




Brilliant

USER MANUAL

B170

INTRODUCTION

Make sure to read this user manual before using. This user manual is to assure proper installation and use. Pay attention to read this manual in order to making the best use of this product and to assure the prolonged lifespan before using.

Specially, pay attention the contents with marks such as ,  and .

<Classification of equipment>

- Type of protection against electric shock:
 - Control Box: Class III construction
 - Adaptor: Class II appliance
 - Handpiece: Class III construction
 - Foot Controller: Class III construction
- Not suitable product in the atmosphere that exist flammable anesthetic mixture with air or with oxygen.
- Classification according to mode of operation: Intermittent operation

Design and specification of the product can be subject to be changed without notice for improving the quality.

USER GUIDELINES

WARNING

- Use the designated adaptor when charging the unit.
- Change the rotary direction after stopping the motor.
- Do not use the bent bit. It causes product's malfunction.
- Do not work in a dangerous place. Do not use the control box in a humid place.
- Our handpiece should be only used for our control box.
- Check for any troubles, including excessive vibration of bit, at low speed, and then try high speed.
- Change the bit after stopping the motor.
- Be careful not to drop the handpiece as it may be damaged or broken. In case that it is dropped, check if the bit is bent or that any excessive heat is generated while carefully operating it.
- If any problem occurs in products, use after repairing.
- Do not put the handpiece down before it stops completely.
- Use the specified voltage.
- Use accessories suitable for this product.
- Wear proper protective clothes and equipment, including a dust mask and safety goggles.
- Keep the workplace clean. Debris may cause an accident.
- Do not touch the cords or connectors with wet hand.
- Do not bend the cords excessively and do not press with heavy things. It may cause electric shock or fire.
- Do not place near heat equipment, candles or cigarette causing fire.
- In case of using extension cord, do not use much electricity equipment in one time. It causes fire or electric shock.
- "This appliance can be used by children aged from 8 years and above and person with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in safety way and understand the hazards involved."
- "Children shall not play with the appliance."
- "Cleaning and user maintenance shall not be made by children without supervision"
- "If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard."
- The battery must be removed from the appliance before it is scrapped.
- This appliance must be disconnected from the supply mains when removing the battery.
- The battery is to be disposed of safely.
- WARNING: For the purposes of recharging the battery, only use the detachable supply unit provided with this appliance.
- Follow the user manual by manufacturer of bit to use bit.
- Keep the recommended speed limit by manufacturer of bit to use bit. If exceed the speed limit, it might cause an accident.

Battery maintenance

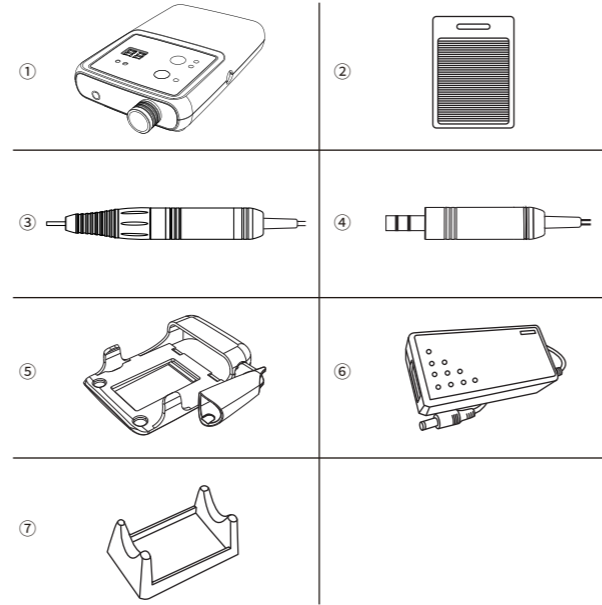
- Charge after use.
- Do not give a strong shock or throw the battery. It may cause overheat, break and fire.
- Do not transform, modify, disassemble the battery. It may cause battery leakage, overheat, break and fire.
- The battery used in the control box is a Li-Ion type, and is recyclable.
- In case of contact to the liquid on clothing, body skin or eyes, wash immediately.
- In case of shortening the operating time or if speed gets slower, it is time to replace the battery.
- Always follow government or local law for battery disposal.
- Battery is a wearable component and its life is limited. Battery capacity decreases little by little as its used over time. Its life varies depending on storage, operating conditions, and environment. When not in use for a prolong period, the battery might deteriorate. When the battery operating time seems to have considerably shortened, a probable cause is that the battery has reached its end of life. To replace it, contact the manufacturer or dealer.

PRODUCT FEATURES & ADVANTAGES

- Max. 30,000 rpm
- Max. torque 3.0 N · cm
- Rotation Selector Switch (Forward/Reverse)
- Use the standard Bit $\Phi 2.35$ mm
- Method for connecting any Collet-chuck type Bit
- Portable Type (Battery Use)
- Battery charging time: approx. 1.5 hours
- Battery use time: approx. 10 hours (with max. RPM and no-load)

PRODUCT COMPONENTS

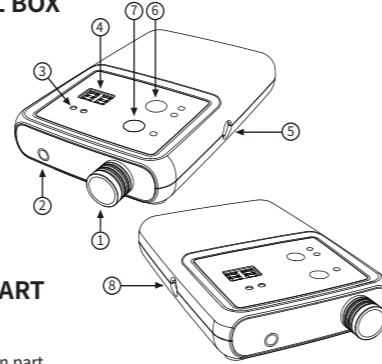
* Please check all components are included.



No.	Component
1	Control Box (B170)
2	ON/OFF Foot Controller (optional)
3	Handpiece (H170)
4	Motor (H170E) (optional)
5	Holder
6	Adaptor
7	Handpiece Stand (optional)

PART NAME OF CONTROL BOX

- Power/Speed Control Dial
- Handpiece Connector
- Battery Display
- Display Screen
- Adaptor Connector
- Rotation Direction Select Switch
F: Forward / R: Reverse
- Motor Switch
- Foot Controller Connector



CONNECTION OF EACH PART

Control Box

- Connect the handpiece to the connection part.
- Connect the foot controller to the connection part.
- Turn the power on, check the battery condition. If the battery became low, connect the adaptor to the adaptor connector.
- When the battery became fully charged, disconnect the adaptor from the control box.

Bit

- Open the handpiece chuck by turning handle as below picture.

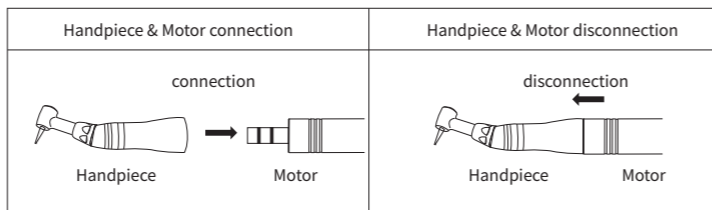


- Insert the bit.
- Lock the handpiece chuck by turning handle as below picture.



- Lock the handpiece chuck before using. It causes product's malfunction.
- Check the bit whether damage or not before replacing.
- Change the bit after stopping the motor.
- Bit Dimension: $\Phi 2.35$ mm

Angle Handpiece Connection



- Connect : Insert the groove of the angle handpiece into the groove position of the motor handpiece.
- Disconnect : Hold the motor handpiece and pull the angle handpiece.

OPERATION PROCESS





- Turn the power on by turning the Power/Speed Control Dial.
- Set the speed by the Power/Speed Control Dial.
 - Turning clockwise increases rotation speed.
 - Turning counterclockwise decreases rotation speed.
 - Actual RPM (revolutions per minute) is 1,000 times the number on display.
- Set the rotation direction. Rotation direction can be set to F(forward) and R(reverse).

How to use when select the hand	How to use when select the foot
④ Operate the handpiece by pushing the Motor Switch. ⑤ Push the Motor switch again, the handpiece is stopped.	④ Operate the handpiece by pushing the foot controller. ⑤ Foot controller is released, handpiece is stopped.

- Power is turned off by turning Power/Speed Control Dial counterclockwise fully.

- Change the rotary direction after stopping the motor.
- Change the bit after stopping the motor.

Battery Display

Battery Display	Condition
 	Charging (Red LED On)
 	Charging Complete (Blue LED On)

Error Code

Error Code	Cause	Remedy
E0	Overloaded handpiece	Push the Motor Switch.
		Operate after cooling off for 10 minutes in a cool place.
		If the error doesn't get solved out, contact the manufacturer.

PROBLEM & REMEDY

Control Box

Problem	Cause	Remedy
The Control Box doesn't be turned on.	Battery became fully discharged.	Charge the battery.
	A problem occurred in the Control Box.	Please contact the manufacturer.
Speed cannot be controlled.	A problem occurred in the Control Box.	Please contact the manufacturer.
	Power cord is not connected properly.	Reconnect the handpiece cord properly.
Motor does not rotate or battery runs out shortly, although the battery is fully charged.	Handpiece cord became damaged.	Please contact the manufacturer.
	Battery life became ended.	Change the battery. (Please contact the manufacturer to change the battery.)

Handpiece



Problem	Cause	Remedy
Motor does not work.	Handpiece cord is not connected properly.	Reconnect the handpiece cord properly.
	Motor became damaged.	Please contact the manufacturer.
	Handpiece cord became damaged.	Please contact the manufacturer.
Abnormal overheating occurs during operation.	Bearings in the handpiece became damaged.	Please contact the manufacturer.
	Bearings or chuck in the handpiece became damaged.	Please contact the manufacturer.
Abnormal vibration and noise occur.	Bit became damaged.	Change the bit.
	Level of battery power became low.	Charge the battery.
Motor will get stopped within 2-3 seconds.	Chuck became damaged.	Please contact the manufacturer.
Bit is not fixed or pulled out.	Chuck became damaged.	Please contact the manufacturer.

PRODUCT MAINTENANCE

- Keep the place around in handpiece clean from dust and grindings.
- Remove dust on handpiece with alcohol and avoid humidity around.
 - Do not apply the oil and water to the product.
 - The grease inside of the bearing could melt away due to the oil.
- Air cleaning is acceptable but air pressure may affect the handpiece or motor.
- Store the product as condition a bit is fixed at the collet chuck.

PRODUCT SPECIFICATION

Control Box

Model Name	B170
Input	DC 12.6 V  , 2.0 A
Output	DC 11.1 V  , 0.2 A
Battery Capacity	2,850 mAh
Battery charging time	approx. 1 hours 30 minutes
Battery use time	approx. 10 hours (with max. RPM and no-load)


Handpiece

Model Name	H170
RPM	30,000 rpm
Torque	3.0 N · cm
Chuck Type	Collet Chuck
Bit Dimension	$\Phi 2.35$ mm

Motor

Model Name	H170E
RPM	30,000 rpm
Torque	3.0 N · cm

Adaptor

Model Name	FY0421262000
Input	AC 100-240 V~, 50/60 Hz, 1.5 A
Output	DC 12.6 V  , 2.0 A

WARRANTY











SAESHIN guarantees this product for 1 year from invoice date. Product warranty means that SAESHIN has responsibility for defective material or operation failure. The product warranty does not cover user's misuse, wrong installation, inappropriate maintenance and repair, and normal wear of consumables such as bearings, spindle, gear, and motor. In order for Saeshin to confirm if the warranty is valid will require checking the operating condition, environment information, serial number and stamped invoice. The warranty will be performed as a repair or exchange according to manufacturer's analysis of product and judgement.

Exception of warranty

- Any misuse or improper use and treatment of product
- Using the product with incorrect input voltage (AC voltage)
- Dropping the unit during setting or moving
- Use not recommended consumables or accessories
- Malfunction after repairing the product at an unauthorized repair shop
- Normal wear of consumables; such as ball bearings, gear, chuck, spindle case assy, motor
- Faulty by Act of God
- Attempt to disassemble or modify product.

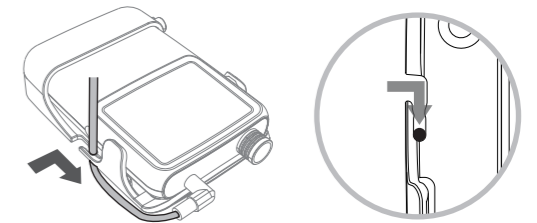
Operating Condition	Temperature (°C)	10~30
	Relative humidity (%)	10~80
	Atmospheric pressure (hPa)	700~1,060
Transport and Storage Condition	Temperature (°C)	-20~60
	Relative humidity (%)	10~90
	Atmospheric pressure (hPa)	500~1,060

SYMBOL

	Class III appliance		Read operator's manual
	Serial number		General warning sign
	Fuse		CE mark
	This product should not be mixed with other commercial waste for disposal.		Alternating current
	Detachable supply unit		Direct current

How To Fix The Handpiece Cord

- After inserting the handpiece terminal into the controller, insert the cord into the hole on the side of the case.
- Pull the inserted cord to the front once more to fix it.



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