



**Sabra**  
dental products

**Sabra**

**45 SERIES**

HIGH SPEED HANDPIECE

Power

45 S

Power

45 OS

Please read this Operation Manual carefully  
before use and file for future reference

Made In Japan

INSTRUCTION MANUAL

## Symbol



This product is Autoclavable up to Max.135°C.



This product can be washed via Thermo Disinfector.



Manufacturer.



Authorised representative in the European community.

**Rx Only** Caution: U.S. Federal law restricts this device to sale by or on the order of a licensed physician.

## **1. User and Intended Use**

User: Licensed Physician (Dentist)

Intended Use: Dental Treatment (Operations on third molars, impacted tooth removal, and apicoectomies)

## **2. Directions for handling and operation**

- Please read these Directions carefully and use only as directed.
- Failure to follow safety instructions could result in injury to the user or patient and damage to the device.

## CAUTION

- Read this Operation Manual completely before use to fully understand the product functions.
- When operating the handpiece always consider the safety of the patient.
- Users are responsible for the proper operation and maintenance of this product.
- Do not attempt to disassemble or tamper with the handpiece unless authorized by Sabra Dental in this Operation Manual.
- Do not drop, strike or permit any impact to the handpiece.
- Proper protective equipment (i.e. eyewear and masks) must be worn when operating this handpiece.
- Should the handpiece malfunction, cease operation immediately and contact Sabra Dental.
- Pressing the push button while the handpiece is rotating will result in OVERHEATING of the handpiece. Contact with cheek tissue may cause the push button to be pressed and burn the patient.
- Do not use highly acidic water or sterilizing solutions to wipe, immerse or clean the handpiece.
- This product is delivered in a non-sterile condition and must be autoclaved prior to use.
- Perform routine function and maintenance checks.
- If the product is not used for an extended period perform a function check before use on a patient.
- To avoid clinical downtime it is recommended that a spare be kept on hand in case of a breakdown during use.

- U.S. Federal law restricts this device to sale by or on the order of a licensed physician.
- Under normal operating conditions air exhausts from the back of the head of the handpiece. Directing air into an open wound or beneath the mucosa or dermis may result in injury from air emphysema or embolism.
- When using this handpiece do not direct the back of the head towards a tissue flap.

### 3. Setting of Air & Water Supply Pressure

Supply pressure is measured at the handpiece / hose connection point and set to the value listed on the specification table on page 19.

For Multi Gauge information refer to [www.sabradent.com](http://www.sabradent.com). (Fig. 1)

#### **WARNING**

Do not exceed the maximum pressure specified on the specification table.

#### **CAUTION**

Do not use air contaminated by dust, moisture or oil.

### 4. Connecting and Disconnecting the Handpiece

Refer to Operation Manuals of coupling and hose before connecting the handpiece.

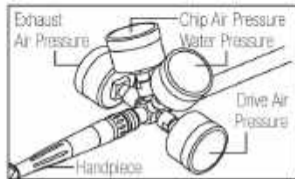


Fig. 1

1) Install Quick connect swivel coupler (C-4, C-5, C-6) to tubing end by aligning the tubes at the back end of the coupling with the corresponding holes in the end of your handpiece tubing. Insert the coupling into the tubing, and tighten the hose nut turning it clockwise as shown in figure 2.

2) For those offices equipped with the Sabra Brite-Lite, Sabra Quick tubing, the Sabra-Quick coupler is screwed onto the hose nut.

 **CAUTION**

Do not operate the Retention Lock Ring while pressurized. This may cause the handpiece to shoot off of the coupling unexpectedly.

3) Insert the handpiece into the coupling until it clicks in, as shown in figure 3.

4) To remove the handpiece, pull back the retention lock ring on the coupler and remove the handpiece, and as shown in figure 3.

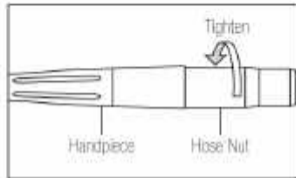


Fig. 2

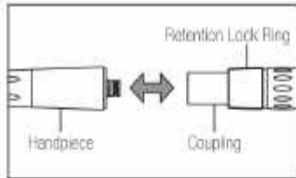


Fig. 3

## 5. Insertion & Removal of the Bur

### 5-1 To Insert the Bur

- 1) Insert the bur until it is fully seated. (Fig. 4)
- 2) Depress the Push Button and insert the bur into the chuck until it is secure then release the button.
- 3) Ensure that the bur is secure by gently pulling and pushing the bur **WITHOUT** depressing the Push Button.

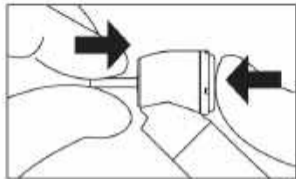


Fig. 4

### 5-2 To Remove the Bur

Fully depress the Push Button family and remove the bur.

## NOTICE

Gripping the handpiece while placing your thumb tip on the Push button will make it easier to press the button.



 **CAUTION**

- Ensure the bur is fully seated in the chuck before use.
- Do not attempt to remove the bur until it has come to a complete stop.
- Do not use dirty, worn or used single use burs.
- Debris from the bur shank that is introduced into the chuck could cause the bur to slip and prevent the handpiece from fully gripping the bur.
- Do not exceed the bur speed recommended by the bur manufacturer.
- Do not exceed maximum bur length recommended by Sabra Dental.
- Do not apply excessive lateral pressure to the bur as it may break, bend or become difficult to remove.
- Damaged burs may break at high rotation speeds or slip from the chuck. Always inspect the bur before use and do not use any bur with damage that includes but not limited to:
  - Bent, deformed, worn, rusted, broken bur.
  - Cracked.
  - Non-ISO standard or tampered bur

## 6. Pre Check

Check that the Head Cap is securely tightened. Check for handpiece vibration, noise and overheating. If anything appears to be malfunctioning do not use the handpiece and contact Sabra Dental.

## 7. Maintenance

Perform the following maintenance after every patient.

### 7-1 Cleaning handpieces with the Sabra Clean-Head System

After the treatment of each patient, clean the Clean Head.

- 1) Remove any debris from the Clean Head Holes with the provided cleaning wire and brush (Fig 5)
- 2) Fill a cup with clean water.
- 3) While rotating the handpiece immerse the front half of the handpiece head in the water. (Fig. 6)
- 4) Rotate the handpiece 3 times for 2 to 3 seconds each time.
- 5) Wipe the handpiece dry.

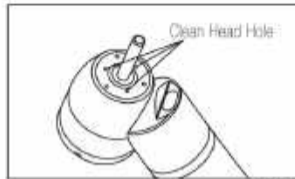


Fig. 5

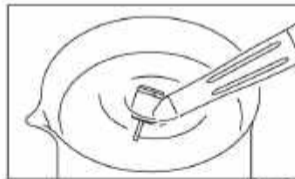


Fig. 6

## 7-2 Cleaning (Handpiece)

- 1) Remove debris from the handpiece. Do not use a wire brush.
- 2) Wipe clean with an alcohol saturated cotton swab or cloth.

 This icon indicates that the handpiece can be washed in a Thermo Disinfector.

Refer to the Thermo-Disinfector manual for proper automatic washing procedures.

### CAUTION

After Washing with Thermo-Disinfector and prior to lubrication ensure that the handpiece is free of any internal moisture. Moisture inside the handpiece could reduce the effect of lubrication and cause corrosion.

Never use any solvent such as benzine or thinner to clean the handpiece.

### 7-3 Cleaning (Optic)

Clean the Glass Rod tip with an alcohol-saturated cotton swab. Remove all debris and oil. (Fig. 7)

#### CAUTION

Do not use a sharp tool to clean the Glass Rod. It could damage the glass and affect light transmission.

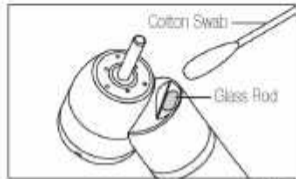


Fig. 7

### 7-4 Cleaning (Spray Port)

If the spray ports become clogged or cooling spray is uneven they can be cleaned using the following procedure: (Fig. 8)

#### CAUTION

- Do not forcibly insert the wire into the port. Resulting damage could cause the spray to be directed away from the bur and reduce the cooling effect of the spray.
- Do not blow air into the Clean Head Hole.



Fig. 8

## 7-5 Lubrication

### ■ SABRA CARE Plus

Apply SABRA CARE Plus everytime after each use and/or before autoclaving.

- 1) Remove the bur from the handpiece.
- 2) Insert the Spray Nozzle onto the Sabra spray can.
- 3) Insert the Spray Nozzle in the rear of the handpiece. Hold the handpiece and spray for approximately 2-3 seconds. Continue until it runs clear from the handpiece head for at least 2 seconds. (Fig. 10)
- 4) Connect handpiece to coupler/tubing, and or purge station, and run to purge the handpiece thoroughly. If purged oil is discolored, lubricate and purge until residual oil is clear.

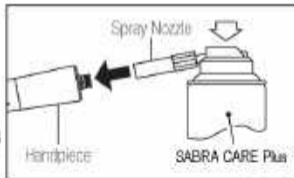


Fig. 10

### ■ Chuck Cleaning

Clean Push Button chuck once a week.

1) Lubricate the chuck with 1-2 drops of SABRA CARE Plus oil drops (included with your handpiece) directly through the bur insertion hole. (Fig 13)

3) Lubricate handpiece by using SABRA CARE Plus.

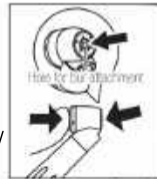


Fig. 13

### CAUTION

If the chuck is not regularly cleaned the chuck grip may weaken and the bur may slip during use.

## 7-6 Sterilization

The only recommended sterilization method is by steam autoclaving. Remove the bur after each patient and sterilize as follows:

- 1) Place the handpiece into an autoclave pouch and seal.
- 2) Autoclave according to the following time requirements:  
Autoclave for more than 20 min at 121°C, 15 min. at 132°C or 3 min. at 134°C.
- 3) The handpiece should remain sealed in the autoclave pouch until required for use.



### CAUTION

- Do not autoclave the handpiece with other instruments even in a pouch. This is to prevent possible discoloration and damage to the handpiece from chemical residue on other instruments.
- Keep the handpiece in normal atmospheric pressure, temperature, humidity, ventilation, and sunlight. The air should be free from dust, salt and sulphur.
- Immediately after use the handpiece should be cleaned, lubricated and sterilized. If blood remains on any external or internal surfaces it can harden and cause rust.
- Do not heat or cool the handpiece too quickly. Rapid change in temperature could cause damage to the handpiece.

- Do not use the dry cycle if the sterilizer chamber temperature may exceed 135°C.
- Autoclave sterilization is recommended for this product. The validity of other sterilization methods is unknown.
- Do not touch the handpiece immediately after autoclaving as it will be very hot.

## NOTICE

SABRA recommends Class B sterilizers as states in EN13060

### 8. Replacing the O-rings

Replace the O-rings if water is present in the exhaust air line. ALWAYS change the complete set of O-rings.

- 1) Loosen and Remove the taper ring at the rear of the handpiece. (Fig 14)

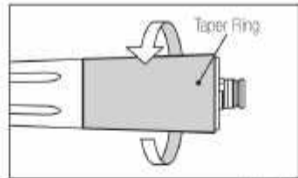


Fig. 14 15



- 2) Gently remove each O-ring by hand. (Fig. 15)
- 3) Insert the complete set of new O-rings in the correct grooves.
- 4) Replace and firmly tighten the taper ring.



## CAUTION

- Do not force the new replacement O-ring with excessive pressure.
- When inserting new O-rings, make sure they are inserted in the correct grooves.
- Make certain that the taper ring is firmly tightened, If the taper ring is loose water and air leakage could occur.

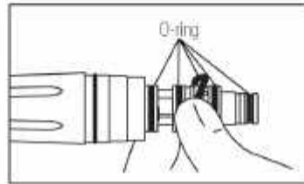


Fig. 15

## 9. Replacing the Non-Retraction

A water Non-Retraction Valve is integrated in the Coupling Joint (the product below), which shuts off the water retraction directly at the handpiece head to prevent fluids infiltrating the water line. If water is beginning to leak from the handpiece, replace the non-retraction valve.

### SABRA Coupling

- 1) Remove the Coupling Joint from the hose.
- 2) Remove the back end Gasket.
- 3) Pull and remove the water tube, and replace the Non Retraction Valve.
- 4) Insert the new Non-Retraction Valve securely and remount the back-end Gasket.

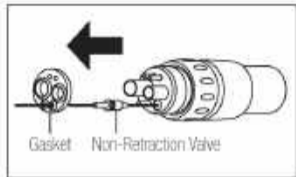


Fig. 16

 **CAUTION**

- Tighten the taper ring firmly. A loose fitting taper ring could result in water and air leakage.

## 10. Routine Maintenance Checks

Perform routine maintenance checks every three months. If any abnormalities are found, contact Sabra Dental.

Points to check	Details
Head cap is loose	Check that the Head Cap is firmly tightened.
Rotation	Rotate the handpiece and check for abnormalities such as abnormal rotation, vibration, noise, and overheating.

## 11. Specifications

Model	Power 45-S	Power 45-OS	
Max. Rotation Speed	380,000-450,000min <sup>-1</sup>		
Bur Type	ISO 1797-1 ø1.59-1.60mm Surgical Long Shank Bur (25mm)		
Chucking Length	10.7mm		
Max. Bur Length	30mm		
Max. Working Part Diameter	ø1mm		
Drive Air Pressure	0.25 - 0.3MPa (2.5 - 3.0kgf/cm <sup>2</sup> ) (36.2 - 43.5psi)		
Max. Air Consumption	45±5NL/min (1.41±0.18cfm) (0.25MPa)		
Water Pressure	0.1-0.2MPa (1.0-2.0kgf/cm <sup>2</sup> ) (14.5-29.0psi)		
Optic	Glass Rod		
Use Environment	Temperature: 10-40°C Humidity: 30-75% Atmospheric Pressure: 700-1,060hPa		
Transportation and storage Environment	Temperature: -10-50°C Humidity: 10-85% Atmospheric Pressure: 500-1,060hPa		

\*This handpiece is a water jet type. The coolant water is not sprayed.

## **12. Warranty**

Sabra Dental products are warranted against defects in materials and workmanship. Sabra Dental reserves the right to inspect all product to determine the cause of any malfunction. Warranty is voided should the handpiece be used incorrectly, for anything other than the intended purpose, has been tampered with by unqualified personnel or has had non-genuine Sabra Dental parts installed. Replacement parts will remain available for seven years following discontinuation of the model.

## **13. Disposing product**

In order to avoid health risks to operators handling the disposal of medical equipment as well as the risk of environmental contaminator, a surgeon or a dentist is required to confirm the equipment is sterile. Seek the assistance of specialist firms who are licensed to dispose of specially controlled industrial and medical wastes to dispose of the product for you.