

USER'S MANUAL

TUBE SEALER

Model SE250

No. CAT.SE25010Ce

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Important Note

1. Safety Notices:

The machine generates strong high-frequency power to melt blood bag tubing. Users are requested to be cautious of potential electric shock or hazard.

- **The machine doesn't operate without the protector on the sealing head.**

If the indication lamp color is amber, it indicates that the protector is removed or not properly mounted on the sealing head. Check it and secure the protector screw. The machine will not operate without the protector.

- Always use the splashguard.
- Do not insert fingers into the sealing head.
- Only authorized and trained personnel should remove cover.
- Always turn the power switch off before cleaning the machine.

2. Installation and Cautions:

- Primary power requirement for the machine is marked on the rear panel. The power outlet and the power cord should be grounded ones. Refer to Section 5-2 for proper fuse rating.
- Always keep the sealing head area clean and dry. If the sealing head becomes wet or dirty, an arc may appear during the sealing process. If an arc appears, clean the sealing head and let it dry thoroughly. (Refer to Sections 5-1 and 5-3.)
- Use a soft cloth and mild detergent to clean the equipment. After cleaning, wait a few minutes until the area cleaned is completely dry. **DO NOT USE PAINT THINNER, BENZENE, SOLVENT OR STRONG DETERGENT.**
- Avoid using or leaving the machine in a location where the temperature is higher than 50 °C (122 °F). Keep it away from any heating source or direct sunlight.

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1. Features

The tube sealer model SE250 is a heavy-duty tube sealer for bench-top use. It provides effective sealing of blood bag tubing in about one second. The machine generates strong high-frequency power for a melting process called dielectric heating. When blood bag tubing is placed into the sealing head, heat is generated between the electrodes very quickly, so the tubing melts in about one second and then cools to form a seal.

When the user places tubing into the sealing jaw, the sealing process is triggered. An electrode comes out to press the tubing and, at the same time, heat is applied to the tubing. After the tubing melts, the electrode retracts automatically. If a thicker or bigger tubing is used, the sealing time may be longer. Even if a seal is not made, for safety, the electrode will return to its original position automatically, in about 3 seconds from the start.

An adjustment screw is located in the sealing head unit. The thickness of the seal can be adjusted by turning the adjustment screw.

The sealing head area should be kept clean and dry always. If the sealing head becomes wet or dirty, an arc may appear during the sealing process. (Refer to Sections 5-1 and 5-3.) To make cleaning easier, the protector on the sealing head can be disassembled and reassembled without using any tools. For safety reason, when the protector is removed from the sealing head, the machine doesn't operate. The protector should be mounted in place on the sealing head after cleaning.

A splashguard, made of a piece of transparent plastic sheet, is prepared on the top of the sealing head.

A set of the machine includes the following items:

- Main unit (1)
- Power cord (1)
- User's manual (1)
- Spare fuses (2)
- Spare splashguards (5)

2. Specifications

a. Physical specification:

- (1) Dimension (WxHxD): 175x150x300 mm (6.9"x5.9"x11.8")
- (2) Weight: 6 Kg (13.3 lb)

b. Power source:

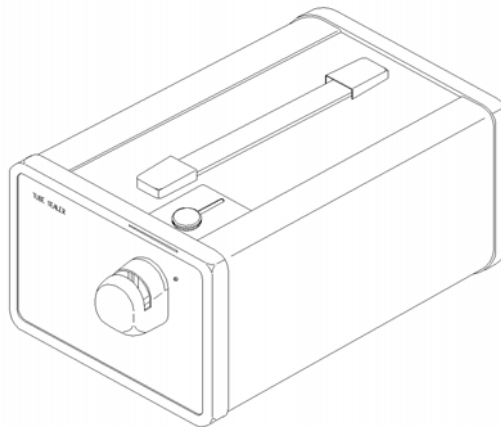
- (1) AC main voltage: 100-120 or 220-240 VAC, 50/60 Hz, 1 phase
(the voltage range only as marked on the rear panel)
- (2) Power consumption: Operating - 250 watts, standby - 10 watts
- (3) Fuse rating: 3 Amperes when AC main is 100-120 VAC
2 Amperes when AC main is 220-240 VAC

c. Features:

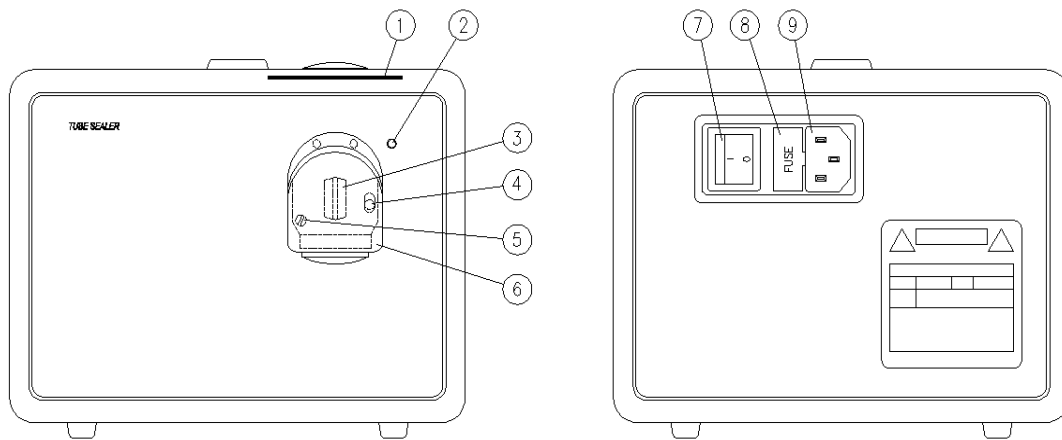
- (1) Tubing size to seal: 6 mm (1/4") diameter max.
- (2) RF frequency: 40.68 MHz
- (3) Output RF power: effective level - 30 watts
- (4) Sealing time: 0.8 - 1.2 seconds nominal
- (5) Lamp color indication: Green - Ready to seal
Red - Sealing in progress
Amber - Not ready to seal. Protector not in place

d. Temperature:

- (1) Operating: 0 - 40 °C (32 - 104 °F)
- (2) Storage: -20 - 70 °C (-4 - 158 °F)



3. Appearance



- (1) Splashguard: It protects user's eyes from blood in case that the tubing breaks during sealing. Loosen the screw above the splashguard, pull it forward, and secure the screw. Splashguard is a disposable part.
- (2) Indication lamp: This is a tri-color LED lamp, showing;
 - green - when the machine is ready to seal
 - red - when sealing is in progress
 - amber - when the protector is not in place, so the machine is not ready.
- (3) Sealing head: Pushing the trigger lever down initiates a cycle of sealing. But for safety reason, the trigger lever is disabled while the protector is removed from the sealing head, so the machine doesn't start.
- (4) Trigger lever: It initiates the sealing process, and controls the sealing head action as well as the generation of high-frequency power.
- (5) Adjustment screw: It controls the thickness of seals.
- (6) Protector: It is a detachable cover attached with a screw. The protector can be removed for cleaning of the sealing head. The protector should be mounted in place after cleaning. The machine doesn't operate without the protector on sealing head.
- (7) Power switch: This switch turns the equipment power on and off.
- (8) Fuse: The fuse holder houses a fuse.
- (9) Power cord inlet: This accepts the power cord plug. A grounded power cord should be used to avoid potential electric shock.

4. Operating Procedures

4-1. Sealing Tubing

- (1) Turn power switch on.
 - The lamp shows green.

If the lamp color is amber, it indicates that the protector is removed or not properly mounted on the sealing head. Check it and secure the protector screw. The machine doesn't work without the protector.

- (2) Loosen the splashguard screw and position the splashguard on the sealing head. Tighten the screw.
- (3) Holding one end of the tubing to be sealed in each hand, place the tubing into the sealing head and depress the trigger lever. This action will:
 - cause the moving electrode to clamp tubing,
 - apply heat to melt the tubing,
 - turn the lamp color to red.
- (4) In about 1 to 3 seconds, the moving electrode retracts.
 - Tubing is now sealed.
 - The lamp shows green.
- (5) Remove tubing from the sealing head.
- (6) Inspect tubing seals.

4-2. Adjusting Thickness of Seals

Users can adjust the thickness of seals by simply turning the adjustment screw on the sealing head. Turn the screw slowly and check adjustments often. Slight turns of the screw can make significant changes in the seal.

- (1) Loosen the screw under the protector and remove the protector.
- (2) With a thin flat-tip screwdriver, turn the adjustment screw located to the left of the sealing head.
 - Turn it clockwise to make the seal thicker and narrower.
(Sealing time will take shorter.)
 - Turn it counter-clockwise to make the seal thinner and wider.
(Sealing time will take longer.)

[Note] *One full turn can change the thickness as much as 0.5 mm.*

- (3) Replace the protector and make a few seals to check the thickness and adjust again as required.
- (4) When the tubing seal thickness and width is satisfactory, replace the protector and fasten the protector screw.

5. Maintenance

5-1. Troubleshooting

User maintenance is limited to cleaning, adjustment of tubing seal thickness, and replacement of the splashguard and the fuse. The following table covers common problems and suggested solutions:

Symptom	Likely Cause	Solution
Switch is on, but lamp doesn't illuminate.	Power cord connection	Check power cord connection and push it securely into machine and wall socket.
	Blown fuse	Check the fuse and replace, if necessary. Refer to Section 5-2.
	Equipment malfunction	Ask for repair service.
Sealing pattern is too thick or thin.	Improper adjustment of the adjustment screw	Adjust thickness of sealing. Refer to Section 4-2.
Sealing pattern shape is bad.	Dirt on sealing jaw	Clean sealing head area. Refer to Section 5-3.
Electrode or trigger lever doesn't move smooth.	Dirty electrode or trigger lever	Clean sealing head area. Refer to Section 5-3.
Arc appears.	Wet or dirty sealing jaw	Clean sealing head area. Refer to Section 5-3.

Other problems should be corrected by authorized service personnel.
Contact your distributor for service.

5-2. Replacing the Fuse

A fuse is used. It is contained in the fuse holder on rear panel of the machine.

Type : Fast-acting fuse (20 mm long, 5 mm diameter, circular tube type)

Rating :

Power source voltage	Fuse amperage
100-120 VAC	3 Amps
220-240 VAC	2 Amps

Replacement procedure:

- (1) Turn the power switch off.
- (2) Remove power cord from wall outlet and cord inlet on rear panel.
- (3) With a flat-tip screwdriver, pull out the fuse holder cap on rear panel.
- (4) Replace the blown fuse with a new one with the same amperage.
- (5) Push in the fuse holder cap securely.
- (6) Connect power cord.
- (7) Turn the power switch on and test sealer.

5-3. Cleaning the Sealing Head

The sealing head, electrodes and trigger lever can easily be stained by dust, spilled or leaked blood or blood components. FREQUENT CLEANING WILL OFFER YOU THE BEST LONG TERM RESULTS. Never put sharp objects or metal objects on sealing head electrodes as they can easily be marred.

For proper cleaning, use a dry cloth or a cloth dampened with water. A mild detergent may be used. Thoroughly dry the sealing head area before applying power. If the sealing head is wet when RF energy is applied, an arc may appear.

Follow the decontamination procedure of your facility when a blood spill occurs. Avoid spraying liquids on the sealing head.

Cleaning procedure:

- (1) Turn power switch off.
- (2) Loosen the screw under the protector and remove the protector.
- (3) Clean the sealing head and trigger lever carefully as described above.
Dry the sealing head thoroughly.
- (4) Loosen the screw above the splashguard and clean it, or dispose of it and use a new one.
- (5) Reassemble the protector and protector screw.
- (6) If you have used water, detergent or decontamination liquid, wait for a few minutes to allow for thorough drying.
- (7) Turn power switch on. The machine is ready to use.
- (8) Test sealer.

5-4. Service Call

If the machine doesn't operate properly, or if you need any assistance or spare parts, contact your distributor: