

PORTABLE MICRO MOTOR USER'S MANUAL

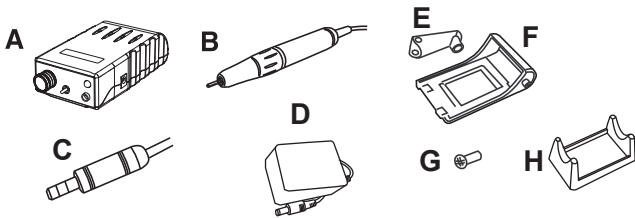
Thumb

Thank you for your purchase.
Maintain and repair properly in order to have trouble-free performance for many years
Please keep this manual for future reference.
Saeshin is not responsible for the accident causing by not following the instructions.
The appearance and specification may be changed without any further notices.
Users are responsible for the operation and maintenance.
By informing the product, model, faulty status, the kind consulting
and quick service will be provided.

Features

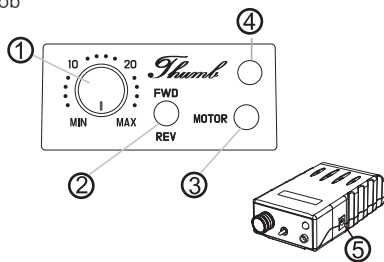
- * 30,000 RPM
- * Rechargeable
- * Up to 8 hours battery life
- * 3.5 hours battery full charge
- * Variable speed control
- * Light weight handpiece
- * Chuck Locking
- * Easy bit change
- * Uses standard 2.35mm (3/32") bits
- * High torque
- * Quiet operation
- * No vibration
- * Rechargeable battery, clips to belt

Product Components & Part Name



- A. Controller
B. Handpiece - Optional
C. E-type motor - Optional
D. Adaptor
E. Handpiece holder
F. Controller holder
G. Bolt
H. Handpiece stand (option)

- 1) Power on/off & Speed Control Knob
- 2) Forward / Reverse Selector
- 4) Handpiece Connector
- 5) On / Charge lamp
- 6) Battery Charger Connector



Setting & Operation

- (1) Charging the battery (Approx. 3.5 hours to full charge)

- a. Connect the adaptor DC plug in Power Connector on the side of the controller.
- b. In order to activate charge of battery, the volume knob must be kept "OFF" condition.
- c. Connect the AC power adaptor to outlet (wall socket).
- d. When the lamp changes red to green, the charge is completed.
- e. Disconnect AC Adaptor from Controller after charging is completed.
(Lamp color : Red → Green)



- Warning for Low Voltage Battery : We recommend to charge the battery immediately when the red light is blinking.
(It shows that the battery remains 20%)
- To protect the battery the battery is not charging while user use the handpiece with connection DC Adaptor.

(2) Handpiece Operation

- a. Connect Handpiece Cord to the jack marked as "MOTOR" (DC Motor Connector) in the front of the controller.
- b. Turn the Speed Control Knob to start the handpiece. Turn it until click sound to power off and to stop the handpiece.
- c. Turn the Forward/Reverse Selector to "FWD" to run the motor in the forward direction, or to "REV" to run it in the Reverse direction.
- d. Handpiece Motor speed can be varied between 0 and 30,000 rpm by the Speed Control Knob

(3) Insertion and removal of bits

Turn the handle in the counter-clock direction until the click sound to open the chuck.
The chuck is opened and the bit is removed.
Turn the handle in clock direction until the end and the chuck is closed and the bit is locked.

Specifications

adaptor

Input : 100-240V~ 47-63Hz 0.9-0.34A
Output : 30V $\overline{\sim}$ 1A max

Contorller

Input : 30V $\overline{\sim}$ 1A
Output : 24V $\overline{\sim}$ 0.8A
Size : 65(W) x 129(D) x 36(H)
Weight : 388g

Handpiece

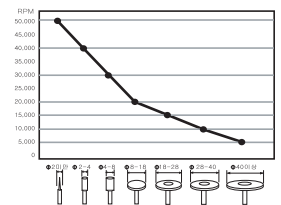
Rotation (r.p.) : 0~30,000rpm
Bur Replacement Type : Collet Chuck Type
Bur Dimension : Φ 2.35 mm

E-type motor (PEHP)

Rotation (r.p.m) : 0~30,000rpm

CAUTION

1. Do not work in a dangerous place. Do not use the control box in a humid place, use in a proper place.
2. Environment setup
Temperature : +10℃~+40℃ Humidity : 30%~75% Air Pressure: 700~1060hPa
3. Our handpiece and foot pedal should be only used for our control unit.
4. Bit
 - Dimensions of the Bit: 2.35mm(ISO7785-2 TYPE2)
 - Minimum fitting length of Bit: 10mm
 - When locked in the chuck, the maximum projection length of Bit should be less than 35mm.
 - Use the bit that conforms to the ISO standard. Avoid using a rusty or bent bit that cause excessive wear of bearings.
 - Keep safe speed and precautions recommended by bit manufacturer.
[the allowable RPM according to the bar diameter]Please keep the RPM according to below diagram against accident.
5. Check for any troubles, including vibration of bit, at low speed, and then try high speed.
6. Operate the speed control dial in control box softly.
7. Turn off the power. When the handpiece absolutely stops, screw handle in order to change the bit.
8. Be careful not to drop the handpiece as it may be damaged or broken.
 - This may cause bearings damaged.
 - In case that it is dropped, check if the bit is bent or that any noisy of bearings and any excessive heat are generated while carefully operating it.



Caution

- This equipment and accessories are to be disposed of safely after the life span of them and national regulation must be observed.
- This equipment and accessories are to be disposed according to the instructions given by national regulations or ask a specialized waste service company to dispose of it.
- Follow local governing ordinances and recycling plans regarding disposal or recycling of device components



This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract.
This product should not be mixed with other commercial wastes for disposal.

- ◆Type of protection against electric shock:
Class I equipment
- ◆Degree of protection against electric shock:
Type BF Applied Part

WARRANTY

Saeshin warrants our products for manufacturer's fault such as material or workmanship for 1 year from the date of invoice. The warranty does not cover the product fault caused by user's misuse, wrong installation, inappropriate maintenance and repair, and normal wear of consumable parts such as bearings, spindle case ass'y, armature etc. In order to check the warranty, it's required to provide used condition and environment information with product serial number and stamped invoice. The performance of warranty is by manufacturer's product analysis and discretion by repair or replace the product.

Exception of warranty

user's misuse or improper use and treatment using with wrong input Voltage (AC Voltage) dropping down during setting, moving, using using consumable parts or accessories not recommended by manufacturer malfunction after repairing at the places not recommended by manufacture replacing normal wear of consumable parts (ball bearings, gear assy, collet chuck,armature etc) Faulty by Act of God



Caution

1. If any problem occurs in handpiece, use after repairing.
2. Do not turn on the power of control box while the collet chuck of handpiece opens. (Short circuit of the motor may be caused.)
3. Make sure that the switch is off before putting the power plug in the socket in order to avoid an unexpected injury due to sudden start.
4. A circuit breaker is provided to protect the motor.
It is actuated when there is an overload which the motor can not stand.
Work within a range of load which it is not actuated.
5. Do not open the chuck while operating.
6. Keep the handpiece with bur and mandrel.
7. Do not put the handpiece down before it stops completely.
8. Be sure to pull out the power cord before moving the control box.
9. Use the specified voltage.
10. Use accessories suitable for this product.
11. For recommended speed in various applications, follow the manufacture's instructions.
12. Wear proper protective clothes and equipment including a dust mask and safety goggles to protect eyes Use proper ventilator and inhaler.
13. Keep the workplace clean. Debris may cause an accident

※ Cautions
when the motor is working at high RPM, the product can be RESET or damaged.

Operating condition (환경조건)	Temperature(온도) (℃)	10~40
	Relative humidity(습도) (%)	30~75
	Atmospheric Pressure(기압) (hPa)	700~1060
Transport and storage condition (수송/보관조건)	Temperature(온도) (℃)	-20~60
	Relative humidity(습도) (%)	10~90
	Atmospheric Pressure(기압) (hPa)	500~1060

4. Suggestion for maintenance

- Keep the place around in handpiece clean
- Remove dust on handpiece wiping with isopropyl alcohol and avoid wet inside.

Do not apply the oil to the goods and do not clean with water.
The grease inside of the bearing could melt away due to the oil.

- That can be a reason df ball bearings breakage
- Air cleaning is acceptable but air pressure may affect the handpice or motor



Warning for battery



The battery used in the control unit is a Nickel-Hydrogen type, and recyclable.

- The battery cautions are common for general batteries.
- In case of contact the liquid to clothing or body skin or eyes, wash immediately.
- in case of shortening the operating time or the speed becomes slower, it may means the replacement of the battery.
- Follow the government or local law for battery disposal.

-The battery used in the control unit is a Nickel-Hydrogen type, and is a wearable component. The battery life is limited. Battery capacity decreases little by little as you use it more and more, and as time passes. Its life varies d depending on storage, operating conditions, and environment. When not in use for a porlonged period, the battery might deteriorate. When the battery operating time seems to have been considerably shortened, a probable cause is that the battery has reached the end of its life. For replace it, send to the dealer.

Trouble shooting

(1) Motor

Troubles	Trouble Detail	Cause	Remedy
Motor fails to run.	Control unit fully charged. but motor fails to run.	(1) Loose connection motor plug with jack in control unit.	Correctly plug the Motor cord.
		(2) Defect in motorcord.	Replace motor cord.
		(3) Trouble in motor.	Replace Carbon brushes.
	Motor stops in 2-3 seconds.	Battery has not been charged.	Check motor and repair if the motor is trobled.
	Motor runs with insufficient power and stop in a few minutes.	Worn battery.	Charge battery.
	*The motor stops during use.	*Overload activates *Heat happens	*Reuse the product after cooling for over 3 minutes. *If overload activates frequently, product life will be shortened.
	*Motor gets heat and make noise	*Need to change Bearings.	*Change bearings
	*Bit is not fixed or not detached.	*Worn Collet chuck.	*Chage Collet chuck

(2) Battery

Troubles	Trouble Detail	Cause	Remedy
Battery recharging fail.	Battery seemed to have been fully charged, but when used, motor fails to run, or motor runs but stops in a few minutes.	* Power cord is not connected to the power supply(AC power adaptor)	* Check at power supply.
		* Speed Control Knob is at OFF.	* Set Speed Control Knob at ON.
		* DC plug is not connected or loosely connected to the control unit.	* Check if DC plug is correctly connected to the control unit.
		* Blown fuse in AC power adaptor.	* Check and replace AC power adaptor.
		* Speed Control Knob malfunctions.	* Please contact the manufacturer.
		* saeshin-thumb AC power adaptor is not used.	* Use only saeshin thumb AC power adaptor.
	Red lamp blinks and then powers off.	* Battery has not been charged.	* Charge battery.

※ In case any malfunction is found, consult with the dealer the unit was purchased from.



This product should not be mixed with other commercial wastes for disposal.



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