



SHOFU INC.

Solidilite V

Light curing unit for dental laboratory



INSTRUCTIONS FOR USE

INTRODUCTION

Thank you for purchasing Solidilite V. The instructions mentioned below provide necessary information on successful operation, daily maintenance and safe use of this unit.

Please read the instructions carefully before use to attain maximum benefits during function and ensure durability of this unit.

Kindly keep this manual for your future reference.

Notes

- No part of this document may be copied or reproduced in any form by any means.
- Some information in this document might become inconsistent with the product due to product improvement.
- The information in this document is subject to change without prior notice.
- All relevant issues have been considered in the preparation of this document. However, should you notice an omission or any questionable item in this document, please feel free to notify SHOFU Dental.
- In case of missing pages or disorder, please contact our local dealer or SHOFU Dental for replacement.
- SHOFU Dental will repair the main unit and its system in case of trouble within the warranty period. However, we do not assume any responsibility for subsequent damages arising from the failure of the unit.

INDICATIONS

Optimal light-curing of indirect composite resin

1. Safety information

It is important to understand the following terms to use this product safely.

WARNING AND CAUTION

Important safety information is mentioned under "Warning" or "Caution". Definitions are as follows.

Warning

Indicates a potentially hazardous situation which, if not avoided, could result in serious injury or death.

Caution

Indicates a potentially hazardous situation which, if not avoided, may result in minor / moderate injury or damage of property.



This sign indicates a potentially hazardous situation which, if not avoided, may result in burns.

NOTES AND REFERENCES

Notes and references used in this manual are shown below.

Note

Indicates that potential malfunctions may occur if the description is ignored.

Reference

Supplementary information to facilitate better operation.

INSTALLATION AND CONNECTION

Warning

- Ensure earthing of terminal outlet and power socket. Electricity leak in the main unit might cause electric shock or fire.
- Keep away from sources of ignition to avoid fire or explosion.
- Protect from liquid or high humidity to avoid electric leak, electric shock or fire.

Caution

- Use within the rated supply voltage. Select the appropriate voltage with the Voltage selector to avoid fire or electric shock.
- Use one outlet supplying necessary power exclusively for this unit to avoid overloading the circuit. If power supply is insufficient, the outlet will overheat and might result in fire or electric shock.
- Use at room temperature (5-40 °C / 41-104 °F). Ensure that there is no condensation to avoid short circuit or electric shock.
- Do not use in a dusty area. Ensure that power plug is free of dust and connected securely to the outlet. Dust particles if exposed to electric sparks may cause fire.
- Place the unit on a flat and sturdy table that withstands the weight of the unit. Leave a gap of at least 20 cm (8 inches) from all sides and 30 cm (12 inches) from the top of the machine. If adequate space is not provided for release of heat, the machine will overheat leading to smoke or fire.

OPERATION

Warning

- Never touch the power plug with wet hands to avoid electric shock.
- Never expose the unit to any liquid to avoid electric shock, electrical leak or fire.
- Never handle any liquid or metal powder in the curing chamber to avoid electric shock or fire caused by internal circuit failure.

Caution

- Unplug the power cord gently, avoid grasping the cord as it may damage the insulation resulting in electric shock, fire, injury or burn.
- Never damage / reprocess or apply unnecessary force on the power cord or place any heavy objects on the power cord. A damaged power cord may cause an electric shock or fire.
- Turn off the unit after the cooling fan automatically stops. Unplug the unit if it is not to be used for a long period. Degradation of the insulation may cause electric shock or fire.
- Do not touch the heat-resisting-filter located in front of the lamp, to avoid injury or burn.
- Do not open the chamber door during light irradiation to avoid harm to the eyes.
- Do not touch the door switch or insert any object. This may cause the unit to malfunction and also be harmful to the eyes due to direct exposure to the curing light.
- Always operate with heat-resisting-filter in place. Do not use broken glass filters as they cannot prevent the lamp glass from scattering when it breaks for some reason and also be harmful to the eyes due to exposure to light.
- Do not block, touch or stop the cooling fan. The interior of the unit will not be adequately cooled and may create a fire hazard. Do not touch or insert objects into the fan while in operation to avoid injury.
- In case of any smoke or any unusual smell, immediately discontinue use to avoid electric shock or fire.

- Do not use the unit if it falls off the table. Halogen lamps, viewing window and filters, etc might be damaged which can cause injury. This may also result in smoke or fire.
- Do not use for any purpose other than specifically outlined in the "Indications" in these instructions for use.

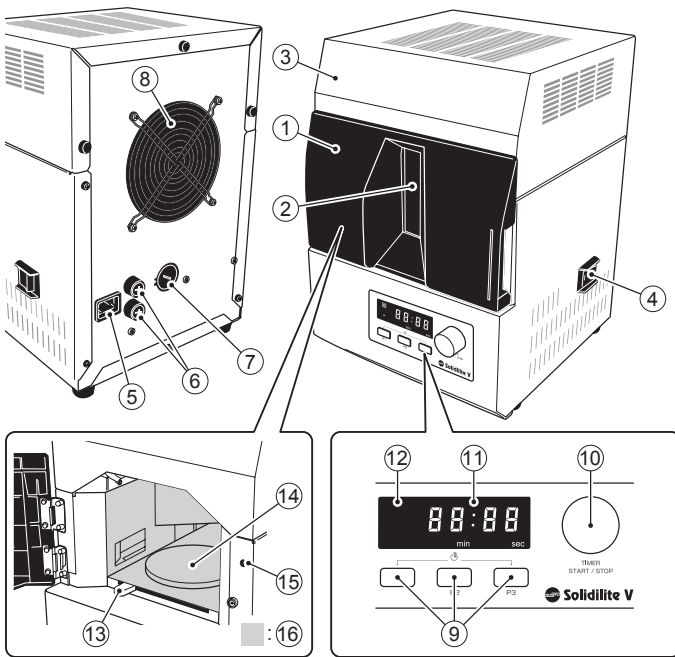
MAINTENANCE AND CHECKS

⚠ Warning

- When checking, cleaning or replacing lamps and fuses, always turn off and unplug the unit. Leave the unit off for at least 10 minutes to ensure that the unit has cooled completely to avoid electric shock, burn, fire or injury due to damage to lamps.
- Never disassemble, repair or overhaul except to replace lamps and fuses. Improper assembly or repair may cause the unit to malfunction and pose the risk of electric shock or fire.
- Use only designated lamps and fuses. Using lamps and fuses other than those specified for the unit may cause injury, electric shock or fire due to malfunction of the lamps or circuit.
- Hold the socket firmly while installing or replacing the lamps to avoid electric shock or fire.

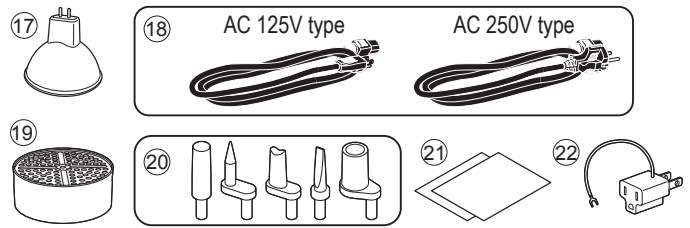
2. Package and Part Names

MAIN UNIT



- | | |
|---------------------------------|----------------------------------|
| ① Chamber door | ⑨ Programmable timer key |
| ② Viewing window | ⑩ Timer dial / Start/Stop button |
| ③ Top cover | ⑪ Time display |
| ④ Power switch (I: ON / O: OFF) | ⑫ Indicator of bulb life |
| ⑤ Inlet | ⑬ Lever for turn table |
| ⑥ Fuse case | ⑭ Turn table |
| ⑦ Voltage selector | ⑮ Door switch |
| ⑧ Cooling fan | ⑯ Curing chamber |

ACCESSORIES



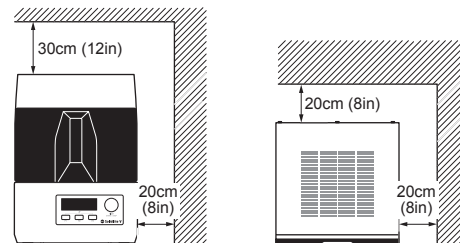
- ⑰ Halogen lamp (4 pcs.)
- ⑱ Power cord (for AC125V model or AC250V model)
- ⑲ SHOFU Post Stand P
- ⑳ SHOFU Post set (3 pcs each for 5 kinds)
- ㉑ Instructions for use
- ㉒ Adapter

- * ⑱ **Power cord:** Only one power cord (exclusively for either AC125V model or AC250V model) is provided.
- * For packaging of ⑲ and ⑳, kindly refer to the Instructions for Use of the respective product.
- * ㉒ **Adapter:** For use in Japan only.

3. Installation and Connection

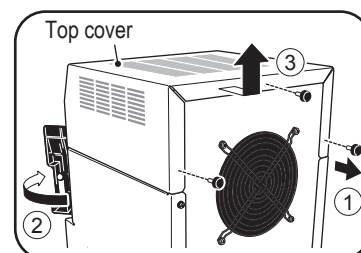
LOCATION

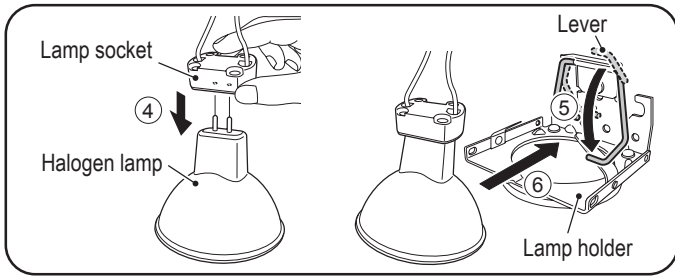
- Place the unit in a clean, dry, well-ventilated room to ensure safe use of the unit.
- The optimal environment (temperature and humidity) is specified under section "8. Specifications" of the machine.
- Place the unit on a flat and sturdy table. Leave a gap of at least 20 cm (8 inch) from all sides and 30 cm (12 inch) from the top of the machine. Do not place any objects around the inlet.



INSTALLATION OF LAMPS

1. Turn off and unplug the unit.
2. Unscrew the 3 screws that fix the top cover of the unit ①.
3. Slowly open the chamber door ②.
4. Gently remove the top cover as directed by arrow ③.
5. Remove the protective cushioning from the lamp holders and sockets.
6. Carefully insert the lamp terminals into the sockets ④.
7. Pull down the lever ⑤ and insert the lamp ⑥ as directed by arrows.

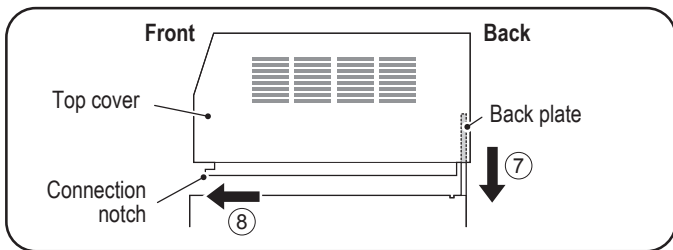




Note

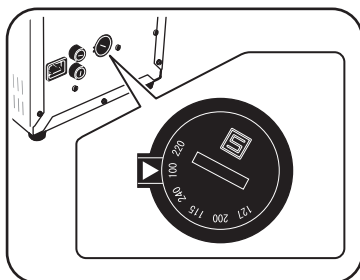
- Use only designated lamps. Use of lamps other than those designed specifically for Solidilite V may result in insufficient curing, filament burnout or explosion of bulb.
- Do not touch the bulbs and the mirror with bare hands to avoid adhesion of sebum. If the bulb is contaminated with any type of oil or sebum, the bulb might explode due to high temperature while the unit is being operated.
- Handle the lamps carefully. Any direct impact including a fall will shorten the life of the lamp.

8. Replace the top cover as directed by arrow ⑦.
9. Gently slide the top cover as directed by arrow ⑧ and refix with the screws.



SETTING OF VOLTAGE SELECTOR

1. Turn off and unplug the unit.
2. Set the selector to appropriate voltage using a coin or flathead screwdriver.



Note

Compatible voltage is different between AC125V model and AC250V model. Do not use the voltage other than specified in the Table 1 below.

Table 1: Supply voltage, voltage selection, fuse and power cord for each model

Model	Supply voltage	Voltage selection	Fuse	Power cord
AC 125V	AC 110V	100V	6.3A	AC 125V type
	AC 110/115/120V	115V		*
	AC 127V	127V		
AC 250V	AC 200V	200V	3.15A	AC 250V type
	AC 210/220V	220V		
	AC 230/240V	240V		

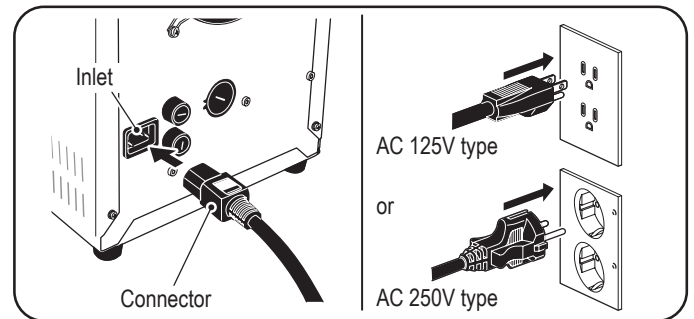
* When using with AC127V, prepare compatible power cord.

CONNECTION OF POWER CORD

1. Make sure that the power outlet is compatible with the unit.
2. Turn off the unit.
3. Insert the connector into the inlet on the back of the body and plug the power cord into a ground terminal outlet.

Reference

The adapter provided is for use in Japan only.



4. Directions for Use

BASIC OPERATION

1. Turn on the unit ①. The time display lights up.

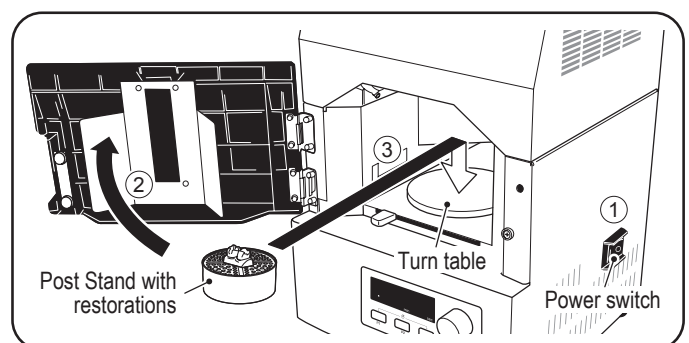
Note

If the voltage is selected incorrectly, an error message, "Err.0", appears on the display with continuous beeping. Immediately turn off the unit and select the appropriate voltage.

2. Slowly open the chamber door ② and place the restoration on the turn table ③.

Reference

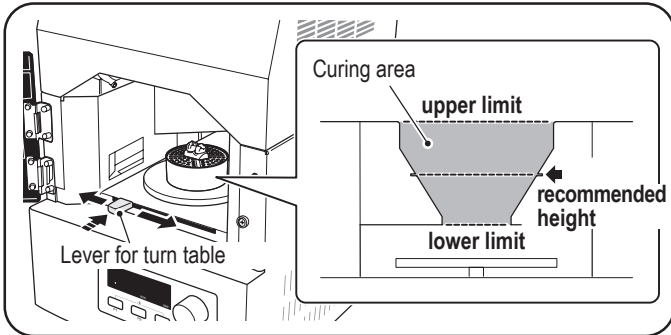
- A short beep sound is heard when the door is opened.
- Use Post Set and Post Stand P provided. For selection of post, refer to the Post Set's Instructions for Use.



- Gently press and move the lever for turn table to the right or the left to position the restoration within the curing area.

Reference

The shaded area indicates the curing area. Prostheses are optimally light-cured when positioned at the height of the ditches on the reflective plate (inside wall).



- Slowly close the chamber door.

Reference

Short beep is heard when the door is completely closed.

- Press the programmable timer key (P1, P2 or P3) or turn the timer dial to set curing time.

Reference

Initial curing times preset in the programmable timer keys are: P1:1 minute, P2:3 minutes and P3: 5 minutes. Curing time in the programmable timer can range between 20 seconds and 20 minutes with 10-second intervals. Refer to the standard curing time for SHOFU's "SOLIDEX" and "CERAMAGE".

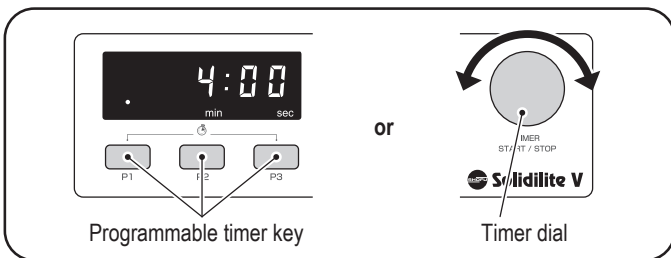


Table 2: Standard curing time (SOLIDEX / CERAMAGE)

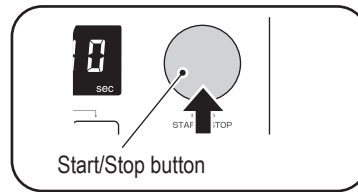
Operation	Time (min.)
Primer Paste (PreOpaque) curing	1
Opaque curing	3
Base (pontic) curing	3
Preliminary curing of C&B composite resin (Cervical, Body, Incisal etc)	1
Preliminary curing of Flowable composite resin	1
Stain curing	1
Final curing	3

Preliminary curing: Initial light-curing during build-up of composite.

Reference

When programmable timer key is pressed for 2 seconds or more, irradiation starts immediately without pressing start/stop button.

- Set the desired curing time and press start/stop button. Bulbs light up and start irradiation.



Reference

Bulbs light up slowly (soft start function) and take about 2-4 seconds to reach 100% output. Curing time is counted down only after light output reaches 100%.

Caution

Do not open the chamber door during light irradiation to avoid harming the eyes.

- After curing is completed, slowly open the door to remove the optimally cured restoration.

Reference

- In order to terminate operation, press start/stop button again.
- When the curing time is counted down to 0, the bulbs turn off automatically.

- Ensure that the cooling fan has finished working before turning off the unit.

Reference

The cooling fan works approximately 3 minutes after the bulbs turn off.

RECORDING OF USER-SPECIFIED CURING TIMES ON THE PROGRAMMABLE TIMER KEY

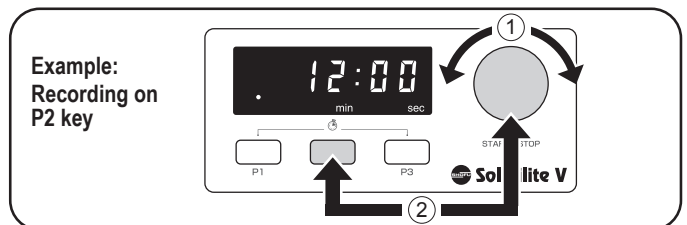
Three user-specified curing times can be recorded on 3 programmable timer keys (P1, P2 and P3), overwriting their initial settings.

- Turn the timer dial to set the desired curing time on the display ①.
- Press the start/stop button and any one of programmable timer keys (P1, P2 or P3) simultaneously for a minimum of 2 seconds ②. Three beeps sound when recording is completed.

Reference

Once recorded, the curing time will not be erased even when the power is switched off.

Programmable timer keys cannot be reset. In order to set back to the initial time, record manually (P1: 1 minute, P2: 3 minutes, P3: 5 minutes).



5. Maintenance and Checks

BULB LIFE

Total irradiation time of the bulb is approximately 160 hours. **However, this is just a rough estimate and cannot be guaranteed.** Bulb life varies depending on the conditions of use (handling of the unit and lamps, frequency and duration of each curing, etc).

INDICATOR OF BULB LIFE

Signal flashes on the display when any of the bulbs is dead.

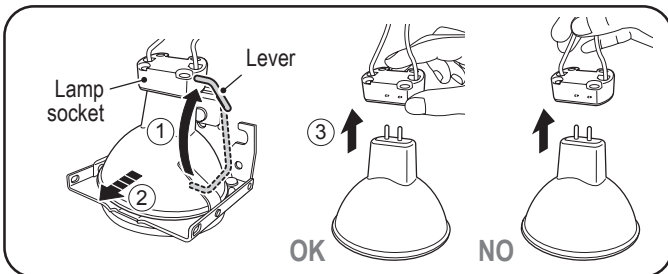


Note

- Disconnection or burnout of even one bulb reduces the light intensity and may cause under curing of the restoration. Immediately replace all the lamps with new ones.
- If the filament of one bulb burns out in the unit used with 200-240V, it may cause the other lamp connected in the series to blow out.

REPLACEMENT OF LAMPS

1. Turn off and unplug the unit. Leave for a minimum of 10 minutes and make sure that the unit has completely cooled down.
2. Remove the top cover as mentioned under section "3. Installation and Connection – Installation of lamps".
3. Pull up the lamp holder lever as directed by arrow ① and remove the lamp ②. Detach the socket from the lamp ③.



Note

Hold the socket firmly and pull out carefully from the lamp.

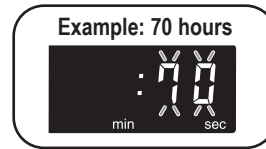
4. Place new lamps and replace the top cover as mentioned in procedures 6-9 under section "3. Installation and Connection".

Note

- Always replace all the lamps at the same time. Do not mix old and new lamps.
- Use only designated lamps (refer to "9. Related Products (sold separately) and Consumables").

DISPLAY OF TOTAL IRRADIATION TIME

When P1 and P3 are pressed at the same time for a few seconds, total irradiation time from the installation of new lamps is displayed.



RESET OF TOTAL IRRADIATION TIME

Reset the total irradiation time, every time new lamps are placed.

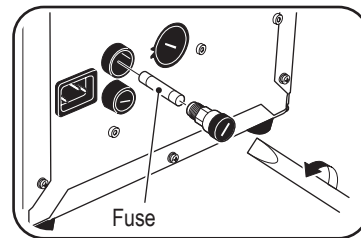
Note

If the time is not reset, total irradiation time will be accumulated.

1. Press start/stop button and turn on the unit at the same time.
2. When „r 5 E. r (rst?)“ appears on the display, release the start/stop button and press P1 key.
3. Press P1 and P3 at the same time for over 2 seconds. Bring the total time to 0 before resetting the new curing times.

REPLACEMENT OF FUSE

1. Turn off and unplug the unit.
2. Remove the screw at the back of the unit using a flathead screwdriver.
3. Replace old fuses with new ones.
4. Replace the screw onto the fuse case in the reverse order of procedure 2.



Note

Please refer to "8. Specifications" for the specification of fuse.

MAINTENANCE

- **Cleaning inside the chamber**
Curing efficacy will be reduced if the white reflective plate (inside wall) becomes dirty. Periodically clean with alcohol-moistened soft cloth. If resin adheres to any part of the curing chamber, never fail to remove it prior to light-curing.
- **Cleaning of the body**
Do not use organic solvents including benzene and thinner. Dilute a neutral detergent with water and soak a soft cloth with it. Squeeze out the excess detergent from the cloth and gently wipe the unit.

6. Troubleshooting

Trouble	Cause	Measures
Time display does not light up even if the unit is turned on.	Blowout of fuse.	Replace with new fuse.
When the unit is turned on, beep comes on and "Err.0" appears on the display.	Voltage setting is incorrect.	Immediately turn off the unit and select appropriate voltage.
Bulbs do not light up even if the Start/Stop button is pressed.	Socket is not connected properly to the lamp.	Attach sockets properly to the lamps.
	Chamber is open.	Ensure the door is closed properly.
	Improperly placed top cover.	Place the top cover properly.
Bulb life indicator flashes.	Bulb filament is burnt out.	Replace with new lamps.
	Socket is detached.	Attach the socket properly to the lamp.
	Ordinary lamps that are not specified for the machine are placed.	Replace with the designated lamps.
„Err.1“ – „Err.9“ appears on the display.	Immediately discontinue use and turn off the unit. Contact our customer service and mention the error number that is displayed.	

7. EU Declaration of Conformity

Manufacturer:

SHOFU Inc.
Head Office
11 Kamitakamatsu-Cho, Fukuine Higashiyama-Ku
Kyoto 605-0983 Japan

Product:

Solidilite V
The product Solidilite V has been built and tested according to the following relevant EU norms and specifications.

Standard:

Safety: EN61010-1:2001
EMC: EN61326-1:2006, EN55011:2007 + A2:2007 (Group 1, Class A)
EN61000-3-2:2006, EN61000-3-3:1995 + A1:2001 + A2:2005
EN61326-1:2006 (Table 2)

EC Directive:

Safety: LVD 2006/95/EC
EMC: EMC 2004/108/EC

Authorized representative in EU:

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8. Specifications

Model	SSLV-1
Rated supply voltage	AC100/110/115/120/127/200/210/220/230/240V ±10%, 50/60Hz
Power supply	760VA
Lamp	JCR 110V 150W/S x4
Fuse	AC125V model: Time-lag, AC250V 6.3A x2 AC250V model: Time-lag, AC250V 3.15A x2
Dimensions	230 mm (w) x 252 mm (d) x 354 mm (h) / 9.1 in. (w) x 9.9 in. (d) x 13.9 in. (h)
Weight	approx. 9.5 kg / approx. 21 lb
Operating conditions	Temperature: 5-40 °C / 41-104 °F Humidity: 30-80% Altitude: up to 2,000 m Pollution degree: 2 Overvoltage category: II Indoor use only
Storage conditions	Temperature: 0-40 °C / 32-104 °F Humidity: 10-85%

Specifications above may be changed without prior notice due to product improvement.

9. Related Products (sold separately) and Consumables

- **Related products (sold separately)**
SHOFU Post Stand P
SHOFU Post Set
- **Consumables**
Halogen lamp (JCR 110V 150W/S)

10. Warranty

This product has undergone strict inspection before shipping. Should this product, under normal operating conditions, prove defective within one year from the date of purchase, it will be repaired free of charge, except for the halogen lamps.



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