



# **ROTOPLAT 3000LD**

AUTOMATIC WRAPPING MACHINE WITH TURNTABLE

ENGLISH				
Serial number				

INSTRUCTIONS FOR USE

- 1. GENERAL AND SAFETY INFORMATION
- 2. BASIC MACHINE ASSEMBLY
- 3. REEL-HOLDER CARRIAGE ASSEMBLY
- 4. CLAMP ASSEMBLY
- 5. CUTTER ASSEMBLY
- 6. SHEET INSERTER ASSEMBLY
- 7. PRESSER ASSEMBLY
- 8. BRUSHING ASSEMBLY
- 9. PRODUCT HANDLING ASSEMBLY

## **ANALYTICAL INDEX**

•	١.
•	

Aim of the manual, 2 Attached documentation, 4

#### G

General safety warnings, 5 Glossary and terminology, 4

#### ī

Information and safety signals, 9
Instructions manual consultation mode, 2

#### М

Manufacturer and machine identification, 4 Modes of requesting for assistance, 4

#### S

Safety warnings for electrical equipment, 7
Safety warnings for environmental impact, 8
Security warnings for adjustments and maintenance, 7
Security warnings for movement and installation, 6
Security warnings for use and functioning, 6

## **AIM OF THE MANUAL**

- This manual is an integral part of the machine and has been produced by the manufacturer in order to furnish necessary information to personnel authorised to interact with it during its expected working life: buyers, system designers, installation technicians, users, expert operators and specialised technicians.

In addition to adopting good use techniques, the recipients must carefully read and strictly apply this information.

-This information has been produced by the manufacturer in his own original language (Italian) and can be translated into other languages to satisfy legal and/or commercial requirements.

Time dedicated to reading this information will avoid personal safety and health risks and economic damages.

In the event that supplementary information to the actual machine set up is found in this manual it will not interfere with reading.

– Keep this manual for the full machine life in a known and easily accessible place in order to have it ready available in the event consultation is required.

The manufacturer reserves the right to carry out modifications without obligation of prior notice.

- To better stress the importance of some passages or to indicate important specifications, symbols, whose meanings are described as follows, have been adopted.



Indicates critically dangerous situations that if neglected can result in serious personal safety and health hazards.

## Caution - Precaution

Indicates that suitable actions must be employed in order to avoid personal safety and health hazards and economic damages.

## **Important**

Indicates particularly important technical information that should not be neglected.

## **INSTRUCTIONS MANUAL CONSULTATION MODE**

Except for differences that do not compromise the correctness of information, this instructions manual only consists of pamphlets relating to the machine being considered and to the functional units that compose it.

The first booklet contains general and safety information.

The second booklet contains information relative to the base machine and any variables.

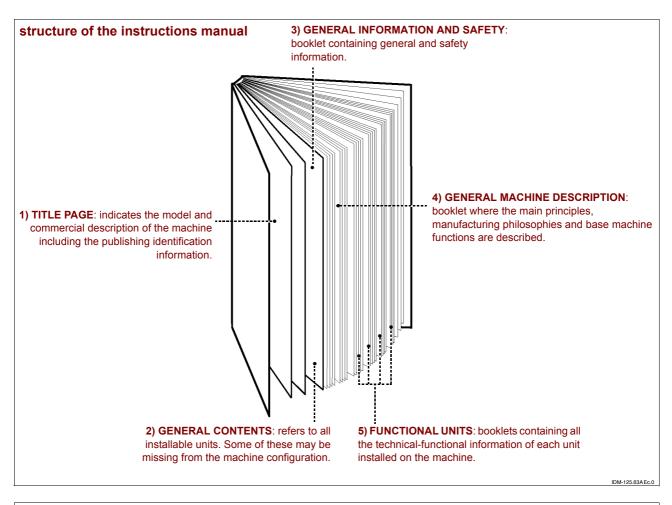
The successive booklets contain information relative to the operating units installed.

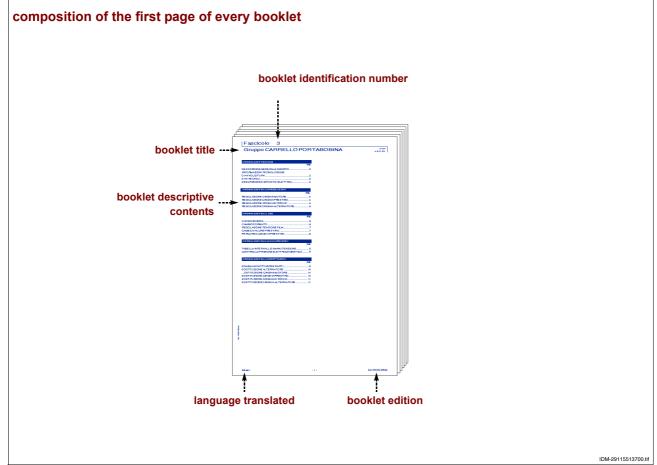
The make-up of the manual can be identified by simply referring to the illustrations.

structure of the instructions manual

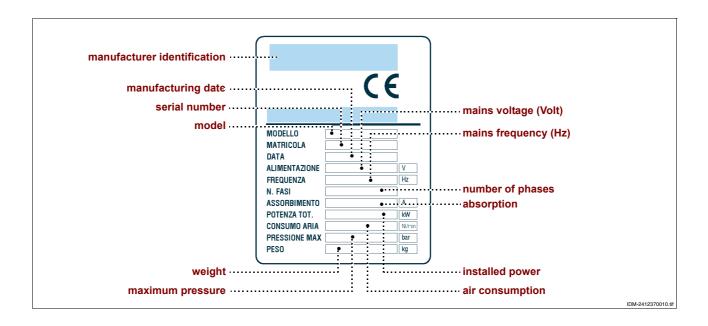
IDM E291010104 fm

## **GENERAL AND SAFETY INFORMATION**





## MANUFACTURER AND MACHINE IDENTIFICATION



## ATTACHED DOCUMENTATION

The indicated documentation is given to the customer along with this manual.

- -Spare parts catalogue
- Literature on commercial components installed on the machine (pumps, gear boxes, etc.).
- The documentation of commercial components is subject to updating to be undertaken by the manufacturer.
- -General plant layout
- Manual of operating terminal
- -Wiring diagram and list of components
- Pneumatic circuit diagram
- -Warranty certificate

## MODES OF REQUESTING FOR ASSISTANCE

For every technical service request regarding the machine, please indicate the data found on the identification plate, the approximate hours of use and the type of fault detected.

For any information, contact the manufacturer's service centre.

## **GLOSSARY AND TERMINOLOGY**

Some recurring terms found within the manual are described in order to provide a more complete image of their meanings.

- **-Operator**: a person trained, authorised and chosen among those who have the requirements, skills and information necessary for machine use and supervision.
- **-Assistant**: a person in a subordinate position, with the task of assisting in the production operations of the machine or the plant in question.

#### **GENERAL AND SAFETY INFORMATION**

- Maintenance technician: a person authorized and chosen among those who have the requirements, skills and information necessary to perform ordinary and extraordinary machine maintenance. He is expected, therefore, to possess precise information and skills with particular expertise in the field of intervention.
- -Installation technician: technician chosen and authorized by the manufacturer or his representative, among those who have the requisites to install and inspect the machine.
- -Routine maintenance: group of operations required to upkeep good machine operations and efficiency. These operations are usually scheduled by the manufacturer, who defines the required skills and procedures.
- **Extraordinary maintenance**: group of operations required to upkeep good machine operations and efficiency. These operations are not scheduled by the manufacturer and must be performed by the maintenance technician.

## **GENERAL SAFETY WARNINGS**

- During design and construction, the manufacturer has carefully considered the possible hazards and personal risks that may result from interaction with the machine. In addition to observing the specific laws in force, the manufacturer has adopted all "exemplary construction technique principles". The purpose of this information is to advise the users to use extreme caution to avoid risks. However, discretion is invaluable. Safety is also in the hands of all the operators who interact with the machine.
- -Carefully read the instructions in this manual and those directly affixed on the machine, especially those concerning safety. Time dedicated to reading will prevent unpleasant accidents; remembering what was supposed to be done after the fact is always too late.
- -Do not tamper, exclude, eliminate or by-pass safety devices installed on the machine. Failure to observe this requirement may cause serious personal health and safety hazards.
- -Personnel who are to perform any type of work on the machine during its lifetime must possess specific technical skills, abilities and have acquired certified experience in the specific field. Neglect to observe these requirements may prove hazardous to personal safety and health.
- Only wear and use the protective clothing and/or devices indicated in the instructions provided by the manufacturer or work safety laws in force when operating the machine.
- During normal machine operation or when carrying out maintenance activities on the machinery, make sure that the surrounding area is kept in suitable condition, thus preventing potential hazards to the health and safety of staff.
- -The aid of one or more helpers may be necessary during some stages. In these cases it is advisable to adequately train and inform them on the type of activity to be carried out, in order to avoid damages to the safety and health of personnel.

F291010104.fm

Use and maintenance manual

#### SECURITY WARNINGS FOR MOVEMENT AND INSTALLATION

- Accomplish lifting and handling respecting the information supplied by the manufacturer directly indicated on the packing, on the machine and in the operating instructions.
- During handling, if necessary, seek the help of one or more assistants in order to receive adequate signals.
- Personnel who load, unload and transport the machine must possess skills and acquired certified experience in the specific field and have command of the lifting vehicles utilised.
- When installing, comply with the requested surrounding spaces required by the manufacturer, including all other surrounding operations. This requirement must be executed in order to keep the instalment in line with workplace safety laws.
- Installation and connections must be performed according to manufacturer's instructions. The manager must also observe all regulatory and legal requisites, professionally performing all installations and connections. After installation and before operating the machine, the manager must conduct a general inspection to ensure that these requisites have been met.
- Should the machine be moved with transportation means, check that they are suitable for such purpose and perform the loading and unloading operations without risks for the operator and the persons directly involved.

#### **SECURITY WARNINGS FOR USE AND FUNCTIONING**

- Before intervening inside the operating area of the machine, and in particular on an operating unit which has variable heights, use the manual controls to bring such unit down to the "low position". Access the operating area using the corresponding access doors (moving guards). The machine will stop in "emergency status". Signal this condition appropriately to avoid risks to persons working inside the operating area.
- In addition to being informed and trained on machine use, the operator must possess
  the skills and acquired proficiency suited to the type of work to be accomplished.
- -Even after an opportune documentation, at first utilisation, if necessary, simulate some tests to identify command and their main functions, in particular those concerning the starting and stopping operations.
- Only use the machine for the purposes specified by the manufacturer. Use of the machine for other purposes may be hazardous to personal safety and health and provoke economic loss.
- The machine has not been designed for use in environments with risk of fire and explosion.
- -The machine is designed and constructed to satisfy all the operating conditions indicated by the manufacturer. Tampering with any device to achieve services other than those may be hazardous to personal safety and health and provoke economic loss.
- Do not use the machine if the safety devices are not correctly installed and efficient.
   Neglect to observe this requirement may be hazardous to personal safety and health.

IDM F291010104.fm

#### SECURITY WARNINGS FOR ADJUSTMENTS AND MAINTENANCE

- -Keep the machine in maximum working conditions and perform the programmed maintenance operations advised by the manufacturer. Good maintenance achieves the best machine performance, longer machine life and constant observance of the safety regulations.
- -Before performing any maintenance operation, activate all of the security devices provided and evaluate the necessity to adequately inform personnel operating in the near vicinity. In particular, confine the neighbouring areas to impede access to the devices that could, if activated, produce unexpected danger conditions provoking hazards to personal safety and health.
- -Maintenance and adjustments should be performed by authorised personnel who must establish all the necessary safety conditions according to the indicated procedures.
- -All maintenance procedures that require precise technical competence or specific skills must be exclusively performed by qualified personnel with acquired certified experience in the specific field.
- -In order to carry out maintenance work in areas which are not easily accessible or dangerous, adequate safety conditions must be imposed for oneself and others, in full accordance with the laws in force on workplace safety.
- Replace worn out components with original spare parts. Use oils and greases suggested by the manufacturer. All this will ensure machine functionality and the foreseen safety level.
- -Do not litter the environment with polluting material; perform disposal according to the pertinent laws in force.

## SAFETY WARNINGS FOR ELECTRICAL EQUIPMENT

The electronic equipment has been designed and built according to that provided for by the relative norms. These norms take into account the functioning conditions based on the surrounding environment.

The list relates the necessary conditions for the correct functioning of the electric equipment.

- -The ambient temperature must be between 5°C and 40 °C inclusive.
- The relative humidity must be between 50% (recorded at 40  $^{\circ}$ C) and 90% (recorded at 20  $^{\circ}$ C) inclusive.
- The installation environment must be immune and must not be a source of electromagnetic and radiation trouble (X-rays, laser, etc.).
- The environment must not present areas with concentrations of gas and dust that are potentially explosive and/or at risk of burning.
- -The products and materials used during production and the maintenance phases must not contain contaminating and corrosive agents (acids, chemical substances, salts, etc.) and must not be able to penetrate and/or come in contact with the electric components.
- During the transportation and storage phase the ambient temperature must be between -25 °C and 55 °C inclusive. The electric equipment can however be exposed to a temperature up to 70 °C, provided that the time of exposure is not greater than 24 hours.

IDM F291010104.fm

#### **GENERAL AND SAFETY INFORMATION**

- Electrical equipment correctly operates up to 1000 m above sea level.

If it is not possible to respect one or more of the conditions listed, essential for the correct functioning of the electric equipment, it is necessary to arrange at the contractual phase which supplementary solutions to adopt, to create the more adequate conditions (for example, specific electric components, conditioning devices, etc.).

## SAFETY WARNINGS FOR ENVIRONMENTAL IMPACT

- Every organization has the task of applying the procedures to identify and check the influence that its proper activities (products, services, etc.) have on the environment. The procedures to identify significant environmental impacts must bear into consideration the following listed factors.
  - Emissions in the atmosphere
  - Liquid drainage
  - -Waste management
  - Ground contamination
  - Utilization of raw materials and natural resources
  - Local problems relating to environmental impact
- -To this purpose, the manufacturer supplies some indications that will have to be considered by all the personnel authorized to interact with the machine during its foreseen life to prevent environmental impact.
- All packing elements are to be disposed of according to the ruling laws in the country where it is used

The film sealing and shrinking phases can produce low smoke emissions during the normal work phases.

- -In case of installation in environments where foodstuffs are present, keep machine and surrounding operating area clean to avoid the growth of bacterial elements and risk of contamination.
- -During maintenance or replacement, avoid dispersion of polluting products (oils, greases, etc.) and provide to differentiated waste disposal according to the various materials. In case of electronic components (battery pad), dispose of as special waste.
- When dismissing machine, select all components according to their characteristics and provide to differentiated waste disposal.
- The working products and wastes, lubricants and any machine component are to be disposed of in the differentiated manner respecting the ruling laws of the country where it is used.

IDM F291010104.fm

## **INFORMATION AND SAFETY SIGNALS**

Some of these signals are applicated on the machine.

Next to each signal, its meaning is described.

Danger during the maintenance phase: Attentively read the maintenance manual before performing any kind of intervention



Danger of falling: do not climb but use suitable means to reach the high zones.



**Electrical shock danger**: do not access within elements under tension.







Danger of arms cutting: Do not put hands inside the cutting unit.





**Body crushing hazard**: do not linger in the machine operating area.



>>>



**Information signal**: indicate the location of the safety devices. >>>



Danger of arms crushing: Do not put your hands inside the moving organs >>>





No transit: prohibited parking or transiting in the operating area.



Danger of burning: beware of hot surfaces. >>>



**Prohibited**: do not lubricate the moving parts.



**Prohibited**: do not remove the safety guards.



## **GENERAL AND SAFETY INFORMATION**

**Prohibited**: do not use water to extinguish fires.



**Information signal**: It shows the hooking points for chain lifting.



Information signal: It shows the insertion points for the lifting forks.



>>>

>>>

>>>



**Information**: lift the reel using suitable lifting apparatus.



**Grounding signal**: indicates the grounding and/or equipotential circuit connection point.



## **ANALYTICAL INDEX**

#### Α

Adjusting the roller conveyor chain (19) Adjustment recommendations (17) Automatic cycle start up (22)

#### С

Clean filter (28)

Condensate drainage (28) Control description (20) Cycle stop and restart (23)

#### ח

Description of the electric controls (21)
Description of the electrical devices (6)

#### Ε

Electrical connections (16) Emergency stop and restart (23)

#### F

Fastening the machine (14)

#### Н

Handling and installation recommendations (9) Handling and lifting (11)

#### Ī

Installation environment characteristics (12) Installation equipment (12) Installation phases (13)

#### ī

Lubricant table (27) Lubrication point diagram (26)

#### M

Machine disposal (30)
Machine general description (2)
Machine testing (17)
Main organs (2)
Maintenance instructions (24)
Maintenance period table (24)
Manual start up (23)

#### Ν

Noise level (9)

#### P

Packaging and unpacking (10)
Pneumatic connections (16)
Pneumatic devices descriptions (7)

#### R

Recommendations for connections (15)
Recommendations for use and functioning (19)
Reel carriage lifting chain adjustment (18)
Replacement instructions (29)
Replacing the infeed chain (30)

#### S

Safety device descriptions (4) Sudden stop and restart (24) Surrounding areas (8)

#### Т

Technical specifications (8)
Transport (10)
Troubleshooting (29)

#### w

Working cycle (4)

IDM F291026101.fm

#### **IMPORTANT FOR SAFETY**

The information found in this booklet is relevant to the functional aspects of the base machine.

However, the safety regulations found in Booklet 1 and those indicated with appropriate symbols must be carefully read for personnel safety.

Discretion is invaluable; safety is also in the hands of all the operators who interact with the machine.

#### **MACHINE GENERAL DESCRIPTION**

- Wrapping machine ROTOPLAT 3000 LD is a machine designed and built to wrap and stabilise pallets of any size, shape and weight with stretch film.
- Its high production output, together with a long operating autonomy, make this machine ideal for installation in industrial and artisan environments, at the end of an automatic palletising line.

The machine is equipped with a series of electromechanic components for the control of the phases of the operating cycle and safety devices that safeguard the operators' safety.

– According to the various operating requirements, this machine can be supplied in different configurations upon request.

All the information on the operating units installed on the machine (standard and / or optional) is described in the relevant sections of the manual.

- The machine is delivered by the manufacturer with the settings and adjustments on the basis of the pallet dimensions considered at the order.
- In order to modify these adjustments contact the manufacturer's technical service centre
- Use of this machine in explosive environments or when exposed to the elements is strictly forbidden.
- This machine does not require the constant presence of the operator. It is sufficient to check functionality and, if necessary, perform the eventual adjustments and replace the exhausted film spool.
- -The operator, in addition to being suitably trained and informed on machine use, must have the skills and knowledge appropriate for the type of work to be performed and be in conditions fit to safely perform operations.

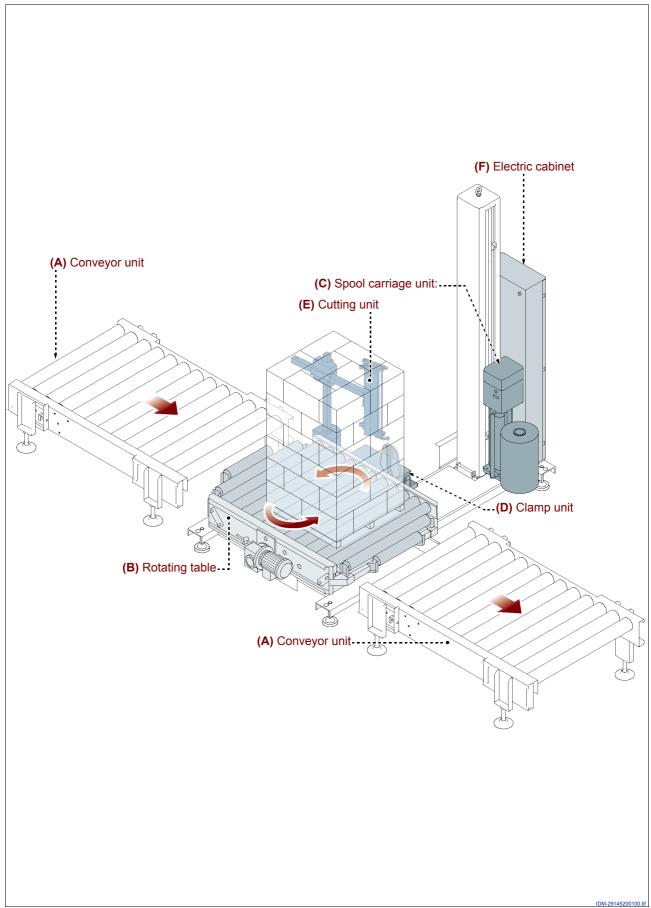
#### **MAIN ORGANS**

The machine is made up of the following functional units.

- **A**-Conveyor unit: conveys the bench to the winding area and, after completing the phase, moves the bench to the following machine or to the outlet.
- **B Rotating table**: it is equipped with rollers , that move the bench from conveyor unit directed to the middle of the rotating table. In this way during the winding phase the bench can rotate in relation to the table axis.

When the winding phase is completed, rollers move the bench to conveyor unit at the outlet.

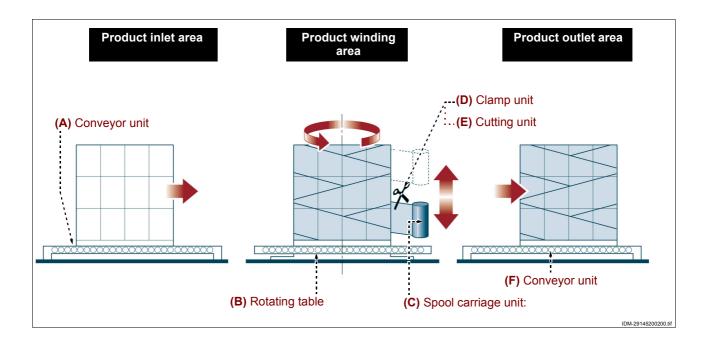
- **C**-Reel carriage unit: unwinds and stretches the film.
- **D Clamp unit**: blocks the film during the cutting phase and holds it to allow starting of next wrapping cycle.
- **E-Cutting unit**: performs film cut at the end of the wrapping cycle.
- **F**-Electric cabinet: it is fitted with the electric components (contactors, relays, etc.) and operating terminal (multi-function keyboard with display) that control the main functions of the machine.



#### **WORKING CYCLE**

The machine work cycle consists of phases that are illustrated and described below. For further information please consult the booklets on the installed functional units.

- Phase 1: conveyor unit (A) conveys the pallet on the rollers of rotating table (B). When the sensor detects that the pallet is in the middle of the winding area, rollers of the rotating table stop.
- Phase 2: the rotating table (B) starts and begins wrapping. Simultaneously, the spool carriage (C) pre-stretches film. At the end of the first wrap, the clamp (D) releases the film edge. The spool carriage starts to lift, wraps the load and create a spiral wrap. When fully lifted, detected by a sensor, the carriage lowers and performs a second wrap. When finished the rotating table stops.
- **Phase 3**: clamp **(D)** closes and holds the edge of the film for the next wrapping cycle. unit **(E)** cuts the film.
- **Phase 4**: the roller conveyor transfers the pallet to the outfeed conveyor **(F)**. This is where cycle ends and a new one starts.



## SAFETY DEVICE DESCRIPTIONS

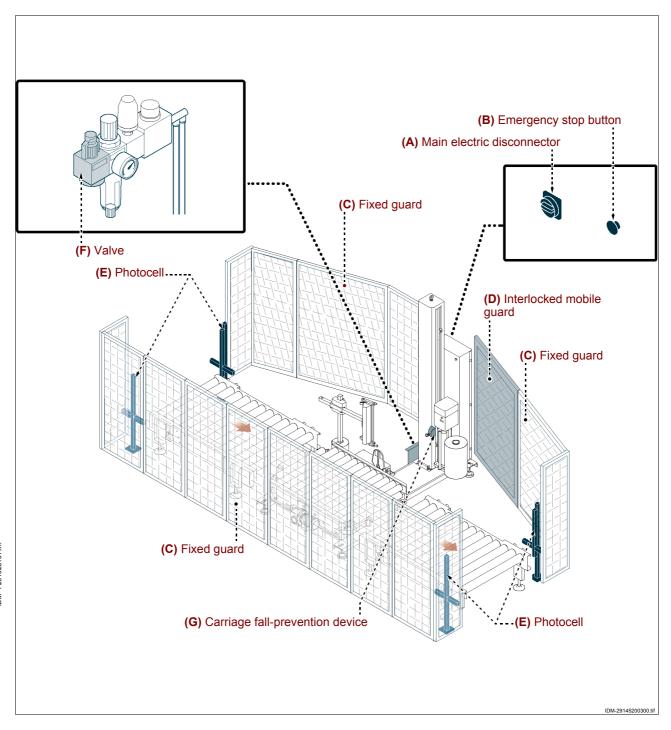
The figure shows the positioning of the devices on board of the machine.

**A-Main switch (lockable)**: turns the main power supply on and off.

It can be locked to prevent access by unauthorised personnel during machine adjustments and maintenance.

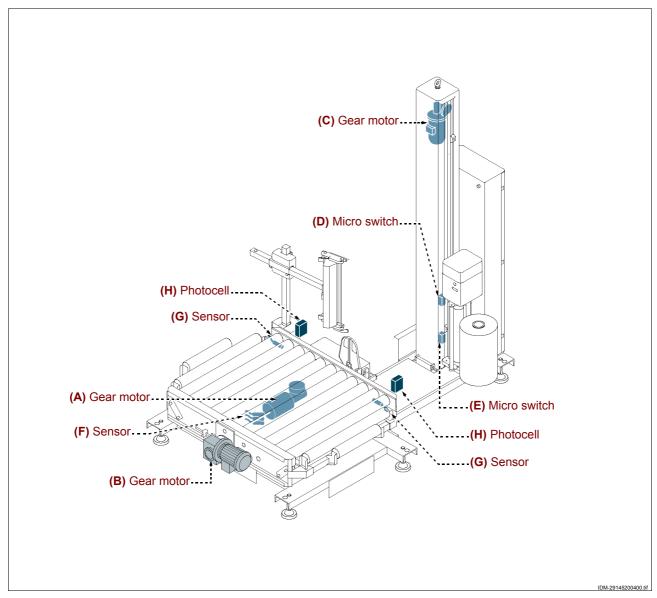
- **B Emergency stop button**: immediately stops the machine in the event of imminent risk. It must be reset to restart the work cycle
- **C**-**Fixed safety guard:** outer structure to prevent the operator from accessing the operating area during the execution of the operating cycle.

- **D Mobile blockage shut-off door**: to permit operator access within the operative area. It is a door linked to an electric inter-lock device. When opened, the machine stops immediately; the door must be shut and the cycle reset for the machine to restart
- **E**-Intruder-preventing barrier photocells: protects unauthorised access by stopping machine functions
- **F Pneumatic lock valve**: disconnects the machine from the main pneumatic power supply line. It can be locked to prevent access by unauthorised personnel during machine adjustments and maintenance
- **G**-"Fall protection" device: it stops the fall of the reel carriage instantaneously in case of accidental breakage of the lifting chain.



## **DESCRIPTION OF THE ELECTRICAL DEVICES**

The figure shows the positioning of the devices on board of the machine.



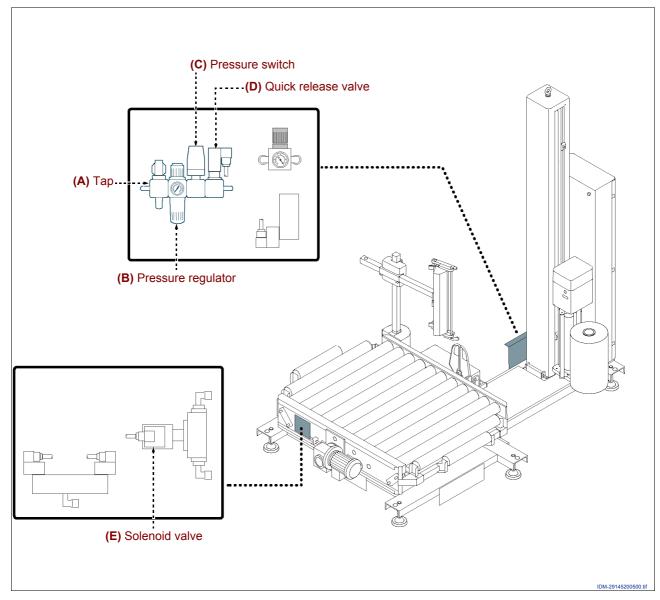
- A-Gear motor: activates table rotation.
- **B Gear motor**: starts movement of the roller conveyor.
- **C Gear motor**: activates movement of the spool carriage.
- **D Micro-switch**: detects the maximum accessible reel carriage height.
- **E**-Micro-switch: detects minimum accessible spool carriage height.
- **F-Sensors**: detect table rotation phases.
- **G-Sensors**: detects pallet presence and position ("Sensing" device).
- **H-Photocell**: detects pallet presence and position.



For further details consult the wiring diagram.

## PNEUMATIC DEVICES DESCRIPTIONS

The figure shows the positioning of the devices on board of the machine.



- **A-Faucet**: eliminates pneumatic pressure from the machine interior.
- **B**-Pressure regulator with filter and gauge: adjusts pneumatic system pressure. Rotate the knob to vary the pressure values indicated on the pressure gauge.
- **C Pressure switch**: detects the working pressure value when it lowers to minimum.
- **D Quick exhaust valve**: eliminates pneumatic pressure from the machine interior in the event of emergency stop.
- **E-Solenoid valve**: drives the jet of air that fastens the cut film edge to the product.



Important

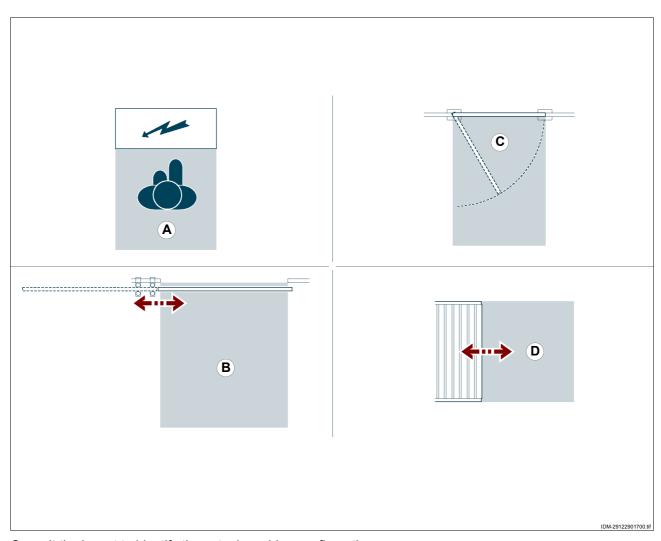
For further details consult the pneumatic diagram.

## **TECHNICAL SPECIFICATIONS**

All technical specifications (dimensions, production, etc.) concerning the above mentioned machine are listed in the enclosed layout.

## **SURROUNDING AREAS**

The picture indicates the outer areas necessary to outline the operator workstations, those for accessing the machine and those for the product passage.



Consult the layout to identify the actual machine configuration.

**A**-Operator's working area: Area located near the control panel. It must be kept free of encumbrances and must be large enough to ensure an adequate comfort for the operator according to the existing safety laws and regulations.

**B**-Spool supply area: Passage area to effect spool replacement. It must be kept free of encumbrances and large enough to allow the usage of lifting devices.

**C** – **Machine access area**: Passage area which allows access to the machine for any maintenance intervention. It must be kept free of encumbrances and large enough according to existing safety laws and regulations. All the protections and the doors of the outer safety guards are linked to electric interlocking devices which, in case they are opened, stop the machine in safety conditions.

The restart of the machine is dependent on the closure of the protections and of the doors.

**D** – **Passage area of the product:** Area intended for the passage of the product along the production line. It must be kept free of encumbrances.

Normally the machine is supplied with outer safety guards. In this case for their assembly it is necessary to refer to the enclosed layout and to the user's manual (see "Outer Safety Guards – Assemblying instructions").

In case the outer safety guards are not supplied with the machine, the person in charge of assemblying the machine will have to realize adequate protections as shown in the enclosed layout.

## **important**

Before mapping out the coordinates for assemblying the machine, it is necessary to consider the operator workstation areas, those for accessing the machine and those for the passage of the product, according to the existing rules for safety in the workplaces.

#### **NOISE LEVEL**

Average value read in operating conditions according to regulation DIN 45635/1663-1987. Lp = 66.5 [dB (A)]

Prolonged exposure over 85 dB (A) may cause health problems. The use of appropriate protection systems is recommended (headphones, ear plugs, etc...).

## HANDLING AND INSTALLATION RECOMMENDATIONS

**Important** 

Handle and install observing the information provided by the manufacturer and found directly on the packaging, on the machine and in the instructions for use. Personnel authorised to perform these operations must, if necessary, organise a "safety plan" to protect those directly involved.

## **PACKAGING AND UNPACKING**

The machine may be packed:

- A-in a wooden crate
- **B**-in a cardboard cage

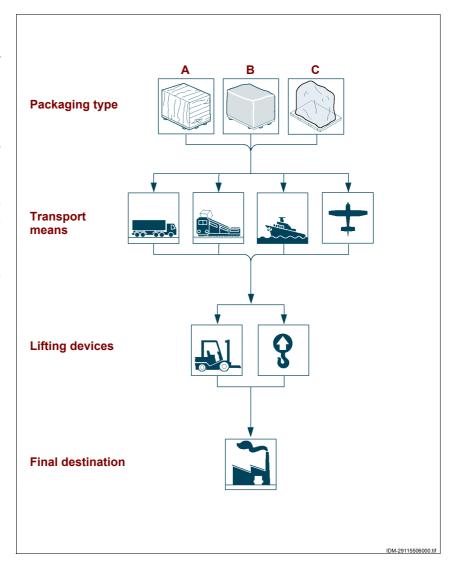
**C** – on a pallet with protective cover The machine may be shipped dismantled, to simplify transport.

Some components are suitably packaged and protected.

All the necessary information for loading and unloading is found on the packaging.

During unpacking, check the integrity and exact quantity of components.

Packaging material should be appropriately disposed according to the laws in force.



## **TRANSPORT**

The machine is normally shipped:

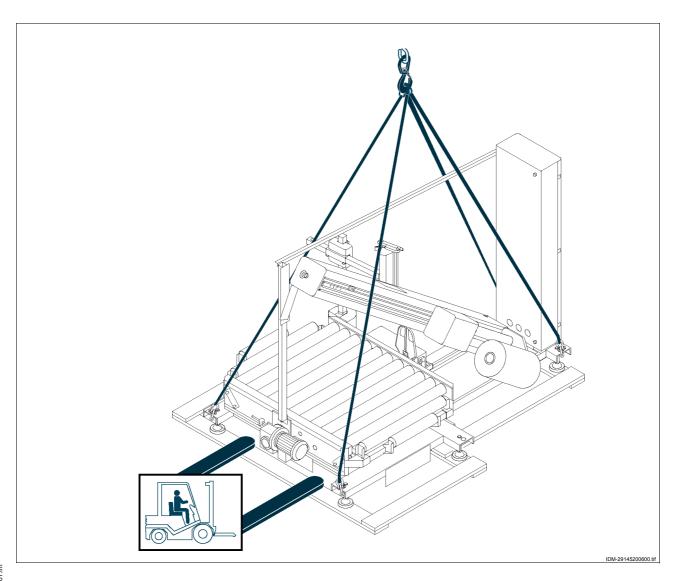
- -by road
- -by rail
- -by sea
- -by air

## **HANDLING AND LIFTING**

The machine can be handled with an adequate capacity fork or hook lifting device. Before lifting, check the position of the load's centre of gravity.

# **Important**

If machine complexity and dimensions are considered, handing, installation, final inspection procedures and liabilities must be defined during contract negotiations. The person in charge of these operations must previously organise a "safety plan" to protect those directly involved and, if necessary, arrange training for the operators assigned to machine use.



## **INSTALLATION EQUIPMENT**

The following equipment is required to perform the installation and testing of the machine.

- Hook and fork lifting device
- Lifting chains or cables
- Threaded eyebolts
- -Set of spanners
- -Spirit level
- Hose clamps for rubber pipes

For the screws, use a standard tightening torque (except where otherwise indicated). If necessary, use a torque wrench.



## important

Do not use worn equipment.

The lifting devices must comply with the relative standards in force and must be suitable for the load being lifted.

## **INSTALLATION ENVIRONMENT CHARACTERISTICS**

Environmental conditions should be taken into consideration when choosing the installation area in order to ensure easy and safe machine use. To meet these conditions, please consider the following requisites.

- -0° C / 40° C room temperature.
- -A well lit and ventilated space with humidity complying with the work safety and health laws in force
- -A sufficiently spacious and free surrounding area allowing any type of intervention on the machine to be performed in safety conditions
- A level and stable surface, with suitable load capacity
- Accessible electrical and pneumatic connections



## **Important**

Do not install the machine in chemically aggressive or explosive areas.

## **INSTALLATION PHASES**

Proceed as indicated.

**1** – Locate the installation area defined in the layout.

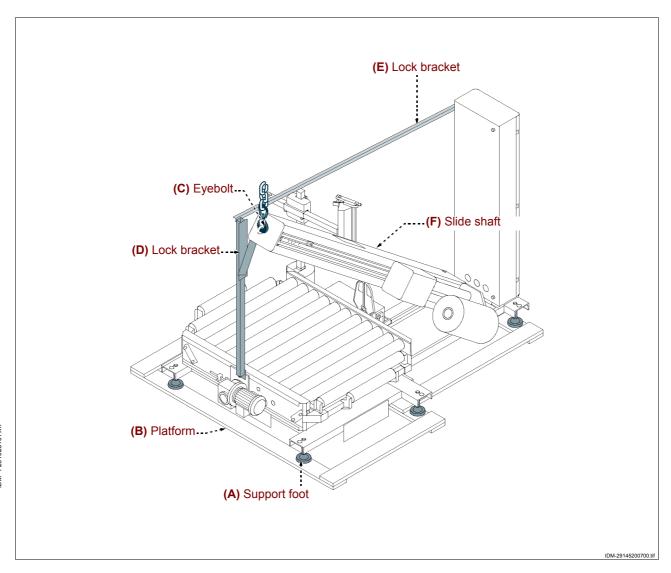
For further information contact the manufacturer's technical service centre.

**2**– If necessary, identify the exact position and trace the co-ordinates for correct positioning.

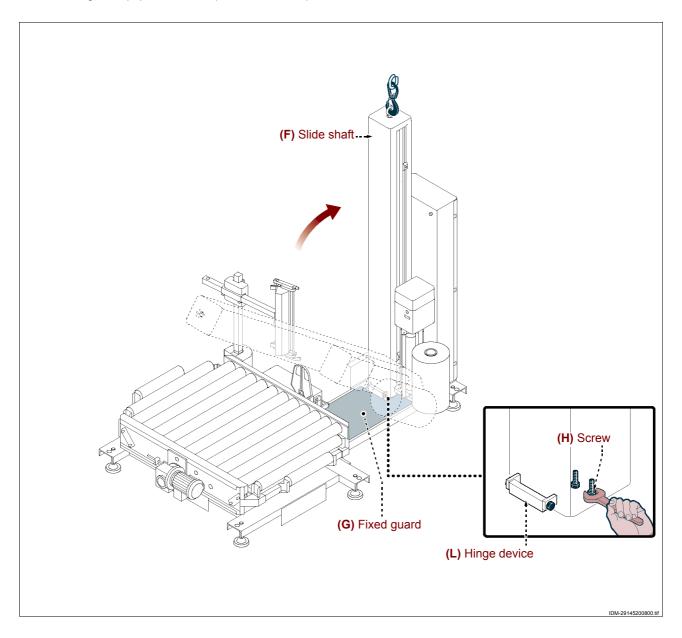
## **important**

Before mapping out the coordinates for assemblying the machine, it is necessary to consider the operator workstation areas, those for accessing the machine and those for the passage of the product, according to the existing rules for safety in the workplaces.

- **3**-Remove the locks of support feet from delivery platform **(B)**.
- **4**-Lift the machine as shown and position it in the area for installation.
- 5 Insert the lifting hook into eyebolt (C) and tighten it.
- **6**-Remove the blocking rods (**D-E**).



- **7**-Lift the sliding mast (F).
- 8 Disassemble the guard (G).
- **9** Secure the sliding mast to the machine body with the screws **(H)**.
- **10** Tighten the hinge screws (L).
- 11 Install guard (G) when this operation is completed.



## **FASTENING THE MACHINE**

Upon completion of the assembly of the units, and having checked that the various parts are level, square, parallel and at right angles, as required, fasten the body of the machine to the floor.

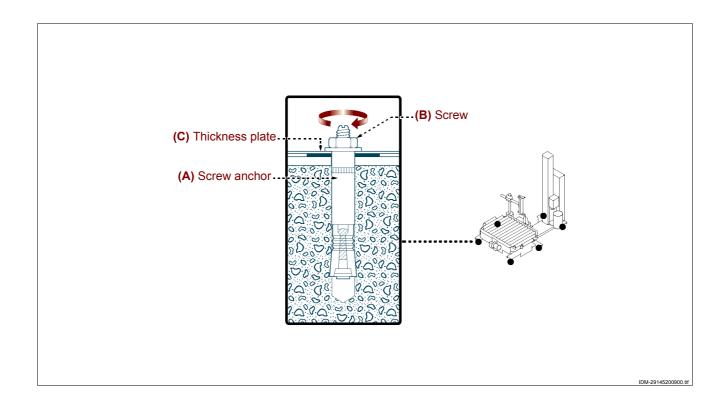
Depending on the characteristics of the flooring, it may be necessary, before positioning the machine, to create foundations at the points of the various support legs.

The creation of the foundations and the fastening of the machine are fundamental operations for ensuring the stability and correct functioning of the machine.

- **1** Position the machine in the area designed to mark the points corresponding to the perforation.
- 2-Perform holes and insert the supplied dowels (A).
- **3** Re-position the machine and fasten it to the floor with screws (B).



If necessary, insert metal plates (C) between the screws and the floor.



#### RECOMMENDATIONS FOR CONNECTIONS

**1** Important

Connections should be performed following the manufacturer's indications in the enclosed diagrams. Personnel authorised to perform this operation must possess technical skills, abilities and have acquired certified experience in the specific field and must perform connections professionally, taking into account all the regulative and legislative requirements. When connections are completed, make sure these requisites were observed by performing a general inspection before making the unit operative.

## **ELECTRICAL CONNECTIONS**

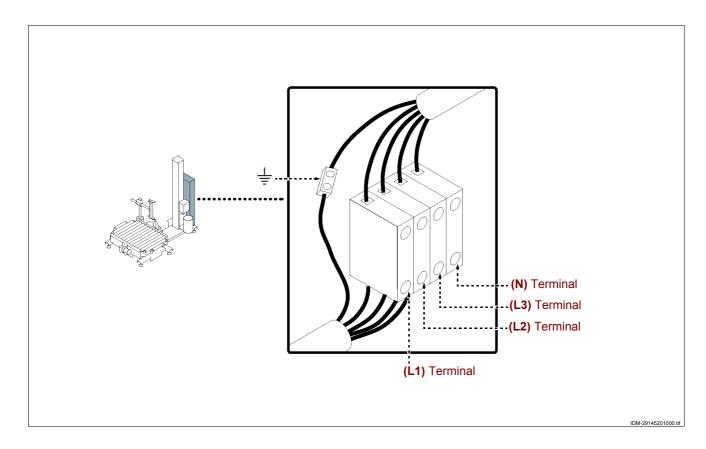
Open the hatch of the panel containing the electrical devices and connect the power cables to the terminals (L1-L2-L3).

The yellow/green earth cable must be connected to the terminal marked with the symbol  $\stackrel{\perp}{=}$  .

The blue neutral cable must be connected to the corresponding terminal **(N)** only when this connection is provided for.



Do not invert for any reason phase connections on the electric motors.



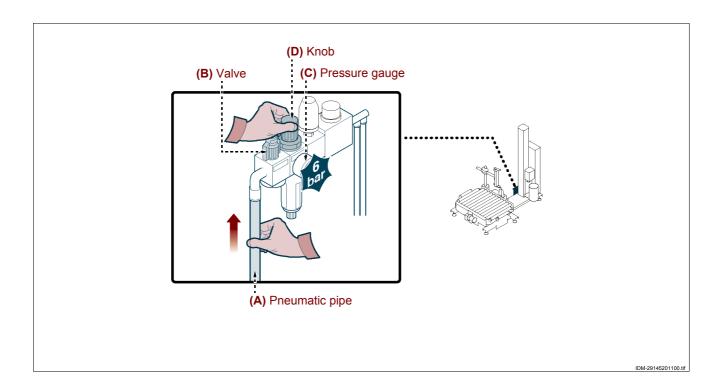
## **PNEUMATIC CONNECTIONS**

For this operation, proceed in the following way.

- **1** Connect pneumatic pipe **(A)** to the fitting.
- **2**-Check that the valve **(B)** is in the "OPEN" position.
- **3** Start pressure supply.
- **4** Check that the pressure gauge **(C)** indicates at least 6 bar and use the knob **(D)** to compensate any pressure differences.

Repeat this operation when the machine is running.

DM E291026101 fm



#### **MACHINE TESTING**



## **Important**

The machine must be tested according to a set procedure, indicated where required and authorised by the manufacturer.

During machine testing, check if the safety conditions are adequate and turn on machine only if this condition is conform.

If necessary, during inspection tests, improvements will be identified to integrate the machine in the system where it is installed, especially concerning safety conditions.

## **ADJUSTMENT RECOMMENDATIONS**



## **Important**

Before performing any adjustments, authorised personnel must activate all foreseen safety devices and evaluate the need to warn personnel working in the near vicinity. In particular, adequately mark the surrounding areas and prevent access to all devices that could, if activated, cause unexpected personal safety hazards.

F291026101

## **REEL CARRIAGE LIFTING CHAIN ADJUSTMENT**

Proceed as indicated.

- **1** Start the machine in "manual" mode.
- **2**-Lift the reel carriage in order to facilitate the necessary operations.
- 3-Stop the machine in safe conditions.
- **4**-Use the register nuts **(A)** to adjust the chain **(B)**.



## **Important**

For correct adjustments, use the nuts to the same degree.

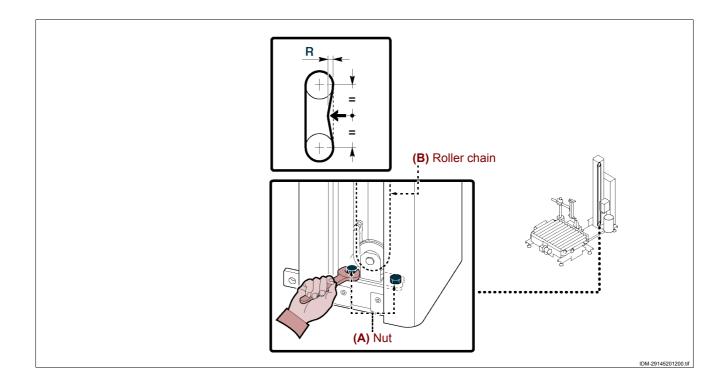
To check chain tension, use the method indicated in the illustration. The resulting shift (R) should be 10÷15 mm.

**5** – Restart the machine in "manual" mode to check correct operations.



## Caution - Precaution

Before restarting the machine, make sure that no tools or material are left near parts in motion.



## ADJUSTING THE ROLLER CONVEYOR CHAIN

Proceed as indicated.

- **1** Stop the machine in safe conditions.
- 2-Loosen screws (A).
- **3**–Use the register nuts **(B)** to adjust the chain.

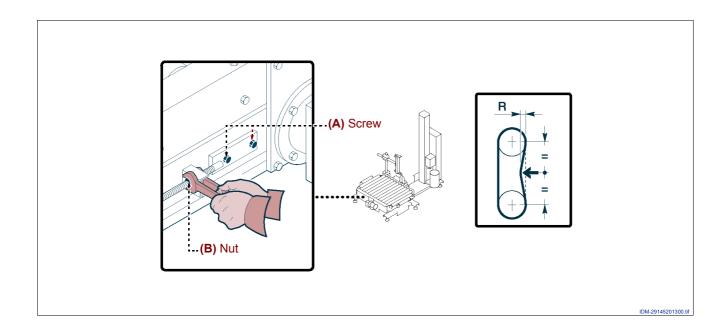


To check chain tension, use the method indicated in the illustration. The resulting shift (R) should be 10÷15 mm.

- 4-Tighten the clamping screws (A).
- **5** Restart the machine in "manual" mode to check correct operations.



Before restarting the machine, make sure that no tools or material are left near parts in motion.



## RECOMMENDATIONS FOR USE AND FUNCTIONING

**1** Important

Accident frequency derived from machine use depends upon many factors that cannot always be foreseen and controlled. Some accidents can depend upon unforeseeable environmental factors; others depend especially upon the user's behaviour. In addition to being authorised and appropriately informed, on first use personnel must simulate some manoeuvres to identify the main commands and functions. Only carry out the operations foreseen by the manufacturer and do not tamper with any device to obtain performances other than those provided. Before use, check that the safety devices are correctly installed and efficient. Users, in addition to striving to satisfy these requirements, must apply all the safety regulations and carefully read the descriptions of the controls and start up.

## **CONTROL DESCRIPTION**

**A**-**Multifunction key-board**: displays and permits machine cycle parameters to be set as well as "automatic cycle" start.

For information on programming and using the keypad, refer to the corresponding booklet.

**B**-Main switch (lockable): turns the main power supply on and off.

Pos.(O) (OFF): power off.

Pos.: (I) (ON): power on.

**C**-"Emergency stop": mushroom head button that immediately stops all machine working functions.

Press to stop the machine

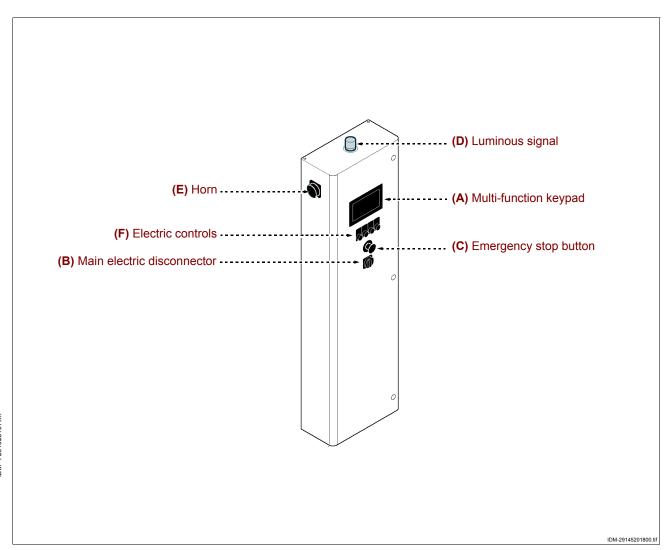
Rotate anticlockwise to reset.

**D**–**Luminous signal (if present)**: signals the operating conditions of the machine.

Green light: automatic operation Red light: emergency stop

Orange light: film breakage or finished

**E-Warning horn**: signals the start of the automatic cycle.



## **DESCRIPTION OF THE ELECTRIC CONTROLS**

Following are descriptions of the controls which may be present on the panel.

**A-"Cycle start" button**: to start the automatic wrapping cycle.

If the cycle does not start, review the start cycle procedure.

When the pilot light of button is on, the machine is started in "automatic" mode.

**B**-"Machine stop in phase" button: press to immediately stop the automatic cycle. All machine parts stop at the end of their phases.

When the pilot light of button is on, the machine is stopped in emergency mode or in normal stop mode.

**C** – "Reset" button: either to reset the machine before re-starting it after an emergency stop, or to re-start the machine after a stop caused by a power supply interruption. It allows to reset the barriers in case of activation of the barriers.

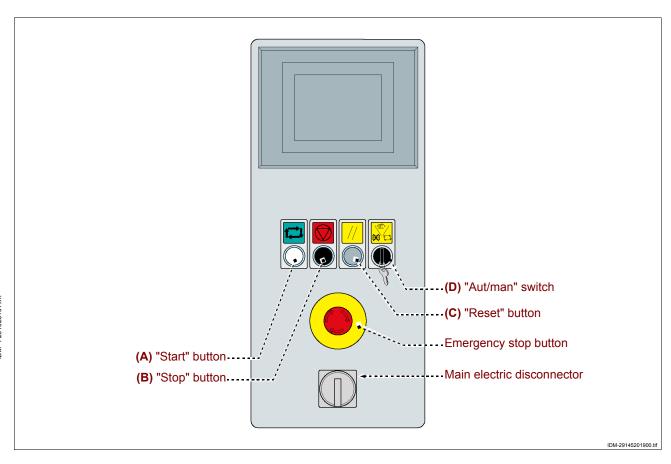
**D**-"Automatic/manual cycle" selector: it selects the machine operating mode.

"Barrier by-pass icon" position: all machine controls are enabled in "manual" mode. The light-sensitive barriers are disabled at the same time.

"Hand icon" position: the drive of all machine elements are enabled in "manual mode". "Automatic cycle icon" position: the machine operation in "automatic cycle" mode is enabled.



For further details consult the wiring diagram.



## **AUTOMATIC CYCLE START UP**



Before starting the machine, in manual mode make sure that all moving units (carriage, clamp, top, etc.) stop at limit stop.

If the machine operates in very cold environments, perform the "Pre-heating procedure" described in the keyboard booklet.

Proceed as indicated.

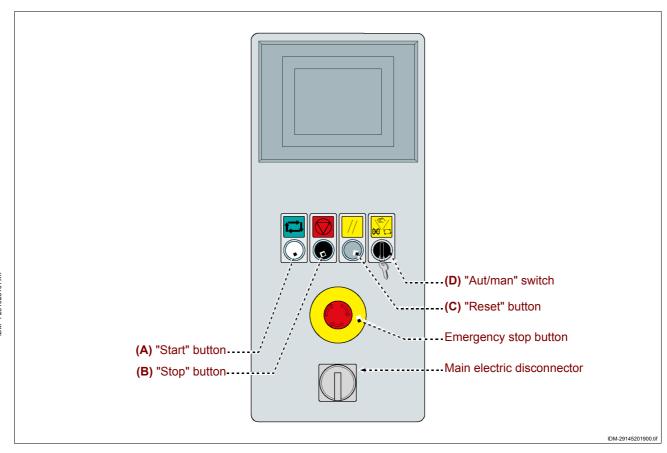
- **1** Make sure that all safety devices of the machine and of the line, on which the machine is installed, are perfectly installed and efficient.
- 2 Activate the pneumatic supply.
- **3** Turn main switch to position (I) (ON) to turn on the power supply.
- **4** Place the reel of film onto the reel-holder carriage (see booklet 3).
- **5**-Lock the film in the clamp (see booklet 4).
- **6**-Rotate selector **(D)** to "Hand icon" position.
- **7**-Press button **(C)** to reset the light-sensitive barriers (if available).
- **8** Press button **(A)** to activate the power supply to the electric motors.
- **9**-Press button **(C)**. The machine is set to the beginning of the working cycle.
- 10 Rotate selector (D) in position "Automatic cycle icon".
- **11** Press the push-button (A) to start the automatic cycle.

The button pilot light goes on.

After these operations the machine is operating in automatic mode.



If the "Automatic cycle" does not start, repeat cycle start up phases.



#### MANUAL START UP



If the machine operates in very cold environments, perform the "Pre-heating procedure" described in the keyboard booklet.

Proceed as indicated.

- 1 Make sure that all safety devices of the machine and of the line, on which the machine is installed, are perfectly installed and efficient.
- **2**–Activate the pneumatic supply.
- **3**–Turn main switch to position (I) (ON) to turn on the power supply.
- **4**-Rotate selector **(D)** to "Hand icon" position.
- **5** Select, using the keyboard, the required function.
- 6 Press the "Perform manoeuvre" button. The manual cycle starts and all units stop at their limit stops.

#### **CYCLE STOP AND RESTART**



Do not use the emergency button to stop the machine in normal conditions.

Proceed as indicated.

**1** – Press the button **(B)** to stop the automatic cycle.

The button pilot light goes on.

- **2**-Press button **(C)** to reset the machine.
- 3-Press button (A) to reactivate the automatic cycle.

The button pilot light goes on.

After these operations the machine is operating in automatic mode.

#### **EMERGENCY STOP AND RESTART**

Proceed as indicated.

**1** – Press the emergency button on the machine in conditions of imminent risk. Machine operation stops immediately.



## Caution - Precaution

If the stopping causes foresee the entrance of the operators inside the dangerous areas, it is necessary to turn off the main switch of the machine and close the tap of the pneumatic system to eliminate the residue energies as to ensure adequate safety conditions.

After having resolved any problems or faults, restart the cycle as follows.

- **2**-Release the emergency stop button with a voluntary action.
- **3** Press button **(A)** to activate the power supply to the electric motors.
- **4**-Press button **(C)**. The machine is set to the beginning of the working cycle.
- **5** Press the push-button (A) to start the automatic cycle.

The button pilot light goes on.

After these operations the machine is operating in automatic mode.

#### SUDDEN STOP AND RESTART

## Caution - Precaution

Following a sudden stop, do not perform any instinctive manoeuvres.

Press the emergency button and inform the plant manager, who must perform the following checks.

## If an inverter fault is signalled, proceed as follows.

- **1** Check the display of the faulty inverter.
- **2**–Refer to the inverter manual and eliminate the problem.
- 3 Return the machine to working conditions using the Reset button and restart with the automatic cycle.

## If an emergency stop due to overheating alarm is signalled, proceed as follows.

- **1** Check the operating status of the auxiliary appliances and/or devices.
- **2**-Check the supply voltage for all phases.
- 3 Check that all circuits in the electrical cabinet are functional.

#### MAINTENANCE INSTRUCTIONS



## **Important**

Before performing any maintenance operation, activate all of the security devices provided and evaluate the necessity to adequately inform personnel operating in the near vicinity. In particular, confine the neighbouring areas to impede access to the devices that could, if activated, produce unexpected danger conditions provoking hazards to personal safety and health.

After maintenance or repair and before turning on the machine, check that there are no tools, rags or other material in the areas nearby the moving organs.

#### **MAINTENANCE PERIOD TABLE**



## **Important**

Keep the machine in maximum working conditions by performing the programmed maintenance operations advised by the manufacturer. Good maintenance achieves the best machine performance, longer machine life and constant observance of the safety regulations.

Table 1: Maintenance intervals

Component	Type of intervention	Procedure	Reference		
Every <b>200 hours</b>					
Air filter unit	Condensation control	Condensation discharging	See "condensate drainage"		
	General inspection	Clean with a blast of air and alcohol	See "Clean filter"		
Machine	General inspection	Clean with a cloth or jet of air			
Reduction gears and gear motors	Inspection of the lubricant level (*)	Refill, if necessary, with a lubricant of the same type.	See "Lubricant table"		

F291026101

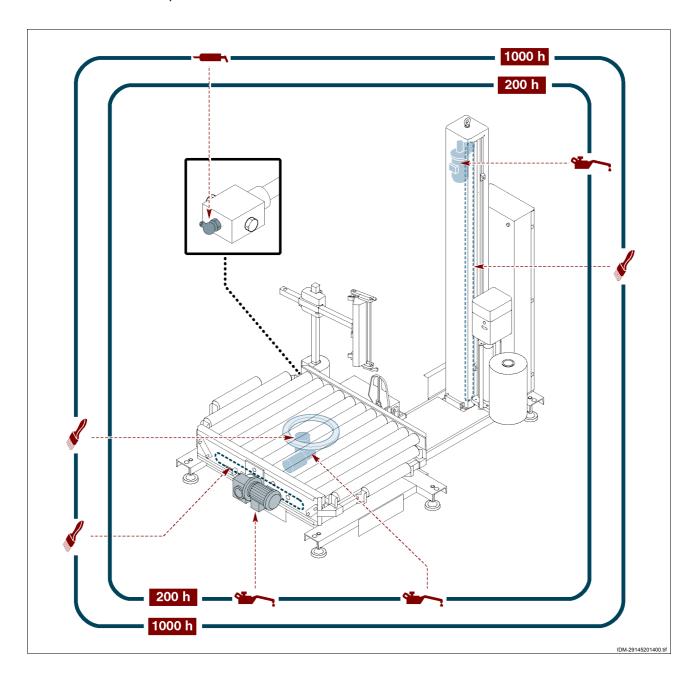
Table 1: Maintenance intervals

Component	Type of intervention	Procedure	Reference		
Every 1000 hours					
Lifting chain of the spool	General inspection	Wash with solvent, let it dry and lubricate	See "lubrication point diagram"		
carriage holder		Check tension and adjust, if necessary, adjust	See "reel carriage lifting chain adjustment"		
Roller unit chain	Occupations	Wash with solvent, let it dry and lubricate	See "lubrication point diagram"		
Troner unit Grain	General inspection	Check tension and adjust, if necessary, adjust	See "adjusting the roller conveyor chain"		
Toothed thrust bearing	General inspection	Wash with solvent, let it dry and lubricate	See "lubrication point diagram"		
- Electro-pneumatic	General inspection	Clean the brushes and their seat with a compressed air jet.			
connector	Check efficiency	Check for wear of the brushes and, if necessary, replace them.			
	Every 4	000 hours			
Lifting chain of the spool carriage holder	General inspection	Check for wear and, if necessary, replace			
Roller unit chain	General inspection	Check for wear and, if necessary, replace	See "Replacing the infeed chain"		
Reduction gears and gear motors	Lubricant change (*)	Use lubricants of the same type.	See "Lubricant table"		
Periodically Periodically					
Safety devices	Check efficiency	Replace the damaged components			

<sup>(1)</sup> The reduction gears and gear motors can be lubricated with grease, oil or with permanent lubrication. Refilling and/or change shall not be performed in case of permanently lubricated reduction gears and gear motors.

# **LUBRICATION POINT DIAGRAM**

Lubricate the illustrated parts at the time and with the methods indicated.





<sup>(1)</sup> The reduction gears and gear motors can be lubricated with grease, oil or with permanent lubrication. Refilling and/or change shall not be performed in case of permanently lubricated reduction gears and gear motors.

# **LUBRICANT TABLE**

Table 2: Recommended lubricant

Lubricant type	Code	Parts to be lubricated
	23°E a 50°C - 320 CST a 40°C	
	MELLANA OIL 320 IP	
	SPARTAN EP 320 ESSO	
	BLASIA 320 AGIP	Gear motor
	MOBILGEAR 632 MOBIL	
	OMALA EP 320 SHELL	
Mineral oil	ENERGOL GR-XP 320 BP	
Willeral Oil	32°E a 50°C - 460 CST a 40°C	
	MELLANA OIL 460 IP	
	SPARTAN EP 460 ESSO	
	BLASIA 460 AGIP	Worm gear motor
	MOBILGEAR 634 MOBIL	
	OMALA EP 460 SHELL	
	ENERGOL GR-XP 460 BP	
	TELESIA COMPOUND B IP	
Grease	STRUCTOVIS P LIQUID KLUBER	Gear and worm gear motor
	TOTALCARTER SYOO TOTAL	
	TELESIA OIL 150 IP	
Synthetic oil	SYNTHESO D 220 EP KLUBER	Gear and worm gear motor
	BLASIA S 220 AGIP	
Molybdenum		
disulphate grease	0	Toothed thrust bearing
Lithium grease	Serie EP	
	ALVANIA R2 SHELL	
	HL 2 ARAL	<b>-</b>
Lithium grease	ENERGREASE LS2 BP	Bearings with support
	BEACON 2 ESSO	
	MOBILIX MOBIL	
Synthetic oil	-5°C a +5°C VG 68 (SAE 20)	Lifting chain of the spool carriage holder
	+5°C a +25°C VG 100 (SAE 30)	noidei
	+25°C a +45°C VG 150 (SAE 40)	Conveying unit chains
	+45°C a +70°C VG 220 (SAE 50)	

\_\_\_\_\_

**Importan** 

Do not mix different oil brands or oils with different specifications.

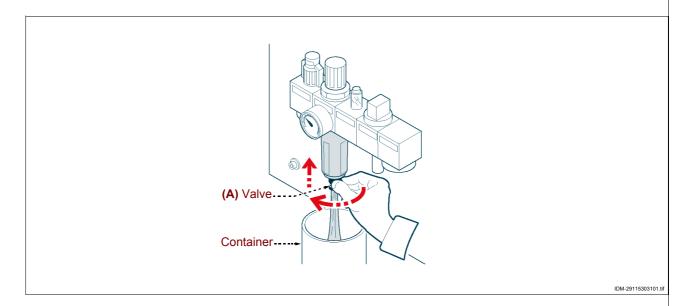
# **CONDENSATE DRAINAGE**

Proceed as indicated.

- **1** Place a container under the drain valve (A).
- **2**-Release the valve by rotating in the direction of the arrow and pressing up.

Hold down until all condensation is discharged.

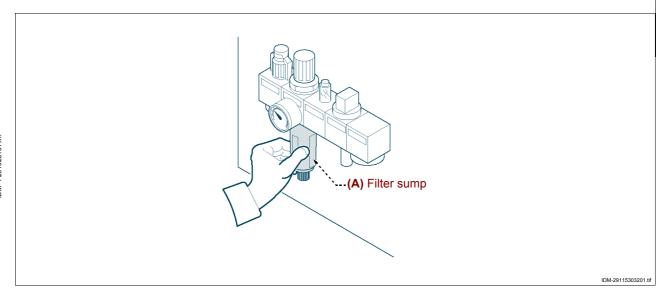
**3**-Close the valve (A).



# **CLEAN FILTER**

Proceed as indicated.

- **1** Remove the sump (A) and dismantle the filter.
- **2**–Clean the filter with compressed air and wash it with petrol or trichloroethylene if necessary.
- **3** Re-assemble in reverse order.



IDM F291026101.fm

# **TROUBLESHOOTING**

The machine can be fitted with a multi-function keypad. The display shows the alarm messages for the main problems which may occur during the operation of the machine.



Following a sudden stop in the cycle, check for the presence of any alarms on the display.

Following is a list of general problems, with the corresponding cause and solution. The information on the operating units is indicated in the relative booklets.

Table 3: Troubleshooting

Problem	Cause	Solution
The rotating table does not stop in a position aligned with load infeed or outfeed.	Phase detection sensors are out of order or incorrectly positioned.	Check and replace the sensor if necessary.
The rotating table conveyor does not stop when the load reaches the wrapping position.	Load detection sensors are out of order or incorrectly positioned.	Check and replace the sensor if necessary.
The machine does not	Film break sensor or photocell loose or broken.	Check and replace the sensor and photocell if necessary.
perform "film end" stop.	Dirty sensor or photocell.	Clean

# REPLACEMENT INSTRUCTIONS

Important

Before performing any replacement operation, activate all of the security devices provided and evaluate the necessity to adequately inform personnel operating in the near vicinity. In particular, confine the neighbouring areas to impede access to the devices that could, if activated, produce unexpected danger conditions provoking hazards to personal safety and health. In the event deteriorated parts need replacement, only use original spare parts. The manufacturer is not liable for damages to persons or parts caused by the use of non-original parts and extraordinary operations that can modify safety requirements without express authorisation. To request parts follow the indications found in the spare parts catalogue.

Carry out replacement and repair procedures according to the instructions supplied by the manufacturer or apply to the Assistance Service if such inconveniences are not illustrated and described in the manual.

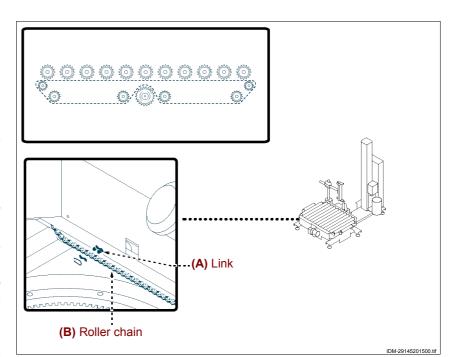
Before performing any replacement operation, disconnect the power and pneumatic supply.

IDM F291026101 fm

# **REPLACING THE INFEED CHAIN**

Proceed as indicated.

- 1 Start the machine in "manual" mode.
- 2-Stop the chain with link (A) in an easily accessible position.
- 3-Stop the machine in safe conditions.
- 4-Loosen the chain (B) (see "adjusting the roller conveyor chain").
- 5-Access the bottom part of the turntable to connect the end of the chain to be replaced with the new one as to make replacement easier.
- 6-Extract the link (A) and disconnect the chain (B).
- 7-Connect the end of the chain to be replaced with the new one to facilitate replacement.
- 8 Remove the chain to be replaced until the connection with the new one and disconnect the ends.



- **9** Insert a link **(A)** to connect the new chain **(B)**.
- 10 Make sure that the path matches the one shown in the figure.
- **11** Adjust chain tension (See "adjusting the roller conveyor chain").
- 12 Restart the machine in "manual" mode to check correct operations.

# Caution - Precaution

Before restarting the machine, make sure that no tools or material are left near parts in motion.

# **MACHINE DISPOSAL**



# **Important**

This operation must be performed by specialised technicians in accordance with the workman's safety laws in force.

Pay particular attention to film residues (non-biodegradable products), lubricant oil and non ferrous components (rubber, PVC, resin etc.) disposal. Proceed to the material disposal with respect to the law.

F291026101

# **ANALYTICAL INDEX**

#### Α

Adjustment recommendations, 5

#### C

Change of the film pre-stretch value, 9 Control description, 5

# D

Delivery terms, 5

Description of the electrical devices, 4

#### G

General unit description, 2

#### М

Maintenance instructions, 10 Maintenance period table, 10

# R

Recommendations for use and functioning, 5 Reel change, 6 Replacement instructions, 11

#### S

Spool refurnishment with operation in "automatic mode", 7 Spool refurnishment with operation in "manual mode", 6

# Т

Technical specifications, 5
Technological wrapping information, 3
Troubleshooting, 11

# **IMPORTANT FOR SAFETY**

The information found in this booklet is relevant to the functional aspects of the operator unit installed on the machine. However, the safety regulations found in Booklet 1 and those indicated with

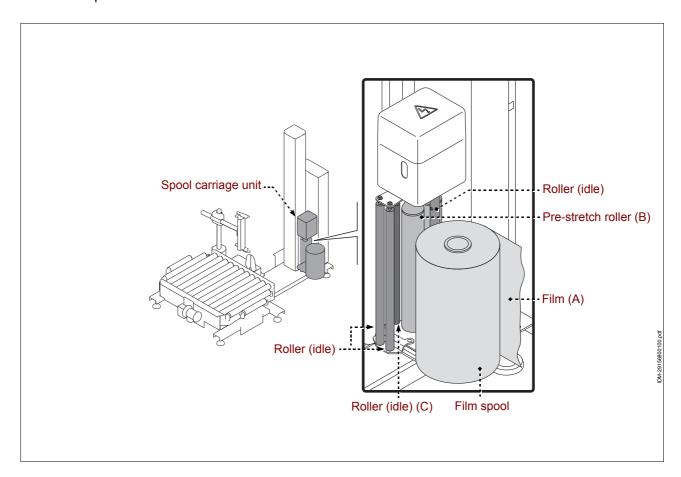
appropriate symbols must be carefully read for personnel safety. Discretion is invaluable; safety is also in the hands of all the operators who interact with the machine.

English

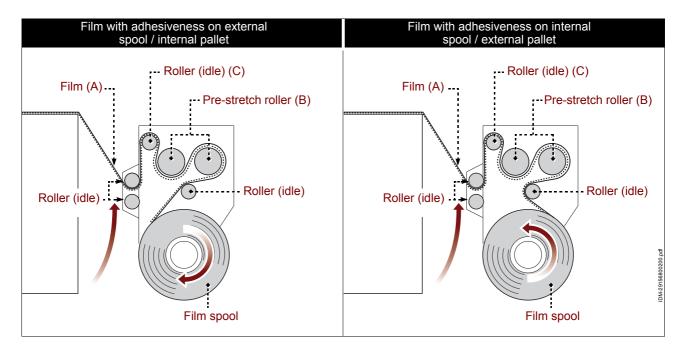
1

# **GENERAL UNIT DESCRIPTION**

- -The "PGS" type spool carriage unit was designed and constructed to unwind and pre-stretch polythene stretch film (A).
- -The carriage is reversible and allows wrapping according to the type of product to wrap and of the type of spool available (adhesive externally or internally). The low film consumption and homogeneous weight on each pallet allow a consistent reduction on operating costs.
- -The carriage is equipped with driven pre-stretch rollers **(B)**, that rotate with different peripheral speed.
- -The variation of the pre-stretch value, at preset values, is obtained by simply replacing ratios, according to film's characteristics and packaging requirements.
- -The stretch effect on the film between the rollers before load wrapping, in addition to reducing the section, provides physical characteristics that make it more resistant to keep the load intact during subsequent handling.
- -Further, an automatic roller device, with loading cell **(C)**, controls outfeed film tension next to the pallet corners.



Motion controls are built-in the general machine control panel.

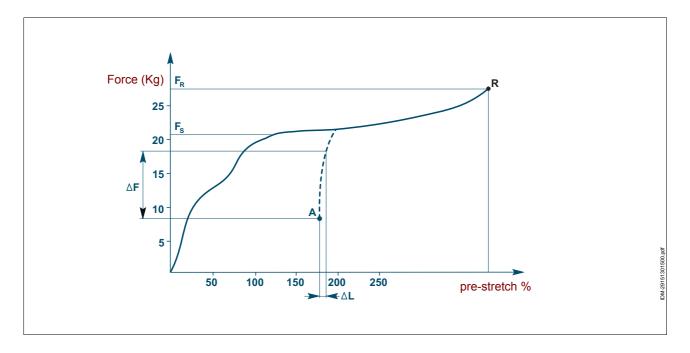


# **TECHNOLOGICAL WRAPPING INFORMATION**

If low linear density polyzene film is subjected to progressively increasing tension, the strength rate and corresponding deformations are represented in the diagram.

Fr - Break load where film breaks after subjected to stretching.

**Fs** – Yield load where stretching starts to increase without significant increases in load; this load creates considerable film stretch without increasing the deformation force.



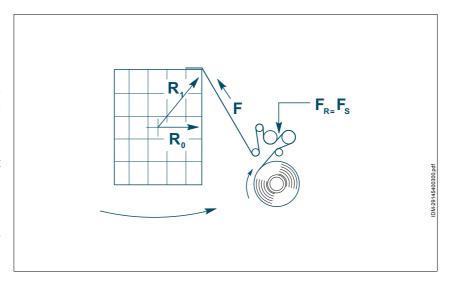
# F- Wrapping Tension

# **R** – Film break point.

Film tension is uneven during load wrap; in fact, the load exerts a greater request for film on the corners. This translates into an increase in wrapping tension **(F)**.

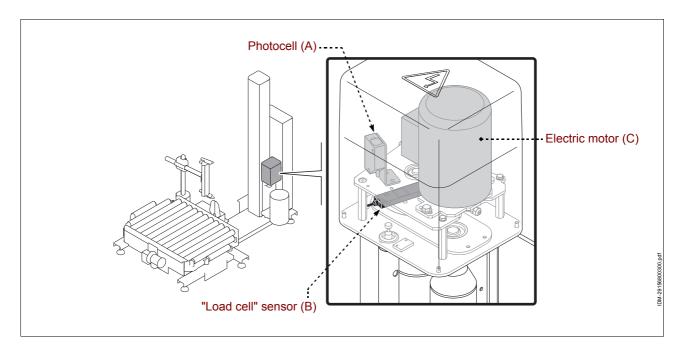
The spool carriage is equipped with an electronic system that guarantees contstant tension **(F)** during wrapping.

The system consists of a D. C. starter for the variation of the motor's speed.



# **DESCRIPTION OF THE ELECTRICAL DEVICES**

The illustration shows the position of the devices.



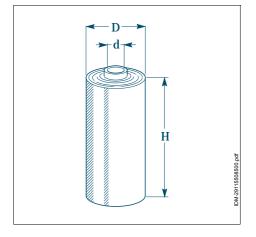
- **-Photocell (A)**: detects the presence and the height of the load to be wrapped.
- **-Sensor (B)**: it detects the film tensioning during wrapping and it enables the adjustment of the speed of the pre-stretch rollers. In case of film breakage or end it enables also the machine stop.
- **–Electric motor (C)**: it activates the pre-stretch rollers. It is equipped with one inverter for the adjustment of the number of revolutions.

# **TECHNICAL SPECIFICATIONS**

All necessary technical data (dimensional, productive, etc.) relating to the unit being considered, are indicated in the attached layout.

Table 1: Film reel features

Reel dimensions	
Max. external diameter (D)	300 mm
Maximum spool height (H)	500 mm
Internal diameter of the tube (d)	76 mm
Max reel weight	~ 20 Kg
Film thickness	23÷30 μm





# Information

Use the finest quality pre-stretchable film for optimum pre-stretching. Do not use spools with size characteristics other than those indicated in the layout.

# **DELIVERY TERMS**

The unit is delivered assembled to the wrapping machine. For installation, packaging and unpacking, handling, transport and connections consult booklet of the base machine.

# ADJUSTMENT RECOMMENDATIONS



# **Information**

The main unit functions do not require special adjustments by specialsed personnel except for the adjustments performed by the manufacturer during inspection.

# RECOMMENDATIONS FOR USE AND FUNCTIONING

Only use the unit as foreseen by the manufacturer. Improper use may cause personal safety and health hazards and economic damages

# **CONTROL DESCRIPTION**

All motion control to start and stop the unit are built in the wrapping machine control panel. For this information and for cycle stop and start procedure consult the wrapping machine user manual.

# **REEL CHANGE**

The refurnishment of the spool is to be done according to the machine operating modalities.

- -Machine operation in "manual mode"
- -Machine operation in "automatic mode"

# SPOOL REFURNISHMENT WITH OPERATION IN "MANUAL MODE"

Proceed as indicated.

- **1-**Start the machine in "manual" mode.
- **2-**Operate the control panel to move "gripper-cutting" unit and reel holder carriage to the "reel change" position.
- **3-**Operate selector and open the access door to the operating area.
- 4-Extract the key of selector.
- **5-**Only access the area by the specific door (inter-locked mobile guard).

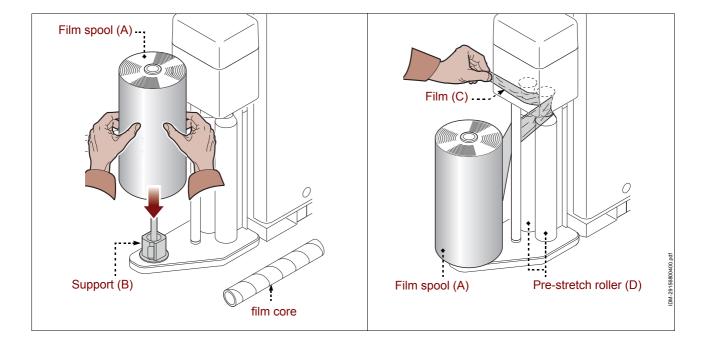


The key must be kept by the person who carries out the intervention.

# Caution - Precaution

At the end of the intervention, the operator must check that the area is free of dangers and, after closing the access door, he/she must insert the key into selector to activate the machine operation again.

- 6-Remove the cardboard spool core.
- **7-**Insert the new reel (A) on the support.
- **8-**Collect some film **(C)** until a thin cord is obtained and make it pass in the conical area of the rollers.



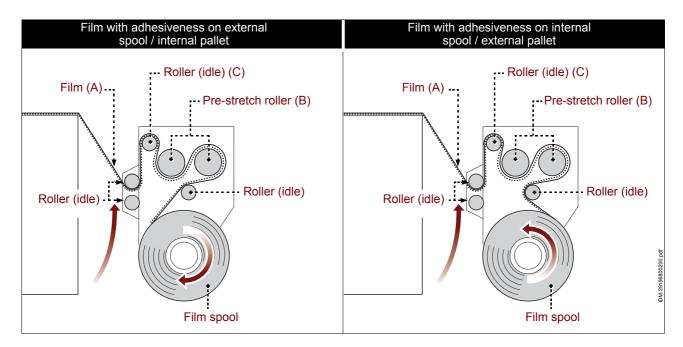
**9-**Unwind film following the track shown in the figure.

The illustrations show the wrapping path according to the adhesive side of the film and type of application on the pallet.



The dotted line indicates the adhesive side of the spool.

- **10-**Fasten the end of the film to the clamp unit.
- **11-**Exit the spool loading area and close the access door. The machine is now ready to be started with the "automatic work cycle".



# SPOOL REFURNISHMENT WITH OPERATION IN "AUTOMATIC MODE"

Proceed as indicated.

- **1-**Stop the machine in the reel changing position.

  In the event of reel depletion or film break, the machine is automatically positioned "in phase".
- **2-**Operate selector and open the access door to the operating area.
- 3-Extract the key of selector.
- **4-**Only access the area by the specific door (inter-locked mobile guard).



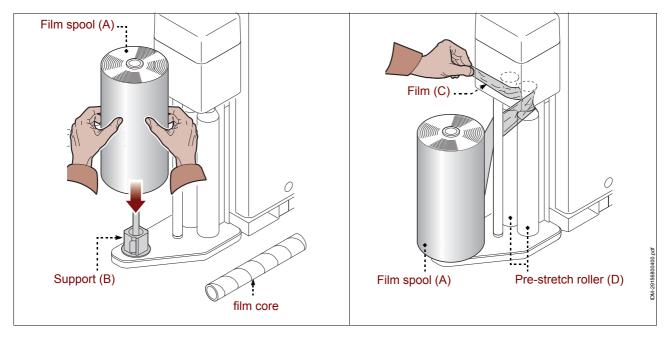
#### Information

The key must be kept by the person who carries out the intervention.

# Caution - Precaution

At the end of the intervention, the operator must check that the area is free of dangers and, after closing the access door, he/she must insert the key into selector to activate the machine operation again.

- **5-**Remove the cardboard spool core.
- **6-**Insert the new reel **(A)** on the support.
- **7-**Collect some film **(C)** until a thin cord is obtained and make it pass in the conical area of the rollers.



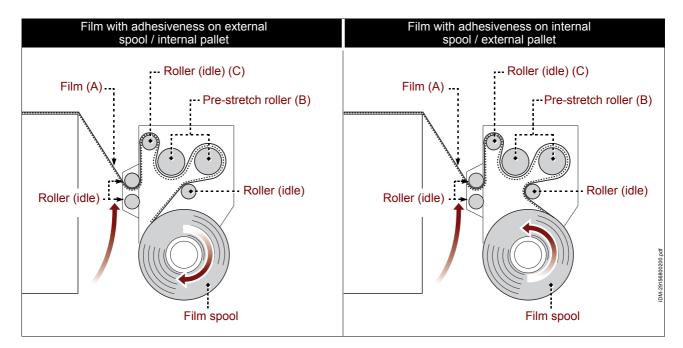
**8-**Unwind film following the track shown in the figure.

The illustrations show the wrapping path according to the adhesive side of the film and type of application on the pallet.



The dotted line indicates the adhesive side of the spool.

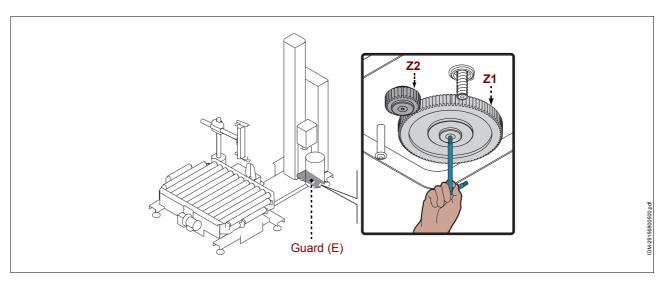
- **9-**Fasten the end of the film to the clamp unit.
- **10-**Exit the spool loading area and close the access door. The machine is now ready to be started with the "automatic work cycle".



# **CHANGE OF THE FILM PRE-STRETCH VALUE**

Proceed as indicated.

- **1-**Start the machine in "manual" mode.
- **2-**Activate the controls to lift reel holding carriage up to the end of stroke.
- 3-Stop the machine
- **4-**Deactivate the main electric switch to put the machine in safety conditions.
- **5-**Remove the cover guard **(E)**.
- **6-**Replace toothed wheels (**Z1-Z2**) according to the desired pre-stretch percentage.



The table lists the pre-stretch values obtainable with the proper transmission ratios.

Information
Set pre-stretching according to film resistance and quality to obtain low consumption.

Table 2: Pre-stretch values

pre-stretch %	Code (Z1)	N. of teeth (Z1)	Code (Z2)	N. of teeth (Z2)
150%	2540300091	85	2540300092	34
200%	2540300093	90	2540300094	29
250%	2540300087	92	2540300088	27

- **7-**Reassemble the guard **(E)** when finished.
- **8-**Start off machine to check correct operation.

# **MAINTENANCE INSTRUCTIONS**



Before performing any maintenance operation, activate all of the security devices provided and evaluate the necessity to adequately inform personnel operating in the near vicinity. In particular, confine the neighbouring areas to impede access to the devices that could, if activated, produce unexpected danger conditions provoking hazards to personal safety and health.

After maintenance or repair and before turning on the machine, check that there are no tools, rags or other material in the areas nearby the moving organs.

# **MAINTENANCE PERIOD TABLE**

**Informatio** 

Keep the unit in maximum efficiency conditions by performing the routine maintenance operations foreseen by the manufacturer. Good maintenance will lead to better performance, long working life and constant upkeep of safety requirements.

Table 3: Maintenance intervals

Frequency	Component description	Type of intervention	Procedure	Reference
40 hours	Rubber coated rollers	General inspection	Clean with a cloth and thinner	
200 hours	Spool carriage supports	General inspection	Check for integrity and tightening of the screws	
200 Hours	Rollers	General inspection	Check for integrity and tightening of the screws	

# **TROUBLESHOOTING**

Following a sudden cycle stop, check for any alarms on the wrapping machine display..

Generic problems with their causes and solutions are listed below.

Table 4: Malfunctions

Problem	Cause	Solution
	Excessive film tension	Decrease film wrapping tension.
Film tears	Excessive film pre-stretch value	Decrease the pre-stretch value or use a film having greater breaking point (see "Change of the film pre- stretch value")

# REPLACEMENT INSTRUCTIONS

- -Before performing any replacement operation, activate all of the security devices provided and evaluate the necessity to adequately inform personnel operating in the near vicinity. In particular, confine the neighbouring areas to impede access to the devices that could, if activated, produce unexpected danger conditions provoking hazards to personal safety and health. In the event deteriorated parts need replacement, only use original spare parts. The manufacturer is not liable for damages to persons or parts caused by the use of non-original parts and extraordinary operations that can modify safety requirements without express authorisation. To request parts follow the indications found in the spare parts catalogue.
- -Carry out replacement and repair procedures according to the instructions supplied by the manufacturer or apply to the Assistance Service if such inconveniences are not illustrated and described in the manual.

Caution - Precaution

Before effecting any replacement, cut off the energy sources (electric, pneumatic, oil pressure, thermic, etc.).

# Clamp Assembly

version: SIMPLE

TECHNICAL INFORMATION	
	page
GENERAL UNIT DESCRIPTION ELECTRIC DEVICE DESCRIPTIONS PNEUMATIC DEVICE DESCRIPTIONS	2
ADJUSTMENT INFORMATION	
	page
ADJUSTMENT INSTRUCTIONSADJUSTING THE POSITION OF THE CLAMPS.	
OPERATING INSTRUCTIONS	
	page
FILM INSERTION	4
MAINTENANCE INFORMATION	
	page
MAINTENANCE INSTRUCTIONS MAINTENANCE PERIOD TABLE LUBRICATION POINT DIAGRAM	5
FAULTS	
	page
TROUBLESHOOTING	6

# IDM F291040801.fm

# **IMPORTANT FOR SAFETY**

The information found in this booklet is relevant to the functional aspects of the operator unit installed on the machine. However, the safety regulations found in Booklet 1 and those indicated with appropriate symbols must be

carefully **read for personnel safety**. Discretion is invaluable; safety is also in the hands of all the operators who interact with the machine.

version: SIMPLE

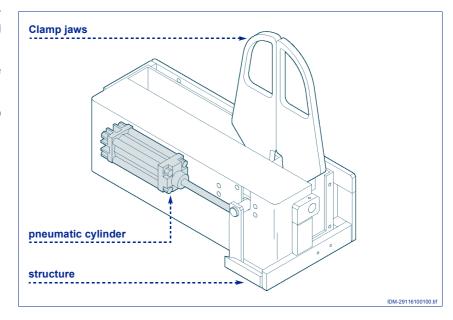
# **TECHNICAL INFORMATION**

# **GENERAL UNIT DESCRIPTION**

The clamping unit is a device for locking the film at the end of the wrapping cycle.

It is fitted with pneumatic double clamps for clamping the film.

The movement controls are built into the machine's control panel.

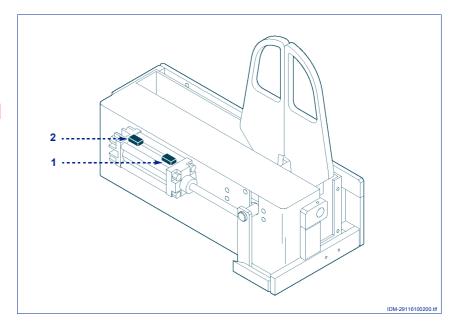


# **ELECTRIC DEVICE DESCRIPTIONS**

- 1) **Sensor**: detects the clamp in the "closed" position.
- **2) Sensor**: detects the clamp in the "open" position.



For further details consult the wiring diagram.



DM F291040801.fm

English - 2 -

Clamp Assembly

version: SIMPLE

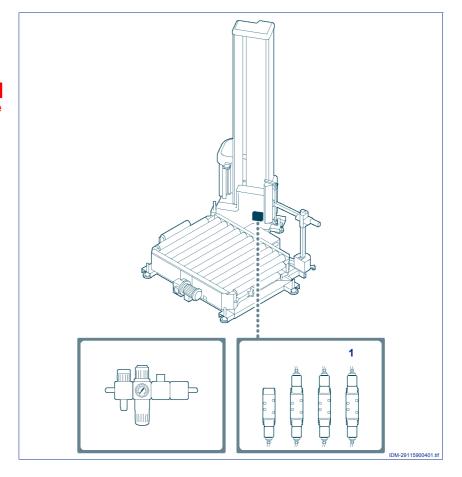
# PNEUMATIC DEVICE DESCRIPTIONS

1) Solenoid valve: drives the pneumatic cylinder of the clamping unit.



# Information

For further details consult the pneumatic diagram.



# **ADJUSTMENT INFORMATION**

# **ADJUSTMENT INSTRUCTIONS**



# Information

Before carrying out any adjusting intervention, the authorized personnel must activate all the safety devices available and consider the possibility of informing the personnel working on the machine and that of the surrounding area. In particular, ade-

quately mark the surrounding areas and avoid access to all devices that, if activated, could provoke dangerous unexpected conditions and risk to the safety and health of persons.

IDM E291040801

English - 3 -

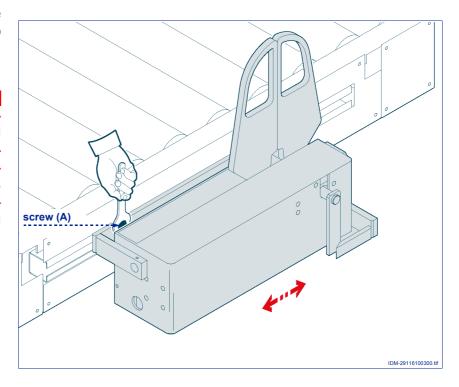
# **ADJUSTING THE POSITION OF THE CLAMPS**

Regulate the screws (**A**) to center the jaws of the clamp unit as compared to the film's path.



# Information

This adjustment is performed before the machine is delivered and is based on specific customer requests. On starting up the machine the first time, this adjustment is performed again depending on the actual wrapping requirements.

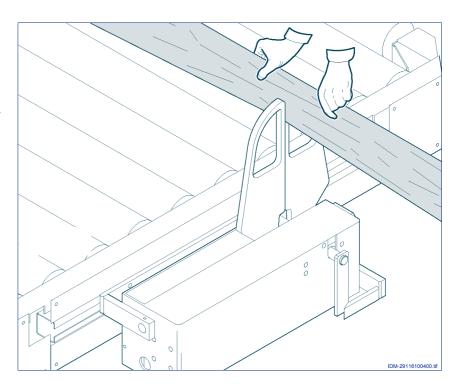


# **OPERATING INSTRUCTIONS**

# **FILM INSERTION**

Proceed as follows.

- 1-Select the "manual cycle".
- 2-Close the clamps.
- 3-Unwind the film and insert it between the clamps.
- 4 Now the machine is ready to begin the cycle.



M F291040801.fm

English - 4 -

# **MAINTENANCE INFORMATION**

# **MAINTENANCE INSTRUCTIONS**



# Information

Before performing any maintenance, activate all foreseen safety devices and evaluate the need to warn operating personnel and those in the near vicinity. In particular, adequately mark the surroun-

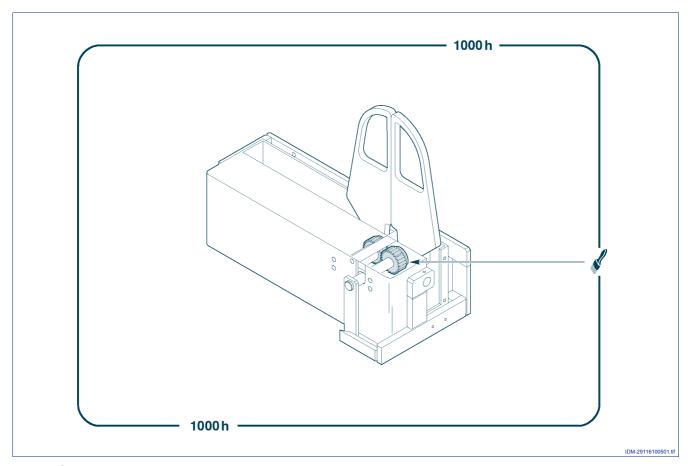
ding areas and prevent access to all devices that could, if activated, cause unexpected personal safety hazards.

# **MAINTENANCE PERIOD TABLE**

Frequency	Component	Type of intervention	Action	See page
50 hours	Clamp jaws	Cleaning	Clean with a cloth or air jet	-
1000 hours	Gear wheels	Lubricate	Clean with thinner and then lubricate	5

# **LUBRICATION POINT DIAGRAM**

Lubricate the illustrated parts at the time and with the methods indicated.



Key: Smear with grease

F291040801.fm

Σ

English - 5 -

Clamp Assembly

version: SIMPLE

# **FAULTS**

# **TROUBLESHOOTING**

Problem	Causa	Solution	
The clamp neither opens nor closes	Clamp solenoid valve malfunction.	Check the voltage of the solenoid valve's coils. Check the working efficiency of the pneumatic system (see pneumatic diagram).	
	Clamp cylinder magnetic sensors malfunction.	Check the working efficiency and the position of the sensors.	
	PLC outputs.	Check the PLC output signals.	

# Booklet 5

# **CUTTER ASSEMBLY**

version: WIRE AND PRESSURE PAD

TECHNICAL INFORMATION	
	page
GENERAL MACHINE DESCRIPTION WORKING CYCLE DESCRIPTION OF THE ELECTRICAL DEVICES	2
PNEUMATIC DEVICE DESCRIPTIONS	
ADJUSTMENT INFORMATION	
	page
ADJUSTMENT INSTRUCTIONSADJUSTING THE CUTTING UNIT	
MAINTENANCE INFORMATION	
	page
MAINTENANCE PERIOD TABLE DIAGRAM OF LUBRICATION POINTS	
FAULTS	
	page
TROUBLESHOOTING	6
REPLACEMENT INFORMATION	
	page
REPLACEMENT INSTRUCTIONS	
REPLACING THE CUTTING WIRE	

# IDM F291051100.fm

# **IMPORTANT FOR SAFETY**

The information found in this booklet is relevant to the functional aspects of the operator unit installed on the machine. However, the safety regulations found in Booklet 1 and those indicated with appropriate symbols must be

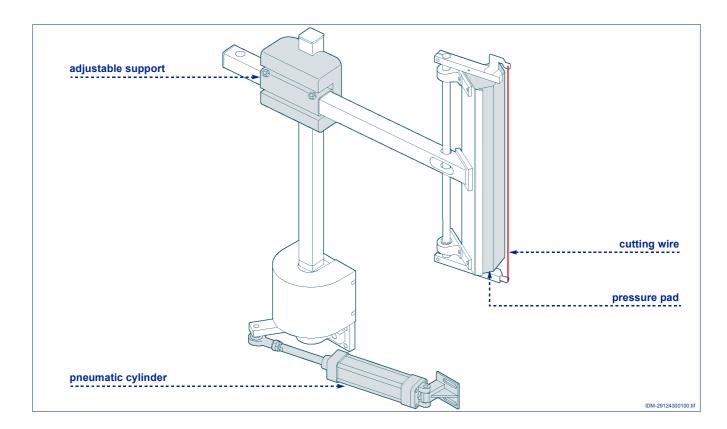
carefully **read for personnel safety**. Discretion is invaluable; safety is also in the hands of all the operators who interact with the machine.

# TECHNICAL INFORMATION

# **GENERAL MACHINE DESCRIPTION**

Unit consisting of a device that cuts the film at the end of the wrapping cycle by means of a hot cutting wire and allows film tail to stick to the pallet by natural adhesion.

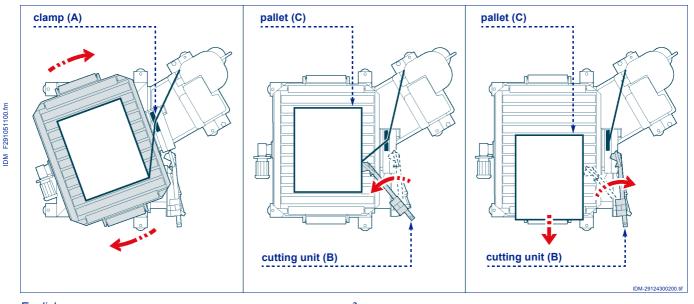
This device is supported by a rotating arm; it rotates by means of a pneumatic cylinder and leans itself to the pallet for the cutting operation.



# **WORKING CYCLE**

Below are described the stages that make up the unit's operating cycle.

- Stage 1: once wrapping cycle is completed, clamp
- (A) closes, blocks the film and the turntable stops.
- Stage 2: the cutting unit (B) rotates until it touches the pallet (C). The resistance heats the wire and



English - 2 -

version:

WIRE AND PRESSURE PAD

cuts the film.

- Stage 3: the cutting unit (B) returns to the standby

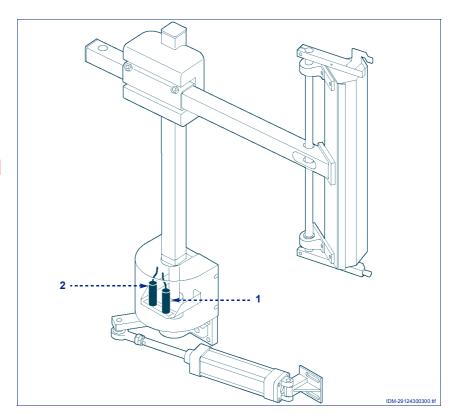
position, pallet (C) forwards and the device presets itself for another cycle.

# DESCRIPTION OF THE ELECTRICAL DEVICES

- 1) **Sensor**: detects the unit position in the cutting phase.
- **2) Sensor**: detects the unit position in the idle phase.



Refer to the wiring diagram for more information.

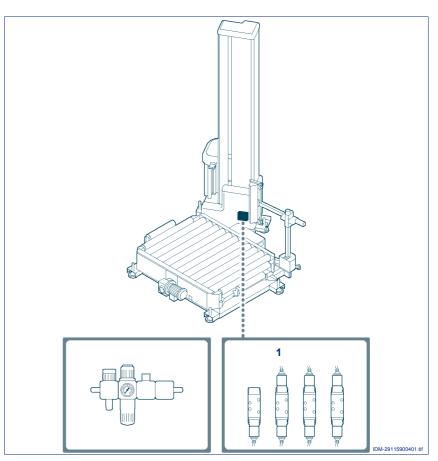


# PNEUMATIC DEVICE DE-SCRIPTIONS

1) Solenoid valve: drives the pneumatic cylinder of the cutting unit.



Refer to the pneumatic diagram for more information.



IDM F291051100.fm

English - 3 -

# **ADJUSTMENT INFORMATION**

# **ADJUSTMENT INSTRUCTIONS**



# Information

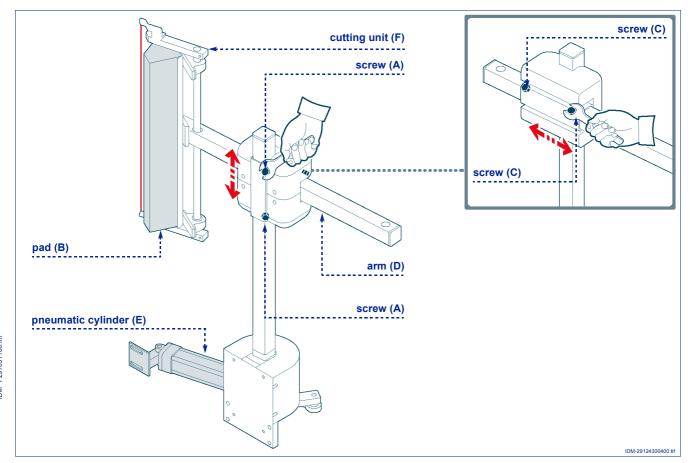
Before carrying out any adjusting intervention, the authorized personnel must activate all the safety devices available and consider the possibility of informing the personnel working on the machine and that of the surrounding area. In particular, ade-

quately mark the surrounding areas and avoid access to all devices that, if activated, could provoke dangerous unexpected conditions and risk to the safety and health of persons.

# **ADJUSTING THE CUTTING UNIT**

Proceed as follows:

- 1-Loosen the screws (A).
- 2 Adjust height of the cutting unit (**F**) so that pad (**B**) is centered respect to the film and tighten screws (**A**).
- 3 Loosen the screws (C).
- 4-Adjust length of arm (D) and lean the pad to the pallet with pneumatic cylinder (E) completely closed.



IDM F291051100.fm

English - 4 -

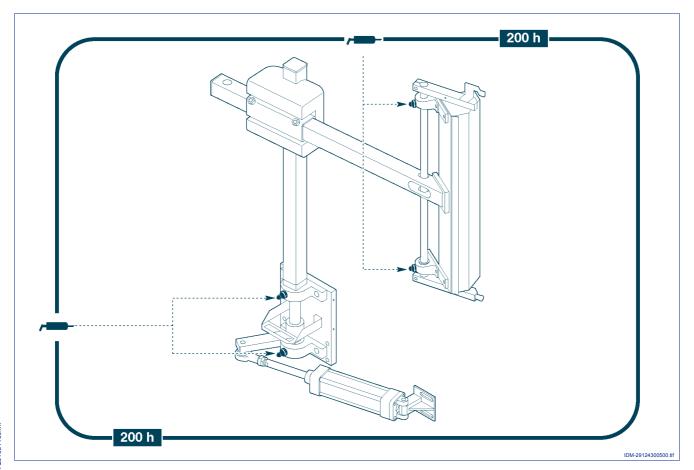
# **MAINTENANCE INFORMATION**

# **MAINTENANCE PERIOD TABLE**

Frequency	Component	Type of intervention	Action	See page
40 hours	Cutting wire	Clean	Clean with a cloth and thinner	-
200 hours	Rotation bearings	Grease	Lubricate with a grease pump	5
Periodically	Cutting wire	Efficiency Check	Replace	5

# **DIAGRAM OF LUBRICATION POINTS**

Lubricate the illustrated parts at the time and with the methods indicated.



Key: Pump in grease

IDM F291051100.fm

English - 5 -

# **FAULTS**

# **TROUBLESHOOTING**

Problem	Causa	Solution
	Cutting wire solenoid valve mal- function.	Check the voltage of the solenoid valve's coils. Check the working efficiency of the pneumatic system (see pneumatic diagram).
The wire does not cut and the nickel-chromium wire does not	"Back and forth" cutting wire sensors malfunction.	Check the working efficiency and the position of the sensors.
heat.	Cutting wire power supply transformer malfunction.	Check the fuses of the cutting wire transformer. Check continuity of the nickel-chromium wire, the supports and the insulating washers.
	PLC outputs.	Check the PLC output signals.

# REPLACEMENT INFORMATION

# REPLACEMENT INSTRUCTIONS

Before replacing parts, activate all foreseen safety devices and evaluate the need to warn operating personnel and those in the near vicinity. In particular, adequately mark the surrounding areas and prevent access to all devices that could, if activated, cause unexpected personal safety hazards.

If worn components require replacement, only use original spare parts.

The manufacturer is not liable for damages to persons or components due to the use of unoriginal spare parts and unauthorised repairs. Follow the indications found in the spare parts catalogue to request spare parts.



Danger - Warning

Before performing any replacement operation, disconnect the power and pneumatic supply.

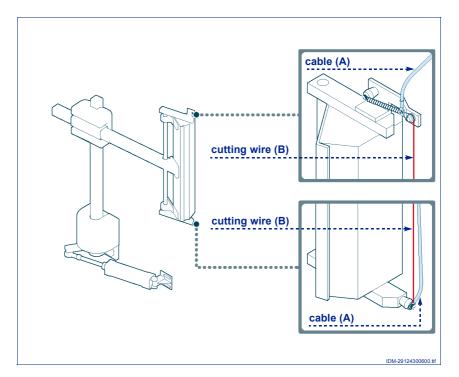
IDM F291051100.fm

English - 6 -

# REPLACING THE CUTTING WIRE

Proceed as follows:

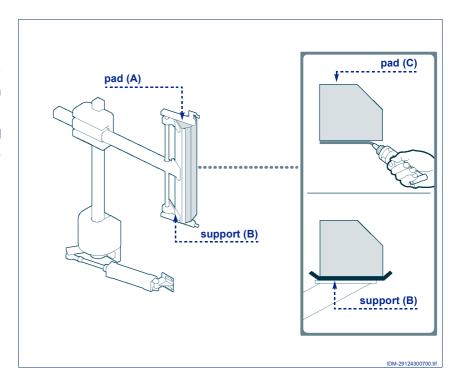
- 1-Unscrew the screws and disconnect the power cables (**A**).
- 2-Replace the cutting wire (B).
- 3-Insert the new wire and make sure it is well taut.
- 4-Reconnect the power cables and tighten the screws.



# PAD REPLACEMENT

Proceed as follows:

- 1-Remove pad (A) from support (B).
- 2-Thoroughly clean the support with thinner.
- 3-Spread new pad (**C**) with glue and fix it to the support (**B**) (see figure).



IDM F291051100.fm

English - 7 -





# Operator Manual Rotating Table



# Use information

# RECCOMENDATIONS FOR USE AND OPERATIONS

IMPORTANT: the frequency of accidents derived from machine use depends on many factors which cannot always be prevented and controlled. Some accidents may depend on unexpected environmental factors, other mainly depend on the user's conduct.

In addition to being authorised and appropriately trained, if necessary, users, upon first use, should simulate some movements to identify controls and main functions.

Only perform the manufacturer's foreseen uses and do not tamper with any device to achieve performances other than those foreseen. Before use make sure that all safety devices are correctly installed and in good working conditions.

In addition to meeting these requisites, users must apply all the safety regulations and carefully read the control and operating descriptions.



# **CONTROL DESCRIPTIONS**

The figure illustrates the positions of the controls on the machine.

# A) POWER ON light:

White indicator light.
Signals that the main switch is on and that the machine is powered.

# B) EMERGENCY light

Red indicator light.

The light indicates that the machine is in emergency or similar to emergency conditions.

# C) AUTOMATIC/MANUAL selector:

Two-way selector for machine operating mode. *Key turned to the right* - the machine is in MANUAL mode.

Key turned to the LEFT - the machine is in  $\ensuremath{\mathsf{AUTOMATIC}}$  mode.

# D) STOP CYCLE button:

To stop the automatic cycle, the arm decelerates until it is in phase. Press the AUTOMATIC START BUTTON to restart from this condition.

#### E) OPEN DOOR REQUEST selector:

To stop the machine and permit operator access to the work area.

# F) MOTOR DRIVE button:

Button that electrically enables the machine. It must be pressed after every emergency stop that cuts off the emergency circuit.

# G) RESET button

Yellow button.

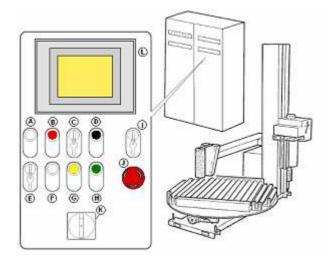
Restores initial cycle conditions after each emergency intervention.

# H) AUTOMATIC CYCLE button:

Green light button.

When this button is pressed the automatic cycle starts if all initial cycle conditions are verified and if the machine is not in emergency conditions. Hold the button down for several seconds until the cycle start siren stops.

The green light will turn on to indicate correct automatic operations.





# I) BARRIER BY PASS Selector

Selector that excludes the safety barriers. The automatic cycle is not enabled with the guards off. Some machine movements can be run in manual mode.

# J) EMERGENCY STOP button

Mechanically retained emergency button. When pressed during machine operations all operating functions are stopped. To return the machine to initial conditions, press the reset button. Avoid using the emergency buttons for normal machine stops.

# K) MS - MAIN SWITCH:

Turns the main power supply on and off. Lockable circuit breaker type switch that closes the electrical cabinet.

 $(\mathbf{O})$ = Off – power off

(I) = On - power on

# L) "TOUCH SCREEN" TERMINAL:

to display and set production parameters.



# **OPERATOR PANEL DESCRIPTION**

The operating terminal is a screen that lets the user set work parameters and check all machine operating conditions. It is equipped with a display allowing to activate all the various functions simply by "touching" what is written on it. Each page contains scroll keys to move from one page to the next. If necessary, it contains also the keys which allow to set the parameters, by executing some commands etc.

# 1) HOW TO USE THE DISPLAY

After turning on the terminal, select the required page to run one of the following:

- Edit text and values
- Sequential value adjustment
- Operating alternatives
- Enable function

**IMPORTANT:** Modifications are immediately effective and automatically saved. Work parameters are saved in the selected program.

#### **Editing text and values**

For this operation proceed as follows:

- 1 Display the page with the demanded function.
- 2 Press the key corresponding to the demanded function. The editing mode is enabled displaying a number pad.
- 3 Enter the figure or the desired name and confirm pressing "Enter".
- 4 Press the key "**Esc**" to disable the editing mode.

# Sequential value adjustments

- 1 Display the page with the demanded function.
- 2 Press the key (+) to increase the value and the key (–) to decrease it.

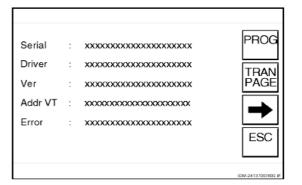
5

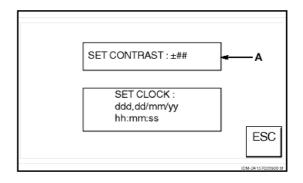


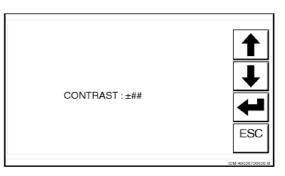


# 2) DISPLAY CONTRAST RECORDING

- 1 Simultaneously touch two opposite corners of any operator panel page. The first information page is displayed on the system;
- 2 Press the key "PROG". The "MENU" page is displayed.
- 3 Press one of the "ARROW" keys until you select the function "SET CONTRAST".
- 4 Press the key "A". The "CONTRAST" page is displayed.
- ${\bf 5}$  Press the key "ARROW UP" to increase the contrast and the key "ARROW DOWN" to decrease it.
- 6 Press the key "ENTER" to memorise the setting;
- 7. Press the "ESC" key to exit the SETUP function.







201.038 P4



## 3) EDITING PASSWORD PROTECTED SETTINGS

Some functions are only accessible by entering the password as to avoid any accidental change or any change by not qualified personnel.

ATTENTION – WARNING: The factory responsible must assign password to qualified personnel only and each password is to be considered secret and confidential.

For this operation, proceed as follows:

- 1 Use the number pad to enter the demanded password.
- 2 Press the key "ENTER" to confirm the operation.

**IMPORTANT**: If the entered password is correct, all protected functions are enabled. These functions are automatically locked after three minutes of disuse.



WARNING: there are three password levels:

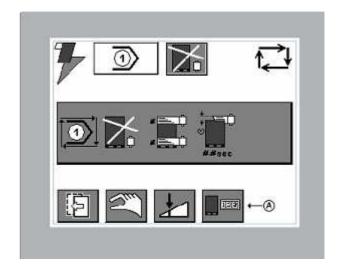
**Level 3**: Only enables editing for time settings, this password is factory set to 0000.

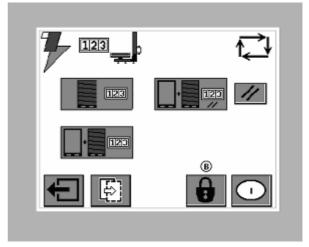
**Level 2**: In addition to the parameters in the previous level, program data settings can be modified in this level.
Factory set to 0001.

**Level 1**: enables all operations and is the only level that can edit other level passwords. Factory set to 0002.

Proceed as follows to change a password:

- 1 One the "Main" page and press the key (A) on the display. The "Pallet Counter" page is displayed.
- 2 Touch key (B), enter the Level 1 password to open the password change page.
- 3 Select the password level to be changed, enter the new password and confirm.







### **USING THE TERMINAL**

When the machine is turned on a presentation page with the ROBOPAC manufacturer identification and machine model is displayed.

Press any part of the screen to open the "Main" page.

Various information and keys that open different panel pages are found on the "Main" page.

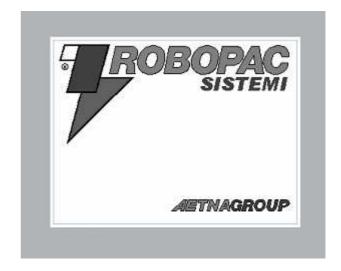
 A – Press this key to change the program that the machine will use with the next pallet. The selected program number will be displayed

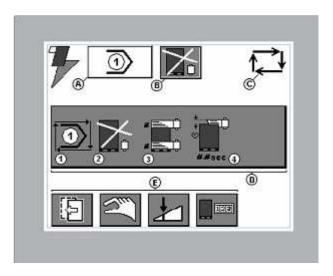
on the key.

- B Press this key to exclude wrapping regardless of whether or not it was set in the program in use.
- C This icon indicates the machine operating mode and is found on all operator panel on the operator panel. A description of the single icons is provided in the appendix.
- D The bar in the centre of the page represents the machine conditions and is called the "Current Program Bar",

the following information is summarised in this bar:

- 1. "CURRENT Program" number
- Wrapping type and inclusion, if applicable, of various options such as TOP, PRESSURE PLATEN, LIFTER
- 3. Number of *HIGH wraps* (at the top of the pallet) and *LOW wraps* set in the program.
- Skirting time (the value changes according to whether or not the *Pressure platen*, if present, is included).
- E Press one of these keys to display its associated page which is described below.





201.038 P4



### 1) PROGRAM PARAMETER SETTINGS

Program Parameters are wrapping settings that are effective during the entire wrapping cycle and can vary from program to program (in the event of Multiprogramming).

**WARNING:** "Program Parameters" can only be edited by Level 2 or 1 password users.

Program parameters can be used to set different wrapping types (*Economic/Standard*), include supplementary devices if present such as *Top, Pressure Platen* and *Lifter*, modify the number of High and Low wraps, set the correct *Skirting time*, etc.

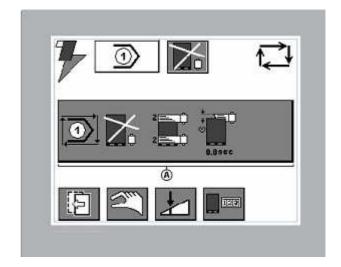
Furthermore, parameters set in one program can be copied to another as described below.

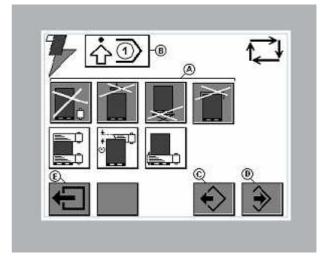
### "Editing program parameters"

- 1 From the Main page press the "Current Program Bar" (A) and enter the password. After entering the password, press the "Bar" again to open the "Program Parameters" window.
- 2 From this window select the program to be edited by pressing key **(B)**.
- 3 Press key **(C)** to open the parameter window for the program selected in point **(2)**.
- 4 Select the parameter to be edited (wrapping, wraps, skirting time, etc.).
- 5 Save settings by pressing key **(D)**; at this point the operator can either edit another program or exit the "*Program settings*" page by pressing key **(E)**.

### "Copying parameters from a Program"

- 1 From the Main page press the "Current Program Bar" (A) and enter the password. After entering the password, press the "Bar" again to open the "Program Parameters" window.
- 2 From this window select the program <u>from which</u> parameters are to be copied by pressing key **(B)**.
- 3 Press key **(C)** to open the parameter window for the program selected in point **(2)**.
- 4 Proceed as in point (2) to select the program to which parameters are to be copied.
- 5 Save the parameters to be coped by pressing key **(D)**.





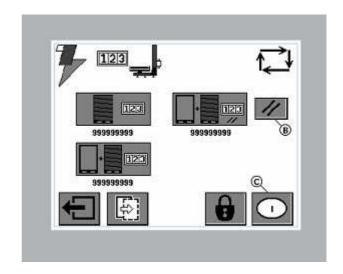
201,038 P4



# 2) USING PRODUCT COUNTERS

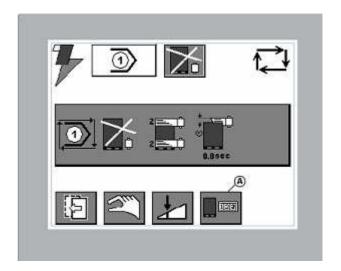
Press key (A) on the Main page to display a specific page that contains various information on machine production such as *Total work time, Rotation speed, Total number of wraps, Number of wrapped pallets* (partial and can be reset at any time by pressing key (B)), the *TOTAL number of processed pallets* (which includes both wrapped and only transited pallets) and the *Number of Transited Pallets*.

**WARNING:** The information on this page is read-only and can only be used for information purposes. Only the Wrapped Pallet Counter can be reset.



# 3) LANGUAGE CHANGE

The display language can be changed from the Product Counter page by pressing key **(C)**.



291,038 P4

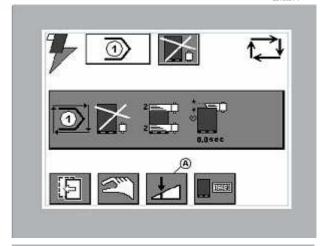


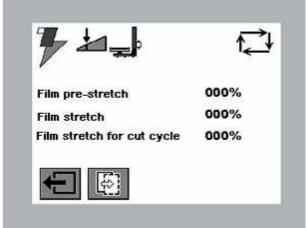
## 4) GENERAL PARAMETER SETTINGS

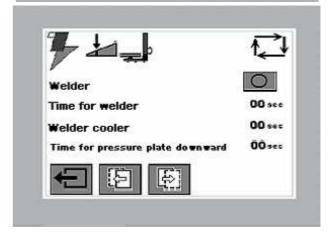
From the Main page press key **(A)** to open the General Parameters page.

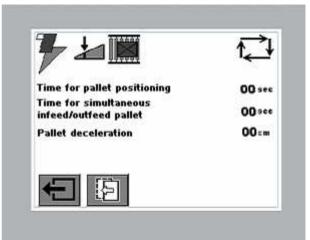
General parameters include all functional machine timers such as the Sealing timer, Pallet Positioning Timer, Film pull and Pre-stretch adjustment, etc.

The Sealing device can be INCLUDED or EXCLUDED from this page.











### **USING THE MANUAL CONTROLS**

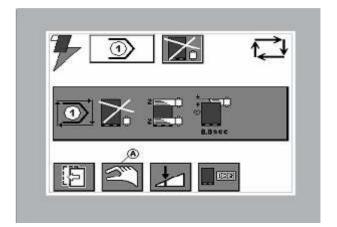
Manual controls are to be used to individually operate the machine moving parts, in case of service or control before the automatic cycle start-up.

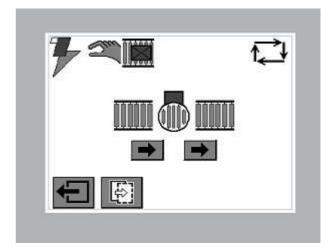
IMPORTANT: Manual controls can only be accessed if the AUTOMATIC/MANUAL machine key selector is in the Manual (Right) position and not Emergency condition is active.

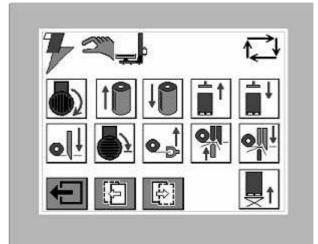
Proceed as follows for this operation:

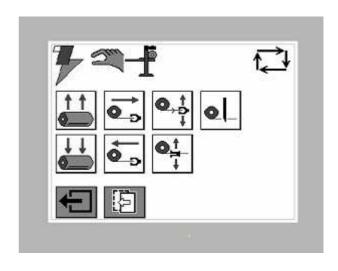
1 – From the "Main" page press key **(A)** to open the Manual Movements page. Press key **(B)** or **(C)** to scroll the various manual pages (icon **(D)** indicates the current manual control page).

Select the required manual icon and press the corresponding key.











### **AUTOMATIC CYCLE START**

Proceed as follows to start the Automatic cycle:

- 1 Rotate the main switch to I (ON) to power.
- 2 Press the Motor drive button (in the event of first start up, keep the Barrier By Pass key selector turned to enable the emergency circuit).
- 3 Press the "RESET" button to restore the machine to the initial cycle position (and reset any emergencies in the event of first start up).
- 4 Select the required program.
- 5 Rotate the key selector to the AUTOMATIC position.
- 6 \_ Press the AUTOMATIC CYCLE button.

**IMPORTANT**: During the first wrapping cycles, make sure products are correctly packaged and, if necessary, adjust the sealing, skirting, etc. parameters.

WARNING:: Any program can be modified and the program for the next pallet can be set at any time. To use a different program on the pallet being processed, select it as indicated in the relevant paragraph and RESET in Manual (turn the key selector to MANUAL and press RESET until the Automatic Cycle button blinks).



#### **OPERATOR MACHINE STOP**

For temporary stopping of the operation, proceed as follows.

**IMPORTANT**: Do not use the emergency button to stop the machine unless strictly necessary to prevent damages to things and/or people.

The machine can be stopped when wrapping a pallet by pressing the *STOP CYCLE* button which decelerates the machine after two wraps and then stops in phase. The cycle can be continued from the stop position by pressing the *AUTOMATIC CYCLE* button or a new wrapping cycle can be started by pressing the RESET button in Manual mode as indicated in the previous point.

To stop the machine when a pallet has not yet been loaded on the machine or is moving towards the centre of the machine or towards outfeed (customer conveyor, etc.), turn the key selector to MANUAL or run an *Open Door Request*.

Two different situations can be derived from an *Open Door Request*:

- 1 During pallet wrapping an *Open Door Request* causes a controlled machine stop permitting the pallet in infeed or outfeed to complete transit.
- 2 When a pallet is moving in INFEED or in OUTFEED, movement completes after an *Open Door Request* (INFEED pallet reaching the machine centre or OUTFEED pallet reaching the customer position) and the emergency circuit is simultaneously cut off and the electromagnetic lock released.

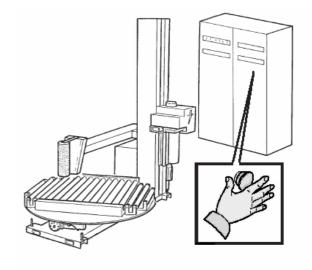
WARNING:: If an Open Door Request is selected during pallet movement and the key selector is then rotated to the Manual position, movement is not completed as described in the previous point but is immediately stopped.



# **EMERGENCY STOP AND RESTART**

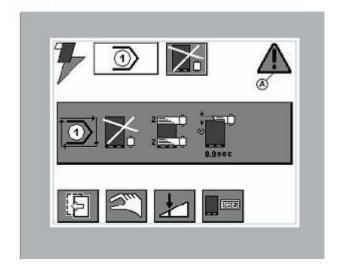
Press the machine emergency button in conditions of imminent risk. Machine operation stops immediately. After having normalised the operating conditions, unblock button to allow machine operation again. To restart the cycle, repeat all the *Automatic Cycle Start* operations.

IMPORTANT: When the mushroom head Emergency button is pressed the Emergency circuit is cut-off; the same situation occurs after an Open Door Request or after the emergency barriers are triggered. In all these circumstances, operating conditions must be restored as indicated in the <u>Automatic Cycle Start section</u>



## **ALARM DISPLAY**

In the event of faults during operations, the machine automatically stops and the alarm icon **(A)** appears on the screen. Press this icon to display Alarm messages. Press the "ESC" key to exit the Alarm display page.





## **APPENDIX**

# 1) Machine Mode Icons



Signals the presence of an alarm that caused an anomalous machine stop



Machine in Automatic cycle



Machine in manual mode



The machine is ready to move into Automatic mode



General Reset

# 2) Manual control groups icons



Manual Machine control button



ROTOPLAT Manual controls page



TOP Manual controls page



CONVEYORS Manual controls page

### 3) Manual MACHINE controls icons



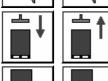


Rotation / 90° Rotation











Reel carriage Up/Down

Rotoplat cutting Forward/Rear

Pressure Platen: Up/Down

> Pallet Lifter Up/Down















Up/Down Clamp contrast

# 4) Manual controls TOP icons (Optional)





Up/Down Top Carriage





Forward/Rear Top Carriage





Open/Close Top lock clamp





Open/Close Top pull clamp



Forward/Rear Cut Top

# 5) Counter icons



N. wrapped pallets



N. Transited pallets, wrapped and unwrapped (Cannot be reset)



N. Transited pallets, wrapped (Can be reset)



Total N. of wraps



Rotation speed (RPM))



Total Machine Work Time



Reset button for Partial Counter

### 6) Miscellaneous Icons







"General Parameters" Key



"Pallet Counters" key



Device Disabled



Device Enabled



Change Password



A fault occurred, press to display Alarm message

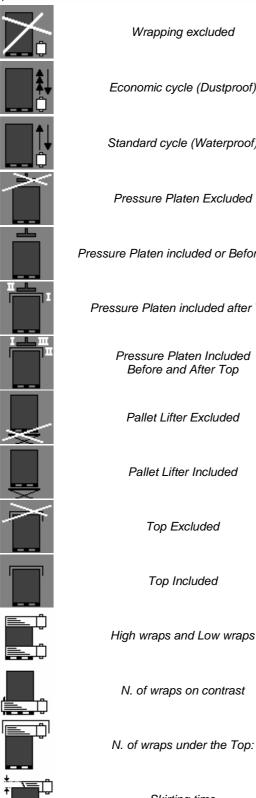


New alarm displayed

**ESC** 

Exit Alarm Display page





Wrapping excluded Economic cycle (Dustproof) Standard cycle (Waterproof)

Pressure Platen included or Before Top

Pressure Platen included after Top

Pressure Platen Included Before and After Top

Skirting time







Skirting timer with pressure platen included



Reel carriage descent time For Top Cycle



Top carriage descent time for top positioning