



AIR MOTOR

**EX-103** (5,500min<sup>-1</sup>(rpm), 4:1 GEAR REDUCTION)  
**EX-203** (22,000min<sup>-1</sup>(rpm))

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

**MADE IN JAPAN**  
 OM-M0014E 002



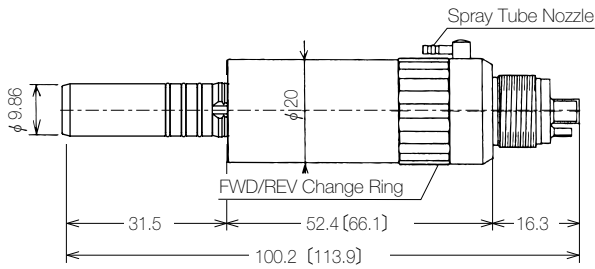
**CAUTION**

- When operating the airmotor always consider the safety of the patient.
- Should the airmotor function abnormally, cease operation immediately and return the airmotor to the dealer for repair.
- Do not disconnect the handpiece until the airmotor has completely stopped.
- Do not disassemble unless otherwise instructed nor alter the airmotor.
- Do not drop nor hit airmotor against hard object.
- Always check for vibration, heating, noise and sluggish operation before use in the patient's mouth. If such abnormality is found, stop use and call the dealer.

**1. Features**

- Various E-type(ISO-3964 Compatible)attachments are adaptable.
- The motor is Autoclavable.
- Specially-coated cylinder provides outstanding durability.
- Selection of Forward or Reverse Rotation, or Stop is achieved at the motor.

**2. Specifications**



Weight.....90 [105] g

Fig. 1

※Dimensions are Midwest 4-hole type.  
 Dimensions parentheses are for EX-103 motor.

Speed and Air Consumption Rate by Drive Air pressure.  
 Figures in parentheses are for EX-103 motor.

Drive Air (MPa)	Speed (min <sup>-1</sup> (rpm))	Air Consumption (NL/min)
0.25	22,000 [5,500]	42
0.3	25,000 [6,250]	51
0.4	27,000 [6,750]	72

※Speed may vary slightly depending on the back-end configuration the direction of rotation, type of hose used.

**3. Mounting of Attachment**

- (1) Mounting of Attachment  
 Insert the E-type attachment in the motor insert.
- (2) Removing the Attachment  
 Pull out the attachment from the motor.

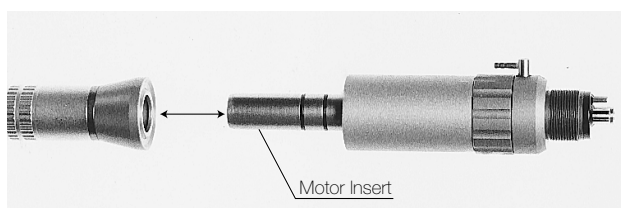


Fig. 2

#### 4. Forward/Reverse Rotation

- (1) Forward Rotation : Turn the FWD/REV Change Ring to “F” as shown in Fig.3.
- (2) Reverse Rotation : Turn the FWD/REV Change Ring to “R” as shown in Fig.4.
- (3) When the FWD/REV Change Ring is positioned at the middle of “F” and “R” , the drive air is interrupted and the motor does not rotate.(Fig.5)

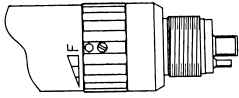


Fig. 3

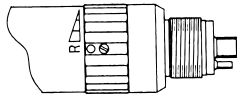


Fig. 4

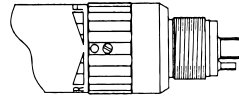


Fig. 5

#### 5. Water and Chip Air Supply to the Attachment

When water, chip air, or spray is required at the attachment, connect the spray tube attachment to the spray tube nozzle of the motor. Trim the tube to the desired length.(Fig. 6 )

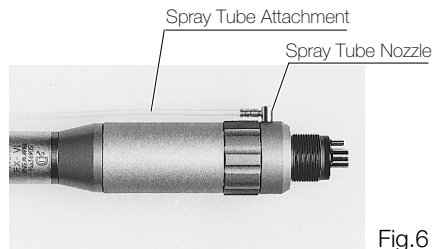


Fig.6

#### 6. Lubrication

Disconnect the motor from the handpiece hose, and supply a few drops of Air Turbine Oil (Cat.No.Z016-112) or PANA SPRAY for a few seconds into the drive air tube at the back end of the motor as shown in Fig.7.

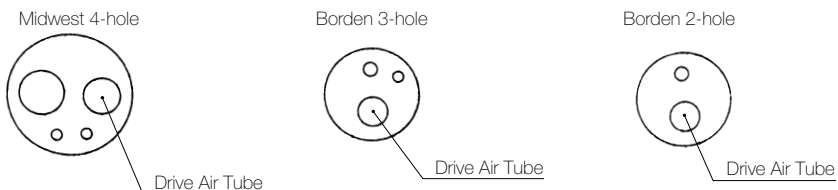


Fig. 7

#### 7. Sterilization

The EX-103 or EX-203 motor is autoclavable. Sterilization is required first time you use and after each patient as noted below.

○Autoclaving Procedure :

- ①Wipe off dirt with alcohol-soaked cloth.
  - ②Lubricate the motor. Use PANA SPRAY or Air Turbine Oil.  
When Air Turbine Oil is used, be sure to operate the motor for a few seconds before autoclaving.
  - ③Insert in a sterilizing pouch and seal it.
  - ④Autoclavable up to a max. 135°C.  
Ex.) Autoclave for 20 min. at 121°C, or 15 min. at 132°C.  
Do not set the sterilizer temperature above 135°C.
  - ⑤Keep 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 EN554.

#### ⚠ CAUTION

- Always place the handpiece in the center or upper shelf of the chamber, as the local temperature at the chamber bottom could rise beyond the set value.
- Do not autoclave the motor, even when it is bagged, together with other instruments, from which chemicals are not sufficiently cleaned. This is to avoid discoloration and/or damage to the plating of the motor.

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