

## EX-5B/EX-6B/EX-6D EX-5BM/EX-6BM/EX-6DM



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

MADE IN JAPAN  
[OM-H0146E] 003



### ⚠ Caution

#### General Cautions:

- This handpiece is intended for use by dental professionals only.
- Do not use this for the treatment in dental surgery.
- NSK handpieces should not be rebuilt.
- Should the handpiece function abnormally, cease operation immediately and return the handpiece to the dealer for repair.

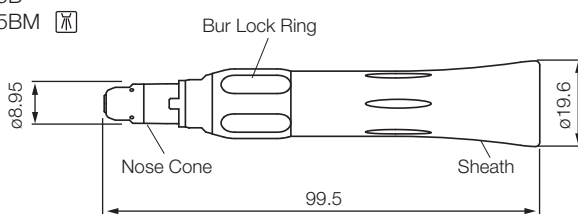
#### Cautions on Operation:

- This handpiece is designed for (dental) treatment and precision technical use. Longtime excavation with high torque with thick burs such as 4mm or greater in diameter may cause a short life to the bur, hard-to-pull-off bur or bur drop-off, which results in injury.
- Do not allow any impact on the shank. Do not drop the handpiece.
- Check the vibration, noise and overheating outside the patient's oral cavity before use. If any abnormalities are found, stop using immediately and contact your dealer.
- Make sure that the bur is securely locked in the chuck before each use. Improper mounting of the bur could cause the bur to spin out during rotation and endanger anyone in the vicinity.
- Be sure to check on the device and the components periodically.
- Make sure that the product is normal by rotating it with attention to backlash, vibration, noise, heat generation, when you use it again after a long time.

## 1. Specifications

EX-5B

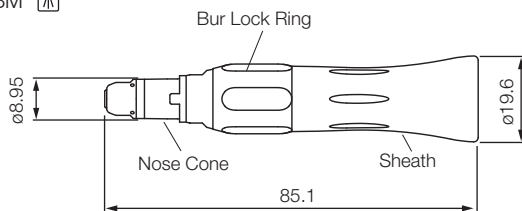
EX-5BM



Allowable Max.Speed ... 40,000min<sup>-1</sup>(rpm)  
Burs ... ISO 1797-1 Type2 ø2.35mm HP Bur  
Chucking Length ...30mm  
Max. Bur Length...44.5mm  
Max. Working Part Diameter...ø4mm  
Gear Ratio ... 4:1  
Accept ISO 14457 2012 Prophy Handpiece

EX-6B

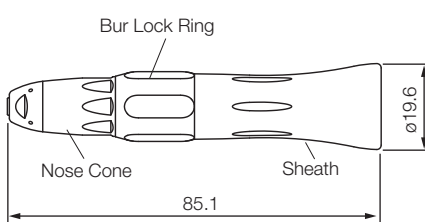
EX-6BM



Allowable Max.Speed ... 40,000min<sup>-1</sup>(rpm)  
Burs ... ISO 1797-1 Type2 ø2.35mm HP Bur  
Chucking Length ...30mm  
Max. Bur Length...44.5mm  
Max. Working Part Diameter...ø4mm  
Gear Ratio ... 1:1  
Accept ISO 14457 2012 Prophy Handpiece

EX-6D

EX-6DM



Allowable Max.Speed ... 40,000min<sup>-1</sup>(rpm)  
Burs ... ISO 1797-1 Type2 ø2.35mm HP Bur  
Chucking Length ...30mm  
Max. Bur Length...44.5mm  
Max. Working Part Diameter...ø4mm  
Gear Ratio ... 1:1

Fig.1

## 2. Connecting & disconnecting the motor and the handpiece

To connect the motor and the handpiece, align the positioning marks of the motor and the handpiece, and insert straightly. To disconnect, hold the front part of the motor and the back part of the handpiece, and pull out straightly.

### ⚠ Caution

Do not connect or disconnect the handpiece until the motor has completely stopped.

## 3. Insertion & Removal of the Bur

### 3-1 To Insert the Bur

- 1) Turn the Bur Lock Ring in the direction of the "🔓" mark until it clicks. (Fig.2)
- 2) Insert the bur fully into the chuck then turn the Bur Lock Ring in the direction of the mark "🔒" until it clicks.
- 3) Test that the bur is secure by gently pulling and pushing the bur.

### 3-2 To Remove the Bur

Turn the Bur Lock Ring in the direction of the "🔓" mark until it clicks then remove the bur.

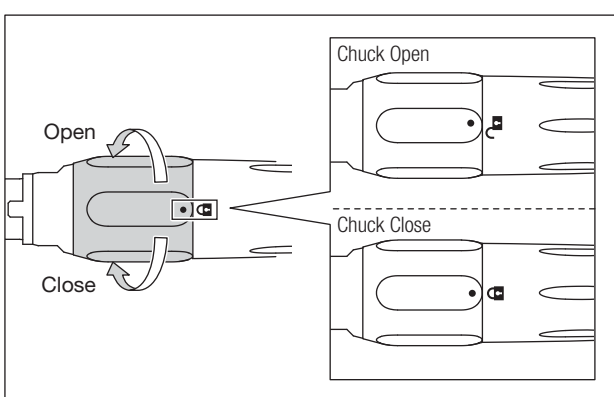


Fig.2

### ⚠ CAUTION

- Make sure to align the ● mark with "f" mark. If those marks are not completely aligned, it may cause handpiece overheating or patient burn injuries.
- Always insert the bur fully into the chuck. Insufficient insertion of the bur could cause premature failure of the bearing.
- Remove the bur only after the handpiece has completely stopped rotating.
- Do not rotate the handpiece when the Bur Lock Ring is turned to "f" (OPEN) position or a bur is not inserted.
- Always keep the bur shank clean.
- Entry of debris into the chuck, via the bur shank, could cause bur rotation slip and also prevent the bur from being securely located in the chuck.
- Do not exceed the bur speed recommended by the bur manufacturer.
- Do not exceed maximum bur length recommended by the handpiece manufacturer.
- Do not apply excess pressure to the bur as it may break or bend or become difficult to remove.
- DO NOT use burs with problems listed below as the bur may break or disengage from the chuck.
  - Bent, deformed, anisomerous (worn), rusted, broken, deficient bur.
  - Bur which is cracked on the edge or axis.
  - Non-ISO standard, or tampered bur.

## 4. Lubrication

Apply PANA SPRAY Plus / PANA SPRAY or NSK automatic handpiece cleaning and lubrication system after each use and/or before autoclaving.

### ■ PANA SPRAY Plus / PANA SPRAY

- 1) Mount the E-type spray nozzle into the spray port.
- 2) Shake the can 3-4 times to well mix lubricant and propellant.
- 3) Insert the E-type spray nozzle in the rear of the handpiece and spray for approximately 2-3 seconds until the oil comes out of the handpiece head or nose.

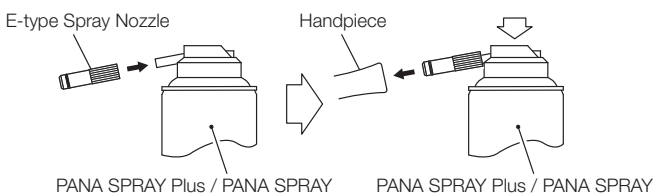


Fig.3

### ⚠ Caution

- Be sure to hold the handpiece firmly to prevent the handpiece from slipping out by the spray pressure when lubricating.
- Supply lubricant until it comes out of the handpiece nose (for approx. 2 seconds).
- Keep the PANA SPRAY Plus / PANA SPRAY can upright.

### ■ NSK automatic handpiece cleaning and lubrication system

When using NSK automatic handpiece cleaning and lubrication system, refer to the system instructions.

## 5. Cleaning and Sterilization

### (1) Cleaning



The products listed below are washable with Thermo Disinfectant EX-5BM, EX-6BM, EX-6DM

Wipe clean the handpiece sheath with alcohol-dipped soft tissue or cotton. Never clean the handpiece in chemicals, with wire brushes, or in ultrasonic cleaners.

### (2) Sterilization

Steam autoclave is recommended.

Sterilization is required first time you use and after each patient.

### ■ Autoclaving procedure

- 1) Clean the handpiece sheath as described above.
- 2) Lubricate the handpiece with PANA SPRAY Plus / PANA SPRAY. (Ref. 4. Lubrication)
- 3) Place handpiece into autoclaving pouch and seal it in accordance with instructions on the pouch.
- 4) Autoclavable up to max. 135°C (275°F).  
ex.) Autoclave for 20 min. at 121°C, or 15 min. at 132°C.
- 5) Keep the handpiece in the autoclave pouch to keep it clean until you use it.

\* Sterilization at 121°C for more than 15 minutes is recommended by EN13060 or EN ISO17665-1.

### ⚠ Caution

- Never clean the handpiece (EX-5B, EX-6B, EX-6D) in boiling water.
- Do not wipe with, or clean or immerse in, high acid water or sterilizing solutions.

CE The EU directive 93/42/EEC was applied in the design and production of this medical device.

**NAKANISHI INC.**

700 Shimohinata, Kanuma, Tochigi 322-8666, Japan

[www.nsk-inc.com](http://www.nsk-inc.com)

**NSK Europe GmbH**  
Elly-Beinhorn-Strasse 8  
65760 Eschborn, Germany

**NSK France SAS**  
32 rue de Lisbonne  
75008 Paris, France

**NSK United Kingdom Ltd**  
Office 5, Gateway 1000, Arlington Business Park  
Whittle Way, Stevenage, SG1 2FP, UK

**NSK Dental Spain SA**  
C/ Modena, 43 El Soho-Európolis  
28232 Las Rozas, Madrid, Spain

**NSK America Corp**  
1800 Global Parkway, Hoffman Estates  
IL 60192, USA

**NSK America Latina Ltda**  
Dr. Plácido Gomes, 610-Sala 104, A. Garibaldi  
Joinville SC 89202-050, Brazil

**NSK Oceania Pty Ltd**  
Unit 22, 198-222 Young St.  
Waterloo, Sydney, NSW 2017, Australia

**NSK Asia**  
1 Maritime Square, #09-33 HarbourFront Centre  
099253, Singapore

**NSK Middle East**  
Room 6EA701, 7th Floor, East Wing No.6  
Dubai Airport Free Zone, PO Box 54316, Dubai, UAE