

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

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

Caution

- When operating the handpiece always consider the safety of the patient.
- The handpiece is designed only for dental clinical use.
- Should the handpiece function abnormally, cease operation immediately and return the handpiece to the dealer for repair.
- Do not attempt to disassemble the handpiece nor tamper with the mechanism.
- Do not drop the handpiece.
- Do not connect or disconnect the handpiece until the drive motor has completely stopped.
- Depressing the push-button while handpiece bur is in rotation will result in **OVERHEATING** of the handpiece head. Special caution must be exercised during use to keep cheek tissue **AWAY** from the push-button of the handpiece. Contact with cheek tissue may cause the push-button to depress and injury to the patient may occur.
- Do not exceed drive motor speed, refer to 1. Specification's Allowable Max. Speed.
- Follow the hand instrument manufacturer's instructions.
- Please mount Ti75 Series with a micro motor and mount Ti70 Series with an air motor.

1. Specifications

Model	Ti35L/Ti35LA	Ti35	Ti45L/Ti45LA	Ti45
Gear Ratio	10 : 1 Reduction	10 : 1 Reduction	10 : 1 Reduction	10 : 1 Reduction
Allowable Max. Speed	40,000min ⁻¹ (rpm)	40,000min ⁻¹ (rpm)	40,000min ⁻¹ (rpm)	40,000min ⁻¹ (rpm)
File	Latch Type / Hand files	Latch Type / Hand files	Latch Type / Hand files	Latch Type / Hand files
Motion	90° Twist	90° Twist	Vertical Reciprocating	Vertical Reciprocating
Spray Type	Single Spray	Single Spray	Single Spray	Single Spray
Optics	Glass Rod Optic	—	Glass Rod Optic	—
Motor	Micro Motor / Air Motor	Micro Motor / Air Motor	Micro Motor / Air Motor	Micro Motor / Air Motor

Model	Ti70L/Ti70LA	Ti70	Ti75L/Ti75LA	Ti75
Gear Ratio	64 : 1 Reduction	64 : 1 Reduction	128 : 1 Reduction	128 : 1 Reduction
Allowable Max. Speed	20,000min ⁻¹ (rpm)	20,000min ⁻¹ (rpm)	40,000min ⁻¹ (rpm)	40,000min ⁻¹ (rpm)
File	Latch Type Files	Latch Type Files	Latch Type Files	Latch Type Files
Motion	360° rotation	360° rotation	360° rotation	360° rotation
Spray Type	Single Spray	Single Spray	Single Spray	Single Spray
Optics	Glass Rod Optic	—	Glass Rod Optic	—
Motor	Air Motor	Air Motor	Micro Motor	Micro Motor

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

- Please mount Ti75 Series with a micro motor and mount Ti70 Series with an air motor.
- Do not connect or disconnect the handpiece until the motor has completely stopped.

3. Mounting and Removing File

(1) Mounting

A. Latch Type file

a) Ti35 Series or Ti45 Series (Quick-fit Adapter in head.)

Push the push-button to open the chuck. Insert the instrument shank into the chuck, and release the push-button. (Fig. 1)

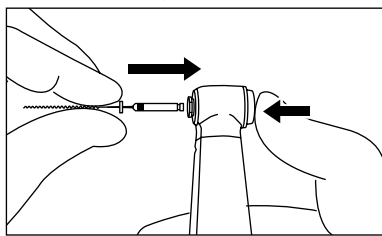


Fig. 1

b) Ti70 Series or Ti75 Series

Push the push-button to open the chuck. Insert the instrument shank into the chuck and lightly turn the file with light push. When the file engages with the latch mechanism, where the file sinks, and release the push-button.

B. Hand file (Ti35 Series or Ti45 Series)

Push the push-button to open the chuck, and remove the Quick-fit Adapter. (Fig. 2)

Again push the push-button to open the chuck. Insert the instrument handle into the chuck and release the button. (Fig. 3)

Make sure that the handle is securely held in the chuck. (Fig. 4)

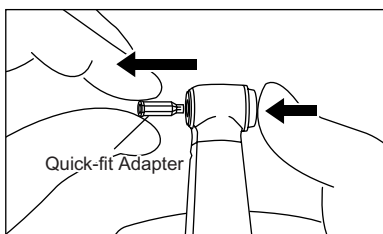


Fig. 2

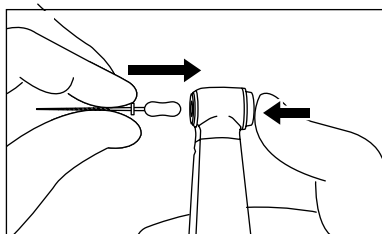


Fig. 3

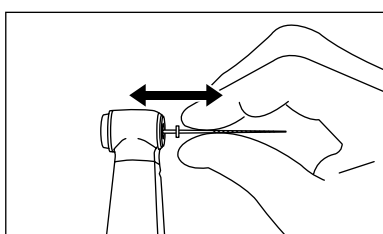


Fig. 4

- Accepts handle diameters $\varnothing 3.8-4.1$ mm
- Typical applicable hand instruments : Union Broach, Zipperer, Mani, Meisinger, Komet, Kerr.

(2) Removing

Push the head button with a thumb, and the file is removed.



Caution

Make sure that the motion is completely stopped when to depress the push-button and disengage the latch mechanism. Avoid accidental depression of the push-button during rotation. It would heat the push-button and could cause a burn.

4. Lubrication

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

- ① Push E-type spray nozzle attachment over the PANA SPRAY nozzle until it firmly seats.
- 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.

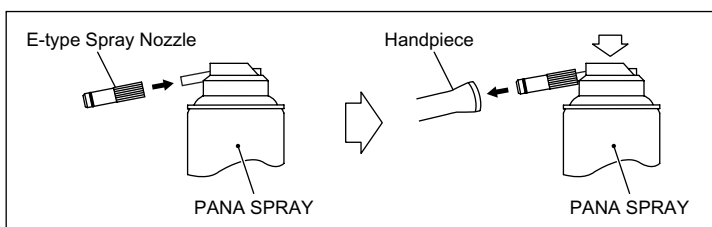


Fig. 5



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 head (for approx. 2 seconds).
- Keep the PANA SPRAY can upright.

5. Cleaning and Sterilization



This handpiece can be washed via Thermo Disinfector.

Steam autoclave is recommended.

Sterilization required after each patient as noted below.

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 with PANA SPRAY. Refer to 4. Lubrication.
- ③ Insert into an autoclave pouch. Seal the pouch.
- ④ Autoclavable up to a max. 135°C.
ex.) Autoclave for 20 min. at 121°C, or 15 min. at 132°C.



Caution

- In case the sterilizer chamber temperature could exceed 135°C during the dry cycle, skip the dry cycle.
- Always place the handpiece in the center or upper shelf of the chamber, as the local temperature at the bottom of chamber could rise beyond the set value.
- Do not heat or cool the handpiece quickly. Rapid change in temperature could break the glass rod give abnormal strain to other metals.

6. Cleaning Glass Rod Optic End (except Ti35/Ti45/Ti70/Ti75)

In case the light had become dim, clean the glass rod optic end with an alcohol-soaked cotton swab. (Fig.6)

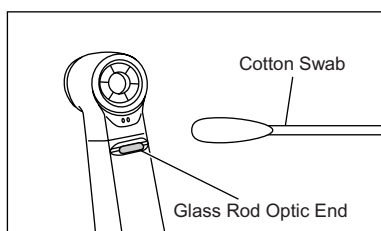


Fig. 6



Caution

Do not use a pointed tool or sharp edges to clean the glass rod optic end. They may damage the mirror finish and reduce the light transmission efficiency. If the glass rod optic end has become damaged, send the handpiece to the NSK dealer for repair.

※ Specifications may be changed without notice.

NSK

NAKANISHI INC.
700 Shimohinata, Kanuma, Tochigi
322-8666, Japan
www.nsk-inc.com

EC REP

NSK EUROPE GmbH
Westerbachstraße 58 60489 Frankfurt,
Germany
www.nsk-europe.de



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