

premo-V35

**RPM-V35S
OPERATION MANUAL**

<RPM-V35S>

EN60745-1:2009、EN60745-2-3:2011、EN60745-2-4:2009、

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Thank you for purchasing Premo-V35.



Read this manual carefully for your safety prior to use and keep this manual with the product. Download this manual from our website if lost.

Precautions

- This manual indicates symbols and signal words intending to avoid dangerous operation and handling for potential hazards and accident that could result in personal injury or damage to the product.
- For your safety use, read this manual carefully before attempting to use.
- Keep this manual in place any operator can reach to easily and whenever the can refer to.



■ Symbols













The symbols on this manual indicate as followings:






 Operation must be done.	 Operation is prohibited.
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■ Warning and Caution

Possible hazards and damages by wrong handling are classified as Warning and Caution in accordance with seriousness of risk.

 Warning	Operation causing of significant and dangerous accident possibly resulting in death or serious injury.	 Caution	Operation possibly causing of injury or physical damage on the product.
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 Warning	
■ If any cord was damaged, replace to new one (optional). ○ May cause of fire and / or electric shock.	
■ Use AC cord meeting specification for the country / region in which it is used. ○ May cause of fire and / or electric shock.	
■ Do not plug in and out with wet hands. ○ May cause of electric shock	
■ Keep turning off the Controller when connecting handpiece to the Controller. ○ May cause of fire, electric shock and / or malfunction.	
■ Prevent the product from cutting fluid, water and oil mist. ○ May cause of fire, electric shock and / or malfunction.	
■ Do not use this product with any input voltage except instructed one. ○ May cause of fire and / or electric shock.	
■ Wear protective glasses for eye protection and respirator to prevent from dust. ○ May cause of unexpected damage due to chip and dust.	
■ Hold handpiece tightly when turning the Controller on. ○ Handpiece may bounce and may cause of injury and / or damage on tool.	
■ Communication spark may occur while handpiece is rotating. Do not use the products near inflammable and explosive material such as thinner and gasoline. ○ May cause of fire and / or malfunction.	
■ Do not touch rotating part such as Sentan tool. ○ May cause of injury and / or damage on tool.	
■ Do not press On button on the Controller while collet chuck is opened. ○ Motor may be overheated by energization in condition that motor is locked and may cause of fire and / or malfunction.	

 Warning	
■ Confirm if handpiece works properly after turning handpiece on. ○ May cause of fire and / or electric shock by overheating motor in case motor was not working.	
■ In case abnormal noise, smoke and / or bad smell occurred, turn off the power and unplug the power cord. ○ May cause of fire and electric shock.	
■ Do not disassemble and / or remodel. ○ May cause of fire and / or electric shock. ○ May cause of significant influence on safety and performance.	
■ Ask us for repairing. ○ May cause of fire, electric shock and / or malfunction. ○ May cause of significant influence on safety and performance.	

 Caution	
■ Do not pull cord when pulling out the plug. ○ Each cord may be damaged and may cause of fire and / or electric shock.	
■ Do not put heavy material on each cord. ○ Each cord may be damaged and may cause of fire and / or electric shock.	
■ Keep each cord away from thermal appliance. ○ May cause of fire, electric shock and / or malfunction.	
■ Use this product in condition without condensation. ○ May cause of fire, electric shock and / or malfunction.	
■ Use this product within temperature from 0°C to 40°C. ○ May cause of damage and / or malfunction.	
■ Do not use this product near device generating electric noise unusually. ○ May cause of damage and / or malfunction.	
■ Unplug the power cord for your safety while cleaning. ○ May cause of electric shock and / or malfunction.	
■ Do not drop and / or hit this product. ○ May cause of damage and / or malfunction.	
■ Do not use this product in environment generating corrosive gas (chlorine gas, hydrogen sulfide, sulfurous acid gas, etc.). ○ May cause of fire, electric shock and / or malfunction.	
■ Follow the instruction of your local government for disposing this product.	
■ Keep this product away from children.	
■ Turn off the power and unplug the power cord for your safety while leaving a workshop.	
■ Prevent dust, oil, water, etc. from entering inside. If entering, turn off the power, unplug the power cord and ask us for repairing. ○ May cause of fire, electric shock and / or malfunction.	
■ Unplug the power cord for your safety while changing carbon brushes and other parts. ○ May cause of fire and / or electric shock.	
■ Do not loosen the collet release ring while handpiece is running. ○ May cause of malfunction.	

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1. Components

Check all items inside.



fig - 1

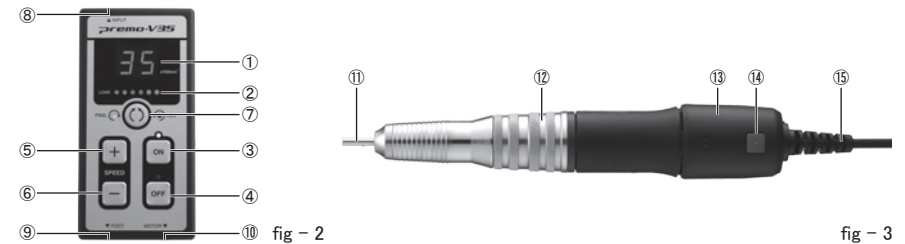
2. Features

- **Hand Switch**
Pressing On / Off at hand and convenient to use handpiece away from Controller.
- **Foot Switch (Optional)**
Handpiece runs while stepping on the Foot Switch.
- **Rotation Speed Display**
Rotation speed is indicated as double-digit by digital presentation.
- **Load Meter**
6 Consecutive LED indicates loading condition.
- **Feedback Function**
Rotation speed is kept by appropriate feedback.
- **Rotation Direction Switch**
Rotation direction of handpiece can be switched forward and reverse.
- **Sleep Mode**
Standby electricity can be reduced by turning power (display) off in 5-minute interruption of work.
- **Safety Mechanism**
Warning you by blinking of Load Meter in case of abnormal operation such as overloading, unlocking condition of collet chuck and twisting collet release ring while handpiece is running. If continuing such situation, overloading will be detected and handpiece will stop running. LED of upper Off button will be blinking and "OL" will be indicated on Rotation Speed Display. Overloading can be cancelled by pressing any button.
- **Compatible with Mobile Battery**
Enable to use with mobile battery on the market under the environment without outlet.

3. Specifications

- <Handpiece>
- **Rotation Speed** 2,000 ~ 35,000 min⁻¹
 - **Dimensions** Φ27×151mm
 - **Weight** 189g (not including cord)
- <Controller>
- **Rated Input** DC24V
 - **Rated Output** 20W
 - **Dimensions** 70 (W) × 140 (D) × 14 (H)mm
 - **Weight** 82g
- <AC adapter>
- **Rated Input** AC100V ~ 240V
 - **Rated Output** DC24V 2.7A

4. Names and Functions



- ① **Rotation Speed Display**
Indicating rotation speed (x 1,000 min⁻¹) and overloading (OL).
- ② **Load Meter**
Lighting according to loading condition on handpiece. Use handpiece in suitable loading level in green lamp and avoid using handpiece with overloading condition in lighting red lamp. If continuing to use handpiece in red lamp condition, overloading function will be activated in short time.
- ③ **ON Button**
Turns power on when Off lamp is not lighting.
Start handpiece running while Off lamp is lighting.
- ④ **OFF Button**
Hold turning power off while Off lamp is lighting.
Stop handpiece running when Off lamp is not lighting (handpiece is running).
- ⑤ **Speed Increasing Button**
Rotation speed will be increased approx. 1,000 min⁻¹ by pressing each time and will be increased continuously by holding the button. Maximum rotation speed is approx. 35,000 min⁻¹.
- ⑥ **Speed Decreasing Button**
Rotation speed will be decreased approx. 1,000 min⁻¹ by pressing each time and will be decreased continuously by holding the button. Minimum rotation speed is approx. 2,000 min⁻¹.
- ⑦ **Rotation Direction Switch**
Setting rotation direction of handpiece.
Rotation Direction Switch lamp of set direction will be on.
◆FWD. =Clockwise
◆REV. =Counterclockwise
※ Rotation direction can be switched even handpiece is running.
- ⑧ **INPUT** (for AC adapter)
- ⑨ **FOOT** (for Foot Switch)
- ⑩ **MOTOR** (for Handpiece)
- ⑪ **Test mandrel**
- ⑫ **Collet Release Ring**
- ⑬ **Motor Cap**
- ⑭ **Hand Switch**
- ⑮ **Cord**

5. Operations

5-1 Changing Sentan Tool

- (1) Twist Collet Release Ring about 90-degree to "Open" direction to open collet chuck.
 - (2) Pull test mandrel out and insert Sentan Tool with $\phi 3.0$ shaft.
 - (3) Twist Collet Release Ring to "Close" direction until clicking to close collet chuck.
- ※Test mandrel is mounted at the time of shipment.

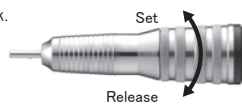


fig - 4

- Caution**
- Change Sentan Tool after unplugging handpiece from Controller.
 - Do not twist Collet Release Ring while handpiece is running.

5-2 Connecting Handpiece to Controller

- (1) Insert DC Plug of AC Adapter into INPUT on Controller.
- (2) Insert plug of handpiece into MOTOR on Controller

5-3 Operation of Handpiece and Controller

- (1) Insert plug of AC Adapter into outlet and display on Controller will be on.
※Press ON Button if display does not turn on.
- (2) Select rotation direction of handpiece by Rotation Direction Switch (FWD. by default).
- (3) Set rotation speed of handpiece by Speed Increasing Button / Speed Decreasing Button.
※Actual rotation speed must not exceed specified maximum rotation speed (allowable rotation speed) of mounted Sentan Tool.
- (4) Press ON Button or Hand Switch to start rotating of handpiece.
- (5) To stop rotating of handpiece, press OFF Button or Hand Switch.

- Caution**
- Do not twist Collet Release Ring while handpiece is running.

5-4 How to Use Foot Switch

- (1) Connect plug of Foot Switch to FOOT of Controller.
- (2) Follow the procedures (1) - (3) of "5-3 Operation of Handpiece and Controller".
- (3) - The foot switch remains On while pressing and turns Off when releasing.

5-5 Connecting to Mobile Battery

Connect DC plug of mobile battery to INPUT of Controller and enable to use handpiece.

Recommended specification of mobile battery is as following:

- Output Electric Voltage: 19 - 24 V
- Output Electric Current: 1.7 - 3.0 A
- Electric Power: 20 - 70 W
- Plug: 5.5 x 2.1 mm (Outer x Inner diameter)
- ※ Mobile battery is not available in Minitor.



fig - 5

- Caution**
- Use mobile battery with recommended specification.

6. Replacement of Carbon Brushes

- (1) Unplug handpiece from Controller.
- (2) Remove a screw from motor cap and pull handpiece body from motor cap.
Be careful not to drop and loose rubber switch cover while removing motor cap.
- (3) Remove screws fixing carbon brushes and pull out carbon brushes (fig - 6).
- (4) Put in new carbon brushes and fix them by screws.
- (5) Put motor cap back and push rubber switch cover into motor cap (fig - 7).

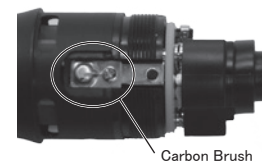


fig - 6



fig - 7

- Caution**
- Use specified carbon brushes.
 - After replacing carbon brushes, run handpiece from low speed to high speed gradually for more than 5 minutes and confirm if there is any malfunction.

7. Troubleshooting

Condition	Check if	Measure
Handpiece does not work.	Any cord is unplugged?	Plug all cords.
	Carbon brushes are consumed?	Replace carbon brushes.
	Collet chuck open?	Close collet chuck.
	Sentan Tool is mounted?	Mount Sentan Tool.
Handpiece is overheating while running.	Dust, etc. are stuck on handpiece?	Remove dust, etc.
	Handpiece is used with excessive load?	Use handpiece in range of green on Load Meter.
High vibration and / or abnormal noise from handpiece	Dust, etc. are stuck on handpiece?	Remove dust, etc.
	Handpiece is running with appropriate speed?	Use Sentan Tool with proper rotation speed.

※ Ask us for repairing in case there is no improvement after applying measure.

※ Contact your Minitor dealer or us in case of question, inquiry, etc.

8. Maintenance

- Check if there is any damage on the product.
- Check if dust, oil, water, etc. are stuck.
- ※ Inspection and maintenance are regularly needed.

- Warning**
- May cause of accident and / or malfunction if inspection and maintenance are not regularly provided.