

Operation Manual HIGH SPEED AIR TURBINE HANDPIECE



Please read this Operation Manual carefully and file for future reference.

PRODUCT PARTS:

Consists of handpiece head, handle, caudal thread, cartridge.

WORKING CONDITIONS

1. Air pressure 0.25-0.30MPa, must be filtrated.
2. Use high speed dental bur with shaft dimension $\Phi 1.59-1.60\text{mm}$ and roughness less than $0.8\mu\text{m}$.
3. The amount of handpieces'spray or water spray should be able to adjusted.

SPECIFICATION

1. Haid glass fiber, can be repeatedly sterilized in high temperature and pressure.
2. Operate the handpiece at pressures of 25 to 30 psi. Engineered to attain speeds of 300,000 at 25 psi. and 400,000 at 30 psi.
3. clamping force of handpiece is: 20-45N.
4. LED handpiece with generator Series, LED white light, longevity 10000 hours.

PRODUCT SCOPE

Only used for drilling, molar of stomatology clamping high-speed dental burs.

WARNING:

- 1 Considering safety first, please be careful to use it with full attention.
- 2 Be limited to dentists who held the dental treatment qualifications.
- 3 Strictly forbid decomposition and reconstruction by unauthorizedly
- 4 Please run point testing on outside of patients' oral beforehand. If feel anomalies, please stop using immediately and contact with our after-sales center
- 5 When appears abnormal during using, please stop it immediately and contact with our after-sales center.
- 6 It will cause a high noise using a center-vibration or bended bur and a handpiece of which bearing has been worn. A long time in this state will be harm to people's hearing. Forbid using a vibration or bended bur, if appear high noise, please replace the shaft core in early.
- 7 Do not use a bending, cracking, deformation and unqualityfy bur. If using it, may cause a snap, or a flying off to injury accident during operation process.
- 8 Please ensure the bur chuck be clean. If with contaminant inside of it, may causes bur clamping weaken or shaft core vibration.
- 9 Please run the bur under the provision rotation-speed by bur manufacturers
- 10 Do not crash, especially to avoid falling..
- 11 Please install a bur or a standard stick before using.
- 12 Also remember to install a bur or a standard stick when not in using.
- 13 Please unload the bur and handpiece when the running stopped in completely

Product installation :

Connect the tubing (4 hole or 2 hole), if appears quick coupling handpiece, insert the quick coupling head in to.

- △ Notice: 1: Connect the required tubing according the model of each handpiece.
2: Only connecting correctly, fixed tightly and closely, can be used.

1. Insert quick coupling

Insert quick coupling into Socket connection of the high speed handpiece, push it forward, card tightly and firmly.

- △ Notice: For quick coupling with decorative pattern, should be moving back before push forward, then can be card tightly and firmly.

2. Extract the quick coupling

Hold the handpiece body and quick coupling by hands and drag them into opposition.

- △ Notice: For quick coupling with decorative pattern, holding the decorative pattern quick coupling, drag it in to behind.

NOTE: Only connecting correctly, fixed tightly and closely, can be used.

Bearing detachment and installation

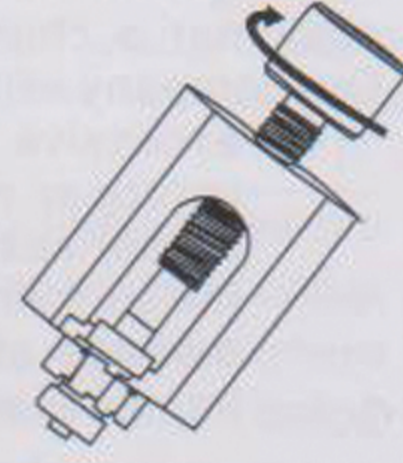
Bearing detachment

1-Supposed the ball bearing damaged but its outer ring not drop off, please insert the notch of bearing detach tool between bearing and rotor, then rotate the screw bolt of tool clockwise until the bearing removed.

2-Supposed the ball bearing damaged and its outer ring drop off, please insert the notch of bearing detach tool at the inner ring path of ball bearing, then rotate the screw bolt of tool clockwise until the inner ring removed.

Bearing Installation

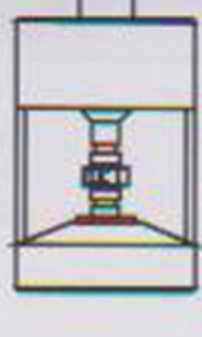
Firstly pre-install the bearing on the turbing on the turbine spindle, the shield side facing outside, then put it on the bearing installation tool, knock at the upper side of inner ring of bearing gently with the push axle, ensure the bearing is placed in the middle. then press middle. then press of bearing gently with the push axle, ensure



the bearing is placed in the middle. then press the push axle with finger so that the bearing is closed to the turbine.

Remark: the tool for bearing repairing not include, it can only be offered by supplier.

The product can only be repaired by manufacturer or the person be authorised.



REPLACEMENT OF CARTRIDGE

Removing old cartridge

Mount a dummy bur in the chuck, then turn the head cap counter-clockwise and remove the head cap. Push the dummy bur and cartridge is easily removed from the head.

Installing new cartridge

Insert new cartridge into handpiece head, being sure to the align the small knob pin on the cartridge with the groove inside the front of the head, to insure proper fit. Mount and screw the head cap with fingers till tight. Further tighten with the head cap wrench.

Further tighten with the head cap wrench.

△ NOTE: WHEN REPLACING HEAD CAP, DON'T USE THE WRENCH AT FIRST. BECAUSE THE THREADS ARE VERY FINE AND CAN BE EASILY STRIPPED.



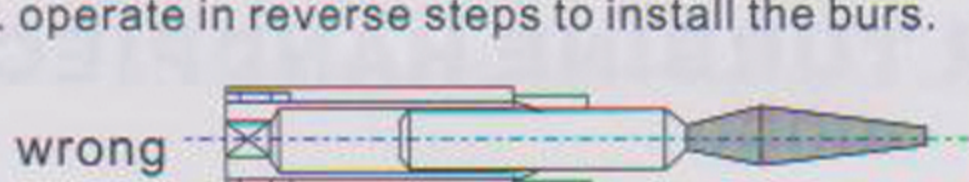
PROPER BUR

- Do not use a bent, damaged, or non-concentric bur.
- Use a bur of ISO-standard, $\Phi 1.59-1.60\text{mm}$.
- Never use bent, off-centered or damaged burs.

1. Thread circlip type (change the burs by wrench)
 - a. lift up the handle of the spanner and put the spanner on the head of the handpiece.
 - b. Push the cylindrical handle of spanner into the axle hole of the handpiece head.

Take off the bur after rotate the spanner rounds $1/4$ round in the direction of counter clockwise. (Please do not rotate the spanner over a quarter rounds)

- c. operate in reverse steps to install the burs.



Please make sure the part of the burs which is griped should not too short in case of the petal oblique.



It can be used probably if there is 3mm gap between the burs and the end of the hole. It would appear vibrating and speed up the damage of the bearing and spanner if the gap is too large.

△ Notice!

As the picture shows, the griped part of the burs should not be too short; otherwise the bearing can't bear the power smoothly and accelerate the damage of the bearing.

Do not operate the handpiece without the burs, otherwise the chuck could be thrown by the reaction and the bearing could be damage.

2. Press-cards type (pushbutton bur-exchange type)

a. When unload the bur, press the centre of head hardly with thumb, take out the bur with another hand simultaneously. As shown in picture.

b. When load the bur, insert it in to importing parts of the chuck hole (about 1-2mm). Then press the centre of head hardly with thumb, push the bur into the end with another hand simultaneously

△ Notice!

After the processes of severe vibration cutting (such as milling and cutting the tooth crown) sometimes the burs might not be easily to be taken off.

In this case we could use EG wrench to press the middle of the handpiece head, and then pull the bur by using pliers.

While cutting with strong vibrating, please check the condition of the burs to avoid the problem above

MAINTENANCE

- Daily lubrication to the bearing is absolutely essential for extending its using life.
- After daily use, spray lubricant for 1 to 2 seconds by inserting lubricant nozzle all the way into drive air tube.
- If the work is heavy, lubrication should be taken place after every morning and afternoon's using.
- Lubrication before autoclave.

AUTOClave PROCEDURE

After every using, autoclave procedure should be taken as follows

- Remove bur from handpiece and clean handpiece by scrubbing with a toothbrush and then use gauze towel to dry handpiece.
- Lubricate handpiece.
- Place the handpiece in an autoclaving pouch and make marks.
- Starting: 20 minutes at 121°C , 15 minutes at 132°C .

Transportation and deposited condition

Environmental temperature: -40°C --- $+50^{\circ}\text{C}$; Relative humidity $\leq 80\%$;
The scope of air pressure: 500hPa—1060hPa.

Trouble Shooting

Trouble	Possible cause	Solution
Big noise, low rotation speed, cutting force decrease or handpiece fail to running	Ball bearing damages	Replace ball bearing
Handpiece fail to spray mist	Spray hole blockage	Clean with probe
Handpiece water leakage	O-ring and washer aged	Replace aged parts
Normal noise but low rotation speed	Low air pressure	Adjust air pressure
Bur drop-off or fail to intat bur	Non standard bur or chucking system damages	Replace new bur or send it to maintaining center
Bur wobbling, lowcutting force	O-ring or ball bearing damages	Replace spare parts

Our service center can offer technical assistance to you.

Guarantee

Our company grants the user a 6 months guarantee for its complete product range, except ball bearing from the date of invoice issued, Maintenance over the term of guarantee will be at the customer's charge.

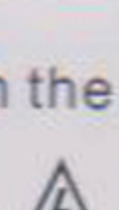
Our company will not be responsible for damage or injury resulting from:

- excessive use.
- improper manipulation of the product, or modification to product carried out by persons not authorizes by Our company.
- fail to follow the instruction to install, operate and maintenance the handpiece.
- damage of chemical, electrical or electrolysis due to improper autoclaving and storing.
- improper working pressure.

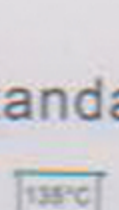
Supposed the handpiece fail to work well after parts have been changed, contact the service center which is approved by company.

Standard Symbols

On the instrument label appear standard symbols as follows:



Important notice!



Autoclave



Attention, consult accompanying documents



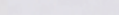
Class II equipment



Type B applied part



Certified to MDD93/42/EEC



Manufacturer