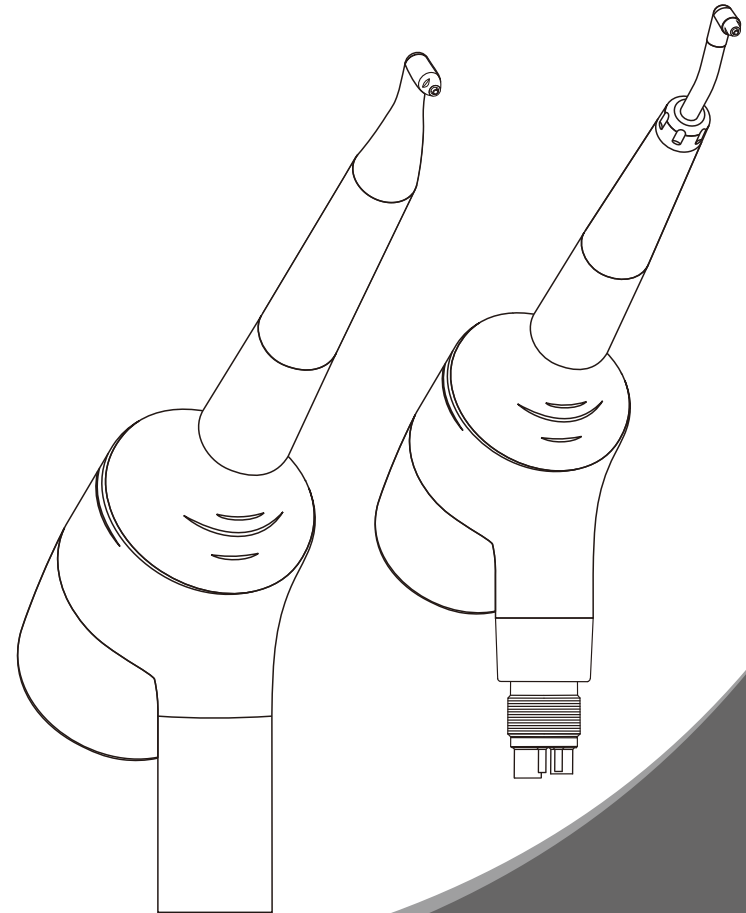


# Air Prophy System



User Manual

Version:V1.0

Please read this User Manual carefully before use

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## 1. Production introduction

1.1 Product name: Air Prophy System

1.2 Scope of application: It is used to remove tartar and stains on the surface of the tooth or to polish the surface of the tooth.

1.3 Product structure: consists of a main body and a spray nozzle.

1.4 Model and adapter type

No.	Model	Adapter type
1	AP31M	ISO9168 type 2(M4)
2	AP31B	ISO9168 type 2(B2)
3	AP31K	KAVO LED Coupling
4	AP31N	NSK LED Coupling
5	AP31Q	NSK QD Coupling

1.5 Specification

1.5.1 working air pressure: 0.2–0.5MPa

1.5.2 water pressure: 0.1–0.3MPa

1.5.3 air consumption: 10–15L/min

1.5.4 water consumption: 50–100mL/min

1.5.5 noise: ≤80dB

1.5.6 sandblasting flow: ≥2g/min

## 2. Safety precautions and identification reminders of dangerous items

Before using this product, please read carefully the various safety precautions and master the correct method of usage, so as not to cause harm to others due to incorrect use.

The following items are classified according to the degree of possible danger and/or damage. They are all precautions for safe use. Please read and observe them carefully.

Level of danger	The severity of the possible danger
Caution	If not avoided, it may result in death or serious injury.
Notice	If not avoided, it may cause moderate or mild injury.
Prompt	If not avoided, it may cause property damage.

## 3. Operation instruction

3.1 Schematic diagram of products and accessories

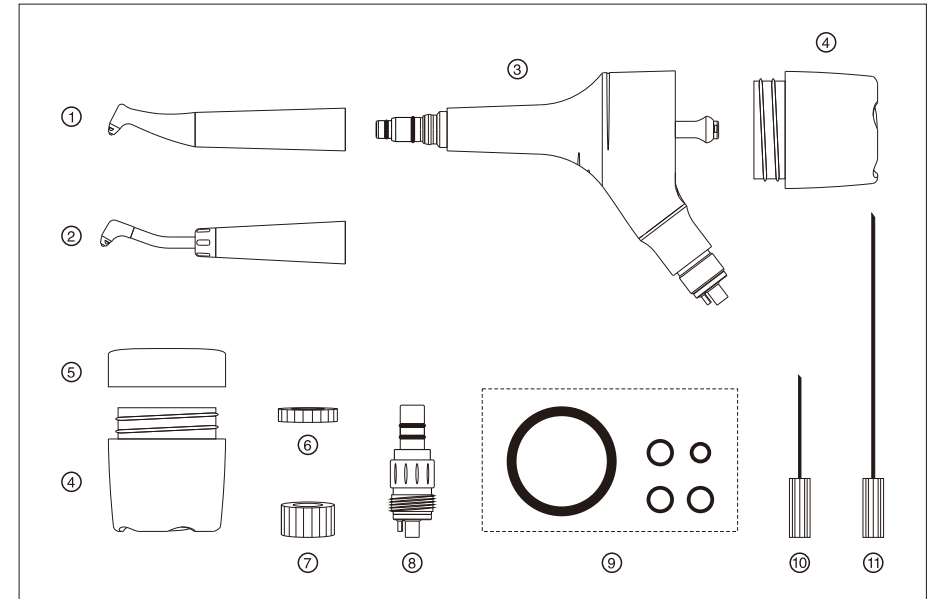


Fig 1

- ① – Spray nozzle (integrated type)
- ② – Spray nozzle (split type)
- ③ – Main body
- ④ – Powder tank
- ⑤ – Cover
- ⑥ – Wrench –1
- ⑦ – Wrench –2
- ⑧ – For cleaning coupling
- ⑨ – Spare seal ring
- ⑩ – Needle (short)
- ⑪ – Needle (long)

## 3.2 Installation and removal

### 3.2.1 Connecting handpiece tube installation

If the adapter of the connecting handpiece part is fixed on the product, please align the part with the handpiece tube and insert it straight, and tighten the handpiece nut.

If the adapter of the connecting handpiece part is not fixed on the product, it needs the quick coupling to connect. Connect the quick coupling to the handpiece tube first, and then insert the quick coupling into the product.

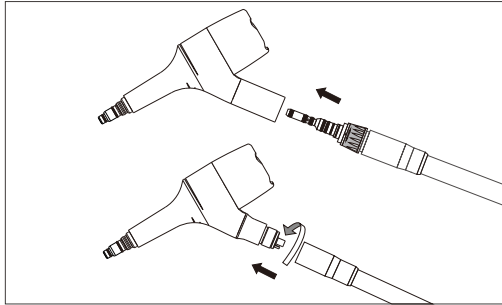


Fig 2

#### Notice:

After connecting, please push and pull the product slightly to confirm whether the connection is firm!

### 3.2.2 Spray nozzle installation and connection

Align the end of the spray nozzle with the head of the main body and push it directly to the end. After connecting, please rotate the spray nozzle left and right to make the joint more in place. If the rotation is easy and there is no obvious resistance, the installation is correct.

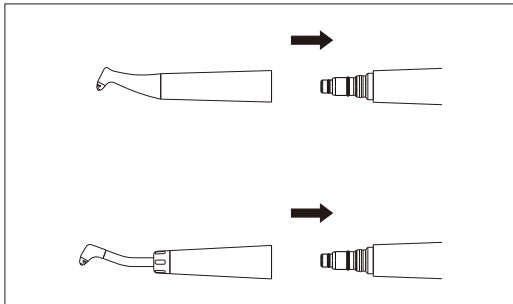


Fig 3

#### Notice:

While using the split type spray nozzle, pay attention to whether the front nozzle and sleeve barrel are loose. If it is loose, please use the wrench to reinforce the nozzle. When reinforcing, do not use the hands to tighten the sleeve barrel.

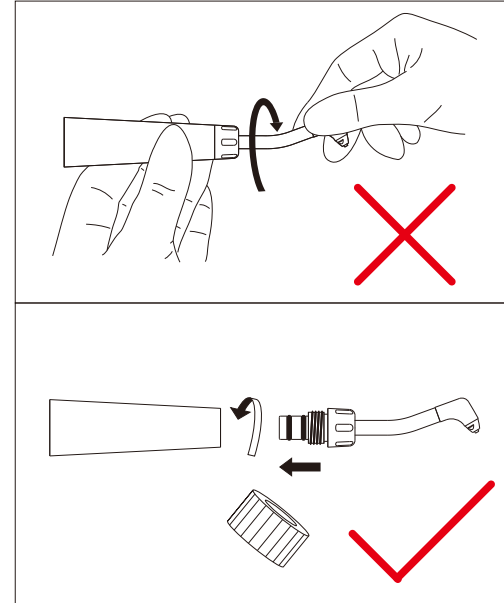


Fig 4

### 3.2.3 Removal of connecting handpiece tube

If the adapter of the connecting handpiece part is fixed on the product, turn the handpiece tube nut to remove the product.

If the adapter of the connecting handpiece part is not fixed on the product, hold the product and the quick connector with both hands and pull out the product.

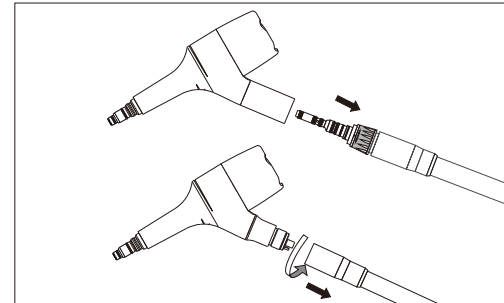


Fig 5

### 3.2.4 Removal of spray nozzle

Grip the spray nozzle and the main body with both hands, and pull out the spray nozzle.

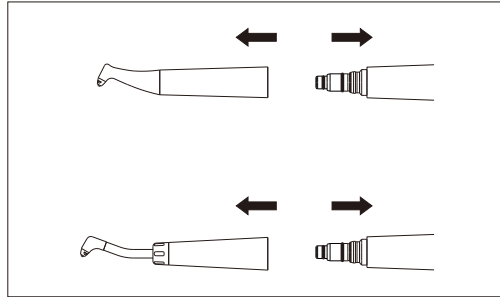


Fig 6

#### Prompt:

While pulling out the spray nozzle, slightly shake it left and right to facilitate the pulling out.

### 3.2.5 Replacement of sealing ring

If you find air or water leakage at each connection part of the product, please replace the sealing ring in time.

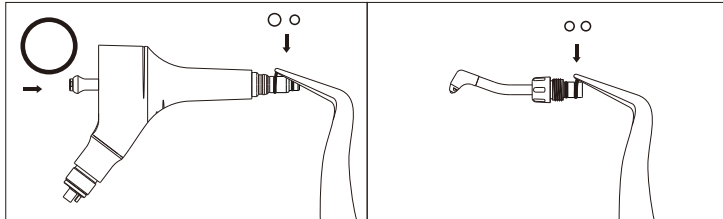


Fig 7

#### Notice:

- Please only replace the seal ring provided by the manufacturer. If you replace the seal ring provided by other manufacturer, it may affect the safe use of the product.
- When installing a new seal ring, do not pull it too hard to avoid serious deformation of the seal ring.
- There are different specification seal ring, please install it in the correct seal ring groove according to the prompt.

### 3.3 Addition of powder

Remove the powder tank from the main body, and put the powder into it. After loading the powder, place the powder tank vertically and horizontally, rotate it to the right, and tighten it on the main body.

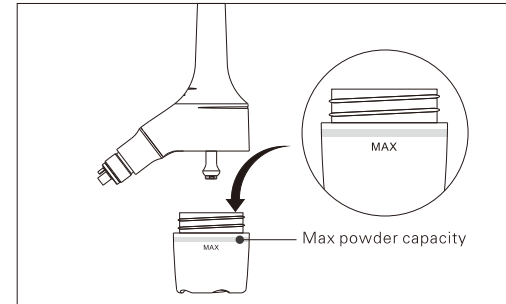


Fig 8

#### Notice:

- Before loading the powder, the outside and inside of the product must be dry. A humid environment will cause the powder to agglomerate, causing blockage of the internal pipeline of the product.
- Before filling the powder into the powder tank, shake the powder thoroughly.
- The powder tank has a maximum loading scale, please do not overfill the powder.
- After treating one patient, the remaining unused powder must be discarded. To treat different patients, new powder must be replaced.

### 3.4 Operation instruction

1. Before using the product to treat the patient, first aim the nozzle at the spittoon and spray for 3 seconds to verify whether the powder spraying and water spraying functions are normal, and then treat the patient. When using, the nozzle should be 3–5mm away from the tooth surface.
2. During the treatment process, the nozzle rotates or moves back and forth in a circle above the part to be cleaned to achieve a uniform cleaning effect on the surface of the teeth.

Notice:

- This product can only be used by personnel who have received medical professional training. Other personnel without relevant qualifications should not use this product to avoid unnecessary injury.
- When using the product to treat patients, you must wear protective gloves.
- When using, the working air pressure must not exceed the recommended use range of the product.
- During the treatment process, when the product stops supplying air, a small amount of powder and water may be sprayed from the front of the spray nozzle. Please wait 3–5 seconds before removing it from the patient's mouth to avoid the risk of damaging the patient.
- When using this product for treatment, please test this product outside the patient's oral cavity to ensure that the air and water supply are normal before treatment.
- If the patient wears contact lenses, please remove the it before treatment.

Prompt:

After treatment with this product, the teeth are thoroughly cleaned and the tooth surface protective layer is completely removed. After 2–3 hours, a new tooth protective layer is formed under the action of saliva protein. Please remind the patient that smoking, tea, coffee or other foods are not allowed within 2–3 hours after the treatment is over, otherwise it will affect the treatment effect.

### 3.5 Precautions during use

- This product can only be used by personnel who have received medical professional training. Other personnel without relevant qualifications should not use this product to avoid unnecessary injury.
- Please make sure that the product user has read and understood the instruction manual, and uses the product according to the regulations. Do not use the product beyond the scope.
- Please use dry compressed air to drive this product. Moist air will cause the powder to agglomerate and block the product pipeline, and cause the working air pressure to rise, which exceeds the specified air pressure.

- Please use clean water source without impurities. Excessive impurities in the water will block the water supply pipeline and affect the use effect.
- During treatment, the powder may enter the eyes or mouth of the user or patient. So, the user and patient must wear protective goggles during the treatment.
- While using, care should be taken to prevent the scattered powder from entering the patient's other mucous membranes, such as the eyes and nose. It is recommended to use a suction device and a mouth guard when using this product.
- Before the first use and after each use, please clean the product and accessories and sterilize the parts that can be autoclaved.
- This product is a medical device. The product has reached the end of its useful life. It must be disposed of in accordance with local regulations before the disposal.
- If the soft tissues in the oral cavity are damaged, do not use this product for oral treatment.
- When there is a problem with the product's water supply system, please do not use it for treatment.
- Do not spray directly into the soft tissues of the mouth or gums.
- When using the product for a long time, please clean and sterilize it according to the instructions before storing.
- After the parts are damaged, please replace the parts provided by the manufacturer. Do not replace or modify the parts provided by other manufacturers.
- During the treatment process, when the product stops supplying air, a small amount of powder and water may be sprayed from the front of the spray nozzle. Please wait 3–5 seconds before removing it from the patient's mouth to avoid the risk of damaging the patient.
- When using this product for treatment, please test this product outside the patient's oral cavity to ensure that the air and water supply are normal before treatment.
- Do not use the powder tank with cracks or deep scratches. During use, such powder tanks may cause fragments to splash due to air pressure.
- Do not hit or impact any parts of the product.
- Do not add organic solvents and other substances that damage the product to the powder.
- It is recommended to replace the powder tank every six months.

## 4. Maintenance and sterilization

### Caution:

- After finish the treatment, try to clean up the remaining powder or blood stains and materials that may be attached to the spray nozzle as soon as possible, and clean and sterilize the product.
- In order to minimize the risk of infection, protective gloves should always be worn during handling.

### 4.1 Clean after use

#### Notice:

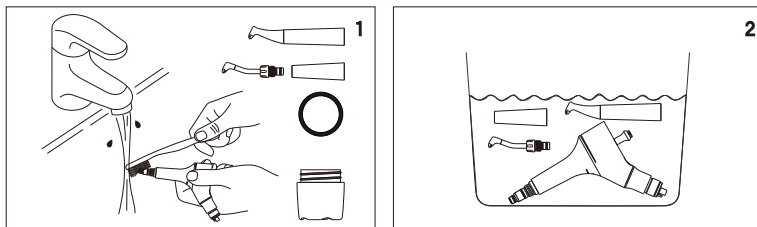
After the treatment is over, if there is still powder remaining in the powder tank, it should be discarded. Do not use it for treatment of other patients or put it back into the clean unused powder.

#### Prompt:

Before cleaning, please use compressed air to drive the product for at least 30 seconds, and try to spray the powder in the pipeline as cleanly as possible.

#### Cleaning steps:

1. Separate each part of the product, and use a soft brush to wash each part under flowing drinking water. Use a soft brush to wash the parts under running drinking water.
2. Put the parts into the ultrasonic cleaning machine for thermal cleaning and disinfection.
3. Dry the moisture on the surface and inside of the product with dry air without moisture.
4. Wipe all parts of the product thoroughly with a damp cloth dipped in alcohol or other disinfectant.



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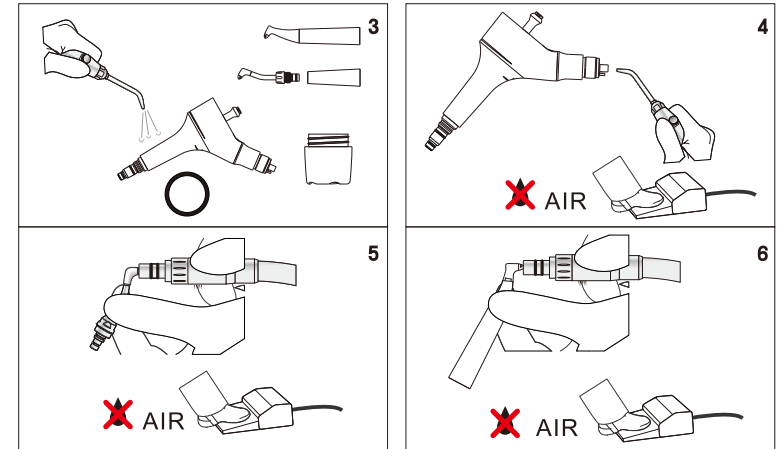


Fig 9

#### Notice:

- When using a disinfectant, please read the instructions provided by the disinfectant manufacturer and use it as required.
- Do not contact any part of the product with corrosive liquids such as volatile oil, strong acid, alkali, etc.!
- Do not disinfect products with chlorine-containing products!
- When loosening the spray head at the front of the split type spray nozzle, please use the wrench. Do not use the hands to tighten the sleeve barrel.

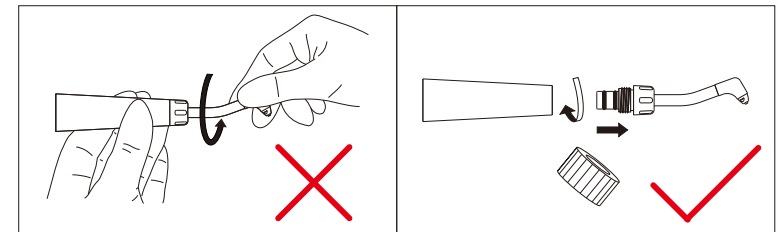


Fig 10



Fig 11

10

**Prompt:**

In order to achieve a more effective cleaning and disinfection process, please use the cleaning instrument and disinfection together to clean and disinfect the inside of the product in accordance with ISO 15883-1.

## 4.2 Sterilization

**Notice:**

Before the first use and after using the product to treat patients, 135°C sterilization should be carried out. The sterilization temperature should not be lower than 134° C for 15 minutes.

4.2.1 Put each part of the product into a sterilization bag and seal it separately.

4.2.2 Put the sealed product into the sterilizer for 135°C autoclave.

(Sterilization temperature is not lower than 134°C, time is 15 minutes)

4.2.3 After sterilization, please take out the product from the sterilizer and store it in a dust-proof, dry and cool place after cooling.

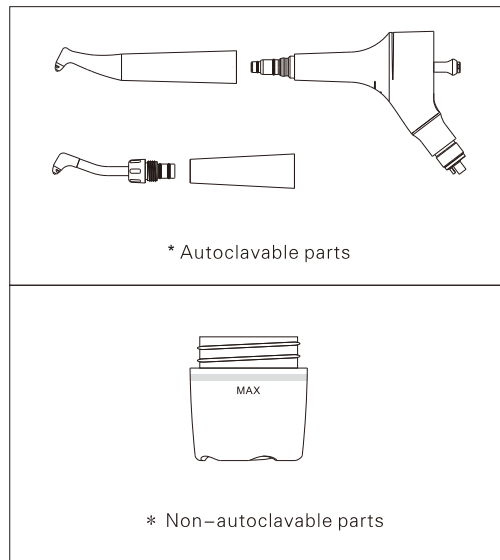


Fig 12

**Notice:**

- After the sterilization is over and before using the product for treatment, please store the product in a sealed bag, do not open it.
- According to EN 13060 and ISO 17665-1 standards, sterilize the product in a steam sterilizer.
- Please read the manual of the sterilizer and operate the instrument according to the manual provided by the manufacturer.

## 5. Faults and troubleshooting methods

**Notice:**

After each treatment is completed, a cleaning treatment must be carried out to reduce the blockage of the pipeline due to powder agglomeration.

### 5.1 Spray nozzle blockage

- Use the wrench to loosen the split type spray nozzle.
- Rotate and push the needle (short) from the front and back of the nozzle into the sand outlet pipe, and turn the needle left and right.
- Use a clean connector to connect the compressed air to purge the pipeline.

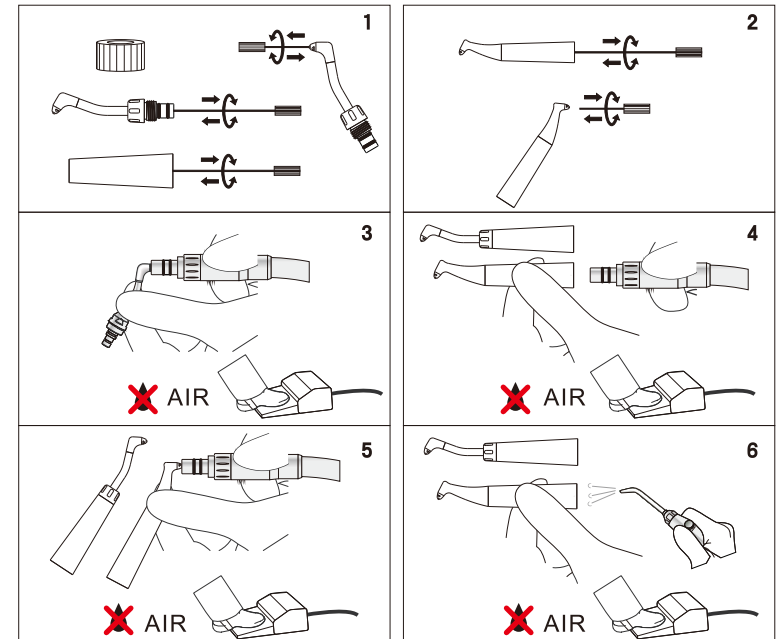


Fig 13



### 5.2 Main body blockage

- Remove the powder tank.
- Use the needle (short) to penetrate the powder hole.
- Use the needle (long) to push in from the central pipeline at the front of the main body, and turn the needle left and right.
- Connect the compressed air purge pipeline.
- When the blockage still exists, use the wrench to unscrew the nut of the powder tube, and use the needle (long) to clean the pipeline.
- Screw on the nut of the powder tube.
- Connect the compressed air purge pipeline.

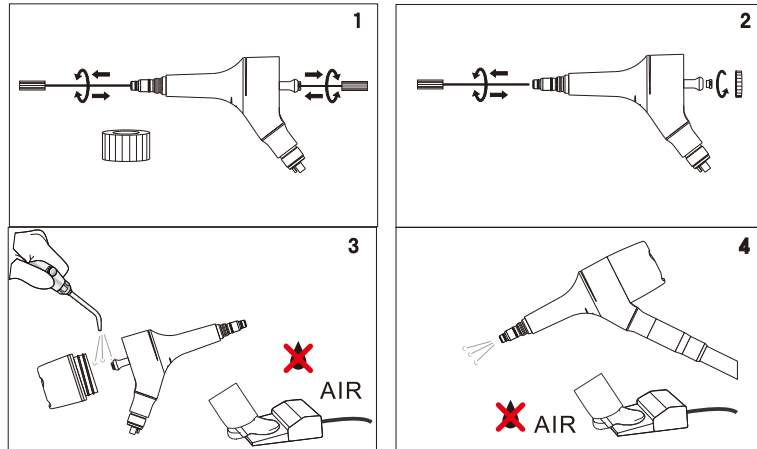


Fig 14

### 5.3 Water or air leakage at the connection between spray nozzle and main body Replace the front sealing ring of the main body.

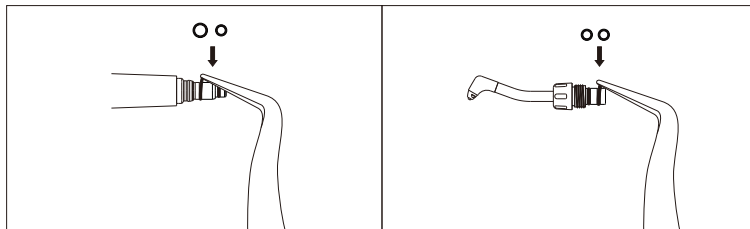


Fig 15

### 5.4 Air leakage at the junction of the powder tank and the main body Replace the sealing ring.

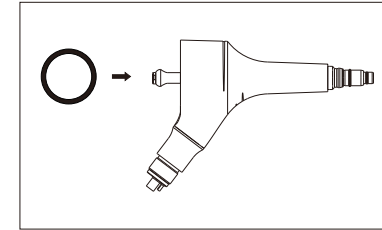


Fig 16

### 6. Contraindications

Do not use this product to treat the following patients:

- Patients who wear contact lenses. (It is recommended to remove it before treatment)
- Patients with severe peptic ulcers.
- Patients with lung or heart insufficiency.
- Patients suffering from acute and chronic bronchitis.
- Patients suffering from oral inflammation.
- Patients with asthma.






### 7. Graphic and symbol explanation

	Consult instructions for use
	DATE OF MANUFACTURE. This symbol shall be accompanied by a date to indicate the date of manufacture.
	Symbol for "MANUFACTURER". This symbol shall be accompanied by the name and the address of the manufacturer.
	Serial No.
	Sterilizable up to 134°C
	This device can be washed via thermos disinfectant

## 8.Storage, operating conditions and methods

The packaged products should be stored in a ventilated, dry, cool, away from heat source, and no corrosive gas indoor.

Keep away from moisture, sunlight, and heat sources during transportation.

	Storage Atmospheric Pressure: 50~106 KPa
	Storage humidity:10%~90%RH
	Storage temperature: -25~70°C
	Keep dry
	Sun block

## 9.After sales service

- This product has undergone strict quality control and testing before delivery.  
If there is a failure caused by non-human error during the warranty period, our company will provide free maintenance services in accordance with the warranty regulations. (Warranty: 1 year)
- Our company can provide paid maintenance services for failures caused by improper storage, use, or unauthorized modification by the user.
- The property loss or personal injury caused by the user's over-range use of the product or unauthorized modification has nothing to do with our company.

**10.Period of use**      5 years

## 11.Product disposal

When the product reaches the end of its useful life, in order to avoid the danger to the user's health when it is discarded, and the pollution to the environment, it must be transported and processed in accordance with local regulations of medical devices.