

**Premo<sup>®</sup>**

**PREMO**

**RPM-25S2**

**OPERATION MANUAL**

<RPM-25S2>

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

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Products are subject to change without notice.

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 **MINITOR CO., LTD. JAPAN**

## Introduction

### Thank you very much for purchasing Premo.



Read carefully this instruction manual before use. Please keep this instruction manual near this product for any operators to refer to whenever operating this system. If you lost your instruction manual, download it from our website.

## Cautions for handling and operation

- Read the precautions below to ensure safe use and handling. These precautions are intended to protect you and others around you. Read and follow them carefully to avoid injury, damage to the product or damage to property.
- Read carefully the instruction manual of this product.
- Keep this instruction manual near the power pack for any operators to refer to whenever operating this system.



### About Symbols













The symbols below have the following meanings.






	This symbol denotes that an instruction must be obeyed at all times.		This symbol denotes that the action is prohibited.
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### About Warning and Caution

Safety instructions are classified as Warning and Caution in accordance with the seriousness of the risk.

	<b>Warning</b>	This indicates that incorrect operation presents significant danger of accident, resulting in death or serious injury to users.		<b>Caution</b>	This indicates that incorrect operation presents possibility of injury to users or damage to the unit.
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 <b>Warning</b>	
■ If the various cords are damaged, replace it with a undamaged various cords (separately sold). ○ Failure to do so could result in fire and/or electric shock.	
■ Use AC Pin meeting specification for country / region in which it is used. ○ Failure to do so could result in fire and/or electric shock.	
■ Do not plug in and out with wet hands. ○ Wet hands could result in electric shock.	
■ Keep the power switch off when connecting handpieces with controller. ○ Failure to do so could result in fire, electric shock, and/or failure.	
■ Keep away from cutting fluids, water and/or oil mist. ○ Failure to do so could result in fire, electric shock, and/or failure.	
■ Do not use any input voltage except the voltage instructed by this product. ○ Failure to do so could result in fire and/or electric shock.	
■ Always wear safety glasses and a mask for dust. ○ Chips and/or dust left after grinding/polishing process could result in unexpected injury.	
■ When turning on the switch, firmly hold the handpiece. ○ Failure to do so could make the handpiece hop, resulting in injury to the user or damage to the tool.	
■ Commutation sparks occur while the motor is running. So, do not use near inflammable and/or explosive substances such as thinner and/or gasoline. ○ Failure to do so could result in fire and/or failure.	
■ Do not touch the Sentan Tool while the motor is running. ○ Failure to do so could result in injury to the user or damage to the tool.	
■ Do not start to run the handpiece while its collect chuck opens. ○ Failure to do so could cause the motor to be overheated, resulting in fire or failure.	

 <b>Warning</b>	
■ Make sure whether or not the handpiece runs after switching on. If the handpiece does not run after switching on, stop using it. ○ Failure to do so could cause the motor to be overheated, resulting in fire or failure.	
■ In case of abnormal noise, smoke, and/or bad smell, turn off the main power and unplug the power cord. ○ Failure to do so could result in fire and/or electric shock.	
■ Do not modify and/or disassemble the power pack. ○ Failure to do so could result in fire, electric shock, and/or failure. ○ Also this may have a significant impact on its safety and performance.	
■ Always ask us for repair. ○ Failure to do so could result in fire, electric shock, and/or failure. ○ Also this may have a significant impact on its safety and performance.	

 <b>Caution</b>	
■ Do not pull the various cords when unplugging. ○ The damaged power cord could result in fire, electric shock, and/or failure.	
■ Do not put heavy things on the various cords. ○ The damaged power cord may result in fire, electric shock, and/or failure.	
■ Do not put the various cords near heater. ○ Failure to do so could result in fire, electric shock, and/or failure.	
■ Use the power pack in a place without condensation. ○ Failure to do so could result in fire, electric shock, and/or failure.	
■ Use in temperature between 0 - 40°C. ○ Failure to do so could result in malfunction and/or failure.	
■ Do not use in a place near machines remarkably emitting electric noise. ○ Failure to do so could result in malfunction and/or failure.	
■ For maintenance, unplug the power cord for safety. ○ Failure to do so could result in electric shock and/or failure.	
■ Do not drop and/or hit. ○ Failure to do so could result in malfunction and/or failure.	
■ Do not use in a place with corrosive gas such as chlorine gas, hydrogen sulfide, and/or sulfuric acid gas. ○ Failure to do so could result in fire, electric shock, and/or failure.	
■ For disposal of this power pack, please follow your local city office or the shop where you purchased the product.	
■ Do not allow children to use this product. Also, keep away from children.	
■ When you leave the workshop, turn off the main switch, and unplug the power cord from the outlet for safety.	
■ Be careful for dust, oil, water not to enter the inside of the power pack. If entering, turn off the power switch and unplug the power cord. Then, ask us for repair. ○ Failure to do so could result in fire, electric shock, and/or failure.	
■ When replacing carbon brushes or others, pull out the power cord. ○ Failure to do so could result in electric shock and/or failure.	
■ When the handpiece is running, do not loosen the collet release ring. ○ Failure to do so could result in failure.	

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## 1. Confirmation of this product

Please make sure of standard equipments and accessories inside.

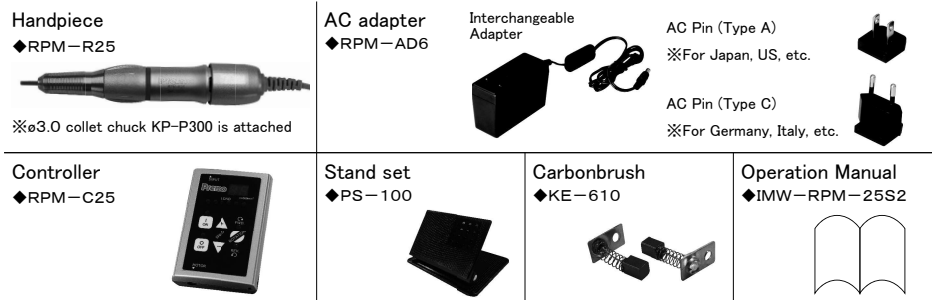


fig - 1

## 2. Equipment Features

- **Rotation Speed Display**  
Rotation speed is display as double-digit by digital presentation.
- **Load Meter**  
6 consecutive LED displays load 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**  
LOAD lamp is blinked and warns when abnormal operation has proceeded such as overloading, collet chuck is open and twisting collet release ring while rotating. If abnormal operation was kept proceeding, handpiece will be stopped, "OFF" LED will blink and "OL" will be displayed. To deactivate overloading, press any button.
- **Enable Mobile Battery**  
Enable to use handpiece with commercial mobile battery in environment without plug.

## 3. Specifications

- <Handpiece>
- **Speed Range** ..... 2,000 ~ 25,000 min<sup>-1</sup> \*When the AC adapter (24V) is used
  - **Outside Dimensions**..... Φ27×146mm
  - **Weight** ..... 189g (not including cord)
- <Controller>
- **Rated Input** ..... DC24V
  - **Rated Output** ..... 20W
  - **Outside Dimensions**..... 58 (W) × 86 (D) × 19 (H) mm
  - **Weight** ..... 50g
- <AC adapter>
- **Rated Input** ..... AC100V ~ 240V 50/60Hz
  - **Rated Output** ..... DC24V 1.7A

## 4. Names and Functions of Each Component

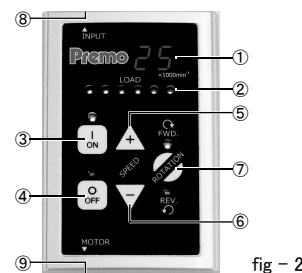


fig - 2



fig - 3

- ① **Display**  
Displaying the rotation speed (×1,000 min<sup>-1</sup>) and overload (OL)
- ② **Load Level Meter**  
Light turns on according to load level. Use handpiece in allowable load range of green lump. Do not use handpiece in condition that red lump is continuously blinking. Overloading will be activated in shorter time if red lump was continuously blinking.
- ③ **ON Button**  
Power turns on when OFF lamp is off.  
Handpiece activates when OFF lamp is on.
- ④ **OFF Button**  
Hold OFF button to turn power off when OFF lamp is on.  
Handpiece will be stopped when ON lamp was on (handpiece was working).
- ⑤ **Speed Increasing Button**  
Rotation speed of handpiece will be increased approx. 1,000 min<sup>-1</sup> each time pressing the button.  
Rotation speed will be increased successively and maximum speed is approx. 25,000 min<sup>-1</sup> (with AC adapter).
- ⑥ **Speed Decreasing Button**  
Rotation speed of handpiece will be decreased approx. 1,000 min<sup>-1</sup> each time pressing the button.  
Rotation speed will be decreased successively and minimum speed is approx. 2,000 min<sup>-1</sup> (with AC adapter).
- ⑦ **Rotation Button**  
Setting rotation direction of handpiece.  
Rotation switch lamp of direction as set will be on.  
◆FWD. =Positive rotation (clockwise)  
◆REV. =Reverse rotation (counterclockwise)  
※ Enable to Select rotation direction when handpiece is working.
- ⑧ **INPUT (AC adapter entry point)**
- ⑨ **MOTOR (Handpiece entry point)**
- ⑩ **Test Rod**
- ⑪ **Collet Release Ring**
- ⑫ **Motor Cap**
- ⑬ **Cord**

## 5. Operating Procedure

### 5-1 Changing the SENTAN TOOL

- Hold the motor and turn the collet release ring to the direction of "OPEN" at about 90-degree as on the right figure.
- Pull out the test rod and insert the SENTAN TOOL (shank diameter  $\phi 3.0$ ).
- Then, turn the collet release ring back to the direction of "CLOSE" till it locks in the position.  
Make sure the tools set firmly before starting the motor.  
※This Product is shipped with a test rod to protect the collet.



fig - 4

- Caution**
- Danger! Unplug handpiece from controller always while you change the sentantools.
  - Do not twist collet release ring while motor is rotating.

### 5-2 Connection of Handpiece and Controller

- Connect DC plug of AC adapter to INPUT on controller.
- Connect plug of handpiece to MOTOR on controller.

### 5-3 Replacement of AC Pin

- Insert AC Pin obliquely (fig-5①) and press down (fig-5②) when attaching AC Pin into adapter. AC Pin clicks when fixed.
- Slide the lock button (fig-6①) and pull up AC Pin when detaching AC Pin from adapter (fig-6②).



fig - 5



fig - 6

- Warning**
- Use AC Pin meeting specification for country / region in which it is used.

### 5-4 Operation of Controller

- Insert AC adapter plug into AC socket, and display of controller will be on.  
※Press ON switch if lump does not turn on.
- Select rotation direction by pressing rotation button (default setting is FWD).
- Handpiece works by pressing ON button.
- Set rotation speed of handpiece by Speed Increasing/Decreasing Buttons.  
※Setting of rotation speed must be under maximum rotation speed (admissible rotation speed) of SENTAN Tool attached.
- Press OFF button to stop handpiece.

- Caution**
- Do not twist collet release ring while motor is rotating.

### 5-5 Stand Set Usage

- Remove dust and dirt from stand and installation location preliminarily.
- Paste smooth side of bigger mat on installation location, and put hole-less side of stand on the other side of bigger mat.
- Paste smooth side of smaller mat on side with holes of stand.
- Put controller and SENTAN Tool on textured side of smaller mat (SENTAN Tools are not included).  
Stand is variable at a 90-degree angle to vertical and makes a 360-degree turn to horizontal.



fig - 7

- ※Wash in water to remove dust and dry naturally to reuse the mat when the mat gets dirty and absorbing power gets weak.
- ※There is no issue for functionality even if uneven coating or bubble are on the mat.

- Caution**
- Mat cannot fix the controller firmly. It might be fell down or come off when pulling the cord out or because of the gravity.
  - It might not be able to be fit on installation location because of the form or the materials of the installation surface.
  - Handle with care when taking the mat off to avoid a tear.

## 5-6 Connection to Mobile Battery

Enable to use handpiece when DC plug of the mobile battery is connected into INPUT on controller.

However, maximum speed of rotation will be changed by output voltage.

Ex.) Approx. 25,000 min<sup>-1</sup> with 24V

Approx. 20,000 min<sup>-1</sup> with 19V

Refer to mobile battery as following

<Recommended Mobile Battery>

- Output Electric Voltage: 19~24V

- Output Electric Current: 1.7~3.0A

- Electric Power: 20~70W

- ※We do not deal with any mobile battery.



fig - 8

- Caution**
- Use the recommended mobile battery.

## 6. Replacement of Carbon Brush

- Unplug the Handpiece from the controller.
- Turn the motor cap to the left and push it back after loosening.
- Remove the screw that fixes carbon brushes and then take out the carbon brushes.
- Fix new carbon brushes with the screw.
- Put the motor cap back into its original place.



fig - 9

- Caution**
- Use equivalent carbon brushes.
  - After replacing the carbon brushes, give the handpiece a trial run over 5 minutes, increasing rotation speed gradually and make sure how it works.

## 7. Trouble Shooting

Condition	Investigation	Corrective action
Handpiece does not run.	Are the various cords unplug?	Please plug the various cords.
	Are the carbon brushes worn?	Replace the carbon brushes.
	Is collet chuck of handpiece opened?	Close collet chuck of handpiece.
	Is the SENTAN TOOL attached?	Please attach the SENTANTOOL.
Handpiece is overheated while running.	Is there any adhesion of dust with the handpiece?	Remove dust from the handpiece.
	Do you use the handpiece with excessive loads?	Use the handpiece within the green lights of the load meter.
Unusual noise and/or vibration occurs.	Is there any adhesion of dust with the handpiece?	Remove dust from the handpiece.
	Is rotation speed prpper?	Set rotaion speed properly as each SENTAN Tool requires.

※If the symptom is not improved after corrective action, the handpiece might be defective. Please ask for repair.

※Any other troubles or obscure points, please contact our minitor dealer.

## 8. Maintenance and inspection

- Please check if there is some damage or not on the case and cord.
- Please check if there is accumulated dust, oil, water and so on or not.
- ※Please maintain and inspect a handpiece.

- Warning**
- Neglecting maintenance and inspection ,could result in accident and/or failure.