

**Read this manual  
carefully before use**

# **Operational Manual**

**Model SI-CS500**

**Electromagnet Induction Sealing Machine**

## **1. Summary**

This machine applies to inductive thermal sealing of nonmetal bottles of plastic or glass, and cup shaped containers and adopts updated and popular airproof sealing method. The inductive thermal sealing can not only improve the product's grade, prevent from absorbing natural humidity, prolong the shelf period, enhance fake-proof performance but also speed the sealing and quality of sealing product. Nowadays, it has become an essential sealing facility and been widely used in pharmacy, chemical industry, food, beverage, grease, cosmetic and other industries.

## **2. Working Principle**

2.1 This machine applies the principle of electromagnet induction heating. Through non-contact inductive heating, both the inductive film and aluminum foil compound film will be tightly stuck onto the opening of the sealing object (or cup) after instantly thermal melting so as to reach the target of seal. (Notice: this machine doesn't take effect in compound film without aluminum foil and vacuum aluminized compound film)

## **3. Features**

This machine seals the objects by moving hand inductive head. On the basis of modifying the design circuit of former Type, this machine is designed with touch panel and protection circuit against over-current and over-temperature, making the operation more convenient, simple, and improving the safety of operation and service life of product.

## **4. Main Technical Parameters**

- 4.1 Rated voltage: AC 110V (Using at the temperature above 140V or less than 90V is not allowed)
- 4.2 Output power: 0.5 KW (500C 1KW)
- 4.3 Work frequency: 50KHz ( $\pm 20\%$ )

- 4.4 Static power consumption:  $\leq 0.1A$
- 4.5 Max. allowable current:  $< 4A$  (500C 7A)
- 4.6 Working ambient temperature:  $25-45^{\circ}C$
- 4.7 Relative air humidity:  $\leq 95\%$
- 4.8 Relative height above sea level:  $\leq 3000 m$

4.9 Sealing diameter:

500A	$\Phi 20\sim\Phi 100 mm$
500B	$\Phi 15\sim\Phi 35 mm$
500C	$\Phi 60\sim\Phi 130 mm$
500D	$\Phi 20\sim\Phi 65 mm$

- 4.10 Applicable film materials: special inductive film and aluminum foil compound film (vacuum aluminized film is not applicable.)
- 4.11 Dimensions:  $340\times 290\times 130 mm$
- 4.12 Housing protective grade: IP21
- 4.13 Safety standard: GB 15579 and 1995
- 4.14 Gross weight: 8 kg

**5. Operational Instruction**

- 5.1 Place the device on a worktable stably. Connect the grounding guard line well according to the requirement by using the metal wire with cross sectional area not less than  $1.5 mm^2$ . The clip is at the back of the casing.
- 5.2 Connect the inductive head and pedal switch well if necessary.
- 5.3 Connect the power supply of 110V and the socket will withstand the current over 10A. Turn on the power switch and at this time both of voltage and sealing time nixie lights on the panel will be on.
  - 5.3.1 At this time the voltage value on the display is that of actual input voltage.
  - 5.3.2 At this time the sealing time on the display is the initial value. The operator shall adjust the sealing time according to the requirement of the sealing object.

#### 5.4 Preparation of trial sealing

5.4.1 The sealing object shall align with the center of inductive head with deflection not exceeding 1/3 of the diameter.

5.4.2 Adjust the sealing time according to the diameter of sealing object.

#### 5.5 Trial sealing

5.5.1 Cover the bottle with inductive film (the surface with aluminum foil aligns with the opening of the bottle). And then place the bottle under the inductive head and press the button at the top of inductive head. At this time, the value of thermal sealing time shown on the panel will count down. The sealing is not finished until the setting value recovers.

5.5.2 Open the bottle cover to check the sealing conditions, eg. if the sealing film is smooth and tight, if the washer and paper board have been completely separated, if the film has completely stuck to the opening of bottle, if the sealed part is in good condition and if the sealing is up to standard.

5.5.3 If the sealing is partially stuck, it is possible that the cover is not tightened or the film is not fully pressed on the opening of the bottle. Please cover the film again and reseal.

5.5.4 If the sealing film looks tight but can be peeled off slightly with hand or the spacer and film are not separated, it is possible that the thermal sealing time is insufficient or the material of film and bottle are inconsistent. Adjust the thermal sealing time or replace it with the inductive film of other material.

5.5.5 If the sealing film crinkles and the opening melts obviously, it means the thermal sealing time is too long. Shorten the thermal sealing time appropriately.

5.5.6 Do not start sealing until all the conditions accord with the requirements. If the input voltage is not changed, please do not

readjust the sealing time.

- 5.6 The machine casing is supplied with high voltage power. Unprofessional personnel do not open the rear cover of casing without permission to avoid getting electric shock or accident occurring.
- 5.7 Check the exterior of the machine if there is any obvious impact trace upon unpacking. Confirm the relative technical document and attachment are complete and accord with the packing list. If there is any discrepancy, contact local dealer within 7 days.
- 5.8 The machine is guaranteed for 6 months from the purchase date. We supply maintenance service and consumptive parts and spare parts with charge for long term.

#### **6. Attentions to Operation**

- 6.1 During using, the operator shall regularly observe the temperature rise of inductive head. Stop the sealing operation, cool the inductive head naturally or forcibly fan it at high speed if the inductive head is felt too hot (at 80°C) with hand. Do not start sealing operation until the inductive head falls to ambient temperature 25°C lest over-temperature of inductive board be broken.
- 6.2 This machine is mainly applicable for the sealing operation of large-sized and unmovable objects which can not be transmitted on the conveyor belt.
- 6.3 During sealing, choose appropriate interval distance between sealing object and inductive head as well as heating time according to the size of caliber of the sealing object and different materials so as to balance and reduce the sealing current and prolong the service life.
- 6.4 When either voltage supply of above 140V or below 90 V(the value shown on the voltage display panel) is input , please stop sealing work. Don't seal until voltage supply returns to normal condition or automatic stabilizer is equipped additionally.

- 6.5 If the red over-current indicator on the panel flickers accompanied with warning tone, that means the output current exceeds the max value and the over-current protection function activates. Induction work is not effective. At that time, appropriately increase the interval distance between the inductive head and sealing object.
- 6.6 If the temperature of main components inside the machine is too high, the yellow indicator will be on for overheat alarm on the panel. In that case, heat protection function activates and inductive output stops automatically. Sealing shall not be done until temperature drops down (don't close the power supply of the machine) and yellow indicator is off.
- 6.7 Material of sealing film, which must be twisted tightly, shall be in accordance with that of sealing bottle.
- 6.8 The machine only applies to plastics and glass bottles, not to metal bottles and seal of cover.
- 6.9 The machine doesn't apply to seal the object of which diameter is less than 20 mm or above 100 mm.
- 6.10 While using, good ventilated environment shall be kept and each intake cannot be blocked.
- 6.11 While sealing, the center of the sealing object shall align with the central position of inductive head so as to assure the sealing quality.

#### **7. Beyond range of maintenance**

- 7.1 Electronic elements and parts are damaged for operating out of accordance with rules and stipulations in operational manual.
- 7.2 Electronic elements and parts are damaged for voltage is either too high or too low.
- 7.3 Inductive head coil is burn out for overheat.
- 7.4 Exceeding the warranty period.

### 7. Frequently Occurred Troubleshooting

Fault phenomena	Causes	Shooting method
Connect with the power supply, turn on the power switch, but the work indicator does not light	Broken fuse	Replace the fuse
	Poor connection of power plug	Connect the plug well
Do not work by pressing the button on the hand inductive head.	Broken button switch	Replace the switch
	Poor connection of power plug	Connect the plug well
	Broken inductive head	Replace the inductive head
Work signal indicator is in order but the machines does not seal.	Insufficient heating time of inductive head	Prolong the heating time properly
	The materials of inductive film and sealing object are inconsistent.	Choose the inductive film, of which material is consistent to the sealing object.
	Broken inductive head	Replace the inductive head
Sealing film crinkles and melts.	Inductive heating time is too long	Shorten the heating time properly
The spacer and the film are not separated completely.	Inductive heating time is too short or too long	Adjust the heating time properly

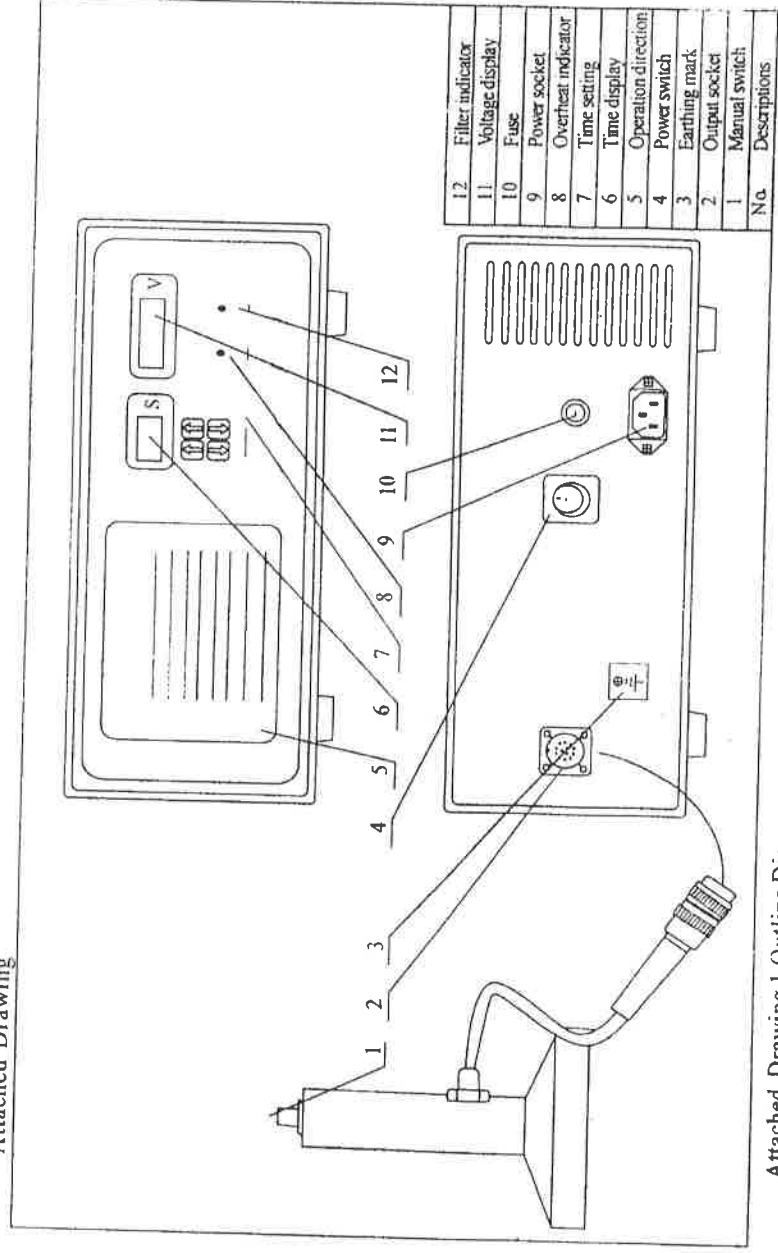
### 8. Packing List

No.	Descriptions	Unit	Quan.
1	Type main frame	Set	1
2	Power wire	Strip	1
3	10A Fuse	Pcs	2
4	Operational Manual	Copy	1
5	Inspection Certificate	Copy	1

Notes: The above-listed are the necessary parts attached to the machine. Indicate on the order contract if customization of any parts is required.

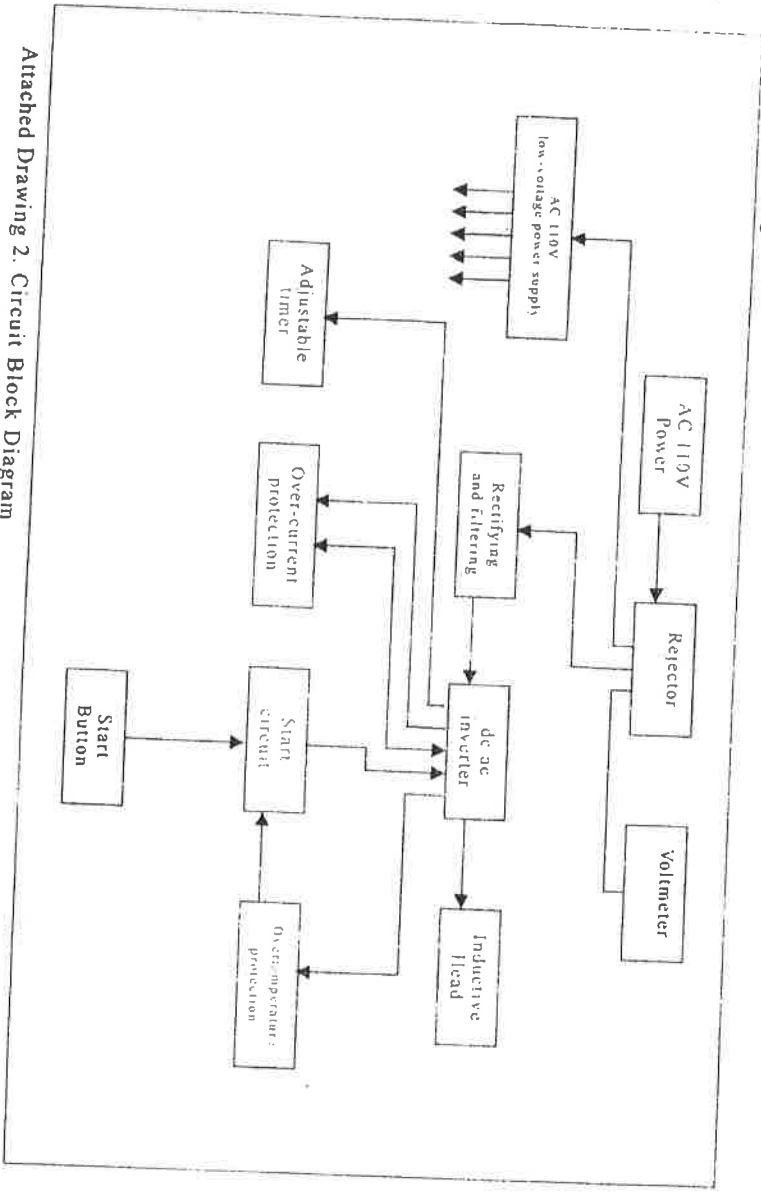
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Attached Drawing



Attached Drawing 1.Outline Diagram





Attached Drawing 2. Circuit Block Diagram