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PARS**

Engineering and Manufacturing

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**In the name of God**

**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 Fine Blast device in Iran 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 on ۲۰ 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.

Instruction manual is a comprehensive reference for 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. 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.

**With the hope of enticing your satisfaction,**

**Kousha Fan Pars Engineering and Manufacturing**

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## **Section ۱: Maintenance**

### **(۱-۱) How to use the manual**

**This manual presents the instructions about use, installation and maintenance of Fine Blast Device made by Kousha Fan Pars 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 ۲-۱).**
- **Observing the instructions of manual assures the health and safe operation of the tool.**
- **Manual is an integral part of the product. Thus, it should always be near the product and should be used optimally as a reference for use during the operation of product. It should be available even during 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 Kousha Fan Pars 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 program**
- **Primary safety and preventive details**

## (١-٢) 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.**

## Section ۲: General information

### (۲-۱) Company liabilities

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

### (۲-۲) Guarantee

**Guarantee of this product includes repairs, supply and replacement. If used appropriately, Kousha Fan Co, guarantee covers all main parts of the device for ۱ year.**



**Following cases 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**
- **installation by unauthorized persons**
- **any repair or replacement by unauthorized persons.**



**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 Kousha Fan pars Co.**

**These persons are endorsed by 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.**



## Section ۳: Product Introduction

### (۳-۱) Main parts

The main reason for the design of Fine Blast Device is to use it in dentistry laboratories in order to eradicate the oxide layer on different casts and surfaces.

۱. Fine blast has two sand reservoirs. The first reservoir is for sands with the dimensions between ۲۵-۷۰ microns and the other reservoir is for sands with the dimensions between ۷۰-۲۵۰ microns.
۲. The device has a nozzle for sand exit, and the outlet control is done by the user and via pressing the pedal.
۳. All of the actions of this device is done in the chamber and to maintain user safety, Kousha Fan Pars Co. has devised a protective isinglass in the front of the device.



In order to suction wastage resulting from device activity, using a suction device alongside this device is obligatory. Otherwise, there is a chance of particles exhaustion through the gaps of the protective isinglass.



If the user wants or needs a suction device, he or she can purchase and use the multi vac device alongside this device as a suction device.

Sand outlet pressure is adjustable in this device. This issue will be discussed thoroughly in the following sections.

## Section ۴: Technical features

### (۴-۱) Technical features

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

### (۴-۲) Technical details

Technical specifications of the Fine Blast are given in Table ۱:

Power supply	۲۱۰-۲۴۰ V AC ۵۰/۶۰ Hz
Noise level	Lower than ۷۲ dB
Reservoir capacity	۱۰۰۰ for every reservoir
Device height	۴۸ cm
Device width	۲۸ cm
Device depth	۲۸ cm
Net weight	۷ Kg

Table ۱. The device technical specifications

### Accessories

Part	Number
Spare protective isinglass	۱
Pneumatic hose	۱
Pedal	۱

Table ۲. A list of product accessories

## Section Δ: Transportation and installation

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

### (٥-١) Unboxing

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

### (٥-٢) Transportation

The device should be moved as follows:

١. In order to move the device, carefully place it in the box.
٢. Unplug it from power source
٣. The device should remain in vertical position during movement. For more safety and prevention of any injury duo to neglecting the technical details, refer to the section ٤-٢.



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

### (٥-٣) 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 device must be placed in a way, so that the connections may be managed easily.

**Workplace temperature: 18-20°C**

**Maximum humidity: 70%**



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

**The light of place should be high enough so that all parts of 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 use of device:**

- 1. Fine blast has been designed to be put on a stable and firm worktable in parallel with 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 220-240 electricity).**



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

### **(2-4) 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 steam cleaner, and put it on a flat and standard laboratory table such that the space within 20 cm radius of 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 device on a wooden table or fiberglass.**

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

## **Section ۶: Product application**

### **(۶-۱) Device initiation**

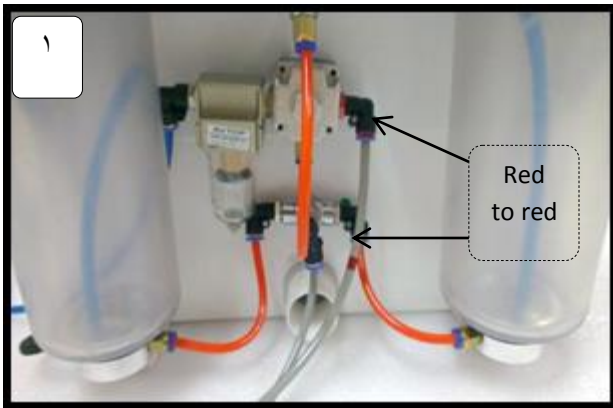
Before using the device, put it on a firm, flat and stable surface and follow these steps:

۱. Fill device sand reservoir with sands which have been declared authorized by Kousha Fan Pars Company.
۲. Plug the device into the mains electricity if you need lamp light inside the device.
۳. To adjust device pressure, move up the adjustment gage and turn the pressure gage to reach the desired number. Now push down the gage to lock on the adjusted value.
۴. By pushing the pedal, sand will pour out from the nozzle.

### **(۶-۲) Operation**

۱. Put the device on a worktable (refer to section ۵-۴).
۲. Plug the device into a socket, and make sure it is connected according to what was said in the section (۴-۵).
۳. Remove the air pedal from the chamber.
۴. Connect the air pedal pneumatic hose to respective connections and assure from complete connection and latching in the connections (pneumatic hose head with red

sign should be connected to red head hose). (Figure 1)

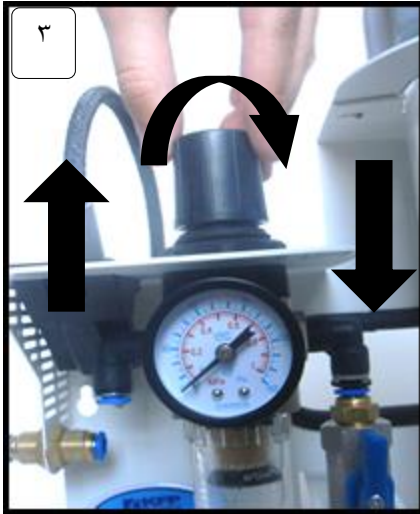


2. Connect the compressor air pneumatic hose to the head hose (Figure 2)



Avoid bending or twisting the pneumatic hose

- ∇. Adjust the device air pressure in the authorized range (operational pressure between 1-6 Bar) based on your intended application. (Figure ۳)



- ∇. If you are using suction, connect the respective hose to the device. (Figure ۴)



- ∧. Pour the abrasive powder in the reservoir. (The minimum authorized limit to fill the reservoir in order to achieve the desired device function is a third of hose inside the reservoir and the maximum is ۰ cm below the door line.) (Figure ۰)

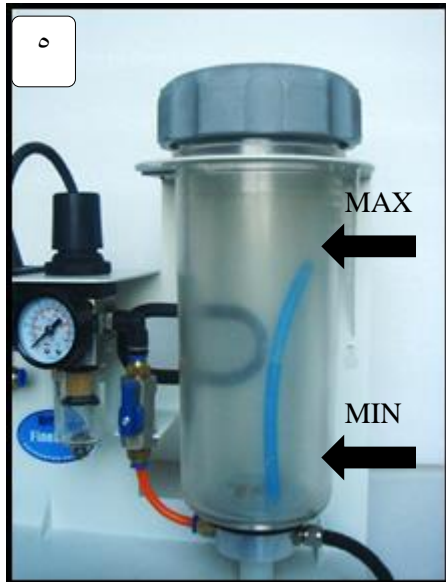




**Make sure that the reservoir is closed and firm before using.**



**Do not connect the device to electricity until this step**



### **(٦-٢-١) Device electricity start-up**

١- Connect the electricity cable to device electricity input jack (Figure ٦). Then, connect the electricity cable to the urban electricity. (Figure ٧)

٢- Turn on the key. (Figure ٨)

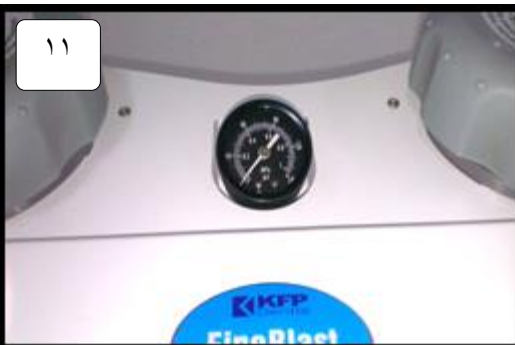
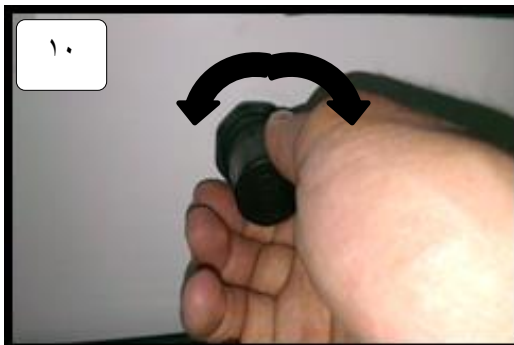




**(٦-٢-٢) Adjusting the device air pressure**

**١- Select the used reservoir (Figure ٩).**

**٢- Adjusting the operational pressure ١-٦ Bars (١٧-١٤,٥ psi). (Figure ١٠ and ١١) show gage pressure and how to adjust pressure, respectively; Adjusted pressure is for both active reservoirs.**





**Never use air change switch while using the device.**



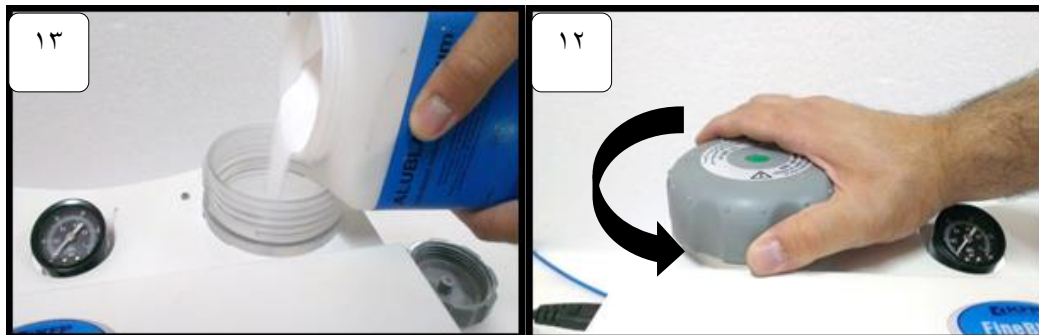
**Even if the pressure gage show the device pressure, Fine Blast reservoirs are involved only when the pressure is applied on the air pedal.**

### **(١,٢,٣) Filling Fine Blast reservoir**

**١- Open the reservoir door.**

**٢- Pour the abrasive powder in the reservoir; the maximum limit for filing the reservoir is a third of the suction hose inside the reservoir (Figure ١٣).**

**٣- Close the reservoir door (Figure ١٤).**





**Always use clean, dry abrasive powder with proper powder size (certified by the Kousha Fan Pars Company).**



**Before closing the reservoir door, cleaning the door, reservoir and its accessories is obligatory.**



**Make sure that the reservoir is closed properly.**

## Section V: Safety

### (V-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 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.**

- 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 Kousha Fan Pars 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.

### (V-2) Device safety measures

**Kousha Fan Pars 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 defect chances.



**To assure that the device works safely, follow all the aforementioned steps.**

١. When you are working on the device (filling, cleaning, repairing and maintenance), using protective glasses is necessary for eye protection.
٢. Remaining any amount of abrasive material in the washers leads to faster washer leakage and corrosion. After evacuating and cleaning, close the washers and door properly.
٣. Solvents and abrasive material can create very small cracks in power reservoir body (risk of explosion). To clean the reservoir and the door, only use dry fabrics and avoid attaching tape. Never rub a rough object in the reservoir or on the outside surface.
٤. Check the reservoir door periodically and in case of seeing a suspicious instance, replace the suspected part.
٥. Checking the proper placement of protective isinglass is necessary before work. Improper closing of the door leads to an unsafe reservoir and the reservoir pressure may increase abruptly.
٦. Never use the device without the proper powder. Selection of powder type should be based on the validation of authorities and Kousha Fan Pars Company.
٧. Do not place the spinning nozzle towards the eyes and skin. Misuse may results in serious harm to the eyes and skin wounds.

## Section 8: Maintenance

### (8-1) clean-Up

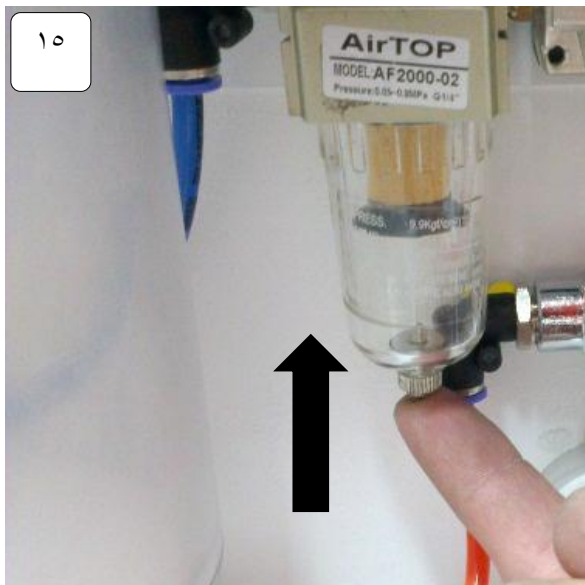
Keep the device body clean using dry fabric. Wet the cloth with little water or a non-greasy solution, if needed (only do this for body cleaning).

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.

- Reservoirs and doors should only be cleaned with dry fabric.
- Pond trap chamber should be periodically inspected and in case of water being in the chamber, chamber evacuation should be done by pressing the button under the chamber (Figure 10).



**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.**

### **(^~ʒ) Periodic maintenance**

**Inspection and periodic cleaning of the device depends on operation level. It is suggested for user to inform the company experts about the workflow through consultation after installation and learn the appropriate time for inspection and periodic cleaning from them. If 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 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 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.**

**After using the device for a while, nozzles should be checked for any remained abrasive powder. Washer O-ring should also be checked. If you find any defect in the hose or other inspected parts, disconnect the connection between the mobile blast device and the compressor and vacate the air flowing in the system. After troubleshooting based on manual, initiate the device. If the device have any defects except the mentioned cases, inform Kousha Fan Pars about the matter and never entrust the device to miscellaneous people.**

## (^–) Maintenance technical instructions

- Troubleshooting

problem	Possible reasons	Corrective actions
Air and abrasive powder do not exit	<ol style="list-style-type: none"> <li>1. Blockage of the beginning of nozzles</li> <li>2. Pneumatic pedal hose has been twisted</li> <li>3. Air position change switch is located in the middle of two locations.</li> </ol>	<ol style="list-style-type: none"> <li>1. Opening nozzle-Tungsten separation and cleaning the air exit path</li> <li>2. After bringing out the nozzle from the hose, push the air pedal to determine if there is output</li> <li>3. Turn reservoir change switch until it is in the right place</li> </ol>
Only air exits without abrasive powder	<ol style="list-style-type: none"> <li>1. Outlet air nozzles have been blocked</li> <li>2. Outlet nozzle from the reservoir has been blocked</li> <li>3. Abrasive material has impurity or humidity</li> <li>4. Air has humidity</li> </ol>	<ol style="list-style-type: none"> <li>1. Open the chamber door</li> <li>2. Block the end of a blue hose inside the chamber using tape of a piece of fabric</li> <li>3. Close the glass chamber door again.</li> <li>4. Place your finger on the nozzle outlet point and press the air pedal several times</li> <li>5. Open the chamber door, open the blocked hose</li> <li>6. Close the chamber door and initiate the device</li> <li>7. Replacing the abrasive material</li> <li>8. Changing the location of the device</li> </ol>
Constant device function (device sticking)	<ol style="list-style-type: none"> <li>1. Connections inside the air pedal are faulty</li> <li>2. Outlet valve in air pedal has a defect</li> </ol>	<ol style="list-style-type: none"> <li>1. .Check/fix the air pedal connections</li> <li>2. Replacing the air pedal with a new one</li> </ol>
Air leakage from air pedal	<ol style="list-style-type: none"> <li>1. Air outlet and inlet connections have been connected inversely</li> </ol>	<ol style="list-style-type: none"> <li>1. Switching the connections</li> </ol>
Air pedal doesn't work.	<ol style="list-style-type: none"> <li>1. No air pressure enters the system from the compressor</li> <li>2. Pneumatic hose has been twisted</li> </ol>	<ol style="list-style-type: none"> <li>1. Inspect compressed air lines</li> <li>2. Inspect compressor air pressure</li> <li>3. Hose accumulation</li> </ol>
Pneumatic pedal hose does not separate from the system	<ol style="list-style-type: none"> <li>1. The connection has not been freed because of the pressure behind the system</li> </ol>	<ol style="list-style-type: none"> <li>1. Evacuation of the air inside the system</li> <li>2. Pressing the blue ring of the fast connection and bringing out the hose form the inside of fast connection</li> </ol>

**Thanks for your selectivity**

**Kousha Fan Pars Engineering and Manufacturing**