

SEAL 4000 / 9000 BAGS VACUUM SEALER HANDBOOK



INTRO

Introducing ELME SEAL machines, the new heat vacuum sealing equipment to safely vacuum package electronic components and assemblies sensitive to ESD/EMI and moisture vapours. In fact, recent technologies made components sensitive to humidity in terms of 2 different reasons:

.) avoid the pop corn effect (consisting in the explosion of the component due to the fast outgoing of the moisture accumulated by the component itself (typically during the delivery in uncontrolled environment) at the soldering process (high temperature sudden increase)

.) minimize the corrosion danger on the metal parts of the components due to the contact with humidity.

FEATURES	SEAL 4000	SEAL 4000 G	SEAL 9000	SEAL 9000 G
Power	700 VA	700 VA	700 VA	700 VA
Sealing bars length	520mm	520mm	810mm	810mm
Power supply voltage	110V (US) or 220V (Europe) (+/- 10%)	110V (US) or 220V (Europe) (+/- 10%)	110V (US) or 220V (Europe) (+/- 10%)	110V (US) or 220V (Europe) (+/- 10%)
Vacuum pump	Dry pump, double body Max. depressure: - 0.7 bar without bag - 0.6 bar with bag	Dry pump, double body Max. depressure: - 0.7 bar without bag - 0.6 bar with bag	Dry pump, double body Max. depressure: - 0.7 bar without bag - 0.6 bar with bag	Dry pump, double body Max. depressure: - 0.7 bar without bag - 0.6 bar with bag
Gas hose	NO	YES	NO	YES
Body	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Operation control	Microprocessor operated	Microprocessor operated	Microprocessor operated	Microprocessor operated
Regulations	Vacuum timer, sealing timer, manual sealing	Vacuum timer, sealing timer, manual sealing	Cooling timer, sealing time, manual sealing	Cooling timer, sealing time, manual sealing
Dimensions	600x220x320 mm (l x h x w)	600x220x320 mm (l x h x w)	905x150x360mm (l x h x w)	905x150x360mm (l x h x w)
Weight	24 Kg	24 Kg	33 Kg	33 Kg

Note: the vacuum time regulation is available only on SEAL 4000 machine. In SEAL 9000 the vacuum level timing is manually operated by the user each time.

QUALITY STANDARDS

- IPC J STD 001
- IPC A 610

General features

SEAL vacuum seals bags extracting the air (and moisture) at the same time.

Adjustable sealing timing control: this is indicated to set the machinery on the different bags thicknesses and materials. When a vacuum sealing is indicated the films involved are always multilayers, with different resistance to heat.

Locking the jaws: An electromagnet keeps the sealing jaw closed during the aspiration and the sealing process. When the sealing process ends, it automatically re-opens the jaw, releasing the bag.

Effective aspiration process: SEAL machines features an aspiration (vacuum chamber) system which avoids the usual "vacuum nozzle" system

The vacuum chamber extracts the air directly from the lateral (side) channels created on both sides of the bag (obtained by bending the bag before entering the sealer). This system, extracting the air on both sides of the bag, works better because it prevents the bag from collapsing and therefore leaving residues of air inside.

Strong construction: SEAL are designed and constructed with stainless steel, in order to withstand harsh environment and heavy duty continued usage.

Power and flexibility: Moreover SEAL machines feature high power dry pumps and automatic sealing jaws of including double heating elements on upper and lower jaws allowing sealing of bags of any dimension.

Attractive pricing: The SEAL machines are designed to compete on the electronic market, providing flexibility, power, durability and features at a very competitive price.

INSTALLATION

Set the machine on a table or flat surface and be sure that the back air exhaust is not occluded by any object. Check that power supply is conformal to the value printed on the technical data label (back panel of the machine) - usually 230 V/ 700VA . At the same time be sure that the line is provided of a ground connector; the machine is a I.E.C. CLASS 1 device and has to be grounded .

IMPORTANT : Avoid to use the machine without a bag between the jaws.

The direct contact between the two sealing elements during the operations may cause overheating and may damage both the elements and/or their protections.

HOW TO OPERATE

1. Connect the machine to the line and turn the MAIN SWITCH 'ON'.



Power on

2.

SEAL 4000: Set the SEALING TIMER and the VACUUM TIMER on position 5 (this is an average setting, in order to start the operations. The values are between 1 and 10 in order to operate in all different situations. Once you have established the ideal setting, this can be kept for repeatable operations.)

SEAL 9000: Set the SEALING TIMER and the COOLING TIMER on position 5 (The vacuum time in SEAL 9000 is set each time manually - this is due to the high variety of volumes in larger bags and the need for extendable upper vacuum timings)



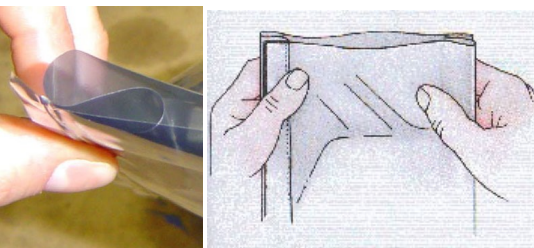
Timer knob

3.

Insert your product inside the bag and be sure that the length of the bag exceed for 60 - 70mm. This is the minimum free length that is necessary for a good quality operation.

4.

Now create, using both thumbs, the two lateral folds on the bag in order to assure the air drain



Bending bag in both sides

5.

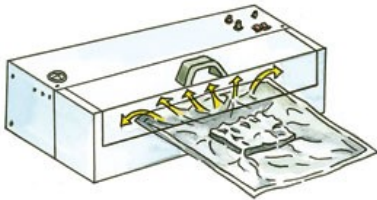
Position the bag between the jaws of the machine being sure that the bag open side is at least 10mm internal to the vacuum chamber.



Insertion of the bag

6.

Hold the bag with one hand and with the other push down the upper jaw until this will be locked by the electromagnet ; the **pump will automatically start** and the cycle begin; is possible to verify the vacuum grade on the vacuum gauge.



Suction of air

Hold the bag



Indication of pressure

7.

SEAL 4000: Once vacuum selected is reached, a light flash of the MANUAL SEALING pushbutton indicates the start of the sealing operation. The sealing starts automatically and lasts as regulated (see point 2). It is possible to interrupt the suction and start the sealing at any time simply pushing the red MANUAL SEALING pushbutton. After a fixed cooling time the pump will stop and the jaws will automatically open.

SEAL 9000: the operator shall push the MANUAL SEALING pressbutton to start the sealing operation (as selected in point 2) and interrupt the vacuum suction when the grade of vacuum is satisfactory. Once the bag is sealed, the cooling starts automatically, with the chosen duration (see point 2). After the cooling time selected is elapsed, the pump will stop and the jaws will automatically open.

Now **verify** the reached **vacuum level** and the **sealing quality**; adjust the timers in order to optimize the quality of the packaging. (timer scale: low numbers/short times and vice versa)

8.

REAR COOLING FAN

To prevent excessive heating of the metal case a rear cooling fan operates to lower the temperature of the device:



NOTES

The size and thickness of the bag must be adequate to the product to be vacuum wrapped. Use only vacuum barrier bags (as ELME SD)



ELME SD barrier bags

The SEALING TIMER is set according to the thickness of the bag; higher numbers for thicker bags and lower number for thinner bags. The suction can take place at faster or slower rate, depending on the relative sizes of the product to be packed and on the bag thickness.

SEAL 4000 G AND 9000 G (WITH INJECTION OF NITROGEN)

SEAL 4000 and SEAL 9000 equipment is available also in the **G** version which is designed to insert inert gas (N₂) into the bag after the air and humidity suction. The gas hose inside the jaws is connected to the external hose inlet receptacle on the right side of the machine, where the connection with the N₂ source is made. The gas is pushed in the bag pressing the red round knob. The gas injection stops immediately when the button is released. The level of gas in the bag is decided by the operator.



Gas hose in the jaws



Gas inlet receptacle on the side



Gas in pushbutton

PACKAGING AND DELIVERY

The SEAL machines are packed with a specific dedicated wooden box. This box is cushioned internally to absorb all shocks during transport. The **woodbox** is mandatory for each delivery. **We recommend to keep the wood box in your store as it will be necessary for any further transport or in case of repair or return.**



Woodbox open



Woodbox closed

SPARE PARTS LIST (for regular usage) on SEAL 4000 and SEAL 9000

SEAL PC BOARD

Different boards for the 2 types

SEAL PUMP

(SEAL 9000 operates with 2 pumps)

SEAL TEFLON

3+3 upper and lower Teflon™ protections for the heating elements - items 2&3 on the manual

SEAL SET

the set includes the heating elements (upper and lower) - plus the cushioning rubber strips (upper and lower) plus the top teflon protections (upper and lower). Items 1-2-3-4-7-8 on the manual

SEAL UPPER BAR

1 full replacement upper sealing bar including heating element, rubber cushioning strip, teflon protection and aluminium case

SEAL LOWER BAR

1 full replacement lower sealing bar (including heating element, rubber cushioning strip, teflon protection and aluminium case)

SEAL RUBBER GASKET SET

1 full set upper and lower rubber gaskets (items 10-11 + glue on the manual)

MAINTENANCE

All the maintenance operations must be done with the machine non connected to the line and not active from at least 15 minutes in order to cooling the sealing elements.

With the above cautions is possible to execute the following operations:

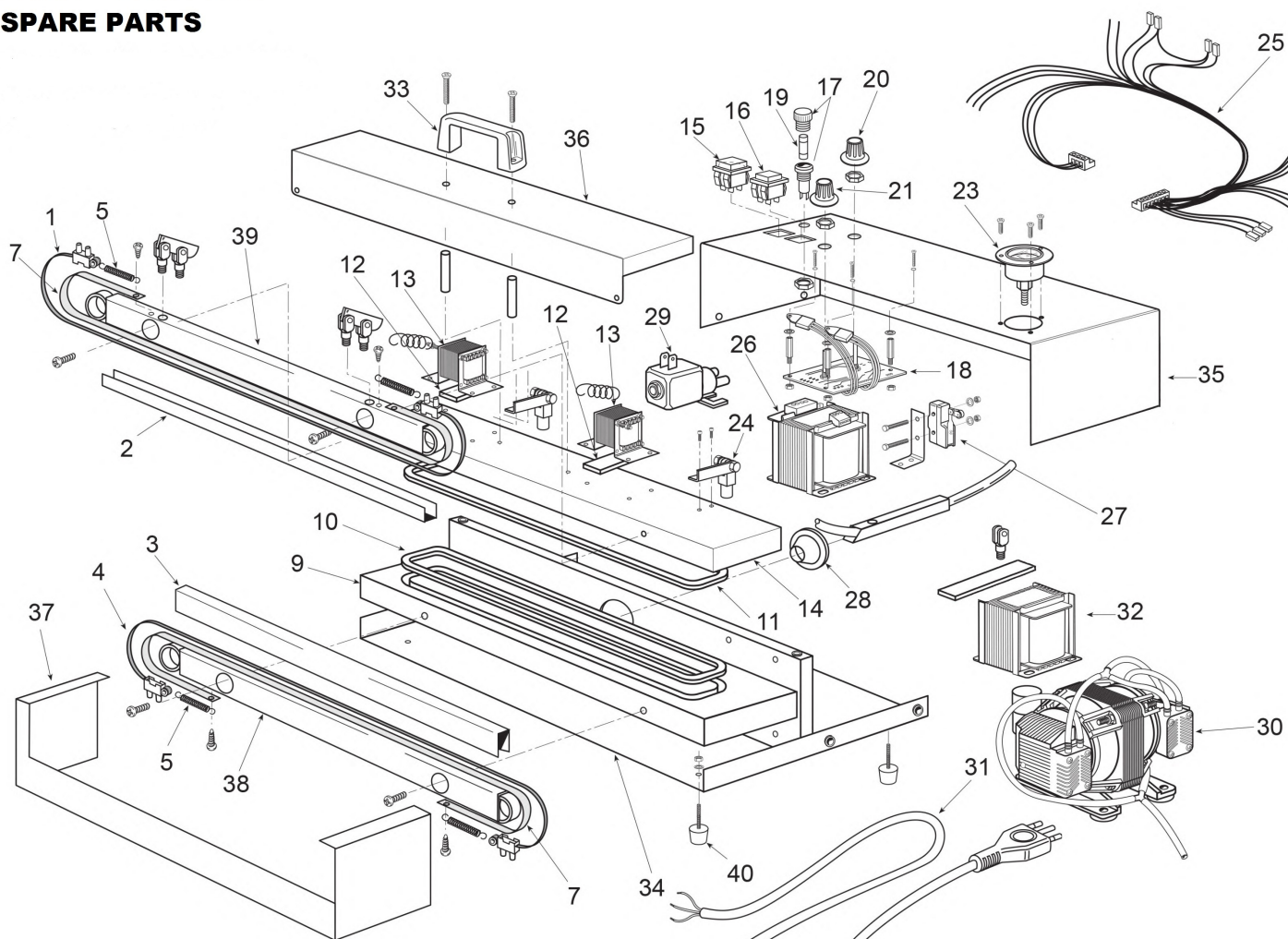
Clean the external parts and rubber gaskets with proper detergent (use lightly degreasing alcoholic cleaner).

Check and clear the air tubes and passages if necessary.

Life of the sealing elements teflon protections (2) and (3) is approx. 10.000 cycles; if necessary, replace the protections disassembling machine covers (36) and (37) before.

ELME - SEAL 4000/ 9000

SPARE PARTS



1	UPPER HOT RESISTANCE WELDING
2	UPPER TEFLON
3	LOWER TEFLON
4	LOWER HOT RESISTANCE WELDING
5	RESISTANCE SPRING
6	RESISTANCE SPRING
7	SILICON SEAL
8	SILICON SEAL
9	LOWER PVC PLATE
10	RUBBER SEAL
11	RUBBER SEAL
12	PLAQUE
13	ELECTROMAGNET for sealing bar
14	UPPER PVC PLATE
15	MAIN SWITCH
16	WELDING PUSH BUTTON
17	FUSE PANEL
18	CONTROL CAROL
19	FUSE
20	POMMEL

21	POMMEL
23	VACUUM GAUGE
24	FORK
25	CABLE
26	TRANSFORMER
27	MICROSWITCH
28	RUBBER PROTECTION
29	ELECTROVALVE
30	VACUUM PUMP
31	POWER SUPPLY CABLE
32	ELECTROMAGNET BLOCKING
33	HANDLE
34	BASE
35	COVER
36	MOBILE PLATE COVER
37	CARTER
38	COMPLETE LOWER WELDING BAR
39	COMPLETE UPPER WELDING BAR
40	PVC SUPPORT

The datas shown above are intended only as general indications of the standard production values. They do not refer to specific production lots.
The document has no legal value. EUROSFT srl

NR: #

MODEL:

DATE: