Smipack SL55 Shrink Wrap Machine

USE AND MAINTENANCE MANUAL

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L-seal hood packer

SL45 - SL55

MANUAL CODE:	**DM210649**
DATE OF CREATION:	**11.04.2012**
REVISION:	**C**
VERSION DATE:	**07.03.2016**

PREFACE

While thanking you for choosing us, SMIPACK S.p.A. is pleased to welcome you among its large range of customers, hoping that the use of this machine will fully satisfy you.

This manual can be used for the model **SL45 - SL55**. It has been drawn up to put you in conditions to be able to intervene on the various parts, and to understand the various maintenance and intervention operations.

We recommend strictly keeping to the standards prescribed herein in order to guarantee efficiency, duration and performance.

READ THIS MANUAL CAREFULLY AND FULLY BEFORE INSTALLING THE MACHINE.

THIS MANUAL IS AN INTEGRAL PART OF THE MACHINE AND MUST THEREFORE ACCOMPANY IT UNTIL ITS FINAL DISMANTLING.

SMIPACK S.p.A. will not be held liable for direct or indirect consequences due to a proper or improper use of this publication. We reserve the right to perform technical modifications on our systems and on this manual without prior notice.

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CE DECLARATION OF CONFORMITY
(Directive 2006/42/EC - Annex IIA)

Company name and address of manufacturer of the machine :

SMIPACK S.p.A. - Via Piazzalunga 30, 24015 San Giovanni Bianco (BG) - ITALY
Tel. +39 0345 40400 - Fax +39 0345 40409

Name and address of the company authorized to compile the technical documentation :

SMIPACK S.p.A. - Via Piazzalunga 30, 24015 San Giovanni Bianco (BG) - ITALY

We here by declare that the machine model **SL45 - SL55**

with the function of: **L-seal hood packer**

complies with Directive 2006/42/EC and to provisions of law which transpose Directives 2004/108/EC (Electromagnetic compatibility) and 2006/95/EC (Low-voltage)

It also complies with the following harmonised standards:

- EN ISO 12100: 2010
- EN ISO 13849-1:2008 + AC:2009
- EN IEC 60204-1:2006

Giuseppe Nava
(Legal Representative)

San Giovanni Bianco, 25/01/2016

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SUMMARY

Translation from the original

CHAPTER 1 - GENERAL STANDARDS AND RECOMMENDATIONS

1.1 HOW TO READ AND USE THE MANUAL

This manual constitutes an integral part of the machine and therefore it must be preserved during its entire lifetime and must be handed on to eventual future owners.

Purpose of use and maintenance manual

Before carrying out any type of operation on the machine, you must carefully read this manual and any attached documentation in order to avoid possible damage to the machine, to persons or to objects.

The manual and all attached documents must be kept in a place which can be easily accessed, close to the machine and known to the users (operators and maintenance personnel) so that they may be consulted promptly when circumstances require it.

SMIPACK S.p.A. will not be held liable for possible faults, accidents or problems due to failure to comply with the provisions contained in this user manual or caused by unauthorised modifications and installations of accessories.

Preservation of use and maintenance manual

- Keep the use and maintenance manual with care.
- Do not remove, tear or rewrite parts of the use and maintenance manual.
- Make sure that any amendment implemented is incorporated in the text.

Consulting use and maintenance manual

Consultation of this manual is facilitated by the insertion, in the first pages, of a summary which allows you to quickly locate the topics described.

Method for updating manual in the event of modifications to the machine

The descriptions and illustrations of this manual cannot be contested. SMIPACK S.p.A. reserves the right (while maintaining the essential features) to modify these machines at any time for their functional, commercial and aesthetic improvement without being obliged to update previous manuals and production except for exceptional situations.

Any updates or integrations of the manual will be considered an integral part of it. We would like to thank you in advance for any suggestions which you would like to point out to us in order to implement further improvement.

1.2 WARRANTY AND EXCLUSION OF LIABILITY

SMIPACK declines all liability deriving from:

- electrical and pneumatic supply defects;

- lack of maintenance;

- pollution external to the machine;

- unauthorised modifications and repairs;

- use of non-original spare parts;

- acts of God such as earthquakes, floods or fires.

The machine is shipped to the Customer ready to be installed, after it has passed all of the foreseen tests and inspections in the factory, in compliance with legislation in force. The warranty has a 365 day validity starting from the date of purchase. During the period covered by warranty, SMIPACK commits itself to remove any faults or defects as long as periodical maintenance is performed and original parts are always used. Expendable materials, parts subject to normal wear or breakage, faults caused by atmospheric agents, transporting the machine to an assistance centre and labour charges are excluded from the warranty. The warranty is only valid for the original purchaser and only if the warranty certificate is properly filled out in every part and sent within 20 days from the date of purchase. Repairs carried out covered by the warranty do not interrupt or extend the warranty period.

The warranty will become void and invalid immediately in the following cases:

> improper use of the machine

> variation of process conditions

> unauthorised tampering by third parties

> failure to comply with that indicated in the instruction manual

> failure to use the manufacturer's original spare parts

1.3 REFERENTIAL STANDARDS

The machine models contained in this manual comply with Legislative Provisions which transpose the following Directives.

European Directives applied to the equipment and/or the assembly:

- 2006/42/EC - Directive concerning the approximation of the laws of Member states relating to machinery.
- 2006/95/EC - Directive concerning low voltage.
- 2004/108/EC - Directive concerning electromagnetic compatibility.

Technical standards applied to the equipment and/or the assembly:

- EN ISO 12100:2010 - Safety of machinery - General design principles - Risk assessment and risk reduction.
- EN ISO 13849-1:2008 + AC:2009 - Safety of machinery - Safety-related parts of control systems - Part 1: general principles for design.
- EN IEC 60204-1:2006-06 - Safety of machinery - Electrical equipment of machines - Part 1: general rules

1.4 SYMBOLS KEY

All of the instructions and information contained in this manual are often associated with certain simple. Their meaning is explained in the following table.

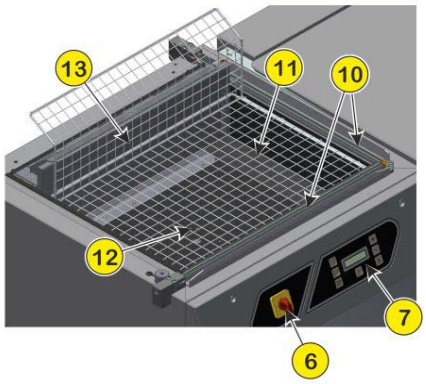
	**N.B.!** Provides important indications to consult the manual or general warnings. Before operating make sure the indications refer to the machine model you have purchased.
	**WARNING!** This indicates situations of risk for the machine and/or for the product being processed.
	**ATTENTION!** This indicates personal hazardous situations and suggests standards of conduct.
	**HIGH-VOLTAGE ZONE!** Electrocution danger inside electrical control board.
	**CUTTING DANGER!** Be careful of the upper limbs.
	**BURNING DANGER!** Be careful not to enter into contact with elevated temperature surfaces.
	**CRUSHING DANGER!** Be careful not to crush parts of the body, especially the upper limbs.
	**MOVING PARTS DANGER!** Be careful not to intervene on gears or mechanical systems while in movement.
	**ELECTROCUTION DANGER - CUT POWER BEFORE OPERATING!** Make sure to have disconnected voltage before carrying out the indicated operations.
	**MECHANICAL MAINTENANCE TECHNICIAN**
	**ELECTRICAL MAINTENANCE TECHNICIAN**
	**EARTHING** The earthing connection of the system is compulsory!

	**USE OF SAFETY FOOTWEAR COMPULSORY**
	**USE OF HEARING PROTECTION COMPULSORY**
	**USE OF GLOVES COMPULSORY**
	**CLOTHING COMPULSORY**
	**GOGGLES COMPULSORY**

CHAPTER 2 - MACHINE INSTALLATION

2.1 DESCRIPTION OF MACHINE COMPONENTS

Fig. 2.1.1

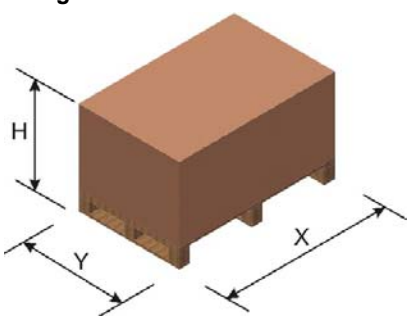


1	REEL HOLDER
2	FILM PERFORATORS
3	INFEED PRODUCT-HOLDING PLATE
4	HOOD
5	POWER BOARD
6	MASTER SWITCH
7	OPERATOR PANEL

8	ELECTROMAGNET
9	TROLLEY (optional)
10	SEALING BLADE
11	OUTFEED PRODUCT DOOR
12	HEAT-SHRINKING FAN
13	HEATING ELEMENTS (OVEN ZONE)

2.2 WEIGHT AND DIMENSIONS OF PACKED MACHINE

Fig. 2.2.1



	SL45	**SL55**
X (mm)	1140	1330
Y (mm)	760	910
H (mm)	680	770
WEIGHT (kg)	85	108

2.3 MACHINE WEIGHT AND DIMENSIONS

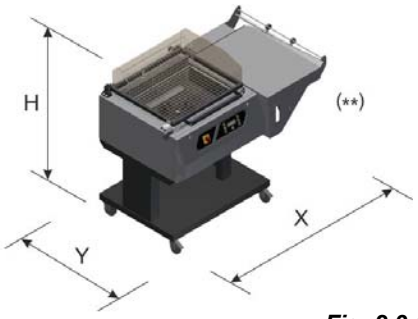


Fig. 2.3.1

	SL45	SL55
X (mm)	1050	1240
Y (mm)	665	805
H (mm)	480 * 1029 ** 1015 ***	565 * 1102 ** 1100 ***
WEIGHT (kg)	60 * 75 ** 71 ***	77 * 95 ** 88 ***

* without trolley
** with machine holding trolley
*** with machine supports

2.4 TRANSPORTATION AND UNPACKING

SMIPACK S.p.A., depending on the type of transportation and products to be delivered, uses adequate packaging to guarantee integrity and preservation during transportation. Handle with care when transporting and positioning the machine. The carrier is liable for damage sustained during transportation. Be careful not to damage the exposed parts when unpacking the unit.

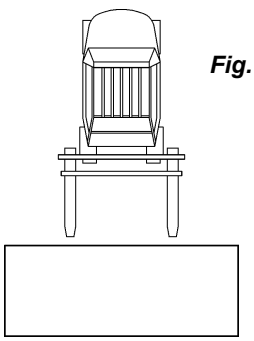


Fig. 2.4.1

The machine module must be handled from beneath. Due to the type of packaging, systems that work from above cannot be used. Lift the machine in the middle from the longest side and adjust the position of the lift forks at the greatest centred position possible.

ATTENTION!

Before handling, always make sure that the lifting device is suitable to lift the load.

For prolonged storage, place the machine in a covered area at a temperature ranging from -15 °C to +55 °C, with a humidity degree between 30% and 90% without condensation.

2.5 MOUNTING MACHINE SUPPORTS

The SL series models can be positioned on specifically designed machine supports available on-demand. Two versions are available: A and B.

A: Version with trolley

- Mount the machine holding trolley as shown in fig. 2.5.1.
- Position the machine on the trolley matching the feet 1 with the specific holes 2 and then use the screws 3 to fasten the trolley to the machine.

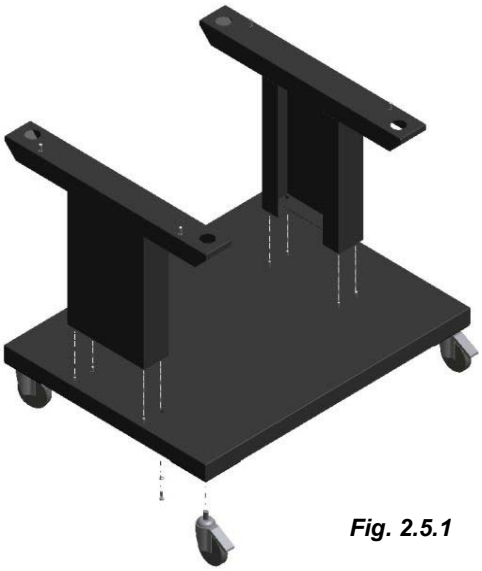


Fig. 2.5.1

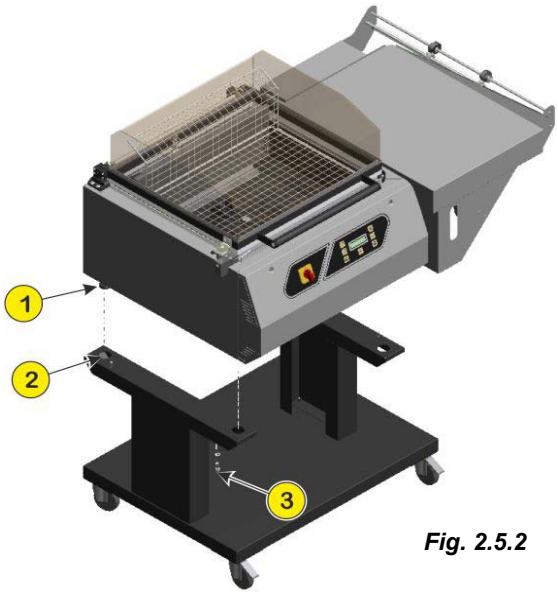


Fig. 2.5.2

B: Version with machine supports

- Mount the wheel on each support as shown in fig. 2.5.3.
- Insert the feet 1 into the holes 2 and then use the screws 3 to fasten the supports.

Fig. 2.5.3

Fig. 2.5.4

ATTENTION!

Make sure to attach the supports A and B in the correct position.

Mount the two wheels C equipped with brakes at the front of the machine.

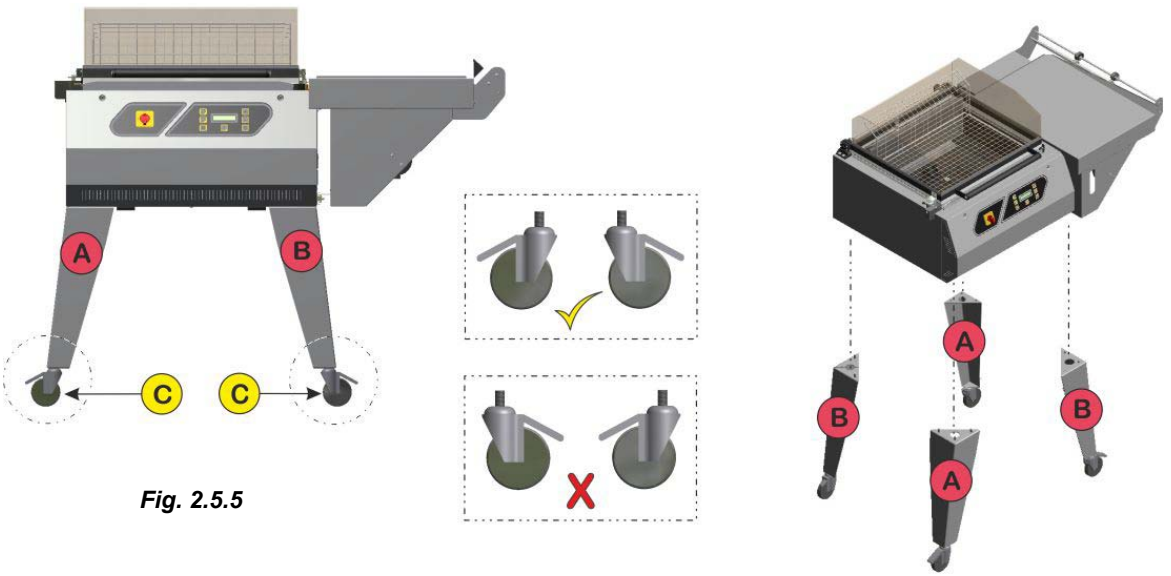


Fig. 2.5.5

2.6 INSERTING FUSES IN THE POWER BOARD

The machine is delivered with the fuses not yet installed in the fuse-holder.
Follow the instructions below, taking into account the machine's power supply:

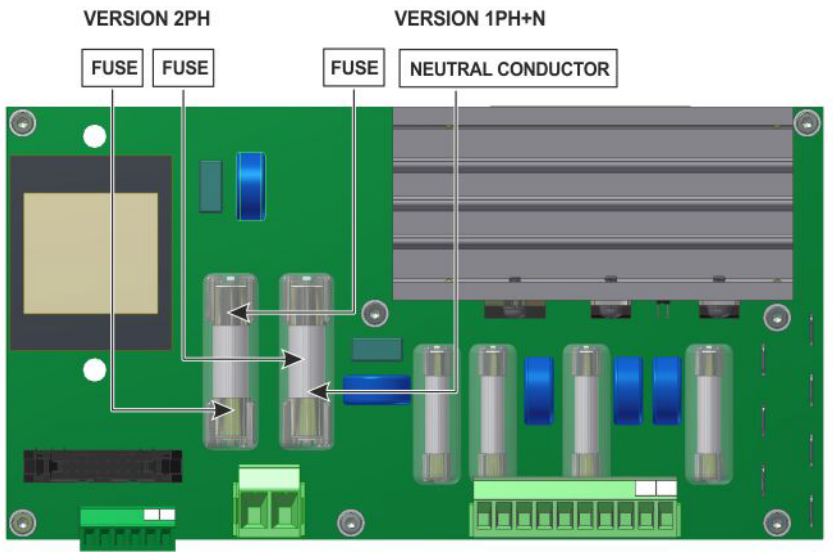


Fig. 2.6.1

1 - 230V 1PH+N power supply

Insert the fuse on the phase and the copper wire on the neutral.

2 - 230V 2PH power supply

Insert the two fuses on the phases.

2.7 ELECTRICAL CONNECTION

Power must be cut from the machine for all operations involving connection to the electrical network.

ATTENTION!

Whenever accessing the electrical system, remember to cut the power and to wait at least five minutes before operating.

THE EARTH CONNECTION IS COMPULSORY!

Connecting the machine to the mains must be carried out in compliance with standards in force in the user's country.

Check to make sure that the machine's power supply frequency and voltage (see plate applied on the machine) correspond to the power supply network.

2.8 ELECTRICAL INSTALLATION DATA

Install a circuit breaker on the machine power supply line which supports the values indicated in the table.

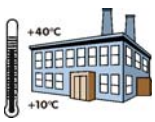
	SL45	SL55
Nominal voltage	220÷240 V (1PH+N+PE)	220÷240 V (1PH+N+PE)
Nominal frequency	50÷60 Hz	50÷60 Hz
Nominal power	1650 W	3700 W
Nominal current	7 A	17 A

2.9 CONDITIONS FOR USE

The machines must operate exclusively indoors, protected from the elements, where there are no explosive atmospheres.

Make sure there is room for its easy installation and maintenance.

The minimum lighting must be 300 lux.



Operating temperatures ranging from +10°C to +40°C are recommended, with a relative humidity from 30% to 80% without condensation.

Machine protection grade = IP20

DECLARED NOISE EMISSION VALUES IN COMPLIANCE WITH THE STANDARD ISO 4871 ARE:

A-WEIGHTED EMISSION SOUND PRESSURE LEVEL (AT OPERATOR POSITION): 70 dB

ATTENTION!

The exposure of the operator to noise may also vary due to background noise generated by other equipment present where the machine is installed. In order to provide operators with the appropriate PPE hearing protection it may therefore be necessary to assess the noise within the work environment.

2.10 DEMOLITION AND WASTE DISPOSAL

The machine does not contain dangerous components or substances which require special disposal procedures. For that which concerns material elimination, comply with the Standards in the country where the machine has been disassembled.

CHAPTER 3 - INFORMATION ON THE MACHINE

3.1 DESCRIPTION OF THE MACHINE

The SL series hood packer is equipped with a simple but complete control panel connected to a microprocessor which guarantees high performance and provides the operator with a great deal of autonomy.

3.2 DESCRIPTION OF DANGER ZONES

The table below describes the zones of the machine where the operator must pay the utmost attention to avoid possible danger.

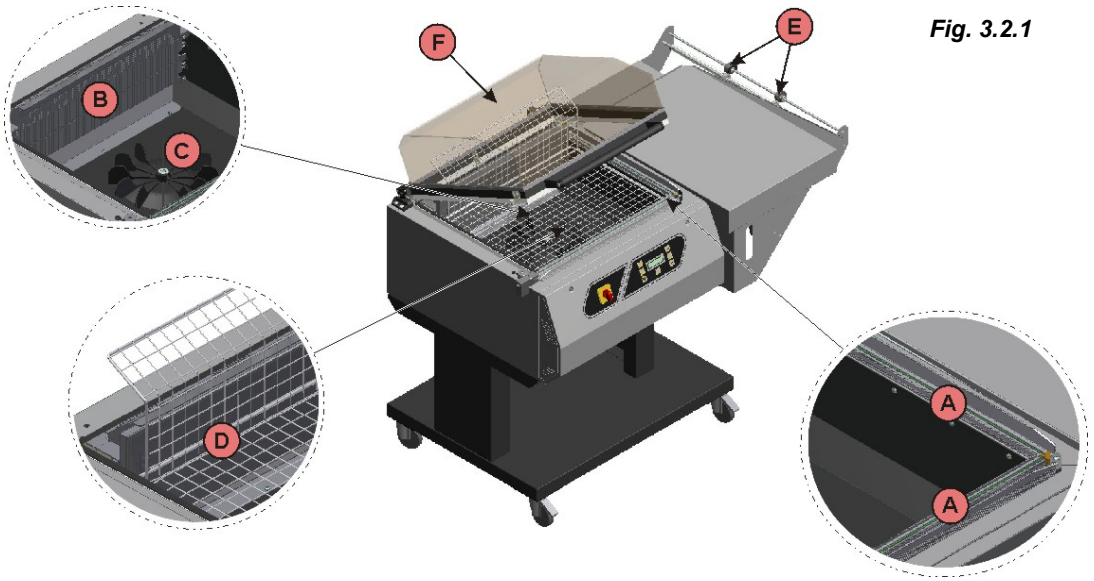


Fig. 3.2.1

ZONE A	Possibility of crushing upper limbs during manual closure of hood.
	Possibility of burns by touching the sealing blade just after a packaging cycle.
ZONE B	Burns due to contact with very hot elements (tunnel zone with temperature controlled heating elements).
ZONE C	Possibility of entering into contact with fans used for heat-shrinking process by inserting hands underneath the product support mesh.
ZONE D	Possibility of burns by touching the product support mesh.
ZONE E	Small pricks caused by perforators on reel holder.
ZONE F	During the packaging possibility of burns by touching the hood in plexiglas.

ATTENTION!

Leave the hood open when the machine is switched off to allow it to cool down.

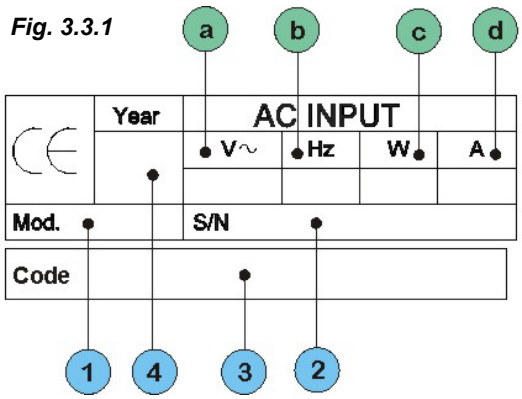
Near some zones of the machine, some pictograms were placed in order to recall the attention of the operator concerning the precautions required to avoid dangers. In order to have greater understanding of the symbols used, the main ones are described hereafter.

	**DANGER DUE TO THE HIGH VOLTAGE ZONE WITH RISK OF ELECTROCUTION INSIDE ELECTRICAL CONTROL BOARD**
	**BURNING DANGER DUE TO CONTACT WITH HIGH TEMPERATURE SURFACES**
	**CRUSHING DANGER**
	**CUTTING DANGER - PAY ATTENTION TO YOUR HANDS**

3.3 IDENTIFICATION DATA AND TECHNICAL DATA OF THE MACHINE

Each machine is provided with a plate where it is easy to recover data which must be communicated to the manufacturer in case of problems or when requesting spare parts etc. (ref. 1-2-3-4). This plate also carries electrical technical data for installation of the machine (ref. a-b-c-d).

Fig. 3.3.1



1 - Model
2 - Serial number
3 - Machine code
4 - Year of manufacture

a - Nominal voltage
b - Nominal frequency
c - Nominal power
d - Nominal current

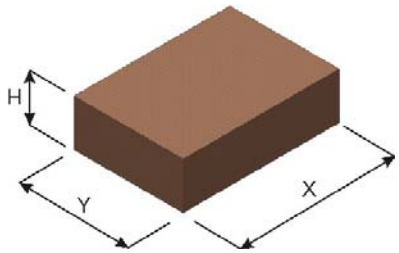
ATTENTION! Before performing connections to the electrical mains, make sure that the power supply voltage is compatible with that shown on the plate.

3.4 TECHNICAL SPECIFICATIONS OF THE PRODUCT

The table below indicates the maximum dimensions and limit weights (minimum and maximum) of the products which can be packed.

[mm]	SL45	SL55
X	410	520
Y	250	380
H	210	260
WEIGHT	> 50 g < 10 kg	> 50 g < 10 kg

Fig. 3.4.1



PACKAGING LIMITATIONS

It is not possible to pack:

- Products larger or heavier than that allowed
- Bulk products smaller than the openings in the grid product support mesh
- Wet products
- Flammable products
- Explosive products
- Products in bulk or volatile powders
- Any type of liquid products in fragile containers

It is also prohibited to:

- It is also prohibited to
- Replace with non-original spare parts
- Modify electrical connections in order to be able to by-pass internal safety devices
- Remove installed guards

ATTENTION!

Do not wrap anything which is not intended or which can in any way be dangerous for the user and damage the machine.

Before performing any modification, you must contact SMIPACK S.p.A for their consent

3.5 FEATURES OF THE FILM

The machine has been designed to package various products using PVC e Polyolefin film with a thickness up to 30 µm. The film, used in single fold execution, can be micro-perforated by specific perforators mounted on the machine's reel holder.

	SL45	SL55
L	450 mm	600 mm
B	Ø250 mm	Ø250 mm
C	Ø77 mm	Ø77 mm
WEIGHT MAXIMUM	20 kg	20 kg

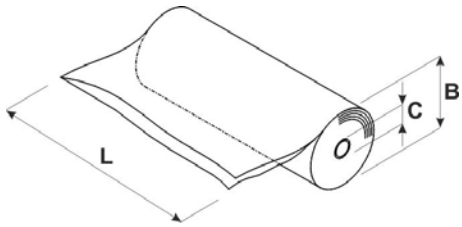


Fig. 3.5.1

3.6 DETERMINATION OF FILM WIDTH

To determine the width L of the film reel used for packaging, follow this formula:

L reel = Y product + H product + 50 mm

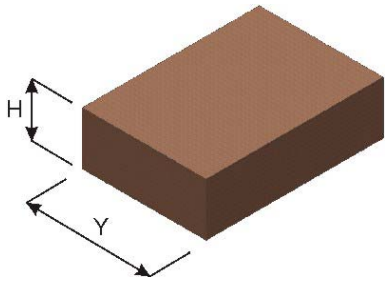


Fig. 3.6.1

3.7 FILM SEALING OPERATION

Sealing and cutting of film is pulse-operated, adjusted automatically by the circuit board. The sealing blade A is brought to a temperature which melts the film. The pressure achieved between the sealing blade and the upper contest, coated in PTFE, separates the two edges of the film.

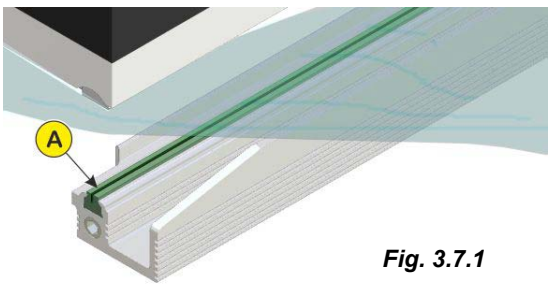


Fig. 3.7.1

3.8 FILM HEAT-SHRINKING OPERATION

Film is shrunk the same time as it is sealed. This is produced by the forced circulation of hot air around the package. The air is heated by means of a group of temperature controlled heating elements.

Should the sealing break due to heat shrinking, some parameters can be adjusted on the operator panel to delay execution of this process.

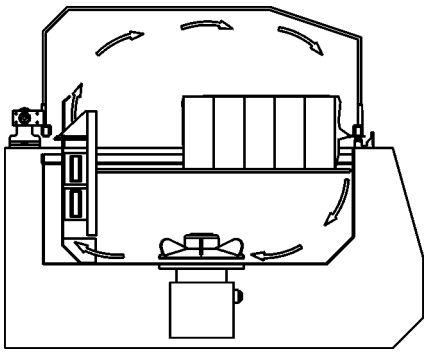


Fig. 3.8.1

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CHAPTER 4 - PREPARING THE MACHINE FOR USE

4.1 POSITIONING REEL AND FILM PASSAGE

- Insert the film reel in the reel holder 1 blocking it with the self-centring tapered supports 2.
- Pass the film through the perforators 3.
- Pass the lower edge of the film below the packaging plate 4 and the upper edge above at.

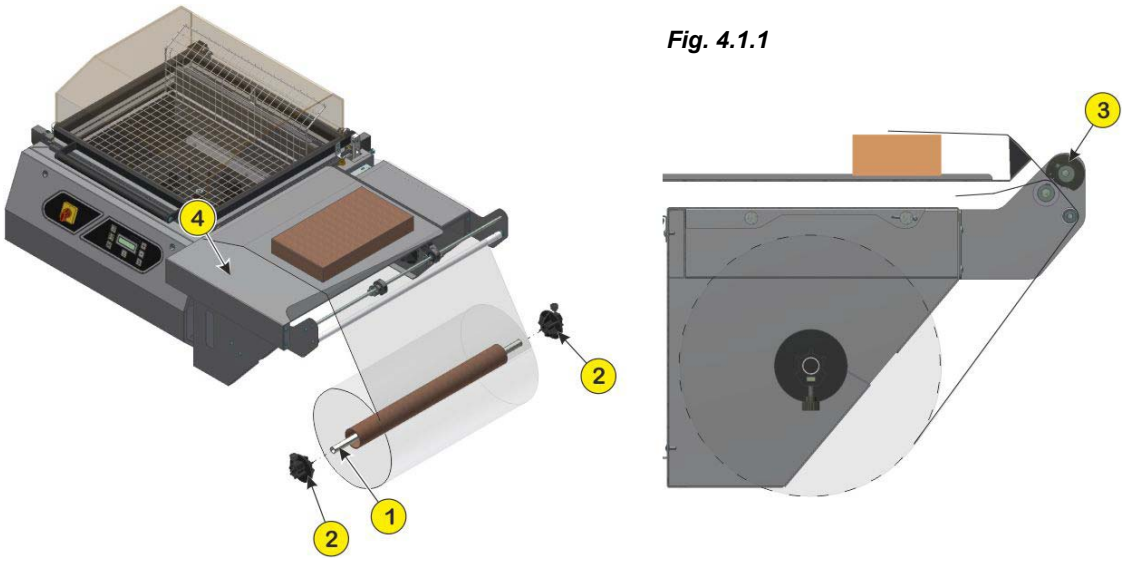


Fig. 4.1.1

4.2 ADJUSTING FILM PERFORATORS

The amount of perforators to be used depends on the width of the products to be packaged. The machine is supplied with 2 perforators but it is possible to use only one when packaging small products.

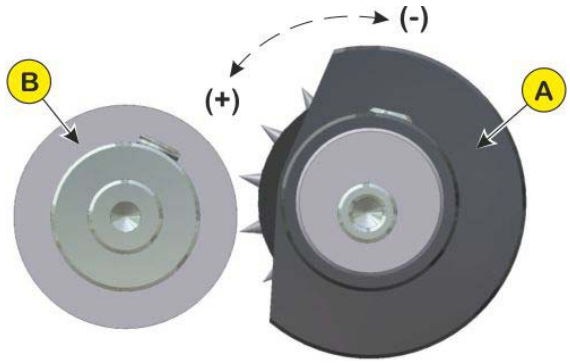


Fig. 4.2.1

Turning the perforators manually **A** you can move them closer or farther from the contrast **B** to obtain a larger or smaller perforation thus guaranteeing ideal heat shrinking for any type of product without breaking the film along the sealing.

4.3 ADJUSTING HEIGHT OF PRODUCT SUPPORT MESH

Adjust the height of the product support mesh 1 by means of the striker plates 2 and 3 according to the height of the pack. For best packaging, the film must be sealed at approximately half the height of the product.

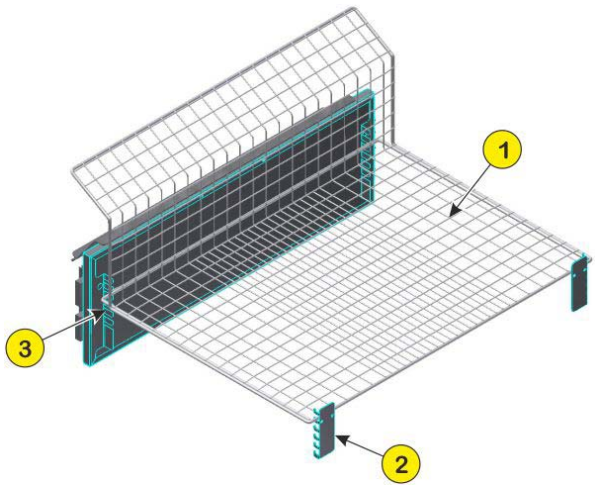


Fig. 4.3.1

4.4 ADJUSTING HOOD OPENING

To adjust the extent of hood opening, you must act on the stop 1 sliding it along the specific guide.

If you must also adjust the opening strength of the hood, turn the screw 2 clockwise to increase or anti-clockwise to decrease strength.

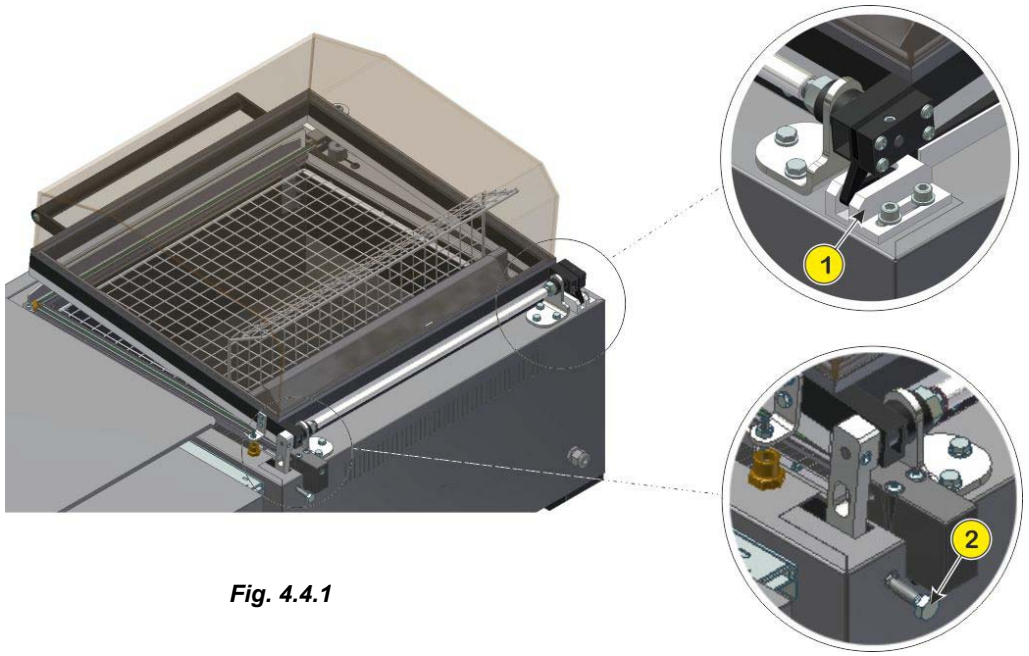


Fig. 4.4.1

4.5 POSITIONING REEL HOLDER SUPPORT AND PRODUCT HOLDING PLATE

The reel holder support 1 must be adjusted according to the width L of the product being packaged. Leave approximately 1-2 cm between the product and the sealing edge as shown in the figure.

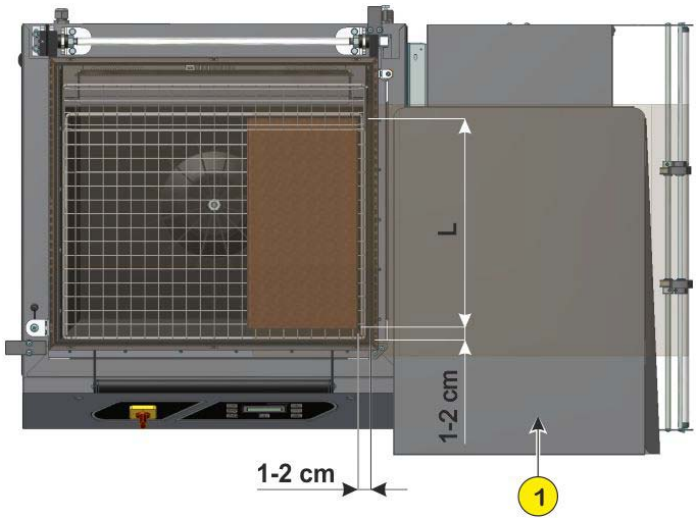


Fig. 4.5.1

4.6 FIRST FILM SEALING

This operation to be performed before starting product packaging consists in introducing approximately 10 cm of film in the packaging tank and then lowering the hood 2, pressing it on the film with your left hand with a pressure of approximately 10-15 kg.

The machine will begin operating automatically and will quickly perform the first sealing on the left side of the film.

Fig. 4.6.1

Help to separate the film with your right hand to keep it from sticking to the sealing blade when cooling after sealing.

Fig. 4.6.2

4.7 PACKAGING PRODUCTS

Fig. 4.7.1

After having performed the first film sealing operation, introduce the product to be packaged in the bag, placing it on the specific product support.

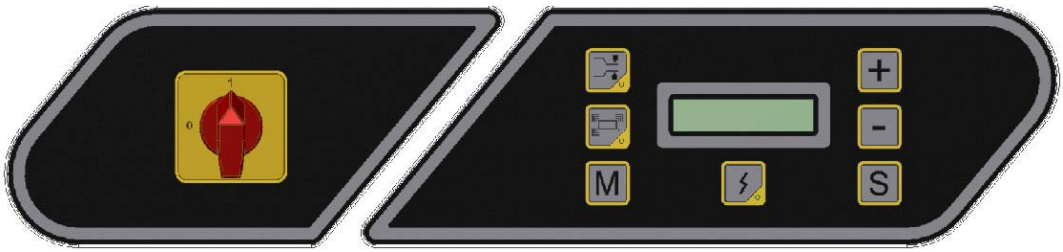
Fig. 4.7.2

Pull the film with your left hand while your right hand moves the product inside the packaging tank positioning it on the product support mesh at approximately 1-2 cm from the sealing blade. Now lower the hood and as soon as it enters into contact with the sealing blade, apply a pressure of 10-15 kg on it.

When the machine buzzes, let the hood open and with your right hand help the rest of the film separate to keep it from sticking to the blade when cooling.

CHAPTER 5 - OPERATION AND USE

5.1 OPERATOR PANEL INTERFACE



	KEY FUNCTIONS
	Switches the machine on and off.
	Signals correct power supply to the machine with the indicator light on.
	Selects the sealing program. (in this operating mode the product will be packaged in a slack bag).
	Selects the heat shrinking program so packaging will be implemented with the film sticking to the product.
	Displays the parameters in the active program. (memory M.. selected).
	Allows selecting the programmable memories available (M1-M2-M3-M4-M5-M6); Memorises modified data concerning the parameters of the active memory.
	Increases the value of the selected parameter.
	Decreases the value of the selected parameter.

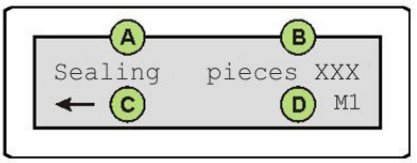
5.2 TURNING THE MACHINE ON

Turn the master switch on the operator panel to ON. The display will visualise the machine model and software version for a few seconds, followed by the last working mode memorised (sealing or heat shrinking), the active memory and the number of packs wrapped.

5.3 MACHINE OPERATION

SL series machines can package products using two packaging modes. While the machine is operating, the information A and B shown in the key scroll on the first row of the display.

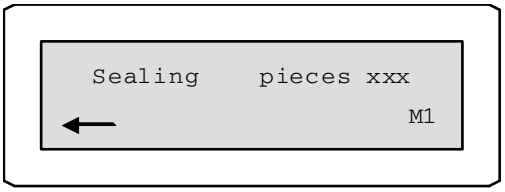
A	Indicates the current operating mode (sealing or heat shrinking).
B	Indicates the number of pieces packaged.
C	The “arrow” symbol indicates that the machine is ready for packaging.
D	Indicates the active programmable memory.



1) Sealing mode

Sealing mode packages products in slack bags.

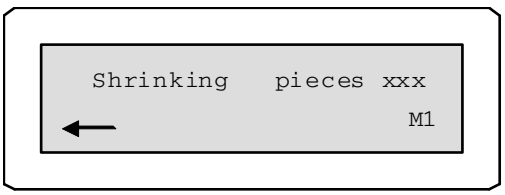
To access this mode, press  .



2) Heat-shrinking mode

Heat shrinking mode packages products with the bag sticking to the product.

To access this mode, press  .



When in heat shrinking mode the message “heating” appears on the operator panel display

and the LED of the key flashes, only the sealing process can be performed. This machine status will be maintained until the heating elements reach the temperature set in the “parameters menu”.

5.4 SAVING A PROGRAM

Depending on the size of the product and the type of film you wish to use, some operating parameters must be set in order to guarantee quality packaging. The operator can save up to 6 sealing or heat shrinking programs.

The active memory number is visualised in the second row of the display (e.g. M1) and can be changed by selecting M followed by + and -.

Procedure for saving a program (memory M....)

- Select the programmable memory you wish to adjust (e,g. M2)
- Access the “parameters menu” of the active memory by pressing S.
- Press S several times to view all the parameters.
- Adjust the parameter values using the + and - keys.
- Memorise the values set in the menu by pressing M. If the operator does not press any key for more than 5-6 seconds, the modified data will be saved automatically. When it has been saved, the text “Wait……..” will appear on the display for a few seconds.

5.5 PARAMETERS MENU

After having chosen the programmable memory to be used (e.g. M1), press S pto access the machine operating parameters. Press S pseveral times to view in succession the parameters we will describe hereafter and use the + and - keys to modify the data.

1 • Sealing temperature

Menu for adjusting sealing temperature.

Fig. 5.5.1

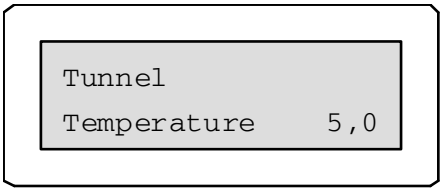
Sealing Temperature 5,0	(can be set from 1 to 10)

Translation from the original

2 • Tunnel temperature

Menu for adjusting tunnel temperature.

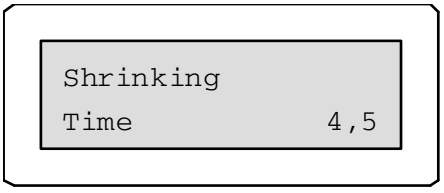
Fig. 5.5.2

	(can be set from 1 to 10)

3 • Shrinking Timer

Menu for adjusting heat shrinking time.

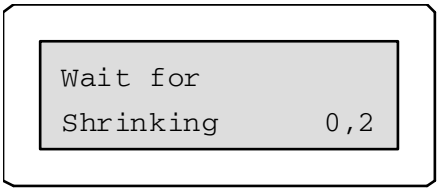
Fig. 5.5.3

	(can be set from 1 to 10)

4 • Wait before start of heat shrinking process

Menu for adjusting the stand by time between the end of sealing and the start of heat shrinking.

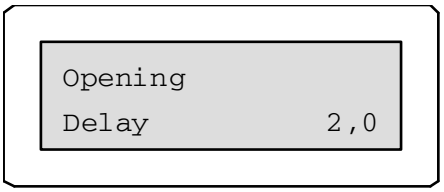
Fig. 5.5.4

	(can be set from 0 to 1)

5 • Hood opening delay

Delays the opening of the hood, after the end of the heat shrinking process.

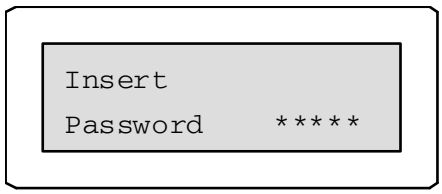
Fig. 5.5.5

	(can be set from 0 to 10)

5.6 ACCESS TO RESERVED MENU

Press + and - simultaneously to access the reserved menu with the adjustment parameters calibrated when the machine was test inspected.

Fig. 5.6.1



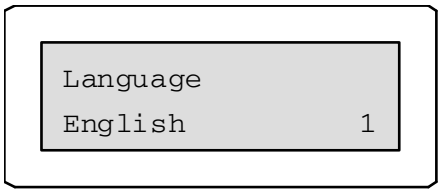
Use the password PROGR to access the selection of parameters normally adjusted at machine inspection.

To enter the password, select the letters of the alphabet with the + and - ; keys; the introduction of each character must be confirmed by pressing M .

1 • Choosing display language

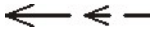
Menu for adjusting display language.

Fig. 5.6.2



5.7 DESCRIPTION OF SYMBOLS ON DISPLAY

The following table provides an explanation of the symbols which appear on the machine operator panel display.

	Tells the operator to introduce the product to be packaged.
	Indicates a sealing process in progress.

	Indicates a heat shrinking process in progress.
	Indicates that the fan for the heat shrinking process is active.

CHAPTER 6 - CLEANING AND MAINTENANCE

6.1 GENERAL WARNINGS AND PRECAUTIONS

Before starting any of the maintenance operations described in this chapter, switch the machine off and disconnect it from the power mains.

6.2 NATURE AND FREQUENCY OF MAINTENANCE CHECKS AND INTERVENTIONS

In the manual, the description of the various maintenance operations is often associated to the symbols described below.

	Identifies an eye check on the state of wear or proper operation of a component.
	Identifies an operation for cleaning a component.
	Identifies a mechanical intervention (regulations, repairs, replacements) to be carried out on the component.
	Identifies a mechanical tensioning intervention to be carried out on the component.
	Identifies a lubrication intervention with synthetic oil.
	Identifies a lubrication intervention with grease.

Information concerning general cleaning of the machine

To optimise machine performance, it should be kept clean. In fact only when the machine is well accessible and clean is it possible to pinpoint and repair failures, to prevent malfunctioning and to work in safe conditions.

To clean the machine, use a soft cloth soaked in water. Do not use detergents or solvents which could tarnish its transparency. Do not get the machine wet. Should it get wet by accident, carefully dry the machine before reconnecting it to the electric mains and resuming packaging.

ATTENTION! Wait for the machine to cool off before removing film residue and filth deposited on the hot parts.

Clean the machine more frequently when used in dusty environments, also vacuuming the dust deposited on the electronic modules inside the power board.

In order to maintain ideal machine performance in time, a series of controls, checks and maintenance interventions must be carried out.

Tab. 6.2.1 - **Interventions on mechanical components**

Machine device	Symbol used	Operations to be carried out	Frequency of intervention
Sealing unit		Remain film residue stuck to sealing blade. Clean the sealing blade with a moist cloth wearing protective gloves to avoid cuts and/or burns.	12 hours
		Make sure the cutting blade is not worn.	60 hours
		Check the state of wear of the PTFE underneath the sealing bar and replace it if necessary. Check that the sealing rubber is intact.	240 hours
		Make sure the cutting blade is not worn; replace the blade if necessary.	1500 hours
		Check the tensioning of the spring.	
Tank unit		Use compressed air to remove film residue.	12 hours
Hood unit		Clean the external hood with a soft moist cloth. To clean the inside, first take off the product support mesh, removing larger residue by hand and then using the vacuum cleaner.	16 hours

6.3 REPLACING SEALING BLADE

- Disconnect the machine from the power mains.
- Unscrew the three screws 1 blocking the blade.
- Remove the worn or damaged sealing blade 2.
- Thoroughly clean the seat in which the sealing blade is positioned.
- Insert the insulating PTFE 3 inside the central clamp 4.
- Insert the new sealing blade, properly blocking it in the middle of its seat.
- Trim of the sealing blade flush with the slot of the pistons 5 and 6.
- Complete insertion of the sealing blade along the whole seat.
- Use a screwdriver to push the piston 5 all the way down towards the head of the blade so that it enters into the specific slot and then block it with the screw 1.
- Trim the PTFE protruding from the central clamp to keep it from altering sealing.
- Make sure that the sealing blade is tensioned and positioned correctly the entire length.

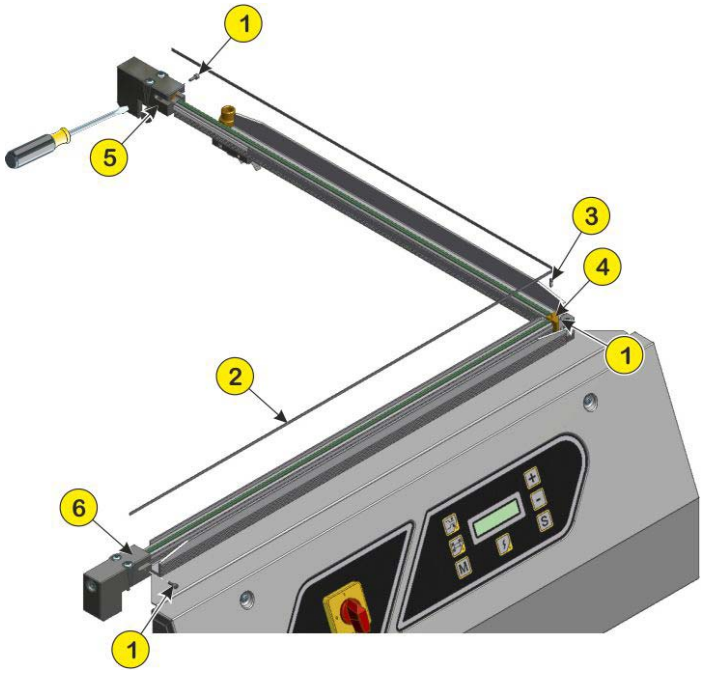


Fig. 6.3.1

6.4 REPLACING PTFE AND SILICON RUBBER

If only the PTFE needs to be replaced, proceed as follows:

- Remove the worn PTFE 1.
- Thoroughly clean the silicon rubber with detergent.
- Apply new PTFE strips above the silicon rubber making sure that the edges match.

Make sure not to touch or dirty the adhesive part of the PTFE strips while applying them.

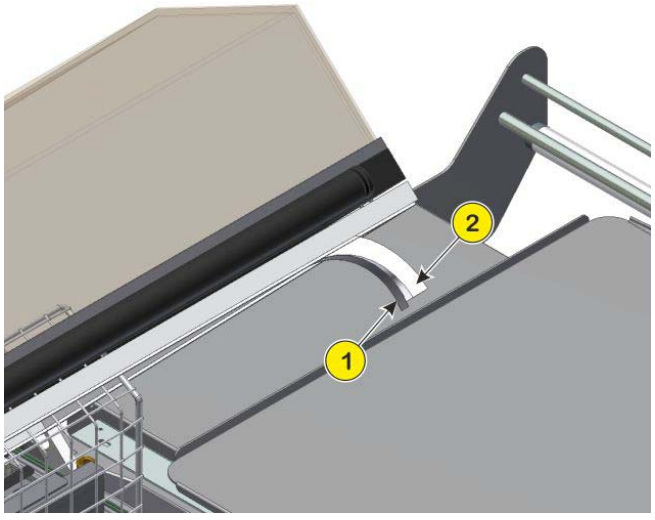


Fig. 6.4.1

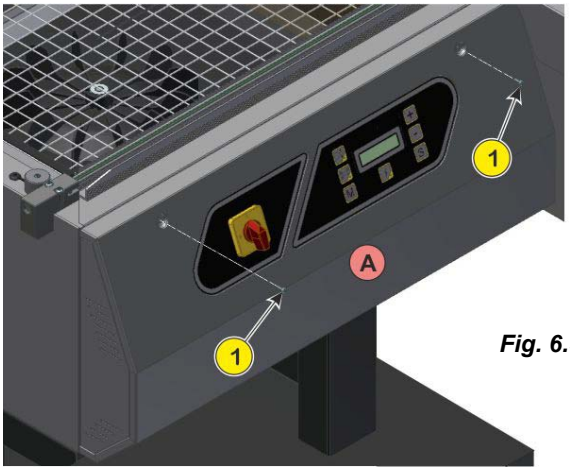
Replacing silicon rubber

- Remove the worn silicon rubber 2.
- Thoroughly clean the housing seat of the silicon rubber.
- Apply a few drops of glue or else two-sided adhesive tape on the side of the silicon rubber to be glued at the bottom of the conduit.
- Insert the new silicon rubber in line without pressing or pulling it.
- Apply the PTFE strip as indicated previously.

6.5 MACHINE ACCESS AREAS FOR INSPECTIONS

A) ACCESS TO POWER BOARD

The power board can be accessed for cleaning or maintenance by removing the screws 1 as shown in the figure.



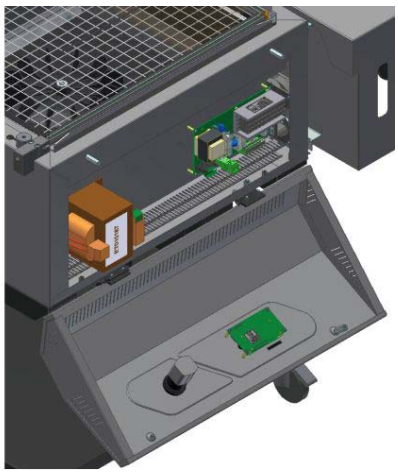


Fig. 6.5.1

B) ACCESS TO INSPECT CYCLE START MICRO SWITCH

If the “cycle start micro switch” needs to be inspected, disassemble the protective casing B as shown in the figure.

Fig. 6.5.2

CHAPTER 7 - ANOMALIES AND FAULTS - HOW TO RESOLVE

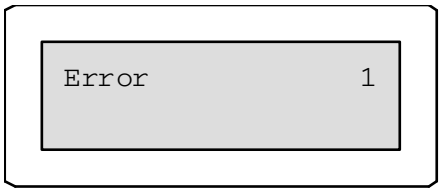
7.1 SOLUTIONS TO OPERATING PROBLEMS

The following table describes the solutions to the most common problems which can occur while the machine is operating.

PROBLEM	CAUSE	SOLUTION
PRESENCE OF SMOKE DURING SEALING	The sealing temperature is set too high.	Lower the sealing temperature.
THE MACHINE PERFORMS SEALING BUT NOT HEAT SHRINKING	Heat shrinking mode has not been selected.	Make sure that the symbol indicating that shrinking is active appears on the display
	The heat shrinking temperature is too low.	Check the temperature level on the circuit board display.
	The heating elements are in the heating up phase.	Wait for the heating elements to reach the set operating temperature.
	The fan does not work.	Probable fan motor fault.
HEAT SHRINKING IS IMPLEMENTED BUT IS NOT EVEN AND COMPLETE	The film used is unsuitable or poor quality.	Replace the film used for packaging.
	The product is too big.	See chapter 3 section “technical specifications of the product”..
BUBBLES REMAIN AFTER HEAT SHRINKING	The film has no micro perforations.	Pass the film through the machine micro perforators.
SEALING OPENS DURING HEAT SHRINKING	The sealing blade is dirty or damaged.	Clean the sealing blade or replace it if damaged.
	The sealing value set in the “parameters menu” is incorrect.	Adjust the sealing parameter more accurately.
	Insufficient pressure is applied on the hood.	Slightly increase pressure on the hood handle during the sealing phase.
IRREGULAR SEALING	Low-quality film has been used.	Replace the film.
THE FILM IS NOT SEALED	The sealing temperature is set too low.	Increase the sealing temperature.
	The sealing blade does not receive properly.	Repair the power circuit of the sealing blade.
	The PTFE and/or silicon rubber are worn.	Replace the PTFE and/or silicon rubber
	The sealing blade is damaged.	Replace sealing blade.

7.2 ERROR AND MESSAGE DISPLAYS

This paragraph describes the messages and errors that can be viewed on the display of the operator panel with the relative solutions. These messages can be accompanied by an acoustic signal.



After the cause has been removed, the error viewed on the display can be cancelled by pressing  .

PROBLEM	CAUSE	SOLUTION
ERROR 1	The thermocouple temperature is too high.	Disconnect the power cable and perform the following controls and operations: - check the connection of the thermocouple; - check operation of the thermocouple reading stage by using a type "J" operating thermocouple; - replace the heating element equipped with thermocouple if needed. If the problem continues, interrupt sealing or heat shrinking operations, disconnect the power cable and contact the assistance centrer.
ERROR 2	The tunnel temperature varies abnormally.	- Make sure that the heating elements are connected correctly; - check the exit 220V on the clamp 13 and 14 of the electronical board; - replace the heating element equipped with thermocouple. If the problem continues, interrupt sealing or heat shrinking operations, disconnect the power cable and contact the assistance centrer.
ERROR 3	The thermocouple temperature is unstable.	- Remove the power cable and check the thermocouple connection; - replace the heating element equipped with thermocouple; - check the earth connection. If the problem continues, interrupt sealing or heat shrinking operations, disconnect the power cable and contact the assistance centrer.

PROBLEM	CAUSE	SOLUTION
ERROR 4	The heat shrinking temperature increases in sealing mode.	Disconnect the power cable and perform the following controls: - check the proper connection of the heating elements to the circuit board; - check functioning of the circuit court Attention - at times the error can be displayed while passing from the heat shrinking mode to the sealing mode. If the problem continues, interrupt sealing or heat shrinking operations, disconnect the power cable and contact the assistance centrer.
ERROR 5	PCB temperature too high.	Disconnect the power cable and perform the following controls: - check whether the air vents are obstructed; - make sure the cooling fan of the circuit board works properly. If the problem continues, interrupt sealing or heat shrinking operations, disconnect the power cable and contact the assistance centrer.
ERROR 6	The NTC cooling flap temperature is too high.	Disconnect the power cable and perform the following controls: - check whether the air vents are obstructed; - make sure the cooling fan of the circuit board works properly. If the problem continues, interrupt sealing or heat shrinking operations, disconnect the power cable and contact the assistance centrer.
ERROR 7	The NTC temperature is not standard.	- Make sure the cooling fan works. - make sure the room temperature < 40° C. If the problem continues, disconnect the power cable and contact the assistance center.
ERROR 8	Calibration parameters error. An error has been triggered in the stored data.	Turn the machine off and back on again. If the problem continues, disconnect the power cable and contact the assistance centre.
ERROR 9	EEPROM error. A fault has occurred in data storage	Press “+” and then reset the correct machine model. If the problem continues, disconnect the power cable and contact the assistance centre.

PROBLEM	CAUSE	SOLUTION
ERROR 10	24V outputs overcurrent error.	Disconnect the power cable and perform the following controls: - check the electromagnet and make sure the connection cables are intact. If the problem continues, interrupt sealing or heat shrinking operations, disconnect the power cable and contact the assistance centrer.

SMIPACK does not assume any responsibility for the improper use of the machine.

SMIPACK reserves the right to carry out technical modifications on its systems and on this manual without prior notice.

END MANUAL