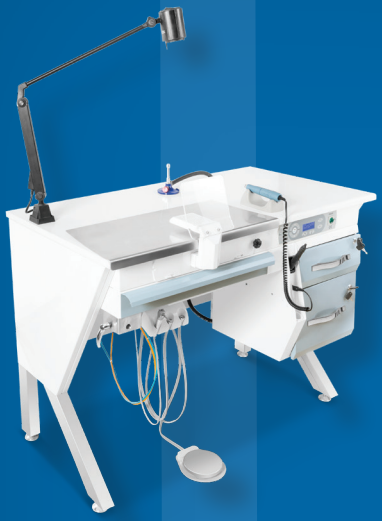
POLARIS

Instruction Manual



Laboratory Bench & Dental Simulation Bench

Dental Benches

Contents

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 Laboratory bench and Preclinical bench 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 being easy to use 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 Dental Benches to be an enjoyable and successful experience,
Polaris Engineering and Manufacturing

POLARIS Dental Benches

Introduction

(1-1) How to use the manual

This manual presents the instructions about use, installation, and maintenance of Laboratory bench 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.

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General Information

(2-1) Company liabilities

Polaris Co. 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
- power cable
- any repair or replacement by unauthorized persons.
- main and display keys

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.

- 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.

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Product Introduction

(3-1) Main parts description

Main parts of the Laboratory bench include:

1. Stand
2. Suction box
3. Pedal
4. Two drawers slot
5. Armrest
6. Shoulder vent
7. Protective shield
8. shoulder vent cap
9. Electrical Switchgear
10. Air poir
11. Three drawers slot
12. Panel
13. MDF sheet
14. Stand cap
15. Shelf
16. Work surface steel sheet
17. Cornice
18. Light stand
19. Fluorescent lamp

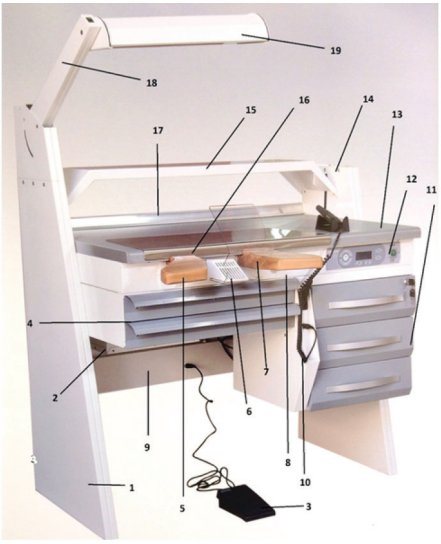
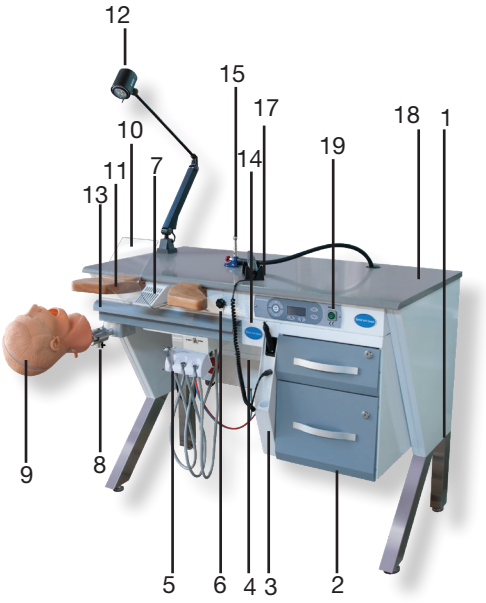


Fig-1 A view of different parts of Laboratory bench

(3-2) Main parts of Preclinical bench

1.K stand
2.Two drawers slot
3.Air syringe
4.Suction box
5.Mini-unit box
6.Shoulder vent cap
7.Shoulder vent
8.Phantom head cap
9.Phantom head
10.protective shield
11.Arm-stand
12.Spotlight lamp
13.One drawer slot
14.Hand-piece guard
15.Table flame (benzene)
16.Hand-piece
17.Plastic Pad
18.Composite sheet
19.Panel



Benches with MDF surface should have a steel coating.

Avoid opening the doors or removing the coating before disconnecting Electricity

It is recommended that the local electronics system has an earth connection.

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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 Laboratory and preclinical bench are given in Table 1:

210-240V AC 50/60 Hz	Power supply
1400 W	Power
800-1000 mm	Device height
600 mm	Device width
1100 mm	Device depth
125 Kg	Net weight

Table 1 The device technical specifications

Accessories

Part	Number
Hand-piece	1
Protective shield	1
Pedal	1

Table 2 A list of product accessories

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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.Disconnect the device electricity connection.

2.Disconnect all connections.

3.Empty drawer contents and contents on the table.

4.Know the weight of the device because lack of knowledge about factors such as these may lead to many problems (this information are given in technical specifications part).

5.The device should remain in a horizontal position during movement and moved carefully

6.Put the device in the designated box and if the box is not available, follow safety instructions for protection, because the company is not exposed to transportation risk and has no obligations towards it.

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: 0-40ºC
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.Laboratory and preclinical bench 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 main 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 (Plastofoams) around it, take out the Laboratory bench , and put it on a flat and standard surface 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.

It is recommended that the environment electronic system has an earth connection part.

2. Laboratory bench 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.

It is recommended for the electronic system to have a ground connection part.

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Production application

(6-1) Device initiation

Before using the device, put it on a firm, flat and stable surface and plug the device into electricity (and make sure that the device connection is intact according to part (4-5))
Now the device should be adjusted to be used.

(6-1-1) Laboratory bench application
In this stage, the user must adjust the Laboratory bench for application:
•Power button: to turn on the device
•FOOT and Hand buttons: to change the hand-piece function in pedal manual mode
•Clockwise-counterclockwise button: to adjust the condition of hand-piece rotation to Rev and For modes.
•Lamp button:
•Suction or vacuum cleaner button: It is used to turn the socket on and off (In manual mode).

It should be mentioned that by pressing this button for a few seconds, the system enters suction adjustment mode and by pressing the arrows, suction can be adjusted between 0-100 and by pressing the suction key, the desired speed can be saved.

•Autokey: This key is used to place the system in automatic mode so that the hand-piece rotation and suction work at the same time. This function is designed so that the suction does not work constantly. when the system is in manual mode, the user can turn the suction on and off manually (explained in clause 5)

•Arrow keys: They are used to adjust the used elements (hand-piece speed, LCD light, suction power and etc)
•Stop and Run button: This button is used to start or stop the hand-piece rotation, so when the system is in Hand mode, by pressing this key, micro-motor start rotating and by pressing again, it stops.

•To adjust the LCD light, press Manual and Auto buttons at the same time and you can adjust it between 0-100.

In case of hanging or locking of the panel, you can press Auto and down arrow to reset to factory settings.

In order to start-up the device, you need at least 5 bar compressor air, metropolitan gas and electricity with earth connection.

After adjusting the necessary settings, your device is functional.

(2-1-6) Preclinical bench application

The preclinical bench has all the aforementioned applications of Laboratory bench. In addition to this, Preclinical bench is equipped with mini-unit. Mini-unit instructions are the following:

The mini-unit has five main hoses:

1.Turbine hose which has air and water.

2.The air-motors hose which only has air.

3.The poir hose is for air and water exhaustion.

This hose is used for or cleaning and has air and water.

4.The pedal hose which is for pneumatic air control of mini-unit.
It is for commanding the mini-unit pneumatic system for the start-up of air and water inside the device.
5.Grade 6 blue orange hose is for entering mini-unit air and water.
Grade 6 blue hose is for connecting to metropolitan water.
Grade 6 orange hose is for entering regulated air with the maximum pressure of 5 bars.

If the selector button is in turbine mode, the turbine hose is usable which is placed to adjust air pressure exactly behind the turbine hose and is capable of adjusting turbine air. On the box, there is an on/off button which is embedded to connect or disconnect turbine water and Flow volume is embedded for adjusting the turbine water pressure.
If the selector button is in air-motor mode, air-motor hose is usable which is air-free and is placed to adjust air pressure exactly behind the air-motor hose and is capable of adjusting the air pressure of air motor.

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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.

Never use a defected 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.

- Do not let the hand-piece touch the ground.
- 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.
- Never use benzene or combustible solutions for cleaning the device. Use noncorrosive, noncombustible and nontoxic materials.

(7-2) 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.
To assure that the device works safely, follow all the aforementioned steps.

- Always use a filter and residual remover before entering the water in the mini-unit box
- Never allow the air pressure to exceed 5 bars.

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Maintenance

(8-1) Clean-Up

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, end user 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.

(8-2) periodic maintenance

Inspection and periodic cleaning of the device depends 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, end user 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 services 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, end

user 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.

Calling the aftersales services Unit of Polaris Co.

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