

# 6 Post-use Maintenance

## 6-1 Preparation for maintenance

- 1 Wear eye protection, a mask, and gloves to prevent infection.
- 2 Turn off the power switch of the control unit.
- 3 Remove the bur/drill from the handpiece.
- 4 Remove the handpiece from the motor.
- 5 Remove the motor cord from the control unit.

### ⚠ WARNING

- Failure to properly maintain the products may cause infection, product failure, or overheating and injuries:
  - Be sure to clean and disinfect the products immediately (within 1 hour) after use to remove residue.

### ⚠ CAUTION

- Do not clean, immerse, or wipe with electrolyzed-oxidizing water (strong acidic water, super acidic water), strong acidic and strong alkaline liquid solution, solvent containing chlorine, benzene or thinner.
- Follow any additional local directives, standards, and guidelines for cleaning, disinfection and sterilization.
- For maintenance of the handpiece, internal spray nozzle, nozzle holder and cleaning wire, refer to the handpiece operation manual.

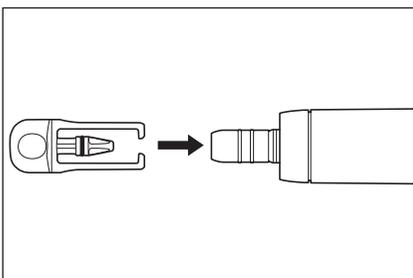
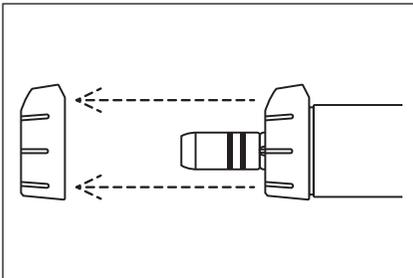
## 6-2 Cleaning and disinfection

### Manual Method

For the motor with motor cord and handpiece stand

#### \_Cleaning

- 1 Remove the tube holder (gray) from the motor with motor cord. For cleaning and disinfection of the tube holder (gray), see “For the tube holders, tube holder (gray), calibration bur and protection plug”.
- 2 Attach the protection plug to the motor with motor cord.
- 3 Clean the surface of the products under running water with a soft bristled brush under the following conditions:
  - Time: 1 minute for the motor with motor cord, 15 seconds for the handpiece stand
  - Water temperature:  $\leq 38$  °C
  - Water quality: Drinking water
  - Water flow rate:  $\geq 3.5$  L/min
- 4 Remove any remaining moisture from the product using a dry cloth or filtered clean and dry compressed air ( $\leq 0.35$  MPa) ensuring it is dry internally and externally.
- 5 Remove the protection plug from the motor with motor cord. Under appropriate lighting ( $\geq 500$  lx), inspect the products for contamination. If any visible contamination remains, attach the protection plug to the motor with the motor cord again and repeat the process until it is visually clean following step 3.



**Disinfection**

- 1 Wipe the surface of the products with disinfectant wipes (MinutenWipes from ALPRO) for 2 minutes each.

- 2 Proceed to the section “6–3 Sterilization”.

**For the tube holders, tube holder (gray), calibration bur and protection plug**

**Cleaning**

- 1 Clean the surface of the products under running water with a soft bristled brush for 15 seconds.  
Water temperature:  $\leq 38$  °C  
Water quality: Drinking water  
Water flow rate:  $\geq 3.5$  L/min

- 2 Remove any remaining moisture from the product using a dry cloth or filtered clean and dry compressed air ( $\leq 0.35$  MPa) ensuring it is dry internally and externally.
- 3 Under appropriate lighting ( $\geq 500$  lx), inspect the products for contamination. If any visible contamination remains, repeat the process until it is visually clean following step 1.

**Disinfection**

- 1 Spray the WL-cid (ALPRO) on to the products. Wait 5 minutes for the disinfection effect.

- 2 Proceed to the section “6–3 Sterilization”.

**For control unit and foot control**

- 1 Wipe the surface of the products with a cloth moistened with ethanol for disinfection.

- 2 Store the products in a place where they can be kept clean and dry until next use.

**⚠ CAUTION**

- Use ethanol for disinfection that complies with the regulations of each country.

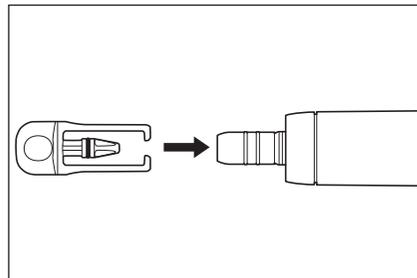
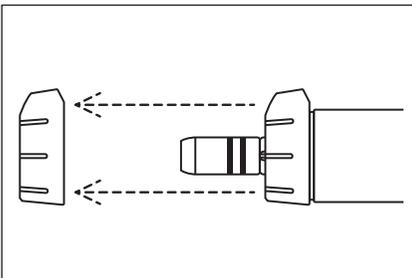
**Automated cleaning and disinfection**

**For motor with motor cord, tube holders, tube holder (gray), calibration bur, protection plug and handpiece stand**

 NSK products with this symbol are compatible with washer-disinfector.

- 1 Remove the tube holder (gray) from the motor with motor cord.

- 2 Attach the protection plug to the motor with motor cord.



## Post-use Maintenance

- 3 Place the products into the washer-disinfector.
- 4 Run the washer-disinfector cycle to clean and disinfect the products. Use a Miele washer-disinfector PG8581 (or equivalent device).
- 5 Remove the products from the washer-disinfector.
- 6 Remove any remaining moisture from the product using a dry cloth or filtered clean and dry compressed air ( $\leq 0.35$  MPa) ensuring it is dry internally and externally.
- 7 Under appropriate lighting ( $\geq 500$  lx), inspect the products for contamination.  
If any visible contamination remains, repeat the process until it is visually clean following step 3.
- 8 Remove the protection plug from the motor with motor cord. Proceed to the section "6–3 Sterilization".

Due to the variation in cleaning/disinfection cycles and cleaning agents available from the various manufacturers, NSK has validated the Miele washer-disinfector PG8581 Cycle Vario TD (see the table below) for automatic processing/reprocessing of the products.

Only validated procedures must be used for cleaning and sterilization. When using reprocessing procedures that are different from those described in this manual, those procedures must be validated by the respective practice or hospital using washer-disinfector that conforms to EN ISO 15883-1.

Step1	Precleaning cold tap water for 1 minute.
Step2	Cleaning 0.5% cleaner 55 °C for 5 minutes with demineralized water.
Step3	Rinsing with demineralized water for 1 minute.
Step4	Thermodisinfection with demineralized water at 93 °C for 5 minutes.
Step5	Dry the products for 5 minutes at 80-100 °C

### CAUTION

- Products must be removed from the washer-disinfector straight away (within 1 hour) after the cleaning, disinfecting and drying cycle is complete to prevent corrosion.
- After using the washer-disinfector, dry the product completely, because remaining moisture may cause internal corrosion, etc.
- After cleaning and disinfection of the products, be sure to perform "6–3 Sterilization".
- Use a cleaning and disinfection device (washer-disinfector) complying with EN ISO 15883-1 (e.g. Miele washer-disinfector PG8581), that operates with a maximum pH value of 10.5 (e.g. neodisher MediClean, Dr. Weigert) . Proof of suitability for the process must be obtained from the washer-disinfector manufacturer.
- Automated cleaning and disinfection should be done in accordance with the operation manual of the washer-disinfector.

## 6-3 Sterilization

After each patient treatment, sterilize the products as follows.

Sterilizable equipment: Motor with motor cord, tube holders, tube holder (gray), calibration bur, protection plug and the handpiece stand

- 1 Insert the products into a sterilization pouch that conforms to EN ISO 11607-1 and seal the pouch.
- 2 Sterilize using the following conditions.

	Gravity Displacement	Pre-Vacuum (Dynamic Air Removal)
Temperature	132 °C	134 °C
Full Cycle Time	15 min	3-18 min

### ⚠ CAUTION

- Follow local rules, regulations, and guidelines regarding the reprocessing of devices.
- Do not autoclave the product with other instruments even when it is in a pouch. This is to prevent possible discoloration and damage to the product from chemical residue on other instruments.
- Be sure to use sterilizers that can perform sterilization up to 135 °C. In some sterilizers, the chamber temperature may exceed 135 °C. Do not use these sterilizers as failure of the product could occur. Contact the sterilizer manufacturer for detailed information about cycle temperatures.
- Keep the product in suitable atmospheric pressure, temperature, humidity, ventilation, and sunlight. The air should be free from dust, salt and sulphur.
- Do not heat or cool the product too quickly. Rapid change in temperature will cause damage to the product.
- The irrigation tube is for single use product and cannot be autoclaved.
- Do not touch the product immediately after autoclaving as it will be very hot.
- Steam sterilization is recommended for the product. The validity of other sterilization methods (such as plasma sterilization or EOG sterilization) is not confirmed.
- Immediately after sterilization is complete (within 1 hour), remove the products from the sterilizer. Failure to do so may cause corrosion.

### NOTICE

- NSK recommends use of a Class B sterilizer as stated in EN 13060.
- For details, confirm to the manufacturer's sterilizer operation manuals.

## 6-4 Storage

Store the product in a place where it is kept clean and keep it in a sterilization pouch until it is used next.

### ⚠ CAUTION

- Store the product in a well ventilated place out of direct sunlight and within the range of temperature, humidity and pressure specified in "11-1 Specifications".
- Sterilization is not guaranteed after the sterilization retention period specified by the manufacturer and seller of the sterilization pouch has elapsed. If the sterilization retention period has elapsed, perform sterilization again with a new sterilization pouch.