Induction Sealer

User Manual

(Manual NO.8310)

Model: USS-PHIS00005

This manual should be made available to all users of this equipment. For best results, and for maximum durability of the equipment, carefully read and follow all instructions.

For questions or concerns, e-mail service@ussolid.com, visit www.ussolid.com

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I. Applications

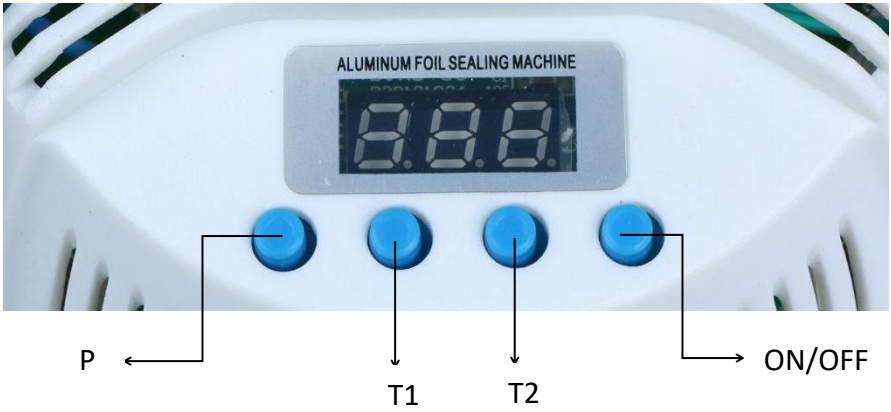
The USS-PHIS00005 induction sealing machine is designed to seal plastic, glass or non-metallic bottles and cup-shaped containers using the electromagnetic induction principle. It should not be used to seal metallic containers. This machine is widely used in the medical, chemical, food, beverage, grease, cosmetics and other industries. The induced heating seal has the advantage of improving the quality level of products, by preventing the absorption of moisture, prolonging the life of products, reducing the likelihood of fake products, as well as improving the speed and quality of sealing.

II. Technical Specifications

Model	USS-PHIS00005-100	USS-PHIS00005-130
Sealing Diameter	20 - 100 (mm) 0.79”- 3.94”	20 - 130 (mm) 0.79”- 5.12”
Voltage	AC100-270V	AC100-270V
Output	0.5-1 KW	0.5-1 KW
Static Current	<0.1 A	<0.1 A
Maximum Allowable Supply Current	<6 A	<6 A
Operating Frequency	30 KHz (+5%)	30 KHz (+5%)
Maximum Ambient Temperature	45° C(113F)	45° C(113F)
Relative Humidity(RH)	<80%	<80%
Machine Dimensions	170*165*285(mm)	215*205*305(mm)
Net Weight	0.8kg (1.8 lb)	1kg (2.2 lb)

III. Operating Instructions

Machine Panel



Starting up

Plug the power plug in; the machine automatically enters the self-test state, the digital tube displays "---". Then, the display turns OFF, and after pressing the power switch button, the digital tube displays the parameter values of the machine from when it was last powered off, such as "3.15". The digital tube displays the output power level in the first digit, and the sealing time in the second and third digits. 3 indicates the third gear(800w), and 15 indicates the sealing time is 1.5 seconds.

Power Adjustment

Press the P key to adjust the output power level from 1 to 5, which represents 500w, 600w, 800w, 900w, 1000w. When the sealing diameter is less than 20 mm, it should be set to the high-end position, which can increase the sealing speed. When the sealing diameter is greater than 60 mm, it should be set to a low level to obtain better sealing quality.

Time Adjustment

Press the T1 key to adjust the sealing time in seconds and press the T2 key to adjust the sealing time in tenths of seconds. The seconds are adjusted in a circle from 0 to 5 and the tenths of a second are adjusted circularly from 0 to 9, which means the time adjustment range is 0.1 to 5.9 seconds. Here are some time setting references:

Diameter: 0.79"(20 mm) - Sealing time: 1.5 seconds

Diameter: 1.89"(48 mm) - Sealing time: 1.2 seconds
Diameter: 2.76"(70 mm) - Sealing time: 0.6 seconds
Diameter: 3.15"(80 mm) - Sealing time: 0.4 seconds

Trial Sealing

Insert the aluminum foil gasket into the bottle cap, and place the aluminum foil silver side outward. Then put the cap on the bottle mouth and tighten it. Place the bottle under the center of the sealing head, press the switch on the handle, the digital tube counts down to show the sealing time, and it will make a "beep" sound at the start and at the end. The sealing finishes when the display shows the sealing time again.

Correct Seal

Open the bottle cap and check the sealing situation. The seal is correct if it is smooth and tight, the gasket is fully separated, and the film has fully adhered to the bottle.

Insufficient Pressure

If the seal has only partially adhered, maybe because the cap is not tight enough and the film has not been fully pressed onto the top of the bottle. Replace the film and try again.

Inadequate Time

Even if the seal seems firm but the film separates when it's pulled lightly by hand, or the gasket does not separate from the film, this may indicate the sealing time was insufficient or the film does not match the bottle's material. Just adjust the sealing time or change the induction film type for a different material.

Too Long Sealing Time

If the film has crumpled up and the bottle is obviously melted, it means the sealing time was too long and it must be reduced accordingly.

Start to Work

When the test sample completely complies with the requirements, mass production can start. The sealing times and output power should be readjusted when using bottles and films of different types. At the end of the work, press the power switch to turn off the machine. When you need to work again, press the power switch button again, and the machine will turn

on. When the machine is turned on again, it will still display the last parameters, including the output power and sealing time.

Choose Correct Material

The material of the packaging container may be PE, PP, PET, PS, ABS, Glass and so on. Please choose the correct type of aluminum foil according to the material of the bottles you are sealing. Choose the PET type for PET bottles, the PE type for LDPE and HDPE bottles, the PP type for PP bottles, and the Glass type for glass bottles.

IV. Matters Needing Attention

Error Codes

E0: Lower voltage input E1: Over voltage input
E2: IGBT power tube overheat
E3: Temperature measuring thermistor short circuit
E4: Temperature measuring thermistor disconnection
E5: Induction coil disconnection
E6: Surge protection

Maintenance

Non-professionals are not allowed to disassemble the machine as there is a high current inside. Maintenance must be carried out by qualified professionals, and the precautions for maintenance must be strictly followed during maintenance. Failure to do so will compromise the safe operation of the machine.

Surge Protection

When the E6 fault code appears on the display, it means that there was a momentary overvoltage or external spike interference in the working power supply. The surge protection activated, making the sealing invalid for that instance. You need to restart the power to continue working.

Adjust Position

During the sealing operation, the center of the object to be sealed should be aligned with the center of the sensor head to ensure sealing quality.

Properly adjust the separation distance between the induction head and the aluminum foil, and the induction current can be adjusted in small amounts. The smaller the interval, the greater the induction current. When sealing a large diameter aluminum foil, the separation distance should be appropriately increased to reduce the induction current (one non-metal heat insulation board can be attached to the induction head, which needs to be provided by the client).

Sealing Material

The polymer on the sealing film must tightly and firmly adhere to the object being sealed.

V. FAQ

There's one bottle unsealed among ten or twenty bottles. What's the matter with the sealing machine?This product is only for indoor use and must not be used in wet locations.

High-quality sealing is determined by consistency in the technological process. Indirect factors can impact the sealing effect. To get proper sealing, the aluminum foil must fully contact the container under pressure. The sealing material must match the container material and be fully exposed to the magnetic field so the foil seals after heating up. An error in any of these steps may cause poor quality or weak sealing. Mistakes with the sensor head are common. Usually, weak sealing is caused by insufficient pressure, where the foil doesn't fully contact the bottle top, or inadequate exposure time to the magnetic field.

The problem of non-matching materials also happens often. It's probably caused by caps or containers from different suppliers or different batches from the same supplier.

VI. General Faults

Phenomenon 1:

It won't seal when the working signal is normal.
Reason 1: Heating time is not enough.
Resolution 1: Prolong the heating time and increase sealing power.
Reason 2: The induction film doesn't match the container's material.
Resolution 2: Select matched induction film.
Reason 3: The induction coil is damaged.
Resolution 3: Replace the induction coil.

Phenomenon 2:

The induction film crumples up, and the bottle top is melted after sealing.
Reason: The heating time is too long.
Resolution: Shorten the heating time and decrease the sealing power.

Phenomenon 3:

The gasket is not fully separated from the film.
Reason: The heating time is wrong.
Resolution: Adjust to relevant heating time

VII. Warranty

The machine has a 1 year warranty. This warranty covers any defects in material or workmanship under normal use.

Within 30 days from the date of delivery, U.S. Solid will either work with you to get your product working with the use of replacement parts, replace the product after receiving the returned defective machine, or accept a return for a full refund.

After the first 30 days but still within 1 year from the date of delivery, U.S. Solid will send new or refurbished replacement parts at no charge, so you can repair the product if necessary.

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