EvoPac
The Way to Wrap

CE

Rotating table with automatic cycle

USE, CYCLE AND PARAMETERS LIST
Revision 2

INDEX

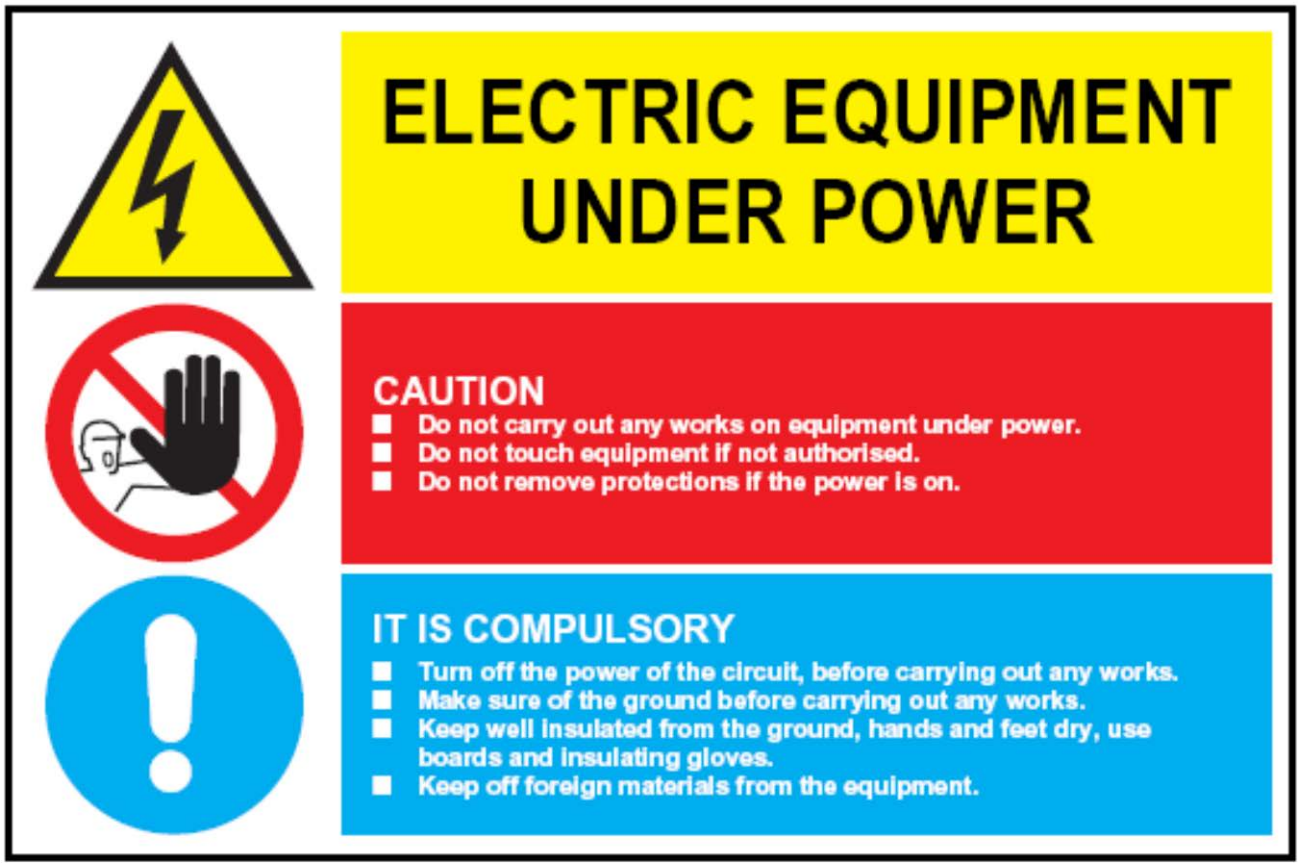
With a view to continuous improvement of this machine's functions, some of its components and/or characteristics could be modified without notice and without prejudice to the validity of this document. If differences are found between the contents of this manual and the actual machine operation, please communicate them to the builder.

1 OPERATORS

The machine was designed to be used even by just one operator. Operators must:

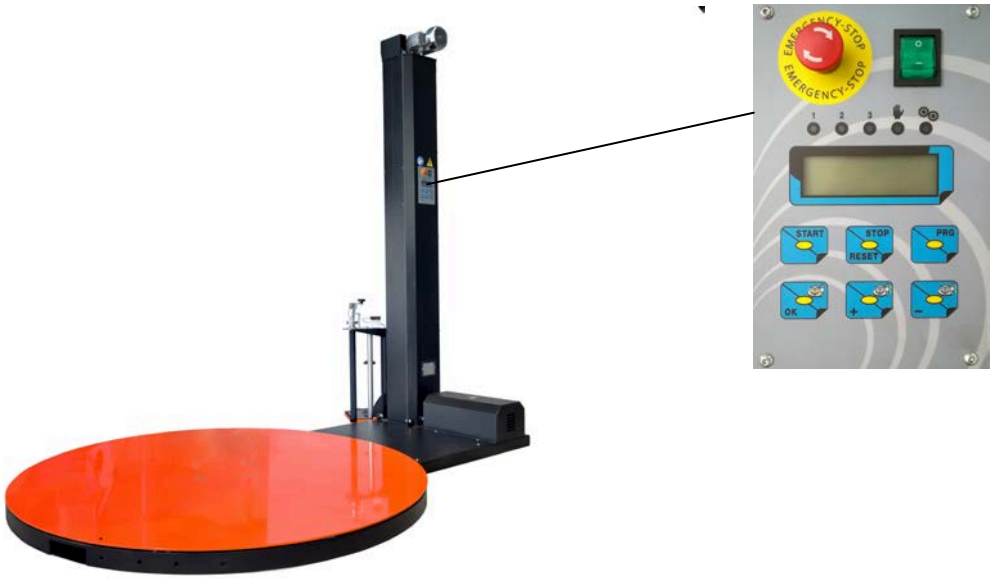
- have understood the contents of this manual;
- be aware of the main accident prevention norms;
- know how to react in case of emergency;
- be provided with the necessary personal protective equipment and know how to use it properly.

Qualified maintenance technicians, as well as possessing the listed characteristics, must be adequately trained in the mechanic and electrical sector.



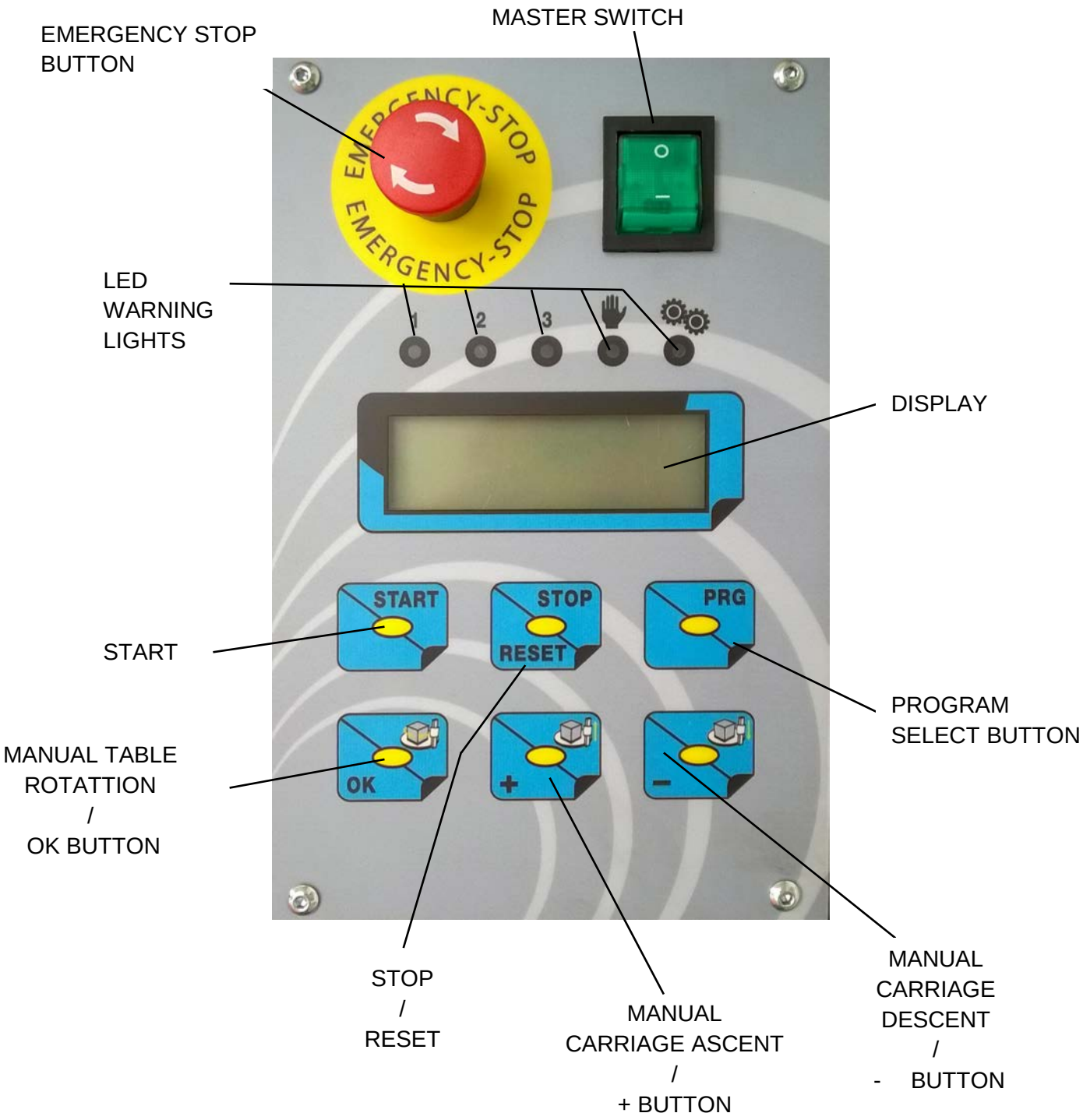
2 CONTROL PANEL

The machine controls are set on a control panel located in the column, in a position easily accessible to the operator.



The control panel position allows control devices to be located:

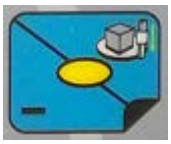
- away from dangerous areas of the machine;
- away from the work area of the machine;
- near emergency stop devices.



The control devices are divided into:

- mechanical actuators (buttons);
- information devices.

➢ Please find below a short description of the function of every button and indicator located on the control panel.
For the complete description of the buttons function please see paragraph 3:

BUTTON-INDICATOR	DESCRIPTION	FUNCTION
	MAIN SWITCH	It turns the machine on and off. When in the ON position it is lit and the machine is on. **NEVER USE THE MAIN SWITCH TO STOP THE MACHINE DURING A WRAPPING CYCLE.**
	DISPLAY	When the machine is being turned on, the display shows the software version of the control logic. It shows the current value of the individual parameters selected
	EMERGENCY STOP BUTTON	When pressed, all moving parts of the machine are safely stopped in the shortest possible time. To be used in case dangerous or alarm conditions arise.
	PROGRAM SELECT	To be used to select between the 3 user's programs, manual functioning and general parameters
	START	It starts the selected wrapping cycle or restarts it from the point where it was stopped.
	STOP / RESET	If pressed during a wrapping cycle it stops the machine. If pressed for a few seconds it reinitializes the machine.
	OK / TABLE ROTATION	To be used to confirm the selected parameter value. In manual functioning it starts and stops the table rotation.
	+ / CARRIAGE ASCENT	To be used to increase the selected parameter. In manual functioning it starts and stops the cassriage ascent.
	- / CARRIAGE DESCENT	To be used to decrease the seleced parameter value. In manual functioning it starts and stops the carriage descent.
	LED 1 2 3	It notifies to the user the selected program.
	MANUAL FUNCTIONING WARNING LIGHT	It notifies to the user the selection of the manual functioning mode.
	WORKING WARNING LIGHT (FLASHING)	Flashing when the wrapper is operating

3 DETAILED BUTTONS DESCRIPTION

- ✓ **Emergency stop button**

If pressed (in any moment) it stops the entire machine in the lower time possible, a sound warning is emitted and the display shows the error message “Err01”. By pressing the PRG button is however possible to access and modify the parameters. To unlock the machine the user has to unarm the emergency button and press the STOP\RESET button to reinitialize the wrapper.

- ✓ **START button functions**

It has different functions referred to the moment:

- If pressed when the machine is in standby it starts the selected cycle.
- Reinforcement turns: if pressed during a wrapping cycle, it stops the carriage while the table is still rotating. When released, the carriage restarts from where it has stopped.

- ✓ **STOP/RESET button functions**

It has 2 different functions base on the pression mode:

- Single pression: it stops the cycle and the machine.
- Holding pression for a few seconds: it reinitialises the wrapper, which moves back to the “reset position”. Completed the reset phase, a sound warning is emitted.
  If the users holds again the button during the reset phase, the wrapper stops and the manual mode is unlocked with the emission of a sound warning.

- ✓ **PRG menu options**

In the PRG menu there are the following entries (which can be selected by the pression of the PRG button):

- 3 user’s programs (“P1”,“P2”,“P3”): the user can customise and save 3 different programs..

- Manual program (“Man”): by selecting the Man program the user can move manually the table and the carriage.

- General parameters (**only experienced staff**) (“Gen”): it allows the user to modify the general parameters of the machine.

  If no button is pressed for a few seconds, the display will show the number of wrapping cycle executed.

- ✓ **OK meu options**

There are different functions on the base of the selected entry:

- If “program and cycles” is selected (P1,P2 or P3)

  By pressing OK the user can access to the “cycle parameters” menu (which shows, flashing on the display, the number of the selected parameter and the relative value).
  The user can access to 7 parameters which govern the cycle (press + or – to navigate between the entries); below there is a summary of the cycle parameters:

REG	DESCRIPTION	DEF.
C01	Selection of the cycle type: - UP: only ascent - UP-DN: ascent and descent	UP-DN
C02	Numbers of table turns when the machine is wrapping the lower part of the pallet	1
C03	Numbers of table turns when the machine is wrapping the upper part of the pallet	1
C04	Table speed [rpm]	11
C05	Carriage speed going upwards [Hz]	65.0
C06	Carriage speed going downwards [Hz]	65.0
C07	Lapse of time between the moment when the wrapper (in the ascent phase) stops detecting the pallet and the actual stop of the table.	1.0

- If “manual functioning” is selected (“Man”):

  In “MAN” the wrapper can be controlled in manual mode:
  - The OK button controls the rotation of the table
  - The + button controls the ascent of the carriage
  - The – button controls the descent of the carriage

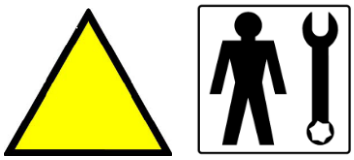
- If ”general parameters” is selected (“Gen”)

  By pressing OK the user can access to the “general parameters” menu (which shows, flashing on the display, the number of the selected parameter and the relative value).
  The user can access to 8 parameters which govern manual control of the wrapper (press + or – to navigate between the entries).

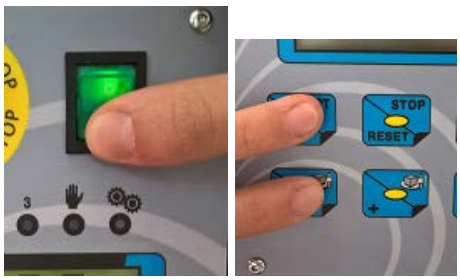
  For the modification of the general parameters please see the following paragraph

4 GENERAL PARAMETERS

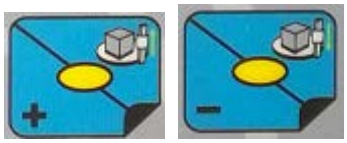
If necessary, users can change the settings of the machine's register parameters.
The builder suggests that register values are not changed if not strictly necessary, as accidental changes may lead to machine malfunctions.



ATTENTION: REGISTER PARAMETERS MUST ONLY BE CHANGED BY EXPERIENCED STAFF, WITH A DEEP KNOWLEDGE OF THE MACHINE AND OF THE PARAMETERS MEANING.

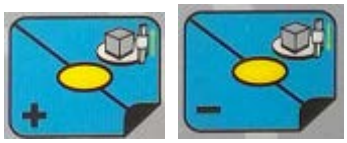


While holding START and OK buttons pressed, turn on the machine using the main switch.



Use + and - to scroll the parameters list and choose the one to be changed.

Press OK to acces the selected parameter.



Use + and – to set the parameter value.

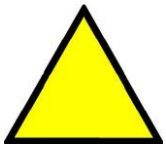
Press OK to save the parameter value.

REG	DESCRIZIONE	DEF.
G01	Rotation speed of the table in manual functioning [rpm]	6
G02	Carriage speed going upward in manual functioning [Hz]	65.0
G03	Carriage speed going downward in manual functioning [Hz]	65.0
G04	Conversion from rpm to Hz	2440
G05	Conversion from Hz to cm (of the carriage)	1441
G06	Conversion from Hz to revolutions (of the table)	141
G07	The percentage value of the first slowing down during braking [%]	70
G08	The percentage value of the second slowing down during braking [%]	85
G09	Lapse of time in which the brake keeps the turntable stopped [min]	5

** Press OK to modify parameter's value. Then the display will starts blinking and showing the actual value of the parameter. So press – or + in order to decrease or increase the value. Press OK to confirm.*

5 TURNING ON

After turning on the machine by using the main switch, the number of the board software version will be displayed for a few seconds, then a flashing "RESET" notice.
Hold the STOP\RESET button to reinitialize the machine. After the reset phase, the number of wrapped pallet will be displayed.



When the RESET button is pressed, an acoustic signal is emitted. The rotating table and the carriage reach their zero positions.

Once the RESET cycle has finished, the machine will have the same settings it had before it was last shut down. The machine has been programmed to carry out different wrapping cycles. The operator shall select the cycle which corresponds best to the characteristics of the load to be wrapped. Select the cycle type to be carried out and set the parameter values according to the specific needs.

6 LOADING AND UNLOADING

Place the load to be wrapped on the rotating table in the correct way, and check its stability. Fix the film end to the pallet.

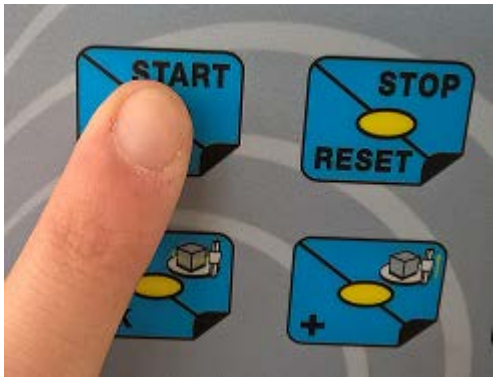
The load must be well balanced to avoid risks.

At the end of the wrapping cycle, cut the film, unload the wrapped product and load a new pallet. If the machine is not in the correct position when it stops, press the RESET button and it will go back to its initial position.

7 PAUSE

During each wrapping cycle, except for the ones in the MANUAL working mode:

- Press STOP to pause the cycle. The Working warning light will keep on flashing in red light, meaning that the machine is still working.



- Press START to resume the cycle from where it stopped or press again STOP to definitively stop the cycle (in this case a RESET will be requested before start a new cycle).

8 RESTART AFTER AN EMERGENCY STOP

In case of danger press the emergency stop button located in the control panel (RED button on yellow background). The machine will safely stop in the shortest possible time.

After pressing the emergency stop button, act in the following way:

- reset the emergency stop button;
- hold the RESET button to restore the machine.

When the RESET button is pressed, the machine reaches its zero position. Once the repositioning has finished, an acoustic signal is emitted, as at the cycle end.
Press the START button to continue the cycle being carried out before the emergency stop. By pressing only the START button after the emergency button has been reset, the machine cannot be restarted. A request to reposition the machine (by pressing the RESET button) will appear on the display.

Before restoring the machine after an emergency stop, make sure that the danger situation has been appropriately eliminated.

9 EFFETTUARE UN CICLO

1. Be sure that the machine is on the zero position, otherwise execute the RESET.
2. Select the desired program by pressing the PRG button. In case there is no cycle setted as requested, change the C01 (cycle) parameter.
3. Press START to begin the wrapping cycle.
4. If reinforcement turns are requested, hold the START button for the time needed.
5. At the end of the wrapping cycle the table gets back to the zero position and the carriage blocks in position, a sound warning is emitted to notify the correct ending of the cycle. In the case which the UP cycle is selected, the carriage won't automatically come back in the zero position; to make this happen press the RESET button to reinitialize the machine or press the START button to begin a new cycle)

10 SAFETY

The carriage is equipped with a limit switch to improve safety; it intervenes if mouthing blocks the carriage descent.

When the limit switch is pressed by an obstacle there is the immediate block of the machine and the display will show the word “Sic” (safety) with the emission of a sound warning. As soon as the limit switch activates the carriage moves up (slowly), then the wrapper automatically shift in manual mode.

11 RESTORE FACTORY SETTING

Turn on the machine while holding simultaneously the OK, + and - buttons to make the machine automatically load the factory settings.

12 ERROR ENCODING

If any error occurs during functioning, the machine stops and displays the error code which caused the malfunctioning.
Below a summary of the alarms that can be displayed:

Emergency error:

- **Err01**: emergency error

Tabel errors:

- **Err11**: over-temperature
- **Err12**: bus over-voltage
- **Err13**: short circuit
- **Err14**: thermic current limit
- **Err15**: istant current limit
- **Err16**: rotation driver is under voltage, due to a possible damage to the internal protection of capacitors.

Carriage errors:

- **Err21**: over-temperature
- **Err22**: bus over-voltage
- **Err23**: short circuit
- **Err24**: thermic current limit
- **Err25**: istant current limit
- **Err26**: carriage driver is under voltage, due to a possible damage to the internal protection of capacitors.

Electric board general errors:

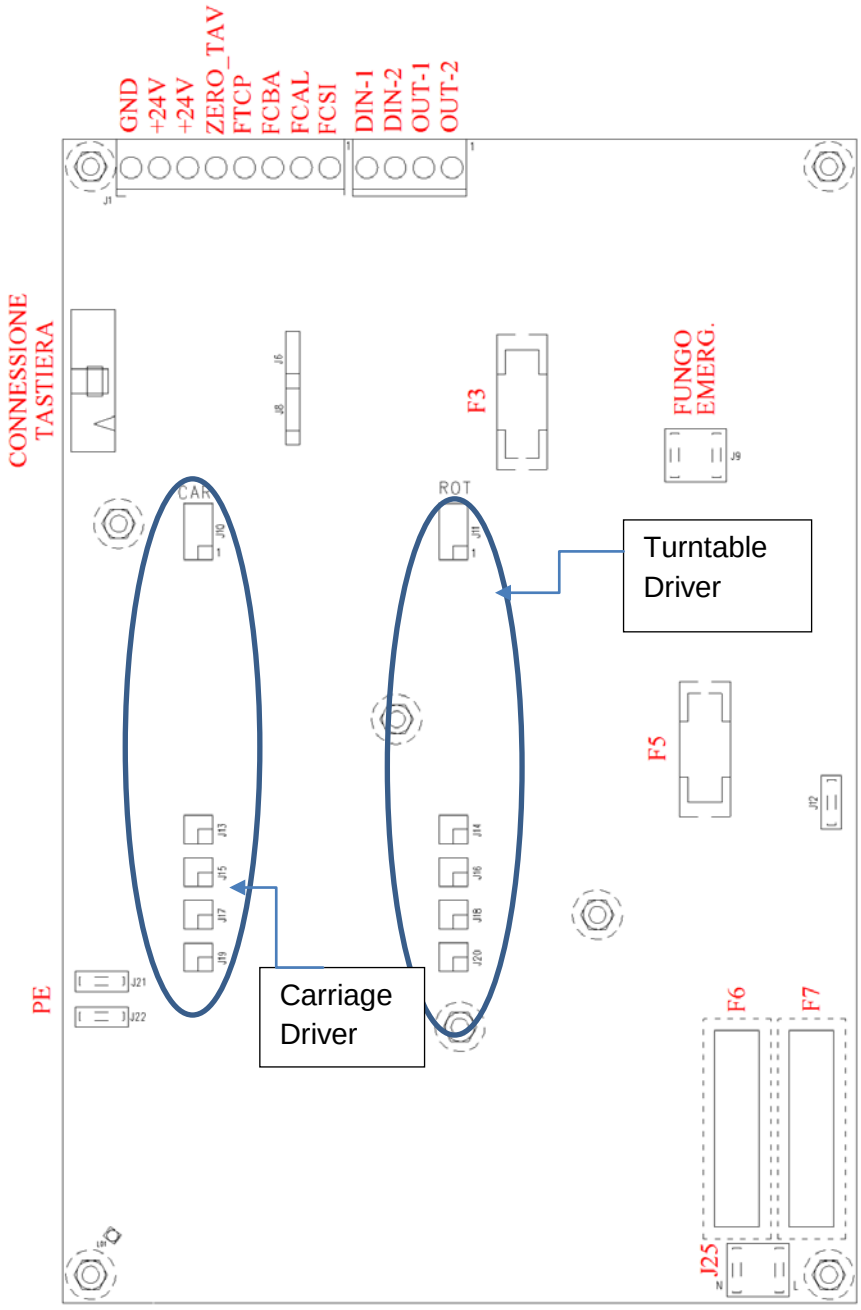
- **Err31**: comunication error between B board and converter
- **Err32**: wrong instruction
- **Err33**: comunication error between A board and B board
- **Err34**: damaged E^2prom
- **Err35**: carriage error: the carriage has exceed the lower limit switch

13 DIAGNOSTIC

The following table describes malfunctions that might occur.

MALFUNCTION	POSSIBLE SOLUTIONS
No electrical power	1. Check that the power plug has been inserted properly. 2. Check that the machine's main switch is in the ON position. 3. Check that there is voltage in the company power grid. 4. Check the condition of the fuses of the control panel. 5. Contact the manufacturer.
The table turns abnormally	1. Check, and if necessary record the rotation chain tension as specified in the use and maintenance manual. 2. Check that the limit switches under the table work properly. 3. Contact the manufacturer.
The machine is blocked	1. Check that the programming selector is in the standard position (yellow led off). 2. Contact the manufacturer.

14 BOARD CONNECTION



ZERO_TAV: zero table microswitch

FTCP: pallet photocell

FCBA: low carriage microswitch

FCAL: high carriage microswitch

FCSI: safety microswitch

DIN-1: auxiliary input 1 (free)

DIN-2: auxiliary input 2 (free)

OUT-1: out RUN

OUT-2: emergency out

J25: input 230 Vac

PE (J21, J22): electric protection

J9: emergency button

F3: secondary fuse electronic control transformer

F5: secondary fuse transformer

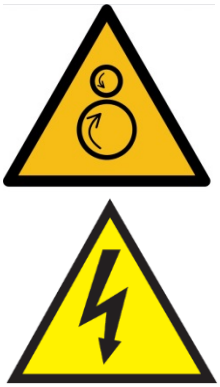
F6, F7: protection fuses on the input line 230 Vac

K = coil max 600mA

15 STANDARD FILM ROLL CARRIAGE

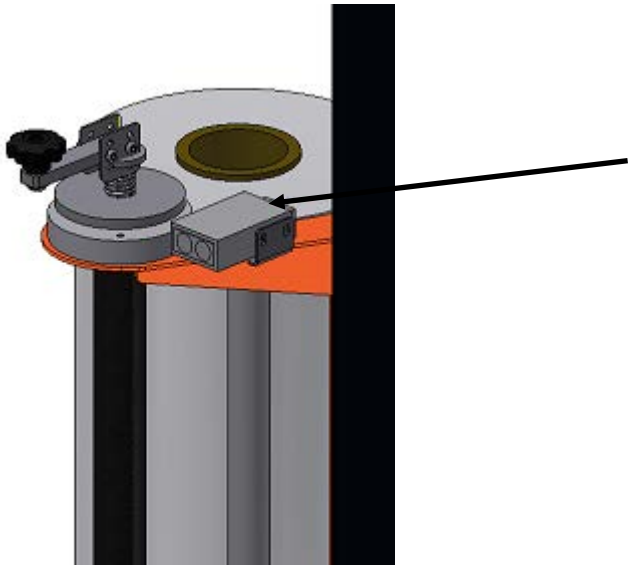
The standard film roll carriage is equipped with a mechanic brake to adjust film tension. The carriage is controlled by the machine's control panel, while the brake adjustment is manual.

Please find below a list of the warning pictograms and plates located on the carriage .
The plates and pictograms are located as shown in the picture.



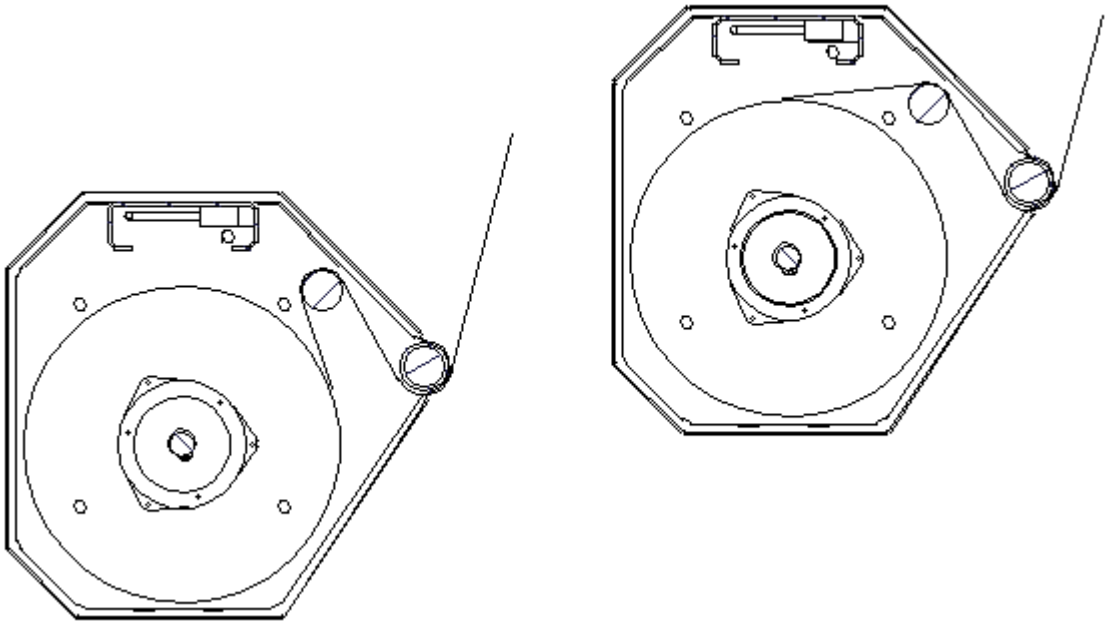
OPERATIONAL DEVICES

The standard film roll carriage is equipped with a pallet height detection photocell.



15.1 INSERTING A NEW FILM COIL

The following picture shows all film passages through the rollers.

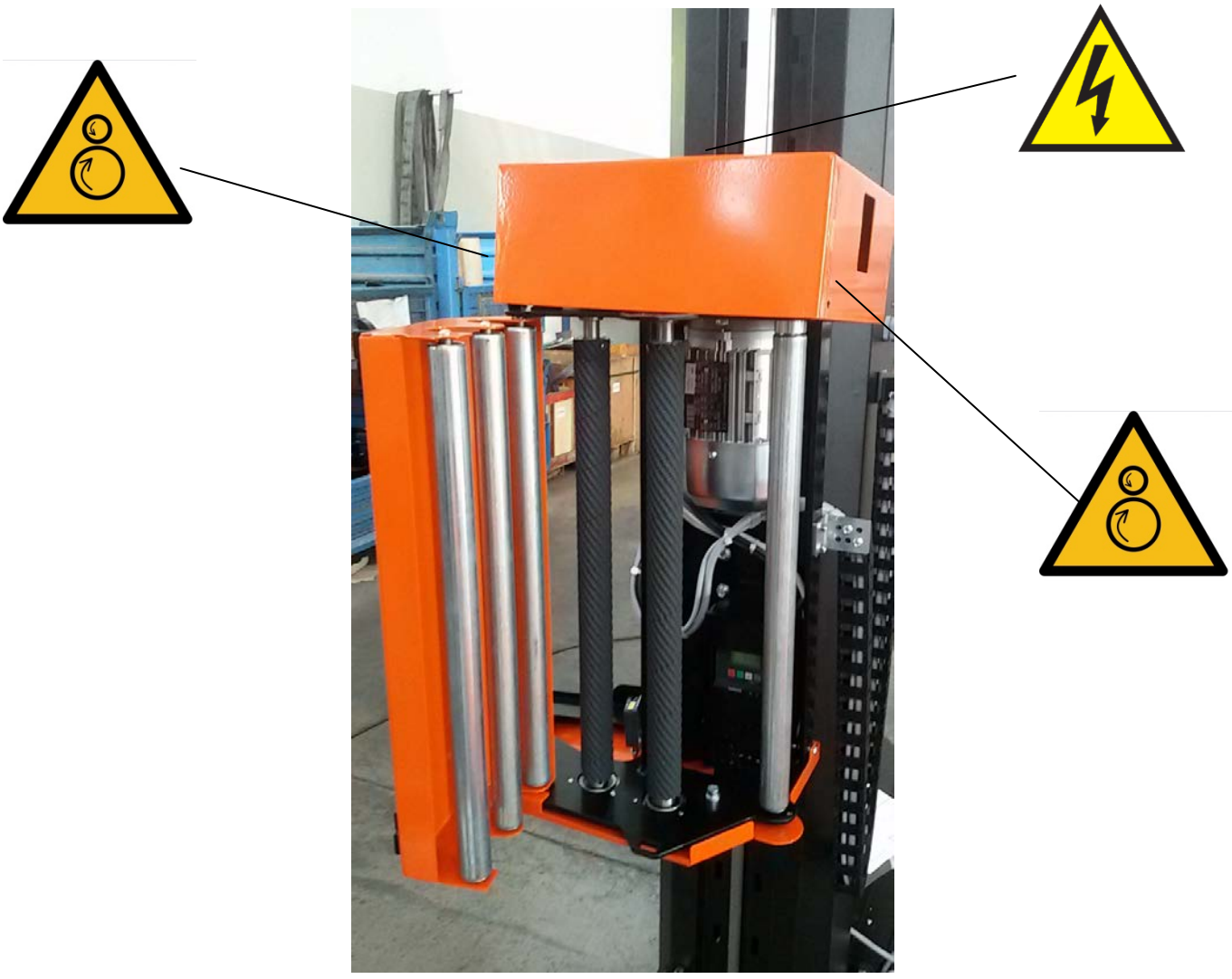


16 POWER PRE-STRETCH CARRIAGE

The power pre-stretch carriage can be used in place of the standard film roll carriage, to pre-stretch the film before wrapping. The carriage logic is independent from the machine, and therefore does not interact in any way with the control panel.

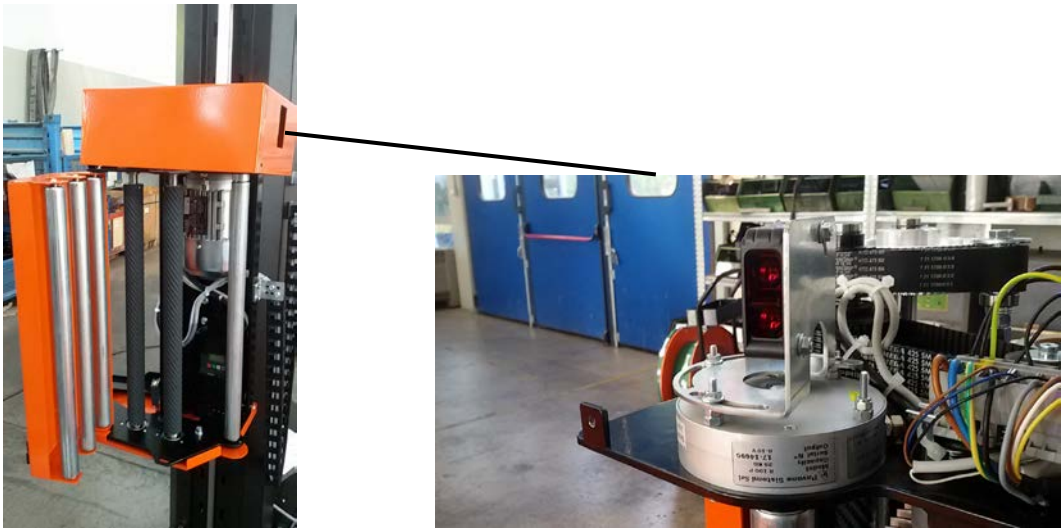
Please find below a list of the warning pictograms and plates located on the carriage.

The plates and pictograms are located as shown in the picture.



OPERATIONAL DEVICES

The power pre-stretch carriage is equipped with a pallet height detection photocell.



The electrical components are protected by a casing fixed to the carriage.

INSERTING A NEW FILM COIL

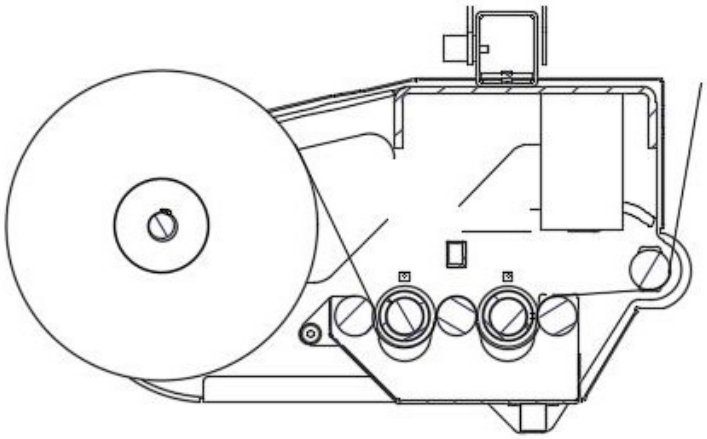
To insert a new film coil in the carriage, act in the following way:

Phase 1: Insert the new film coil in the coil holder.

Phase 2: After opening the carriage door, pass the film end on the steel roller as shown in the picture. Pass the film end through the carriage rollers, as shown in the picture.

Phase 3 Pass the film end on the carriage rollers, as shown in the picture and close the door.

The following picture shows all film passages through the rollers.



REGULATION PARAMETERS

The power pre-stretch carriage is regulated independently from the machine. The regulation parameters of the power pre-stretch carriage are not set through the machine board, but through the inverter located on the carriage, as shown in the picture. For details on the parameter values, please refer to the machine's wiring diagram.

THE INVERTER PARAMETERS MUST ONLY BE CHANGED BY EXPERIENCED STAFF, WITH A DEEP KNOWLEDGE OF THE MACHINE AND OF THE PARAMETERS MEANING.

WRONG SETTINGS MY LEAD TO MALFUNCTIONS, BLOCKS AND IMPOSSIBILITY TO USE THE MACHINE.

INVERTER PARAMETERS

P100 = 50 Hz	P760.1 = 5.0
P304 = 230 V	P761.1 = 0.0
P305 = 1.82 A	P1000 = 0
P307 = 0.37 kW	P1001 = 1.0 Hz
P308 = 0.76	P1016 = 2
P309 = N/A [%]	P1020 = 1
P310 = 50 Hz	P1070 = 755.0
P311 = 1370 RPM	P1071 = 755.1
P700 = 2	P1080 = 0 Hz
P701 = 99	P1082 = 60 Hz
P702 = 99	P1120 = 0.2 s
P703 = 99	P1121 = 0.4 s
P704 = 99	P2000 = 60 Hz
P732 = r52.0	P2800 = 1
P756.0 = 0	P2801.0 = 1
P756.1 = 0	P2802.0 = 1
P757.0 = 0.40	P2802.12 = 1
P758.0 = 0.0	P2810.0 = R2852.0
P759.0 = 0.90	P2810.1 = R722.0
P760.0 = 100.0	P2849 = R2886.0
P761.0 = 0.40	P2850 = 3 S
P757.1 = -1.0	P2851 = 1
P758.1 = 90	P2885.0 = R20.0
P759.1 = 11.0	P2885.1 = R1024.0

EvoPac srl
Via Calcinaro, 2071
47521 Cesena (FC) - Italy
Tel. 0547.630152
e-mail: info@evopac.com
www.evopac.com