it is being maintained and it should not be used (EC warning signs can be purchased at the associated stores).

Cleaning, periodic maintenance and appropriate use of the device are important factors in lifetime and safety of it.



When any defect is seen in the device operation, it is forbidden to use the device before solving that defect.



Safety and protective parts of the device should never be removed from the device unless for repair and maintenance purposes.

The parts which are removed for repair purposes should be replaced as soon as possible.

(8-3) Maintenance technical instructions

- 1 Behind the device, there is a 15 A fuse related to the device main electricity. In case of malfunction (Fig 2).

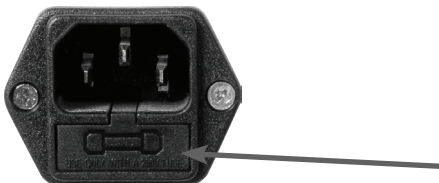


Fig-2

How to change the fuse of the Vibrator

Calling the after sales services Unit of Polaris Co.

Tel: +49 (0) 21033373500 Fax: +49 (0) 21033373550

Web: www.polarisgmbh.com

Email: Service@polarisgmbh.com

