



INNOVATIVE
PACKAGING AND PALLETISING SYSTEMS



PMT

Operator Manual

Model

Serial Number

Year of construction

Marking C E

Voltage

Power installed

Air pressure require

Safe working load

Legal name

Place of installation

Machine data

Palletizer PMT

0440BL

2015

on the right hand side door of the panel

3 x 415 V. 50 Hz + N + T

22 kW

20 Nmc/h

1000 Kg

Customer data

UNILEVER UK LTD
SPRINGFILED DRIVE
LEATHERHEAD KT22 7GR - GB

UNILEVER UK SU PORT SUNLIGHT N.3
CENTRAL STORE 3101_1032
PORT SUNLIGHT
WIRRAL CH62 4ZD - GB

Note! In case of change in the place of installation or of conveyance of the property to third parties or if the machine is rented, advise immediately **Mariani s.r.l.**

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Introduction.....	1
Document Information	1
Design modifications.....	2
Document producer	2
Additional copies.....	2
Copyright.....	2
Machine introduction.....	3
Improper use of the machine.....	4
Assistance	4
Manufacturer	5
Machine identification	5
Safety rules adopted for machine development	5
 Residual risks.....	 7
Warnings	7
Maximum load-bearing capacity allowed for the floor of walkways (if present).....	8
Noise emission	9
Personnel qualifications.....	10
Danger zones.....	11
Description of P.P.E.	12
Residual risks present on the Palletizer	13
Warning signs during maintenance.....	21
Warning signplates must be present on the machine.....	21
Instructions for alarms and resolutions from the operator's panel	22

Safety precautions	23
General rules	23
Hazard levels information	24
Warning signs.....	25
Prohibition signs.....	26
Personnel qualifications	27
Responsibilities during maintenance	27
Service technicians	28
Electricians.....	29
Truck operators	30
PMT emergency stop button	30
Conveyor emergency stop button	31
Cut-out switch	32
Filter regulator	33
Air discharge from cylinders.....	34
Doors and covers	35
Electric cabinet.....	37
Generality	38
Safety devices	39
Emergency devices	40
Light barriers	41
Barrier override	42
How to enter into the machine in safety	43
Safe entry into the PMT.....	45
Safety pins and rods	46
Safety measurements	47
Levelling brackets	47
Supporting cross bars or safety bars.....	48
Fortress (dual key padlock on the palletizer door) .	49
Fortress system	50

General Description	53
Machine overview	53
Pressure regulator overview	54
Gauges setting	54
Working cycle	55
Stop	57
PMT emergency stop	57
Emergency stop of conveyors	58
PMT Stop	59
Stopping the Infeed conveyor	59
Short stop	60
Door opening	60
Motors disconnector	61
Stop for end of production	62
Control panel/ Alarms	63
Button panel E9	63
Button panel E9.1	64
Button panel E9.2	64
Button panel E9.3	65
Button panel E9.4	65
Button panel E9.5	66
Button panel E9.6	66
Button panel E9.7	66
“Master key” selector	67
Warning lamp	68
Alarms and solutions	69

Preparations	71
Instructions before startup	71
Voltage	71
Current cut-off	72
Upper and lower indicator lamps test	73
Compressed air circuit.....	74
PMT emergency Stop	75
Conveyors emergency Stop	76
Doors and covers	77
Start	79
Starting the machine.....	79
Conveyors start up	80
Stop/start (lines A and B)	80
Diverter (only for 0440BH, 0440BM, 0440BP)	81
Automatic	83
Main automatic menu	83
Total unload	84
Pallet offload	85
Sheet cycle	86
Enabling/disabling the production (case packer disabled)	86
Opening the pushers (if present)	86
Total unload and data reset	87
Changing format/type of pallet.....	87
Pack unloading from diverter device	88
Diverter (only for 0440BH, 0440BM, 0440BP)	88

Manual	89
Manual main menu	89
Zero-setting of full pallets	92
Operating commands for pushers	93
Operating commands for shutter plate and Back/Side dam ..	94
Operating commands for the elevator	95
Operating commands for pallet conveyors	95
Operating commands for intersheet device	96
Operating commands for infeed conveyors	96
Infeed conveyors operating commands	97
Aligner device manoeuvres	97
Intersheet	99
Loading sheets	99
Changing sheet dimensions	100
Pallets dispenser	101
Pallet dispenser start	101
Safety guard fitted at the pallets magazine entrance	102
Positioning a pallet stack	103
Changing pallet types (emptying the dispenser)	104
Loading of the pallet dispenser	105
Manual motion commands of the empty pallet dispenser ..	106

Table of contents

Displays	107
Displays main menu	107
Counts	108
Pushers	109
Side dams position	110
Lifting Position	111
INTERSHEET position	112
Pallet conveyor speed	113
Infeed conveyor speed	114
Viewing the actual diverter positions.....	115
Viewing the status of the DP network	116
Viewing the infeed register	117
Faults with devices	118
Signals exchange	119
Inputs/outputs display.....	120
Condition chart display	121
Maintenance.....	122
Production data	124
Downtime hour counter.....	125
Enabled Programmes	125

Settings	127
Setting main menu	127
Setting main menu	128
Enable/deactivate the master key control	128
Preselection of batches (optional function)	129
Machine Set-Up	130
Pusher Set-Up	131
Side dam and shutter palate set-up	134
Lifting Setup	135
Elevator Roller setup	136
Setup of full pallets roller conveyor	137
Setup of roller conveyor on the pallet dispenser	138
Setup of the intersheet	139
Infeed Setup	140
Destination of the packs at the infeed	141
Infeed Setup	142
Intersheet setting	143
Sensitive data page	143
Touch screen set-up	144
Encoder Set up	145
Setting encoder faults	146
 Checks during production	147
Alarm	147
Boxes	148
Pallet	148
 Cleaning and daily maintenance	149
Checking the safety devices	149
Preparatory operations before cleaning	149
Cartons removal	149
Main cut-out switch	150
Air pressure	151
Washing	152
How to clean Suction cups and the intersheet magazine area (if	

Table of contents

present)	154
How to clean the plate conveyors	155
Cleaning up the liquid streaks that flowed out from the packs	156
Cleaning the transparent surfaces.	156
Photocells	156
Central lubrication (if present)	156
Storage	157
Carton sheets	157
Glue storage	158
Materials used	159
Pallet measurements	159
Lubricants	161

1- Introduction

This section provides basic information on the Mariani piece of equipment described and on this document too.



DANGER!

To ensure the maximum safety, always read the **Safety Precautions** before doing any kind of work on the machine or making any adjustments.

1.1 Document Information

Responsibilities

Instructions provided in this manual are not meant to replace the laws in force but to enhance the knowledge on safety and accident prevention matters, the rules of which must be compulsorily obeyed.

With reference to what is mentioned in this technical manual, Mariani s.r.l. declines any liability in case of:

- use not in pursuance with the domestic laws in terms of safety and accident prevention
- erroneous prearrangement of the work site
- failure to comply with or mistaking the instructions provided in the manual
- faults in the voltage supply network
- unauthorized modifications to the machine
- changes in the place and/or kind of use



Note!

Translation of the original instructions

In the event of possible disputes or erroneous interpretation of the rules contained in this manual, the language of reference is Italian. The Italian version of the manual is stored in the CD enclosed with this manual.

1.2 Design modifications

The directives provided by this document are in accordance with the design and the construction of the machine at the time of its release from the respective Mariani machine construction plant.

1.3 Document producer

This document has been produced by:

Mariani s.r.l.

Manuals Department

1.4 Additional copies

Additional copies can be requested from Mariani.

To order technical publications, always quote the serial number printed on the front cover of the document concerned, which is also mentioned on the CE plate and on the left inside part of the electric panel.

1.5 Copyright

All rights are reserved. This document or part of it cannot be reproduced, copied or duplicated in any form or by any means without prior clear written authorization by Mariani Srl.

1.6 Machine introduction

Intended use of this Marianni piece of equipment

The machine was designed to operate in an automatic packaging line. Should the machine be inserted in a line for food packaging, strictly follow the health laws and rules in force in the place where the line is operating.

The machine was designed to operate in closed environments protected from weather conditions.

The machine was designed to satisfy the specific requirements of the customer according to the characteristics of the product to be processed.

1.7 Improper use of the machine

All those uses which are not explicitly indicated in this manual are considered as improper use, in particular:

- Use of the machine in explosive atmosphere;
- Use of the machine in inflammable atmosphere;
- Washing of the machine zone where the control apparatus is fitted with water jets;
- Use of the installation by personnel without proper training;
- Use of the machine not in accordance with the laws in force;
- Incorrect installation;
- Defects in the feeding networks;
- Total or partial non-observance of the instructions;
- Inadequate maintenance;
- Processing of materials other than those described in [Boxes on page 148](#).
- Working cycle different than that described in [Working cycle on page 55](#).

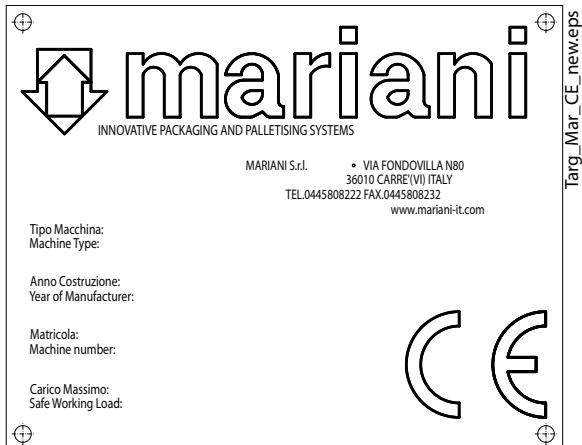
1.8 Assistance

In case of any problem during the running of the machine consult the manufacturer.

1.9 Manufacturer

This Mariani equipment was produced by:
Mariani s.r.l.
 Via Fondovilla, 80
 36010 Carrè (VICENZA) - Italy

Tel.+39/0445/808222
 Fax +39/0445/808232
 E-Mail info@marianni-it.com



1.10 Machine identification

This identifying plate, fixed on the door at the right hand side of the electric panel, carries all the identifying data to quote to Mariani in case of need to call them for assistance for this specific model.

The plate carries also the CE symbol, which means that the machine complies with the main regulations in terms of health and safety at work enacted within the European Union (CE)

1.11 Safety rules adopted for machine development

The following rules and directives have been observed during the development phase of the machine to fulfil the safety requirements:

- In conformity with directive 2006/42/EEC (which since 29th December 2009 has superseded the previous directive 98/37/EEC).
- Low tension directive 2006/95/EEC
- Electromagnetic Compatibility 2004/108/EEC

Specific rules observed for the development of Palletizers and Depalletizers: UNI EN 415-4

– CONFORMITY DECLARATION –

According to the CE Machine Directive 2006/42/CE, Enclosure IIA

The undersigned Manufacturer

Mariani s.r.l. Via Fondovilla, 80 36010 Carre' (VI) ITALIA
Tel.+39/445/808222 Fax +39/445/808232 E-Mail info@marianni-it.com

declares, on his own responsibility, that MACHINE

Model: Palletizer

Function: To palletize

Type: PMT

Serial number:

complies with the following Directives and subsequent amendments:

- **2006/42/CE (Machine Directive)**
- **2004/108/CE (Electromagnetic Compatibility Directive)**
- **2006/95/CE (Low tension directive)**

The person authorized to draw up the technical sheet at the Mariani s.r.l. premises can be contacted at the following address:Via Fondovilla, 80 36010 Carre' (VI)

The Machine was designed and constructed according to the following harmonized rules::
EN 60204-1:2006
EN ISO 14121-1:2007

Carrè

MARIANI s.r.l.

A legal Representative:

2- Residual risks

This section contains information on safety measures and residual risks related to the machine.



DANGER!

Mariani s.r.l. recommends that all instructions, procedures and warnings in this manual be followed meticulously.

2.1 Warnings



Caution!

Do not wear necklaces, ties, watches and loose clothing that can catch on to moving parts of the machine.



Note!

Mariani s.r.l. will not be held responsible for damage to people, things or animals due to the incorrect use of the machine or for not using the personal protection equipment (PPE)



Note!

This manual provided by Mariani s.r.l. must be read carefully. The manufacturer will not hold itself responsible for damage arising from the non-observance of safety norms, procedures and warnings given in the documentation.



DANGER!

Attention: The maximum bearing load of full pallets palletizers can sustain (weight of the pallet + loaded product) and cannot exceed is **1000 Kg**.



DANGER!

ATTENTION: The maximum weight of a product layer which can be loaded on the **PMT MS** and **NPM** palletizers (with shutter plate and moving up/down) **cannot exceed 150 Kg**.

2.2 Maximum load-bearing capacity allowed for the floor of walkways (if present)

Should the machine be supplied with walkways or anything else to grant access to the machine, the maximum load-bearing capacity values allowed are:

- For the floor max 2 KN/m² with distributed load and max 1.5 KN with concentrated load on a minimum area of 200 x 200 mm.
- For the steps, allowed load is 1.5 KN on an area of 100 x 100 mm with steps not larger than 1,200 mm. .



Caution!

For all the walkways the floor has been designed to bear a low density individual weight, not that of a crowd. These structures cannot be used to handle or transfer loads.

2.3 Noise emission

The machine was designed and built to reduce noise emissions at the start.

Several measurements taken in various different parts of the machine where it was reasonable to foresee the presence of the operator during normal running have given the following results:

- The level of A-weighted acoustic power emitted by the machine at the work place does not exceed 80 dB(A).

Reference norm for the measurement: UNI family, EN 11200.

If the machine is inserted in a reverberant environment or in the presence of other noise sources, the employer MUST EVALUATE the actual exposure of the operator to the noise and supply adequate personal protection equipment (such as ear defenders, ear plugs, etc.).

2.4 Personnel qualifications

The **OPERATOR** must be a qualified person who will be authorized to use the machine by the employer and the safety manager, only after the manual (OM) containing operational procedures and instructions has been studied and after having undergone training with the technical assistants of Mariani s.r.l.

The **MECHANICAL TECHNICIAN** is a qualified operator who has studied all the information contained in the given manuals and has been authorized by Mariani s.r.l. (after the necessary training with the company) to intervene on the mechanical parts of the machine for periodic adjustments or mechanical maintenance. The mechanical technician is not qualified to effect electrical operations.

The **ELECTRICAL TECHNICIAN** (See [Electricians on page 31](#)) is the qualified electrician who has studied all the information given in the manuals and has been authorized by Mariani s.r.l. (after the necessary training with the company) to effect electrical operations for machine adjustments or maintenance.

The electrician is not qualified to operate mechanical adjustments on the machine.



Mariani s.r.l. will not be held responsible for damages to people, things or animals arising from the use of the machine by unqualified operators and technicians.

2.5 Danger zones

Any area inside or in the proximity of the machine wherein a person is exposed to health risks or damage to body parts is considered as a danger zone.

Mariani s.r.l. has carried out a risk analysis which has reduced most of the risks connected to the conditions of use of the machine. However, some residual risks remain and will be pointed out further on in this chapter.



Note!

Residual risks can be eliminated by following the instructions given in this manual and using the Personal Protection Equipment (**PPE**) as recommended.



Note!

The employer must choose the most suitable **PPE** according to and relative to the aforementioned dangers.

All the dangers present during the normal work cycle of the machine can be avoided through the correct use of the command panels.

SYMBOLS	DESCRIPTION
 O_tuta.eps	Mandatory: use protective overalls.
 O_caschetto.eps	Mandatory: use protective helmets.
 O_guanti.eps	Mandatory: use protective gloves.
 O_cuffie.eps	Mandatory: use protective ear defenders
 O_scarpe.eps	Mandatory: use protective shoes
 O_occhiali.eps	Mandatory: Use protective goggles.

2.6 Description of P.P.E.

The P.P.E. are protective devices which must be used by the qualified operators and technicians during the various work phases on the machine.

2.7 Residual risks present on the Palletizer

RESIDUAL RISKS		
OPERATIONAL PHASE TRANSPORT AND PLACEMENT		
RISKS OF	SAFETY MEASURES	P.P.E. TO BE USED
 DANGER! For the transport and placement interventions the machine must absolutely be turned off and all the residual current discharged, and if there are elements that may cause heating hazards (glue, heat-shrinking items etc.) wait until they have completely cooled down.	<ul style="list-style-type: none"> • Crushing, Bumps, Grazes, Cuts • The machine does not present any difficulties in movements. • Information on machine operations are strictly reserved for the use of qualified technicians and staff The instructions and drawings for machine transport and installation are contained in the technical manual TeM. • Transport and placement have to be performed solely by authorized technicians, trained to use the necessary equipment in a safe and correct manner, also in relation to the risk of exposing others to danger (see the technical manual TeM). • If there are mobile elements that may, with the machine at a standstill, suddenly move about dangerously, it is mandatory to block them before transporting the machine. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps  O_caschetto.eps
PHASE: START-UP		
RISKS OF	SAFETY MEASURES	P.P.E. TO BE USED
<ul style="list-style-type: none"> • Bumps, grazes, cuts, crushing, dragging, entanglement, 	<ul style="list-style-type: none"> • Use the PPE shown at the side, so as to avoid the dangers highlighted. • Follow the instructions in this technical manual and in the technical manual machine start-up must be performed only by qualified experts and technicians. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps  O_caschetto.eps

Residual risks

<ul style="list-style-type: none"> Scrapes or bumps due to the residual pneumatic energy which remains pressurized when the machine is at a standstill 	<ul style="list-style-type: none"> The use of the PPE shown here at the side is mandatory. Carefully read the instructions in the chapter on safety in this manual. Most part of the pneumatic system is automatically discharged but in some cases some elements remain pressurized and these are described in the manual at the chapter entitled "Safety Measures." 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Bumps, shearing, abrasions or crushing 	<ul style="list-style-type: none"> For any type of intervention on the machine during start-up, it is mandatory to discharge all residual energy still present, block in a suitable manner all the components that may suddenly move, and follow all the instructions regarding the cutting off of all the sources of energy as explained in the technical manual TeM. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Fire due to overheating of the machine's electric/electronic components 	<ul style="list-style-type: none"> To avoid overheating of the electric parts, see that the periodic maintenance of the electric panel filters are carried out as instructed in the technical manual (TeM). 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Electrocution (electric shock) 	<ul style="list-style-type: none"> It is absolutely forbidden to operate on energized zones during normal machine runs. Operations on the electric parts must be performed only by electricians after having cut off the electric feed and de-energized the machine (after waiting for about five minutes) as explained in this manual. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Electrocution (electric shock) subsequent to a break down. 	<ul style="list-style-type: none"> The machine is equipped with a differential switch, which cuts off the circuit in the event of faults with the grounding. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps

PHASE: OPERATING FUNCTIONS		
RISKS OF	SAFETY MEASURES	P.P.E. TO BE USED
• Bumps and abrasions	<ul style="list-style-type: none"> When using the machine, keep at a suitable distance and pay attention to the products that are moved around and the mobile devices used to move the products. 	   O_guanti.eps O_tuta.eps O_scarpe.eps
• Scrapes or bumps caused by pneumatic energy which remains pressurized when the machine is at a standstill	<ul style="list-style-type: none"> It is mandatory to use the PPE shown here at the side. Carefully read the instructions in this manual at the chapter on safety measures. Most part of the pneumatic system is automatically discharged but in some cases some elements remain pressurized and these are described in the manual at the chapter entitled "Safety Measures". <i>To gain access to the machine in absolute safety, read the instructions in the chapter on safety measures.</i> 	   O_guanti.eps O_tuta.eps O_scarpe.eps
• Scrapes or bumps caused by the breakdown of the pneumatic system.	<ul style="list-style-type: none"> The Safety manager will see that the periodical maintenance and controls marked out in the manuals are respected so as to avoid malfunctions in the pneumatic system. 	   O_guanti.eps O_tuta.eps O_scarpe.eps
• Crushing, dragging, entanglement	<ul style="list-style-type: none"> The use of the PPE shown here at the side, is mandatory to avoid injuries caused by crushing, dragging and entanglement on the conveyor belts and in the zones for the organization and packaging of the products. The removal of machine guards is prohibited. <i>To gain access to the machine in absolute safety, read the instructions in the chapter on safety measures.</i> 	   O_guanti.eps O_tuta.eps O_scarpe.eps

Residual risks

<ul style="list-style-type: none"> Bumps, shearing, abrasions or crushing due to interfacing with other machines 	<ul style="list-style-type: none"> When a dangerous situation arises, command an emergency stop. The employer is obliged to consider the risks the operator is exposed to when working on one or more machines lines and must be trained so as to ensure his/her own safety. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Fire due to overheating of the machine's electric/electronic components 	<ul style="list-style-type: none"> To avoid overheating of the electric parts, see that periodical maintenance of electric panel filters are performed as instructed in the technical manual (TeM). 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Overload / short circuit 	<ul style="list-style-type: none"> It is absolutely prohibited to extinguish fires with water in proximity with electric appliances. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Electrocution (electric shock) subsequent to a break down 	<ul style="list-style-type: none"> The machine is equipped with a differential switch which cuts off the circuit in the event of faults with the grounding. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Electrocution (electric shock) 	<ul style="list-style-type: none"> It is absolutely forbidden to operate on energized zones during normal machine runs. Operations on the electric parts must be performed only by electricians after having cut off the electric feed and de-energized the machine (after waiting for about five minutes) as explained in this manual. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps

<ul style="list-style-type: none"> Overload / short circuit, indirect hazards due to lightning 	<ul style="list-style-type: none"> The client is charged with the task of checking that the electric supply for the machine is adequately protected in relation to the effects of lightning striking and propagating in the electric plant. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Acoustic hazards 	<ul style="list-style-type: none"> When working on a single machine there is no obligation to use the PPE for ear protection. The employer is charged with the task of performing the relevant measurements in order to avoid exposing the operator to excessive acoustic hazards. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Dangerous to eyes and skin due to laser radiations 	<ul style="list-style-type: none"> In the presence of laser devices such as scanners, spotters, photocells or similar devices, it is prohibited to fix your gaze on the laser beam. For any intervention in proximity with the laser device, you have to wear specific safety glasses having the adequate degree of protection, and also the other PPE shown here at the side. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps  O_occhiali.eps
<ul style="list-style-type: none"> Irritations on the skin and eyes 	<ul style="list-style-type: none"> Use the PPE during daily or periodical cleaning. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps  O_occhiali.eps

Residual risks

OPERATING PHASE: MAINTENANCE

RISKS OF	SAFETY MEASURES	P.P.E. TO BE USED
<p>DANGER!</p> <p>For maintenance interventions the machine must absolutely be turned off and all the residual current discharged, and if there are elements that may cause heating hazards (glue, heat-shrinking items etc.) wait until they have completely cooled down.</p>		
<ul style="list-style-type: none"> Crushing, dragging, entanglement 	<ul style="list-style-type: none"> The use of the PPE shown here is mandatory to avoid lesions due to crushing, dragging and entanglement on the conveyor belts and the zone for the formation and packaging of products. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Bumps, shearing or crushing 	<ul style="list-style-type: none"> Before performing any type of maintenance work it is mandatory to discharge all the residual energy still present on the machine, block all parts that may suddenly move and follow all the instructions regarding the cutting of electric feed described in the technical manual TeM. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps  O_caschetto.eps
<ul style="list-style-type: none"> Scrapes or bumps due to pneumatic Energy which remains pressurized when machine is at a standstill 	<ul style="list-style-type: none"> It is mandatory to use the PPE shown here at the side. Carefully read the instructions in this manual at the chapter on safety measures. Most part of the pneumatic system is automatically discharged but in some cases some elements remain pressurized and these are described in the manual at the chapter entitled "Safety Measures." 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Fire due to overheating of the machine's electric/electronic components 	<ul style="list-style-type: none"> To avoid overheating of the electric parts, see that periodical maintenance of filters of the electric panels are performed as instructed in the technical manual (TeM). 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps

<ul style="list-style-type: none"> Irritations on the skin and eyes 	<ul style="list-style-type: none"> It is absolutely prohibited to use water or other liquids to clean the electric panels or appliances.. Do not extinguish fires with water when in proximity with electric appliances. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Electrocution (electric shock) 	<ul style="list-style-type: none"> It is absolutely forbidden to operate on energized zones during normal machine runs. Operations on the electric parts must be performed only by electricians after having cut off the electric feed and de-energized the machine (after waiting for about five minutes) as explained in this manual. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Electrocution (electric shock) subsequent to a break down 	<ul style="list-style-type: none"> The machine is equipped with a differential switch, which cuts off the circuit in the event of faults with the grounding. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Overload / short circuit, indirect hazards due to lightning 	<ul style="list-style-type: none"> The client is charged with the task of checking that the electric supply for the machine is adequately protected in relation to the effects of lightning striking and propagating in the electric plant. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps
<ul style="list-style-type: none"> Dangerous to eyes and skin due to laser radiations 	<ul style="list-style-type: none"> In the presence of laser devices such as scanners, spotters, photocells or similar devices, it is prohibited to fix your gaze on the laser beam. For any intervention in proximity with the laser device, you have to wear specific safety glasses having the adequate degree of protection, and also the other PPE shown here at the side. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps  O_occhiali.eps
<ul style="list-style-type: none"> Irritations on the skin and eyes 	<ul style="list-style-type: none"> When performing maintenance works use the PPE and only the products recommended by the manufacturer. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps  O_occhiali.eps

Residual risks

OPERATING PHASE : DISMANTLING AND DISPOSAL

RISKS OF	SAFETY MEASURES	P.P.E. TO BE USED
<p>DANGER!</p> <p>During the dismantling and disposal operations the machine must absolutely be turned off and all the residual current discharged, and if there are elements that may cause heating hazards (glue, heat-shrink-wrap items etc.) wait until they have completely cooled down.</p>		
<ul style="list-style-type: none"> Crushing, bumps, abrasions, cuts, 	<ul style="list-style-type: none"> The machine does not present difficulties in movement. Information on the transport of the machine are reserved for use by the qualified technicians and staff. The instructions and drawings for transport and installation of the machine are contained in the technical manual TeM. Disposal and dismantling operations must be performed only by the authorized technicians, trained to use the necessary equipment in a safe and correct manner, also in relation to the hazards others may be exposed to. (see technical manual TeM). Though the machine is at a standstill there are mobile parts that may move suddenly and in a hazardous manner and must therefore be blocked before machine transport. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps  O_caschetto.eps
<ul style="list-style-type: none"> Bumps, abrasions, cuts 	<ul style="list-style-type: none"> The personnel assigned to dismantling operations are obliged to wear the PPE shown at the side, so as to avoid exposure to hazards arising from sharp edges, angular and protruding parts. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps  O_caschetto.eps
<ul style="list-style-type: none"> Bumps, shearing, abrasions or crushing 	<ul style="list-style-type: none"> Before dismantling, it is mandatory to discharge all the residual energy in the machine, block the possible mobile parts in a suitable and safe manner to avoid sudden movements and follow all the instructions given in the section on energy sources in the technical manual TeM. 	 O_guanti.eps  O_tuta.eps  O_scarpe.eps  O_caschetto.eps

2.8 Warning signs during maintenance

**DANGER!**

To effect any maintenance operation on the machine, follow the procedures outlined below.

- 1 Cut off the machine's power supply together with the pneumatic supply.
- 2 Discharge the residual energy:
- for the electric plant, wait 5 minutes before intervening.
- discharge the air from the pressurized cylinders by using the buttons/levers. See [How to enter into the machine in safety on page 43](#).
- 3 Make sure that there is no ulterior residual energy, and if so, proceed as indicated above.

**Caution!**

Maintenance operations must be carried out by mechanical technicians authorized and trained to use all the necessary equipment in a safe and adequate way (consult the technical manual TeM).

**Note!**

For any maintenance operation consult the technical manual (TeM).

2.9 Warning signplates must be present on the machine.

**DANGER!**

To warn operators of danger areas of the machine, Mariani s.r.l. attached warning signplates as described in the chapter on Safety.

2.10 Instructions for alarms and resolutions from the operator's panel



Note!

Mariani customers and their technicians working on Mariani machines are charged with the task of performing all the controls and the operations described on the touch screen/operator's panel.



Important!

Mariani declines any responsibility for damages to people, things or the machine, caused by failure to respect the procedures described on the operator's panel during machine usage.

3- Safety precautions

Read this section before carrying out any intervention.

Follow the instructions given so as to avoid personal injuries and damages to the machine.

3.1 General rules



P_gener.eps



An incorrect use of the equipment could expose you or others to danger of death! Mariani declines any responsibility for any fatal accident or for injuries to people or damages to the machine if this has not been operated in accordance with the directives provided in this **Operating Manual (OM)**.



Immediate danger of death!

Do not jog the machine nor make it to run unless all the safety system components are operative. Replace immediately any component of the safety system, if found not to be working properly.



Always replace machine components with PARTS HAVING THE SAME CHARACTERISTICS

In case of doubts contact Mariani S.a.s.
Risk of fire and damage to the machine.
Mariani declines any responsibility for accidents with fatal consequences and for damages to people or to the machine arising from the replacement of parts with others that differ from the original ones.

3.2 Hazard levels information

Hazard warnings contained in this document have the following significance:



P_gener.eps



DANGER!

Immediate danger of death!

Failure to observe these warnings could expose yourself or others to be in **danger of death!**



Warning!

Risk of serious personal injuries!

Failure to observe these warnings could result in **serious personal injuries!**



Caution!

Risk of minor personal injuries!

Failure to observe these warnings could result in **minor personal injuries!**



Important!

Risk of damages to the equipment!

Failure to observe these warnings could result in **damages to the equipment!**



Note!

This warning is used to emphasize information when they are important.

Note warnings are not to be regarded as hazard information.



P_eletrico.eps

3.3 Warning signs



DANGER!

Risk of electrical shock!

Failure to observe this warning can expose you to risk your life.

Any equipment which do not clearly show to contain electrical devices is marked by the warning sign here to the left.



A_scott.sps



Warning!

Hot surface!

Failure to observe this warning could cause injuries or scalds.

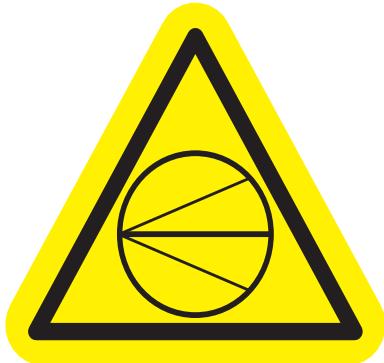
Any hot surface is marked by the warning sign here to the left. Temperature can be higher than 60°C.



Warning!

High temperature!

Failure to observe this warning could cause injuries by scalds.



A_press.eps

The warning sign here to the left means that there is intense heat entrapped in the area where the sign is positioned. Temperature can be higher than 60°C.



Warning!

Pneumatic energy!

Failure to observe this warning could result in injuries caused by moving parts.

The warning sign here to the left means that there is pneumatic energy entrapped in the area where the sign is positioned.

3.4 Prohibition signs



P_acqua.eps



DANGER!

Keep dry!

Failure to observe this warning can expose you to risk your life.

Do not splash water or any other liquid material towards the area where the sign to the left is positioned.



D_tocc_mano.eps



Warning!

Do not touch!

Failure to observe these warnings could result in injuries to your fingers or to some other part of your body.

This prohibition sign shows the risk of possible personal injuries in the area where the sign is applied.



D_tocc_piedi.eps



DANGER!

Do not climb!

Failure to observe these warnings could result in personal injuries caused by falls.

This prohibition sign shows the risk of possible injuries in the zone where the sign is applied.

3.5 Personnel qualifications

**DANGER!****Immediate danger of death!**

Failure to observe the Safety precautions could expose you to the risk of death.

All the personnel must consider any electric device as under tension.

All operations must be carried out so as to avoid any personal risk of injury.

3.6 Responsibilities during maintenance

**DANGER!**

During service or maintenance interventions, the technician and the electrician charged of these tasks will be liable for the machine but also for all the people in its proximity!

Before finishing the interventions, it is also among the responsibilities of the technician and electrician in charge of the service and maintenance interventions to **make sure of the complete operativeness of all the safety devices** the machine is provided with.

3.7 Service technicians

Only those technicians who have attended specific training or courses of specialization are allowed to work on the machine.

Service technicians might be:

- technicians employed in **Mariani**
- Mariani technicians are meant those Mariani employees who have attended specific training courses at the Mariani Professional Training Centres or those who have equal professional specialization.
- technicians employed by the **customer**

Technicians employed by the customer will have to have the following qualifications and professional capabilities:

- to be able to read (in English or local language) the technical information of their concern
- to be able to understand the technical drawings
- to have a basic knowledge in mechanics and electronics
- to have a basic knowledge in mathematics
- to be able to handle tools (even those special).

3.8 Electricians

Electricians will have to:

- be qualified according to the pertinent local laws
- have a certain experience in plants and installations of this kind
- have an ascertained professional specialization on works made on drawings or cables lists
- be aware of the local accident prevention regulations for those systems under tension and automatized

The interventions on electrical equipment the machine is provided with must be performed by specialised personnel only.

According to standard EN 60204-1:2006, point 3.53 the term "specialized operators" refers to:

- Operators with enough technical knowledge or experience to be able to avoid the risks coming from electricity.

The use of dedicated keys or of special tools to enable the specialised personnel to perform operations -for which the disconnection of the devices could be inappropriate- will be enough. The main network disjunctor might be operated - according to the need- with doors open.

Examples of this kind of interventions are:

- reset of protective devices
- calibration settings of the devices
- troubleshooting and diagnostic tests

3.9 Truck operators

Truck operators will have to be qualified in accordance with the pertinent local laws.

Truck operators' tasks are:

- unloading of the machine from the transport vehicle
- planning and execution of the machine or of its components handling inside the factory in a safety and accurate way
- cooperate during the assembling operations of the machine.

3.10 PMT emergency stop button

In case of any danger to people or risk of damage to the machine one of the red **emergency stop buttons** must be pushed.

To stop immediately the machine at the occurrence of an emergency situation, the exact positioning of all the emergency stop buttons must be known.

The **emergency stop button** will have to be used only in situations of danger to people or to the machine. To stop the production in normal operating conditions see the **Stop** section in the instructions for use.



Note!

Emergency stops do not cut the electric supply off the machine.

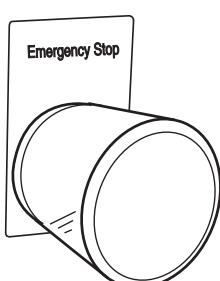
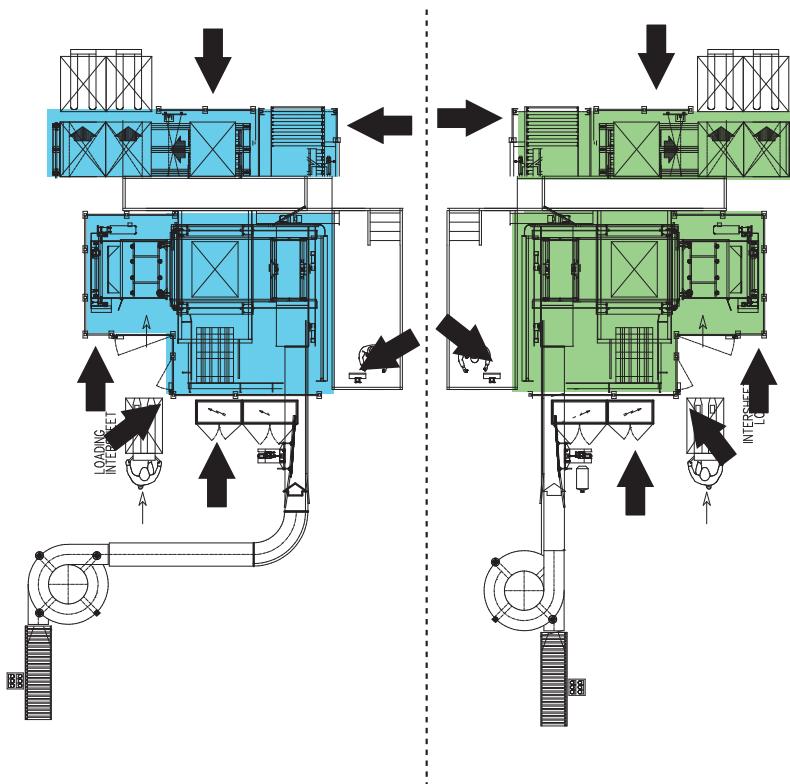
Not all the cylinders are released from the pressure inside the machine.

Do not leave anything in the way where stop buttons are positioned so to enable an immediate intervention in case.

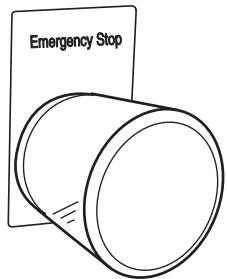


Note!

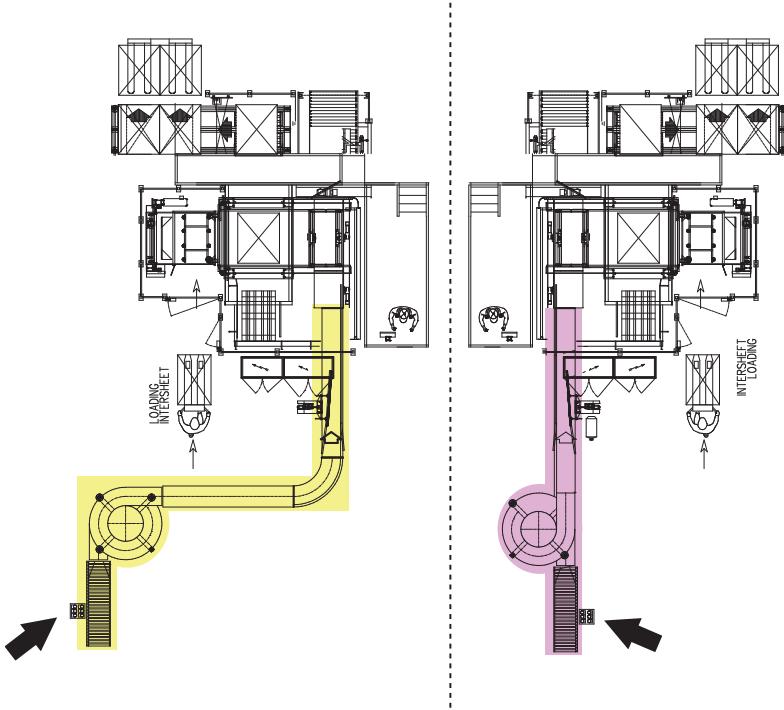
The pictures shown at the side show the position of the emergency stop buttons either for right-hand side or left-hand side versions of machines.



Pul_emerg.eps



Pul_emerg.eps



0440BL - 04_Safety_en.fm

3.11 Conveyor emergency stop button

In case of any danger to people or risk of damage to the machine one of the red **emergency stop buttons** must be pushed.

To stop immediately the machine at the occurrence of an emergency situation, the exact positioning of all the emergency stop buttons must be known.

The **emergency stop button** will have to be used only in situations of danger to people or to the machine. To stop the production in normal operating conditions see the **Stop** section in the instructions for use.



Note!

Emergency stops do not cut the electric supply off the machine.

Not all the cylinders are released from the pressure inside the machine.

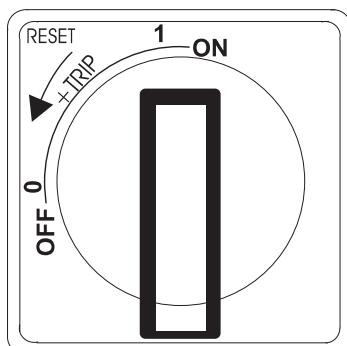
Do not leave anything in the way where stop buttons are positioned so to enable an immediate intervention in case.



Note!

The pictures shown at the side show the position of the emergency stop buttons either for right-hand side or left-hand side versions of machines.

3.12 Cut-out switch



Int_princ_01.eps



Turn the **cut-out switch** OFF and padlock it in this position.

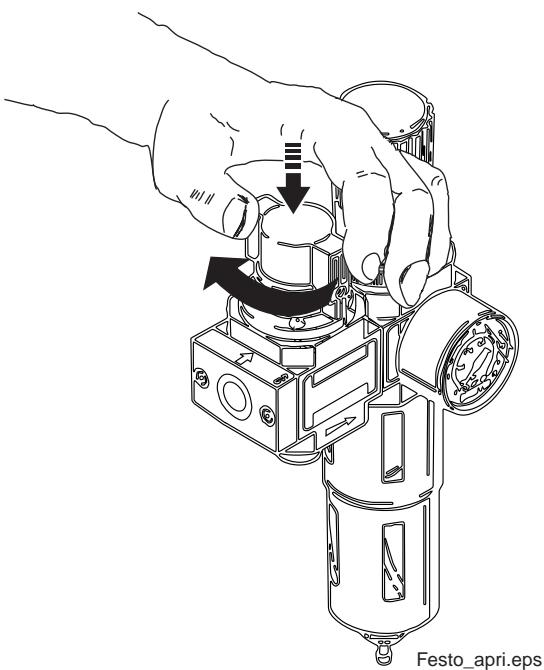
The padlock key must be removed by the service technician or by the electrician and retained by him/her until the intervention is over.

When the **cut-out switch** is turned to OFF the electric supply to the machine is not disconnected. **The supply cable** but also the **cut-out switch** will continue to stay under tension.

When the cut-out switch is turned to OFF, **the electric cabinet could still have a dangerous voltage.**

It takes about 5 minutes to discharge the residual tension from inside the electronic instrumental panel.

3.13 Filter regulator



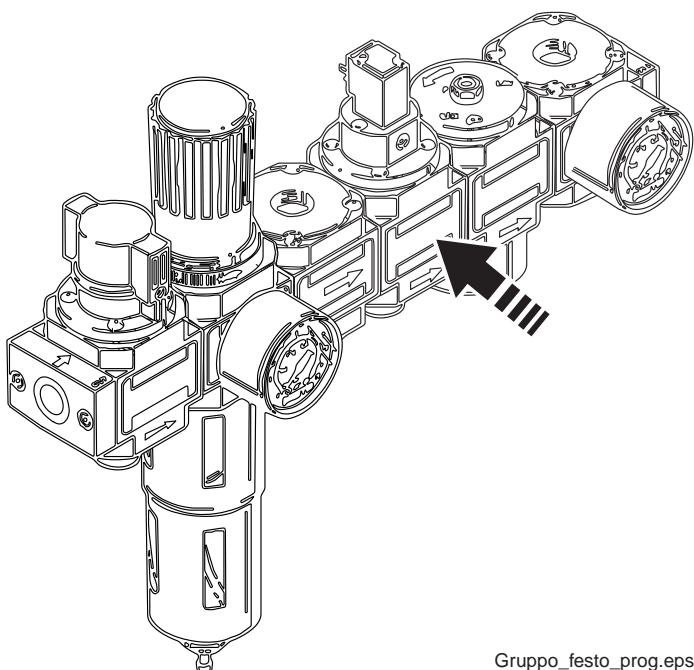
Cutoff valve



Risk of personal injuries!

Before starting any service intervention, make sure that the machine is **not** pressurized. The **cutoff valve** must be turned to the OFF position (disconnected) and padlocked. To turn the valve to the OFF position, lower the regulator lever till it is visible from the bottom side of the cutoff valve.

The padlock key must be removed by the service technician or by the electrician and retained by him/her until the intervention is over.



Fast air escape valve/progressive taken-in



DANGER!

Risk of personal injuries!

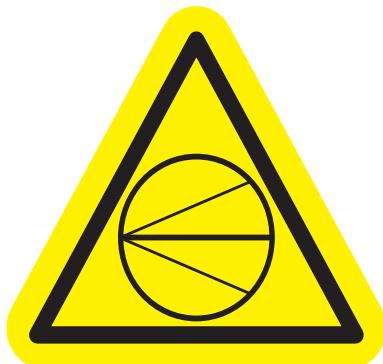
In case of any emergency stop of the machine this valve releases the air from all the cylinders apart from some of them which must remain pressurized for functional reasons.



DANGER!

According to the number of hours the machine is used and to the extent of "dirt" (residues) present in the air proceed with the **periodical cleaning** of the valve and check its good working order. If this procedure is not carried out with periodical regularity, Marianni declines any responsibility for accidents with fatal consequences and damages to people, machine or related appliances.

3.14 Air discharge from cylinders



A_press.eps

In the machine working area and, however, in the area within the protective devices, for functional reasons, several cylinders remain pressurized even in emergency situations, e.g. with protective devices open.



DANGER!

Pneumatic pressure is not released from the circuit when the supply is cut off as the system has been equipped with appropriate non-return valves.



Note!

The areas where these devices are installed are marked with the warning signs of residual risk shown here.

Before carrying out any operation in the working area, the operator must release the air through the corresponding buttons. Consult the diagrams to identify the cylinders which stay pressurized and locate the non-return valve with its respective discharge button. (See symbols shown here beside).

All buttons release the air through a cylinder or a section of the pneumatic circuit. This allows the operator to access the devices but it does not completely eliminate the hazard.

Operators must therefore wear personal protection equipment before attempting any operation and be very careful since the weight of the device itself could cause accidental movements such as falls.

If few devices have been moved manually, the operator must carefully restore the pneumatic supply because parts that are re-pressurized could interfere with each other while returning to their respective positions at the time of interruption.

3.15 Doors and covers



Warning!

Moving parts and hot surfaces could cause serious personal injuries!

Do not jog the machine or operate it if any safety switch is not operative or if any cover is not fitted.

Doors

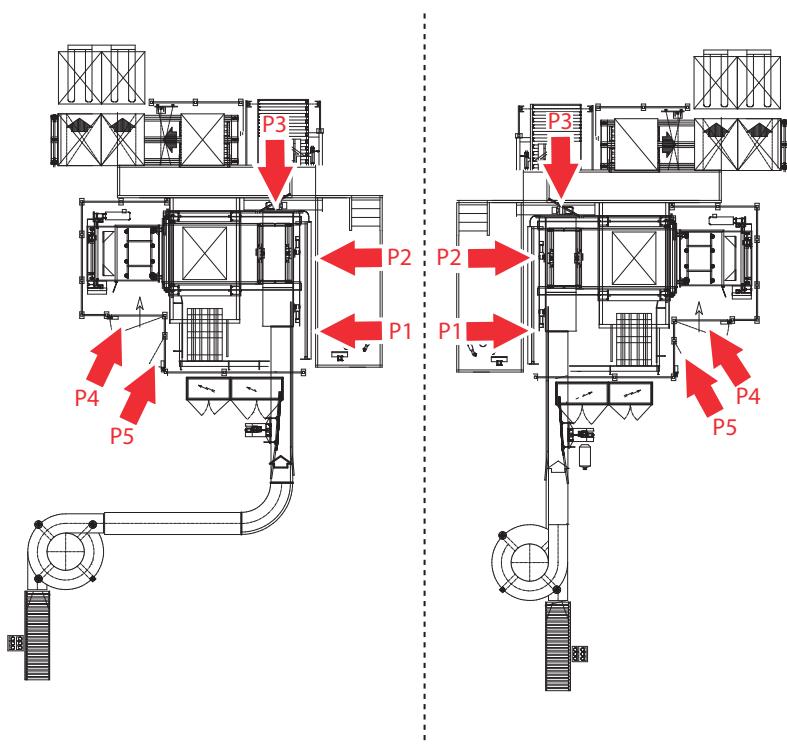
All the doors leading to risky areas are provided with safety switches. These switches are part of the safety system and **under no circumstances must be bridged nor by-passed nor made to be inoperative.**

Do not open the doors during the production. Do not stop the machine by opening the doors equipped with safety switches. The machine could perform an opposite movement immediately after the stop.



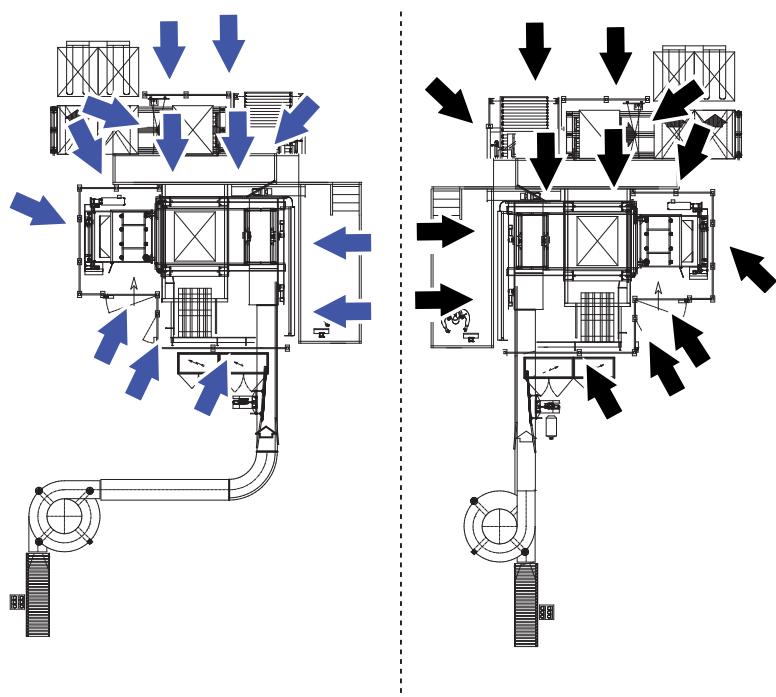
Note!

The pictures shown at the side show position and number of the access doors either for right-hand side or left-hand side versions of machines.



Safety precautions

Covers



All covers are screwed to the machine.



Note!

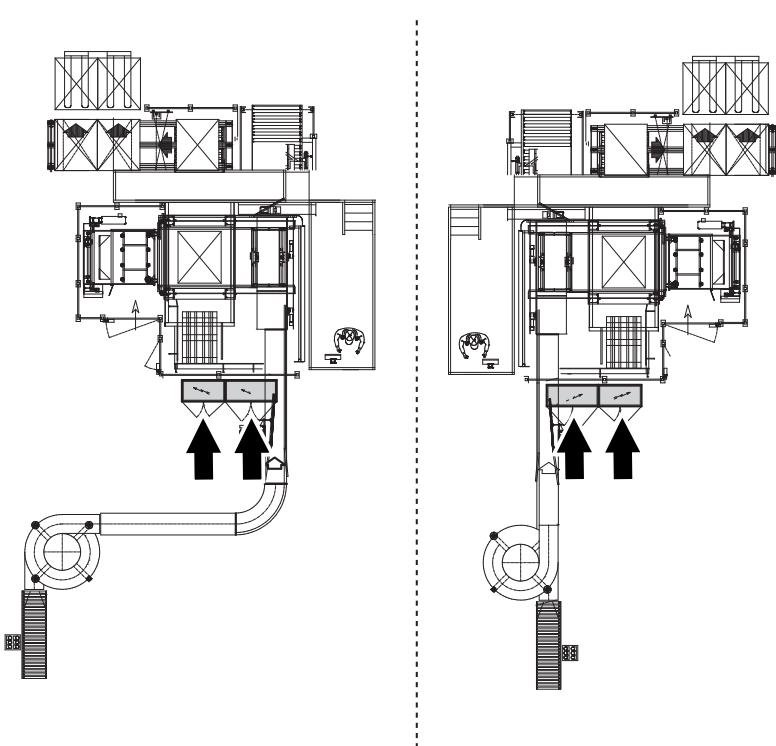
When the maintenance interventions are over, and before jogging or activating the machine, check that all covers are properly fitted into their correct position.



Note!

The machines are all equipped with perimeter safety guards and are put next to one another. To identify the exact position of all the guards consult drawing C.

3.16 Electric cabinet



Risk of fulguration!

Inside the electric cabinet voltage is 415 V: enough to cause fulguration and even fatal consequences. In case of accident, consult a doctor immediately.

When the **cut-out switch** is turned to the OFF position, the electric cabinet could still be under high voltage. **It takes about 5 minutes to the residual tension to be discharged from the electronic switch board.**

All interventions inside the electric cabinet must only be performed by specialized operators.



Risk of electrocution!

Cabinet doors must be locked out/tagged out after any intervention.



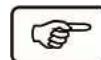
P_elettrico.eps



P_acqua.eps

3.17 Generality

Risky zones



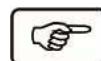
Warning!

Do not lean inside the machine while it is running. Leaning inside the machine against the side of it, the upper or lower part of it may cause serious injuries from being crashed or scalded.

The access in proximity to the machine must be allowed to authorized personnel only.

Hazard zones are all those zones within the safety guards. Every time the operator operates inside the machine by opening safety guards, this implies the immediate stop of the machine and of all its moving parts located inside this zone. To access the internal parts of the machine, follow the procedures described in paragraph: How to enter into the machine in safety on page [43](#).

Chemical products



Warning!

They can be flammable or injurious to health. Read the warnings on the containers labels carefully!

In case of hydraulic oils, lubricants and cleaning solutions handling, rigorously observe warnings on the containers labels. Always use safety outfits recommended on the instructions on the containers labels. Wear protective gloves and glasses for the chemical products handling.

For the final products handling, follow the instructions given to this purpose by the supplier.

3.18 Safety devices

- Mobile guards with handles and safety limit switches for opening detection: when these safety devices are opened, the machine stops in emergency. Only operators can open these devices to carry out service operations (to remove products and so on).
- Openable safety guards equipped with safety limit switch and key-lock to prevent their accidental closing and reset. These mobile guards can only be opened by specialized and authorized maintenance operators who must keep the key.
- Encroach barriers are installed at the full pallet outfeed or at the entrance to hazard zones with the function of stopping the installation in case a person enters without first stopping the machine.
- Fast air escape valve/progressive taken-in. In case of an emergency stop of the machine this valve releases air from all the cylinders. Those which for functional reasons must stay pressurized are excluded.

3.19 Emergency devices

- Red coloured mushroom-head retaining push-buttons positioned on the main button panel. It is recommended to leave those zones clear so as to allow to take immediate action in case of need.
- Pressure SWITCH to detect compressed air shortage. In case of compressed air deficiency in the circuit, the machine stops.

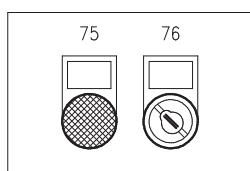
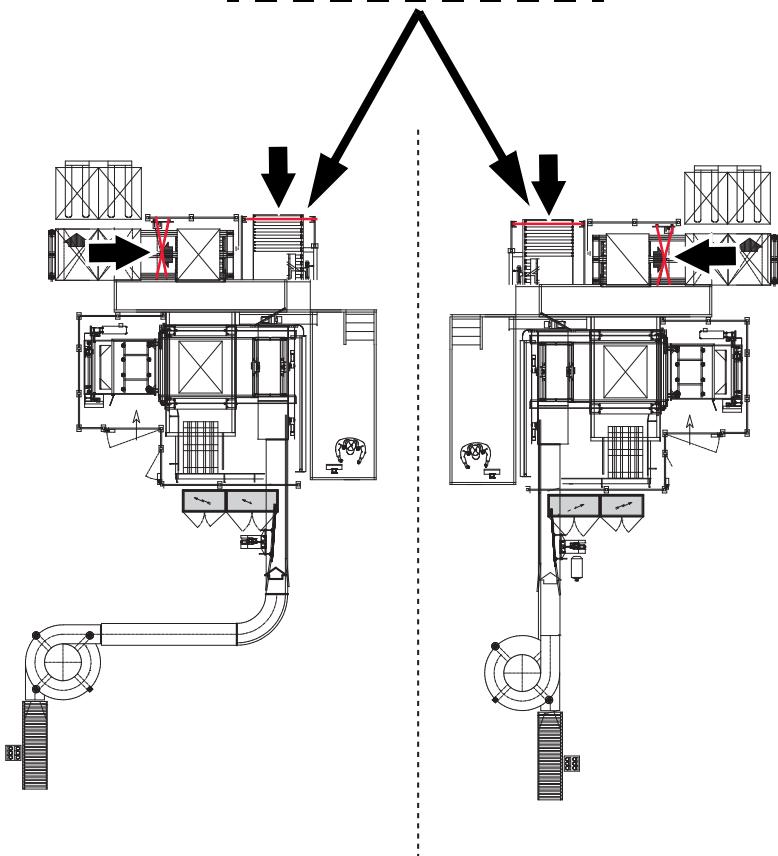
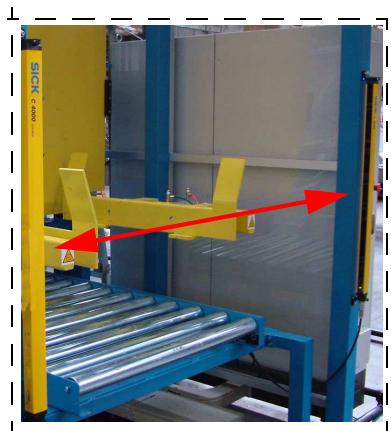


Note!

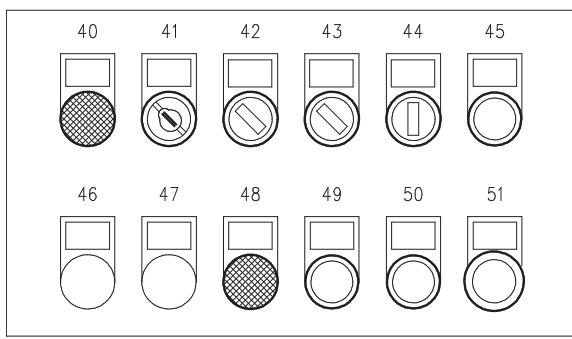
The pressure switch is calibrated during the start up to intervene at a minimum value of 4,5 bars.

It is recommended not to change this calibration.

- Safety overload cutout for motors and auxiliary circuits. In case of protected equipment overloads or short circuits the installation will stop.



0440BH_E9-5.eps



0440BH_E9-2.eps

3.20 Light barriers

The encroach barriers are mounted at the pallet outfeed zone and on the empty pallets loading zone.

They are designed to immediately stop the palletizer or the pallet magazine in emergency status should a person enter without first stopping the machine.

A signal lamp is fitted in correspondence with the photocells:

green light = reset barrier free

red light = emergency

yellow fixed light = muting condition.

yellow flashing light = override condition, deactivated.

When photocells are crossed the lamp signalling encroach barrier tripping (48-75) switches on and the display shows the message:

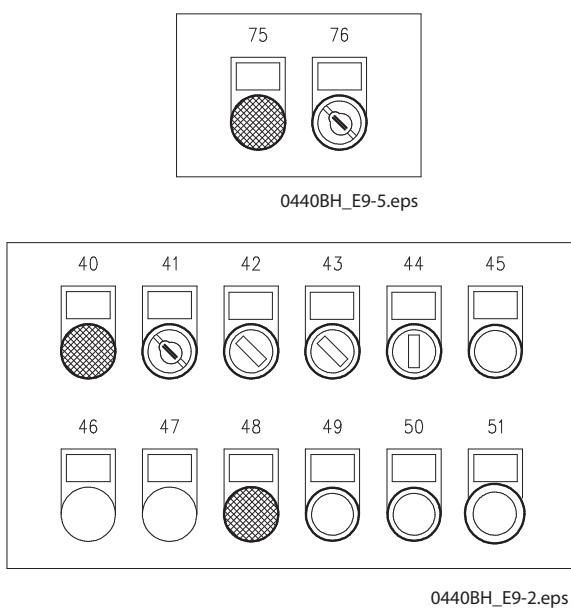
ENCROACH BARRIERS TRIGGERED OR PMT TO RESET

To access the barrier triggering zone, pick up the key from the barrier resetting selector (41-76) and keep it throughout the intervention.

To resume operation :

- make sure that the person (or object) the inconvenience was caused by is out of the photocells reading area and out of the machine.
- insert the key into the barrier resetting key-button (41-76) and turn it to the "1" position.
- For the pallets dispenser only pull the resetting rope positioned in the vicinity of the barrier.
- follow the starting sequence.

3.21 Barrier override



DANGER!

Immediate danger of death!

Failure to observe this information will put your life in danger!

This selector inhibits an accident-prevention function, therefore can only be used when the case described below arises. Only qualified technicians after specific training are authorized to operate this selector.

The override selector can only be used to free a pallet that while in transit gets accidentally jammed. Should this situation occur, the emergency circuit makes the machine stop and prevents machine start-up and full pallets unloading.

To remove a pallet follow this procedure only after having checked that no one is inside the machine working area.

- Insert the key into the barrier override selector
- Turn the selector to activate the command.
- For button (45) of the dispenser push-button panel press the button.



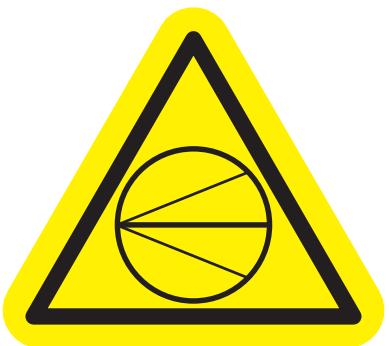
Note!

The barrier override function will stay active only for the time required by the operator to unload a jammed pallet.

Always check the state of the barriers through their corresponding signal light. Signal light colours and associated meanings are:

- green light = barrier is operational
- red light = emergency state
- fixed yellow light = muting condition
- yellow flashing light = override condition, deactivated.

3.22 How to enter into the machine in safety



A_press.eps



DANGER!

This procedure is fundamental for the operator's safety.

Read the following description carefully and understand the procedure.

Due to functional reasons, not all the pneumatic system gets de-energized when the machine is in an emergency state (due to a door opened, an emergency push-button pressed or the crossing of encroach barriers) .

Should the operator need to enter into the machine, those components which stay pressurized could put the operator in danger. To avoid any risks connected to these pressurized devices, carefully follow the procedure described in this paragraph.

The cylinders that stay pressurized are:

- 131.C1: Pusher no.1
- 131.C8: Pusher no.2 (only for serial number 0440BH/BM/BP)

All the described operations can only be carried out by qualified and specialised personnel trained to use the machine in safety.

The operations personnel must be aware of the residual risks present in machine and must have read and understood all the procedures and safety warnings indicated in this manual.

- 1 The technicians authorized to enter into the installation must identify the nature and type of operations to be carried out.

(Cont'd)

(Cont'd)



- 2 De-energize (discharge the air from) all the cylinders still pressurized and located in the zone involved in the intervention, by pressing their respective black discharge buttons, fitted close by or by turning the cock (on cylinders which can be discharged).
- 3 Enter into the machine only through the mobile safety guards (doors).
- 4 Check that all the installation elements are safely positioned.



DANGER!

Never enter into the machine **with the shutter plate open!**

Mariani declines any responsibility for accidents with fatal consequences and damage to people or the machine arising from the non-observance of the indications contained in this manual.



DANGER!

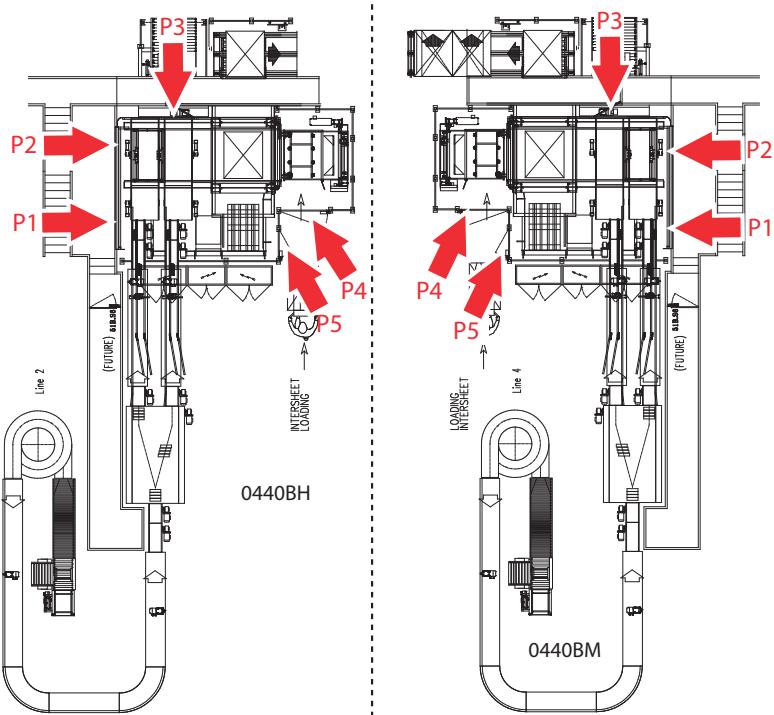
Do not discharge the air from the dispenser in the presence of empty pallet piles, first remove the pallet stacks that may fall and damage the machine or hurt the operator!



Important!

Carefully read the instructions contained in the chapter on Encroach barriers and the following paragraphs.

3.23 Safe entry into the PMT



0440BH_sportelli.eps

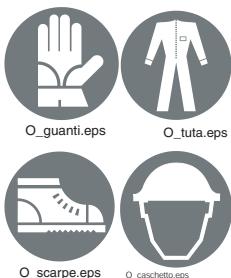
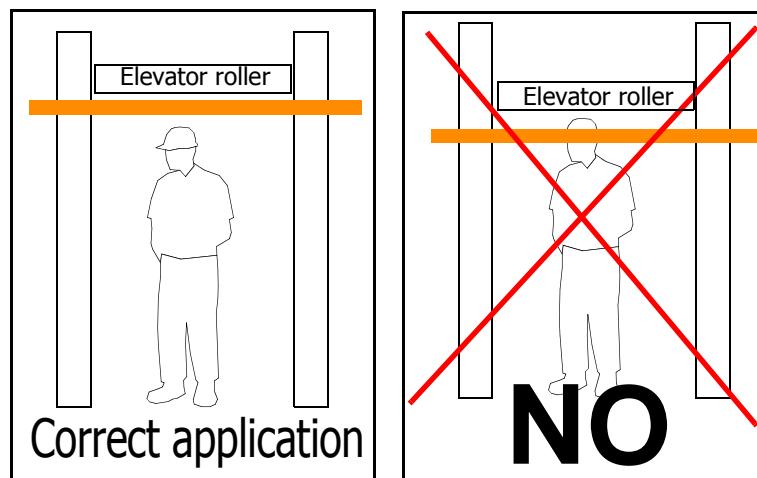
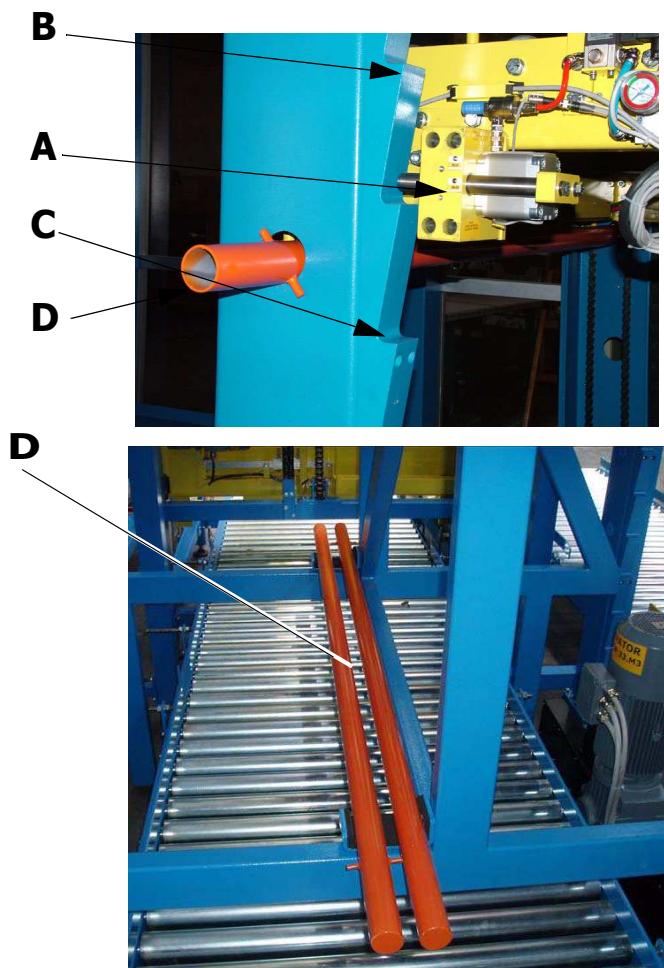
Important!

The palletizer can be entered safely only by passing through one of the doors shown at the side and which are equipped with FORTRESS system, explained in the next chapter.

Before entering, the operator will have to request door opening by pressing the specific button located on the touch screen.

Safety precautions

3.24 Safety pins and rods



The machine is equipped with lifting fall-preventive safety pins "A". This device is fitted on the elevator roller's structure and is made up of pneumatic cylinders which in no-compressed-air conditions make the pins protrude.

Had the machine to be entered, the operator must first of all stop the machine then ascertain that safety pins have protruded and that they are not in the initial part of the safety tooth "B".

In case this situation occurs, the operator must manually lift or lower the elevator until the pins protrude for about 5 mm / 1 cm above the "C" tooth.

Once this check has been carried out, the operator must open the door following the procedure described above.

After opening the door, the operator must pick up the iron rods "D" placed inside the machine underneath the infeed belt conveyor area.

The two rods "D" must be inserted in the holes equipped under the elevator position (see the picture here beside). This is an extra safety precaution to adopt each time the operator needs to carry out operations inside the machine and under the elevator.



DANGER!

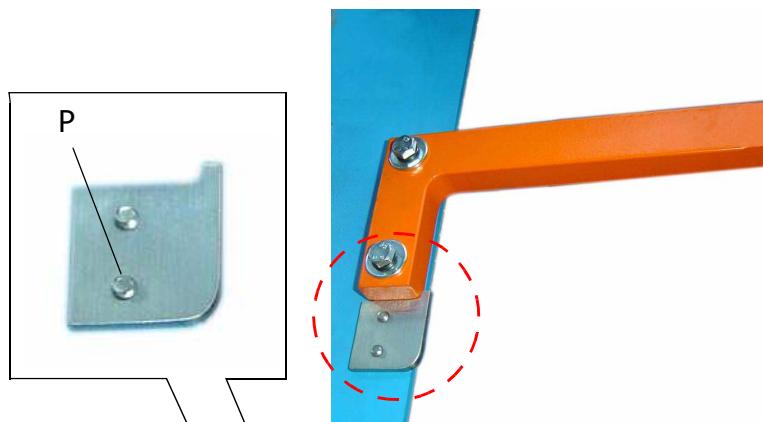
Risk of death!!

In the presence of the safety bars the operator must always work underneath them. For no reason can the operator's head be higher than them. The technicians authorised to do these interventions must be aware of this residual risk and must operate in conditions of maximum safety by using the PPE described here at the side.

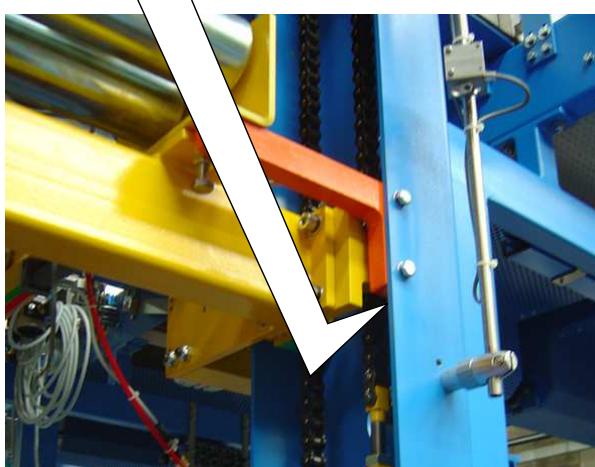
4- Safety measurements

This chapter is an integration to the instructions manual to supply some additional specifications required by the customer.

4.1 Levelling brackets



Application



The levelling brackets have been designed to tension or replace the lifting chains.

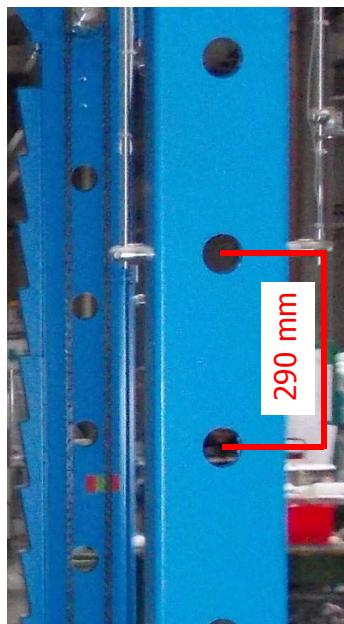
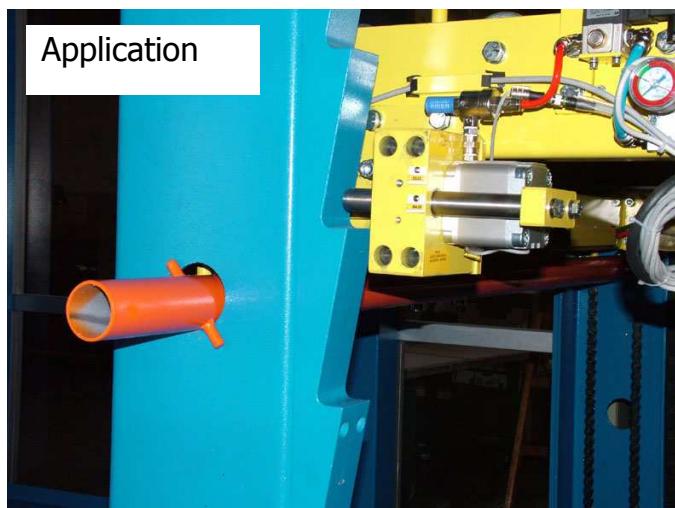
Every palletizer is supplied with 4 brackets with the specific purpose to sustain only the empty roller conveyor (350 kg of weight) with no additional burden nor dynamic load. The palletizer structure has been equipped with some reference plates (P) to avoid mistaking the exact position while fastening them.



Nota!

For the correct procedure to fit and fasten the brackets to the structure see the picture here at the side.

The Technical manual will include an Annex with the full description of the elevator's chain tensioning procedure, an operation exclusively reserved to specialised technicians instructed by Mariani S.r.l. .



4.2 Supporting cross bars or safety bars

Every palletizer belonging to Unilever UK is supplied with two safety bars.

These safety bars are used every time a person must enter inside the machine when they need to operate underneath the palletizer's roller conveyor.

They must be inserted inside the two holes arranged on the machine structure and represent an additional safety measure in case of any malfunctions of the motor brake and/or of the fall-stop pins.

Mariani S.r.l. carried out some tests to define the bars behaviour in case of collision.

The dynamic load used for these tests was determined by the fall of the total static load of 1,370 Kg (palletised load: 1,000 Kg + pallet: 20 Kg + roller conveyor: 350 Kg) at the maximum height from the bar of 290 mm (corresponding to the maximum level the roller conveyor can reach before touching the safety bars).

That height corresponds to the level on the palletizer structure where the holes have been made.

The tests gave a positive result: the bars bending was acceptable.

4b- Fortress (dual key padlock on the palletizer door)

This paragraph is a supplementary section to the machine/plant manuals and should be kept together with the manuals.



Important!

Control system of the multiple opening of the palletizer guards.



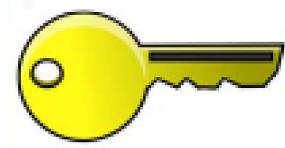
Note!

The warning sign shown here will have to be affixed on every machine access door.



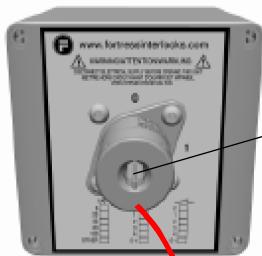
Note!

The Master key and the Fortress system will be installed on the upper part of the palletizer close to the Touchscreen panel.



GUARD ENTRY FORBIDDEN UNLESS –
a) 'SAFETY' KEY IS HELD BY PERSON ENTERING MACHINE GUARD, OR
b) EITHER 'DOOR' KEY OR 'SAFETY' KEY IS PLACED INSIDE LOCKBOX, BOX IS SECURED BY MULTIHASP/PADLOCK SYSTEM AND KEY IS HELD BY PERSON ENTERING MACHINE GUARD , OR
c) MACHINE IS ISOLATED AND MULTIHASP/PADLOCK SYSTEM IS IN OPERATION

1 - Isolation



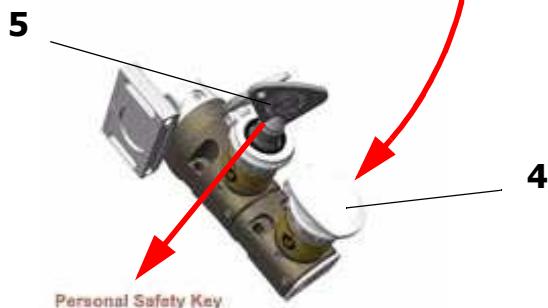
1

2 - Key Exchange



2

3 - Access control



3

4

5

4.1 Fortress system

Important!

On the client's request, the "Fortress Interlocks" system has been installed on the machine.

The system provides for an additional MASTER KEY(1) on the palletizer.

When an operator/maintenance operator has to access the machine, he/she will have to take hold of this master key (1).

This key works on the general safety circuit, and once the MASTER key (1) has been turned and removed, the machine stops in emergency (before entering the machine, request for door opening through the touch screen. If you have to enter to load the sheets, press the specific button on the touch screen, and this will make the interlayer position itself correctly to allow pallet unloading or loading).

- To enter from one of the machine doors, insert the master key (1) into the specific keyhole on the key holder (2). Turn the key (2) the keys that will give access to the machine will be released. (on the key holder column there will be a key for every door that gives access to the machine).
- Turn and take out the key of the door you wish to open (3), go to the door you wish to open and insert the key (3) into keyhole (4),
- Turn key (4) and the personal safety key (5). **Only on extracting the personal key (5) will the door be unlocked.**
- Keep the personal safety key with you (5) **during the entire machine intervention time.**

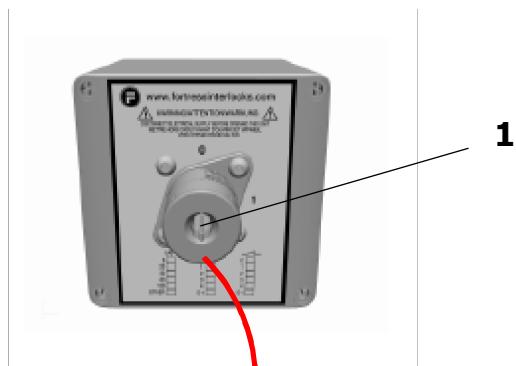


Note!

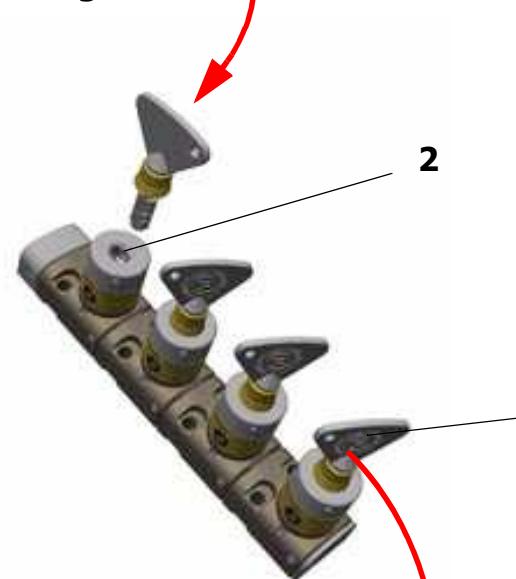
IT IS VERY IMPORTANT THAT THE PERSON ENTERING THE MACHINE RETRIEVE AND KEEP THE **PERSONAL SAFETY** KEY SINCE THIS WOULD IMPEDE OTHER PERSONNEL FROM STARTING UP THE MACHINE

(Cont'd)

1 - Isolation



2 - Key Exchange



3 - Access control



(Cont'd)

- At the end of the intervention, check that there is no one inside the palletizer, close the door, insert the key (5) and turn the keys (4) and (5) so as to lock the door.
- Take out the key (4) and proceed by inserting it in the initial position, that is, in the key-holder column (3)
- After inserting key (3) turn it, at this point turn and master key (2) from the key-holder column.



DANGER!

Before restarting the plant, **the person who restarted the machine will be responsible for all the controls to verify that there is no one inside:**

- When the intervention is over and before restarting, make sure that all the items used for the intervention are not in the machine's travelling path.
- Check that there is no one stationing in the work place, and if so, must be warned that the machine is about to start its run.

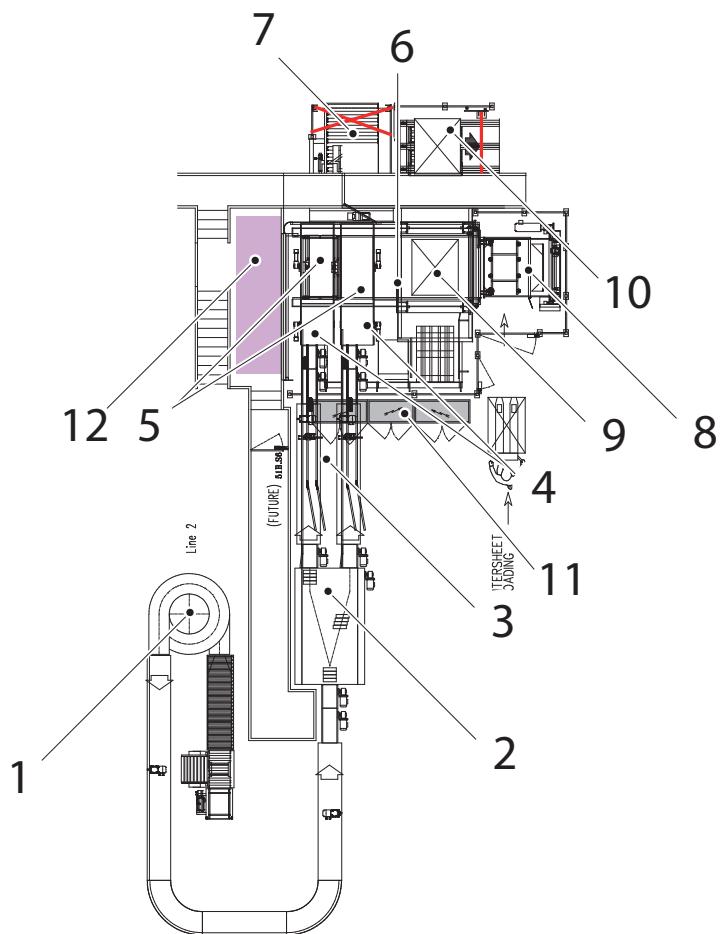
Once the abovementioned check is performed, **restart the machine by inserting and turning the master key on selector (1).**

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5- General Description

This section describes the main parts of the equipment and the symbols used in it.

5.1 Machine overview

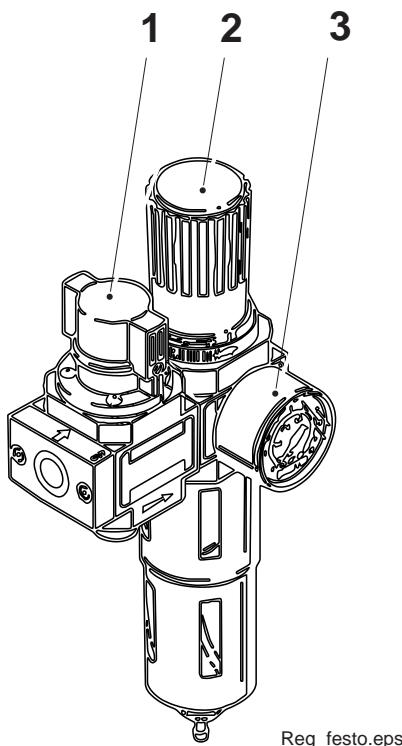


- 1 Spiralveyor
- 2 Diverter (only for s/n 0440BH,0440BM and 0440BP)
- 3 Infeed conveyors
- 4 Automatic load
- 5 Upper belt
- 6 Pre-formation zone
- 7 Empty pallets magazine
- 8 Intersheet device
- 9 Shutter plate / elevator
- 10 Full pallets outfeed conveyors
- 11 Electric panel
- 12 Work station



Note!

This is just the drawing of a palletizer because the description of the various devices is the same for all the other machines.



5.2 Pressure regulator overview

Pressure regulator

! Important!

Use dehumidified air. Do not deliver lubricated air into the circuit.

Open the cock (1) and calibrate the air pressure regulator (2) to **6 bars**. The pressure value will be read out on the gauge (3).



Note!

For a correct running the machine required compressed air to a constant rate of **6 bars**.

5.3 Gauges setting

The various gauges the machine is provided with have the function of displaying the air pressure of the devices installed.

The field is green when operating pressure is correct. When an area becomes red, it indicates the zone where pressure is too high or too low.

Here to follow setting values are listed for general guidance.

- operating pressure for supply must be equal to 6 bars
- to stop the packs, pressure must be around 3-4 bars
- vacuumstat pressure must be set to 4 bars.

Working cycle

The palletizer working cycle is outlined by the following description.

Cases reach the palletizer through the infeed conveyors and after being diverted onto the feeding conveyors of line A and B.

The Automatic loading regulates their entrance allowing a photocell to count them and set them in rows according to the palletizing scheme in process.

After achieving the number of packs to make the two rows of line A and line B, they are pushed towards the Precollating zone .

Two more rows are pushed and the layer being formed is transferred on the shutter plate.



Note!

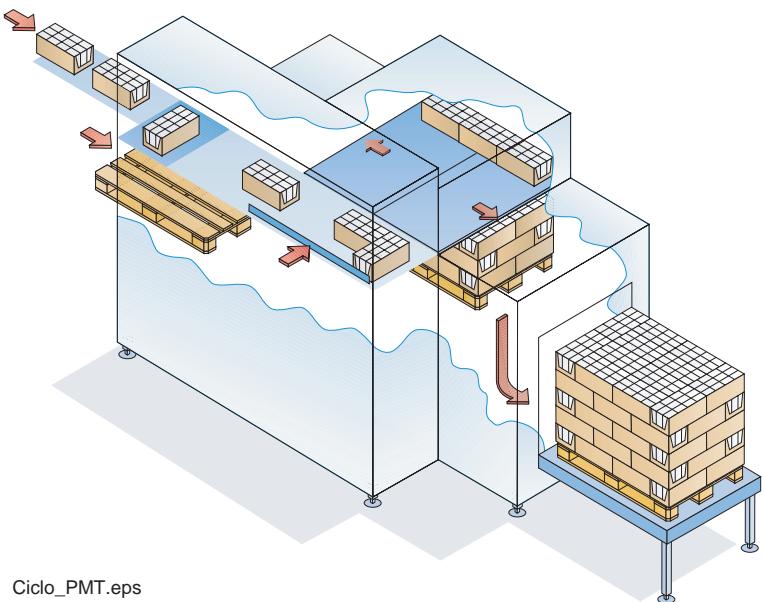
Being the palletizing schemes adopted quite complex, rows must be pushed in a well balanced way. This means that with both the two infeed lines in operation two pushes must always be accomplished to complete a layer. With one whatever (A or B) infeed line in operation, once a row has been pushed, a second pushing must be carried out on the same line before operating with both the two lines.

Layer tighteners close and the shutter plate will open depositing the layer on the pallet below.

These operations will be repeated until reaching the number of layers set for each pallet (four layers at maximum).

After which:

- the completed pallet will be sent towards the outfeed
- the call is made for a new empty pallet to be picked up from the magazine.



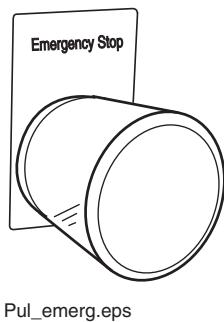
Ciclo_PMT.eps

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6- Stop

There are many way to stop the machine:

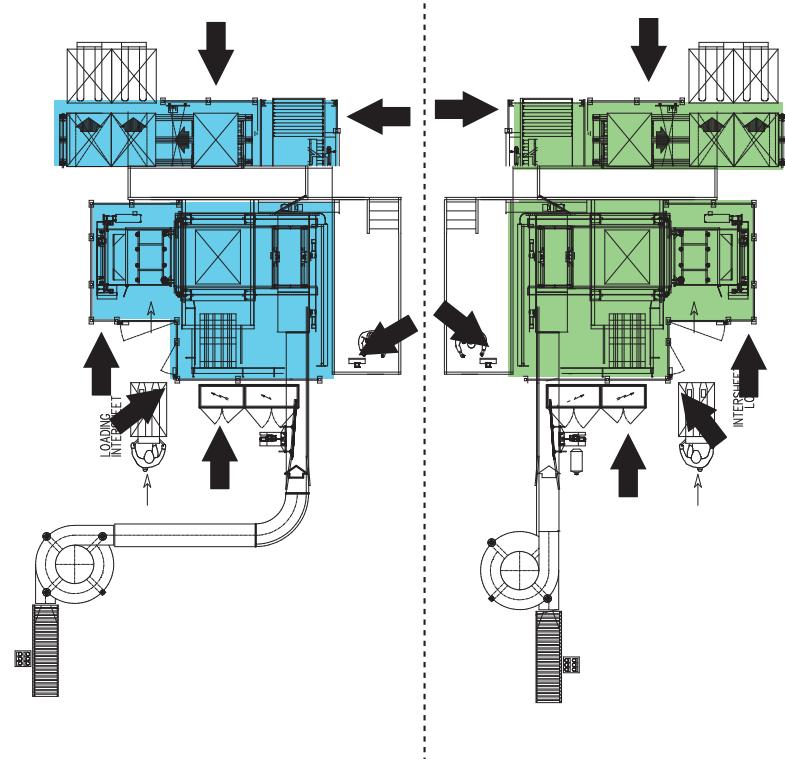
- Emergency stop
- Stop
- Short stop
- Opening of a door
- Motors disconnector (black)
- Stop at the end of production.



Emergency stop

Emergency stop buttons
positioning

Pul_emerg.eps



6.1 PMT emergency stop



Note!

The emergency stop must be used only when there is a danger for people or for the machine.

Push the closest **Emergency stop**.

Result: The machine stops immediately, the compressed air circuit is released and the display shows the according message of alarm. The outside emergency lamp flashes too.

To reset the running:

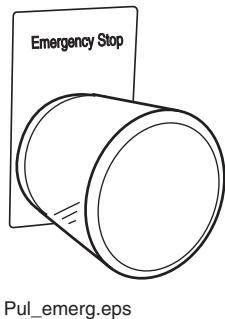
- Eliminate the cause for the emergency stop .
- Reset the **Emergency stop button**.
- Reset the machine by selecting **Emergency reset**.
- Restart the machine on manual or automatic.



Note!

The pictures shown at the side show the position of the emergency stop buttons either for right-hand side or left-hand side versions of machines.

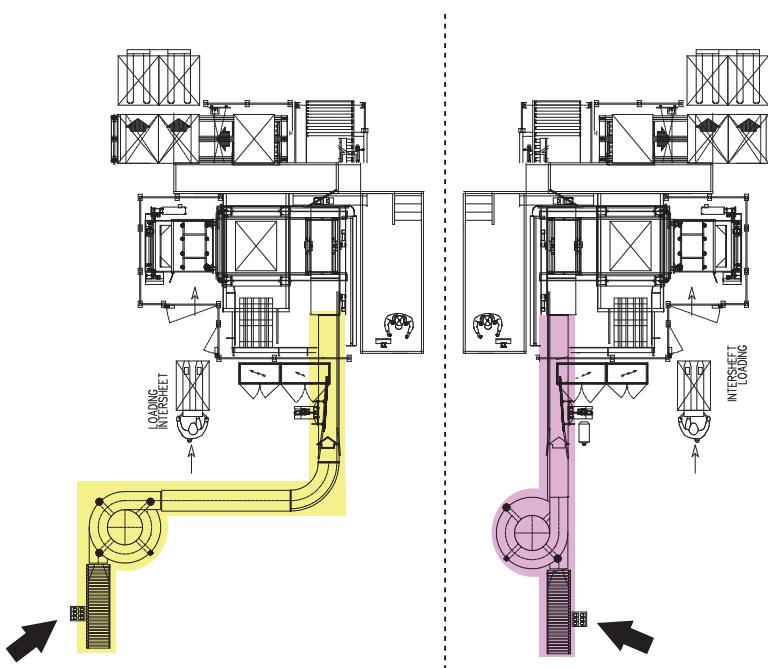
Stop



Emergency stop

Emergency stop buttons
positioning

Pul_emerg.eps



6.2 Emergency stop of conveyors



Note!

The emergency stop must be used only when there is a danger for people or for the machine.

Push the closest **Emergency stop**.

Result: The conveyors shut down immediately. The compressed air circuit is released and the display shows the associated alarm message. The outside emergency lamp flashes too.

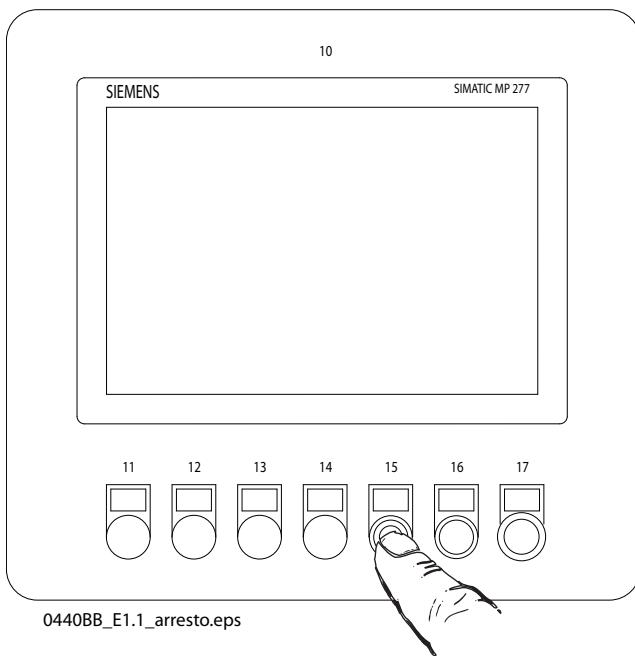
To reset the running:

- Eliminate the cause for the emergency stop .
- Reset the **Emergency stop button**.
- Reset the machine by selecting **Emergency reset**.
- Restart the machine on manual or automatic.



Note!

The pictures shown at the side show the position of the emergency stop buttons either for right-hand side or left-hand side versions of machines.



6.3 PMT Stop

This kind of stop must be used every time the operator intends to stop the machine during production. Once selected, the **Stop in phase** key makes the machine to carry on the movements in process till the end and then the machine will stop.

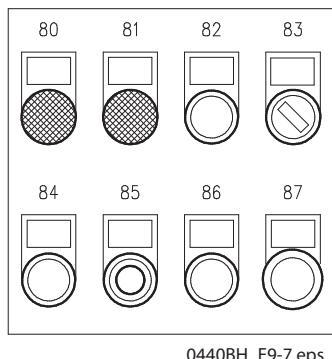
To restart the running :

- Reset the machine by selecting the **Emergency reset key**.
- Restart the machine on manual or automatic.

6.4 Stopping the Infeed conveyor

This type of stop must be used every time the operator wishes to stop the conveyors at the machine's infeed; once the **Stop in phase button (85) is pushed**, the conveyors will complete their run and then stop.

For re-start press the button **(84) automatic mode**.



6.5 Short stop

This kind of stop is possible when the machine is running on automatic.

Select the manual running button.

Result: The machine will stop and wait for the operator to chose the movement to accomplish.

To restart operating press the Automatic running button.



manuale.eps

Important!

Risk of damages to the equipment!
Failure to observe these warnings might cause **damages to the equipment!**

Be careful while returning to the automatic running: the machine starts again working from the same point of interruption.

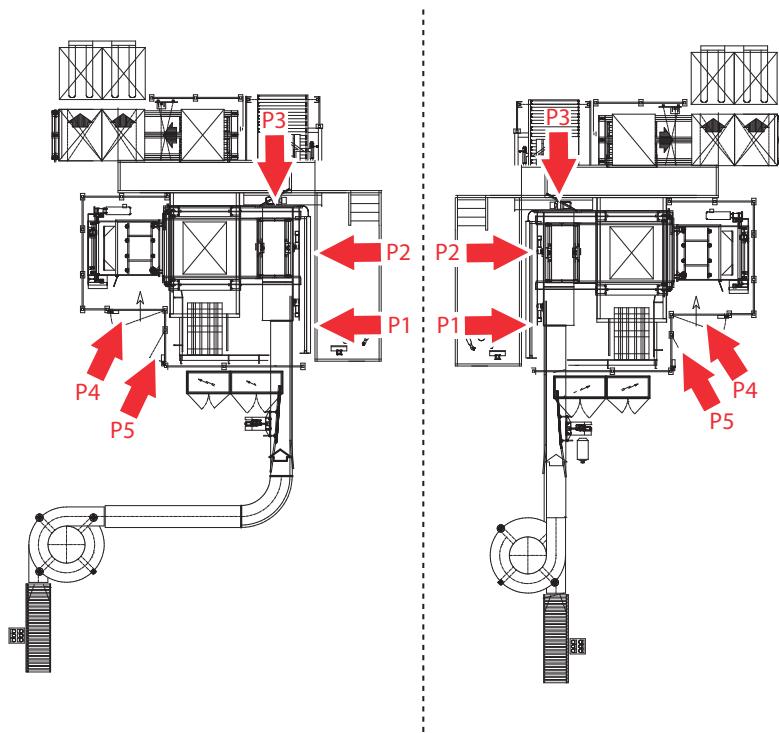
6.6 Door opening

Before opening a door from the Touch screen you need to first press the door open request button, the machine will take the correct position to allow the operator to enter.

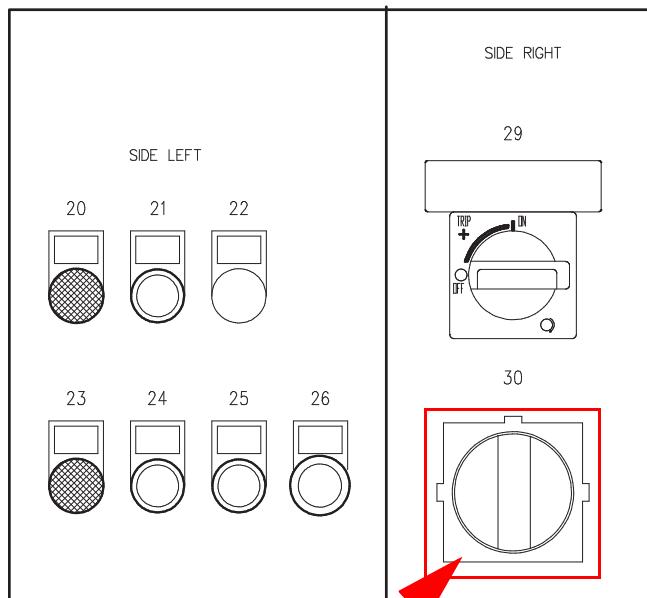


DANGER!

To enter the machine in safety, follow the procedure described in [How to enter into the machine in safety](#) on page [43](#) and [Fortress \(dual key padlock on the palletizer door\)](#).



6.7 Motors disconnector



0440BH_E9.eps

As requested by the client the machine's electric switchboard has been mounted with a disconnector controlling the power of the motors (black disconnector).

- Once this disconnector is turned it triggers a machine emergency and the power feed section of the motors will be cut off.

To gain access to the machine always follow the procedure described in the chapters [Fortress system](#) and [How to enter into the machine in safety](#).



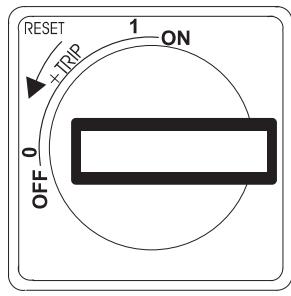
manuale.eps

6.8 Stop for end of production

At the end of production and before the switching off, the machine has to be completely unloaded.

Carry on following what described in the paragraph "Total unloading".

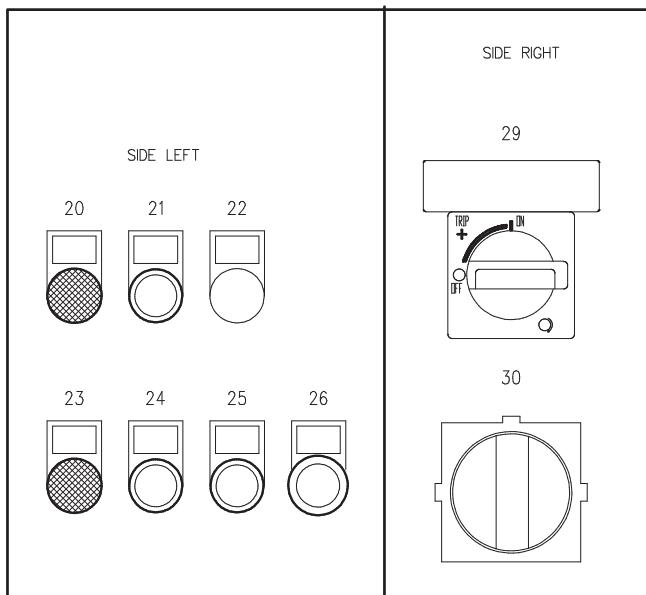
Then, after making sure that no case is present inside, set the machine in manual mode, and turn the main cut-out switch to the "OFF/DISIN" position.



Int_princ_OFF.eps

7- Control panel/ Alarms

This section describes the symbols and the buttons on the control panel and the alarm messages which may be shown while the machine is running.



0440BH_E9.eps

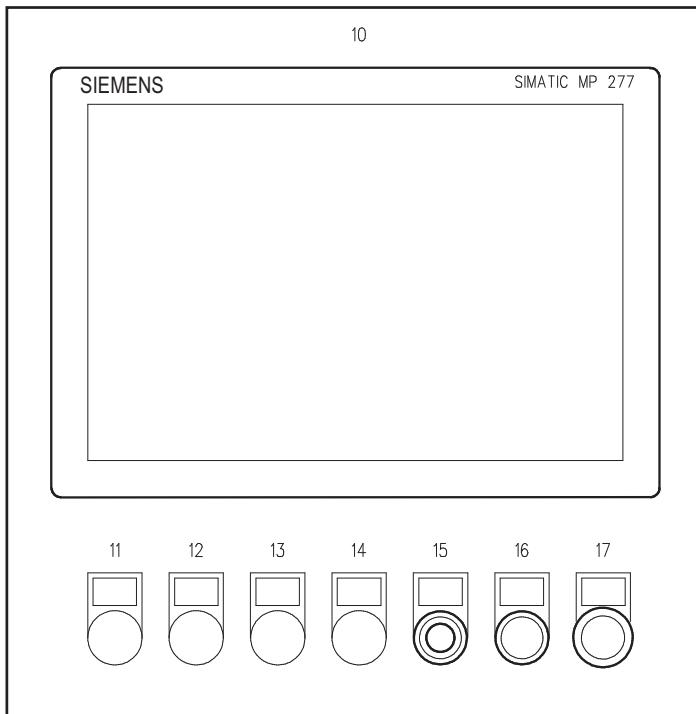
7.1 Button panel E9

On the electric panel

- 20 Power on lamp
- 21 Silence buzzer button
- 22 Not used
- 23 Automatic mode lamp
- 24 Automatic mode button
- 25 Reset after emergency button
- 26 Emergency stop button
- 27 Not used
- 28 Not used
- 29 Door locking switch
- 30 Motors disconnector (see [Motors disconnector on page 61](#))

Control panel/ Alarms

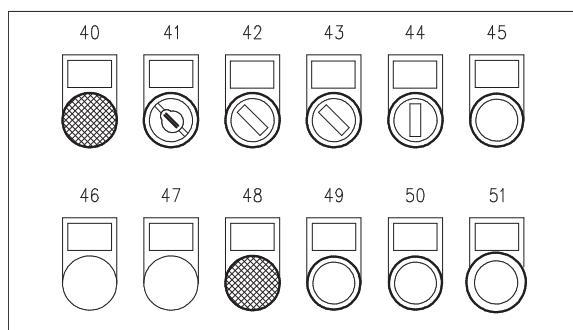
7.2 Button panel E9.1



0440BH_E9-1.eps

Fitted in the upper zone of the machine

- 10 Operator panel SIMENS SIMATIC
- 11 Not used
- 12 Not used
- 13 Not used
- 14 Not used
- 15 Stop button
- 16 Reset after emergency button
- 17 Emergency stop button



0440BH_E9-2.eps

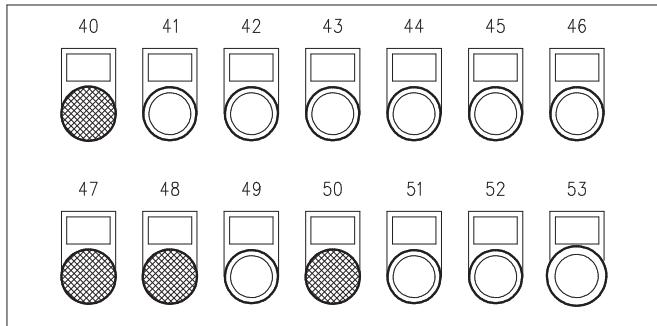
7.3 Button panel E9.2

Placed close to the empty pallets dispenser

- 40 Pallets dispenser jammed signalling lamp
- 41 Pallet dispenser reset after emergency button
- 42 Pallet dispenser automatic-manual mode
- 43 Pallet dispenser up-down selector
- 44 Pallet clamping fork opening-closing selector
- 45 Override button
- 46 Not used
- 47 Not used
- 48 Automatic mode lamp
- 49 Automatic mode button
- 50 Reset after emergency button
- 51 Emergency stop button

7.4 Button panel E9.3

Placed close to the elevator

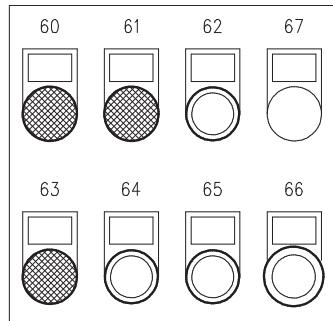


0440BH_E9-3.eps

- 40 Manual mode lamp
- 41 Manual run button
- 42 Shutterplate open button
- 43 Shutterplate close button
- 44 Elevator Up button
- 45 Elevator Down button
- 46 Unload pallet button
- 47 Door unlocked lamp
- 48 Door open lamp
- 49 Request door opening button
- 50 General Automatic functioning lamp
- 51 Automatic run button
- 52 Reset emergency button
- 53 Emergency mushroom-head button

7.5 Button panel E9.4

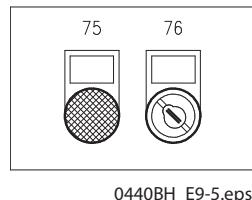
Fitted close to the intersheet dispenser access door



0440BH_E9-4.eps

- 60 Door un-locked lamp
- 61 Guard open lamp
- 62 Request to open door
- 63 Automatic mode lamp
- 64 Automatic mode button
- 65 Reset after emergency button
- 66 Emergency stop button

7.6 Button panel E9.5

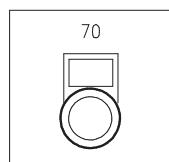


0440BH_E9-5.eps

Fitted close to the full pallet conveyor

- 75 Lamp signalling encroach barrier triggering
- 76 Encroach barrier Reset/Override button

7.7 Button panel E9.6



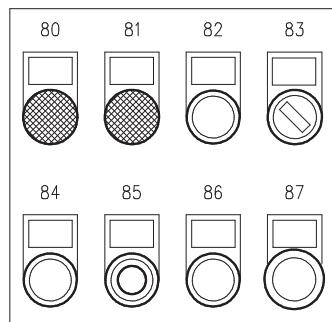
0440BH_E9-6.eps

Fitted on the gallery by the shutter plate

- 70 Emergency resetting button

7.8 Button panel E9.7

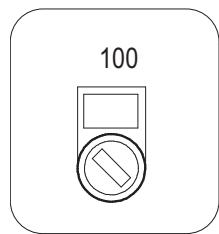
Fitted on the feeding conveyors



0440BH_E9-7.eps

- 80 Conveyors running lamp
- 81 Spiralveyor defective signal lamp
- 82 Spiralveyor alarm reset button
- 83 Manual palletizing selector key
- 84 Start conveyors button
- 85 Conveyors stop push-button
- 86 Conveyors reset after emergency button
- 87 Conveyors emergency stop button

7.9 "Master key" selector



0440BB_E8-9.eps

Located on the upper zone close to the touch screen panel

100 MASTER KEY safety key selector

**Note!**

For the functions see descriptions in Chapter [Fortress \(dual key padlock on the palletizer door\) on page 49.](#)

7.10 Warning lamp

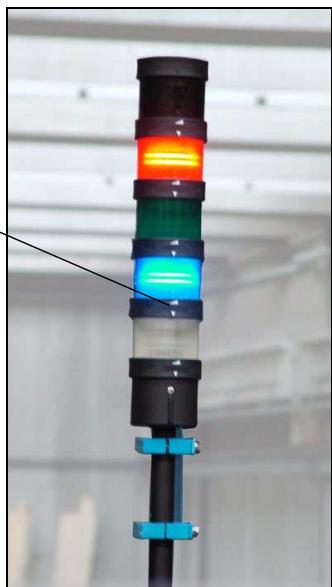


When the alarm light (1) flashes it means that an alarm has been set off.

According to the seriousness of the alarm, an acoustic alarm can be added to the flashing of the light by means of bell.

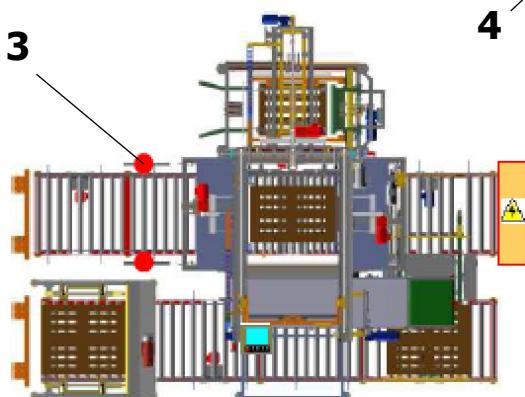
Colour	Meaning	Explanation
Red fix	Emergency or Fault	Stop in emergency, Machine fault, Safety guards open
Red flashing	Warning	Machine stopped for exhaustion of materials or running short in some material.
Green fix	Normal	Normal conditions, Machine in auto mode.
Green flashing	Normal	Machine paused due to upstream or downstream signals.
Blue fix	Mandatory	Operator intervention is necessary
White flashing	Full pallets	One full pallet.
White fix	Full pallets	Two full pallets
White fix an acoustic alarm	Full pallets	Three full pallets

1



2

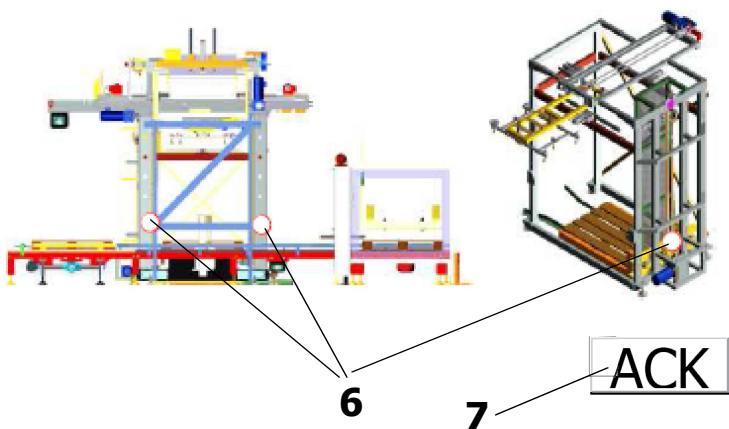
Safety barrier tripping outfeed PMT 55.B3-55.B4



5

Pallet elevator safety pin 131.C5 out of position

Check: Eletrovalve 52.Y8-1, Sensor 68.S7, PLC input I17.4.



7.11 Alarms and solutions

When the alarm signalling lamp (1) flashes it means that an alarm has been set off.

MAIN ALARMS

When one of the main alarm triggers, the touchscreen panel shows a page which displays the cause for the alarm (2). A flashing spot (3) will show where the cause for the alarm resides. When a red warning triangle (4) is displayed, it means that an information text with further information on how to solve the cause is available. As soon as the cause has been eliminated, the alarm disappears.

Some alarms do not have an information text because the display of their triggering (5) and the location of their cause (6) are considered key instruments to solve the problem.

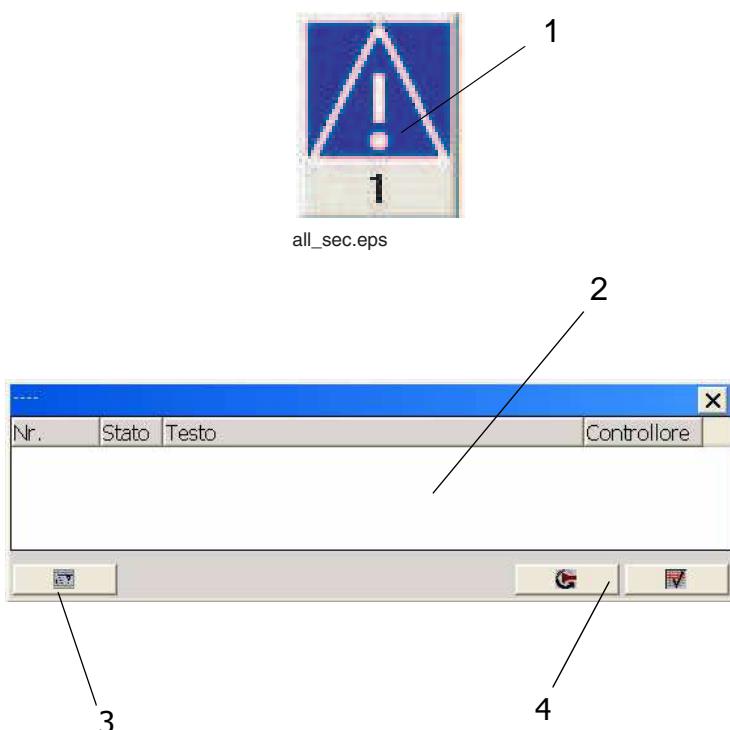
Other alarms require, after the solution of their cause, the "ACK" button (7) to be pressed. This procedure has been deemed necessary in order to be sure that the operator after having solved the cause for an alarm triggering will make a voluntary action to reset the operations.

SECONDARY ALARMS

In case of the triggering of one of the **SECONDARY ALARMS** a blue hazard triangle (1) is displayed on the extreme left-hand corner at the bottom of the screen-page.

By pressing this symbol a window (2) will open in the displayed screen-page to give the explanation of the alarm.

For further help press the button Help (3). To acknowledge the acquisition of the alarm press the button (4).

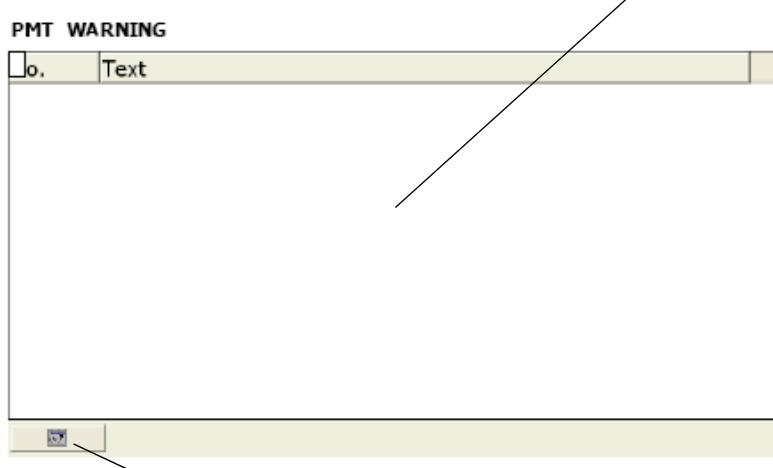


SIGNALS

In case of the triggering of a SIGNAL a red hazard triangle (5) is displayed on the extreme left-hand corner at the bottom of the screen-page.

By pressing this symbol a window (6) will be displayed with the explanation of the alarm.

For further help press the button Help (7).



In the description of some help-tips the operator will be required to access the Display pages and press the button of Faulty devices(see the [Faults with devices on page 118](#) section on page 118).

8- Preparations

This section describes all the actions which must be carried out before starting the machine.

8.1 Instructions before startup



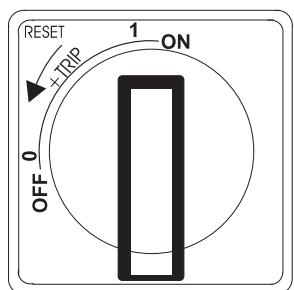
Before starting up the machine the operator will have to check that no one is stationed in the machine's operating zone; those present will be asked to leave and they will be informed that the machine is about to start up.



Before machine startup check that the emergency devices are in correct working order (emergency stop, microswitches of the safety guards).

8.2 Voltage

Make sure that the **Main switch** is turned to ON/INS position.



Int_princ_01.eps

8.3 Current cut-off



Important!

Risk of damages to the equipment!
Failure to observe these warnings
could cause damages to the
equipment!

In case of any current cutoff the machine stops but the programs steps in process remain stored. So, when current is supplied again just press the emergency reset button first and the automatic running's after on the button panel . The running will start again from the same point of interruption.

8.4 Upper and lower indicator lamps test

To lit up the upper indicator lamps of the palletizer press the button with a signalling lamp and "UP" marked on it.



Note!

Those lamps which do not switch on are defective and must be immediately replaced.

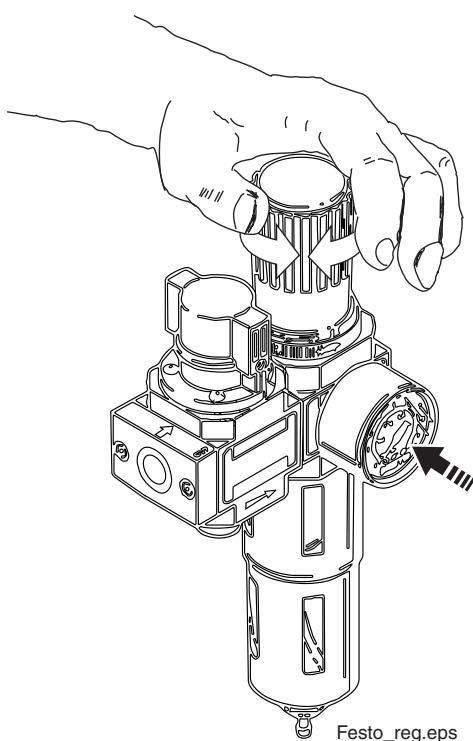


To lit up the lower indicator lamps of the palletizer press the button with a signalling lamp and "DW" marked on it.



Note!

Those lamps which do not switch on are defective and must be immediately replaced.



Festo_reg.eps

8.5 Compressed air circuit

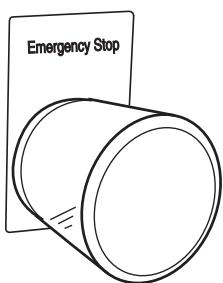
Open the cutoff valve pressing the handle high up.



Note!

The valve is shown in the OPEN position (OPEN). The word OPEN is printed and readable from the regulator handle side.

Check the exercise pressure to be 6,0 bar, adjust the pressure if necessary.



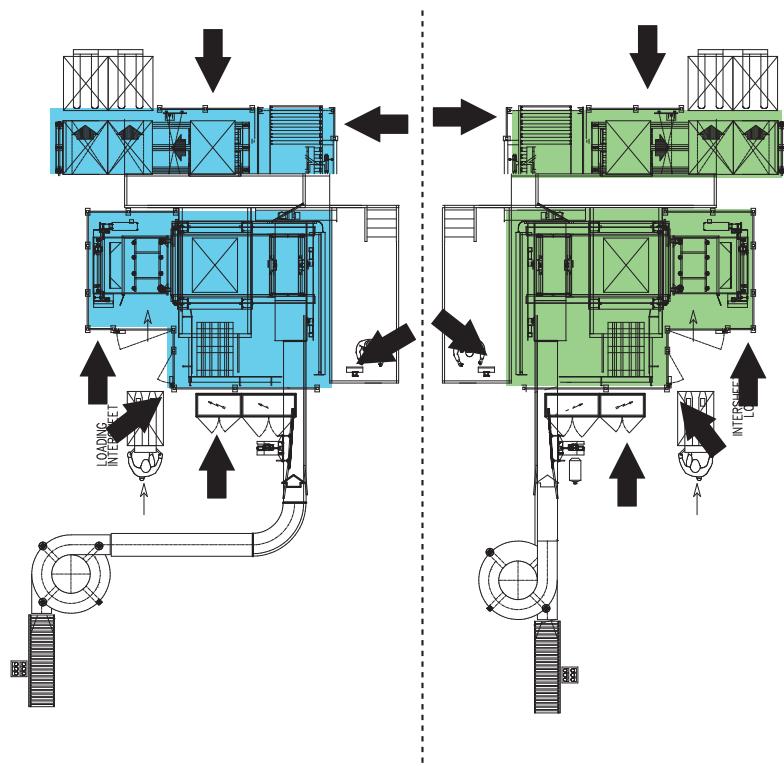
Emergency stop

8.6 PMT emergency Stop

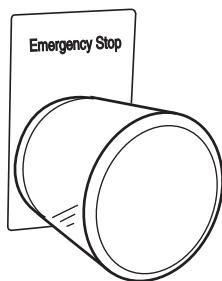
Make sure that none of the **Emergency stop buttons** is selected.

Pul_emerg.eps

Emergency stop pushbuttons positioning on the PMT



Preparations



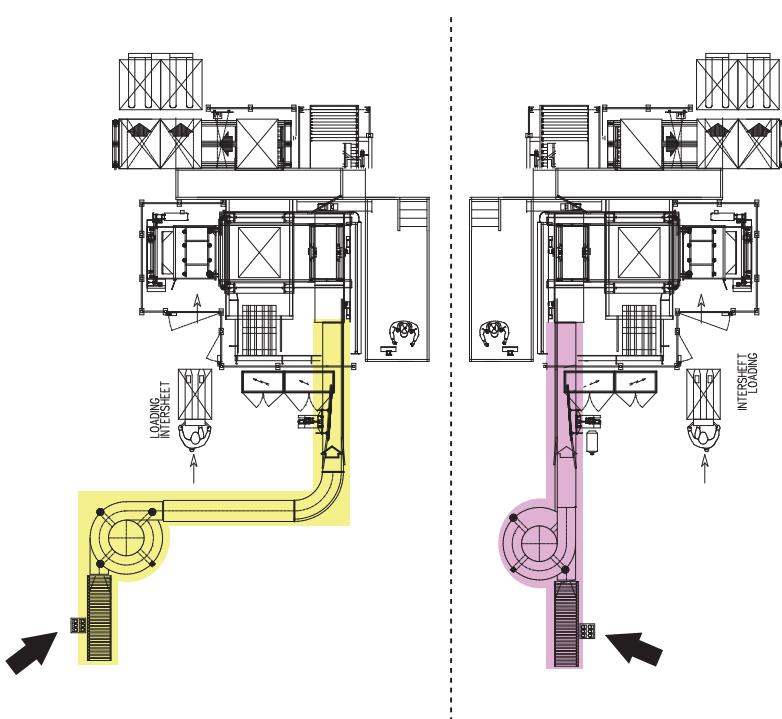
Emergency stop

Pul_emerg.eps

Emergency stop push buttons positioning on the conveyors

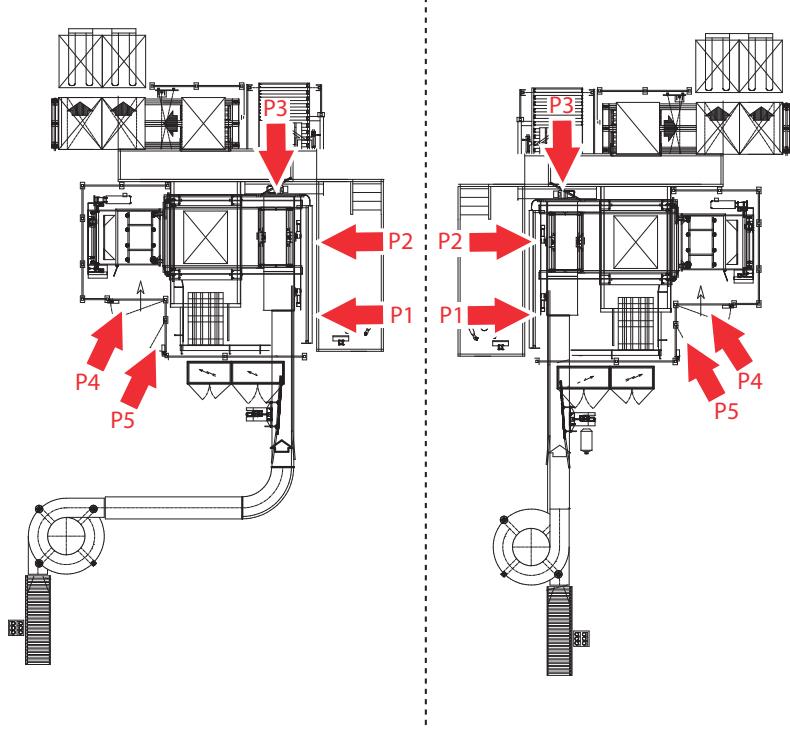
8.7 Conveyors emergency Stop

Make sure that none of the **Emergency stop buttons** is selected.



8.8 Doors and covers

Check for all the doors to be closed and that all the covers are fitted.



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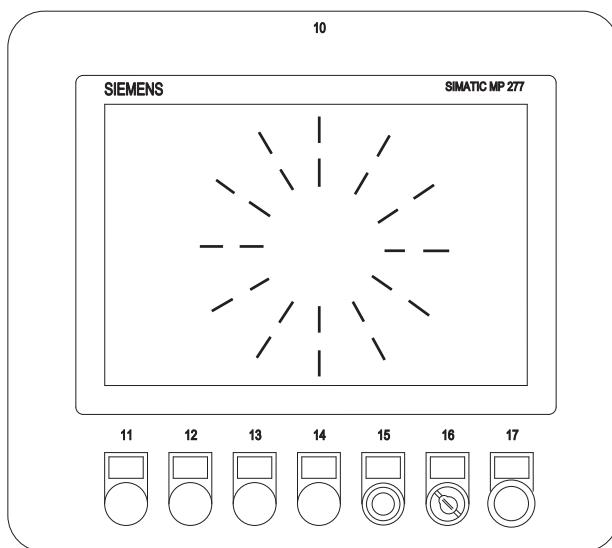
9- Start

This section describes all the actions to be taken to start the machine.

9.1 Starting the machine

The autodiagnostic function is activated as soon as the machine is switched on. Consult the screen so to avoid possible failing states of the machine which would prevent it from starting (for example guards open, emergency buttons selected or other).

Further to the reset of the machine, the air is filled in the pneumatic circuit. This stage of air filling in takes about 3".



0440W9_E3.1_anomalia.eps

9.2 Conveyors start up

Press the Conveyors start up button from the palletizer's operator panel to start up the infeed conveyors.



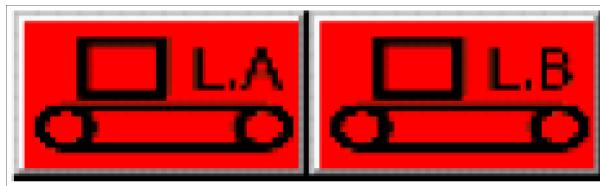
Note!

Indication of "Running" status: green button.

Indication of "Standstill" status: red button.

9.3 Stop/start (lines A and B)

Press the **Stop/Start** button to enable or disable the infeed belt conveyor.



Note!

Indication of "Running" status: green button.

Indication of "Standstill" status: red button.

9.4 Diverter (only for 0440BH, 0440BM, 0440BP)

Use the **diverter key**, shown at the side, to enable or disable the diverter conveyor positioned at the infeed of line A and B.



Note!

Indication of "Running" status: green button.

Indication of "Standstill" status: red button.

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10- Automatic

This section describes the procedure to make the machine to run on automatic and all the maneuvers allowed.



automatico.eps

10.1 Main automatic menu

From the main menu, start the machine in automatic mode by pressing the **AUTOMATIC** mode button, the display will show the screen page shown here beside.

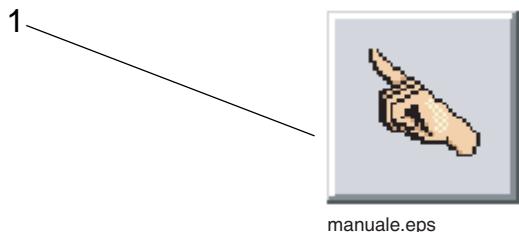


Important!

Risk of damages to the equipment!
Failure to observe these warning could cause damages to the equipment!

During the automatic cycle it is possible to change from automatic to manual by simply pushing the **MANUAL BUTTON** (1).

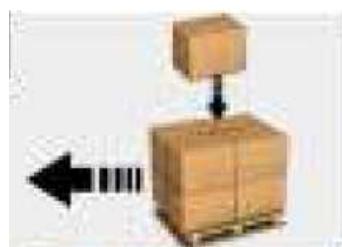
Be careful to the opposite manoeuvre, changing from the manual to the automatic operating, in this circumstance the machine starts working again in automatic from the same step reached when interrupted.



From this page the operator can perform a door opening (see [Door opening](#)).

REQUEST OPEN DOOR

10.2 Total unload



If for some reasons a pallet being in process and not yet completed had to be unloaded (when, for instance, at the end of a working day products are not sufficient to complete it)

the proper procedure to follow is:

- Press the **TOTAL UNLOAD button**.
- The infeed belt conveyor will stop
- while the palletizer will carry on the processing until the insertion of all the packs present on the conveyors after the PMT infeed belt conveyors is completed.
- The forward movement of the pushers above the shutter plate will follow,
- then the bundles will be deposited on the pallet being currently processed,
- After which the pallet will be lowered and unloaded,
- a new empty pallet will be positioned under the shutter plate.
- At the end of the described sequence, the process restarts from the first pack.

If after having triggered a total unload processing, there is a delay and the previously counted packs on the conveyors have not entered the machine, an alarm for operator assistance will set off:

- check that no packs have been blocked along the conveyors,
- check balance equality in the quantity of packs present and take action to adequately redistribute them if necessary.
- Check the correspondence between counts and real quantities of the packs present on storage conveyors. Zero-set the conveyors if necessary.

10.3 Pallet offload

**Note!**

A pallet unloading can be carried out only provided that inside the machine (after the Stop/Start until the shutter plate) no case is present.

To unload the pallets from inside the machine press the UNLOAD PALLETS button (1) and all the pallets on the empty pallet conveyors and those which are being formed will be unloaded.

**Important!**

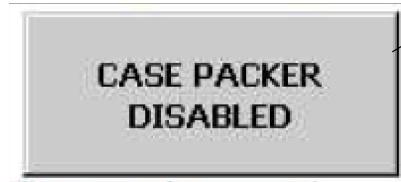
If a pallet is unloaded with packs being present after the Stop/Start and on the shutter plate, these must be removed manually and repositioned before the Stop/Start. The count of the packs present on the infeed line must be then updated. A zero-setting is also necessary to restart properly the palletizing process.

10.4 Sheet cycle



To carry out a cycle of sheet depositing press the **SHEET CYCLE** button (1).
The sheet will be deposited on the pallet in progress.

10.5 Enabling/disabling the production (case packer disabled)



To disable or enable the production before the palletizer press button (1).

10.6 Opening the pushers (if present)

Window

Press the window button: the pushers rise and reach the furthermost end position forward in order to ease access to the machine.

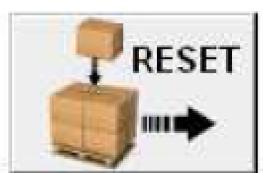


Note!

This operation cannot be done unless the pusher is positioned in its retracted position.

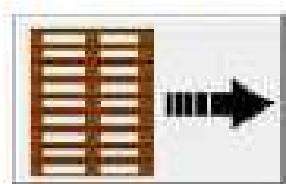
10.7 Total unload and data reset

By pressing the key TOTAL UNLOAD FOR END OF BATCH will result in a total unload with the additional resetting of pallet data.

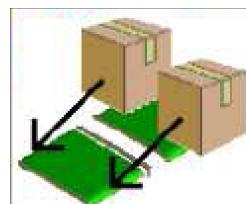


All functions contained in this page are protected by Password. They can be accessed only by specifically trained technical personnel. Consult the Technical Manual for further specifications.

10.8 Changing format/type of pallet

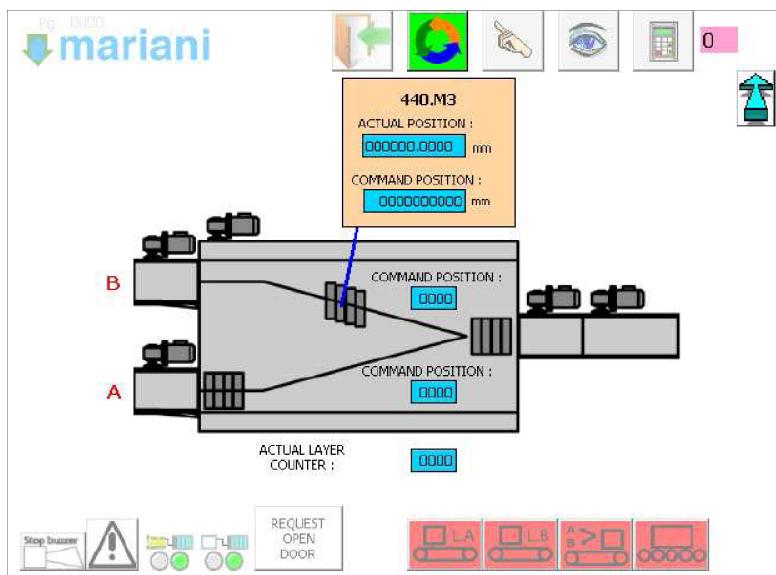


If a programme change comes about during the automatic mode cycle, and entails a pallet change (from 800 to 1,000 or vice versa), the empty pallets found on the dispenser will have to be unloaded. To empty the empty pallets dispenser, press the button at the side, and when the stack will have been placed on the conveyors, pick up the dispenser so as to leave the conveyors and dispenser empty in order to load the stack of empty pallets of different sizes.



10.9 Pack unloading from diverter device

By pressing the button shown at the side the total unload command of all the packs present on the diverter will be given and will be loaded onto the conveyors at the palletizer infeed.



10.10 Diverter (only for 0440BH, 0440BM, 0440BP)

From the automatic mode page press the scroll page arrow to enter the page shown at the side which displays the actual positions and commands of the diverter and the total number of packs processed.

11- Manual

This section describes the procedure to make the machine to run on manual and the possible maneuvers allowed.

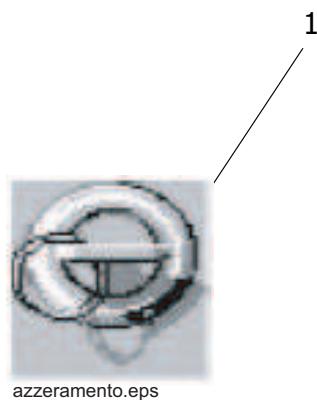
11.1 Manual main menu



manuale.eps

From the "select mode" main menu press the **MANUAL MODE** button, to display the screen page shown here beside.

If selectors (1) show a key, any zero setting is authorized. In the opposite case, they are prevented.



Machine zero set



azzeramento.eps



azzeramento_1.eps



Important!

Risk of damages to the equipment!
Failure to observe these warning could cause **damages to the equipment!**



Note!

Follow this procedure any one time the machine stops but no alarm is displayed or when its working order is not good. After having repositioned the packs on the conveyor, update the counts of the relevant roller.

Before clearing the product counter make sure that there are no products inside the palletizer (after the products counting photocell, in front of the pusher and over the shutter plate). If after a zero settings operation packs are inside the machine, remove them by hand before carrying out any other manoeuvre and reposition them on the infeed conveyor before the automatic loading.

Press the **MACHINE ZERO SETTING** button to zero-set the counts.



Note!

If after a zero-setting one or more layers are present on the pallet being currently processed, the palletizer will automatically unload the pallet, even if incomplete, to load a new empty one. This step allows to start the palletizing process from the first layer of the new pallet and avoids any failure.

Intersheet zero-setting



azzeramento.eps



azzeramento_1.eps

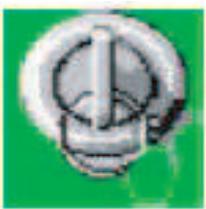
Press the **INTERSHEET ZERO-SETTING** button to abort an intersheet cycle in progress.

As a consequence of this manoeuvre the intersheet will return in the original position.

Infeed zero-setting



azzeramento.eps



azzeramento_1.eps

Press the **INFEED ZERO-SETTING** **BUTTON** to zero-set the movements of the infeed belts conveyor.



Important!

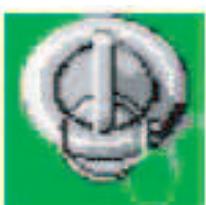
Manually remove the packs present on the upper conveyor before the infeed belt conveyor. The count of the packs present on the shutter plate will be shown on the infeed conveyors.

11.2 Zero-setting of full pallets

Press button ZERO-SET FULL PALLETS
(the button turns green) to zero-set the
work sequence for full pallets.

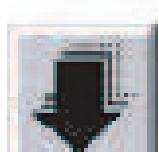


azzeramento.eps

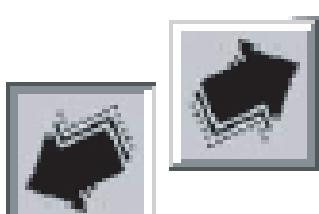


azzeramento_1.eps

11.3 Operating commands for pushers



freccia_sd.eps



freccia_ai.eps

From the main page of MANUAL Mode to access manual mode movements press on the zone you wish to move (the zones are marked by a flashing dot).

To raise the pusher press the **UP** arrow button.

To lower the pusher press the **DOWN** arrow button.

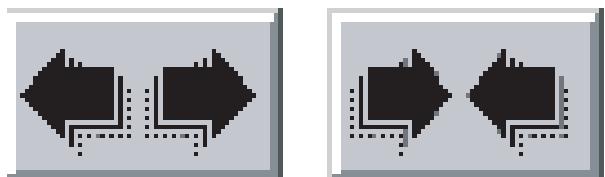
To move the pusher **FORWARD** or **BACKWARD** press the arrows buttons.

**Note!**

To make the pusher move backward, it must be in a high position.

**Note!**

The display also shows the actual reading and commanded by the encoder applied to the pusher's movements.



freccia_ac.eps

11.4 Operating commands for shutter plate and Back/Side dam

To open the shutter plate press the **OPEN** button.



Note!

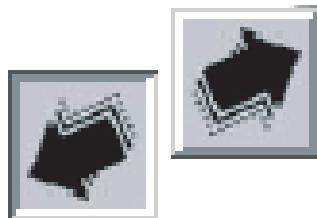
The opening is possible only provided that a pallet is present on the roller underneath the shutter plate.

To close the shutter plate press the **CLOSE** button.



Note!

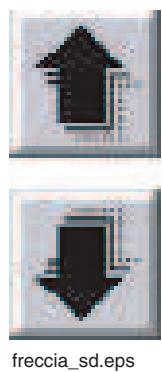
To close the shutter plate you have to (in manual mode) lower the elevator until the photocell controlling pallet presence under the shutter has been freed.



freccia_ai.eps

Press the key with the symbol of arrows pointing outwards to carry out BACKWARD movement of the side dam.

Press the key with the symbol of arrows pointing inwards to carry out movement of the side dam.



11.5 Operating commands for the elevator

To raise the elevator press the **UP** button.

To lower the elevator press the **DOWN** button.

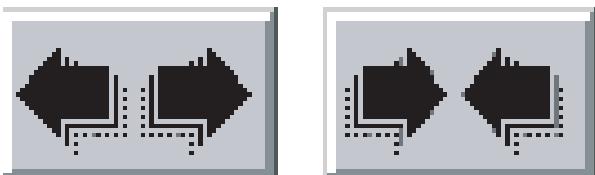


Note!

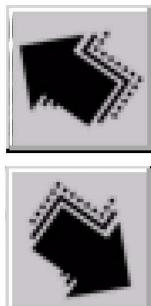
When the elevator reaches the bottom position, the pallet -even if incomplete- will be automatically unloaded as soon as the auto mode running is set again.

If the lifting device is moved remember to bring it to high position before starting its run.

From this page you can open and close the shutter plate and open or close the lower side dams with the opening-closing arrows shown here.



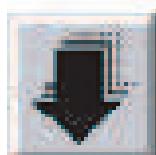
freccia_ac.eps



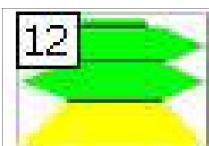
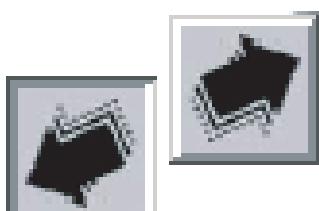
11.6 Operating commands for pallet conveyors

To move the pallet roller conveyors forward, press the arrow positioned on the conveyor's section that is to be moved

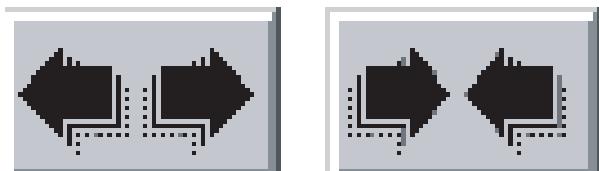
From this page you make the lifting device rise or descend and effect the opening/closing of the lower side dams.



freccia_sd.eps



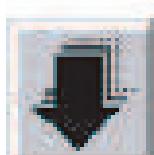
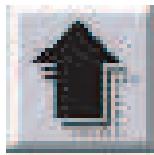
freccia_ai.eps



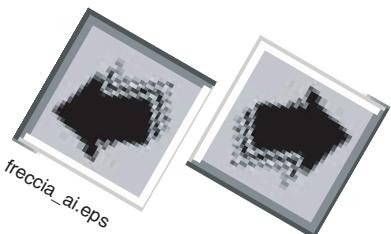
freccia_ac.eps



freccia_a.eps



freccia_sd.eps



freccia_ai.eps

11.7 Operating commands for intersheet device

To make the intersheet device **RISE** or **DESCEND**, press the up/down arrows.

To make the sheet-depositing device **RISE** or **DESCEND**, press the up/down arrows.

To make the intersheet arm go **FORWARD** or **RETREAT** press the forward or backward arrows on the operator's command panel.

Press the suction cup icon to **ENABLE**/**DISABLE** the empty suction cup.

To **OPEN** or **CLOSE** the sheet compactors press the open/close buttons.

11.8 Operating commands for infeed conveyors

To move **FORWARD** the upper conveyors at the PMT infeed, press the key with the arrow located on the conveyors you wish to move.

To make the infeed stopper **RISE**/**DESCEND**, press the **RISE** or **DESCEND** arrows.

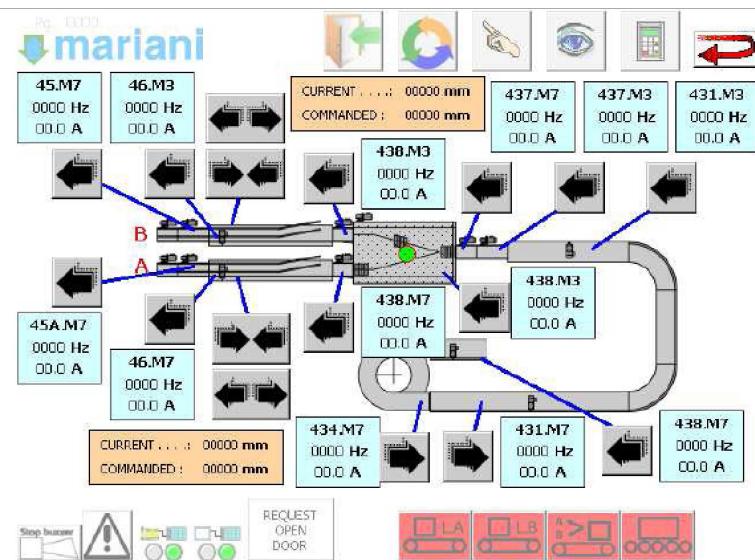
To activate the pack-turners press the **FORWARD** or **RETREAT** arrows.

With the rotation arrows you can make the pack turners carry out a complete continuous cycle (arrow with the continuous line), or a pulsing cycle (arrow with broken lines).



Note!

On all the other pages for the movement of infeed conveyors, by pressing the forward arrow you activate the manual forward movement of the conveyor stretch desired.



11.9 Infeed conveyors operating commands

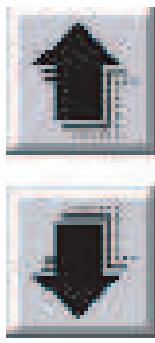
To move the infeed conveyors forward press the arrow of the section of conveyors you wish to move.

From this page you can also make the pack aligner at the machine infeed move forward/backward.

11.10 Aligner device manoeuvres

To make the aligning device of the infeed conveyors move **FORWARD** or **BACKWARD** press the up/down arrows.

To make the infeed conveyors move **FORWARD** press the arrows of the button positioned on the conveyor you wish to move.



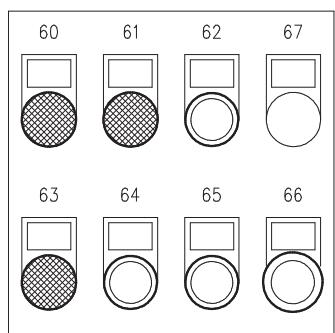
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12- Intersheet



max300Kg.eps

This section describes the procedure to load the intersheet into magazine.



0440BH_E9-4.eps



D_muletto.eps

12.1 Loading sheets

- Press the door opening button (62) or press the button on the touch screen;
- the machine stops in a stop-in-phase condition;
- The intersheet arm will assume an out-of-line position;
- the signalling light of door unlocked (60) switches on;
- To enter the interlayer zone the operator will have to follow the instructions given in the chapters on [How to enter into the machine in safety](#) and on the [Fortress system](#)
- Once you have opened the door through the safety procedures with the Fortress key, you need to upload the empty pallet and provide for pallet loading with the sheets;
- Close the door through the Fortress system, return the key to the key holder column and restart the run in automatic or manual mode.



DANGER!

It is prohibited to load the dispenser sheets with a forklift.



DANGER!

The sheets have to be loaded with a transpallet of the suitable capacity. Pay attention that the pallet positions itself correctly within the dispenser. Take care that it does not overturn.



Caution!

While loading the sheets be very careful not to collide with the pallet centering guides.

12.2 Changing sheet dimensions

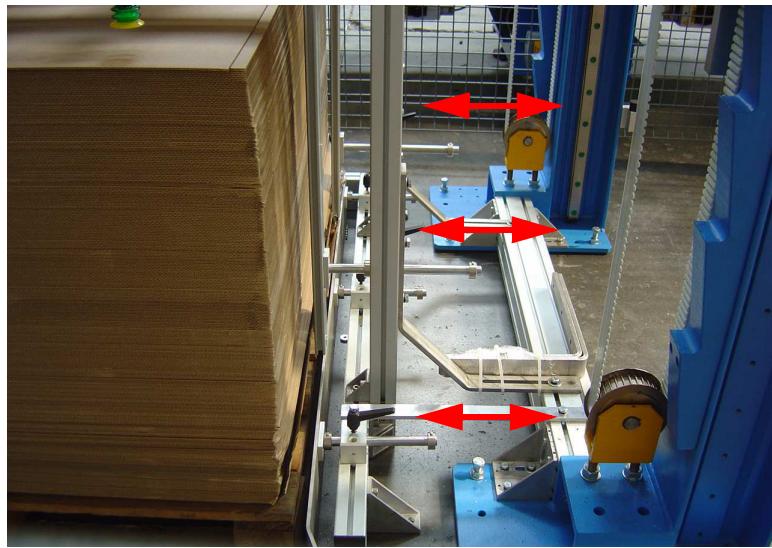


Note!

The pallets of sheets are loaded from the ground.

If during production you need to change the format of a pallet of sheets (from 1000 to 800 or vice versa) you will have to adjust the pallet centering guides.

Open or close the guides by hand, turning the adjustable handles and then shifting the guides up to the mechanical holdfasts, fix the position of the guides with the adjustable handles.



13- Pallets dispenser



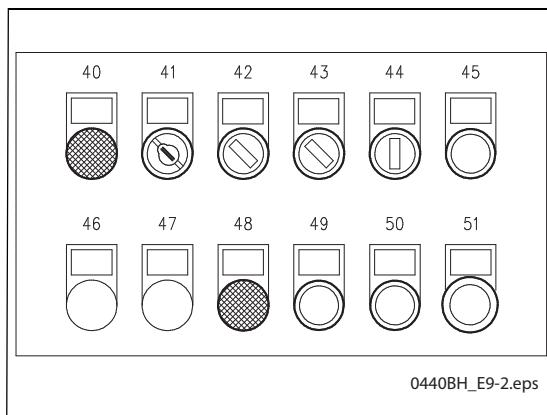
max600Kg.eps

This section describes the various manoeuvres which can be carried out on the pallet magazine.

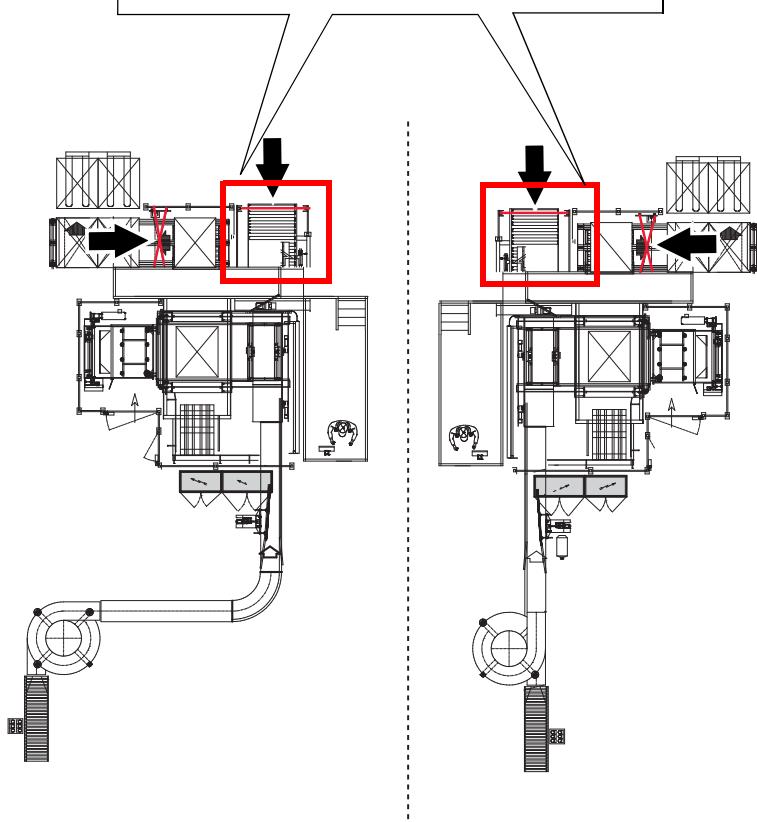


Warning!

The dispenser can work with pallets measuring 800X1200 and 1000x1200.



0440BH_E9-2.eps



13.1 Pallet dispenser start

As soon as a full pallet is unloaded, an empty pallet is picked up from the magazine and fed to the palletizing position.

The magazine capacity is for no more than 15 pallets. In order to grant the machine to be in working order, pallets must be top-quality ones and have standard measurements. It is recommended to keep always 3 or 4 spare pallets in the magazine.



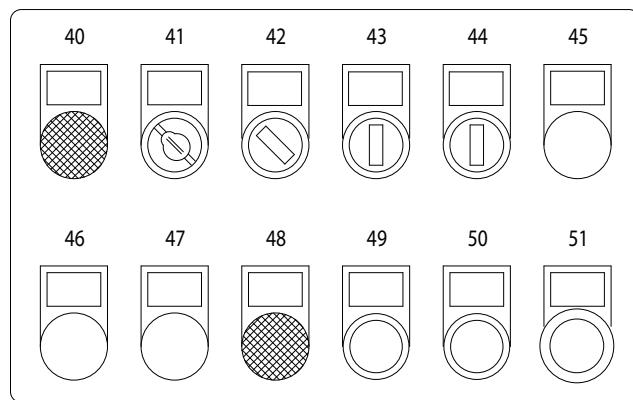
Note!

Before starting up the pallet dispenser in auto mode check if it has been correctly reset and that the signal light of blocked pallet dispenser (40) is switched off.

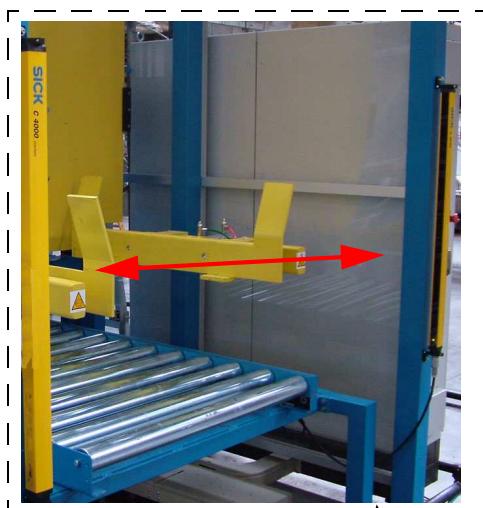


Caution!

The stacks of empty pallets must be loaded using a lift truck of adequate loadbearing capacity!



0440AM_E1.2.eps



13.2 Safety guard fitted at the pallets magazine entrance



Caution!

To prevent access to the pallets dispenser the machine is supplied with a safety photoelectric barrier.

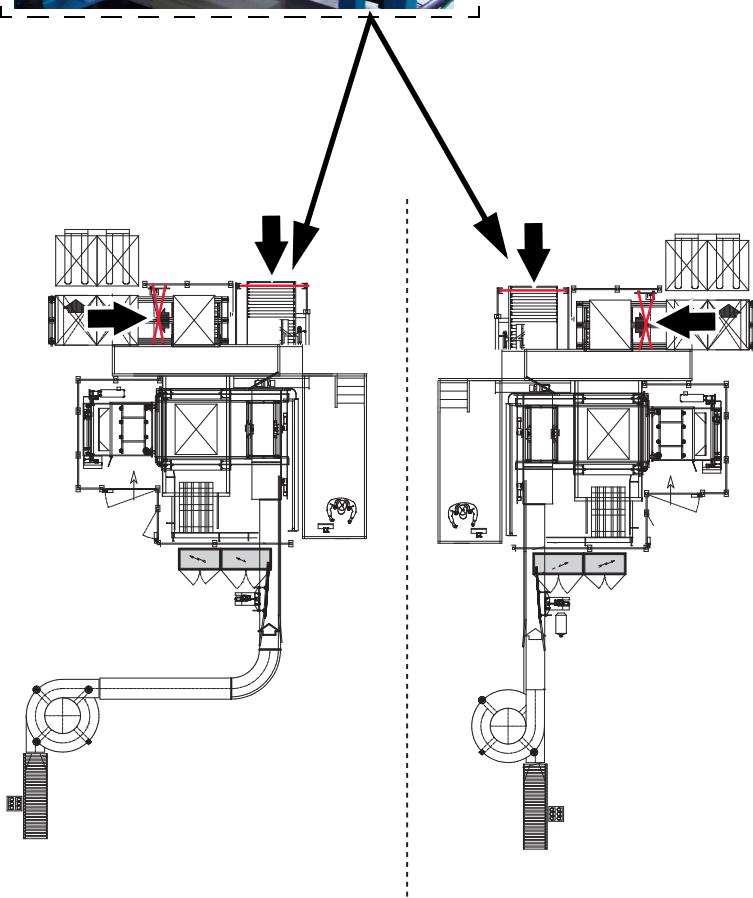


DANGER!

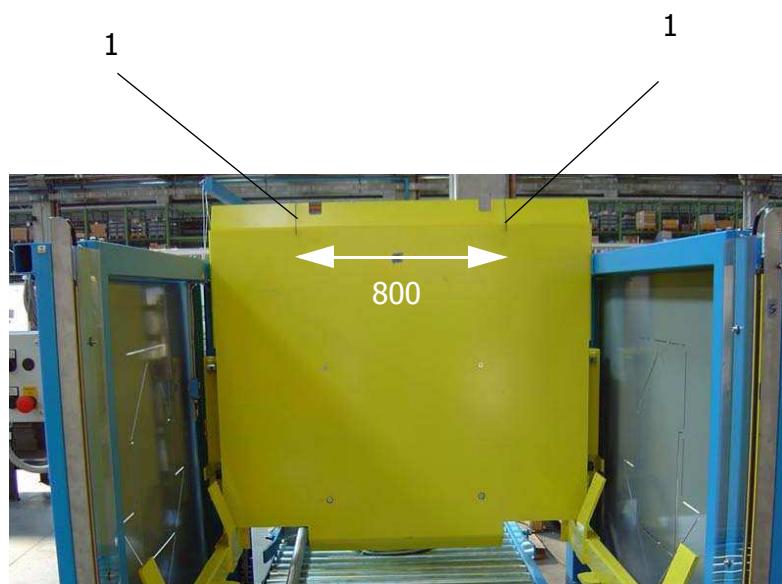
To enter the pallet dispenser, consult the sections 3.20 [Light barriers..](#)

To restore the magazine after the loading of a pallet by means of a lift truck, follow this procedure:

- make sure that nobody is inside the pallets dispenser,
- turn the selector to restore the pallets dispenser (41).
- Pull the dispenser reset rope located in proximity with the dispenser entrance.



0440BL - 11c_Magazzino_pallet_en.fm



13.3 Positioning a pallet stack

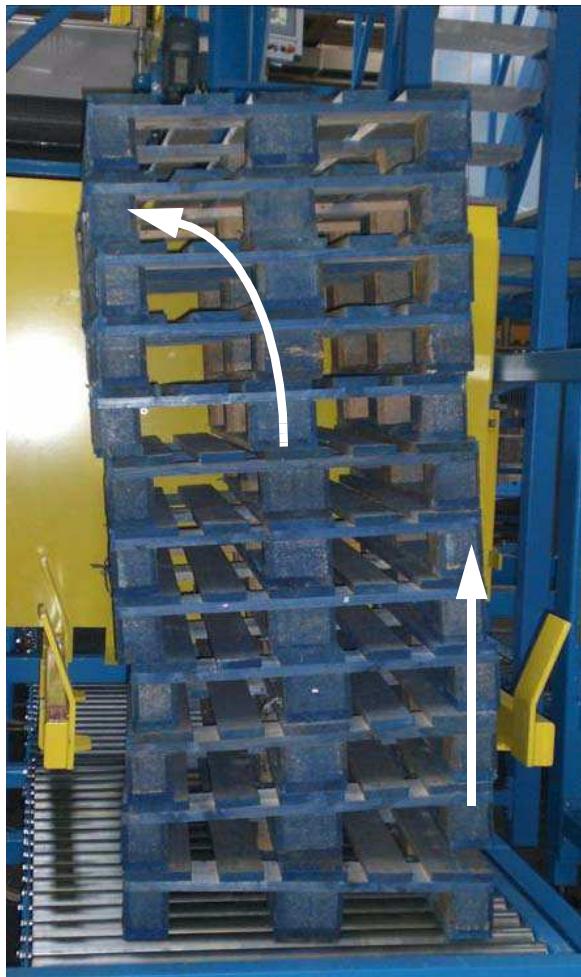


Immediate danger of death!

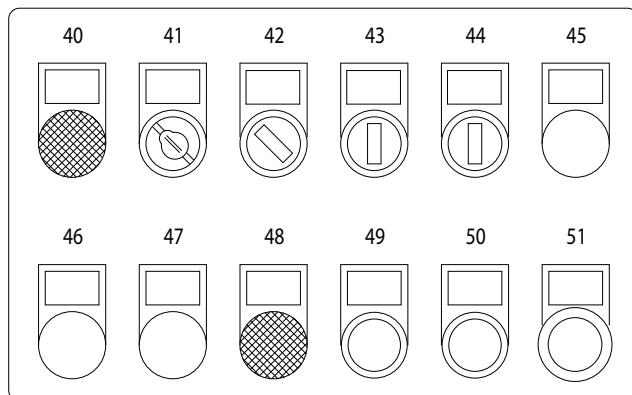
Failure to observe these warnings could expose yourself or others to be in **danger of death!**

The pallet stack has to be positioned inside the pallet dispenser in such a way that it is positioned exactly in the middle. This will prevent the pile formed in pallets sized 800x1200 (should the forks not close completely), from being lifted only from one side, making the pallet fall.

Inside the dispenser there are two referral notches (1), to help you position correctly the stack sized 800x1200.



13.4 Changing pallet types (emptying the dispenser)



0440AM_E1.2.eps

If necessary, after a programme change, carry out the unloading of pallet stacks from the dispenser, in order to pass from EURO to UK pallets or vice versa, proceeding in the following manner:

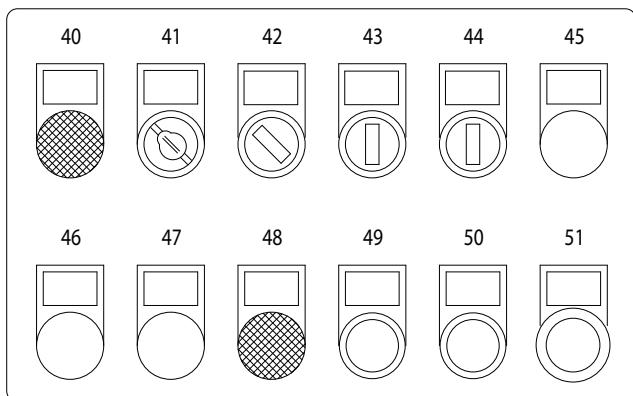
Change the programme from the Touch screen and carry out a zero-setting of the machine in manual mode (see [Machine zero set](#)),

Through a forklift remove the empty pallets pile from the pallet dispenser.

Once the stack of empty pallets is unloaded, you will have to reset the dispenser ([13.2 Safety guard fitted at the pallets magazine entrance](#)). At this point, with the dispenser empty, in automatic mode, and the clamp forks open, a check on the programme set from touch screen will come about, in order to proceed to the correct positioning of both the infeed panels and the dispenser clamp forks with the right width, able to receive pallets sized 800 or 1000.



max600Kg.eps



0440AM_E1.2.eps

13.5 Loading of the pallet dispenser



Note!

The pallet dispenser maximum loadbearing capacity is of 600 Kg (15 pallets max).



Note!

The pallet dispenser is in rest position when it is set in bottom position with the clamping forks open to ease loading of empty pallet stacks.



Important!

The dispenser can be either loaded with a EUROPALLET type of pallet stack or with a UK PALLET.

To load a stack of pallets inside the dispenser, follow this procedure:

- Once the procedure described in the previous paragraph has been performed, you just need to load the stack of empty pallets of the right size and suitable to the new programme selected onto the dispenser roller.
- On inserting the stack of empty pallets, the anti-intrusion barrier detects the presence of the lift truck and blocks the pallet dispenser. The lamp (40) lights up.
- Insert the stack of pallets on the roller, correctly positioned and centered.
- Exit from the barrier reading area and reset it (13.2 Safety guard fitted at the pallets magazine entrance).
- To reset the automatic run conditions of the pallet dispenser, you have to turn selector (41) and pull the rope for dispenser reset.



Note!

If the pallet dispenser empties out completely, it automatically lowers and opens its clamping forks waiting for the a new stack to be loaded.

13.6 Manual motion commands of the empty pallet dispenser

Usually, the dispenser works automatically with the selector (42) turned to the left. It is possible to make some manual manoeuvres.

If it is necessary, follow the indications below:

- turn the selector (50) to the manual position,

RISE/DESCENT OF DISPENSER

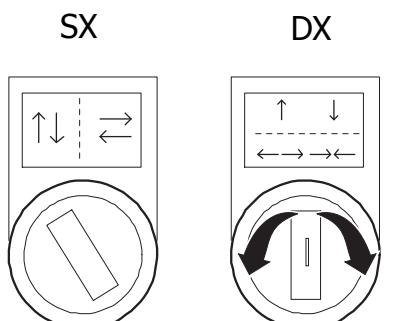
- To raise or make the pallet dispenser descend turn the left-hand selector to the left;
- turn the right-hand selector to the right to command the DESCENT or to the left to activate the dispenser RISE.

OPENING, CLOSING THE DISPENSER

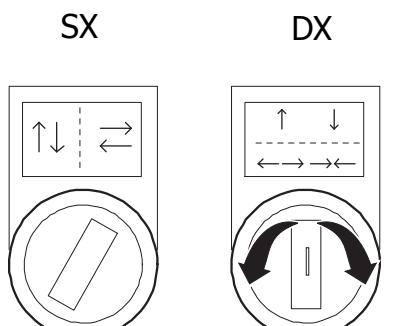
- To open or close the pallet dispenser turn the left-hand selector to the right;
- turn the right-hand selector to the right to command the closing or to the left to activate the dispenser OPENING.



The pallet clamping forks must open only with the dispenser set in low position, otherwise there could be the risk of overturning the pallet stack and damaging the machine and/or injuring the personnel.



Selettori_magazzino_sd.eps

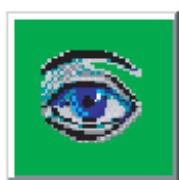


Selettori_magazzino_ac.eps

14- Displays

This section describes what sort of information the operator can find during the automatic cycle displaying them on the panel.

14.1 Displays main menu

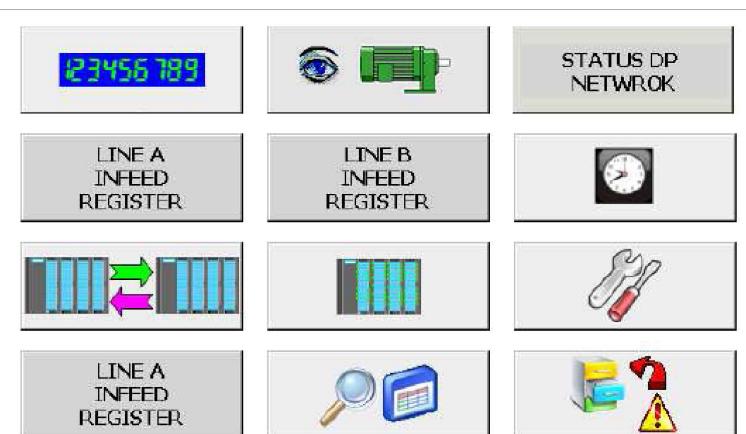


visua.eps

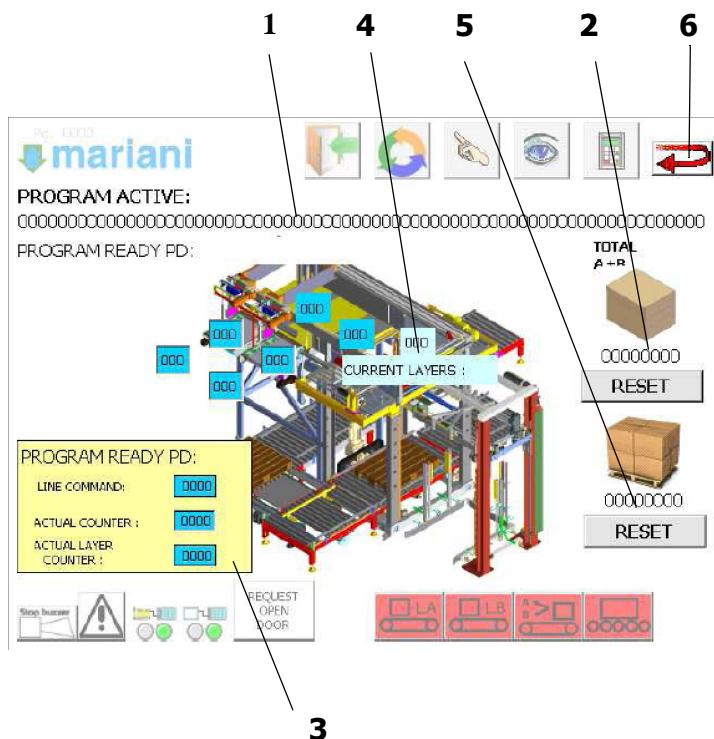
From the "select mode" main menu press the **VIEW MODE** button to enter the page shown here below.

From the first "Display mode" page you can access directly any page.

In the next paragraphs the information contained in each page will be explained in detail.



14.2 Counts



From the main view mode page press the **COUNTS** button to display the screen page shown here below.

In field (1) are displayed the number and type of program being executed.

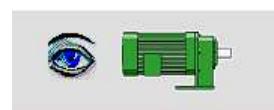
In field (4) is displayed the number of layers deposited on the pallet being currently processed.

In field (2) is displayed the number of packs palletized from the latest zero-setting carried out. To zero-set the count press the RESET button.

In field (5) is displayed the number of pallets completed from the latest zero-setting carried out. To zero-set the count press the RESET button.

To return to the main menu use the arrow (6)

Case (3) displays the data for the diverter line commanded, the count of the packs and the counts of layers that transited on the diverter.

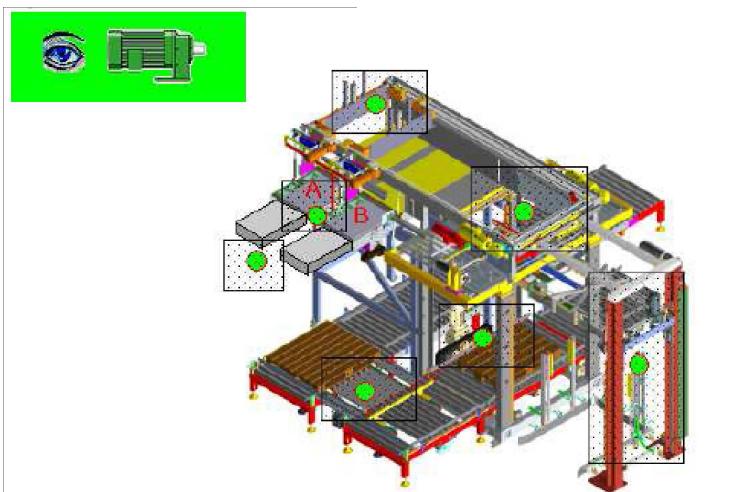


14.3 Pushers

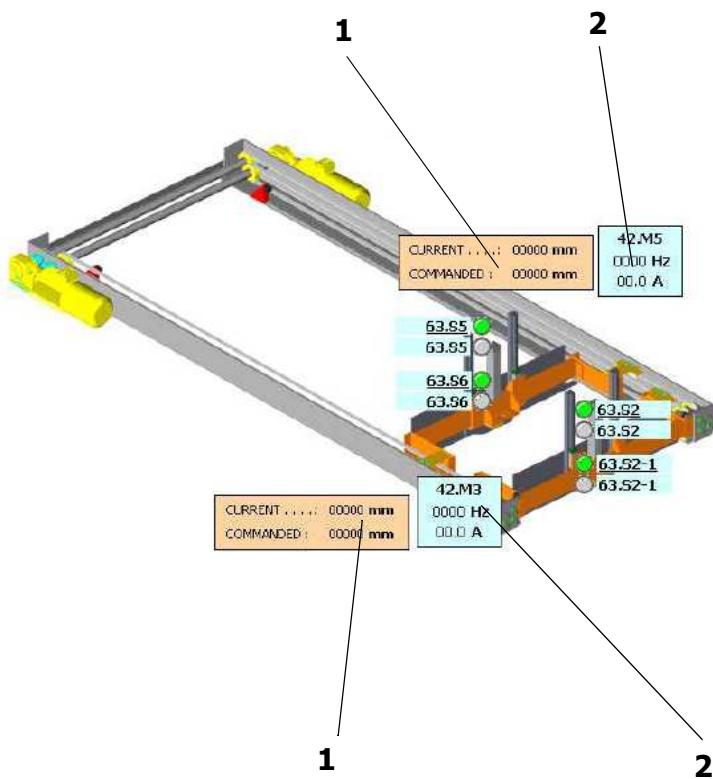
From the main display page, press the key shown here at the side, and then press the **PUSHERS** field.

Square (1) inset area displays the actual positions and commands given to the pusher.

Square (2) inset area displays the pusher's speed in Hz.



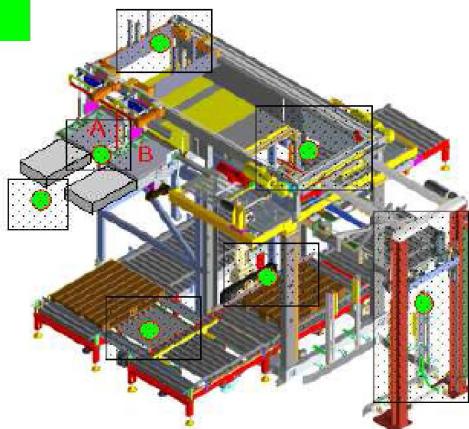
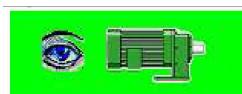
0440BL - 12_Visualizzazioni_en.fm



Displays



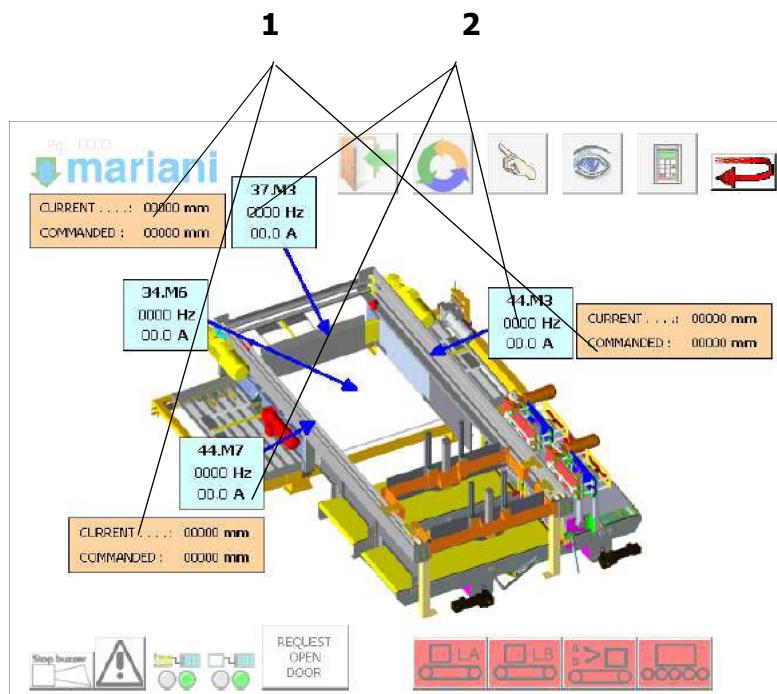
14.4 Side dams position



From the main display page, press the key shown here at the side and then that of the Side dams area.

Square (1) inset area displays the actual positions and commands given to the Side dam areas.

Square (2) inset area displays the Side dam speed in Hz.

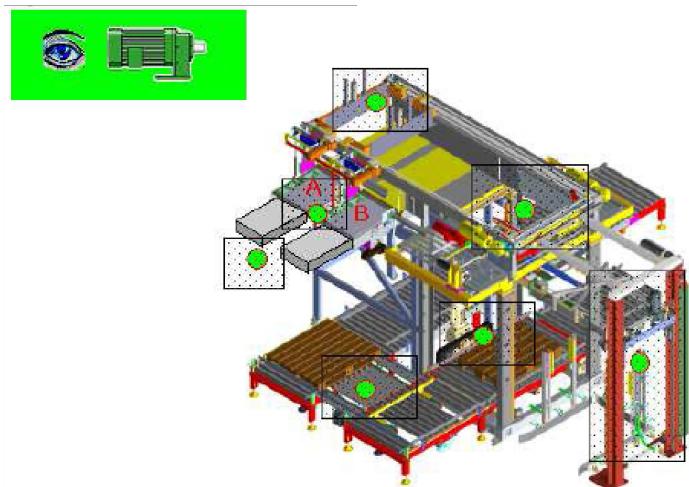




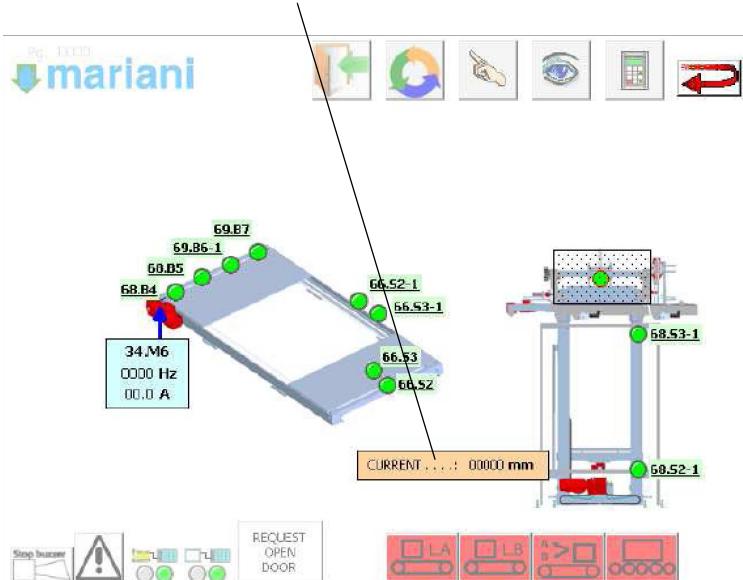
14.5 Lifting Position

From the main display page, press the key shown here at the side and then that of the **LIFTING** zone.

Square (1) inset area displays the actual positions and commands given to the lifting devices.



1



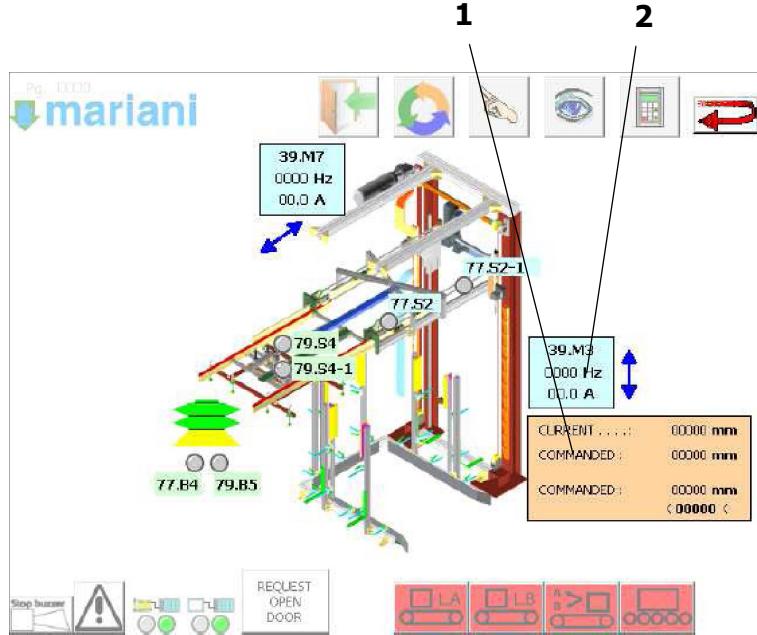


14.6 INTERSHEET position

From the main display page, press the key shown here at the side and then that of the **INTERSHEET** zone.

Square (1) inset area displays the actual positions and commands given to the intersheets.

Square (2) inset area displays the intersheet's speed in Hz.

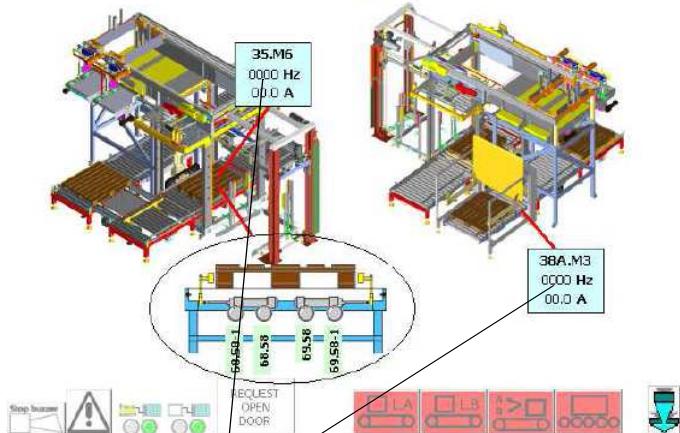
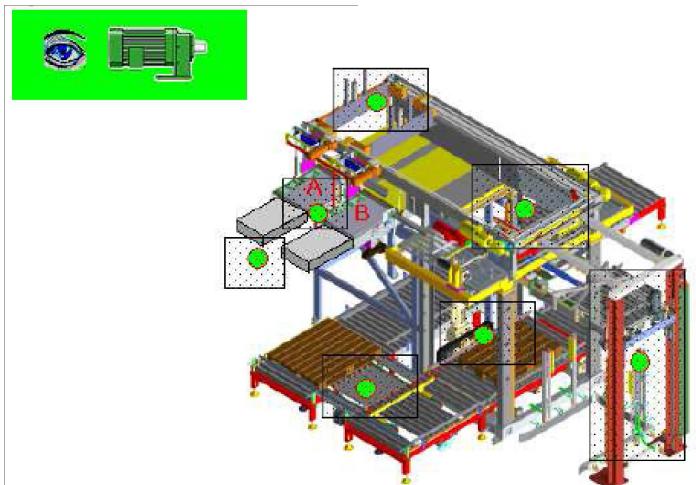




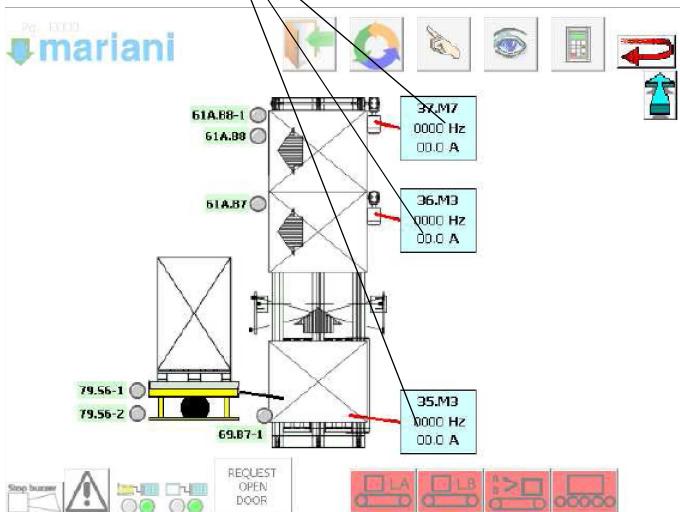
14.7 Pallet conveyor speed

From the main display page, press the key shown here at the side and then that of the **PALLET CONVEYORS** zone.

Square (1) inset area displays the speed in Hz of the various sections of the pallet conveyors.

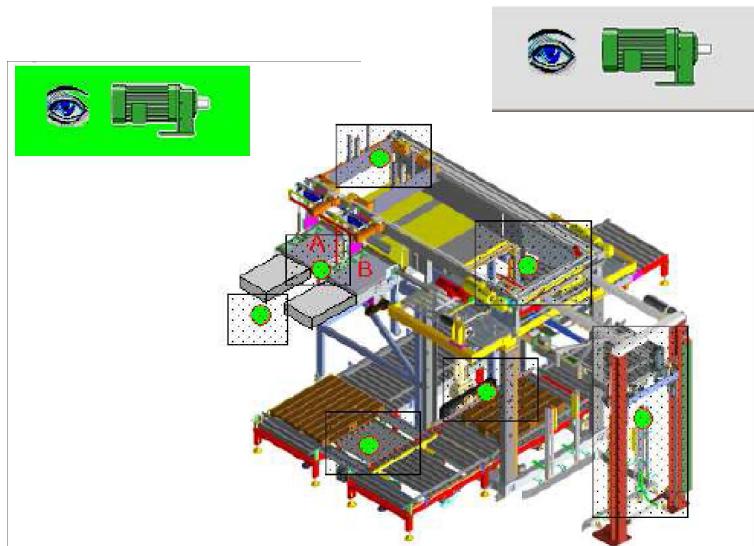


1



Displays

14.8 Infeed conveyor speed

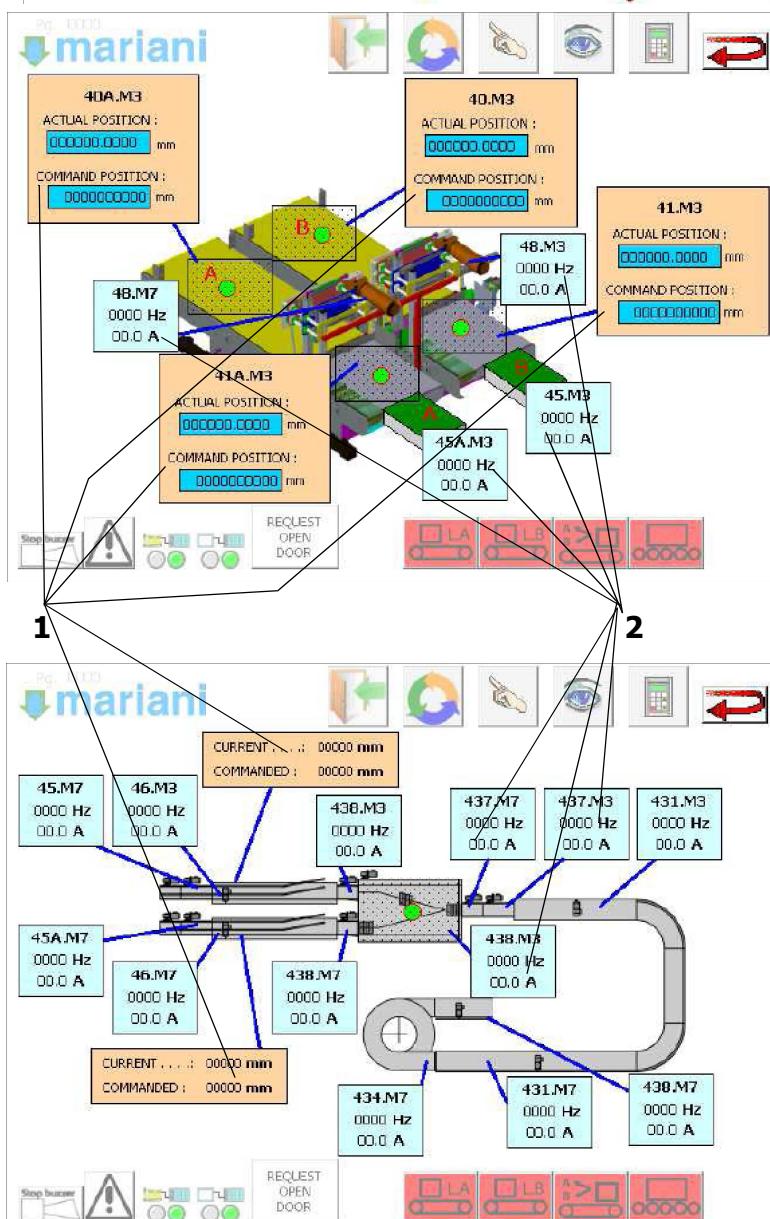


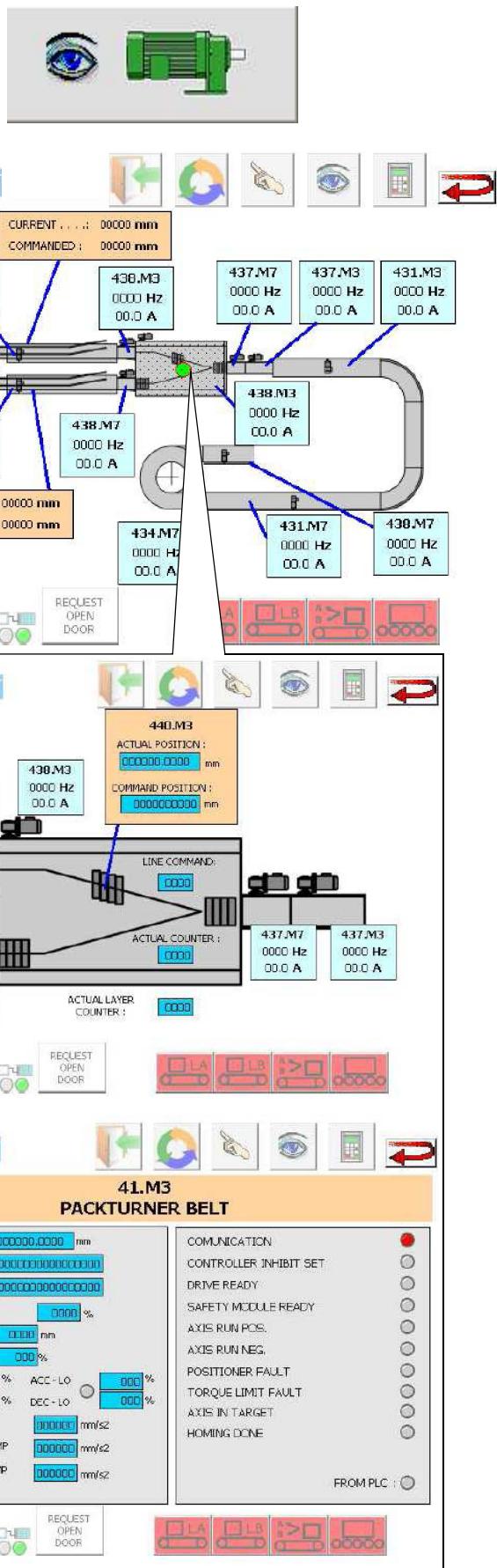
From the main display page, press the key shown here at the side and then that of the **PALLET INFEED CONVEYORS** zone.

Subsequently you will be able to select the areas of infeed conveyors involved.

Square (1) inset area displays the actual positions and commands given to the motors.

Square (2) inset area displays the speeds in Hz of the various sections of the conveyors.





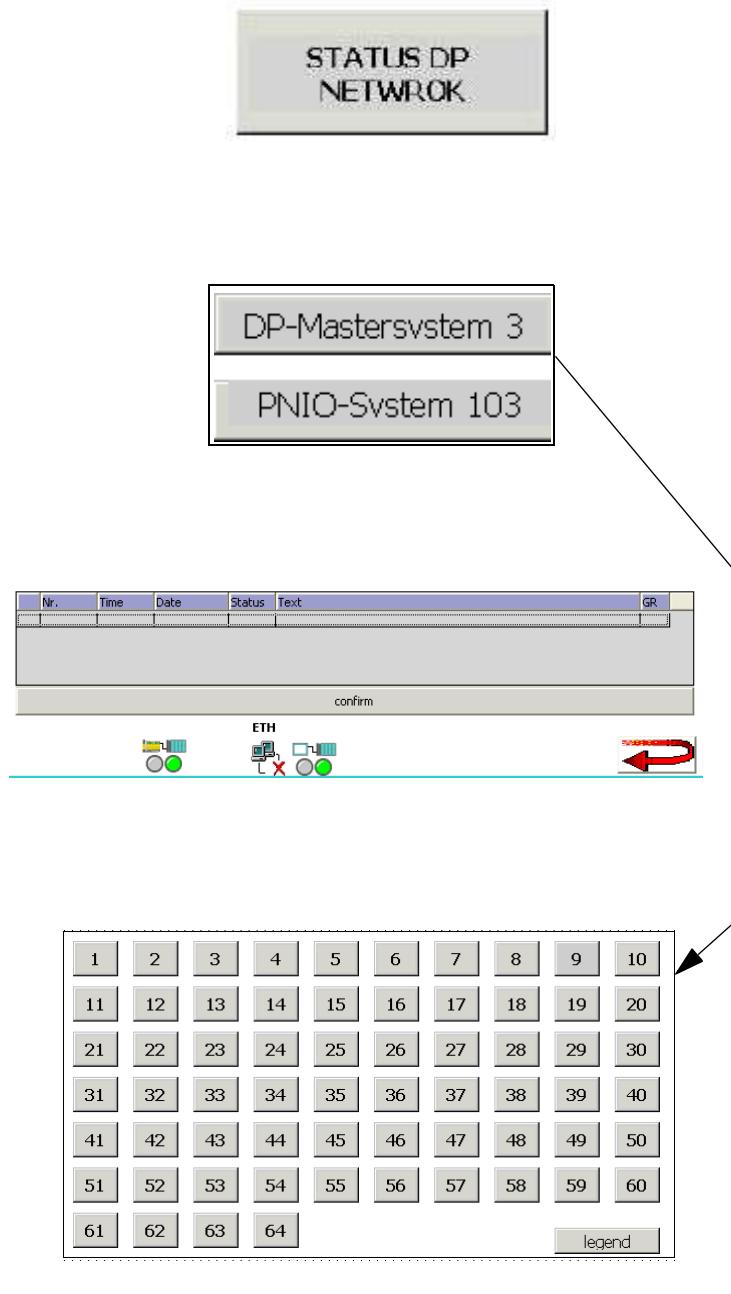
14.9 Viewing the actual diverter positions

From the main display page press the **CURRENT READINGS** key and the display will show a layout where you can select the zone you wish.

For each device there will be a page where you will see the actual position and the commands of all the motors in the machine, furthermore also the frequency and current absorption of the motors will be shown.

On the infeed conveyors you will also be able to view the status of the motor, all the various speed parameters and check whether alarms have been triggered.

To return to the main menu use the arrow.



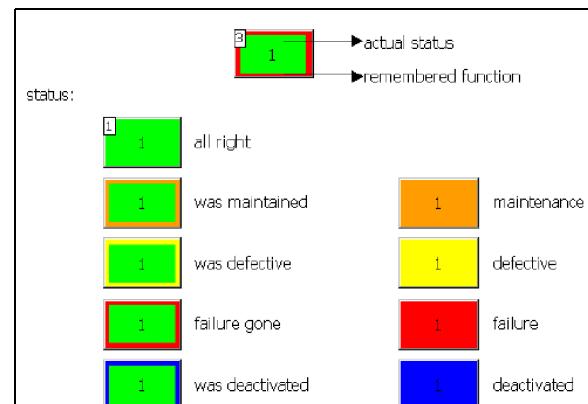
14.10 Viewing the status of the DP network

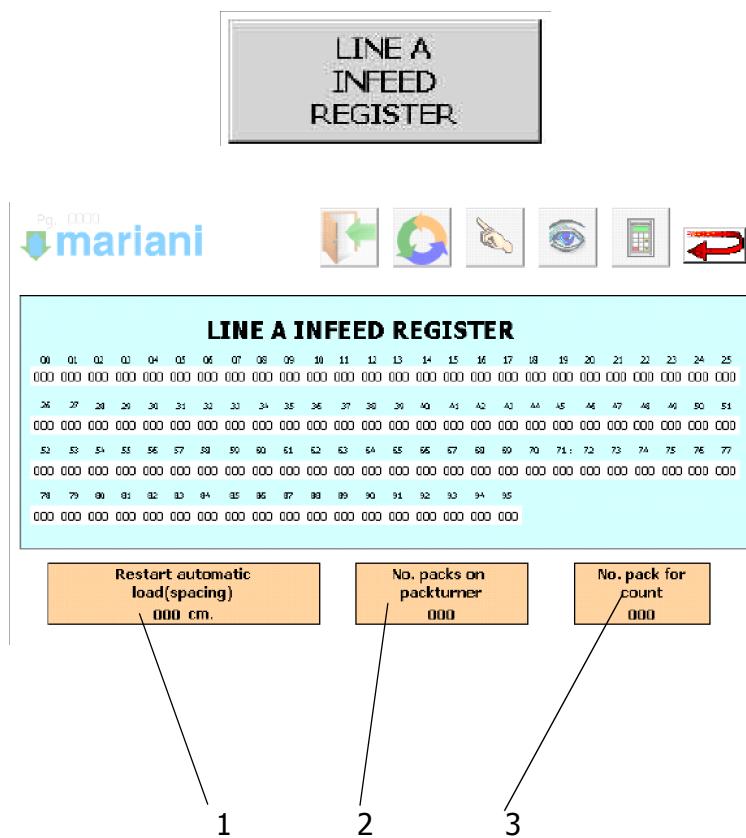
From the main display page press the key ALARMS LOG and the screen will show a page with a table that registers all the notifications of anomalies with the date, time and description.

Use the red arrow to return to the main menu.

If a PROFIBUS or PROFINET anomaly is present, the green buttons of the DP-master system and PNIO-System will turn red.

By pressing these buttons you can access the page which displays the various junctions of the network, represented by grey squares. If their conditions change, it will mean that there is a fault present, read the legend below.





14.11 Viewing the infeed register

From the main display page, press INFEED REGISTER and the display will show a page where all the infeed packs are registered. The various stretches of the conveyor (more or less corresponding to one cm) are indicated as 01, 02, 03 etc. When the stretches of the conveyor are occupied by the pack, the status passes from 0 to 1.

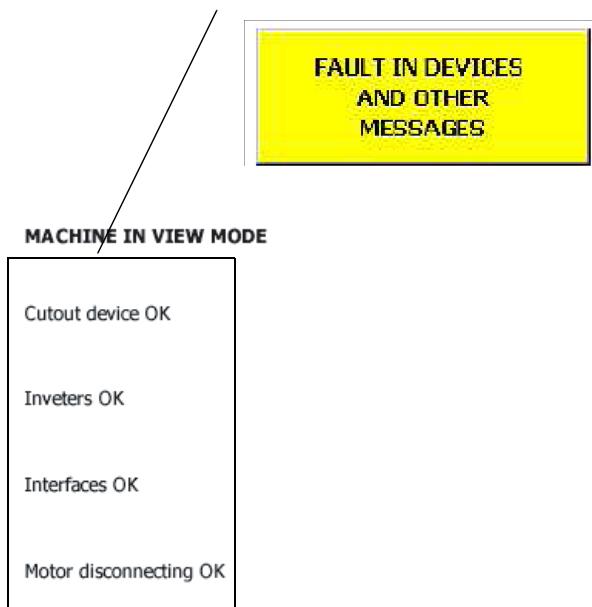
Field (1), restart of the automatic load by spacing, indicates a value in cm of the space that must distance one automatic load pack and the next.

Field (2) indicates the number of the pack present on the case-turner.

Field (3) indicates the number of the pack for the start of the counting.

To return to the main menu use the red arrow.

1



2

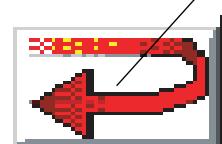
From the main view mode page press the **FAULTS WITH DEVICES** button to display the screen page shown here below. Fields (1) show the conditions of the various devices.

If a device is in good working order a **OK** indication is shown beside it. In the opposite case, a message describing the fault is displayed and is highlighted by a hazard triangle (2).

You can check the position of the device which is not working properly by pressing the red triangle (2). A screen page will be displayed with the full message of description and Help and with a drawing showing where the device is located. Once the fault has been fixed, press **ACK** to acknowledge the acquisition of the alarm. To return to the main menu use the arrow (3).

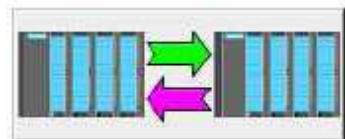


3



freccia_ritorno.eps

14.13 Signals exchange


1
HANDSHAKE SIGNAL OUTFEED CONVEYOR

BUILD BACK P.E.C. .(cases conveyor run) . .



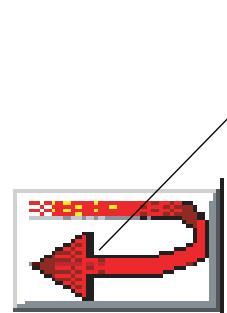
From the main view mode page press the **SIGNALS EXCHANGE** button to display the screen page shown here below.

Led (1) displays the exchange signals with the infeed and outfeed conveyors.

If the symbol is red-coloured it means that the processing described has not yet been accomplished or that overflow is not present.

If the symbol is of green-coloured it means that the processing described has been accomplished or that overflow is present.

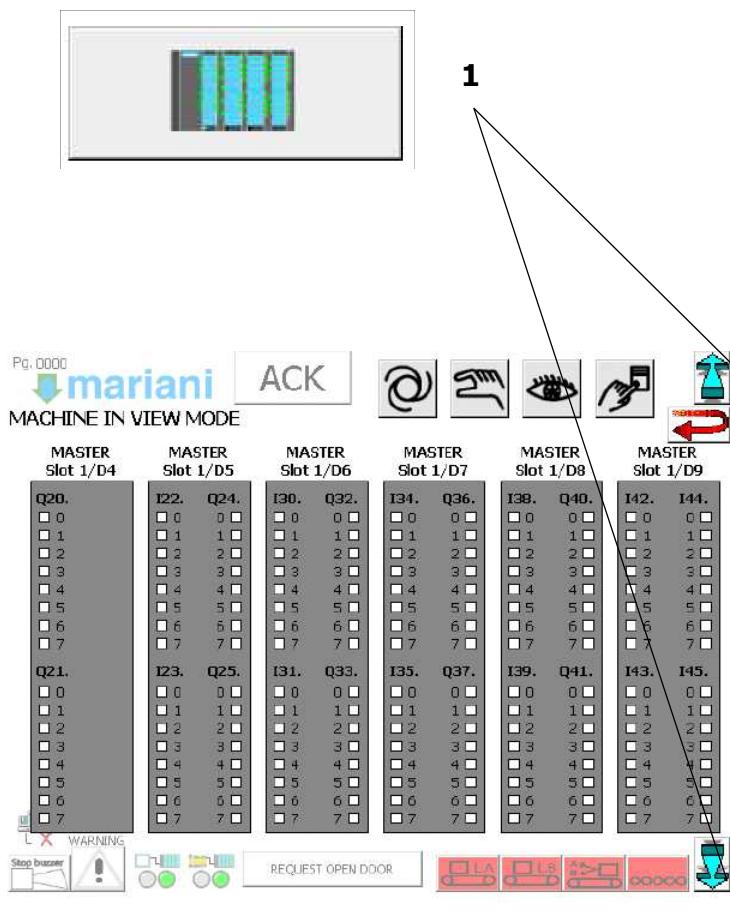
To return to the main menu use the arrow (2).



freccia_ritorno.eps

2

14.14 Inputs/outputs display

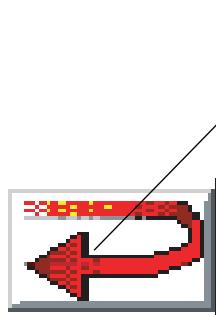


1

From the main view mode page press the **INPUTS/OUTPUTS** button to display the screen page shown here below.

These pages show the conditions of the machine inputs and outputs.

To scroll the pages use the arrow (1), to return to the main menu use the arrow (2).



2

freccia_ritorno.eps

14.15 Condition chart display


1

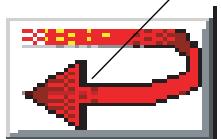
Connection	Type	DB-Nr.	Offset	Bit	Data Type	Format	Status Value

From the main view mode page press the **CONDITION CHART** button to display the screen page shown here below.

To check the condition of a specific device you can consult the condition chart:

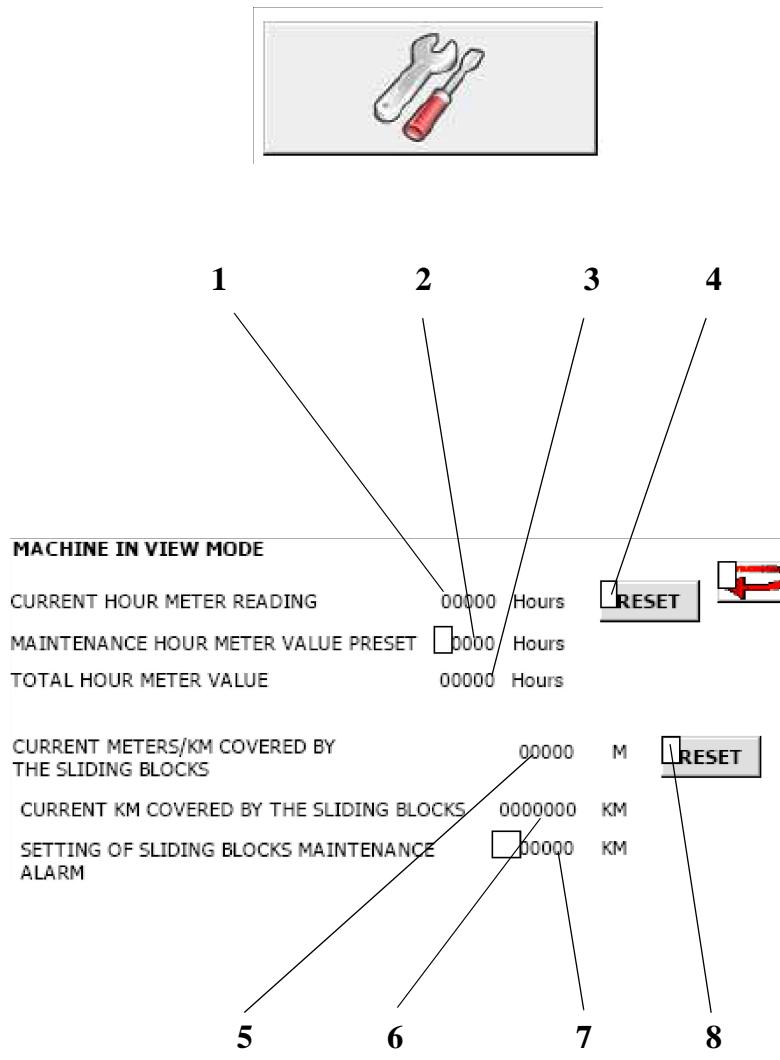
Press to select one of the fields indicated (1) in the chart. From the numeric keypad enter code and number of the device to display (Memory, Timer and so on) and press ENTER to confirm. To display the condition of the device press button (2).

To return to the main menu use the arrow (3).

2
3


freccia_ritorno.eps

14.16 Maintenance



From the main view mode page press the **MAINTENANCE** button to enter the maintenance page and to display the screen page shown here below.

The field (1) shows the total number of hours the machine has been operating since the latest zero-setting.

Field (2) is used to set the total hours before the set-point of the hour meter. Adjustable value protected by password.

Field (3) shows the total hours of operation of the machine. This value cannot be set and cannot be zeroed either.



Note!

The functions contained in this page are protected by password. Their use is allowed only to technical personnel specifically trained to do so. Consult the technical manual for further specifications.



Note!

The hours count RESET (4) must be carried out only provided maintenance has already been carried out.

The field (5) shows the meters covered in total by the sliding blocks from the latest zero-setting.

The field (6) shows the Km covered in total by the sliding blocks from the latest zero-setting.

Field (7) shows the Km-periodicity with which the alarm for carrying out maintenance on the sliding blocks is given.

This value can be set but it is protected by password.

(Cont'd)

(Cont'd)

**Note!**

The functions contained in this page are protected by password. Their use is allowed only to technical personnel specifically trained to do so. Consult the Technical Manual for further specifications.

**Note!**

The Km/meter count RESET (8) must be carried out only provided maintenance has already been carried out.

14.17 Production data

From the main View Mode page press the **PRODUCTION DATA** button to display the screen page shown at the side.

This page displays the EMRS code, or the production code, sent to the palletizers by the CLARIF-I system.

The data contained in the fields Unit of measurement, pallet IT and Total pallets are also sent to the CLARIF-I system.

Once the pallet arrives at the palletizer outfeed, the identification code (ID) is requested. If the ID sending is successful, the green spot next to the PALLET BEING PROCESSED sign lights up.

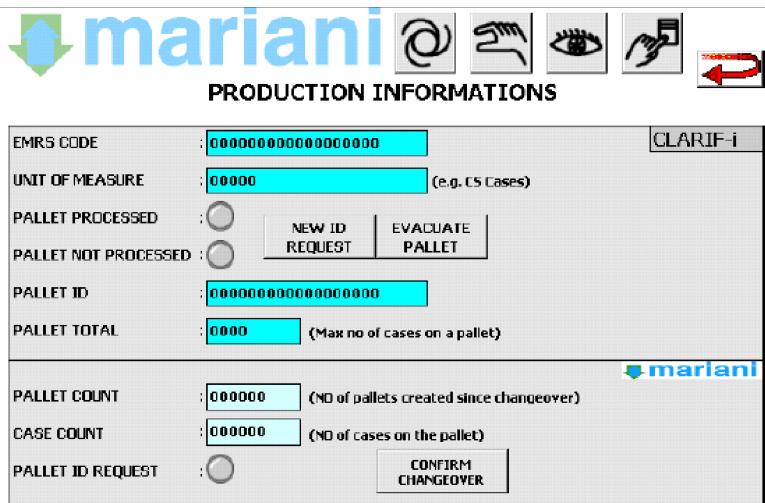
If for some reason this code cannot be sent, the red spot next to the PALLET BEING PROCESSED sign will light up. At this point there will be two alternatives: request another ID through the REQUEST A NEW ID button, or send the pallet towards the outfeed (it will not be labelled) through the EJECT PALLET button.

At the bottom part of the page the data coming from the CLARIF-I system are displayed:

- total number of the pallets making up the batch
- Total number of the cases making up a pallet,
- in case a pallet ID request has been sent.

At the end of production of all the batch pallets to change production (with the new EMRS code):

- ask the system administrator to create a new code,
- carry out a total unload of the palletizer,
- confirm with the CHANGE CODE button the start up of production with the new EMRS code.



The screenshot shows a display interface titled "marianni PRODUCTION INFORMATIONS". It includes the following data fields and controls:

- EMRS CODE:** 000000000000000000 (CLARIF-i)
- UNIT OF MEASURE:** 00000 (e.g. CS Cases)
- PALLET PROCESSED:** NEW ID REQUEST EVALUATE PALLET
- PALLET NOT PROCESSED:**
- PALLET ID:** 000000000000000000
- PALLET TOTAL:** 0000 (Max no of cases on a pallet)
- PALLET COUNT:** 000000 (No of pallets created since changeover)
- CASE COUNT:** 000000 (No of cases on the pallet)
- PALLET ID REQUEST:** CONFIRM CHANGEOVER



MACHINE IN VIEW MODE

SUNDAY							DOWNTIME INFED REALTIME(min): 00000	
31/12/2000 10:59:59							DOWNTIME OUTFED REALTIME(min): 00000	
	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY	INFEED
SHIFT 1 5-14 :	00000	00000	00000	00000	00000	00000	00000	OUTFEED
	00000	00000	00000	00000	00000	00000	00000	INFEED
SHIFT 2 14-22 :	00000	00000	00000	00000	00000	00000	00000	OUTFEED
	00000	00000	00000	00000	00000	00000	00000	INFEED
SHIFT 3 22-6 :	00000	00000	00000	00000	00000	00000	00000	OUTFEED

14.18 Downtime hour counter

From the main display page press the DOWNTIME key. The page shown at the side appears showing the various work shifts fpr the whole week.

In addition the downtimes are calculated distinctly for the infeed and outfeed of the palletizer.

To return to the main menu use the red arrow.



PROGRAMMI ABILITATTI

Pg. 0 

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100



14.19 Enabled Programmes

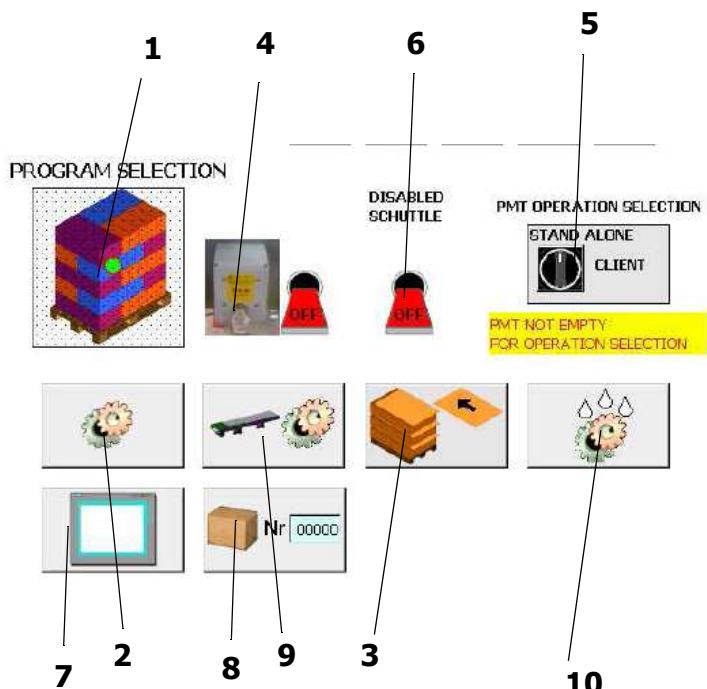
From the previous page press the ENABLED PROGRAMMES key to view the page that shows and highlights the programmes enabled on the machine.

This page has been intentionally left blank

15- Settings

This section describes all the settings to be done by the operator in case of format change.

15.1 Setting main menu



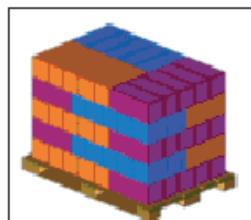
From the "select mode" main menu press the **SETTINGS** button, to enter the screen page shown here beside.

Press the pallet symbol (1) to set a working program.

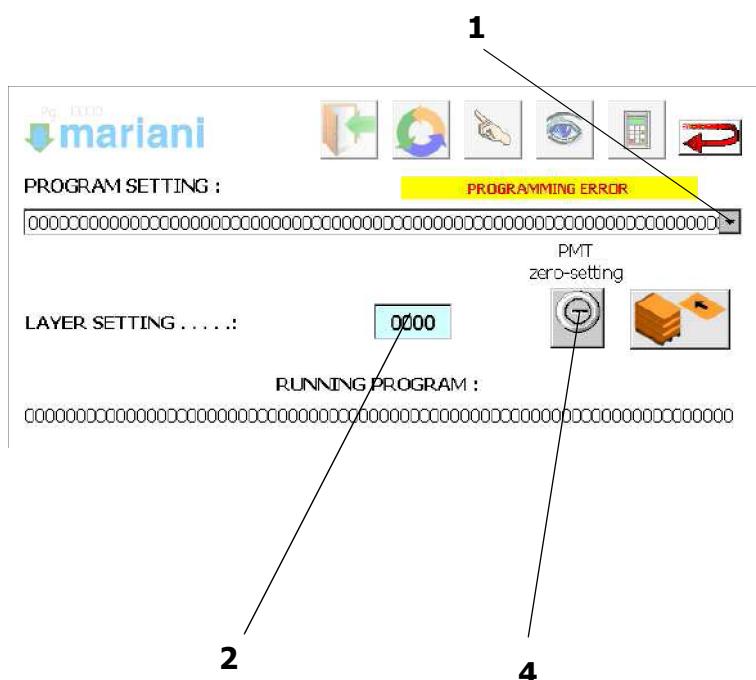
From this page, by pressing the proper buttons, the following pages can be entered:

- MACHINE SETUP (2)
- INTERSHEET SETUP (3)
- ENABLE/DISABLE THE MASTER KEY CONTROL (4)
- ENABLE/DISABLE THE SHUTTLE (OPTIONAL) (6)
- TOUCH SCREEN SETUP (7)
- BATCHES PRESELECTION (8)
- INFEED SETUP (9)
- SPIRALVEYOR LUBRICATION (10)

Use the STAND ALONE CLIENT (5) selector to activate or deactivate the communication between palletizer and the CLARIF-I system (what you can activate or deactivate is the possibility of working with the data coming from CLARIF-I or of carrying out production without any data).



programma.eps



15.2 Setting main menu

From the previous page, press the image of the pallet or on program description to access the settings program.

On this page, through the drop down menu (1), set the program desired.

After changing a program, a machine zero setting is required.

To set the number of layers to deposit on a pallet, press the button in the numeric field (2) and a numeric keypad is displayed. Type in the number of layers to deposit and press **ENTER**.

After having set a new program, the operator will be requested to carry out a zero-setting to confirm the setting. Press button (4) to zero-set and follow the instructions given in chapter Machine zero-set on page 70.

If the changes in programme imply the use of a different type of pallet, after setting the new programme the operator will have to empty out the dispenser as described in the chapter Changing pallet types (emptying the dispenser) on page 104.

Should a pallet be present inside the palletizer with other dimensions than those preestablished in the selected program, the shutter plate won't open. It is therefore necessary to unload the pallet present by pressing the UNLOAD PALLET button from the automatic page.

15.3 Enable/deactivate the master key control



This selector can activate or deactivate the input/output signals of the Master key.

This enables you to deactivate/activate possible alarms or signals coming from the master key.



15.4 Preselection of batches (optional function)

From the main page, press the symbol shown at the side.

This page allows you to select a number of products to make up a production batch. After having set the number of products of the various batches, start the production. When the number set for each batch has been reached, there will be:

- the discharge of the pallet currently being palletised
- the pick-up of an empty pallet
- the start of the next palletising phase until the number set for the next batch is reached.

To modify the fields, go to the desired field,

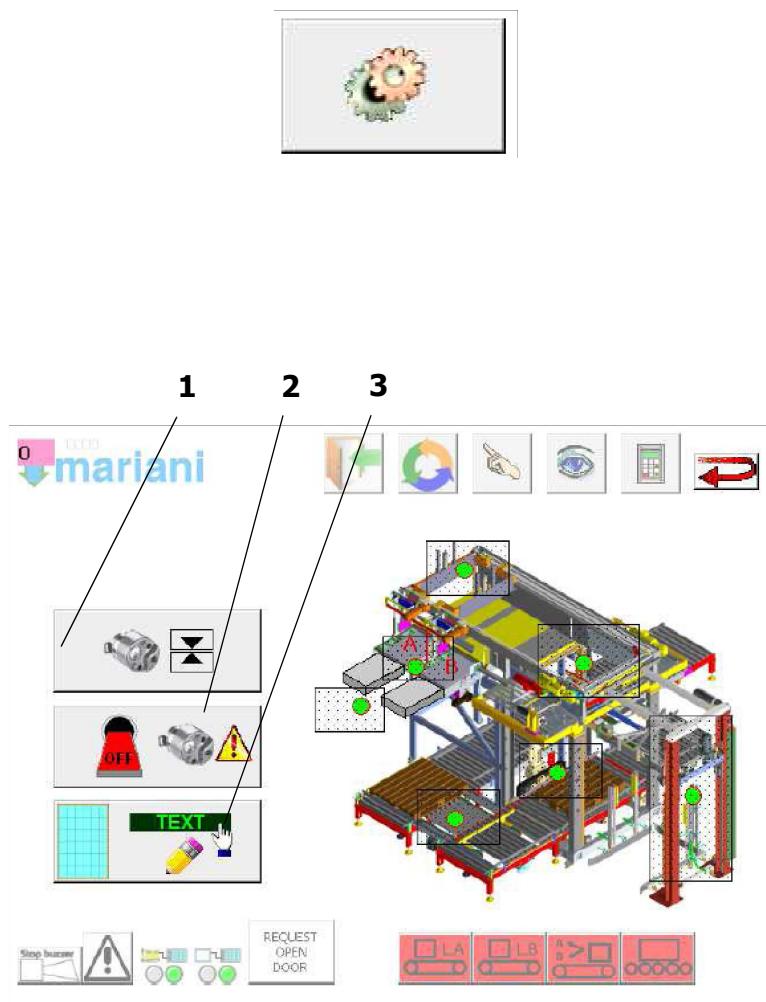
- A numerical keypad will appear,
- Digit the desired value and confirm by pressing ENTER.
- Repeat the above procedure for every change you wish to make. Consider moreover:
- The batch currently in the counting phase will be indicated in the field **(N° OF BATCH IN PROGRESS)**, e.g.: "in progress : n. 1" means that the products of the first batch are being processed.
- The actual counting of packs in progress is display in the field **(COUNT OF PACKS BATCH IN PROGRESS)**.
- The key **ZERO-SET PRESELECTORS** will bring about the zero-setting of the count, or else, will restart the processing of product 1 of batch 1.



Note!

All the functions contained in this page are protected by password. Their use is allowed to technical personnel specifically trained to this purpose only. Consult the Technical Manual for further specifications.

15.5 Machine Set-Up



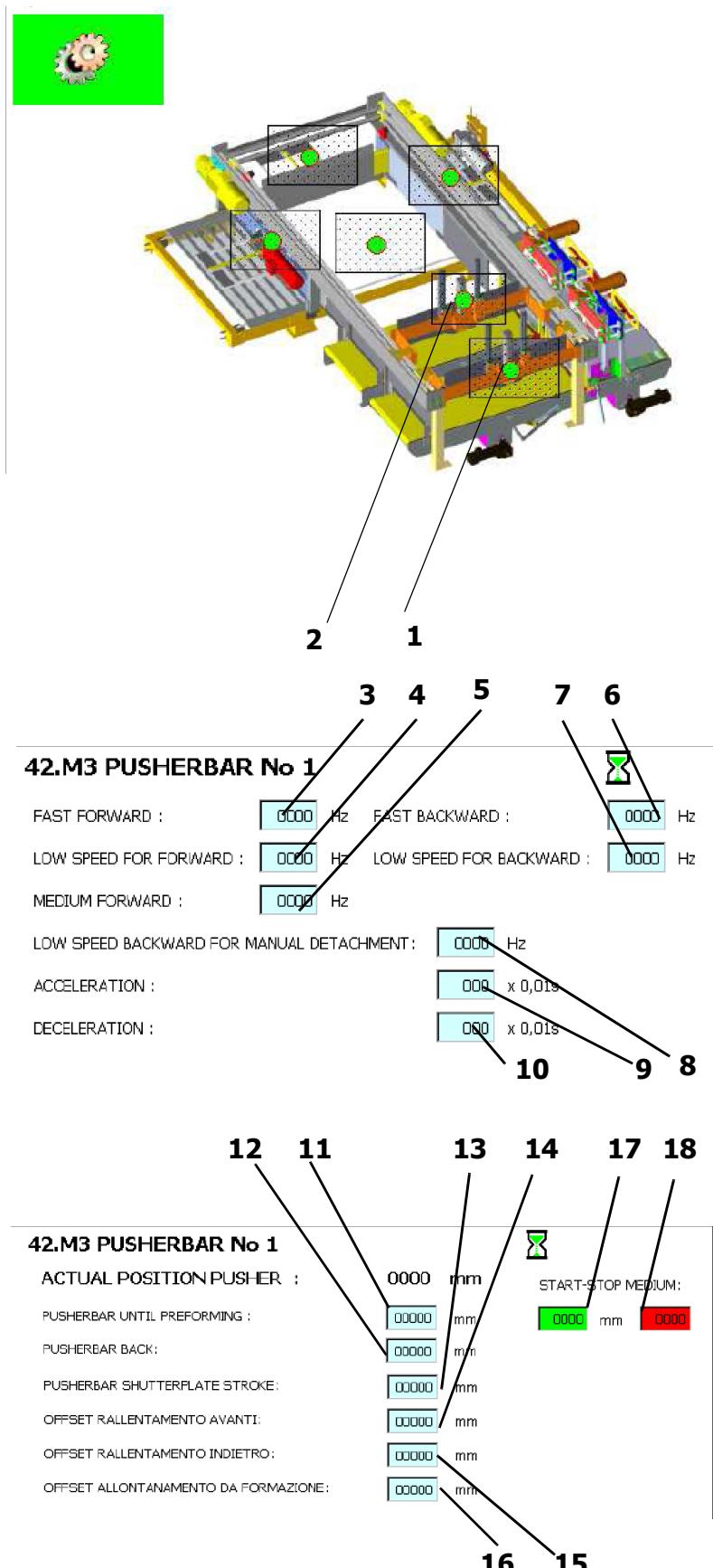
From the main preselection page press the MACHINE SETUP key, and on the display the page seen here at the side will appear, from which you can enter the various palletizer zones to set the processing parameters, or else, by pressing buttons (1) and (2) enter respectively Setup encoder pages and those for the activation/deactivation of encoder faults.

Use button (3) to access (through password) the sensitive data setting page. This page can be only accessed by the technical personnel.



Note!

The INVERTER SET-UP and MACHINE SET-UP buttons are protected by password. Use allowed only by specifically trained technical personnel. Consult the Technical Manual for further specifications.



15.6 Pusher Set-Up

From the general Inverter set-up page press the **PUSHER SPEED SET-UP** button to display the screen page shown here below.

By pressing on one of the two red spots, you will enter the pushers setup pages.

PUSHER 1 (1)

Field (3) shows the pusher's forward speed.

Field (4) shows the pusher's slow forward speed.

Field (5) shows the pusher's average forward speed.

Field (6) shows the pusher's backward speed.

Field (7) shows the pusher's slow backward speed.

Field (8) shows the pusher's backward speed for the detachment of the bundles.

Field (9) shows the time needed for the pusher to start up and reach the set speed.

Field (10) shows the time needed for the pusher to slow down from the set speed until it reaches a full stop.

Field (11) shows the positioning value of the pusher on the preformation zone.

Field (12) shows the retreating value of the pusher.

Field (13) shows the positioning value of the pusher to which the shutter gives the go signal to start moving.

The fields (14) and (16) show the offset values for the slowing down of the forward movement, the slowing down value of the backward movement and the pusher's moving away from the formation.

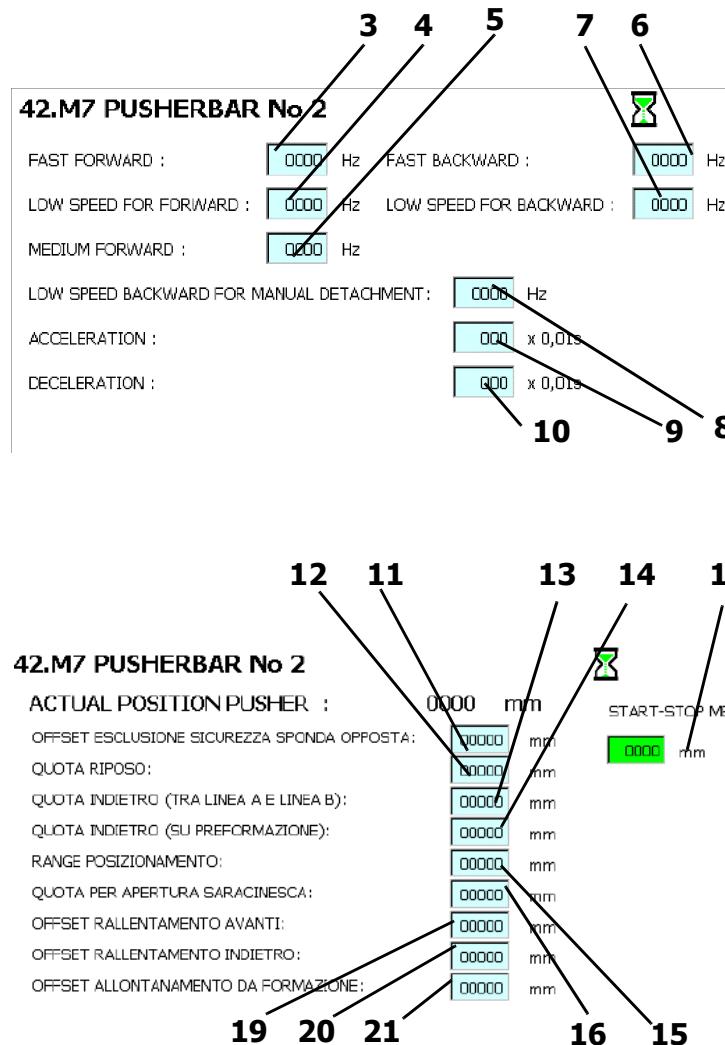
The values (17) and (18) show the interval in which the pusher moves at average speed.



Note!

All functions contained in this page are protected by Password. Their use is allowed to technical personnel specifically trained to this purpose only. Consult the Technical Manual for further specifications.

Settings



PUSHER 2 (2)

Field (3) shows the pusher's forward speed.

Field (4) shows the pusher's slow forward speed.

Field (5) shows the pusher's average forward speed.

Field (6) shows the pusher's backward speed.

Field (7) shows the pusher's slow backward speed.

Field (8) shows the pusher's backward speed for the detachment of the bundles.

Field (9) shows the time needed for the pusher to start up and reach the set speed.

Field (10) shows the time needed for the pusher to slow down from the set speed until it reaches a full stop.

Field (11) shows the positioning value of the pusher to which the safety photocell on the opposite bank of the pusher is deactivated.

Field (12) shows the pusher's value at rest.

Field (13) shows the retreat positioning value of the pusher (between line A and B).

Field (14) shows the retreating value of the pusher in the preformation zone.

Field (15) shows the value in which the pusher takes the range position.

Field (16) shows the positioning value of the pusher to which the shutter gives the go signal to start moving.

The fields (19) and (21) show the offset values for the slowing down of the forward movement, the slowing down value of the backward movement and the pusher's moving away from the formation.

The values (17) and (18) show the interval in which the pusher moves at average speed.



Note!

All functions contained in this page are protected by Password. Their use is allowed to technical personnel specifically trained to this purpose only. Consult the Technical Manual for further specifications.

42.M7 PUSHERBAR No 2



ACTUAL POSITION PUSHER : 0000 mm

1-PUSHERBAR LONG STROKE:	<input type="text" value="00000"/> mm
2-PUSHERBAR LONG STROKE:	<input type="text" value="00000"/> mm
3-PUSHERBAR LONG STROKE:	<input type="text" value="00000"/> mm
4-PUSHERBAR LONG STROKE:	<input type="text" value="00000"/> mm
5-PUSHERBAR LONG STROKE:	<input type="text" value="00000"/> mm

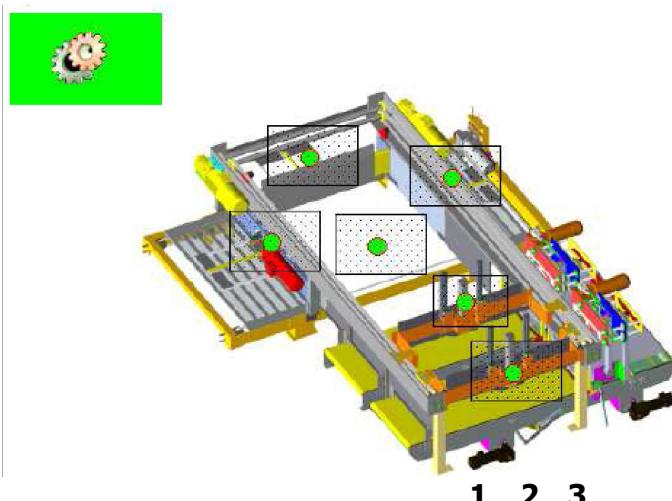
22

Field (22) shows the values for the various long runs of the pusher.



Note!

All functions contained in this page are protected by Password. Their use is allowed to technical personnel specifically trained to this purpose only. Consult the Technical Manual for further specifications.



44.M7 SIDE DAM - LAYER TIGHTNER ON FIXED GUIDE SIDE

ACTUAL POSITION :	00000 mm	
BACK (max 300):	00000 mm	
SET BACK SLOW DOWN POSITION :	00000 mm	
RANGE AHEAD SLOW DOWN POSITION :	00000 mm	
FAST:	0000 Hz	ACCELERATION TIME : 000 x 0,1s
SLOW:	0000 Hz	DECELERATION TIME: 000 x 0,1s

1 2 3

4 5 6 7

37.M3 BACK DAM

ACTUAL POSITION :	00000 mm	
BACK (max 350):	00000 mm	
SET BACK SLOW DOWN POSITION:	00000 mm	OFFSET IN POSIZIONE AVANTI: 00000 mm
RANGE AHEAD SLOW DOWN POSITION:	00000 mm	OFFSET PER ALLARME POSIZIONE: 00000 mm
FAST:	0000 Hz	ACCELERATION TIME: 000 x 0,1s
SLOW:	0000 Hz	DECELERATION TIME: 000 x 0,1s

8 9

34.M6 SHUTTERPLATE

FAST FORWARD :	0000 Hz	FAST BACKWARD : 0000 Hz
SLOW FORWARD :	0000 Hz	SLOW BACKWARD : 0000 Hz
ACCELERATION TIME:	000 x 0,1s	
DECCELERATION TIME:	000 x 0,1s	

15.7 Side dam and shutter palate set-up

From the general machine setup page, press the zone SIDE DAM and SHUTTER SETUP.

Field (1) shows the positioning value behind the narrow lane.

Field (2) shows the retreating value at which the narrow lane slow down starts.

Field (3) shows the range value for the slowdown when approaching the side dam.

Fields (4) and (5) show the slow and fast speeds of the narrow lane.

Fields (6) and (7) show the narrow lane's acceleration/deceleration ramps in seconds.

Important! Settings applicable to the right-hand layer tightener are the same as those for the left-hand side.

The same settings can be performed on the pusher are as follows:

Field (8) shows the offset value of the bank opposite the pusher as it advances.

Field (9) shows the offset value for the triggering of the alarm due to incorrect positioning.

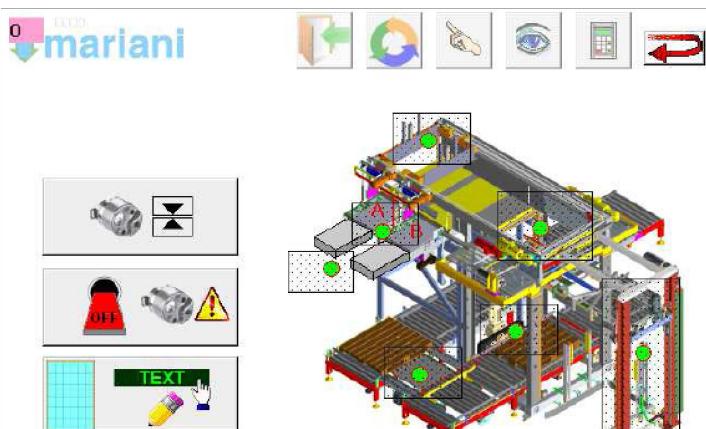


Note!

All functions contained in this page are protected by Password. Their use is allowed to technical personnel specifically trained to this purpose only. Consult the Technical Manual for further specifications.

The settings that can be performed from the shutter's preselection page are:

- Setting of the fast and slow speed for the advance and retreat movements of the shutter.
- The acceleration and deceleration ramps of the shutter.



33.M3 ELEVATOR

VELOCITÀ JOG SALITA/DISCESA:	<input type="text" value="0000"/> %	ACCELERATION TIME :	<input type="text" value="000"/> %
LENTO SALITA/DISCESA:	<input type="text" value="0000"/> %	DECELERATION TIME:	<input type="text" value="000"/> %
VELOCE SALITA CON PALLET VUOTO:	<input type="text" value="0000"/> %		
VELOCE SALITA PER RIPOSIZ. O CICLO FALDA SU STRATO:	<input type="text" value="0000"/> %		
VELOCE SALITA PER CICLO FALDA SU PALLET VUOTO:	<input type="text" value="0000"/> %		
VELOCE DISCESA PER RIPOSIZIONAMENTO:	<input type="text" value="0000"/> %		
VELOCE DISCESA PER CICLO FALDA SU STRATO:	<input type="text" value="0000"/> %		
VELOCE DISCESA SOLLEVAMENTO PER SCARICO PALLET:	<input type="text" value="0000"/> %		

33.M3 ELEVATOR

ACTUAL POSITION : 000000.0000 mm	<input type="button" value="X"/>
RANGE RALLENTAMENTO SALITA CON PALLET VUOTO:	<input type="text" value="000000"/> mm
RANGE RALLENTAMENTO SALITA PER RIPOSIZ. O CICLO FALDA:	<input type="text" value="000000"/> mm
RANGE RALLENTAMENTO DISCESA PER SCARICO PALLET:	<input type="text" value="000000"/> mm
RANGE RALLENTAMENTO DISCESA PER RIPOSIZ. O CICLO FALDA:	<input type="text" value="000000"/> mm
RANGE IN POSIZIONE:	<input type="text" value="000000"/> mm
TOLLERANZA IN POSIZIONE SU FINECORSO DI DISCESA:	<input type="text" value="000000"/> mm
RITARDO PRESENZA PALLET:	<input type="text" value="000"/> x 0,1s
RITARDO FERMATA SALITA PER FTC SOTTO SARACINESCA:	<input type="text" value="000"/> x 0,1s

15.8 Lifting Setup

From the machine setup general page, press the **LIFTING** zone.

On the first lifting setup page, all the lift speeds are set.

- Lift speed in jog mode;
- Slow up/down stroke speed;
- Speed of the lift climb with empty pallet;
- Acceleration/deceleration ramps of the rise;
- Lifting speed for the positioning of the sheet on the layer;
- Lifting speed during the climb to deposit the first sheet on the empty pallet;
- Down-stroke speed of the lifting operation to reposition the pallet;
- Down-stroke speed of the lifting operation to carry out the sheet deposit cycle on the layer;
- Down-stroke speed of the lifting operation to upload the complete pallet.

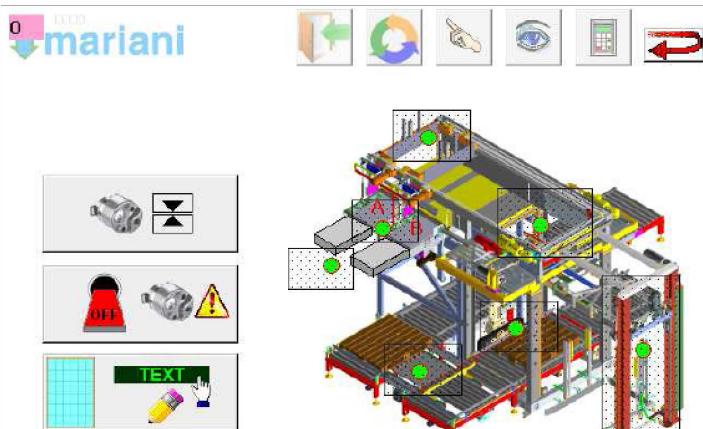
In the second lifting setup page, you can set all the pallet lifting values of empty pallet loading, to deposit the sheet on the empty pallet.

Furthermore, the tolerances for correct positioning during the work phase are also displayed.



Note!

All functions contained in this page are protected by Password. Their use is allowed to technical personnel specifically trained to this purpose only. Consult the Technical Manual for further specifications.



35.M6 ELEVATOR ROLLER

<input checked="" type="checkbox"/> FAST SPEED FOR LOADING PALLET: <input type="text" value="0000"/> Hz	ACCELERATION TIME: <input type="text" value="000"/> x 0,1s
<input type="checkbox"/> SLOW SPEED FOR LOADING PALLET: <input type="text" value="0000"/> Hz	DECELERATION TIME: <input type="text" value="000"/> x 0,1s
FAST SPEED FOR PALLET UNLOAD: <input type="text" value="0000"/> Hz	
SLOW SPEED FOR PALLET UNLOAD: <input type="text" value="0000"/> Hz	
DELAY TO START SLOW SPEED: <input type="text" value="000"/> x 0,1s	

15.9 Elevator Roller setup

From the machine setup general page, press the pallet conveyor zone, and the page shown at the side will appear, on which the relevant roller can be selected.

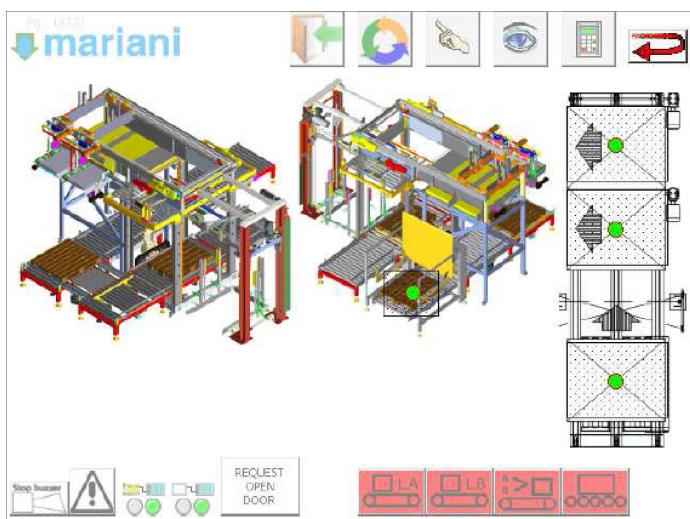
For the roller lifting page, the parameters that can be set are as follows:

- the fast/slow speed for the loading of pallets on the roller conveyor;
- the fast/slow speed for the unloading of pallets from the roller conveyor;
- the acceleration/deceleration ramps of the roller conveyor;
- the delay time (in seconds) after which the roller conveyor may move in low speed.



Note!

All functions contained in this page are protected by Password. Their use is allowed to technical personnel specifically trained to this purpose only. Consult the Technical Manual for further specifications.



36.M6 OUT ROLLER FULL PALLET CONVEYOR



FAST SPEED FOR PALLET UNLOADING:

0000 Hz

LOW SPEED FOR PALLET UNLOADING:

0000 Hz

FAST SPEED FOR UNLOADED PALLET TO CUSTOMER:

0000 Hz

DELAY TO START SLOW SPEED:

000 x 0,1s

ACCELERATION TIME:

000 x 0,1s

DECELERATION TIME:

000 x 0,1s

15.10 Setup of full pallets roller conveyor

From the machine setup general page, press the pallet conveyor zone, and the page shown at the side will appear, on which the relevant roller can be selected.

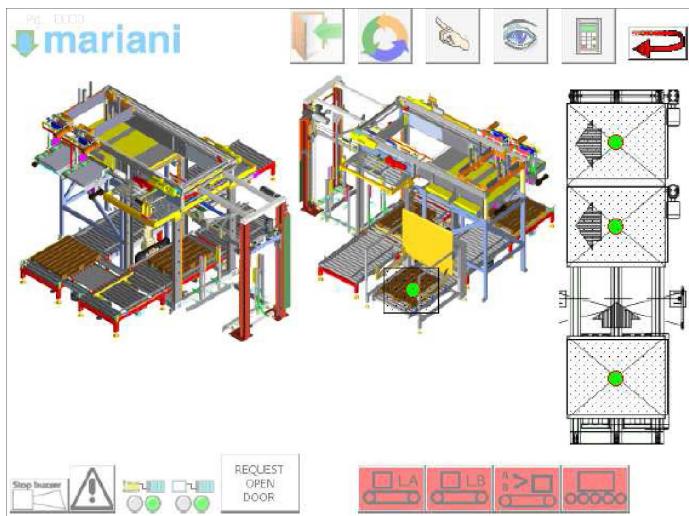
For the page of the full pallets roller conveyor, the parameters that can be set are as follows:

- fast/slow speeds for the unloading of pallets from the roller conveyor;
- fast speed for the unloading of pallets onto the client's conveyors;
- the acceleration/deceleration ramps of the roller conveyor;
- the delay time (in seconds) after which the roller conveyor may move in low speed.



Note!

All functions contained in this page are protected by Password. Their use is allowed to technical personnel specifically trained to this purpose only. Consult the Technical Manual for further specifications.



38A.M3 ROLLER CONVEYOR OF PALLET DISPENSER

	
FAST FORWARD:	000 Hz
SLOW FORWARD:	000 Hz
FAST BACKWARD:	000 Hz
SLOW BACKWARD:	000 Hz
ACCELERATION TIME:	000 x 0,1s
DECELERATION TIME:	000 x 0,1s

15.11 Setup of roller conveyor on the pallet dispenser

From the machine setup general page, press the pallet conveyor zone, and the page shown at the side will appear, on which the relevant roller can be selected.

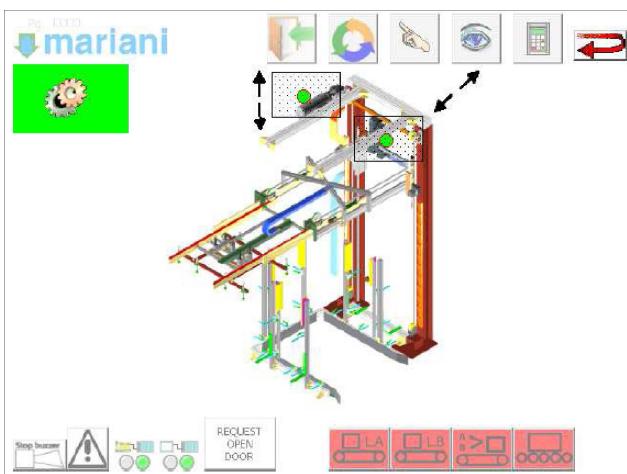
For the page of the roller conveyor on the empty pallet dispenser, the parameters that can be set are as follows:

- slow/fast speeds for the forward and retreat movements of the roller conveyor;
- the acceleration/deceleration ramps of the roller conveyor.



Note!

All functions contained in this page are protected by Password. Their use is allowed to technical personnel specifically trained to this purpose only. Consult the Technical Manual for further specifications.



39.M7 FORWARD-BACKWARD INTERSHEET

ACTUAL POSITION : 000000 mm

POSIZIONE INDIETRO (PRELIEVO): mm

POSIZIONE AVANTI (DEPOSITO): mm

OFFSET RALLENTAMENTO INDIETRO: mm

OFFSET RALLENTAMENTO AVANTI: mm

FAST FORWARD: Hz FAST BACKWARD: Hz ACCELERATION TIME:

SLOW FORWARD: Hz SLOW BACKWARD: Hz DECELERATION TIME:

15.12 Setup of the intersheet

From the machine setup general page, press the intersheet zone.

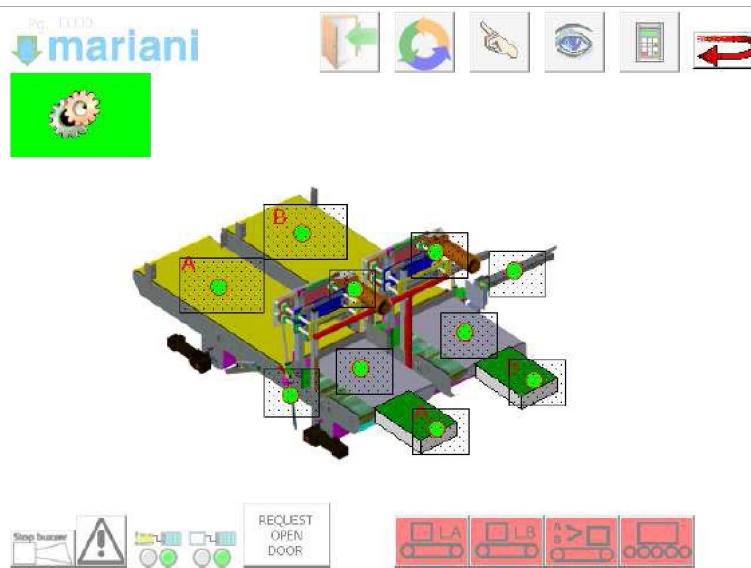
Possible settings are:

- Positioning values for the forward and retreat movements of the intersheet (for pickup and depositing);
- Offset values for the slow down during the forward and retreating movements of the intersheet;
- Fast/slow speed for the forward and retreating movements of the intersheet;
- The acceleration/deceleration ramps of the intersheet.



Note!

All functions contained in this page are protected by Password. Their use is allowed to technical personnel specifically trained to this purpose only. Consult the Technical Manual for further specifications.



15.13 Infeed Setup

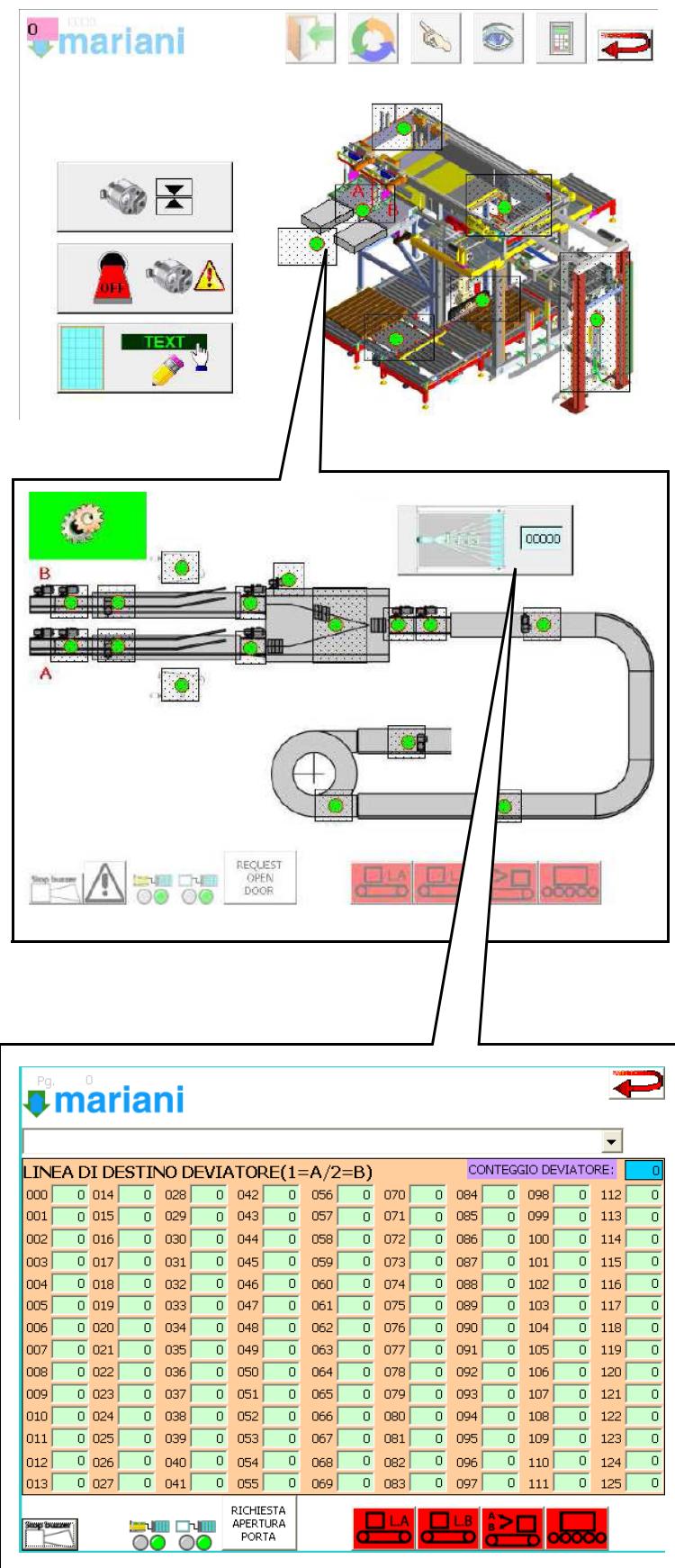
From the machine setup general page, press the infeed zone and the page shown at the side will appear, and from which the conveyor stretch desired can be selected.

The speed values can be set for all the conveyor stretches for the correct functioning of the conveyors.



Note!

All functions contained in this page are protected by Password. Their use is allowed to technical personnel specifically trained to this purpose only. Consult the Technical Manual for further specifications.



15.14 Destination of the packs at the infeed

From this page you can set the destination of the packs that transit from the infeed diverter.

Settings

15.15 Infeed Setup



Pg. 1000

marianni

BIT	Park count	BIT
00	Free	16
01	Free	17
02	Free	18
03	Free	19
04	Rise of guide by 1° box	20
05	Rise of guide by 2° box	21
06	Rise of guide by 3° box	22
07	Free	23
08	Free	24
09	Free	25
10	Free	26
11	Free	27
12	Free	28
13	Free	29
14	Zero-setting boxes counter for layers odd	30
15	Zero-setting boxes counter	31

From the general machine setup page press the key INFEED SETUP. In these pages you will be able to set the quantity of bundles on every layer and carry out a series of settings for the creation of the pallet. From the next pages you will be able to carry out a series of settings to create the movements of the packs that will form the layer and the pallet or semi-pallet.



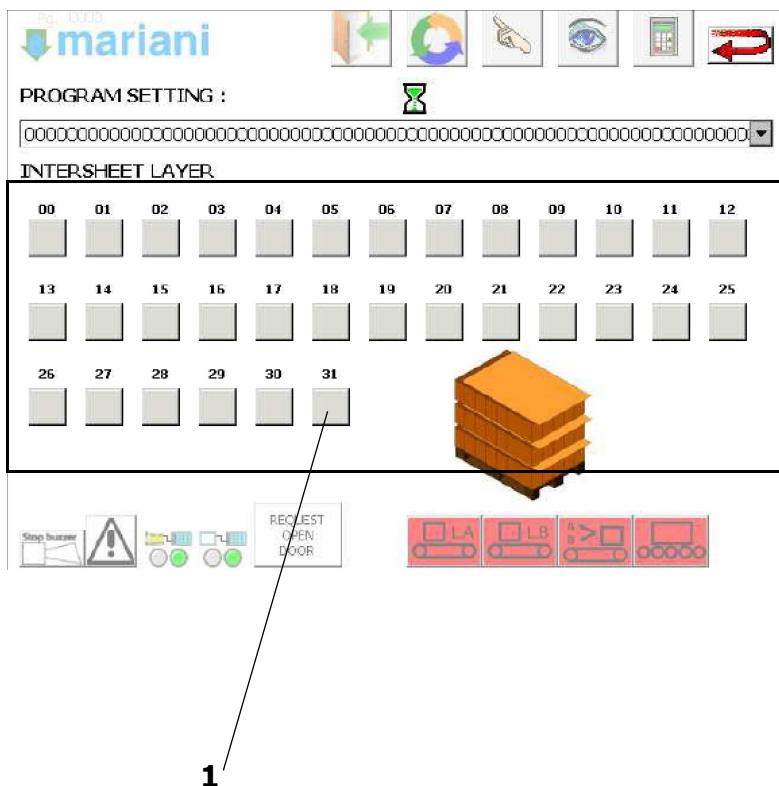
Note!

All functions contained in this page are protected by Password. Their use is allowed to technical personnel specifically trained to this purpose only. Consult the Technical Manual for further specifications.

Pg. 1000

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15.16 Intersheet setting



From the main setting mode page press the **INTERSHEET SETTING** button and the screen page shown here below will be displayed.

- To select the layers on which to deposit the intersheets, press the square button (1) close to the number and an "X" symbol will be displayed. The intersheet will be deposited only on the "X" marked layers.

15.17 Sensitive data page

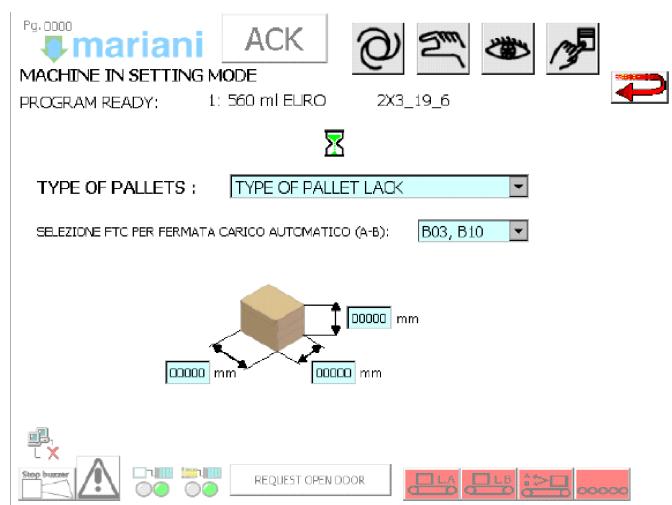
From the main page of MACHINE SET-UP press the button shown at the side.



Note!

All functions contained in this page are protected by Password. Their use is allowed to technical personnel specifically trained to this purpose only.

From this page you can set the dimensions of the product at the infeed and the type of pallet to be used for the palletizing process.



15.18 Touch screen set-up



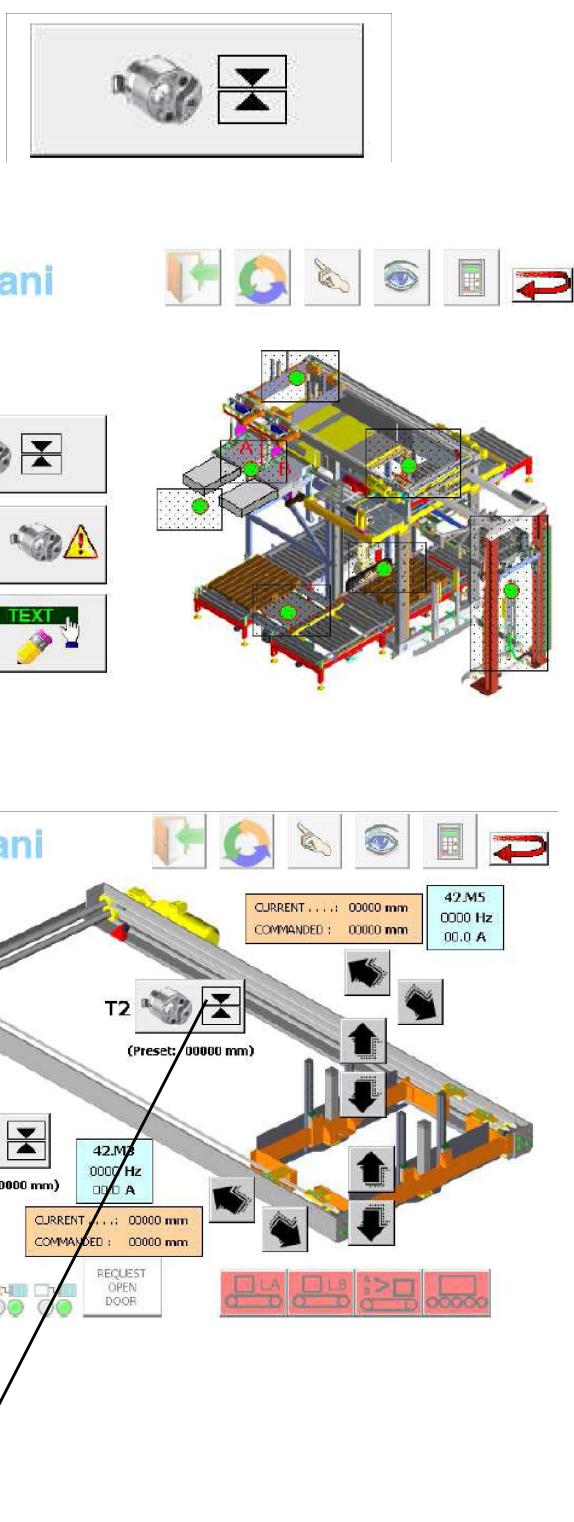
From the main preselection page, press the key with the symbol of the board, to enter the Touch Screen preselection page, from which you will be able to:

- Choose the language by pressing the flag symbol. Available languages are Italian and English.
- Obtain the machine passwords.
- Register new passwords.
- Exit from Windows.
- Clean the screen.



Note!

Keep the date and time updated in order that the alarms log obtains the correct data.



15.19 Encoder Set up

From the machine setup general page, press the key PRESET ENCODER and the page shown here at the side will appear on the display.

From this page you will be able to scroll through all the pages of the encoder's setup.

The Encoder setup pages show the actual position and the commands given by the encoder of the various devices.

The PRESET field displays the encoder readings from the time of presetting up to when it is carried out. If the two values coincide (current and preset) this will mean that the data was registered and the presetting procedure was successful.

Encoder presetting is performed with the key (1).



Note!

When performing encoder setting, the referral arrows located on the machine's structure must coincide with referral arrows mounted on the device to be set.

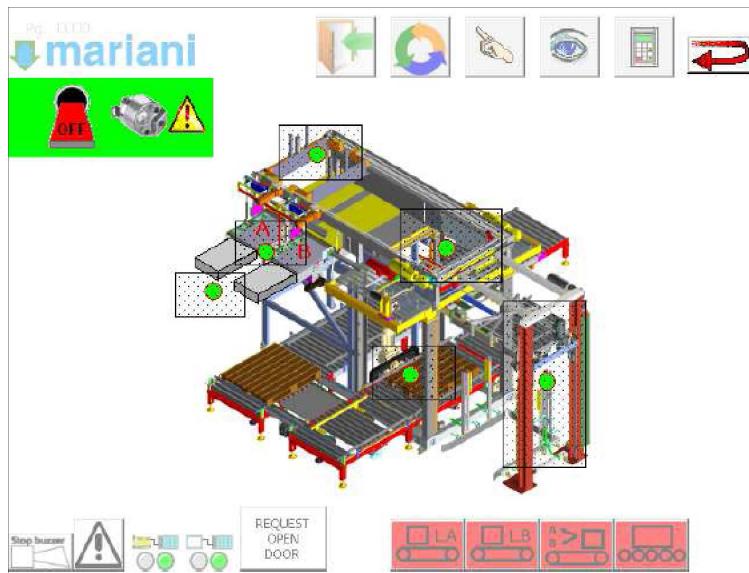


Note!

All functions contained in this page are protected by Password. Their use is allowed to technical personnel specifically trained to this purpose only. Consult the Technical Manual for further specifications.

Settings

15.20 Setting encoder faults



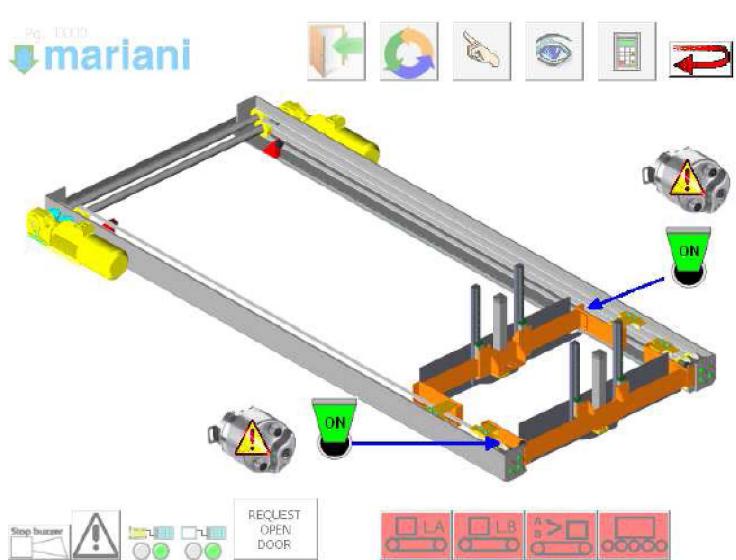
From the machine setup general page, press the key **SET ENCODER FAULTS**.

This page will allow you to disable the error control reading should it furnish erroneous data.



Note!

All functions contained in this page are protected by Password. Their use is allowed to technical personnel specifically trained to this purpose only. Consult the Technical Manual for further specifications.



16- Checks during production

These checkings must be carried out continuously when the machine is in production.



Note!

In case of breakdowns or in case a particular failure cannot be eliminated, call for a service technician.

16.1 Alarm

When an alarm trips, the warning lamp (1) on top of the machine starts flashing. At the same time, the correspondent message of alarm is displayed on the screen of both the two operator panels. For further information concerning the various alarms see the section **Control panel/Alarms**.



16.2 Boxes

Check that the boxes at the infeed are properly close and that they do not present any kind of malformation which might compromise the correct running of the machine.

In case of relevant anomalies, remove the box.



Note!

If the problem occurs frequently, advise the technical service.

16.3 Pallet

Check if pallets in magazine are sufficient, if necessary, ensure a stack is loaded.

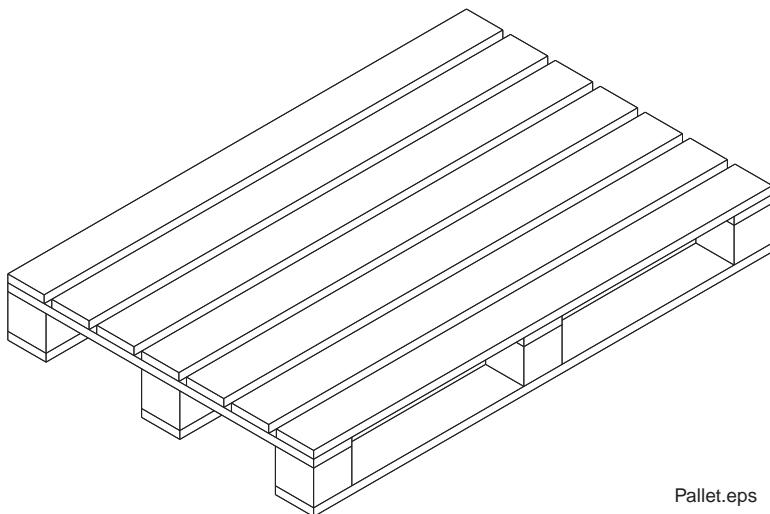


Note!

Maximum magazine capacity: 15 pallets.

Make sure that the dimensions and the conditions of the pallet are suitable to be processed by the palletizer.

In case of evident faults, replace it.



Pallet.eps

17- Cleaning and daily maintenance

Clean and make the daily maintenance after every cycle of production.

17.1 Checking the safety devices

Check every day the proper working order of the main safety devices (emergency push-buttons and micro-switches installed on the mobile parts of the safety guards).

0440BL -

17.2 Preparatory operations before cleaning

Clear the machine from all the products and the consumable materials.

17.3 Cartons removal

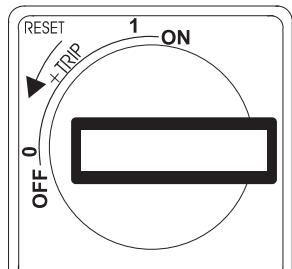
Remove any cartons still in the sheet magazine (if present).

17.4 Main cut-out switch



Before carrying out any type of cleaning or daily maintenance operations disconnect the **main cut-out switch** by turning it to OFF and block it in this position with a padlock.

The operator who performs the operations must remove the key from the padlock and keep it with him throughout the intervention.



Int_princ_OFF.eps

When the **cut-out switch** is turned to OFF the electric supply to the machine is not disconnected. **The supply cable** but also the **cut-out switch** will continue to stay under tension.

When the cut-out switch is turned to OFF, **the electric cabinet** could still have a dangerous voltage.

It takes about 5 minutes to discharge the residual tension from inside the electronic instrumental panel.

0440BL -



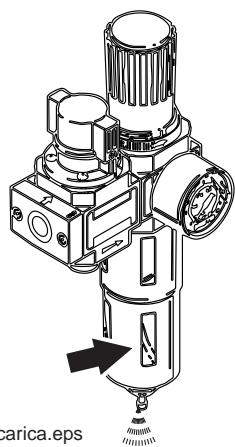
Note!

See [Stop for end of production.](#)



If the machine is equipped with electric locks, before carrying out any maintenance and cleaning operations and before turning it off, unlock the doors which give access to the desired zone so as to make access possible even when the machine is off.

17.5 Air pressure



Festo_scarica.eps

Close the main power supply valve and lock it in place.

The operator who performs the operations must remove the key from the padlock and keep it with him/her throughout the intervention.

Discharge any residual air, if present, (check the wiring diagrams to identify all the cylinders under pressure or the stop valves).

How to drain condensate

Operate the screw located under the filter cup and drain the condensate, if present.



P_acqua.eps



P_elettrico.eps

17.6 Washing

**Risk of minor personal injuries!**

Failure to observe this information may cause **minor personal injuries!**

To prepare a washing, follow this procedure:

- a) Make sure that the machine is empty,
- a) make sure that the electric cabinet door is closed.
- b) make sure that the electric connecting boxes are closed.
- c) Make sure that the main cut-out switch is turned to the OFF position and locked.
- d) Check that the compressed air main supply valve is closed and locked in place.

**Immediate fatal danger!**

Failure to observe these warnings may cause fatal danger!

0440BL -

**Note!**

Do not spray water towards the electric cabin. Never spray water at the photocells and the valves and their connecting wires. IT IS ABSOLUTELY PROHIBITED to use pressurized water to clean the machine's components.

Cleaning and daily maintenance

Warning advices for the zones which can be cleaned with water and liquid detergents.

Before using any detergent, read the specific warnings written on the containers' labels. Read the safety precautions.

To keep the environment safe, the use of chemical products must always be kept at the lowest possible level. Make any attempt to use low environmental impact products. The discharge of cleaning solutions must comply with the rules in force.



Important!

Risk of burns! Water at a temperature over 55°C can cause injuries of burns.



Note!

Water at a temperature over 60°C denatures proteins and as a result cleaning will be much harder.

17.7 How to clean Suction cups and the intersheet magazine area (if present).



P_acqua.eps



P_elettrico.eps

At the end of every working day or on the occasion of a shift change clean the Intersheet magazine area removing any cardboard residue or any dust produced by the cartons.

We recommend to use a vacuum cleaner paying attention not to damage parts of the machine. If the use of a vacuum cleaner is not possible, use compressed air to blow any deposited dust away.

Clean the suction cups with compressed air.

Should after the accomplishment of all the operations described above persist the presence of dust, clean with a soft and slightly wet cloth so as to remove the smaller particles.



DANGER!

The use of water is forbidden.

17.8 How to clean the plate conveyors



Important!

The use of chemical products to clean the conveyors chain is forbidden.

Accurate and regular cleaning is very important to provide correct functioning of the conveyors and limit their wearing out.

If the conveyors do not have a dedicated lubrication line it is necessary to clean the conveyors at end of every working day to provide the maximum levels of hygiene and performance.

If the conveyors have been provided with a lubrication system, clean them once a week.



Note!

To clean use hot water, mild soap, a sponge or a cloth.



Important!

During the cleaning phase protect the motors, the electric and pneumatic connections from getting into contact with water or any chemical product.

Clean the chain conveyors following this procedure:

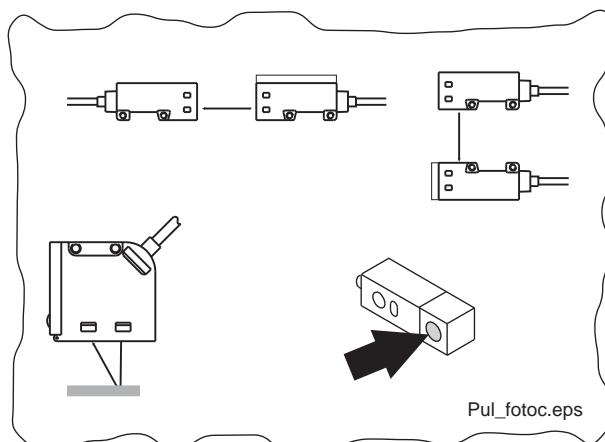
- Blow some compressed air so as to remove any dust residues.
- Wet the plates with water and mild soap.
- Clean the surface with a sponge.
- Dry with a cloth and blow compressed air to remove all residues of water.

17.9 Cleaning up the liquid streaks that flowed out from the packs

During the work cycles liquid may flow out from the packs. **It would be advisable to perform immediate cleaning operations of the areas involved,** with mild detergent and water, with the subsequent blowing of compressed air.

17.10 Cleaning the transparent surfaces

Do not use abrasive rags/sponges or aggressive products to clean the transparent surfaces (doors, safety guards, etc.) water and mild soap would suffice.



17.11 Photocells

Clean the photocells using a cloth.

0440BL -

17.12 Central lubrication (if present)

Check and top up the grease tank if necessary.



Note!

For the type of grease to use consult the Lubricators section.

18- Storage

This section supplies the principal instructions for the correct storage of the necessary consumables during production

18.1 Carton sheets

Handling and transport of cartons

Cartons must be protected against impacts, water and other liquids, dust and dirt.

Cartons must be stacked and aligned on pallets. Height cannot be more than two meters. Place a wooden axe on the summit of the stacked cartons before fixing them with a metal clip. The whole pallet should be possibly wrapped by thermo-shrinkable films.

Carton storage

Keep the material in a dry and well ventilated place.

The material must be stored disjointedly from the wrapping material used by the packaging machines.

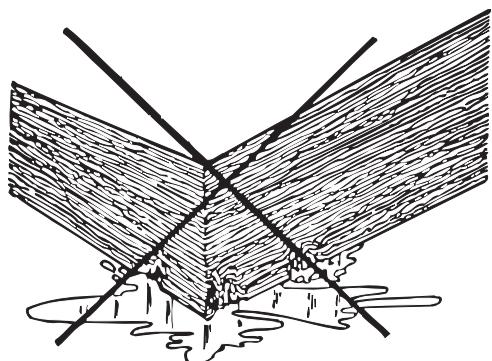
Storage temperature:

Maximum +30°C

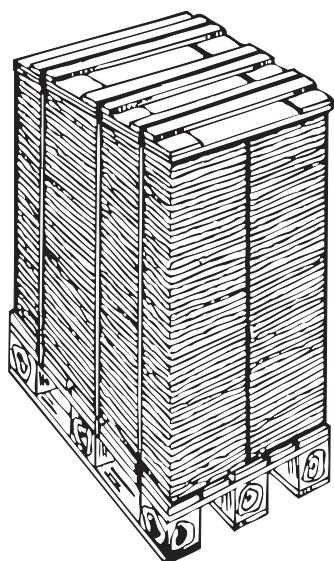
Relative humidity:

65% Approximately

Humidity variations could change cartons dimensions.



Cartoni_no_H2O.eps



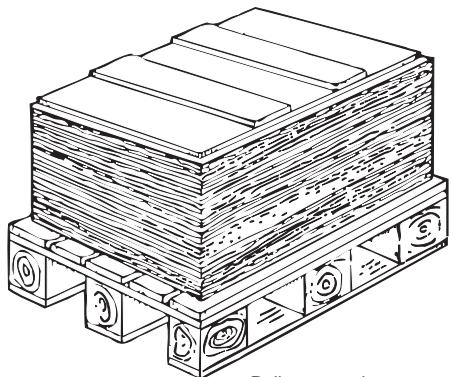
Pallet_cartoni.eps

After the daily production

Keep cartons remained on pallets with a wooden axe placed on the upper part.

Cartons must be shielded against water during washing of the machine.

To condition a pallet loaded with cartons as the surrounding air, remove the strap and the plastic cover.



Pallet_cartoni_store.eps

Order of consumption

First pallet in - First pallet out!

18.2 Glue storage

Glue can be stored for no longer than one year. The zone of storage must have a temperature range of + 10 - 30 °C.

Keep the zone of storage clean and dry as much as possible.

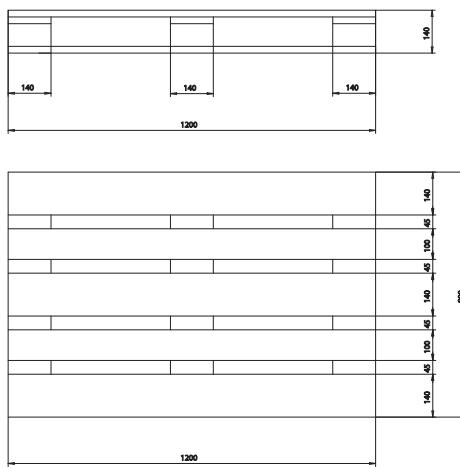
The first box put in storage must be the first box to be used.

19- Materials used

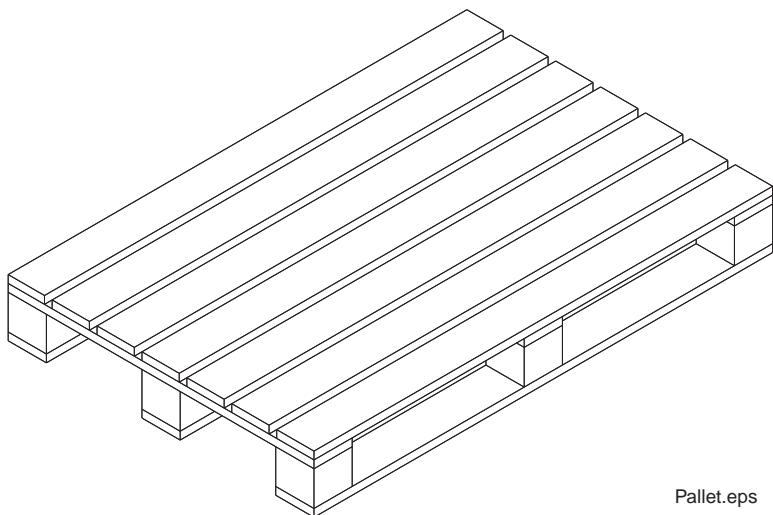
This chapter describes the technical characteristics and dimensions of the materials used by the system.

19.1 Pallet measurements

0440BL - Dim_pallet_en.fm



Standard_dim_pallet.eps



Pallet.eps

Tolerances according to the UNI 4121 Standard

The measurements indicated in the drawing here next are referred to pallets built with seasoned wood, or wood with 20/25% of humidity rate.

The user must take into consideration possible oversizes due to a high rate of humidity.

The measurements of the various components must stay within the tolerances reported here below.

Perimeter values, or length and width +/- 3 mm (millimetres).

Height value +/- 2 mm.

Interspaces size (passage for the lifting forks) +/- 2 mm.

Dimensions	Static bearing capacity	Dinamic bearing capacity
mm 1200 x 800	Kg. 6000	Kg. 1500
* mm 1200 x 1000	Kg. 4800	Kg. 1200
* Formed by 7 boards, 3 of them measuring 145mm and 4 100mm.. The two terminal interspacing boards must measure 41mm. Pallets with a good capacity load for international railway transport.		
Made in: fir, pine, larch, beech, elm. Using helicoidal or smooth nails.		

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20- Lubricants

The table below lists a selection of lubricants with their respective designations.

Comparable lubricants from other suppliers may be selected with the aid of the lubricant specifications.

Lubricant type	Code	Example	
		Supplier	Product designation
A Motor oil		BP Esso Mobil Shell	Energol Gr-xp 220 Spartan Ep 220 Mobilgear 630 Omala Oil 220
B Chain oil	Chains manual lubrication	Mobil Agip	Ribrex 900 Mag 103
C Lithium grease EP type value 2	Manual lubrication	BP Esso Mobil Shell Agip	Energrease LS EP 2 Beacon EP 2 Mobilux EP 2 Alvania Fett R2 GRMU EP2
D Lithium grease EP type value 1 pump group type ILC PAG-50 Cod. 0361701069	Automatic central lubrication by pump	BP Esso Mobil Shell Agip Fiat	Energrease LS EP 1 Beacon EP 1 Mobilux EP 1 Alvania EP 1 GRMU EP1 Tutela Jota EP1
E Light grease NLGI density = 000 pump group type INC MPT/3 Cod. 0361701500	Automatic central lubrication by pump	Interflon	Fin Food Grease 000
F Oil for slide guides Hiwin viscosity between ISO VG 32 and ISO VG 68	Oil to top-up the slide guide oil tank	AGIP MOBIL	AGIP OSO 46 VACTRA No.1 o No.2

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