USE AND MAINTEN	NANCE MANUAL
Semiautomatic or n shrink wrapping pac	nanual angular kaging machine
FP560 - FP560	)A - FP870A
MANUAL CODE:	DM210229
CREATION DATE:	05.07.2006
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## FOREWORD

In thanking you for the preference given us, SMIPACK S.p.A. is glad to welcome you to its wide circle of Clients and wishes that the use of this machine will be for you reason for full satisfaction.

This manual can be used for models **FP560**, **FP560A**, **FP870A** and was prepared with the aim to allow you to operate on the various components, explain the various operations for maintenance and operation.

Where not expressly indicated by the



instructions refer to all the above mentioned

models.

In order to guarantee a satisfactory level of efficiency, life and performance of the machine, we urge you to scrupulously observe the instructions contained in this manual.



PLEASE READ CAREFULLY AND FULLY THIS MANUAL BEFORE INSTALLING THE MACHINE.

THIS MANUAL IS AN INTEGRAL PART OF THE PRODUCT AND MUST ALWAYS ACCOMPANY THE SAME UP TO ITS DISMANTLING.

SMIPACK S.p.A is absolutely not responsible for any direct or not direct consequence due to proper or not proper use of this issuing or of the system software and has got right to make technical modification on his system and on his manual without advising the users.

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# **1. REGULATIONS AND GENERAL INSTRUCTIONS**

## 1.1 HOW TO CONSULT AND USE THIS MANUAL

#### Keeping of this manual

- This manual costitutes integral part of the machine and thus must be kept for as long as the machine is in the user's possession or, if that be the case, handed over to any other user or subsequent owner.
- Use this manual in a way that will not damage all or part of its contents.
- Do not remove, tear or rewrite parts of this manual for any reason.
- Ensure that any amendment to this manual sent to you is incorporated in the manual itself.

#### **Consultation of the manual**

The consultation of this manual is made easy be the insertion, in the first pages, of a summary, which allows those consulting it to immediately locate the topic required and, in the last pages, of an analytical index. The chapters are ordered following such a structure to facilitate the research of the required information.

#### Method of updating the manual in case of modifications to the machine

The descriptions and drawings contained in the present manual are intended as non refutative. SMIPACK S.p.A. reserves the right at any moment to apport modifications to its machines (while keeping their essential characteristics), for the purpose of improving their functionality and commercial and aestethic value, with no obligation to update manuals and previous production except in exceptional cases.

Any updating or integration of the manual are to be considered as integral parts of the manual. We would like to thank you in advance for all the suggestions that you may want to forward to us in order to bring about further improvements to the machine.

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## **1.2 WARRANTY CONDITIONS**

The machine is sent to the Client ready to be installed, and having passed, at our factory, all expected tests and trials, in compliance with the current regulations. Within the guarantee period SMIPACK S.p.A. undertakes to remove any eventual flaws and defects, on the condition that the machine has been correctly used, and that the indications found in its manuals have been respected. The warranty has a validity of 365 days from the date of purchase and covers all the materials and manufacturing defects found by the builder. The warranty is valid only for the original buyer and subject to the condition that the warranty certificate is duly filled in all its sections and posted within 20 days from the date of purchase. The warranty is no longer valid if the machine has been damaged through accident, misuse, breakdowns due to atmospheric agents, maintenance operations or modifications carried out by unauthorised personnel or not belonging to the servicing department of SMIPACK S.p.A. Consumption materials, parts subject to normal wear and tear, transport from the user to the servicing centre or vice-versa as well as labour are excluded from the warranty and therefore are to be paid by the Buyer.

## **1.3 LEGAL REFERENCES**

The machine "Manual or semi-automatic L-sealing hood packer" complies to the Legislative Provisions of the law that regulates the following Directives:

European Directives on machinery and/or assemblies

- 2006/42/EC Directive on machinery, amending the Directive 95/16/EC (recast)
- 73/23/EEC and 93/68/EEC Low voltage directive
- 89/336/EEC and 92/31/EEC Electromagnetic compatibility

Technical standards applied on machinery and assemblies

- EN 292-1 Safety of machinery basic concepts, general principles for design: terminology and methods
- EN 292-2 Safety of machinery basic concepts, general principles for design: technical principles and specifications
- EN 292-2 A1 Safety of machinery basic concepts, general principles for design: technical principles and specifications
- EN 294 Safety of machinery Safety distances to prevent danger zones from being reached by the upper limbs
- EN 60204-1 Electrical Equipment of Machines
- EN 418 Emergency stop
- EN 349 Safety of machinery Minimum gaps to avoid crushing of parts of the human body
- EN 1050 Safety of machinery Risk assessment
- EN 811 Safety of machinery Safety distances to prevent danger zones from being reached by the lower limbs
- EN 894 -1 Safety of machinery Ergonomic requirements for the design of displays and control actuators part 1: human interaction with displays and control actuators
- EN 894-2 Safety of machinery Ergonomic requirements for the design of displays and control actuators part 2: displays
- EN 894-3 Safety of machinery Ergonomic requirements for the design of displays and control actuators part 3: control actuators
- EN 953 Safety of machinery General requirements for the design and construction of fixed and movable guards
- prEN 50099-1 Safety of machinery Signalling and marking principles part 1: visual, audible and tactile signals

## 1.4 REMARKS ON GENERAL SAFETY

The operator, before starting to work with this machine, must have acquired enough knowledge on the location, function of the controls, characteristics of the machine, and must have read this manual in all its entirety.

The employer must see to it that its personnel is informed on the following topics relative to the safe usage of the machine:

- Accidents risks.
- Devices meant for the safety of the operator.
- General accidents prevention rules as provided by international directives and by the laws of the country of destination of the machines.

It is necessary to comply to the following general precautions:

- Do not install the machine in areas posing a risk of explosion or fire.
- Do not temper with, remove or modify the safety devices; in such cases SMIPACK S.p.A. declines any responsibility on the safety of its machines.
- Do not modify parts of the machine to install other devices without prior authorization by SMIPACK S.p.A.; in case of unauthorized modifications the former will not be held responsible for any possible consequences.



- Do not open the fuse blocks with the mains on.
- Do not intervene on switches, valves and sensors without authorization.
- Do not intervene on the moving parts even without the aid of objects or tools.
- Do not manually oil or grease any moving part.



- Before carrying out any work on the electrical installation, ensure that the voltage has been disconnected.
- After an adjustment or security operation, restore the state of the machine with active protections.





#### **ATTENTION!**

The operator, the maintenance and cleaning personnel must scrupulously adhere to both the regulations for the prevention of accidents and the safety regulations of the Country of destination of the machine and the plant, besides the instructions, warnings and general rules concerning the safety included in this manual.

During maintenance or repair work on the machine, the latter has to be shut down, and the special signals (MACHINE OFF FOR MAINTENANCE, DO NOT START,etc...) have to be used. Make sure that the switches are not re-inserted by unauthorized personnel.

## 1.5 LEGEND

All instructions and notes contained in this manual are graphically represented in the following way:

IING IS
VOLTAGE
ERATURE
HANICAL
IBERS IN
HAT THE OUGHT.

# 2. MACHINE INSTALLATION

## 2.1 WEIGHT AND DIMENSIONS OF THE PACKED MACHINE



$\bigwedge$	FP560	FP560A	FP870A
x	1400	1400	2125
	mm	mm	mm
Y	880	880	1080
	mm	mm	mm
Z	1185	1185	1300
	mm	mm	mm
Weight	161 kg	180 kg	300 kg

## 2.2 WEIGHT AND DIMENSIONS OF THE MACHINE

Ζ

Fig. 2.2.1



$\underline{\land}$	FP560	FP560A	FP870A
x	1520	1520	2005
	mm	mm	mm
Y	790	790	1005
	mm	mm	mm
z	1055	1055	1125
	mm	mm	mm
w	500	500	1010
	mm	mm	mm
Weight	129 kg	148 kg	247 kg

## 2.3 TRANSPORT AND UNPACKING

SMIPACK S.p.A. in function of the means of transport and of the type of products to be shipped utilizes packagings adequate to guarantee the integrity and preservation during transportation. It is recommended to handle with great care the machine during transport and positioning. The forwarder is responsible for every damage that may occur during transport. Unpack the unit making sure not to damage any exposed parts.



Fig. 2.3.1

The lifting of the machine module must be carried out by means of hoisting systems operating from below; due to the packaging modalities, it is not possible to use hoisting systems operating from above. Lift the machine from the longer side and adjust the forks of the forklift at the maximum distance from each other.



#### **ATTENTION!** Before handling make sure that the hoisting equipment are suitable to lift the load that has to be handled.

In the case of long storing, place the machine in a sheltered environment with a temperature between -15°C and +55°C degree of humidity, variable between 30% and 90% without condensation.

## 2.4 ASSEMBLY OF THE REEL HOLDER

For the positioning of the reel holder operate in the following way:

- Position the reel holder 1 in its guides.
- Pass over the retainer **2** using a screwdriver.

#### Fig. 2.4.1



## 2.5 POSITIONING OF ROLLER UNIT FP560 AND FP560A



- Insert the roller conveyor belt in the attachments of the conveyor belt 1 and lock it with the roller 2 in the special guides 3.
- In assembly phase do not push the roller conveyor belt sideways or the attachments could be damaged.



Fig. 2.5.1

ENGLISH

## 2.6 POSITIONING OF ROLLER UNIT FP870A



Once the machine has been unpacked assemble the roller conveyor belt:

- Insert the roller conveyor belt in the attachments of the conveyor belt **1** and lock it with the special clamping-screws **2**.
- In assembly and disassembly phase do not push the roller conveyor belt sideways as the attachments could be damaged.





## 2.7 DEMOLITION AND DISMANTLING

#### ATTENTION!

The machine does not contain dangerous components or substances that require particular removal procedures. Regarding the elimination of the various materials, it is necessary to follow the regulations of the Country in which the tunnel will be dismantled.



## 2.8 ELECTRICAL CONNECTIONS

All operations for the connection to the mains must be carried out with no voltage applied to the machine.



In the case which someone wants access to the electrical system, remember to turn off the power supply and wait at least 5 minutes before operating.



#### EARTHENING IS COMPULSORY!

The machine's connection to the mains must be carried out in thorough compliance with the regulations of the user's country. Make sure that the frequency and voltage of the machine's power supply (as indicated on the nameplate to be found on the rear of the machine) correspond to the mains'.

## 2.9 TECHNICAL DATA FOR THE ELECTRIC CONNECTION

	FP560	FP560A	FP870A
RATED VOLTAGE	220-240 V ~	220-240 V ~	220-240 V ~
RATED FREQUENCY	50-60 HZ	50-60 HZ	50-60 HZ
RATED POWER	2450 W	2500 W	3100 W
RATED CURRENT	11,5 A	12 A	15 A

## 2.10 CONDITIONS OF USE

Make sure that there is enough space for easy application and maintenance.

THE MACHINE NEEDS AN INSTALLATION IN A CLOSED AND WELL AIRED SURROUNDING, WHERE THERE ARE NOT ANY EXPLOSION OR FIRE DANGEROUS. THE MINIMUM LIGHTING MUST BE 300 LUX.



Make sure that there is enough space for easy application and maintenance.

Position the machine in the planned space with no humidity, flammable materials, gas, and explosives and making sure that it is level on the floor.

The rated temperatures can vary from +10°C to +40°C, with relative humidity from 30% to 80% without condensation.

The level of the continuos acoustic radiation pressure that is carefully estimated in each point does not exceed 70 dB.

IP class rating = IP22



#### ATTENTION!

The pressure and the plate acoustical power of the machine can change depending on the material of containers to be packaged. Therefore, the user must perform an assessment on the noise exposure of his personnel in accordance with the types of packages worked, so as to equip his operators with suitable personal protection equipment.

# 3. INFORMATION ON THE MACHINE

## 3.1 MACHINE PERFORMANCE

The SMIPACK S.p.A. packaging machine is equipped with a simple but complete control panel connected to a microprocessor system guaranteeing high level performance and great autonomy to the operator.

The machine can produce two types of packaging:

- non rigid packets (only the sealing of the film edges is performed)
- Clinging packs (besides the sealing, the film on the product is also shrink wrapped, only with the aid of the T450 or T650 tunnel).



MAXIMUM NUMBER OF PACKAGING FOR HOUR	
MOD.	PACKAGING/HOUR
FP560	600/800
FP560A	600/1200
FP870A	500/800

## 3.2 AUTOMATED OPERATION OF THE MACHINE



The FP560A and FP870A machines are equipped with an automatism that activates the closing movement of the sealing frame when the push-button [START] is pressed. At the The first working phase occurs by means of a motor that adjusts the lowering and rising of the frame. To stop this movement act on the push-button [STOP]. To return to the beginning of the working phase, disconnect the push-button [STOP] and



The frame's

movement times are electronically managed by software that also allows you to change the sealing pressure. The final phase " product



ejection" is common in the models FP560 and FP870A and occurs by means of a motorized product carrier belt that replaces the operator in the final phase.

This automatism reduces the packaging cycle time and increases the hourly productivity.

## **3.3 MACHINE IDENTIFICATION**



	Year AC INPUT				
$( \in$		$V\sim$	Hz	W	Α
Mod.		S/N			

On the rear of every machine is applied a nameplate showing the EC marking, the main technical data such as model, serial n., power, etc., to be notified to the builder in case of problems.

## 3.4 SEALING

Fig. 3.4.1



Sealing and cutting are both of the impulse type, automatically adjusted by the electronic board. The sealing blade is brought to a temperature that melts the film and the pressure between the cutting edge and the lower contrast provokes the separation of the two edges of the film.





MOD.	х	Y	Z	WEIGHT
FP560/A	520	390	230	>0,05
	mm	mm	mm	<15kg
FP870A	830	600	280	>0,1
	mm	mm	mm	<18kg

## 3.6 HEAT-SHRINKING FILM CHARACTERISTICS

The machine has been designed to obtain the packaging of the most diversified products, both in the foodstuffs field as well as in the technical field, using all heat-shrinking films (PVC, polyurefinic, polypropylene and its derivatives) with a thickness varying from 10 to 50 micron, also carrying drawings and personalised wording, as long as the same comply with the provisions of the laws in force. The film, used in the one-fold execution, can be micro-punched, going through the micro-punches of the machine itself.



MAX. DIMENSIONS			
MOD.	Α	øΒ	øC
FP560/A	600 mm	300 mm	77 mm
FP870A	800 mm	300 mm	77 mm

## 3.7 BAND A CALCULATION



1 By band "A" we mean the width that the film must have to package the product.

Band A=Y+Z+ 50mm

# 4. PREPARATION TO THE USE OF THE MACHINE



## 4.1 DESCRIPTION OF THE PUSH-BUTTONS

	Machine start-up and switch-off
5	It connects after the machine start-up; the led on indicates that the power supply is correct.
S	It displays the parameters of the programme menus.
Μ	<ul> <li>It selects the available memories</li> <li>It stores the modified data in the programme menu.</li> </ul>
+	It increases the value of the selected parameter
-	It decreases the value of the selected parameter

## 4.2 MACHINE SWITCH ON

Turn the main switch of the control panel ON and then press the key



At first, the electronic board of all packaging machines will display the machine model and the software version; then the main video page will be displayed.

#### Fig. 4.2.1



The first line will indicate the number of packaged products, the second one the memory in use. The arrow indicates that the machine is ready for packaging.

If you press the emergency button, situated on the machine front side, the cycle will stop. When the push-button is pressed, the electronic board will display





If the emergency button is pressed, the machine will emit an acoustic signal; IN ORDER TO

START THE MACHINE AGAIN, release the button and press the key

#### **4.3 MEMORY ADJUSTMENT**

The microprocessor allows you to save 6 different sealing programmes (M1,M2,M3,M4,M5,M6) according to the dimensions of the packet or film used.

IVI

then select the memory by

In order to select the memory to be used, press the key

and

means of the keys

Proceed as follows:

- 1 Select a memory (i.e. M2)
- 2 Press the key S in order to enter the parameters menu and select the key

again, in order to display the machine adjustment parameters (see paragraph Parameters menu)

3 • Adjust the parameters by selecting the keys



4 • Save the values set in the menu:

In order to store the parameters, press the key M ; if you do not press the key in 5-6

seconds, the programme will save the modifications automatically. After recording the data, the following message will be displayed for a few seconds.

#### Fig. 4.3.1



## 4.4 PARAMETERS MENU



#### 1 • Sealing temperature

Menu to adjust the sealing temperature (value 1-10)

#### Fig. 4.4.1



Recommended value:5

By using the keys 🛨 and 🕒 you increase or decrease the value by 0,5 units.

#### 2 • Ejection time

Menu to adjust the packaged product ejection time. (value 0-10)

Fig. 4.4.2



By setting the value at 10, the belt flow is delayed. To be used for particularly high packets.

#### 3 • Opening delay

Menu for the sealing frame opening delay regulation from the moment the sealing ends. (value 0-1).

Fig. 4.4.3

Open
------

By using the keys

you increase or decrease the value by 0,1 units.

you increase or decrease the value (from 1 to 10).

#### 4 • Automatic cycle (FP560A and FP870A)

Fig. 4.4.4

Auto	
Cycle	0.5

If you set this parameter at a different value than zero, the machine automatically carries out the sealing cycles, without having to press the push-button START.



By selecting 0, the parameter is not active.

and

-

By selecting a value different from 0:

- If you set 0,5, the bell will immediately descend, after the belt has stopped.
- If a value higher than 0,5 is set up, the bell unit descent time is delayed from the moment which the conveyor stops.

Therefore, if you increase the value "auto cycle" the bell opening and closure speed decreases. The display will indicate the packs per minute that can be packaged with the set values



By using the keys

Pieces	222	{ 7 2	300 M1
Automatic		1.2	MT
 acks/minute			

In order to stop the automatic cycle, press any key on the electric board; in order to start the machine again, press the push-button START.

## 4.5 HIDDEN MENU

By pressing the keys	+	and	-	simultaneously, you enter the hidden menu with the
adjustment parameters	whicl	n were	set d	uring the machine commissioning.

Fig. 4.5.1

Insert	
Password	* * * * *

If you enter the password PROGR you have access to the adjustment of the below mentioned parameters:

and

each

(In order to enter the password, please select the letters with the keys

letter must be confirmed by pressing the key

#### 1 • Language

Menu to select the language.

Fig. 4.5.2

Language	
English	1

By using the keys **H** and **-** it is possible to display all available languages (English, French, German, Spanish, Portuguese, Dutch, Czech, Polish, Hungarian).

#### 2 • Bar pressure (FP560-FP560A)

By pressing the key S the following message will be displayed:

Fig. 4.5.3

Bar	pressure	
		б

This parameter increases or decreases the sealing pressure.

The keys + and

allow you to modify the value by 1 unit (value 0 to 10).

## 4.6 PARAMETERS STORAGE IN THE HIDDEN MENU

In order to save any modifications in the hidden menu, please press the key  $[\mathsf{M}]$ 

## 4.7 LEGEND OF THE DISPLAYED SYMBOLS AND MESSAGES

<	INSERT THE PACKET
	FILM SEALING IN PROGRESS
<	
<b>↓</b>	(FP560A and FP870A) BELL CLOSING MOVEMENT
	(FP560A and FP870A) BELL OPENING MOVEMENT

## **4.8 FILM REEL INSERTION**

Insert the film reel on the reel holder tube, and lock it by the self-centring cones **1**. (see Fig. 4.8.1.)

- Make the film go through the punches 2.
- Make the film lower edge go under the packaging platen 3.
- Make the film upper edge go over the packaging platen.



## 4.9 PUNCHES ADJUSTMENT

The number of punches to be used depends on the width of the packets to be packaged. For small packets, one punch can be enough. In the machines series FP560-FP560A two punches are available, whereas there are three of them in the FP870A. It is possible to adjust the punches (**A**) at different distances from the contrast (**B**) by turning the punch (see Fig. 4.10.1); if you decrease the distance, the holes in the film are more marked. A correct position of the punches allows you to obtain a perfect heat-shrinking, so as to avoid the package tearing along the sealed side.



**4.10 PACKAGING TANK WORKING SURFACE ADJUSTMENT** 





The product carrier motor-driven belt **1** must be adjusted using the handwheel **2** according to the height of the product to be packaged. For a good packaging, film sealing **3** must take place at half the product height **4**.

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#### **4.11 SEALING FRAME ADJUSTMENT**

Fig. 4.11.1





To adjust the opening of the sealing frame (only for FP560) act on the lock **1** by making it slide in the special guide.

To adjust the opening width of the sealing frame act on the special transformer **2**:

rotate anticlockwise **A** to reduce it rotate clockwise **B** to increase it.

# 5. MACHINE USE

## **5.1 MACHINE PREPARATION**

Once the machine has been mechanically installed, connect it to the mains, then place the main switch in position **ON**. After turning off the STOP push-button (the machine is supplied with the

STOP push-button turned on) and pressing the

push-button, the machine will go on to

the working position.

## 5.2 REEL HOLDER AND PACKAGING PLATEN POSITIONING

Fig. 5.2.1



The reel holder **1** and the product carrier **2** must be adjusted according to the width A of the product and, in particular, it is necessary to leave a space of about 1-2 cm between the product and the sealing edge.



The operation to be performed, before starting products packaging, is the introduction of the film 1 for about 10 cm 1 in the packaging plate then lower the sealing frame 2.

For model **FP560** you have to lower the sealing frame and press it on the film using the left hand with a pressure of about 10-15 kg. The machine will carry out the first sealing on the left side of the film.

Using the right hand help to detach the film so that it does not stick to the sealing blade in cooling phase.



Once the first sealing has been performed introduce the product to be packaged in the bag, resting it on the special product holder support. Using the left hand drag the film and with the right hand bring the product into the packaging plate positioning it on the belt and leave 1-2 cm of space from the sealing blade.

For the FP560 model it is necessary to lower the sealing frame and the moment it touches the sealing blade press it with a pressure of 10-15 Kg.

After the acoustic signal, for end of sealing, leave the handle and using the right hand help to detach the residual film.

For the FP560A and FP870A models press the push-button [START] to start the cycle.

If the acoustic signal has been omitted, wait until the sealing frame opens. Finally the product will be transported out of the motorized belt.

## 5.5 MACHINE LIMITATIONS AND SPECIFICATIONS OF USE

#### • Operating conditions

The following cannot be packaged:

- Products of less than 50 g.
- Products weighing more than the allowed weight.
- Products with a height above the allowed size.
- Products as large as the netting.
- Liquid products of any kind and density in fragile containers.
- Wet products.
- Inflammable products.
- Explosive products.
- Aerosol bombs of any kind.
- Loose powders and volatile products.
- Loose products with a format smaller than the netting holes.



It is not possible to package anything that is not foreseen which can in any way be dangerous to the user and damage the machine itself.

## **5.6 DANGEROUS AREAS**

- Do not touch the sealing blade immediately after a packaging operation, going over the protection barrier against burns caused by the bar residual heat.
- Do not use the machine if the sealing blade is broken.
- Do not touch the storage unit closing vane during the heating stage, danger of burns.

# 6. MACHINE INSPECTION

Fig. 6.0



## 6.1 ELECTRONIC BOARD REMOVAL

If it is necessary to replace the electronic board, please proceed as follows (see Fig. 6.1.1): Disconnect the voltage and wait for at least 5 minutes before starting any operation.

- Remove the connector 1 by pressing by the sides, as indicated on the label.
- Remove the connectors **2** on the board, paying attention not to use the cable, but the connector itself.
- In order to remove the connector **3**, unscrew the screws **4**.



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• By means of the specific spanner, unscrew the screws **5** which tighten the board to the machine.



## 7. ROUTINE MAINTENANCE

#### PRECAUTIONS DURING ROUTINE MAINTENANCE

Before starting any maintenance operation, described in this chapter, unless otherwise required, switch the machine off, switch the voltage off, acting on the main switch and pull out the power supply cable from the mains.

# 7.1 NATURE AND FREQUENCY OF MAINTENANCE CHECKS AND OPERATIONS

Tab. 7.1.1

DAILY MAINTENANCE CHART (12 HOURS OF WORKING)		
BELL UNIT	CLEAN WITH A SOFT WET CLOTH	
	REMOVE THE FILM RESIDUES WITH COMPRESSED AIR	
TANK UNIT	REMOVE THE FILM RESIDUES WITH COMPRESSED AIR	
SEALING UNIT	BLADE REMOVE THE RESIDUES OF FILM STUCK ON THE BLADE	
BELT UNIT (FP560A - FP870A)	REMOVE THE FILM RESIDUES WITH COMPRESSED AIR	
GENERAL	TURN OFF THE MACHINE VOLTAGE	
CLEANING	CLEAN THE MACHINE WITH A WET CLOTH; AVOID THE MACHINE COMING INTO CONTACT WITH WATER. IF YOU WET THE MACHINE ACCIDENTALLY, DRY IT CAREFULLY, BEFORE STARTING PRODUCTION AGAIN	

#### Tab. 7.1.2

WEEKLY MAI	NTENANCE CHART (60 HOURS OF WORKING)
SEALING UNIT	MAKE SURE THAT THERE ARE NO BREAKAGE ON THE CUTTING BLADE
COOLING UNIT	CHECK THE LEVEL OF THE COOLING LIQUID AND IF NECESSARY TOP UP

#### Tab. 7.1.3

MONTHLY MAIN	TENANCE CHART (240 HOURS OF WORKING)
SEALING UNIT	MAKE SURE THAT THERE ARE NO BREAKAGE ON THE CUTTING BLADE
	CHECK THE WEARING STATE OF THE TEFLON UNDER THE SEALING BAR AND REPLACE IT IF NECESSARY

#### Tab. 7.1.4

HALF-YEAR MA	INTENANCE CHART (1500 HOURS OF WORKING)
SEALING UNIT	CHECK THE WEARING STATE OF THE CUTTING BLADE; IF NECESSARY, CHANGE THE BLADE
	CHECK THE INTEGRITY OF THE SEALING RUBBER
	CHECK THE SPRING TIGHTENING
BELT UNIT (FP560A - FP870A)	MAKE SURE THAT THE BELT IS WORKING CORRECTLY
	CHECK FOR ANOMALOUS NOISES
	REPLACE POSSIBLE DAMAGED PARTS
AUTOMATISM UNIT	CHECK THE WEARING STATE OF THE COGGED BELT



## 7.2 RESIDUAL FILM REMOVAL AND MISCELLANEOUS

Before removing any film residues and impurities deposited on the hot parts of the machine wait until the machine has cooled down.

For the cleaning of the lower bell, remove the netting and the larger residues, then go over using a vacuum cleaner.



## 7.3 GENERAL CLEANING

Use exclusively a damp cloth to clean the bell. Do not use any detergents or solvents, since these could damage its transparency.

Clean the machine more frequently if it is used in dusty environments and, in particular, suck away any dust being deposited on internal electrical components, by removing the machine back cover.

## 7.4 REPLACING THE SEALING BLADE

- Pull out the machine plug from the mains;
- Unscrew the three screws 1 locking the blade:
- Remove the damaged sealing blade;
- Clean the blade housing;
- Introduce the insulating Teflon 2 in the central clamp 3 (if necessary replace also the Teflon);
- Put in the new sealing blade, clamping it at the centre:
- Trim the sealing blade level with the slot of the small pistons 4;
- Complete the insertion of the sealing blade in all its housing;
- Push well down the small piston 4 using a screwdriver 5, towards the end of the blade, so that it goes into its slot and tighten its
- clamping screw 1; Trim any Teflon protruding from the central clamp to avoid that it may alter the sealing;
- Make sure that the sealing blade is under tension and that it is correctly positioned in all its length.

## 7.5 COOLANT CONTROL

Every month check the level of the coolant liquid and make sure that it is not below 2-3 cm from the filler, otherwise top up with antifreezing liquid.

The control must be performed when the machine is cold and switched off.



## 7.6 REPLACING THE TEFLON AND THE RUBBER

#### Replacing teflon

- Remove the worn Teflon 1.
- Accurately clear the rubber using a detergent.
- Apply the new adhesive Teflon strips in a linear and flat manner, making sure that, where they meet, the edges match.



Be extremely careful not to touch or make dirty the adhesive side of the





#### **Replacing the rubber**

- Remove the worn rubber 2.
- Accurately clean the housing.
- Put a few drops of glue or biadhesive tape on the side of the rubber to be glued at the bottom of the run channel.
- Put in the new rubber in a linear way without pressing it or pulling it in its length.
- Apply the Teflon as explained in the previous paragraph.

## 7.7 LIST OF SPARE PARTS

The following lists illustrate the electrical and mechanical components (divided in groups). For a fast dispatch of the order we recommend to supply all the requested information:

## Tav. 1 • Cooling unit



POS.	Description spare parts	FP560-FP560A MY030010	N.	FP870A MY030011	N.
1	BLOW-BY PUMP	EM250005	1	EM250005	1
2	RADIATOR	MA230738	1	MA230738	1



POS.	Description spare parts	FP560	N.	FP560A	N.
1	PLATE	MA229832	1	MA221584	1
2	BUSH	MF800236	2	MF800236	2
3	ROD	MA111704	1	MA111704	1
4	ROD	MA112586	1		
5	SPACER	MA600463	1		
6	ELECTROMAGNET	EF010101	2		
7	SECTION BAR	MP400381	mt.	MP400381	mt.
8	TEFLON	MP200504	mt.	MP200504	mt.
9	TUBE	MA302204	1		



POS.	Description spare parts	FP560	N.	FP560A	N.
1	PLATE	MA216516	1	MA216516	1
2	PIVOT	MA107045	1	MA107045	1
3	SPRING	MA107053	1	MA107205	1
4	PIVOT	MA107046	1	MA107046	1
5	PLATE	MA216515	1	MA216515	1
6	PLATE	MA212645	1		
7	PLATE	MA212646	1		
8	LIMIT SWITCH	EF010050	1	EF010050	1



POS.	Description spare parts	FP870A	N.
1	ROUND BAR	MA107429	2
2	PIVOT	MA107045	2
3	LIMIT SWITCH	EF010050	1

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POS.	Description spare parts	FP560 MY050002	N.	FP560A MY050009	N.	FP870A MY050006	N.
1	FLAT BAR	MA212834	1	MA212834	1	MA212835	2
2	GUIDE	MA212673	1	MA212673	1	MA212796	1
3	CENTRAL TERMINAL GROUP	MH040001	1	MH040001	1	MH040002	1
4	GUIDE	MA212674	1	MA212674	1	MA212797	1
5	BALANCER SHAFT	MH030001	2	MH030001	2	MH030001	2
6	SECTION BAR	MA305178	1	MA306019	1	MA305302	1
7	SECTION BAR	MA305179	1	MA305179	1	MA305299	1



POS.	Description spare parts	FP560A MY070010	Ν.
1	JOINT HEAD	MF600066	2
2	SHAFT	MA105897	2
3	ROD	MA105899	1
4	CABLE	EG010765	1
5	JOINT HEAD	MF600067	2
6	BEARING	MF801062	2
7	SHAFT	MA110568	1
8	TOOTHED PULLEY	MA401792	1
9	LIMIT SWITCH	EF010049	1
10	BELT	MF500607	1
11	TOOTHED PULLEY	MA401790	1
12	GEARMOTOR	EM600183	1



POS.	Description spare parts	FP870A MY070027	N.
1	JOINT HEAD	MF900316	2
2	SHAFT	MA107434	2
3	ROD	MA105899	1
4	CABLE	EG010765	1
5	JOINT HEAD	MF600067	2
6	BEARING	MF801062	2
7	ROD	MA112672	1
8	TOOTHED PULLEY	MA401786	1
9	LIMIT SWITCH	EF010049	1
10	BELT	MF500647	1
11	TOOTHED PULLEY	MA401787	1
12	GEARMOTOR	EM600184	1

# Tav. 7 • Automatism unit (FP870A)

# Tav. 8 • Trolley unit



POS.	Description spare parts	FP560-FP560A MY140017	N.	FP870A MY140020	N.
1	CONE GROUP	MH150001	2	MH150003	2
2	TEAR TAB PRINT GROUP	MH120004	2	MH120007	3
3	TEAR TAB PRINT CONTRAST GROUP	MH130003	2	MH130005	3
POS.	Description spare parts	FP560-FP560A MY170008	N.	FP870A MY170010	N.
4	GUIDE	MF900383	1	MF900400	1

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POS.	Description spare parts	FP560	N.	FP560A	N.	FP870A	N.
1	MOTOR	EM600132	1	EM600132	1	EM600133	1
2	BELT	MF500288	1	MF500288	1	MF500383	1
3	BEARING	MF801059	2	MF801059	2	MF801059	2
4	TUBE	MA112581	1	MA112581	1	MA112582	1
5	PLATE	MA213807	1	MA213807	1	MA217166	1
6	ROLLER	MH200032	1	MH200032	1	MH200044	1



POS.	Description spare parts	FP560A MY110001	Ν.
1	SHAFT	MA105864	1
2	BUSH	MF800237	2
3	HAND WHEEL	MA900540	1

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POS.	Description spare parts	FP560A MY010003	N.
1	SHAFT	MA112577	2
2	BUSH	MF800237	6
3	HAND WHEEL	MA901057	1



POS.	Description spare parts	FP560 - FP560A - FP870A MY190005	Ν.
1	PLATE	MA234164	4
2	ROD	MA112671	4
3	GEARMOTOR	EM600198	1
4	LIMIT SWITCH	EF010052	1
5	BUSH	MF801202	2
6	SWITCH	EP010132	1
7	ROD	MA105888	1
8	BEARING	MF800036	1
9	ROD	MA111310	1
10	ROD	MA111659	1

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# Tav. 13 • Electrical diagram unit FP560

POS.	Description spare parts	FP560	Ν.
1	FLEXTRON-MASTER	KZ010134	1
2	FLEXTRON-POWER BASE	KZ010139	1
3	SWITCH	EP010121	1
4	TRANSFORMER	ET010132	1
5	FUSE	EE500012	2
6	FUSE SOCKET	EE500063	1
7	RELAY SWITCH	EE100073	1
8	FAN	EK020022	1



POS.	Description spare parts	FP560A	Ν.
1	FLEXTRON-MASTER	KZ010134	1
2	FLEXTRON-POWER BASE	KZ010139	1
3	FLEXTRON-BELL	KZ010142	1
4	SWITCH	EP010121	1
5	TRANSFORMER	ET010132	1
6	FUSE	EE500012	2
7	FUSE SOCKET	EE500063	1
8	RELAY SWITCH	EE100073	1
9	FAN	EK020022	1



#### FP870A POS. **Description spare parts** Ν. 1 FLEXTRON-MASTER KZ010134 1 FLEXTRON-POWER BASE 2 KZ010139 1 3 FLEXTRON-BELL KZ010142 1 SWITCH EP010121 4 1 5 TRANSFORMER ET010176 1 6 FUSE EE500013 2 7 FUSE SOCKET EE500063 1 8 **RELAY SWITCH** EE100073 1 9 FAN EK020022 2

# Tav. 15 • Electrical diagram unit FP870A



7.8 WIRING DIAGRAM FP560

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RIFERIMENTO MODIFICA S1 F Dis. MY040069 GRUPPO S2H<sup>31</sup> ©(: :)@ -113 mar-16 Scolo DENOMINAZIONE - LXOV T 153 5 91 91 S4 1/1 12 VS-2 02XS 24-1-FIrma DISEGNC ž CA 5 MOD IF I Data 5 12 48 OSX2 F0 Firmo N M1 YOS 25×2.9 N S.R.A. Ender Standing Control of the standing of the 2×50 24 1 V1st0 alala 33 BLACK 1 39 10.0 BLACK3 BLACK2 BLACK7 188 F 188 2 18 0ZXS 1-10 N-FO, 16 IFA III 2 18 0215 S 38-3 37-3 5 T 48 05×5 ÷÷ E (2) ₩ -BLACK--BLUE H-O-N 1-0-1 S571 S6 88 2 PF Q 11 KA1 EP010198 EP010200 EP010192 EP010199 EF010050 KD200022 KD200031 KD200031 KD200031 EG010765 EM600132 EM600184 EP010121 EF010050 EF010049 ET010132 EE500013 KD200014 KD200033 KD200031 EE100073 EM600183 MA212834 EM25000 EP200077 COD. EM600 2400 W 60 W 20 W 15 W 30 W 60 W 2400 VA 20A 2A 20A 8A 8A 8A 8A 8A 0 GENERAL FUSE 2 MOTOR FUSE MIS-WATER PUMP M7 3 SEALING BLOE FUSE 8 BELT MOTOR FUSE 7 POWER FUSE 1 MOTOR BRAKE FUSE 9 BELL IRSE MOTOR FUSE 3 BELL IRSE MOTOR FUSE W7 BELL AUTOMATISM MOTOR BRAKE CYCLE START LIMIT SWITCH LIMIT SWITCH BELL CLOSED LIMIT SWITCH BELL OPEN LIMIT SWITCH BELL SAFETY WASTE FILM WINDER MOTOR SCRAP RECOVERY OUTLET BLOW-BY PUMP MOTOR BELL AUTOMATISM MOTOR SEALING TRANSFORMER MACHINE COOLING FAN OUTFEED BELT MOTOR RESET RELAY SWITCH START PUSHBUTTON EMERGENCY BUTTON v MAIN SWITCH RESISTOR FP560A www.getpacked.com.au GEND F3 F2 (2) S5 % KM1 K41 M5 M7 M8 S3 ß TM1 R3 ž W6 8 БŌ F2 F3 F5 S1 Ŀ ŭ

7.9 WIRING DIAGRAM FP560A



## 7.10 WIRING DIAGRAM FP870A

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# 8. ANOMALIES AND FAILURES - HOW TO REMEDY

#### 8.1 POSSIBLE CAUSES AND REMEDIES

Tab. 8.1.1

PROBLEM	CAUSE	SOLUTION
SMOKE DURING SEALING	HIGH TEMPERATURE	REDUCE SEALING TEMPERATURE
DURING THE HEAT- SHRINKING BUBBLING REMAINS	FILM WITH NO MICROPUNCHES	MAKE THE FILM GO THROUGH THE MICROPUNCHES
THE SEALING OPENS DURING HEAT- SHRINKING	DIRTY OR DAMAGED SEALING BLADE	CLEAN THE SEALING BLADE OR REPLACE IT IF DAMAGED
	INCORRECT SEALING VALUE	ADJUST THE SEALING VALUE
	INSUFFICIENT PRESSURE ON THE FRAME	SLIGHTLY INCREASE PRESSURE DURING SEALING
IRREGULAR SEALING	POOR QUALITY OF FILM	REPLACE FILM
SEALING DOES NOT TAKE PLACE	SEALING VALUE TOO LOW	INCREASE SEALING VALUE
	THE SEALING BLADE RECEIVES NO CURRENT	REPAIR THE SUPPLY CIRCUIT OF THE SEALING BLADE
	WORN TEFLON AND/OR GASKET	REPLACE TEFLON AND/OR GASKET
	SEALING BLADE DAMAGED	REPLACE SEALING BLADE

#### 8.2 AUDIO WARNING OF PROBLEMS

Cyclically, the program performs a number of controls. If there are any anomalies, the electronic board will emit an acoustic signal (beep) and the number of the problem is displayed.

Fig. 8.2.1

Error	1	

Once the problem is solved, it will be possible to reset the electronic board display by pressing

the key **+** or any other key.

Please find here below a list of the problems that may occur and their solutions.

# ERROR 5: PCB temperature too high Solution:



- Switch the power off and check that the air intakes are not blocked.
- Check the correct operation of the board cooling fan.
- Check the correct operation of the cooling fan of the boards zone, in the machines that are equipped with this fan.

If the problem persists, switch the machine off and call the servicing centre.

# ERROR 6: NTC cooling wing temperature too high Solution:



- Switch the power off and check that the air intakes are not blocked.
- Check the correct operation of the board cooling fan.
- Check the correct operation of the cooling fan of the boards zone, in the machines that are equipped with this fan.

If the problem persists, switch the machine off and call the servicing centre.

# ERROR 7: NTC temperature exceeding the valid limits Solution:

- · Make sure that the cooling fan is operating correctly
- Make sure that the ambient temperature is < 40° C

If the problem persists, switch the machine off and call the servicing centre.



#### ERROR 8: Calibrating parameters error

The memory data are corrupted.

Solution

Switch the machine off and then on again

If the problem persists, switch the machine off and call the servicing centre.



#### ERROR 9: EEPROM error

The memory data are corrupted. **Solution:** 

Switch the machine off and then on again

If the problem persists, switch the machine off and call the servicing centre.



#### ERROR 10: 24V outputs over-current error

#### Solution:

• Switch the power off and check the integrity of the electromagnet connection cables.

If the problem persists, switch the machine off and call the servicing centre.



#### ERROR 13: Closed bell micro error

At the START, if the bell does not descend, an error is signalled **Solution:** 

- Check the correct connection of the bell automatism motor and the motor electrical operation.
- Check the mechanical operation of the bell descent.

- Check the correct operation of the closed bell micro (EF010050).
- Check the fuses F2 and F3 situated on the bell inversion module.

If at the START the bell comes down but an error is indicated:

- Check the correct operation of the closed bell micro (EF010050).
- Check the mechanics of the machine: the increase in frictions, in the bell lowering motion, can cause a slow down such to indicate error.

If the problem persists, switch the machine off and call the servicing centre.

# ERROR 14: Open bell micro error Solution:

- Check the operation of the open bell micro (EF010049).
- Check the correct connection of the bell automatism motor.
- Check the fuses F2 and F3 situated on the bell inversion module.

If the problem persists, switch the machine off and call the servicing centre.



#### ERROR 15: Bell opening time error

- Check the operation of the open bell micro (EF010049)
- Check the correct connection of the bell automatism motor.
- Check the fuses F2 and F3 situated on the bell inversion module.
- · Make sure that the bell descent is not hindered by any obstacles or frictions

If the problem persists, switch the machine off and call the servicing centre.



#### ERROR 16: Relay switch error

Solution:

• Check the correct connection of the emergency button and the relay switch correct operation.

If the problem persists, switch the machine off and call the servicing centre.



# ERROR 18: Bell closing and opening micro simultaneously pressed Solution:

- Make sure that the bell opening micro is operating correctly.
- Make sure that the bell closing micro is operating correctly.

If the problem persists, switch the machine off and call the servicing centre.

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