DentalDeal

Air Polishing System

User' manual



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Introduction

Customer satisfaction is critical to our company's quality policy. This series of products are in accordance with the highest standards of quality and safety. Please read this instruction manual carefully before using the product, and it is passed the final test. For the safety of your patients and before you use it for the first time, please read the warm cloims. These instructions will decrease how to use your product and how to ensure it work smoothly and effectively.

Product Usage

It's used for cleaning teeth, removing colorless and satge.
Improper use may damage the set-scaly machine and may result in a risk to the patient, the user and the third party.

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Applications

•Plaque removal for placement of sandants
•Surface preparation prior to bonding/restoration of inlays ,onlays,veneers and veneers
•Surface preparation prior to placing composite restorations
•Removal of stains from teeth and restorations
•Effective plaque and stain removal for orthodontics patients
•Clean implant fixture prior to loading
•Effective plaque and stain removal for periodontal cleaning
•Plaque removal prior to fissural sealant
•Plaque and stain removal prior to whitening procedure
•Surface polishing prior to regular cleaning

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Contra-indication

Persons suffering from chronic bronchitis or asthma must not,under any circumstances, be treated with this device.
The jet of air and powder could cause respiratory difficulties.

Features

•Ergonomic handpiece , handpiece can have 360-degree free rotation ,offering a more considerate and flexible use.
•Powder and plaque can be efficiently cleaned by the fine-attached clean powder, which assures a calm and pleasant treatment to both the user and the patient

Safety Precautions

•Please read the following warnings, precautions and operation instruction.
•This safety instructions are to avoid potential injury to people or damage to the device. According to the risk seriousness, safety instructions are classified as below.

•This product must be used only by trained and qualified personnel(dentist or dental hygienist)
•Do not use the following products:
1. Those with respiratory Diseases
2. Those with Cardiac Disease, more than 3 non pocket depth or have injury in mucosa membrane . Due to the long time prising may the soft tissues or the exposed dental cementum can be introduced into the injury. In extremity inclosure, this would increase the risk of emphysema.
3. Those with Diabetes or Blood Clotting Disease
4. Those with hepatic dysfunction
5. Those with lung or cardiac dysfunction.
6. Those with Kidney dysfunction or failure
7. Those with hypotension, hemorrhagic inflammation in oral cavity.

8.Those that tend to develop inflammation or ulcers in oral mucous membrane.
9.Those with Epilepsy
10.Those with contact lenses
11 .Pregnant or patient bulimia, by extremity rare cases, it may cause allergy or stomatitis. In case of those symptoms, please stop using the device immediately.
12.Those that having contraction on oral tissue (patients with hypertension,pregnancy tetanus, kidney deficiency ,chronic respiratory disease or chronic diarrhea),Chronic Cleaning Powder would cause the
•Do not direct the jet of powder and water to the eyes.
•Do not direct jet the powder toward margin of restorations,decid fixed enamel, and, lingo, occlusa,and crevices etc.
•Application of Waterline etc,on patient's lips before treatment will prevent them becoming dry and chapped.
•Avoid prolonged treatment on exposed cementum or dentin, as this may cause sensitivity in the teeth.
•Do not clean and dry compressed air. Moisture or oil in the air might cause malfunction of the powder.
•Tighten the powder cap,Never take off the cap during treatment.
•Do not use powder other than the specified one when preparing the powder case.
•Use original powder only, in case of damage result from using powder of other manufacturers.
•All residual powder in the case must be discarded after the operation. Reuse the powder may cause clog
•Do not use the device when the air supply is tightened after the fillings. Long time exposure may result in powder cake and cause clog

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Operating the unit

•Patient is allowed to rinse mouth as often as needed to avoid a lying and continuous treatment;
•Do not inspect or fit the case or the cap as this could cause scratch or crack;
•Do not disassemble the unit, except for the case, cap, O-ring, the handpiece or hook the connection while operating, otherwise it may cause the separation of the components and the powder;
•Only operate this unit under correct air pressure;
•Rinse or blow dry all the internal and external components before operation.

•Care should be exercised at all times to prevent powder from entering human mucous area (eg,eyes,nose etc.) except mouth,Besides,use towel to protect those area.Do not use protection to prevent the powder from getting into eyes.
The contact lenses of the patient should be taken off before treatment;
•Turn the cleaning intensist and off etc. on the case and the cap. keep away from such items as they may cause fault to the unit.

Air Pressure

Set the air pressure of the hose connection to be 0.25-0.45mpa(2.5-4.5kg/cm²)
Excess recommended total air pressure might result in crack to the case and the cap, and the finally cause injury.

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Connecting the hose connector to the powder case

Dry thoroughly the quick connectors,handpiece,hose connector,and connector of the case, interior of the case, nozzle inside the case and the cap.
Keep operating the unit after shutting off the water supply system to below residual out of the tubes.



Figure1

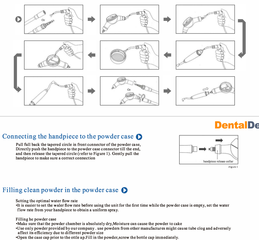


Figure2



Figure3

Connecting the handpiece to the powder case

Pull back the tapered circle in front connector of the powder case, and then insert the handpiece into the connector of the case, and then release the tapered circle.(refer to Figure 1). Gently pull the handpiece to make sure a correct connection



Figure1

Filling clean powder in the powder case

Setting the optional water flow rate
Fill the powder case with clean water before using the unit for the first time while the powder case is empty, set the water flow rate from your handpiece to obtain a uniform spray.

Filling by powder case
•Make sure that the powder chamber is absolutely dry,Moisture can cause the powder to cake
•Use only powder provided by our company . use powders from other manufacturers might cause tube clog and adversely affect the performance of the device.
•Use the spoon provided to pour the unit p.f.f.l in the powder,screw the bottle cap immediately
•Make sure the nozzle hole is not covered with powder before screwing on the cap.
•Do not fill the powder case by screwing on the cap
•Make sure the cap is tightened up.
•Do not shake the device as this could cause the powder to clog the tube.

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Using the unit

Handing and setting water and component up
Familiarize yourself with the use of the unit by cleaning a yellow coin or an extracted or an extracted tooth, and the hygienist to work according to the adjustments.
•Hold the handpiece in a way that increases the cleaning effect and reduce the polishing effect.
•Increasing the water flow rate increases the polishing effect and reduces the cleaning effect.
Wear a mask and eye protection.
•The use of a saliva ejector by the patient may get dirty during the treatment,we recommend to take them.
•To limited the risk of bacterial or viral infections and dissemination of powder ,we recommend to the dentist and the hygienist to wear protective clothing.
•The nozzle should never be pointed toward the patient before, during the after operation. Before treatment, the patient,rinse with mouthwash for at least 30 seconds,to significantly decrease the prevalence of bacteria in the mouth during treatment.Before the treatment, the patient should rinse mouth with a mouthwash for at least 30 seconds to significantly decrease the
Extracted plaque under the lip,place a large swallow saliva with powder,separate lips and teeth and protect the gums.
•Position the handpiece perpendicular to the surface to be cleaned.
•The excavation is high-speed dental chair whose directing it from the treatment to obtain the excess powder and water mixture.
•Keep the handpiece in motion to avoid concentrating the jet stream in one area.
•To limited the risk of subgingival root side and jet for 2 to 3 seconds to verify that the good liquidity of powder and water is used in dental surface.
•Do not used the nozzle 10mm the tooth surface to 5mm with an angle of 10 degrees to 60 degrees position
•During treatment,avoid circumferential cross Flushing after the treatment polish all dental
•Surface by setting the water flow rate to the maximum

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After the treatment ,the teeth are clean and the dental cuticle is completely eliminated.It's reexamination by salivary proteins requires 30 to 60 minutes. Therefore, the teeth should not be in contact with food or beverages during this period of time.
•Visit your specialist dentist every 3 to 5 hours following treatment. An dental worker smoke,eats consumes food or drink which could strongly color the teeth (tea,coffee...)

Release the pedal and wait until the spray stops.
Remove the handpiece from the mouth of the patient but airpowder jet continues for a few more seconds.Take these seconds into account.
You can also disconnect the nozzle still in the patient mouth into the high-speed evacuator. •Let some time for the unit to decompress, with no risk of damaging patient mouth.

Maintenance

Powder disposal
•Clogged powder adheres on the cap may result in cracks.
•Powder case are a consumption item. It will deteriorate by ultraviolet rays,by other environment factors, by the effects of cleaning agents.
•Clean thoroughly the case, the cap,and the powder chamber every week. Check for cracks in the case and the cap.
•If preservative cracks in the case or the cap,replace either of the items immediately,use the product under this situation may result in cap fall off, which may cause injury to the patient or the user.
•Clean the ultrasound once a week to avoid clog.

***** In the cases of any fault,please contact the authorized dentist for repair.
•Clean thoroughly the connection to make sure of the unit after the treatment to make sure all the powder residue is removed. This unit must be stored in an obsolete dry place.
•Clean the handpiece thoroughly after each use. The O-ring must be lubricated by the equipped sealing oil.
•Lubricate the O-ring with silicone oil.
•Keep operating the unit after shutting off the water supply system. Blow residual moisture and powder out of the tubes.
•Clean the nozzle with the nozzle cleaning needle provided.
•Never native acid and other debris on the nozzle and handpiece hand with alcohol-immersed soft cloth.

Disconnecting the hose,powder case,handpiece and nozzle
1. Screw the hose
2.Pull back the tapered circle ,and take off the handpiece
3.Pull back the tapered circle in front connector of the powder case,connect to the handpiece ,operate the unit without water supply for over 5 seconds.(Figure 2)

Hang on the hose port during air-blowing

Cleaning

1. Clean the interior of the hand piece connector and the o-ring on the case connector with equipped cleaning brush (Figure 3).

In case of the powder adherence on the o-ring ,take of the o-ring and clean it carefully as well as in groove (Figure 4)

2.Take of the rubber sealing ring ,and remove the plastic part of the cap (Figure5)

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3.Rinse the powder ,Barring on the case and the cap . (Figure 6)

4.Dry and assemble the parts(negligence to put includes transparent cap, rubber sealing o-ring , and the cap base)

In case of powder residual in the case ,the powder would cake and might cause clog

Lubrication

1. Dry the o-ring of the case connector. Drop the equipped sealing lube on the o-ring, and wrap up the oil by hand (Figure 7)

2.Sterilized is high temperature and high pressure

If you omit to add the silve the o-ring connecting the handpiece and the case, it may cause damage to the o-ring .difficult spin or leakage of the connection may occur.

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Cleaning and Disinfecting

Cleaning and Disinfecting
Submerge only the handpiece in a disinfectant bath,Do not submerge the case and the cap in a disinfectant bath.

Ultrasonic Cleaning
Make sure the unit is cleaned by ultrasound once a week to avoid clog
1.Remove the nozzle from the unit
2.Use equipped wrench to screw out the nozzle.
3.Clean the nozzle with hot water by ultrasound.
4.Clean the nozzle hole with the nozzle cleaning needle after the cleaning.
5.Connect the tubes,Blow off the water supply system,Uncover the cap,Blow water out of the tubes.

Dry thoroughly all the parts,especially the interior of the case

Disinfecting

•Sterilization in high temperature and high pressure is recommend. This unit must be disinfected after the first use and each treatment.
•All the components are able to be sterilized by high temperature and high pressure.
Sterilization treatment.
1. Pre-vacuum 3 times cleaning,
2. Enclosed a sterilization up,
3. Sterilizable at up to 135°C in the autoclave (autoclave for 20min at 121°C or 15min at 132°C)
•Keep the handpiece in the sterilization bags, until you open it, when using,open it, reassembly for appearance to remove the reverse order.

* According to EN13060 or EN ISO 7935-1 requested, we suggest sterilization in high temperature and high pressure at 121 °C, at least more than 15 minutes.

•Dry thoroughly all the parts before operation;
•Take of the cap before sterilizing in high temperature and high pressure;
•Sterilize the sterilizationsupport part of the cap.they cause damage.
•Do not sterilize the case and the cap in the autoclave, it may cause damage to its coating or affect the internal parts.
Thus,be careful that dismissal liquid should not be brought to the autoclave.
•Temperatures near the heater would exceed the given temperature in the autoclave. Do not place this unit near heat sources.
•Do not clean or store this unit in direct sunlight.

Warranty

The warranty will be valid for one year from the date of purchase of your product and accessories.
Damages due to non-adherence to the operation instructions or wear-out of parts are excluded from warranty.
The warranty of your product will be cancelled if you try open it.

Note: The manufacturer reserve the right to modify the technique,accessories,
operating instructions or contents of the set without making any notification in advance.

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About the Symbols

SN	Serial number		Do not disposal for life rubbish
	Maximum 135°C autoclavable		This product can be cleaned and disinfected with a autoclave base
	Manufacturer date		Warning,the risk of injury

Technical Data

Service Pressure to the turbine connection: WATER	0.7-2.2 bar (700-2200kpa)with a service flow of 55-60 ml/min.
Service Pressure to the turbine connect: AIR	85-65(C)pressure 2.5-4.5bar (2500-4500kpa).
Service pressure to the air source	0.1 -0.5MPA (1 -5kgf/CM²)
Weight	About 0.180kg(accessories excluded)
operation conditions	Temperature: +16-40°C,Humidity: 30-75%, air pressure: 500-1060hPa
Storage and transport conditi ons	Temperature: -10-40°C,Humidity: 10-95%,Air pressure: 500-1060hPa

Trouble shooting

Symptom	Check item	Probable Cause	Solution
Nil powder(air jet sprays but no abrasive) work	Disconnect the handpiece and the powder case ,Press the foot control pedal.Check whether there is air jet only, powder,water from the turbine connection.	The interior of the handpiece is clogged	Use equipped wrench to unscrew the nozzle. Clean the nozzle with abrasive powder etc. Clean the nozzle connector and the handpiece connector with equipped cleaning brush. Blow off the water supply system and the unit will be water by ultrasound. Dry the unit thoroughly before next operation.
	Disconnect the handpiece and the powder case ,Press the foot control pedal.Check whether there is air only, powder,water from the turbine connection.	The tube of the powder case is clogged	Insert and rotate the cleaning needle to the front convex hole of the powder case.Clean the interior wire with equipped cleaning brush. Blow off the water supply system and the unit will be water by ultrasound. Dry the unit thoroughly before next operation.
Water leakage from the connection of the handpiece and the powder case	Check the o-ring on the connecting of the handpiece and powder case	o-ring is damaged	Replace the o-ring. Clean the o-ring surface and add equipped sealing oil.
Difficult in screwing the connection of the handpiece	Check the o-ring on the connecting of the handpiece and powder case	Powder a ccess adhere to the O-ring grooves, Powder a ccess adhere to the powder case and the handpiece	Take off the o-ring in the front connector of the powder case. Clean the powder on the o-ring surface and grooves with the equipped cleaning brush. Clean the powder on the handpiece with mentioned cloth. Add the sealing lube on the lubrication.

Trouble shooting

Symptom	Check item	Probable Cause	Solution
Air and powder exit from the nozzle but are not in a efficient power	Powder partially caken in the powder case.	Powder that has been left in the powder case has been compressed air is mixed with water.	clean powder case Check if the o-ring of the coupling end of the powder case is rgedty or damaged. Replace the o-ring if it is damaged. Dry the powder case thoroughly before next operation. Use only powder recommended by the manufacturer.If in doubt, contact your dealer or Dental Industry for replacement.
	Powder partially caken and clogs in the tube between handpiece or the powder case.	Power partially solidified in the tube between handpiece and the powder case due to the moisture.	Drain away water by turning on the drain valve of the air compressor and air-reducer. Verify the water-free condition

In case of any fault that could not be solved by the above methods, please contact with your dealer

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