Indications for Use
The handpiece is designed only for clinical dental use by qualified personnel.

Caution
- When operating the handpiece always consider the safety of the patient.
- Check for any foreign matter or debris (e.g., calculus) before operation to protect the patient’s oral cavity before use. If any abnormalities are found, stop using the product immediately and contact your Authorized NSK Dealer.
- Do not disassemble or alter the handpiece except as recommended by NSK in this Operation Manual.
- Do not allow any impact on to the Product. Do not drop the handpiece.
- Do not exceed the allowable max speed recommended on the Specification.
- Do not use burs with problems listed below as the bur may break, seize up or disengage from the chuck.
- Bent, deformed, worn, rusted, broken, deficient bur.
- Non-ISO(EN ISO) standard, or tampered bur.
- Bur which is cracked on the edge or axis.
- ISO 1797-1 (EN ISO 1797-1) Type1 Ø2.35mm Bur
- Do not connect or disconnect the handpiece until the motor has completely stopped rotation. Make sure that the bur is safely inserted before use. Incorrect installation may cause the bur to come out during rotation and is very dangerous.
- Do not disassemble or allow any impact on to the handpiece immediately and contact your Authorized NSK Dealer. (Refer to "5. Checking the Handpiece Before Each Use".)
- Operators and all others in the area must wear eye protection and a mask when operating the handpiece.
- Perform periodical maintenance checks. (Refer to "9. Periodical Maintenance Checks")
- Do not disassemble or alter the handpiece except as recommended by NSK in this Operation Manual.

1. Specifications

<table>
<thead>
<tr>
<th>Part Diameter (mm)</th>
<th>Max. Working Length (mm)</th>
<th>Chuck Length (mm)</th>
<th>Sheath Length (mm)</th>
<th>Max. Bur Length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>φ1.8</td>
<td>15.5</td>
<td>24</td>
<td>52</td>
<td>90</td>
</tr>
<tr>
<td>φ2.6</td>
<td>22.5</td>
<td>31</td>
<td>46</td>
<td>100</td>
</tr>
<tr>
<td>φ3.1</td>
<td>22.5</td>
<td>31</td>
<td>46</td>
<td>110</td>
</tr>
<tr>
<td>φ4.0</td>
<td>13.7</td>
<td>20</td>
<td>35</td>
<td>150</td>
</tr>
</tbody>
</table>

2. Connecting and Disconnecting the Handpiece from the Motor
(1) Connecting
Hold the handpiece and the handpiece head, then pull apart.
(2) Disconnecting
Swing the Latch Plate to open position and pull the bur out.

Caution for bur
- Do not use burs with problems listed below as the bur may break, seize up or disengage from the chuck.
- Bent, deformed, worn, rusted, broken, deficient bur.
- Non-ISO(EN ISO) standard, or tampered bur.
- Bur which is cracked on the edge or axis.
- ISO 1797-1 (EN ISO 1797-1) Type1 Ø2.35mm Bur

3. Inserting and Removing the Bur
(1) Inserting
1) Swing the Latch Plate to open the chuck.
2) Insert the bur into the chuck until the bur "notch" mechanism engages.
3) Swing the Latch Plate back to closed position.
(2) Removing
Removal of the bur should be performed by the bur manufacturer.

4. Connecting the Irrigation Tube
- NBBW
- Cut the Irrigation Tube (Optional) to the desired length. Connect the Irrigation Tube to the irrigation nozzle. (Fig.1)

5. Checking the Handpiece Before Each Use
Follow the check procedure below before use. If any abnormalities are found, stop using the handpiece immediately and contact your Authorized NSK Dealer.

1) Check the bur (Fig.1) on the head is firmly tightened. If loosened, take the following actions.
   a) Check the end cap (Fig.2) is tightly tightened. If loosened, take the following actions.
      1) Connect the irrigation tube to the handpiece head to confirm the head is NOT heating abnormally (Fig. 3).
      2) Disconnecting
      3) Inserting and Removing the Bur
      4) Rotate the handpiece for about one minute at the Max. rotation speed stated in "1. Specifications". During rotation, check for abnormalities such as overheating.
      5) After the handpiece rotation has completely stopped, touch the handpiece head to confirm the head is NOT heating abnormally (Fig. 3).
   b) If any abnormalities are found, stop using the handpiece immediately and contact your Authorized NSK Dealer.
6. Lubrication

**PANA SPRAY Plus / PANA SPRAY**

Supply "PANA SPRAY Plus /PANA SPRAY" after each use and/or before autoclaving.

1) Push E-type Spray Nozzle attachment over the lubricant spray nozzle until it firmly seats.

2) Remove the bur.

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.

**Caution**

- Do not use the handpiece when the end cap is loose. Using the handpiece under such condition will cause looseness of the internal parts in the handpiece head, which may cause the end cap to come off and patient's accidental ingestion.
- To avoid injury, keep your hands away from the bur during rotation.

**Supply lubricant until it comes out of the handpiece head (for approx. 2 – 3 seconds).**

**Hold the Lubricate spray can upright.**

**7. Sterilization**

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

**Steam autoclave**

PANA SPRAY Plus / PANA SPRAY

**Autoclave Procedure**

1) Scrub dirt and debris from the handpiece, and wipe clean with alcohol-immersed cotton swab or cloth. Do not use a wire brush.

2) Lubricate the handpiece. Refer to 6. Lubrication.

3) Insert the handpiece into the sterilization pouch that conforms to ISO 11607-1, and seal the pouch.

4) Perform steam sterilization under the following conditions.

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Exposure Time</th>
<th>Drying Time</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>134˚C (273˚F)</td>
<td>3-18min</td>
<td>30min</td>
<td>-</td>
</tr>
<tr>
<td>132˚C (270˚F)</td>
<td>4min</td>
<td>30min</td>
<td>Only for USA / Canada</td>
</tr>
</tbody>
</table>

5) Keep the handpiece in the sterilization pouch to keep it clean until you use it.

**NSK recommends sterilizers according to EN 13089 or ISO 17665-1.** Follow local rules, regulations, and guidelines regarding the reprocessing of devices.

**Caution**

- Do not wipe nor immerse the handpiece in acidic water or acidic solutions.
- Keep the product in suitable atmospheric pressure, temperature, humidity, ventilation, and sunlight. The air should be free from dust, salt and sulphur.
- Do not touch the product immediately after autoclaving as it will be very hot and must remain in a sterile condition.

6. Cartridge Replacement (NAC,BB,NBBW)

1) Loosen the Union Nut and remove the head from the sheath. Pull out the Middle Gear from the head. (Fig. 6)

2) Place Cap Wrench on the End Cap and turn counter-clockwise. Unscrew and remove the cap. (Fig. 6)

3) Swing to open the latch plate. Insert a bur blank or round rod into a hole from the head end, and pull out the cartridge. (Fig. 7)

At this time, if the inside of the head is dirty, clean the inside by applying PANA SPRAY Plus/PANA SPRAY to the Middle Gear.

4) Insert the new cartridge, with its pin aligned in the slot of the head. (Fig. 7)

5) Mount each part in a reverse procedure to the removal procedure, and firmly tighten the end cap with the cap wrench.

**Cartridge (NAC-03) NAC-Y : Order Code C030011**

**Cartridge (BB-03) BB-Y : Order Code C037015**

**Cartridge (NBB-03) NBBW-Y : Order Code C210015**

**Cap Wrench (Black) : Order Code C071751**

**Middle Gear (NAC-02) NAC,BB,NBBW : Order Code C032012**

7. Periodical Maintenance Checks

Every 3 months perform periodical maintenance checks, referring to the check sheet below. If any abnormalities are found, contact your Authorized NSK Dealer.

<table>
<thead>
<tr>
<th>Points to check</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check the union nut on the head is firmly tightened.</td>
<td></td>
</tr>
<tr>
<td>Check the end cap is firmly tightened.</td>
<td></td>
</tr>
<tr>
<td>Check the end cap nut on the head is tightly tightened.</td>
<td></td>
</tr>
<tr>
<td>Check the end cap is firmly tightened.</td>
<td></td>
</tr>
</tbody>
</table>

**Rotation**

For axes of rotation, refer to the above check list.