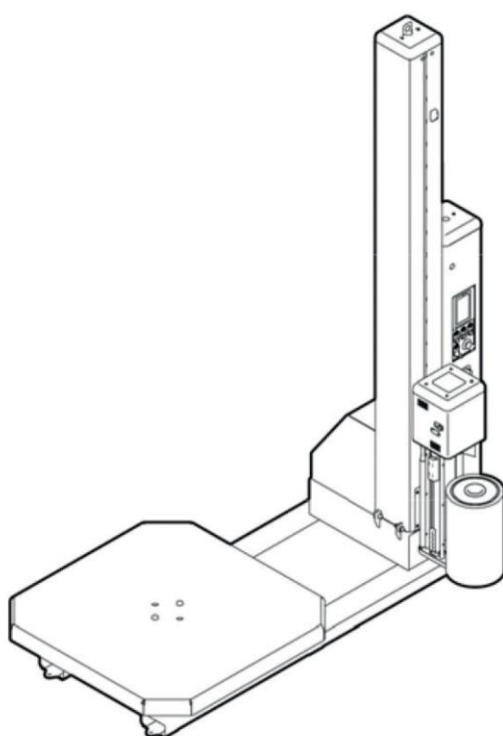




ROTOPLAT HP



N. matricola • Serial number • Serienummer
N. d'identification • Matricula n.

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Cod.: 3709306558

Rev. 00 Ed.: 06/21

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Translation of original instructions

USE AND MAINTENANCE MANUAL

ENG

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1. GENERAL INFORMATION

1.1. PURPOSE OF THE MANUAL

- The manual is an integral part of the machine and is aimed at providing the operator with the “Instructions for use” in order to prevent and minimise the risks that arise from human-machine interaction.

The information has been written by the Manufacturer in Italian (the original language) in full compliance with the professional writing principles and the regulations in force.

The communication principles were chosen according to the target readers in order to ease the reading and understanding of the information.

The information may be translated into other languages to satisfy the legal and/or market requirements.

The manuals must be translated directly from the original instructions, without modifications.

Each translation (including that provided by the purchasing agent or by the company that introduces the machine into the country in question) must specify the message “Translation of the original instructions”.

- Refer to the table of contents in order to easily identify the subjects of interest.
- Some information may not correspond completely to the actual configuration of the machine delivered.
- Any additional information does not affect the readability of the text and the safety level.
- The Manufacturer reserves the right to modify the contents of the manual without prior notice provided that the safety level is not altered.
- Every notification by the recipients can be an important contribution to the improvement of after-sales services that the manufacturer intends to offer to its customers.
- The symbols described below are used to highlight important information or specifications.



Danger - warning

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



Caution - warning

The symbol indicates that appropriate action must be taken to avoid causing damage or malfunction to the machine.



Important

The symbol indicates particularly important technical and operating information that should not be neglected.

1.2. MANUFACTURER AND MACHINE IDENTIFICATION

The illustrated identification plate is applied directly to the machine. It contains references and indispensable operating safety indications.

1. Machine model.
2. Machine serial number.
3. Year of manufacture.
4. Power supply voltage.
5. Power supply frequency.
6. Power supply phases.
7. Absorbed electric current.
8. Installed power.
9. Air consumption.
10. Air supply max. pressure.
11. Machine weight.
12. Manufacturer's identification.
13. Name.

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CE

DENOMINAZIONE DENOMINATION	13	
MODELLO MODEL		1
MATRICOLA SERIAL NUMBER	2	
DATA DATE OF MAN.		3
ALIMENTAZIONE SUPPLY VOL.	4	V
FREQUENZA FREQUENCY		5
N.FASI PHASE	6	
ASSORBIMENTO ABSORPTION		7
POTENZA TOT. TOTAL POWER	8	A
CONSUMO ARIA AIR CONSUMPTION		9
PRESSIONE MAX MAX. PRESSURE	10	bar
PESO WEIGHT		11
		kg

1.3. TERMS AND DEFINITIONS

Some recurring terms found within the manual are described in order to complete their meaning.



Maintenance:

The set of operations required to maintain the machine efficient and in good working order. Normally some operations are scheduled by the manufacturer, who defines the necessary skills and methods of intervention. Some unscheduled operations must be performed after consulting the manufacturer.



Operator:

A person chosen and authorised among those who have the requirements, skills and information necessary for installation, use and ordinary maintenance of the machine.



Maintenance technician:

Technician chosen and authorised among those who have the requirements to perform routine and extraordinary maintenance on the machine. Therefore, the technician must have accurate information and competences with particular skills in the field of intervention.



Format changeover:

Set of operations to carry out on the machine before starting to work with characteristics other than the previous ones.



Training:

Training process aimed at transferring to the new operator the knowledge, skills and behaviours required to operate the machine autonomously, properly and safely.



Installer:

Technician chosen and authorised by the manufacturer or by its representative, among those with the requirements to install and test the machine or the relevant system.



Assistant:

Employee assigned to assist the production processes of the machine or system in question.



Production manager:

Qualified technician, with experience and competence in the field of machinery for the reference sector. Depending on the production requirements, the production manager can operate the machine directly, or select the operator to be assigned to the task.

1.3.1. PICTOGRAMS INDICATING DANGER

The following table summarises the safety-related pictograms which indicate **DANGER**.



ATTENTION - GENERIC DANGER

This draws the attention of the personnel concerned to the risk of physical injuries caused by the operation described if it is not carried out in compliance with safety regulations.



ATTENTION - DANGER DUE TO CONTACT WITH LIVE PARTS

This indicates to the personnel concerned that the described operation poses, if not carried out in compliance with safety regulations, a risk of electric shock.



ATTENTION - DANGER DUE TO FLAMMABLE MATERIAL



ATTENTION - DANGER DUE TO MOVING PARTS



ATTENTION- DANGER DUE TO HIGH TEMPERATURES



ATTENTION - DANGER DUE TO SUSPENDED LOADS



ATTENTION - DANGER DUE TO CONTACT WITH OVERHEAD OBSTACLES



ATTENTION - TRIPPING OR FALLING DANGER



ATTENTION - TANGLING DANGER

It signals to the concerned personnel that the device bearing this pictogram features parts where there is the risk getting tangled when accessed.



ATTENTION - HAND CRUSHING DANGER



ATTENTION - SHEARING DANGER



ATTENTION - CUTTING DANGER

It signals to the concerned personnel that the device on which the pictogram is located has sharp parts that may injure their hands.



ATTENTION - DANGER DUE TO CARRIAGE MOVEMENT



ATTENTION - EXPLOSION DANGER

1.3.2. PICTOGRAMS INDICATING PROHIBITION

The following table summarises the safety-related pictograms indicating **PROHIBITION**.



GENERIC PROHIBITION



NO SMOKING

Smoking is not allowed in the area where this sign is located.



NO NAKED FLAMES

This symbol prohibits the use of naked flames near the machine or parts of it to prevent a fire hazard.



NO PEDESTRIANS

Pedestrians are not allowed to pass through the area where this signal is located.



DO NOT EXTINGUISH WITH WATER

Any fire that may occur near the machine or parts of it must NOT be extinguished with jets of water.



DO NOT INSERT YOUR HANDS



DO NOT PUSH



DO NOT SEAT DOWN



DO NOT CLIMB ONTO THE SURFACE



DO NOT REMOVE THE OPERATOR GUARDS

1.3.3. PICTOGRAMS INDICATING OBLIGATION

The following table summarises the safety-related pictograms indicating **OBLIGATION**.



GENERIC OBLIGATION

The presence of the symbol next to the description indicates the obligation to carry out the operation/manoeuvre as described and in compliance with current safety regulations, in order to avoid risks and/or injuries.



OBLIGATION TO REFER TO THE OPERATOR'S MANUAL

Obligation, before carrying out any operation on the machine, to read the Instruction Manual supplied with the machine.



OBLIGATION TO USE LUBRICANTS RECOMMENDED

Obligation, before changing the oil or the lubricants, to read the Instruction Manual supplied with the machine.



OBLIGATION TO WEAR PROTECTIVE GLOVES

The presence of the symbol next to the description requires the use of protective gloves by the operator, since the risk of injury is implicit.



OBLIGATION TO WEAR PROTECTIVE GOGGLES

The presence of the symbol next to the description requires the use of safety goggles by the operator, since the risk of injury is implicit.



OBLIGATION TO WEAR A PROTECTIVE HELMET

The presence of the symbol next to the description requires the use of a protective helmet by the operator since the risk of injury is implicit.



OBLIGATION TO WEAR A PROTECTIVE MASK

The presence of the symbol next to the description requires the use of a respiratory protective mask by the operator, since the risk of injury is implicit.



OBLIGATION TO WEAR SAFETY SHOES

The presence of the symbol next to the description requires the use of protective shoes by the operator, since the risk of injury is implicit.



OBLIGATION TO WEAR PROTECTIVE CLOTHING

The presence of the symbol next to the description requires the use of a protective overall by the operator, since the risk of injury is implicit.



OBLIGATION TO WEAR EARMUFFS FOR PROTECTION AGAINST NOISE

The presence of the symbol next to the description requires the use of earmuffs by the operator as the risk of injury is implicit.

1.4. HOW TO REQUEST ASSISTANCE

Robopac distribution network is at your disposal for any problem regarding technical assistance, spare parts and any new requirement you might need for your business.

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.

Please refer to one of the authorised service centres or directly to the address indicated for any need.

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1.5. ATTACHED DOCUMENTATION

The machine is provided with the documentation listed below, unless otherwise agreed.

- EC DECLARATION OF CONFORMITY.
- Warranty conditions.
- Pneumatic diagram.
- Wiring diagram and list of components.
- Manuals of installed commercial devices (if necessary for machine use).
- Unpacking and installation instructions.
- Quick guide for quick start.
- USB pendrive containing the information listed below.
 - Use and maintenance manual translated into various languages.
 - Spare parts catalogue.
 - Machine programming software.
 - Wiring Diagrams.

1.6. HOW TO READ THE INSTRUCTIONS FOR USE

The manual is divided into chapters, each of which describes a specific category of information.



Important

Every operator who interacts with the machine, in addition to reading all the documentation, must read and learn the information that falls within his/her operational competence.

Refer to the abbreviation that precedes the title of the chapters in the index, to search for topics to consult.

These instructions are the result of an automatic system that assembles text and illustrations, so it is possible that when changing pages, there might be interruptions in the flow of text and tables.



Important

Keep this manual for the entire duration of the machine useful life in a well known and easy to access place, available for reference any time the need should arise.

2. SAFETY INFORMATION

2.1. GENERAL SAFETY WARNINGS



Caution - warning

Carefully read the "Instructions for use" specified in the manual and those applied directly to the machine.

It is important to dedicate a little time to read the "Instructions for use" in order to minimise the risks and avoid unpleasant accidents.

Before performing any operation, the operator must make sure that he/she has understood the "instructions for use".



Danger - warning

Pay attention to the safety warnings, do not misuse the machine and assess the possible residual risks.

Caution is essential.

Safety is also in the hands of those who interface with the machine throughout its life span.



Important

Sometimes, accidents can be caused by a "careless" use of the machine by the operator.

Usually it is too late to remember what should have been done when the accident has already happened.



Caution - warning

Preserve the readability of the information signs and observe the indications given.

The information signs may have different shapes and colours, indicating hazards, obligations, prohibitions and indications.

Tampering with the safety devices and the removal of the same may create risks (even severe) for the operators.

The personnel authorised to carry out any operation with the machine must have acknowledged experiences in the specific field.



Important

The manufacturer is not responsible for any damage to the packaged product occurred during wrapping, stabilisation and following operations.



Important

Non-compliance with the instructions given may cause risks to the safety and health of people, as well as economic damages.

2.2. SAFETY WARNINGS FOR HANDLING AND INSTALLATION



Danger - warning

The personnel authorised to handle the machine (load and unload) must possess the necessary technical and professional knowledge and skills.

Handle (load and unload) the machine according to the instructions affixed directly to the machine, to the package and in the user manual.

During handling use one or more assistants, if required. This may pose unexpected risks.

In order to minimise the risks related to assistants' involvement, you must inform them in advance on the type of work to be carried out and the behaviour to adopt.

Handling must be carried out with the aid of specific means (crane, forklift truck etc.) by qualified personnel capable of observing the safety requirements.

When using the lifting means, insert and/or fasten the devices (hooks, forks etc.) only into the points provided on the package and/or on the machine.

Transport the machine with suitable means of adequate capacity.

The minimum and maximum temperature (during transport and/or storage) must fall within the range allowed in order to prevent damaging the electrical components.

Install the machine only in spaces with no explosion and/or fire risks.

Avoid spaces exposed to atmospheric and corrosive agents.

Assess, prior to installation, if it is necessary to implement a "safety plan" in order to protect the safety of the personnel involved.

Provide proper safety conditions when operating in high areas that are dangerous or hard to access.

Install the machine according to the minimum perimeter spaces indicated by the Manufacturer and the surrounding working activities.

Prepare a machine installation project if the machine is to interact (directly or indirectly) with another machine or with a production line.

The project must take into account all operating conditions, in order to comply with all laws in force on matter of safety in the workplace.

Check that the installation space is properly ventilated in order to avoid unhealthy air concentration for the operators.

Implement the most suitable solutions to minimise noise emission levels and acoustic pollution.

Carry out the electrical connections in accordance with the best practice and in full compliance with the instructions provided by the Manufacturer and the specific regulations in force.



Important

The machine is designed to be connected to a TN-S infeed system and the impedance value of the PE circuit, to which the machine is connected, must be below 400 mΩ.

The electrical connections must be carried out exclusively by operators with acquired and acknowledged skills in the field of intervention.

The installer must test the machine and check, through a general test, that the machine can be commissioned without any risk for the operator.

Dispose of all the packaging components in compliance with the standards in force in the Country of installation.

Non-compliance with the instructions given may cause risks to the safety and health of people, as well as economic damages.

2.3. SAFETY WARNINGS FOR USE AND OPERATION



Danger - warning

The operator must be trained and possess the adequate skills required to carry out the specific tasks and must be fit to use the machine safely.

When using the machine for the first time, the operator must read the manual and identify the control functions and simulate some operations, especially machine start and stop.

The machine has been designed and manufactured to meet all the operating conditions indicated by the Manufacturer.



Caution - warning

Use the machine only with the original safety devices installed by the Manufacturer.

Do not tamper with, disable, remove or bypass the safety devices installed on the machine.



Danger - warning

Do not modify the constructive and functional characteristics of the machine in any way.

Do not use the machine with the safety devices not properly installed and efficient.

Always wear the Personal Protective Equipment indicated in the "Instructions for use", **in particular safety shoes**, and that provided for by the laws in force on matter of safety in the workplace.

Always keep the perimeter areas in suitable conditions and free from obstacles in order to minimise the risks for the operator, especially near the control station.

The machine must be used **by one operator only**, that must be appointed and authorised by the employer.

The involvement of one or more assistants when performing some operations or maintenance (ordinary) interventions may pose unpredictable risks.

In order to minimise the risks related to assistants' involvement, you must inform them in advance on the type of work to be carried out and the behaviour to adopt.

Make sure that no unauthorised persons are within the machine operating area during its production activity and during maintenance.

It is forbidden to climb onto the rotary table with forklift trucks. In addition to being dangerous, it can also damage the machine.



Important

Non-compliance with the instructions given may cause risks to the safety and health of people, as well as economic damages.

2.4. SAFETY WARNINGS RELATED TO MISUSE

2.4.1. REASONABLY FORESEEABLE MISUSE

- The reasonably foreseeable misuse is: "the use of the machine in a way other than that indicated in the manual, that may stem from the easily predictable human behaviour".
The machine must be used only for wrapping and stabilising products with regular shape or with a shape that ensures a stable wrapping.
Packages containing liquids or insubstantial materials must have characteristics suitable to the product and be perfectly closed and sealed to prevent the contents from flowing out.
 Do not palletize or wrap products housed in irregularly shaped packages (boxes, liquid containers, etc.) or packages that do not guarantee their stability.
- The machine should only be used for the uses intended by the Manufacturer.
- Do not allow the machine to be used by operators that are not properly trained, informed and authorised.
- Packages containing liquid or insubstantial products must ensure that they do not leak out.
- Do not wrap bulk products of irregular shape and improperly collected to avoid an unsuitable palletization.
- Do not use the machine to wrap and stabilise living beings (animals and persons).
- Do not use the machine with wrapping material other than that provided by the Manufacturer.
- Do not use the machine as a lifting device or as a work surface (e.g. workbench).
- Do not stretch or pre-stretch the film excessively and do not wrap the product with too many wrappings in order to prevent damaging the packages and the products contained in them.
- Do not use or let the machine be used for purposes or in ways other than those intended by the Manufacturer.
- Do not use or let the machine be used with defective, deactivated and/or incorrectly installed safety devices.
- Do not continue to use the machine if malfunctions have been detected.
- Stop the machine immediately and restart it only after the normal conditions of use have been restored.
- Never carry out an intervention with the machine in operation, but only after stopping it properly, under safety conditions.
- Never use the machine without wearing the Personal Protective Equipment indicated by the Manufacturer and provided for by the laws in force on workplaces.
- Never use the machine if the scheduled maintenance interventions have not been carried out.
- Do not clean or wash the machine with aggressive products to avoid damaging the components.
- Do not replace the components with non-original spare parts or part with different design and construction features.
- Do not leave the machine unattended at the end of the production activity without shutting it down first in safety conditions.

2.4.2. EMPLOYER OBLIGATIONS

- The operator must be trained to acquire the required skills in the field of packaging machines or equivalent. Upon completing the training, ensure that the operator has understood the entire content of the operating manual, in particular the safety information.
- The operator must have the required skills and must be fit for the activities to be carried out in safety conditions.
- The employer must inform the operator on the reasonably foreseeable misuses and on the persistent residual risks.
- The operator must be capable of reading and understanding the user manual and must easily identify the safety signs.
- Allow the machine to be used only by operators that are properly trained, informed and authorised.



Important

The employer must document the training carried out for the operators.

2.5. SAFETY WARNINGS ON RESIDUAL RISKS



Danger - warning

During design and manufacturing, the Manufacturer has paid particular attention to the residual risks that may affect the safety and health of the operators.

The residual risks are: "all the risks that persists although all safety solutions have been applied and integrated during machine design".

The list specifies the residual risks specific for this type of machine.



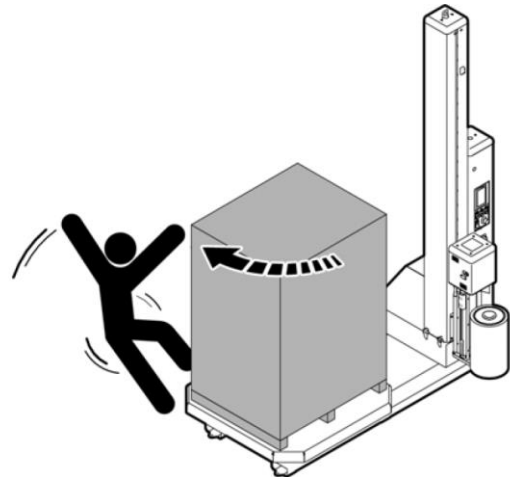
Risk of slipping:

Do not climb on machine parts during its operation.



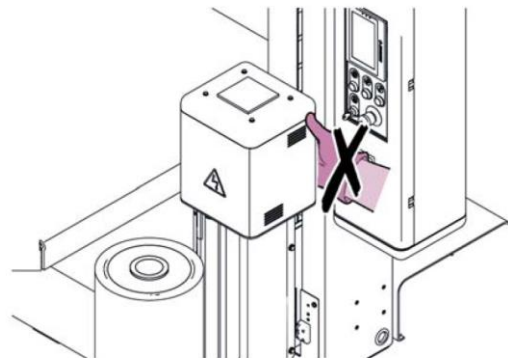
Risk of impact:

Do not approach machine parts during its operation.



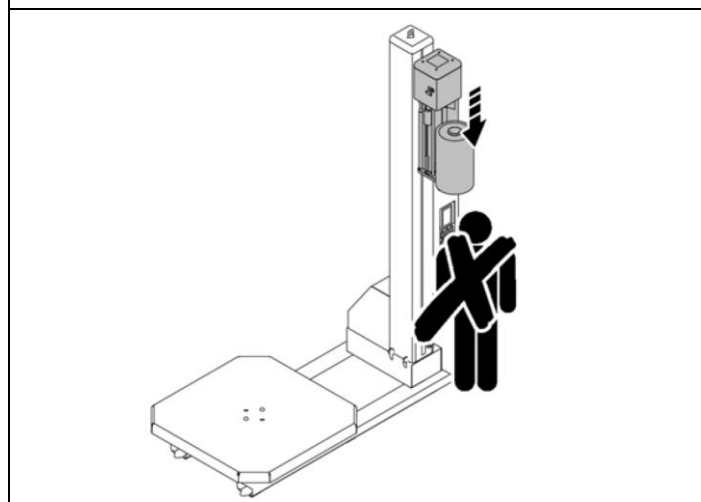
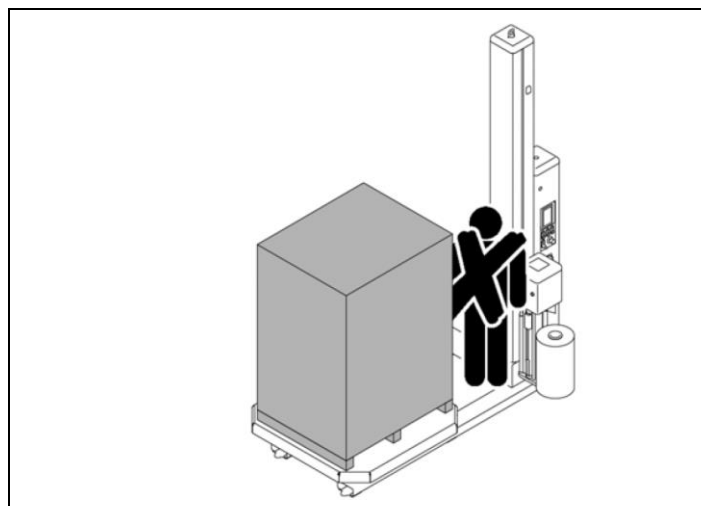
Risk of shearing upper limbs:

Do not insert your hands inside moving parts.

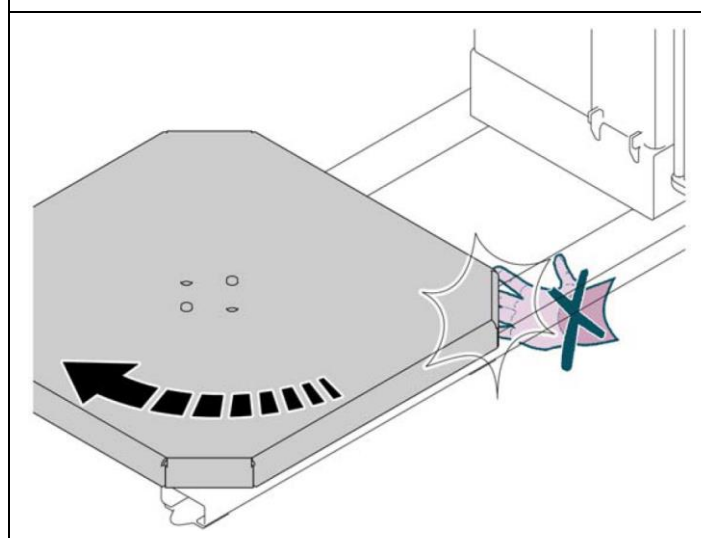




Risk of body crushing:
Do not stand in the machine operating area.



Risk of crushing upper limbs:
Do not insert your hands inside moving parts.




Risk of impact and slipping:

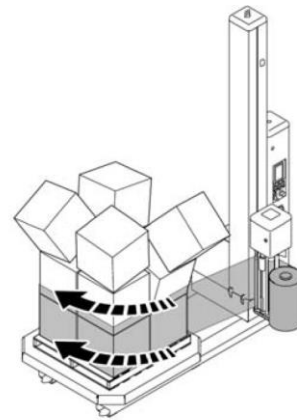
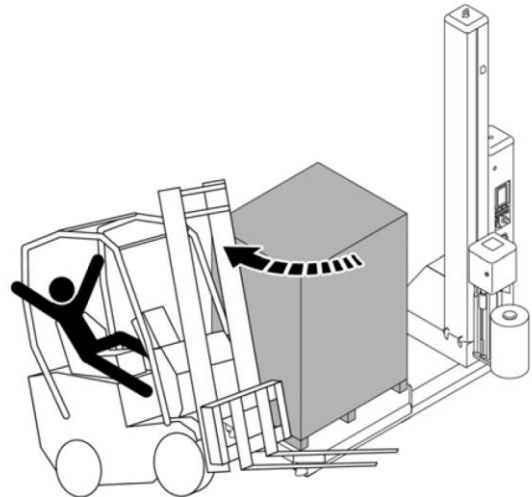
Do not approach or climb on machine parts (e.g.: rotary table) with the lifting device during machine operation.


Risk of falling or ejected objects:

Do not use the machine at a speed which is not suitable for the type of product to be wrapped.



If the packages to be wrapped contain unstable and dangerous elements, it is necessary to implement appropriate safety measures (e.g.: perimeter protections) to avoid risks of injuries to persons.



2.6. SAFETY WARNINGS FOR ADJUSTMENTS AND MAINTENANCE

- Keep the machine in maximum efficiency conditions and perform all the scheduled maintenance operations provided for by the Manufacturer.
Proper maintenance will provide the best performance, a longer life span and constant compliance with safety requirements.
- Enable all machine safety devices before performing any maintenance and adjustment operations.
- Demarcate the surrounding areas and put in place adequate safety measures, as provided for by the standards on workplace safety, in order to prevent and minimise the risks.
- Maintenance interventions in areas that are not easily accessible or dangerous must be carried out after having ensured the necessary conditions are met.
- The personnel authorised to carry out the ordinary maintenance (adjustments, replacements etc.) must possess the necessary technical and professional knowledge and skills.
- Do not carry out interventions other than those indicated in the user manual without the express authorisation of the Manufacturer.
- Do not use products that contain corrosive and flammable substances or that are harmful to people's health.
- Wear Personal Protective Equipment as required by labour laws and as indicated in the "Instructions for Use" and/or on the machine.
- The use of similar but non-original spare parts may result in improper repairs, altered performance and economic damage.
- Use lubricants (oils or grease) recommended by the Manufacturer or with similar chemical-physical features.
- Do not dispose of polluting liquids, worn parts and maintenance waste into the environment.
- Select the components according to the chemical and physical features of the material and dispose of them separately in accordance with the applicable laws.
- All the extraordinary maintenance interventions shall be carried out only by authorised personnel with experience and expertise in the field of intervention.



Important

Non-compliance with the instructions given may cause risks to the safety and health of people, as well as economic damages.

2.7. SAFETY WARNING FOR THE ELECTRICAL EQUIPMENT

The electrical equipment has been designed and manufactured in accordance with the relevant standards.

These standards consider operating conditions based on the surrounding environment.

The list contains the conditions necessary for the correct operation of the electrical equipment.

- Ambient temperature must be within **0°C** and **40°C**.
- The relative humidity should be between **50%** (measured at **40°C**) and **90%** (measured at **20°C**).
- The installation environment must be immune to and must not be a source of electromagnetic interference or radiation (x-rays, lasers, etc.).
- The environment must not have areas with concentrations of gas and dust that are potentially explosive and/or with a fire risk.
- The products and materials used during production and maintenance must not contain contaminants or corrosive agents (acids, chemicals, salts, etc.) and must not be able to penetrate and/or come into contact with electrical components.
- During transport and storage, the ambient temperature must be between **-25°C** and **55°C**.
- The electrical equipment may still be exposed to a temperature of up to **70°C** provided that the exposure time does not exceed **24** hours.
- The electrical equipment operates correctly up to **1000 m** above sea level.



Important

If it is not possible to comply with one or more of the conditions listed, which are essential for the correct operation of the electrical equipment, it is necessary to agree at the contractual stage which additional solutions to adopt in order to create the most suitable conditions (e.g. specific electrical components, air conditioning equipment, etc.).

2.8. INFORMATION AND SAFETY SIGNS

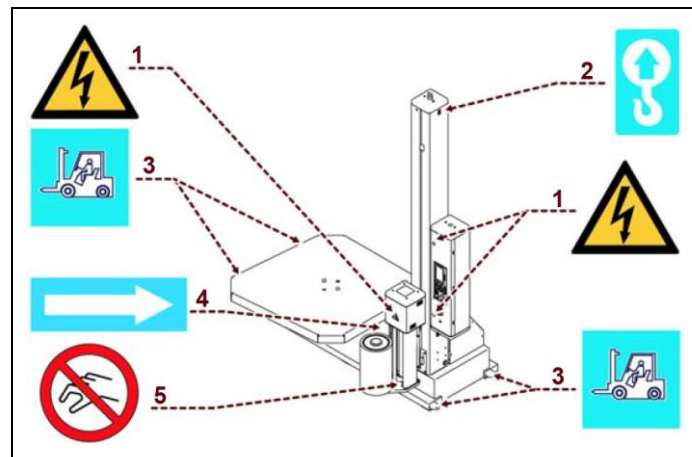
The figure indicates the position of the safety and information signs affixed to the machine. For each sign the relative description is specified.

1. **Electrical hazard sign**
Do not access the area to avoid risks of electric shock or electrocution.
2. **Information sign**
It indicates the lifting points with hook device.
3. **Information sign**
It indicates the lifting points with fork device.
4. **Information sign**
It indicates the rotary table rotation direction.
5. **Prohibition sign**
Do not act on the component with your hands.



Important

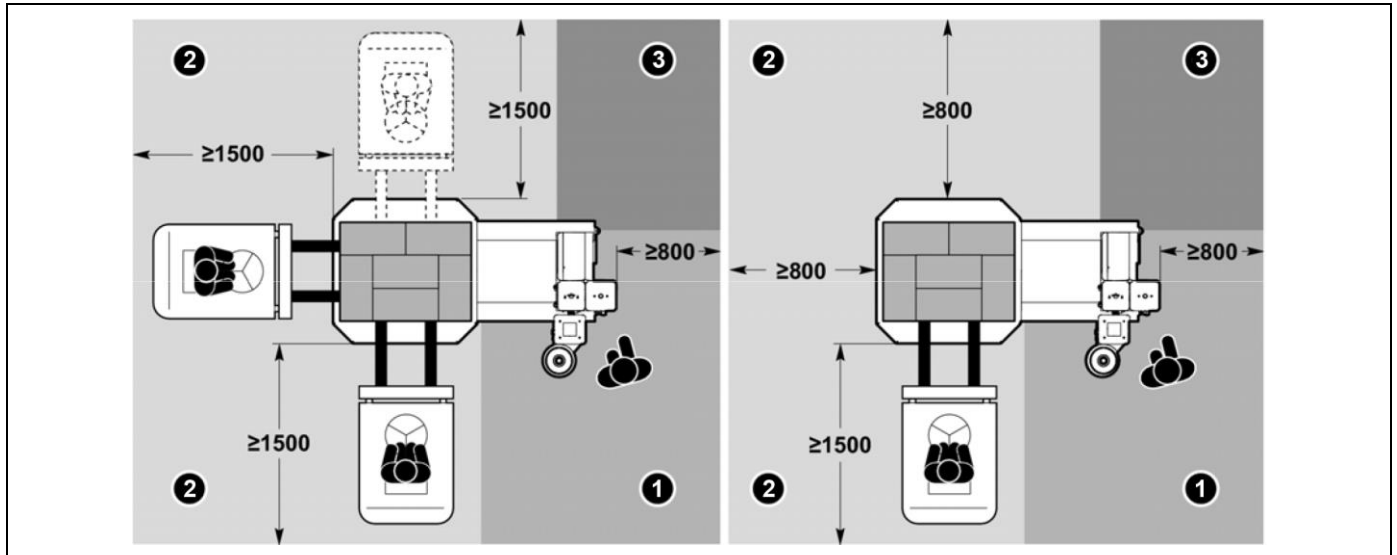
Make sure that the nameplates are clearly legible.
If not, replace and reposition them at the original position.



2.9. PERIMETER AREAS

The illustration shows the perimeter working areas of the machine.

1. Operator standing area.
2. Pallet loading/unloading area.
3. Perimeter area.



3. TECHNICAL INFORMATION

3.1. MACHINE GENERAL DESCRIPTION

- The machine is a semi-automatic machine for palletised load wrapping and stabilising with stretch film.
- The machine must be used only for wrapping and stabilising products contained in packages (in boxes, liquid containers, etc.) with regular shape or with a shape that ensures a stable palletisation.
- Packages containing liquids or insubstantial materials must have characteristics suitable to the product and be perfectly closed and sealed to prevent the contents from flowing out.
- The machine consists of a rotary table, which makes the pallet turn, and a spool carriage which unwinds and stretches the film.
- The machine is equipped with a series of safety devices designed to avoid any injuries to the operator or other persons using the machine. It comes in different models to satisfy different market needs.
- Stretch film spools commonly available on the market are used for load wrapping.
- This machine is normally installed in workshops or industrial environments protected from the atmospheric agents.



Danger - warning

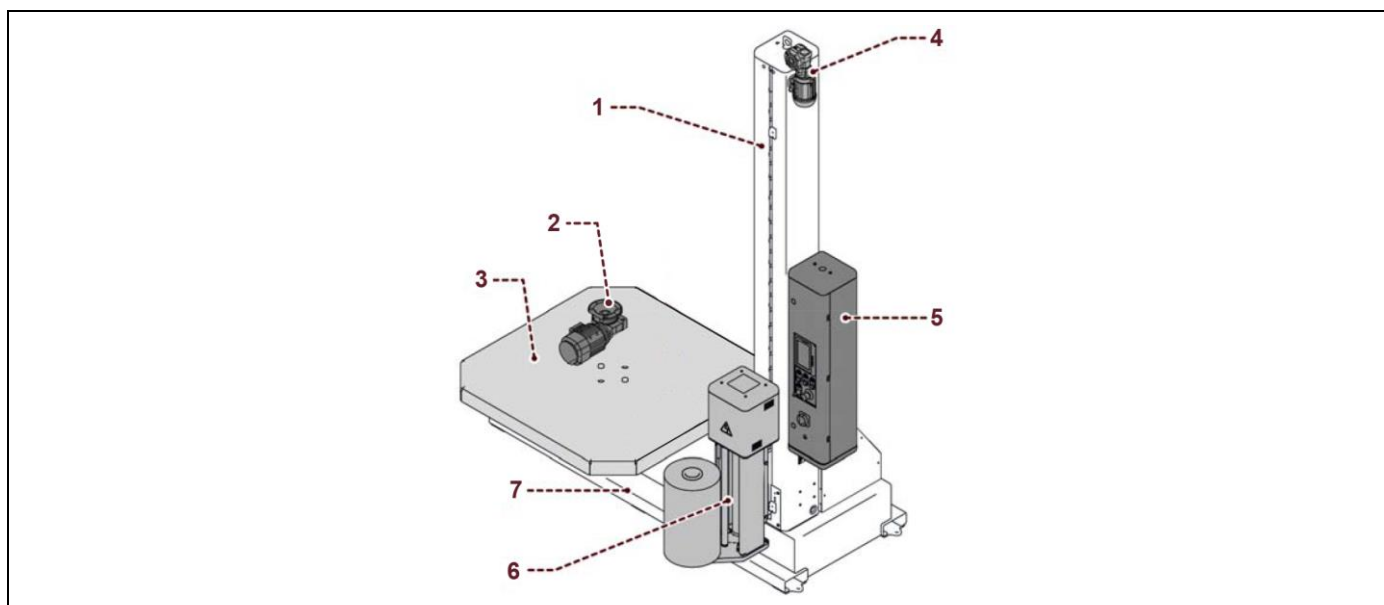
Using this machine in explosive environments or when exposed to atmospheric agents is strictly forbidden.

- The pallet loading and unloading are performed by the user, who can also insert and cut the film.
- Only one operator is required for its use.

The illustration shows, for information purposes only, the machine models, and the legend lists the parts.

Legend:

1. Slide shaft
2. Table motor
3. Rotary table
4. Carriage motor
5. Control panel
6. Film carriage
7. Base



3.1.1. MACHINE MODELS DESCRIPTION

Table: Film carriage features

Film carriage type	General features
PVS	Film carriage of "PVS" type with dual-motor pre-stretching rollers and electronically controlled film tensioning. Pre-stretch can be adjusted from the control panel (150%÷400%).

3.2. DESCRIPTION OF THE OPERATION CYCLE

Phase 1

The operator loads the pallet on the rotary table and fastens the film in the relevant locking disc.



Caution - warning

Risk of crushing upper limbs.

Do not insert the film in the gripper by hand.

Phase 2

Once the cycle has started, the rotary table starts turning, while the film carriage unwinds the film, according to pre-set parameters.

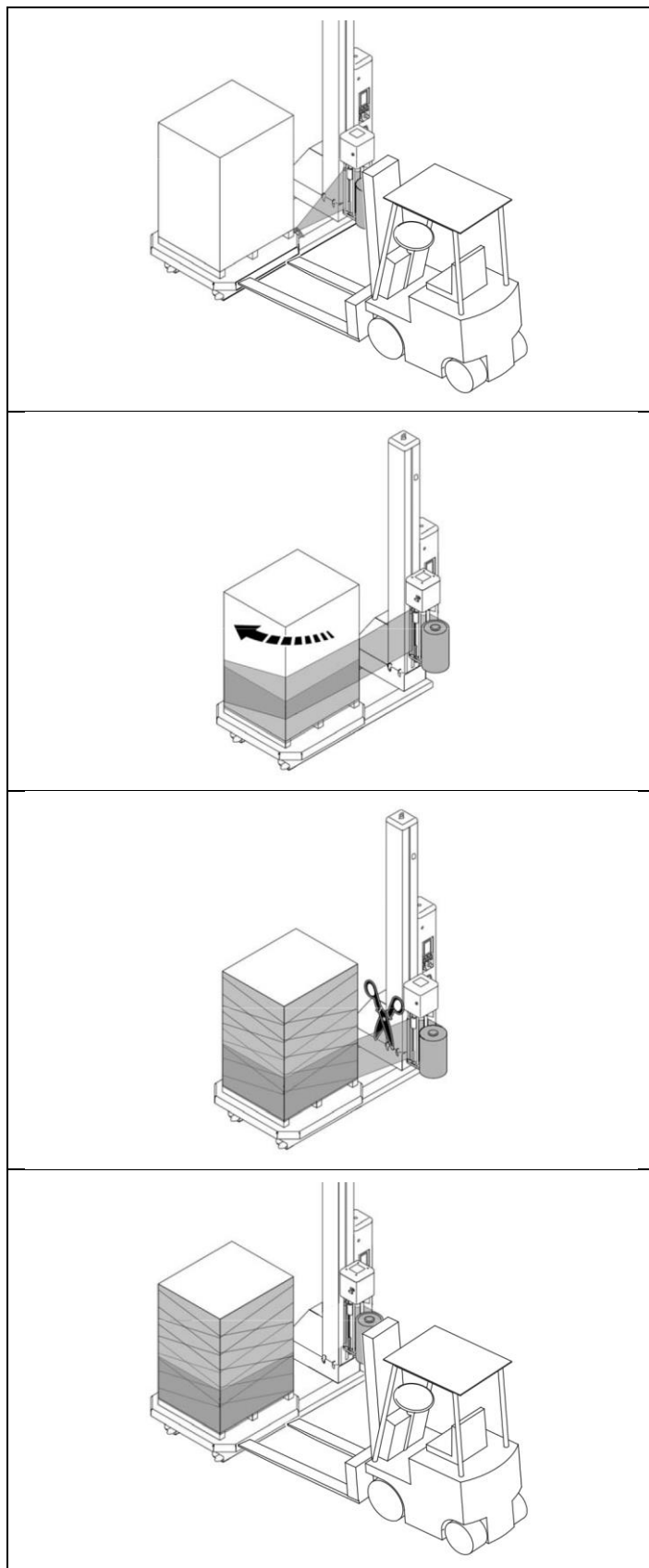
Phase 3

Once the wrapping phase has ended, the machine stops for manual film cutting.

Phase 4

The operator unloads the pallet.

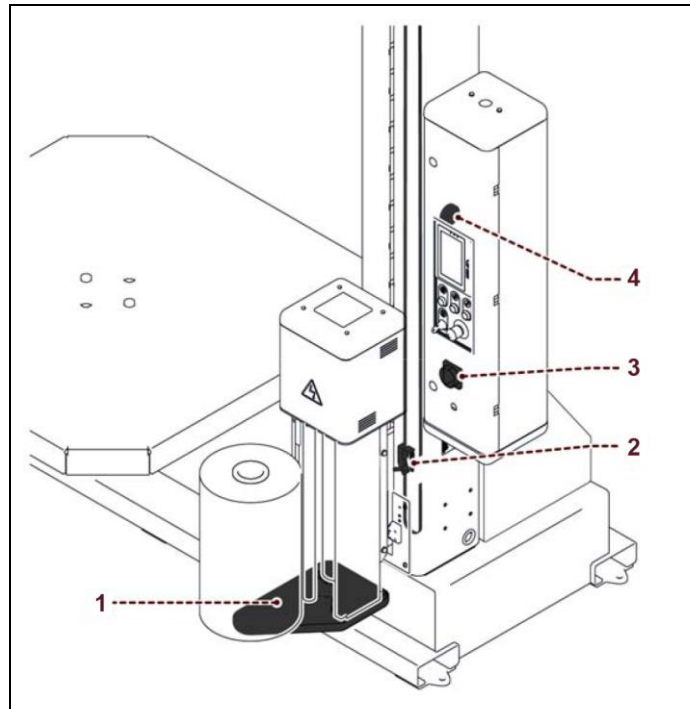
The cycle is complete and the machine is ready to start a new cycle.



3.3. SAFETY DEVICE DESCRIPTION

The figure shows the position of the devices on the machine.

1. **Film carriage base microswitch:**
it stops the downstroke if there are obstacles under the carriage.
2. **Film carriage mechanical locking device:**
it immediately stops the fall of the film carriage in case of accidental breakage of the lifting chain.
3. **Main switch:**
it enables and disables the power supply. It can be locked to prevent unauthorised persons from enabling it during machine adjustment and maintenance phases.
4. **Acoustic signal:** it signals the wrapping cycle start.



5. Emergency button:

when pressed, it immediately stops the machine in emergency conditions.
To reset, rotate the button in the direction indicated by the arrow.

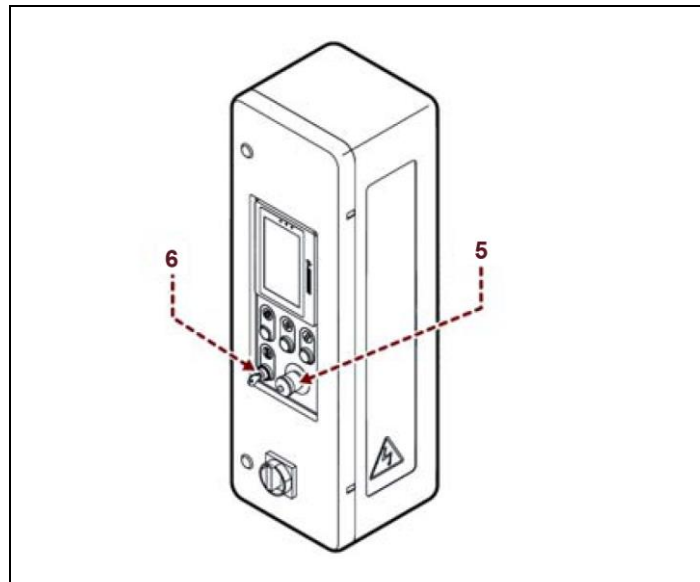


Danger - warning

When the emergency button is pressed, the terminals of the motors may still be powered.

6. Key-operated switch:

it overrides the emergency condition of the film carriage.
If it is kept turned, it allows to activate the carriage upstroke with the user interface manual controls.



3.4. DESCRIPTION OF ELECTRICAL DEVICES

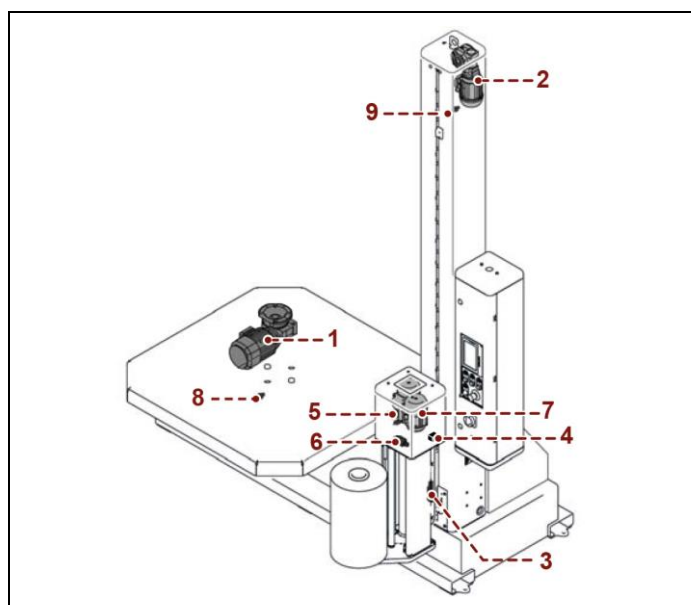
The figure shows the position of the devices on the machine.

1. **Gearmotor:**
it activates the table rotation.
2. **Gearmotor:**
it activates the film carriage movement.
3. **Carriage limit microswitch:**
it is activated when the film carriage reaches the minimum and maximum wrapping height.
4. **Microswitch:**
it stops the downstroke if there are obstacles under the film carriage.
5. **Photocell:**
it detects the height and the presence of the load to be wrapped.
6. **"Load cell" sensor:**
it detects the film tensioning and enables the variation of the pre-stretching roller speed.
7. **Electric motor:**
it powers pre-stretching rollers.
8. **Sensor:**
it enables the synchronised stop of the rotary table.
9. **Carriage lifting sensor:**
it determines the position in which the carriage must be stopped to start the processing.



Important

For further details see the wiring diagram.



3.4.1. REMOTE CONTROL SOFTWARE

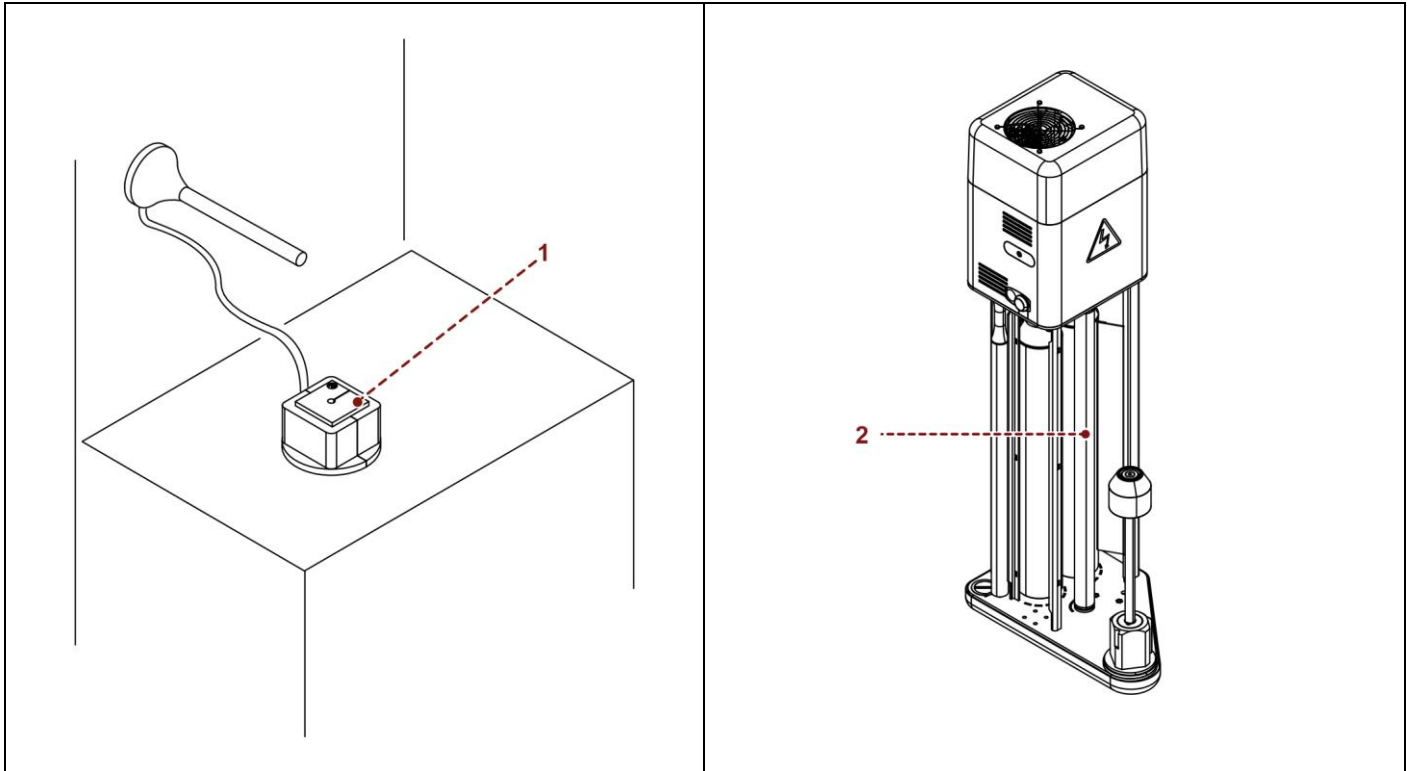
The Machine features a remote control Software (1).

Through a sensor on the roller (2), the system controls film use, end of the spool and general info.



Important

For further details see the wiring diagram.



3.5. DESCRIPTION OF PNEUMATIC DEVICES

The figure shows the position of the devices on the machine.

1. Pressure regulator with filter and pressure gauge

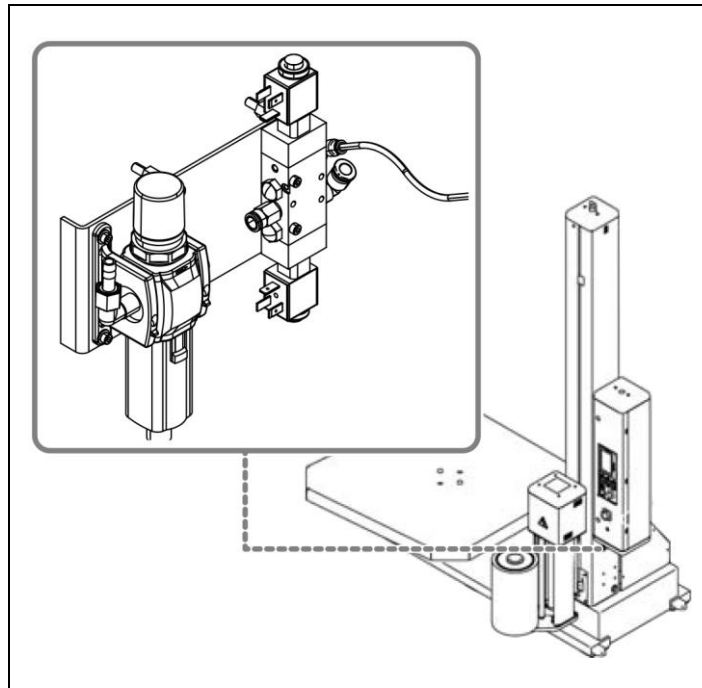
To adjust the general pressure of the pneumatic system.

Turn the knob to change the pressure values indicated on the pressure gauge.



Important

For further details see the pneumatic diagram.

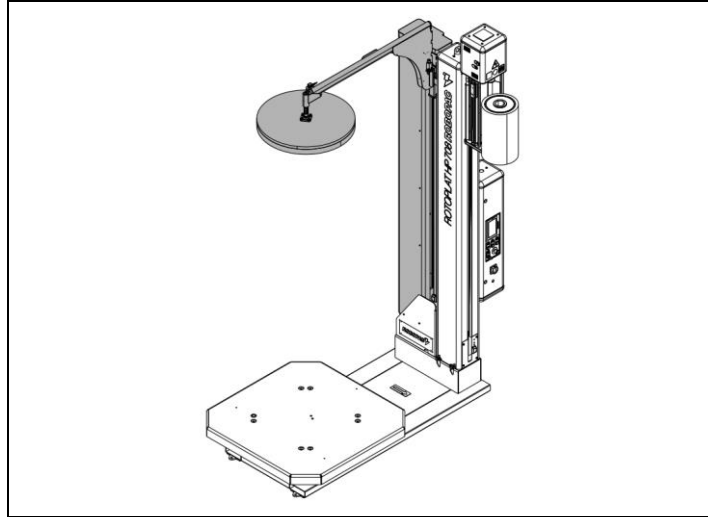


3.6. DESCRIPTION OF ACCESSORIES ON REQUEST

To increase the machine performance and versatility, the Manufacturer makes available the following accessories.

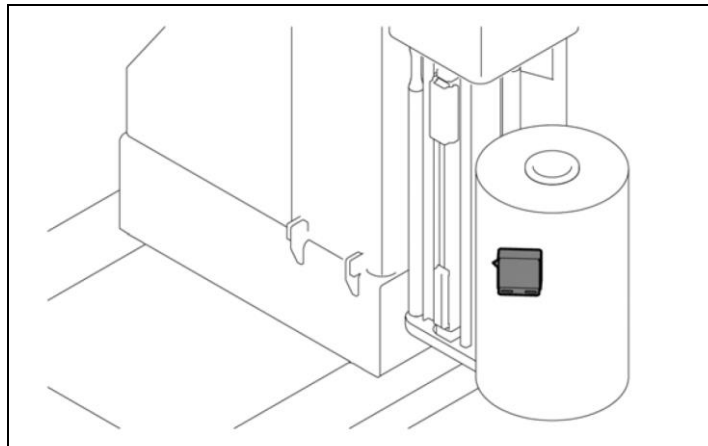
1. Mechanical presser:

electrically controlled device for load stabilisation, it is not necessary to adjust the height according to the size of the product to be wrapped.



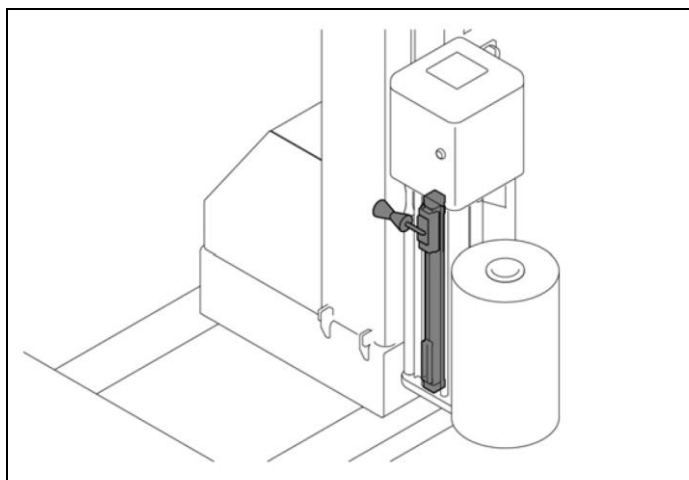
2. Automatic cutting device:

it automatically cuts the film at the end of the cycle.



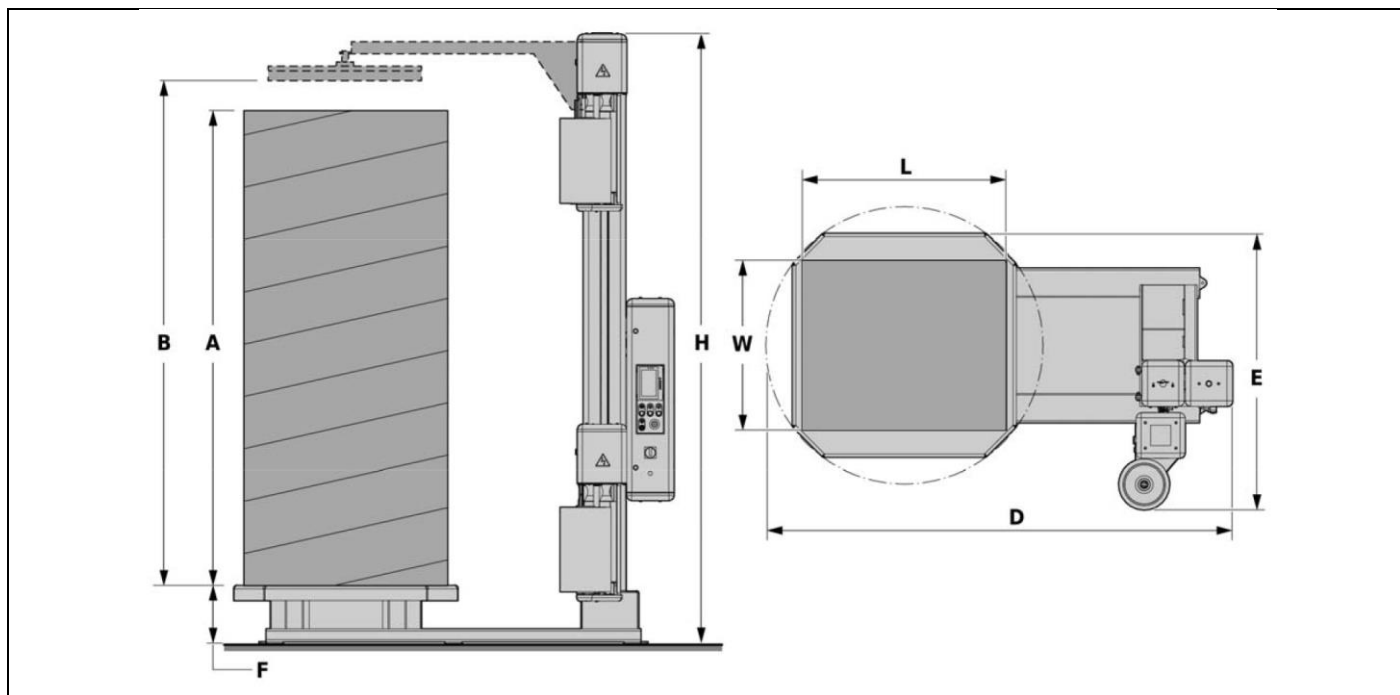
3. Creasing device:

it is used during wrapping to gather the film in one point, providing the package with a reinforcement point.



3.7. TECHNICAL SPECIFICATIONS

The illustration and the table include the machine dimensional specifications and technical data.



3.7.1. MACHINE AND PALLET DIMENSIONS

Description	ROTOPLAT HP
Shaft height	
A	2800 mm
F	340
H	3666
Load overall dimensions	Ø 1632
C	1632
D	2751
E	1786.6
L	1000
W	1200

3.7.2. MACHINE TECHNICAL FEATURES

Description	Unit of measurement	EU
Supply voltage	V	120 1Ph
Electrical current frequency	Hz	60
Installed power	kW	2.1
Table rotation speed	rpm	5 - 12
Carriage upstroke / downstroke speed	m/min	1.5 - 5.5
Maximum capacity	kg	2500
Overall weight	kg	680
Ambient operating temperature	°C	5 ÷ 40

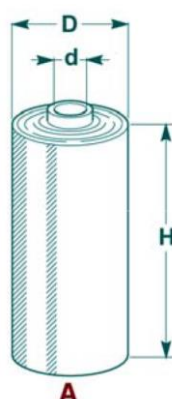
3.7.3. PRESSER TECHNICAL FEATURES

Description		Value
Working pressure		6 (± 1) bar (0.6 $\pm$ 0.1 MPa)
Pneumatic cylinder with rod	H=2200/2400 2800/3100	Air consumption 11 NI/min

3.7.4. PNEUMATIC CREASING HEAD TECHNICAL FEATURES

Description		Value
Working pressure		6 (± 1) bar
Pneumatic cylinder without rod	H=450	Air consumption 2 NI/min

3.7.5. SPOOL FEATURES



Description	Unit of measurement	Value
Film reel dimensions (A)		
Maximum outer diameter (D)	mm	300
Reel height (H)	mm	500
Film thickness	μm	17 $\div$ 35
Internal diameter (d)	mm	76
Max. weight	kg	20

3.8. NOISE LEVEL

The values relating to airborne noise have been detected in compliance with standards:

- ISO 4871
- ISO 11201

Description	A-weighted emission sound pressure measured level at the operator's position (LpA)
Operation in working conditions.	69.3 dB (A)



Caution - warning

Prolonged exposure above **80 dB (A)** can be harmful.



The use of appropriate protection systems is recommended (earmuffs, ear plugs, etc.).

3.9. INSTALLATION ENVIRONMENT CHARACTERISTICS

The place where the machine is to be installed must be carefully selected taking into account the environment conditions in order to have correct and risk-free operating conditions.

Therefore we suggest to take into account the following prerequisites:

- An appropriate ambient temperature (see "Technical data").
- A perimeter area that must be left around the immediate working area, also for safety reasons (see "Perimeter areas").
- A flat surface, steady and without vibrations with adequate load bearing capacity, considering also the weight of palletised loads.
- The area must feature suitable sockets for compressed air and power distribution.



Danger - warning

Using this machine in explosive environments or when exposed to atmospheric agents is strictly forbidden.

4. INFORMATION ON HANDLING AND INSTALLATION

4.1. RECOMMENDATIONS FOR HANDLING AND LOADING

- Before performing any operation, the authorised operator must make sure to have understood the "Instructions for use".
- Carefully read the "Instructions for use" specified in the manual and those applied directly to the machine and/or the package.
- Provide suitable safety conditions in compliance with the regulations on workplace safety to prevent and minimise the risks.
- Pay attention to the safety warnings, do not misuse the machine and assess the possible residual risks.

4.2. PACKING AND UNPACKING

The packing is realised, keeping the overall dimensions limited, also in consideration of the transport chosen. To facilitate transport, shipping can be performed with some components disassembled and appropriately protected and packaged.

Some parts, especially electrical equipment, are protected with anti-moisture nylon covers.

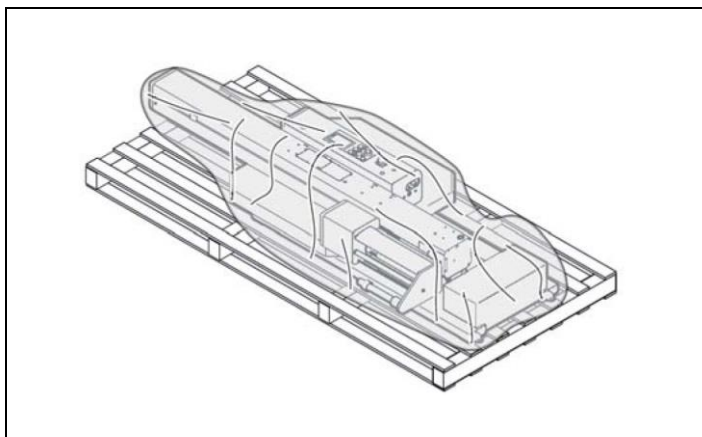
The packages bear all necessary information for loading and unloading.

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

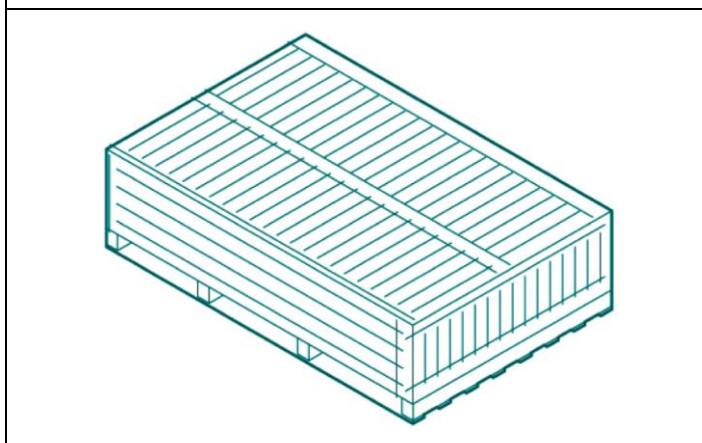
Packaging material should be appropriately disposed of according to the laws in force.

The illustrations show the common types of packaging used.

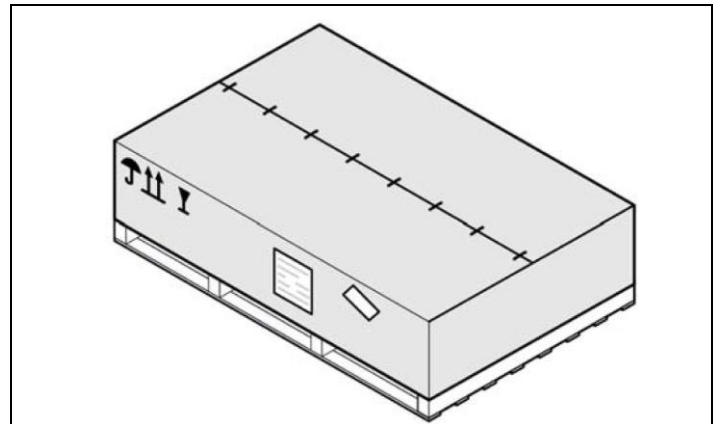
Package on pallet with nylon protection



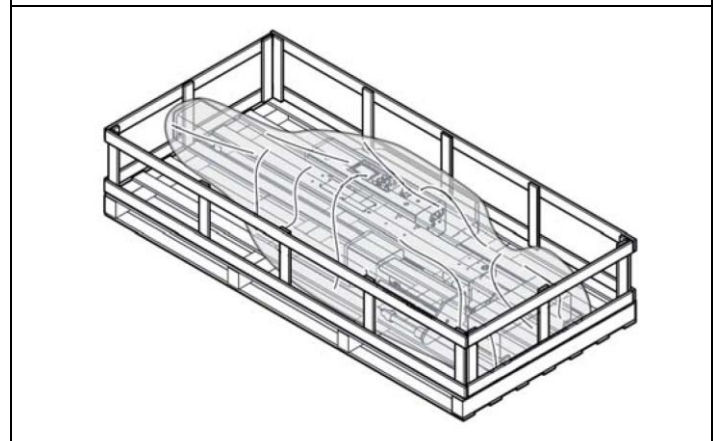
Package in crate



Package with cardboard box



Package in cage



4.3. TRANSPORT AND HANDLING

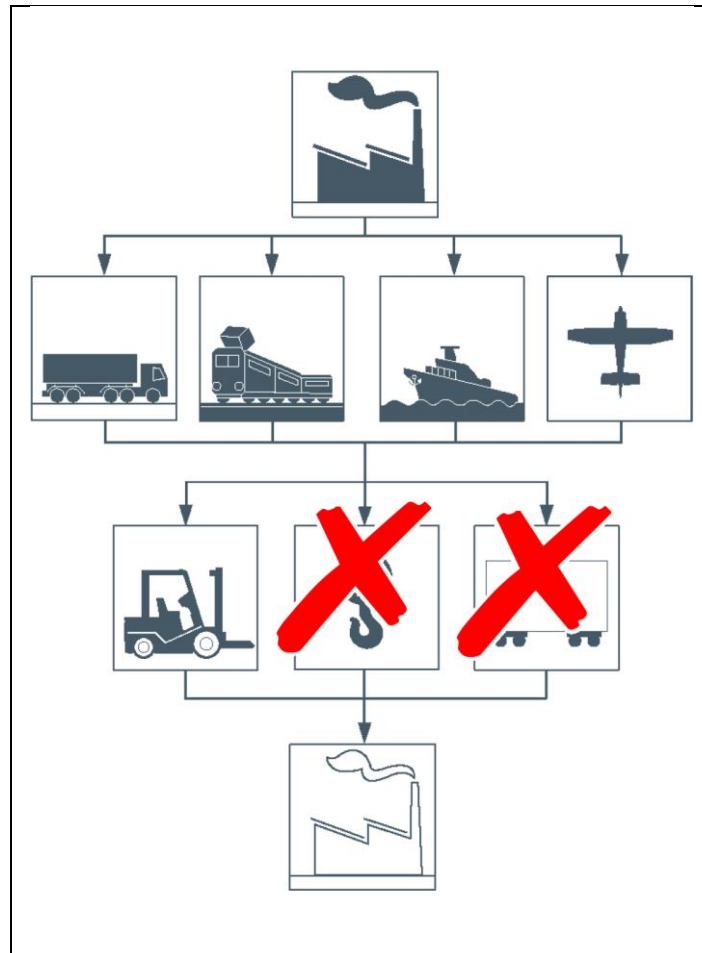
Transport, also according to the destination, can be performed with different vehicles.
The diagram represents the most used solutions.

During transport, in order to avoid sudden movements, adequately anchor the machine to the vehicle.



Important

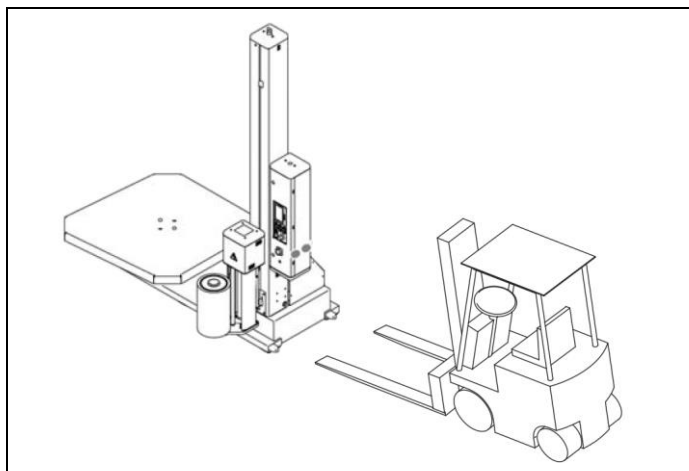
For further transportations, recreate the initial packaging conditions for transport and handling.



4.4. HANDLING AND LIFTING

The machine can be moved with a forklift truck with suitable load capacity by inserting the forks in the points indicated directly on the machine.

Transport and lifting means must be operated by personnel authorised and qualified for the use of such means.



4.5. INSTALLATION OF THE MACHINE

The machine must be installed in an area which fulfils the requirements indicated in paragraph "Installation environment characteristics".

If necessary, identify the exact position by plotting the coordinates for correct positioning.



Danger - warning

Authorised technical service personnel must perform installation and assembly operations.

Proceed as follows:

1. Insert the forklift truck forks in the specially designed spaces provided in the base.
2. Lift the machine from the pallet (if any).



Danger - warning

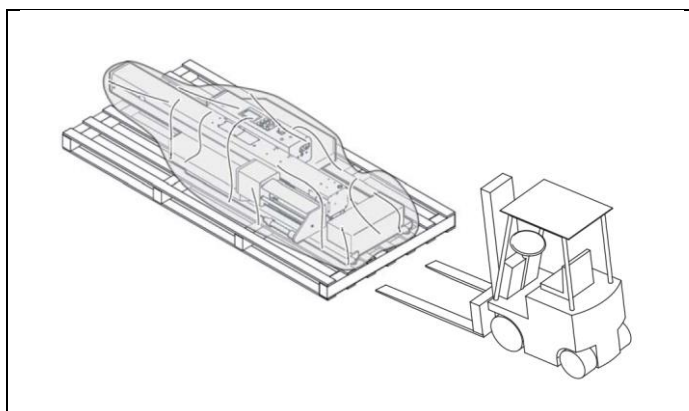
To perform the operation in safety conditions, insert some wooden blocks under the forks of the forklift truck and place everything on the floor.

3. Place the machine in the area assigned for assembly.



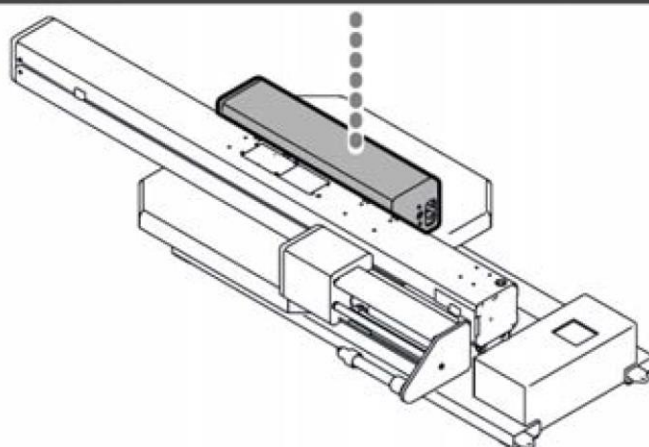
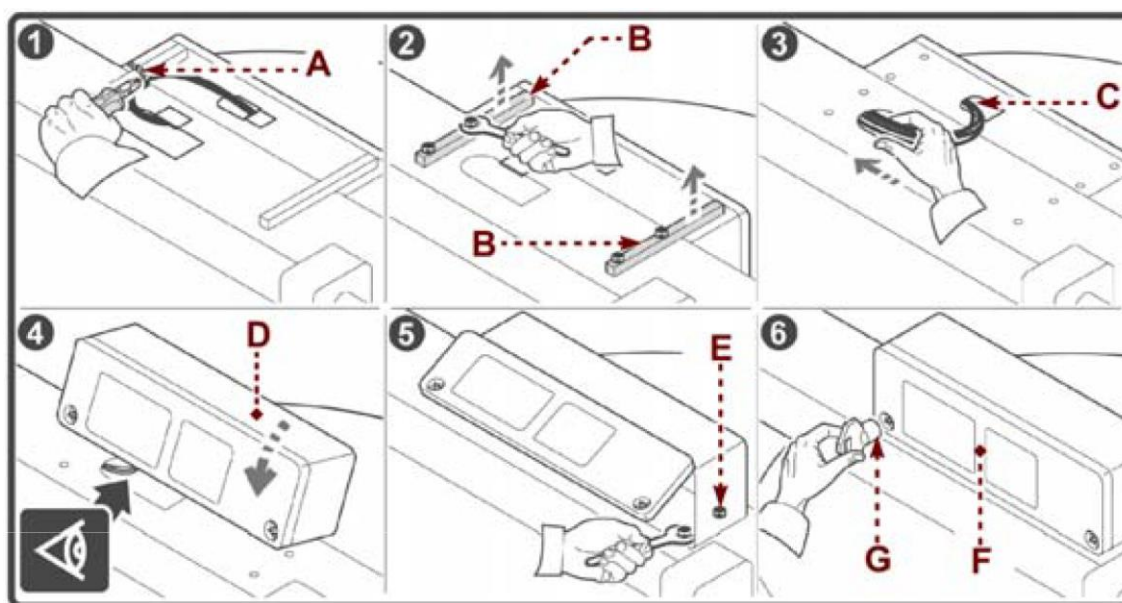
Important

The resting surface must be smooth and well levelled.



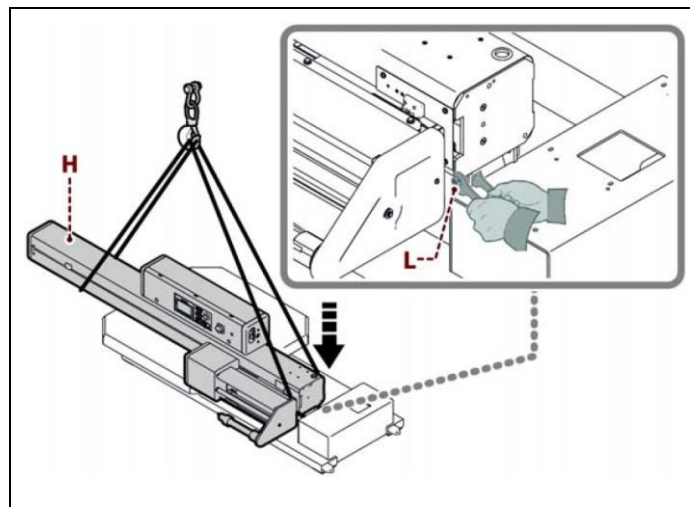
4.5.1. ELECTRIC BOX ASSEMBLY

1. Cut the tie (A) which gathers the electric cables.
2. Remove the mounting brackets (B).
3. Route the electric cables (C) inside the slide shaft.
4. Lift the electric box (D).
5. Fasten the electric box to the slide shaft with the screws (E).
6. Close the cover (F) of the electric box (D) with the suitable key (G).

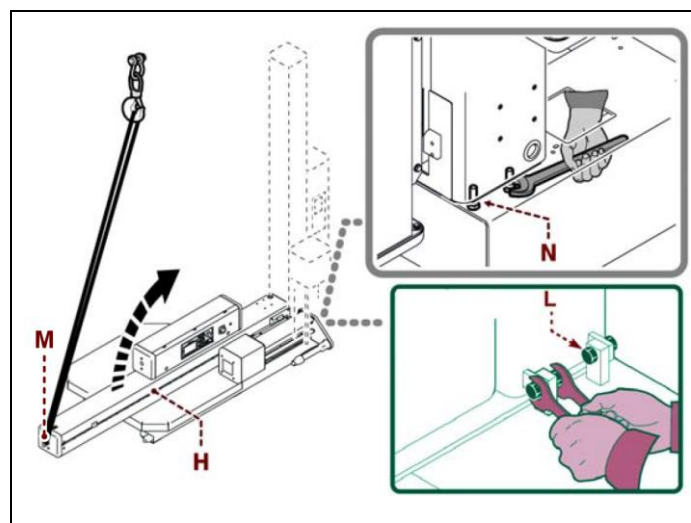


4.5.2. SLIDE SHAFT ASSEMBLY

1. Lift and position the slide shaft (H) above the rotary table, in correspondence with the hinge.
2. Insert the screws (L) into the hinge without tightening them.



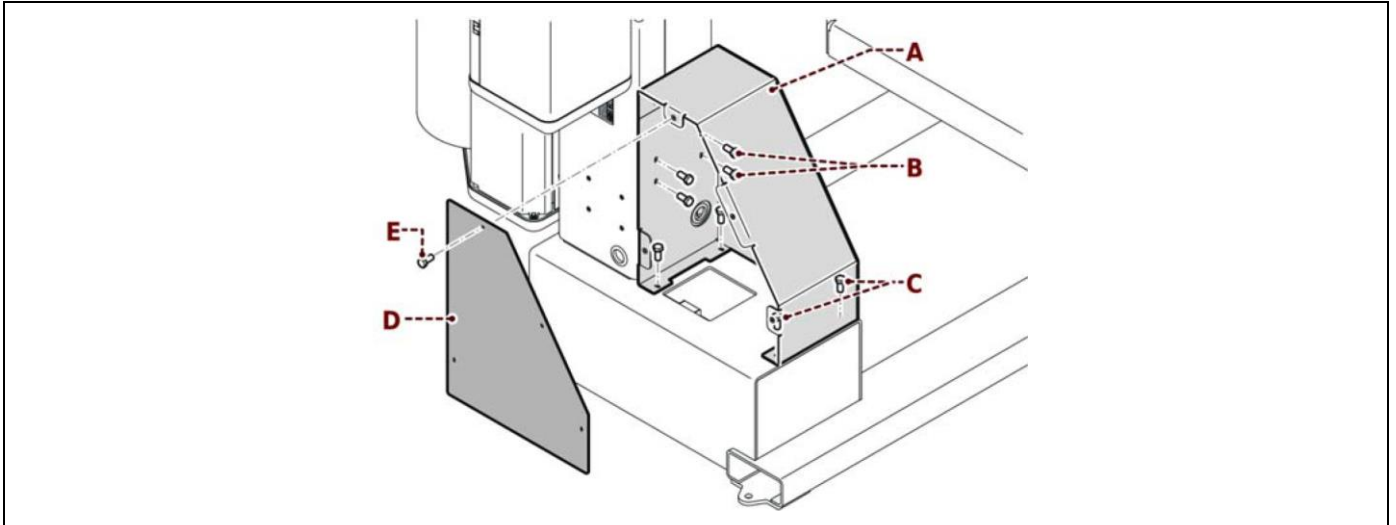
3. Connect the lifting device hook in the bracket (M) of the slide shaft and tension.
4. Lift the slide shaft (H).
5. Fasten the slide shaft to the machine body with the screws (N).
6. Tighten the screws of the hinge (L).



4.5.3. MOTOR CASING ASSEMBLY

Proceed as follows.

1. Fasten casing (A) with screws (B) and (C).
2. Fasten casing (D) with screws (E).



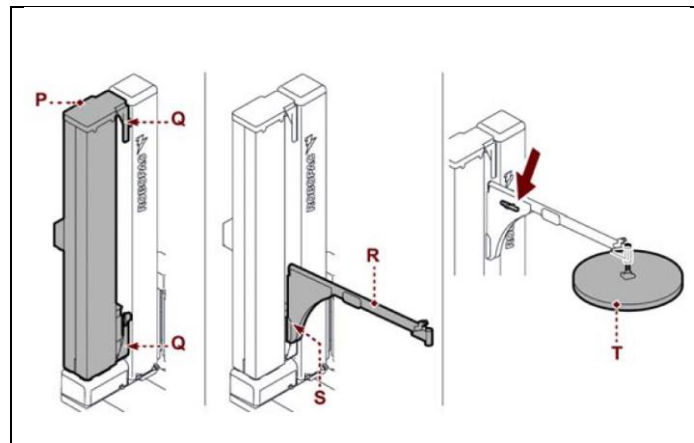
4.5.4. MECHANICAL PRESSER ASSEMBLY (OPTIONAL)

1. Fasten the guide (P) to the slide shaft with the suitable screws (Q).
2. Fit the arm (R) on the guide and fasten it with the screws (S).
3. Fit the presser plate (T) on the arm.



Important

The connections have already been performed by the Manufacturer if the presser is delivered with the machine.



4.6. MACHINE FIXING

Once the units have been assembled and levels, squaring, parallelism and orthogonality have been checked, it is necessary to fix the machine body to the floor.

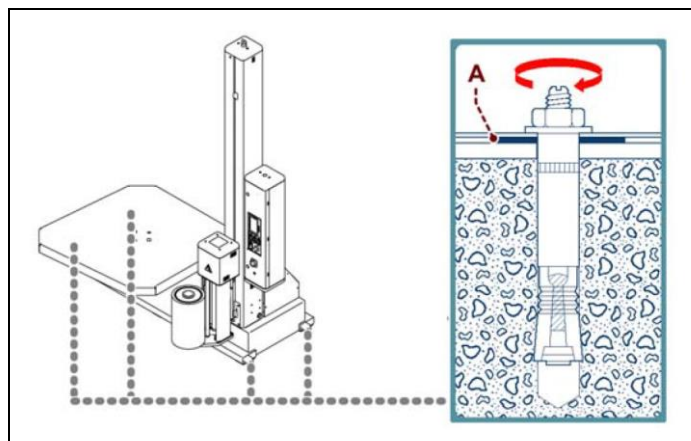
Depending on the floor type, it may be necessary, before laying the machine, to lay foundations in correspondence of the various supporting legs.

Laying the foundations and fixing the machine is essential to ensuring the machine stability and functionality.



Important

Should it be necessary, insert metal plates (A) between the screws and the floor.



4.7. RECOMMENDATIONS FOR CONNECTIONS

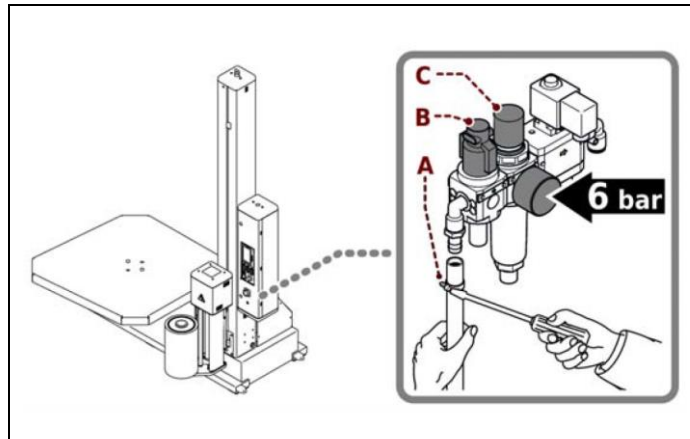


Important

The connections must be made in accordance with the specifications supplied by the Manufacturer in the enclosed diagrams. The person authorised to carry out said operation must have the skills and experience acquired and acknowledged in the specific sector, must perform the connection in accordance with the best practice and take into account all the regulatory and legislative requirements. Once the connection has been completed, before commissioning the machinery, it is necessary to perform an overall check to verify if said requirements have been complied with.

4.8. PNEUMATIC CONNECTION

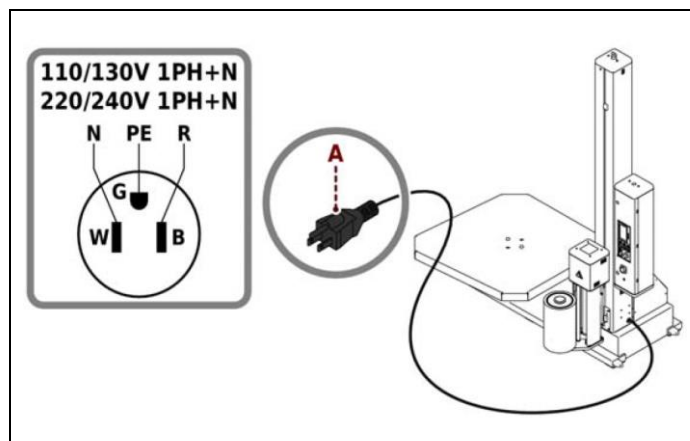
1. Insert a flexible hose in the end of the hose barb fitting and fasten it with a metallic screw clamp (A).
 2. Check that the valve (B) is in the "OPEN" position.
 3. Activate the supply line pressure.
 4. Check that the pressure gauge indicates at least **6 bar** and use the knob (C) to compensate any pressure difference.
- Repeat this operation when the machine is running.



4.9. ELECTRICAL CONNECTION

Proceed as follows for the electrical connection.

1. Check that the line voltage (V) and frequency (Hz) correspond to those of the machine (See identification plate and wiring diagram).
2. Turn main switch to pos. **0 (OFF)**.
3. Connect the power cable (if supplied) to the socket (A), as shown in the figure, in accordance with the mains supply.
4. The earth wire (yellow-green) must be connected to its earth terminal **PE**.
5. Power the machine using the main switch.
6. Press the "Reset" button.
7. When the "Start" button is pressed, the plate should turn anticlockwise.



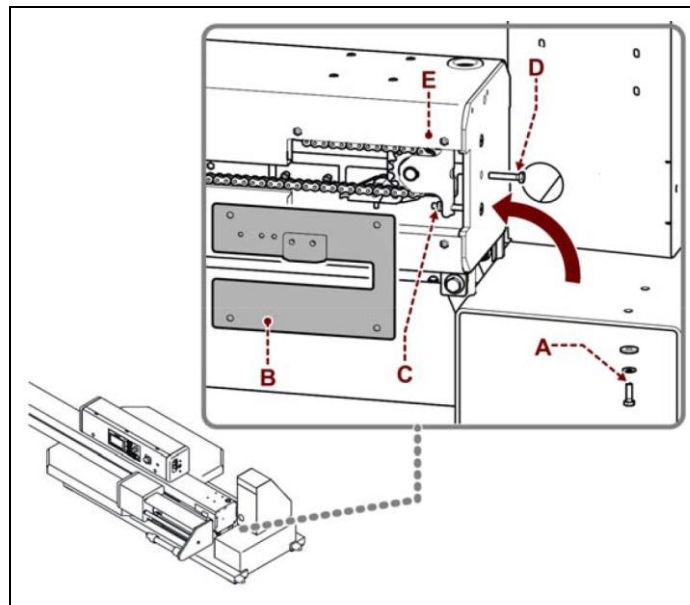
5. INFORMATION ON ADJUSTMENTS

5.1. RECOMMENDATIONS FOR ADJUSTMENTS

- Before performing any operation, the authorised operator must make sure to have understood the "Instructions for use".
- Activate all the safety devices provided, stop the machine and assess whether there is any residual energy before carrying out the operations.
- Provide suitable safety conditions in compliance with the regulations on workplace safety to prevent and minimise the risks.
- Pay attention to the safety warnings, do not misuse the machine and assess the possible residual risks.

5.2. SPOOL CARRIAGE LIFTING CHAIN ADJUSTMENT

1. Lift the film carriage (with the machine operating in "manual mode") until it reaches the "upper" limit switch.
2. Switch the machine off.
3. Loosen the screws (A) and tilt the pole resting it on the plate.
4. Remove the guard (B).
5. Loosen the nuts (C).
6. Tighten the screw (D) "M8x50 UNI 5739" (not supplied) with a torque wrench (not supplied) to the torque of 3 Nm.
7. Screw the nuts (C) again until reaching the chain tensioner (E) level.
8. Loosen the screw (D).
9. Refit the guard (B).
10. Place the pole back in its vertical position and tighten the screws (A).



6. INFORMATION ABOUT THE USE

6.1. RECOMMENDATIONS FOR OPERATION AND USE

- When using the machine for the first time, the operator must read the manual and identify the control functions and simulate some operations, especially machine start and stop.
- Make sure that all safety devices are properly installed and efficient.
- Only carry out the operations foreseen by the Manufacturer and do not tamper with any device to obtain different performance levels.



Important

The frequency of the accidents derived from machine use depends on many factors that cannot always be foreseen and controlled.

Some accidents may be caused by unpredictable environmental factors, others are mainly due to users' behaviours.

On first use, and if required, in addition to being authorised and appropriately informed, the personnel must simulate some manoeuvres to identify the main controls and functions.

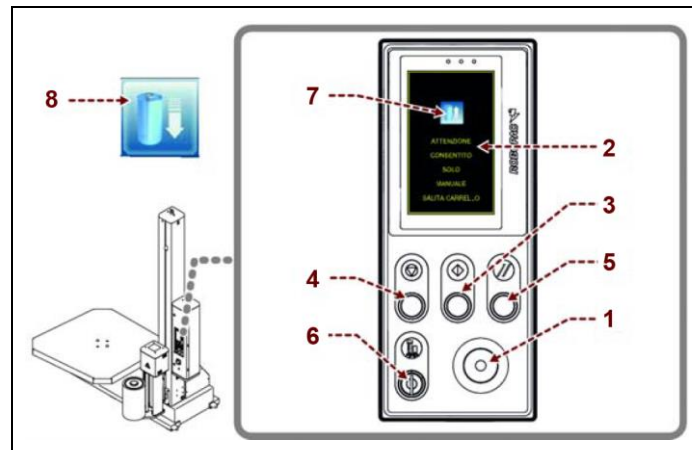
Only carry out the operations foreseen by the Manufacturer and do not tamper with any device to obtain different performance levels.

Make sure the safety devices are properly installed and efficient before use.

Users, besides complying with these requirements, must apply all the safety regulations and carefully read the descriptions of the controls and commissioning.

6.2. DESCRIPTION OF THE CONTROLS

1. **Emergency stop button:**
it is used in case of imminent risk to stop, with a voluntary action, the machine parts which may pose a risk.
For more details, see the paragraph "Description of safety devices".
2. **User interface:**
it is used to set or modify the machine operating parameters.
For more details, see the paragraph "Description of user interface".
3. **"Cycle start" button:**
it is used to start the wrapping automatic cycle.
4. **"Cycle stop" button:**
it is used to stop the wrapping automatic cycle.
Pressed during carriage downstroke, activated from the home page through key (8), it stops its travel.
5. **"Reset" button:**
it is used to reset the machine before restarting it after an emergency stop or after a shut-down due to the disconnection of the power supply.
6. **Emergency override key-operated switch:**
it is used to temporarily bypass the carriage emergency.
When the key is turned to position I (hold to run), the user interface screen will display the page "safety device override" and this allows, by pressing the button (7), to lift only the carriage.



6.3. DESCRIPTION OF USER INTERFACE

The user interface is equipped with an active matrix “touch screen” colour display.
To view the different functions, just “touch with a finger” the display areas.

The figure shows the functional logic diagram of the “navigation” modes.

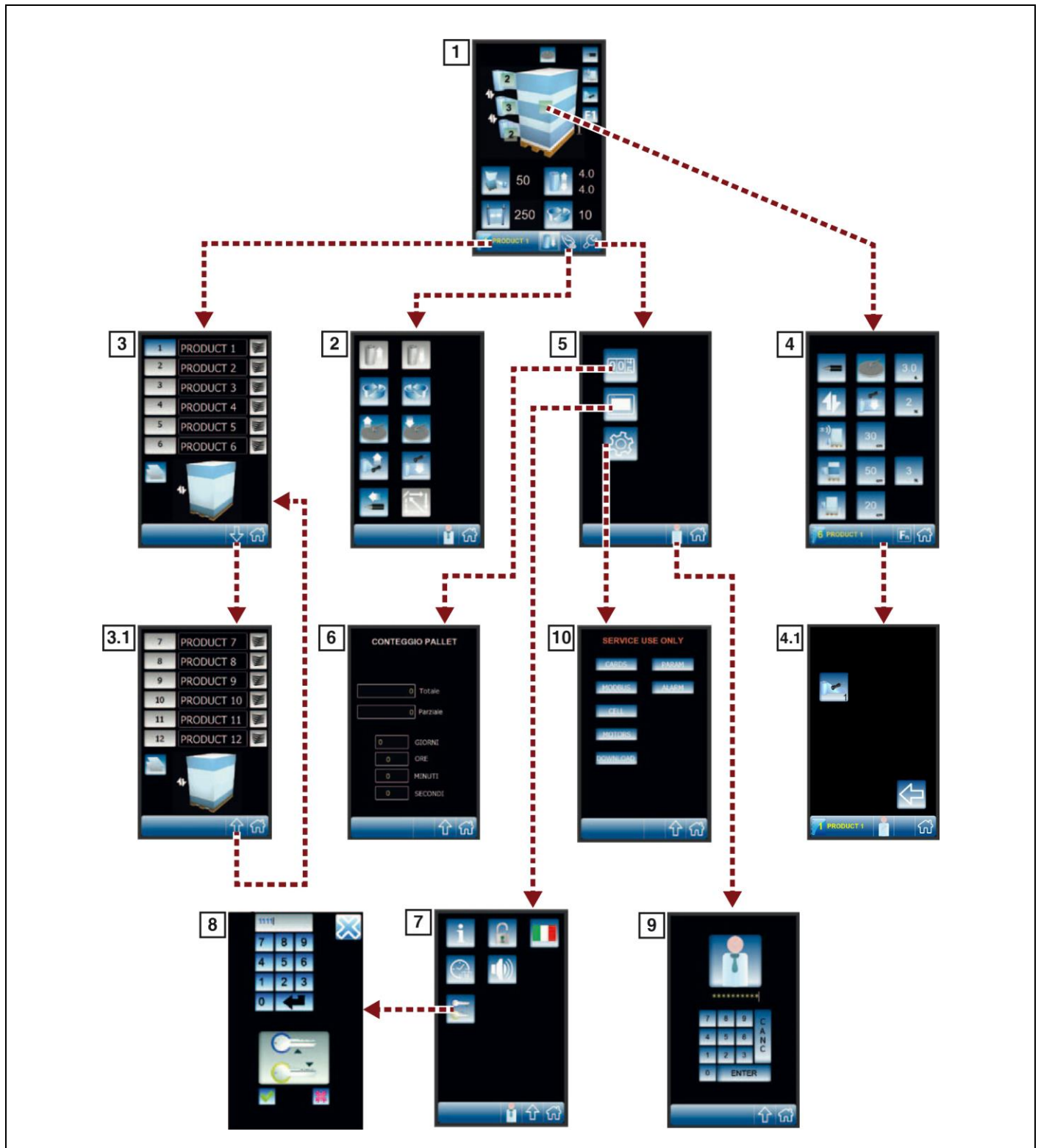
There are two controls for automatic packaging cycle: STANDARD and MULTILEVEL CONTROL (from the “layer home” page).

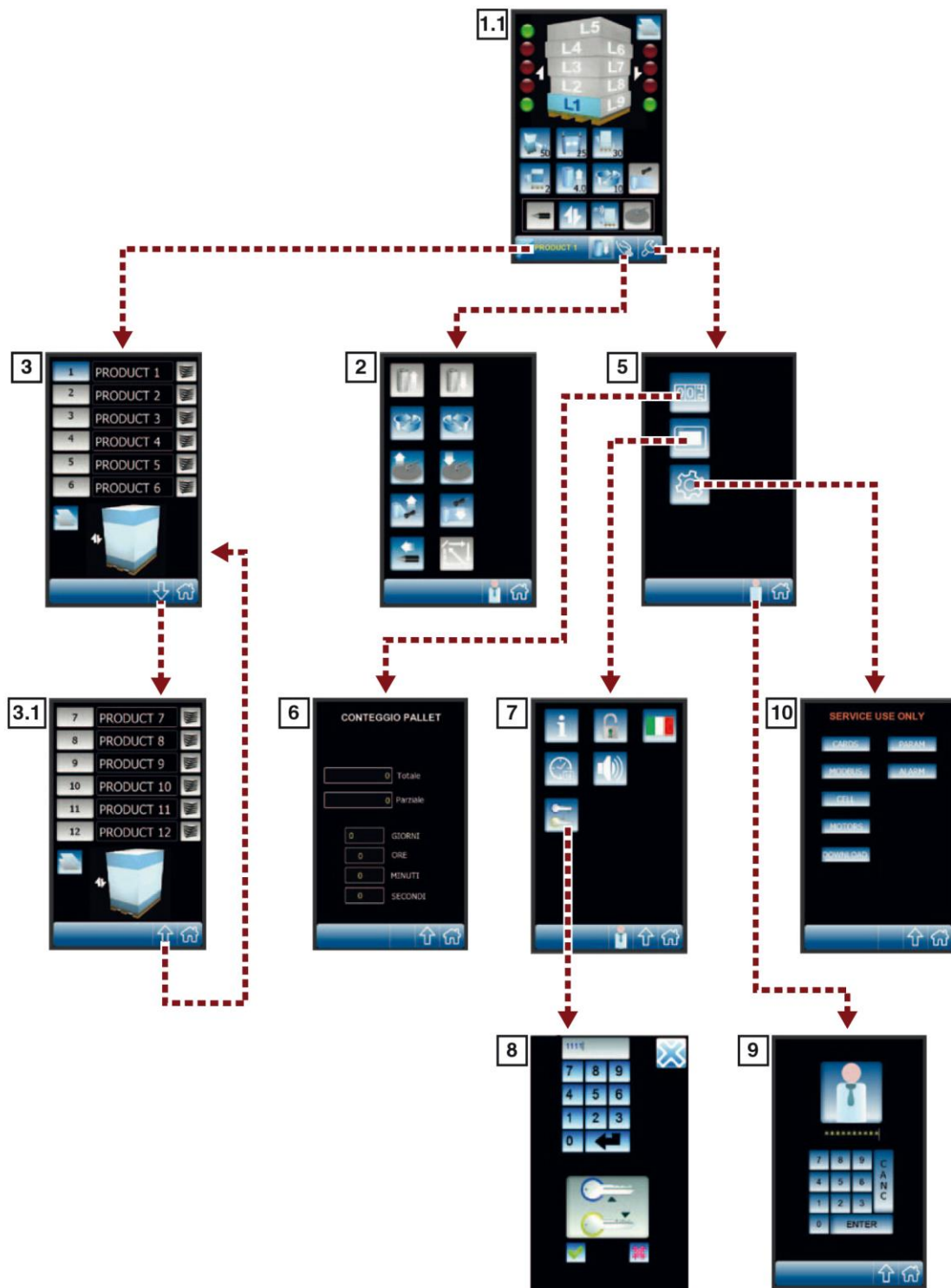
MULTILEVEL CONTROL allows breaking down the product height in **5** different levels with adjustable thickness and, for each one of them, it is possible to adjust film stretch, pre-stretch (only on motorised carriages), reinforcement wrapping turns, machine rotation speed and carriage speed.

Each one of the **5** levels can be set with values depending on the carriage movement direction, namely also with different values for upstroke and downstroke.

No.	Name	Description of the function
1	“Home” page	The page is displayed upon the activation of the reset control. The page displays the wrapping values currently in use and grants access to the other pages.
1.1	“Layer home” page	The page is displayed upon the activation of the control on the right of the various recipes from the “recipes” page. The page displays the wrapping values currently in use and gives access to the other pages
2	“Manual handling” page	The page displays the controls to activate the handling of functions in “manual mode”.
3 – 3.1	“RECIPES” page	The page displays the controls to activate the concerned recipe.
4 – 4.1	“Wrapping cycle” page	The page displays the controls to activate the wrapping cycle
5	“General parameters” page	The page displays the controls to program the machine set-up parameters
6	“Production counters (pallets)” page	The page displays the controls to check the quantity (partial and total) of the pallets made
7	“(H.M.I.) enabling” page	The page displays the controls to customise the user interface operating mode
8	“Change password” page	The page displays the controls to change the password to access protected functions
9	“Enter password (user login)” page	The page displays the controls to enter the password (relating to the selected user) to access the protected functions.
10	“Service” page	The page is reserved to the Manufacturer’s Assistance Service only, to perform diagnostics and basic programming.

For details on the listed pages, see the description in the specific paragraph.

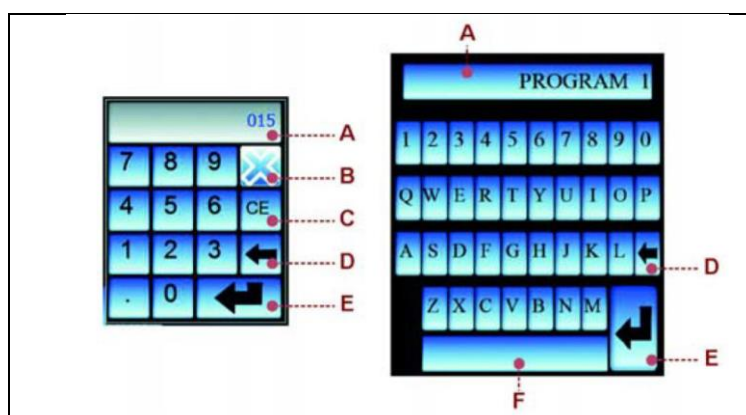




6.3.1. NUMERICAL AND ALPHANUMERICAL KEYBOARD

Some values, displayed in the areas of each single page, can be properly programmed.
The keyboard is displayed each time that an editable or programmable area is pressed.
After entering the characters (numerical or alphabetical), press the button to confirm.
The new value will appear in the selected area.

No.	Name	Description of the function
A	Display area	The area displays the numerical and alphabetical characters entered
B	Button	Activating the control will close the page and the values entered will not be saved.
C	Button	Activating the control will delete the selected character
D	Button	Activating the control will delete one character at a time (starting from the last one on the right).
E	Button	Activating the control will save the value or the text entered
F	Button	Activating the control will perform the functions of the "space bar"



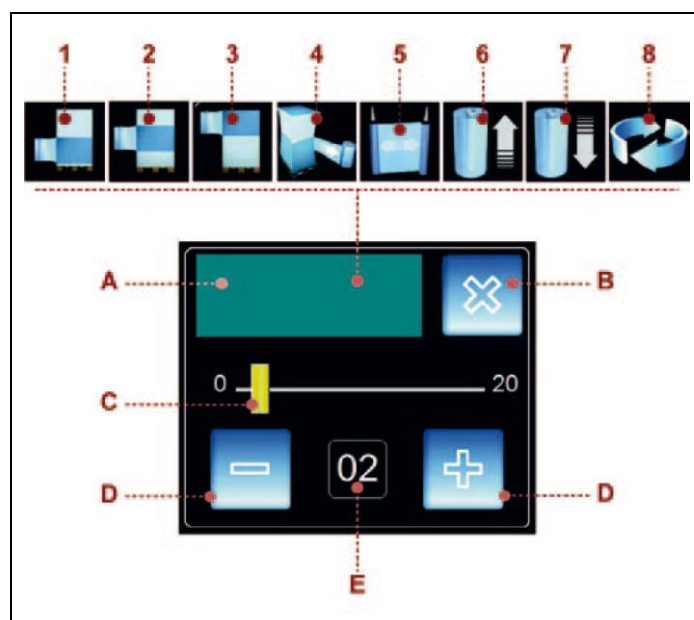
6.3.2. PROGRAMMING WINDOW

The window is displayed each time that an editable or programmable area is pressed.

- A) Area: it displays the icon corresponding to the concerned parameter to be programmed.
The figure shows a typical example of window and the table includes the description of the icons.

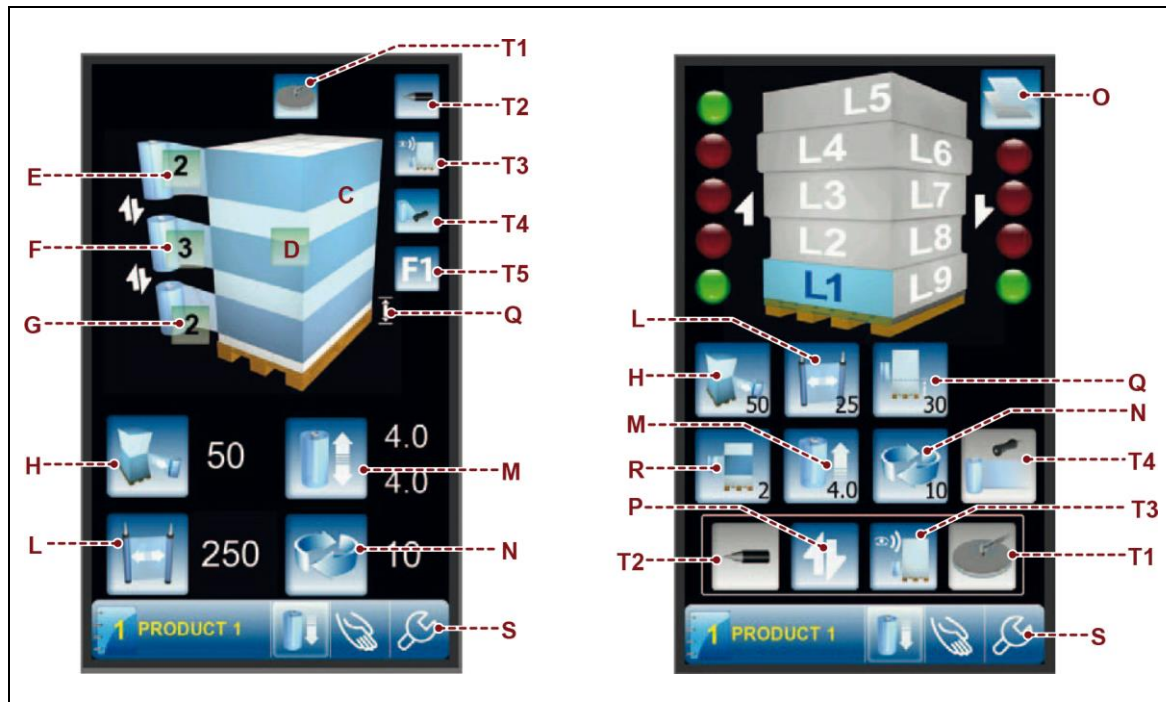
Icon	Description of the function
1	Lower wrapping
2	Reinforcing wrapping
3	Upper wrapping
4	Film stretch
5	Film pre-stretch
6	Carriage upstroke speed
7	Carriage downstroke speed
8	Table rotation speed

- B) Button: it is used to close the programming window.
C) Bar: it is used to (quickly) increase or decrease the value displayed in the area (E).
D) Buttons: they are used to increase or decrease (one unit at a time) the value displayed in the area (E).
E) Area: it displays the programmed parameter value.



6.4. "HOME" PAGE

The page displays the wrapping values currently in use and gives access the other pages.



- C) **Area:**
it displays the preview of the selected pallet wrapping cycle.
- D) **Button:**
it is used to display the "wrapping cycle" page.
- E) **Button:**
it is used to program the number of wrappings in the upper end of the pallet.
The displayed number indicates the programmed value.
- F) **Button:**
it is used to program the number of reinforcing wrappings in the intermediate area of the pallet.
The displayed number indicates the programmed value.
- G) **Button:**
it is used to program the number of wrappings at the base of the pallet.
The displayed number indicates the programmed value.
- H) **Button:**
it is used to program the film stretch value.
The displayed number indicates the programmed value.
- L) **Button:**
it is used to program the film pre-stretch value (only for "PDS" - "PVS" carriages).
The displayed number indicates the programmed value.
- M) **Button:**
it is used to program the speed of the carriage vertical movement.
The displayed number indicates the programmed value.
- N) **Button:**
it is used to program the machine wrapping speed.
The displayed number indicates the programmed value.
- O) **Button:**
it is used to copy the data from one layer to another.
- P) **Wrapping cycle.**
- Q) **Distance from the ground at wrapping start.**
- R) **Reinforcing wrapping programming.**

Some buttons T, described below, may be disabled/hidden depending on the configurations.

- T1) Presser.
- T2) Cut.
- T3) Altimeter.
- T4) Creasing head.
- T5) F1 Special cycle.
- S) Toolbar:

The toolbar is displayed in every page and features only the buttons which can be activated.

The list includes the description of the elements (buttons, icons, etc.) displayed in the area.

	Button: it is used to display the “recipes” page. The displayed number indicates the active recipe.
	Area: it displays the name of the active recipe.
	Button (jog): it is used to move the carriage back to the lower limit switch. When the carriage is at the lower limit switch, the button is not displayed. Press the “cycle stop” button to stop the movement.
	Button: it is used to display the “manual handling” page.
	Button: it is used to display the “general parameters” page.
	Button: it is used to display the upper level page.
	Button: it is used to display the “home” page.

6.5. "MANUAL HANDLING" PAGE

The page displays the controls to activate the spool carriage vertical movement in "manual mode".

	Button (hold to run): it is used to activate the carriage upstroke.
	Button (hold to run): it is used to activate the carriage downstroke.
	Button (hold to run): it is used to activate the table clockwise rotation.
	Button (hold to run): it is used to activate the table counter-clockwise rotation.
	Button (hold to run): it is used to activate the presser arm upstroke.
	Button (hold to run): it is used to activate the presser arm downstroke.
	Button (hold to run): it is used to activate the creasing head upstroke.
	Button (hold to run): it is used to activate the creasing head downstroke.
	Button (hold to run): it is used to activate the punch forward movement.
	Button (hold to run) it is used to activate the carriage return and the table synchronisation.
	Button: it is used to display the "home" page.

6.5.1. MANUAL REINFORCEMENT FUNCTION

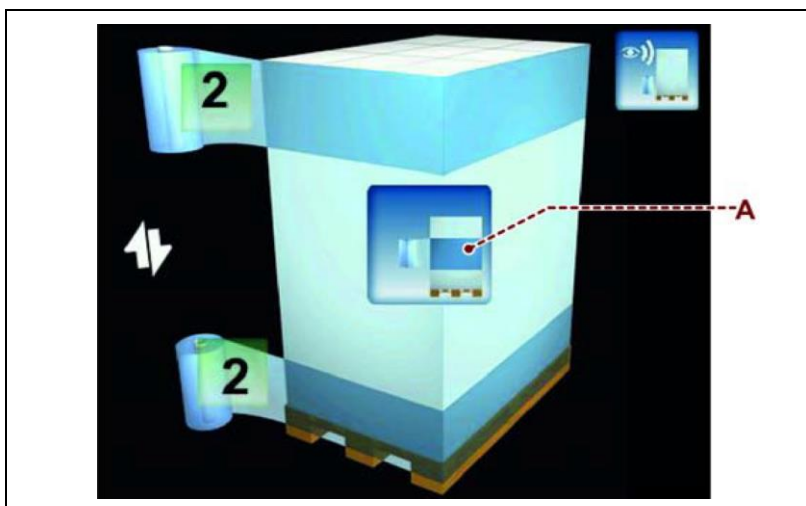


Important

This function cannot be performed with layered recipes.

When performing a standard recipe, during the carriage upstroke or downstroke, after having performed the wrapping at the base of the pallet or at its upper end, it is possible to manually perform intermediate wrapping by pressing the button (A) with two different modes:

- Keep the button (A) pressed to stop the carriage performing reinforcement wrapping until the button is released.
- Repeatedly press the button (A) to make the carriage perform as many reinforcement wrapping turns as the times the button has been pressed (1+9 turns).



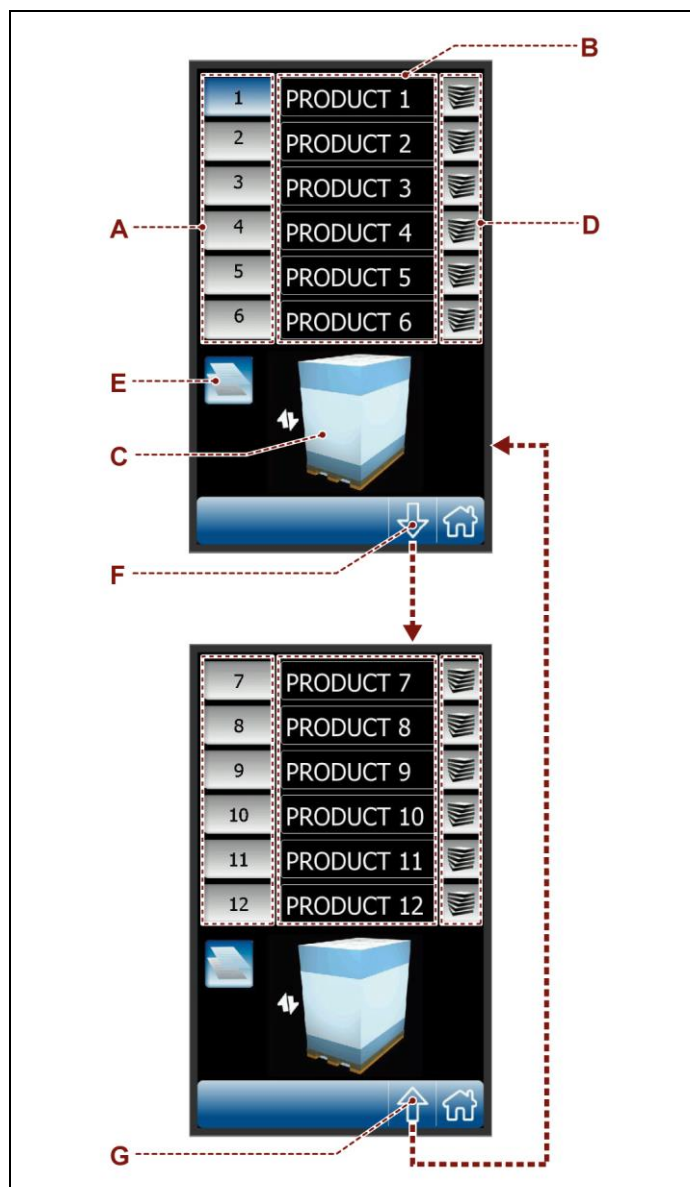
Important

The button is visible only during the machine automatic operation.

6.6. "RECIPES" PAGE

The page displays the controls to activate the concerned recipe.

- A) Buttons: they are used to activate the concerned recipe.
Red background: function enabled.
- B) Buttons: they are used to program the recipe name.
- C) Area: it displays the preview of the selected pallet wrapping cycle.
- D) Buttons on the RH: they are used to activate the layered cycle.
- E) Button: it is used to copy the data from one recipe to another.
- F) Button: it is used to display the next recipe page.
- G) Button: it is used to display the previous recipe page.



6.7. "WRAPPING CYCLE" PAGE

The page displays the controls to program the wrapping cycle.

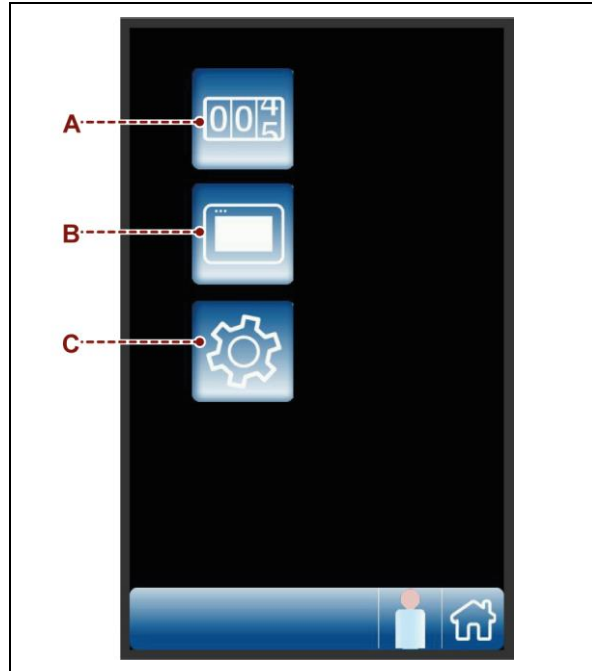
At every activation, the button displays the enabled function with the reference icon.

	A) Area: it displays the recipe name and number.
	C) Button: it is used to select the type of pallet wrapping cycle.
	Icon (C1) : it is used to select the "single wrapping" cycle.
	Icon (C2) : it is used to select the "double wrapping" cycle.
	Icon (C3) : it is used to select the "double wrapping cycle with feeder".
	D) Button: it is used to select the stop modes (automatic or programmed) of film carriage during upstroke.
	Icon (D1) : it is used to select the automatic stop of the film carriage (upstroke phase) depending on the height of the pallet being wrapped.
	Icon (D2) : it is used to select the programmed stop of the film carriage (upstroke phase) depending on the height of the pallet.
	Enabling this button, (altimeter) will display another button next to button (E) to set the pallet height. To obtain a wrapping delay when this function is active, it is necessary to set a height greater than that of the product to be wrapped.
	E) Button: it is used to program the delay of the stopping point of the film carriage during the upstroke phase (only with automatic stop).
	F) Button: it is used to enable and disable the programming of the distance from the ground (offset) at the beginning of wrapping. - Blue background: Function enabled. - Grey background: Function disabled.
	G) Buttons: they are used to program the positioning value and the number of reinforcing wrappings. The buttons are visible only if the function has been enabled with the button (F) .
	H) Button: it is used to enable and disable the reinforcing wrapping programming mode. - Blue background: Function enabled. - Grey background: Function disabled.
	L) Buttons: they are used to program the positioning value and the number of reinforcing wrappings. The buttons are visible only if the function has been enabled with the button (H) .
	M) Button: it is used to enable and disable the cutting cycle programming mode (Optional).
	N) Button: it is used to enable and disable the presser cycle programming mode (Optional).
	O) Button: it is used to enable and disable the roping device cycle programming mode (Optional).
	P) Button: it is used to access the page of special cycles (F1, F2, ...) .
	Q) Button: it is used to access the roping device setting page.

6.8. "GENERAL PARAMETERS" PAGE

The page is used to program the machine operating parameters.

- A) Button: it is used to display the "production counters (pallets)" page.
- B) Button: it is used to display the "H.M.I. settings" page.
- C) Button: it is used to display the "service" page.



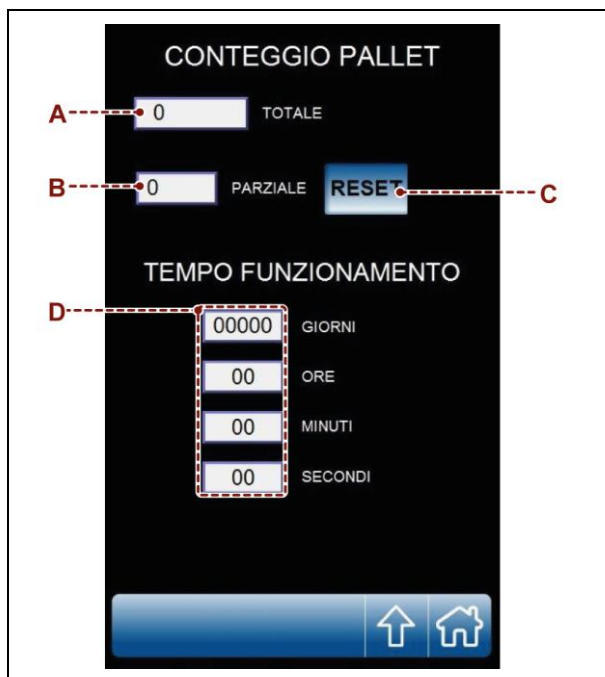
6.9. "PRODUCTION COUNTERS (PALLET)" PAGE

The page displays the controls to check the quantity (partial and total) of the pallets made.

- A) Area: it displays the counter (total) of the wrapping cycles performed by the machine.
- B) Area: it displays the counter (partial) of the wrapping cycles performed by the machine.
- C) Button: it is used to reset counter (B).

The function is active only if the system is accessed by a "machine operator" user (see the "enter password page (user login)").

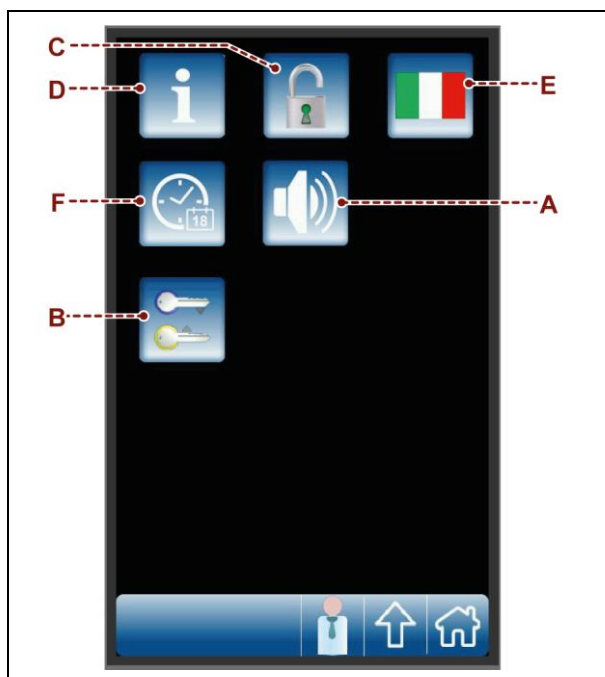
- D) Area: it displays the machine operating time in days, hours, minutes and seconds.



6.10. "HMI SETTINGS" PAGE

The page displays the controls to customise the user interface operating mode.

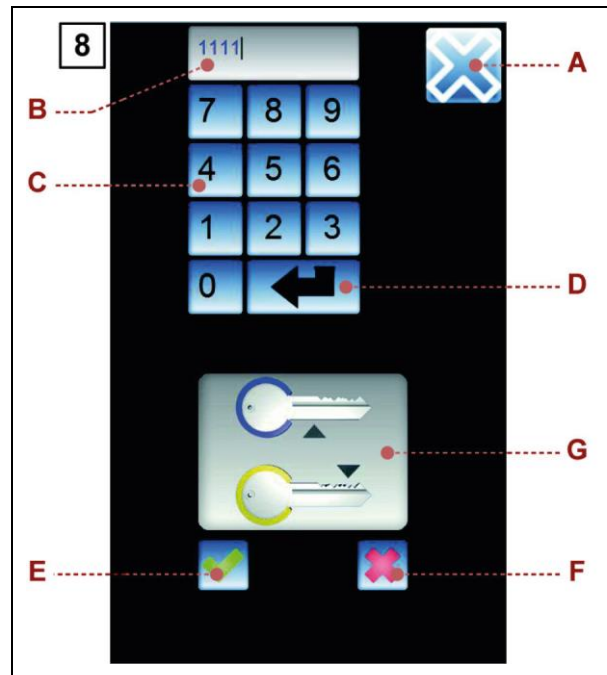
- A) Button: it is used to enable and disable the display acoustic signal.
- B) Button: it is used to display the "change password" page .
- C) Button: it is used to enable and disable the recipe programming mode.
The function is active only if the system is accessed by a "machine operator" user (see the "enter password page (user login)").
- D) Button: it is used to display the page with the software version.
- E) Button: it is used to select the language.
- F) Button: it is used to display the page for setting date and time.



6.11. "PASSWORD CHANGE" SCREEN

The page displays the controls to change the password to access protected functions.

- A) Button: it is used to display the upper level page .
- B) Area: it displays the entered characters.
- C) Numerical keyboard.
- D) Button: it is used to confirm the entered values.
The activation of the control is signalled by the animation of icon (G).
- E) Button: it is used to save the password.
The control is enabled only if the animation of icon (G) is active.
- F) Button: it is used to reset the entered values.
The activation of the control disables the animation of icon (G).



6.12. "ENTER PASSWORD" SCREEN (USER LOGIN)"

The page displays the controls to enter the password (relating to the selected user) to access the protected functions.

A) Button: it is used to select the type of user concerned.

At every activation, the button displays the enabled function with the reference icon.

- Icon **(A1)**: it is used to select the "machine operator" user.
- Icon **(A2)**: it is used to select the "service support" user.
- Icon **(A3)**: it is used to select the "software administrator" user.

B) Area: it displays the entered characters.

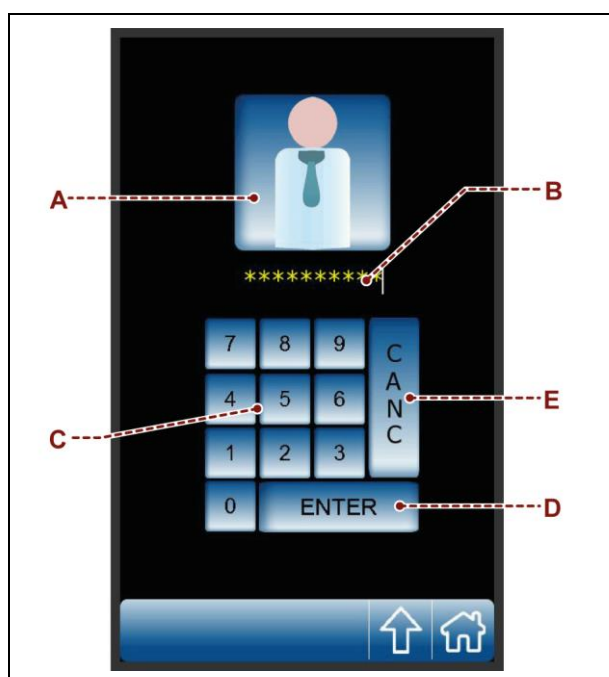
C) Numerical keyboard.

D) Button: it is used to confirm the entered password (login).

To prevent another type of user from accessing the protected functions, use one of the following procedure to perform the "user logout" at the end of the operations.

- Touch the icon **(A1)** located in the toolbar.
- Switch the machine off and then on again.

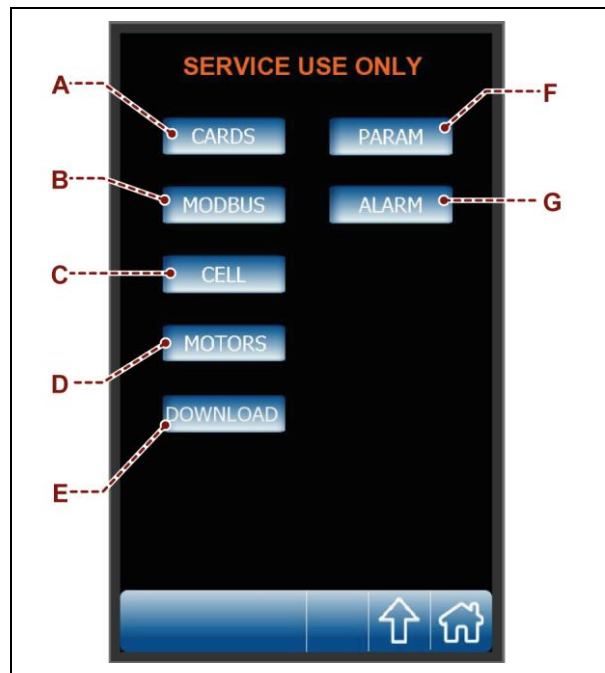
E) Button: it is used to delete incorrect entered values.



6.13. "SERVICE" SCREEN

The page is reserved to the Manufacturer's Service support only, to perform diagnostics and basic programming.

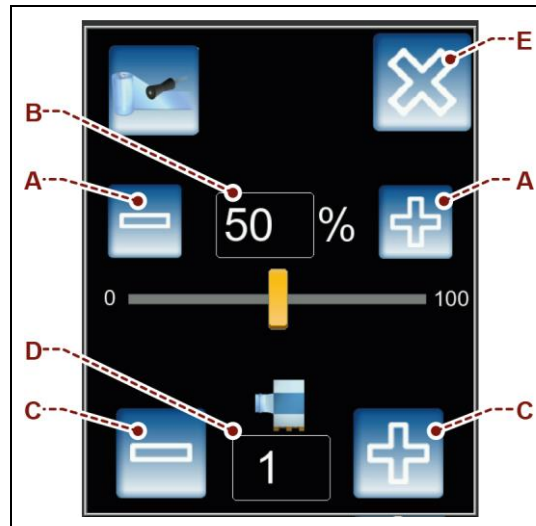
- A) Button: it is used to display the status of the various electronic components of the electric control panel.
- B) Button: it is used to display the **MODBUS** status.
- C) Button: it is used to display the load cell offset.
- D) Button: it is used to display the status of motors.
- E) Button: it is used to update the software.
- F) Button: it is used to display the machine set-up general parameters.
- G) Button: it is used to display the alarm log.



6.14. "ROPING DEVICE" PAGE

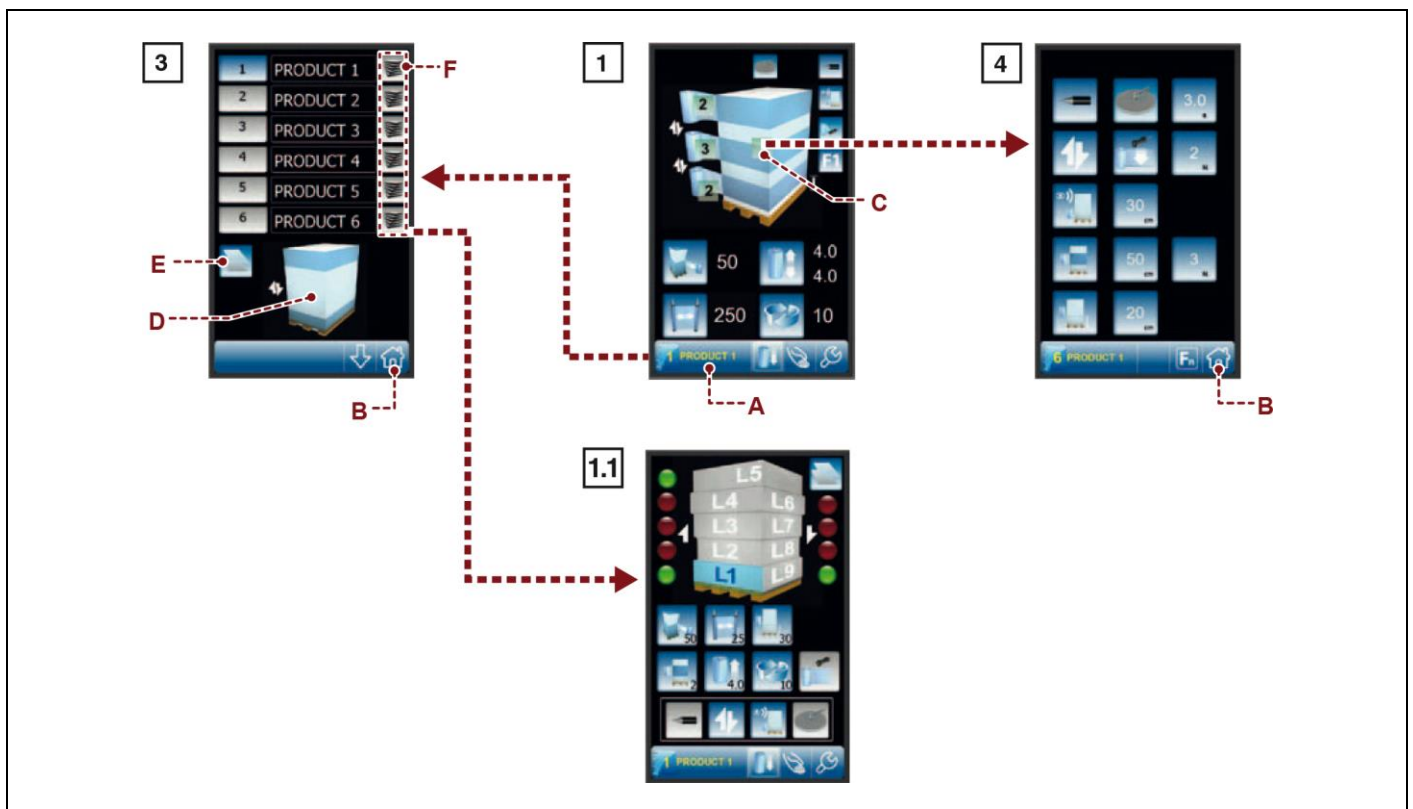
The page is used to adjust the roping device parameters.

- A) Button to increase or decrease the value, displayed in the (B) area.
- B) It displays the % value of roping wrap typed with (A) buttons.
(0% not roped; 100% film fully roped)
- C) Button to increase or decrease the value, displayed in the (D) area.
- D) It displays the value of roping turn number typed with (C) buttons.
- E) "Esc" button for closing the page.



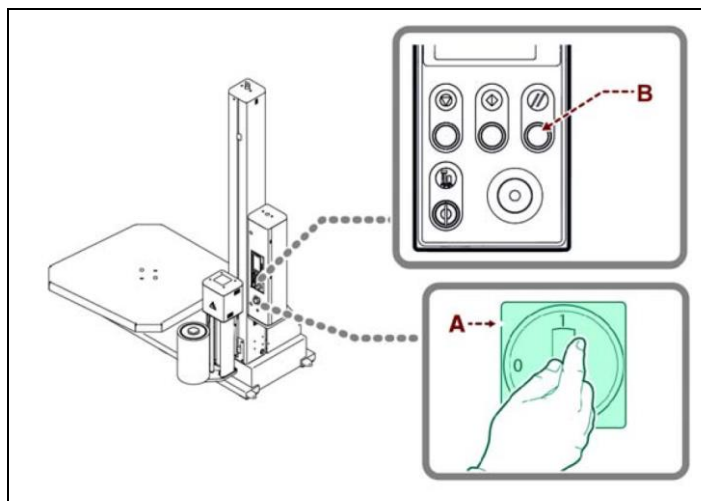
6.15. NEW RECIPE PROGRAMMING

1. Display the "home" page 1.
 2. Press the button (A) to display the "recipes" page 3.
 3. Press the button (F), corresponding to the required recipe, to access the "home 1.1." page.
 4. If necessary, press the button (E) to copy the data from one recipe to another.
 5. Select the concerned recipe.
 6. Set the recipe name.
 7. Press the button (B) to display the "home" page 1.
 8. Press the button (C) to display the "wrapping cycle" page 4.
 9. Set the recipe parameters.
 10. Press the button (D) to display the "home" page 1.
- The area (D) displays the preview of the selected pallet wrapping cycle.



6.16.MACHINE SWITCHING ON AND OFF

1. Turn the main switch (A) to I (ON) to activate the power supply. The display shows "RES".
2. Press the "Reset" button (B). The display goes into "standby" mode.
3. Set the cycle parameters (See "Cycle parameters setting").
4. Perform the cycle starting operations (see "Cycle start and stop").
5. Turn the main switch (A) to 0 (OFF) to switch the machine off.



6.17. CYCLE PARAMETERS SETTING

1. Switch on the machine (See “Machine switching on and off”).
2. Choose the recipe number.
3. Press the button of the parameter to be edited to display the current value.
4. Press the buttons + / -, or scroll with the cursor, to increase or decrease the value until the required one is obtained (See “programming window”).

This value will be stored in the relevant program.

6.18. DESCRIPTION OF THE WRAPPING CYCLES

6.18.1. SINGLE WRAPPING CYCLE

To select the “single cycle”, press the button (C1) and check that the relevant LED turns on.

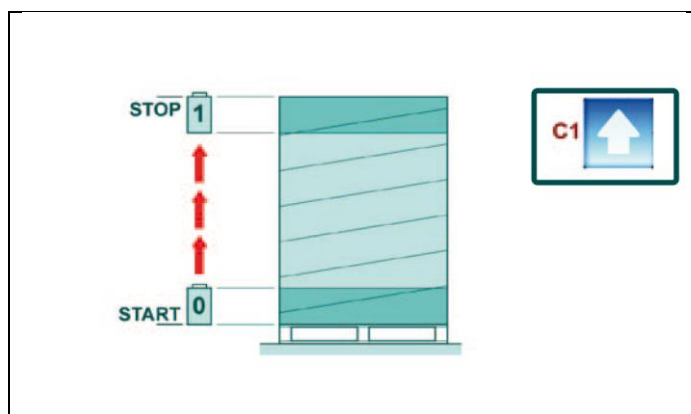
The film carriage starts moving from the pallet base and stops when it reaches the upper end, after having performed the required number of wrapping turns at the base and at the upper end of the pallet.

Press the “**START**” button again to perform a second single wrapping cycle which starts from the top and goes down until reaching the pallet base.

(See Paragraph “Wrapping cycle page”).

0 START

1 STOP



6.18.2. DOUBLE WRAPPING CYCLE

To select the “double cycle”, press the button (**C2**) in order to display the corresponding icon.

The film carriage starts moving from the pallet base, rises until reaching the upper end and moves down until reaching the base, performing a double load wrapping.

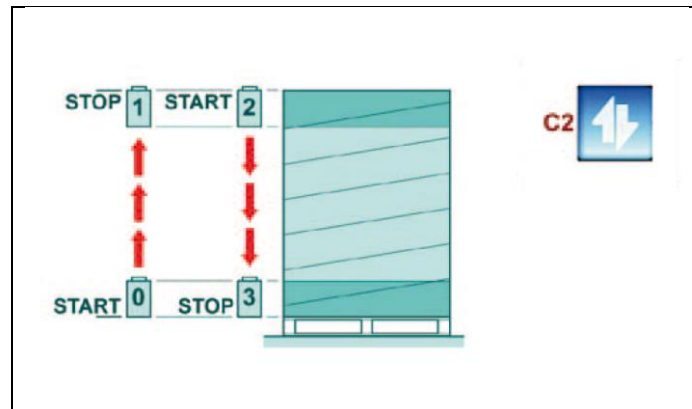
(See Paragraph “Wrapping cycle page”).

0 START

1 STOP

2 START

3 STOP



6.18.3. WRAPPING CYCLE WITH FEEDER

To select the cycle press the button (C3).

The machine performs a cycle aimed at making it easier for the operator to completely cover the pallet and ensuring the higher possible level of protection.

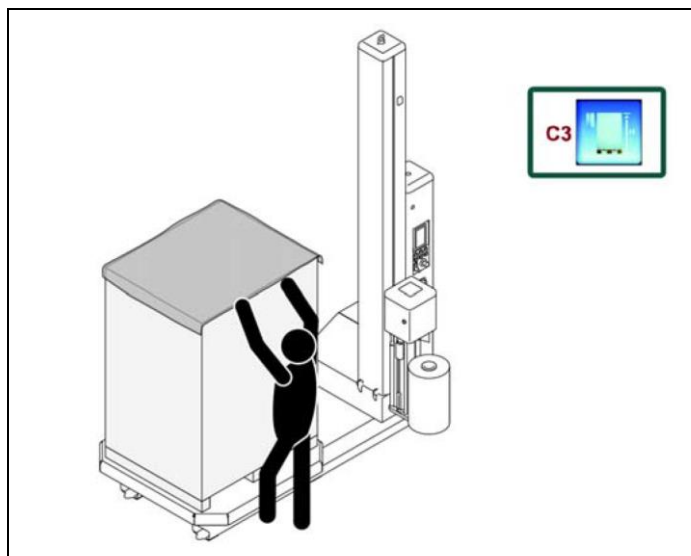
The film carriage rises until reaching the carriage upper end, moves down again by approximately **300 mm** and stops in this position.

If the machine features a presser, it rises from the load by approximately **200 mm**.

At this point, the operator, after placing the covering sheet onto the top of the pallet, activates the cycle again by pressing the "START" button: the presser moves down again.

The carriage rises until reaching the pallet upper end, performs the programmed upper wrapping turns and moves down to complete the cycle.

In this way, the position of the covering sheet, tightly bound to upward and downward film turns, is the most suitable for ensuring an optimum protection of the load against external agents (water, dust, etc.).



6.19.CYCLE START AND STOP

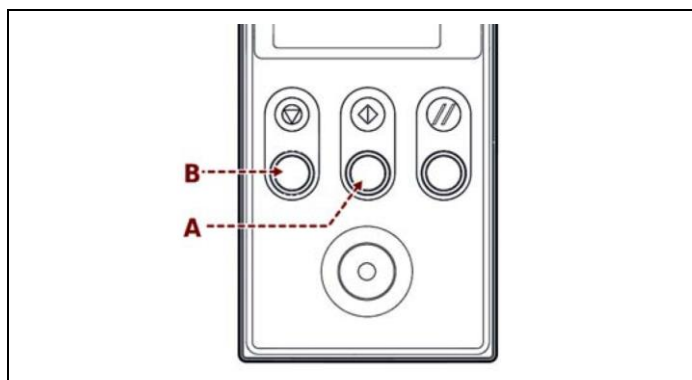
Proceed as follows.

1. Place the pallet in the middle of the packaging area and move the loading device away.
2. Block the film edge at the bottom of the product to be packed.
3. Press the "Cycle Start" button (A).
The machine completes the cycle and stops automatically.
4. Cut the film (If necessary).
5. Remove the pallet and position a new pallet to start a new cycle.



Important

To temporarily suspend the cycle, press the "Cycle stop" button (B).
Press the "Cycle Start" button (A) to restart it.

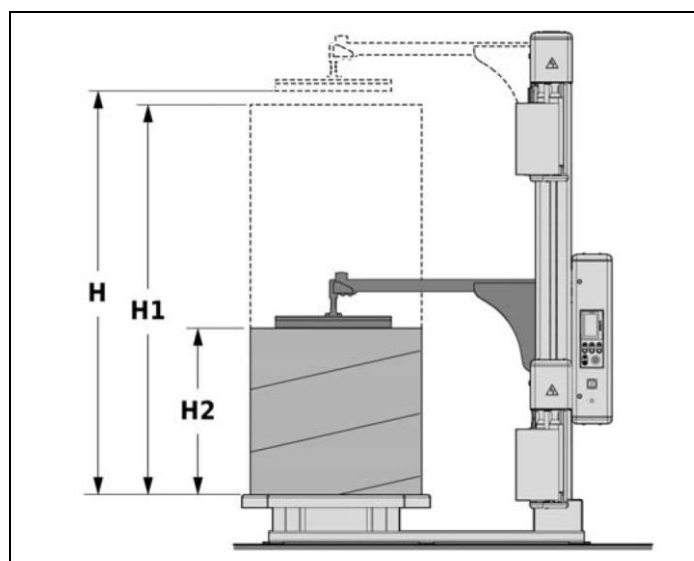


6.20.PRESSER HEIGHT CHANGE

- Presser unit can be supplied with pneumatic (stroke **800**) or mechanical cylinder version.
- The illustrations show the machine with the presser unit in the available versions.
- See tables to find the minimum height of the pallet to be wrapped in accordance with the version of the presser installed on the machine.

6.20.1. MECHANICAL PRESSER

This presser does not need any adjustment for wrapping heights above **725 mm**.



Presser unit version	Slide shaft	Arm in normal position	
	H (mm)	H1 (mm)	H2 (mm)
Mechanical presser	2925	2800	≥ 725

6.21.SPOOL LOADING

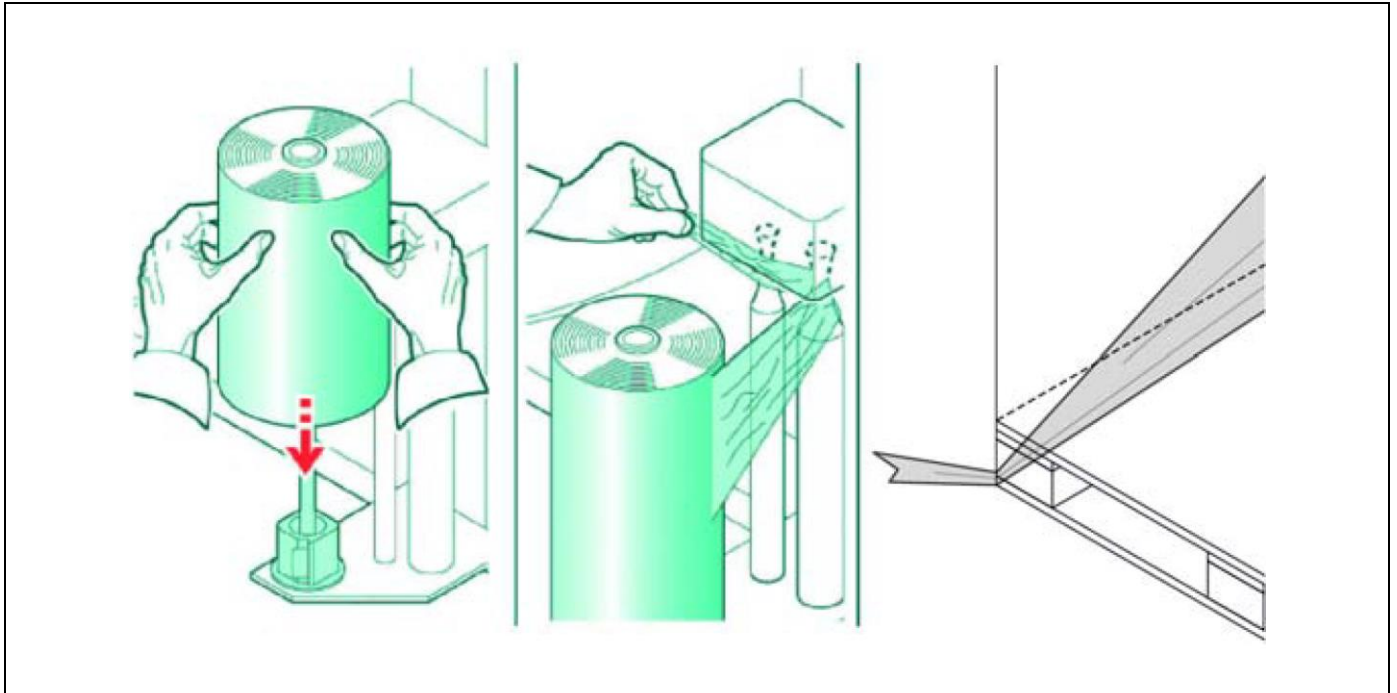
1. Insert the film reel into its seat on the film carriage.
2. Gather the film to make a thin cord and make it pass between the double-cone surfaces.



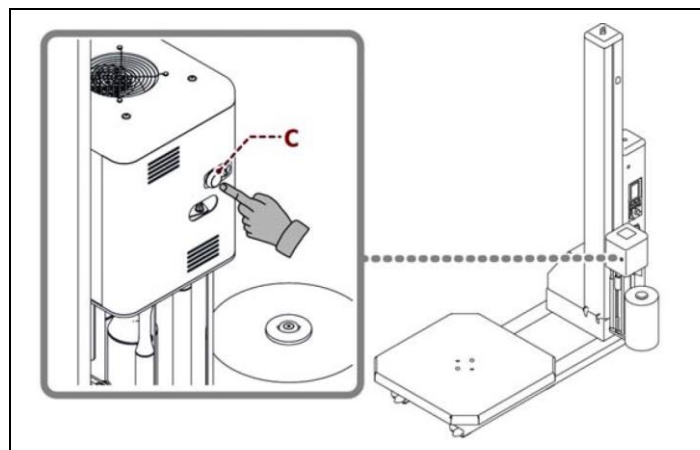
Important

Unwind the film following the path engraved on the film carriage plate.

3. Pull the cord outwards.
The film automatically moves down to the roller and covers it over its entire length.
4. Lock the film end into the suitable locking disc (A) on the rotary table.



To allow the unwinding of the film on carriages of “PVS” type, it is necessary to press the roller rotation button (C) on the spool carriage.



7. MAINTENANCE INFORMATION

7.1. RECOMMENDATIONS FOR MAINTENANCE

- Proper maintenance will allow a longer life span and constant compliance with safety requirements.
- Before performing any operation, the authorised operator must make sure to have understood the "Instructions for use".
- Pay attention to the safety warnings, do not misuse the machine and assess the possible residual risks.
- Carry out the interventions with all the safety devices enabled and wear the required PPE.
- Indicate the intervention areas and prevent access to the devices that, if activated, could cause unexpected hazards and compromise safety.
- Do not carry out interventions that are not described in the manual but contact an service centre authorised by the Manufacturer.
- Do not dispose of materials, polluting liquids and the waste generated during the interventions into the environment but dispose of them according to the standards in force.



Danger - warning

Before performing any maintenance operation, activate all safety devices provided and evaluate whether it is necessary to inform the personnel operating on the machine and the personnel nearby.

In particular, demarcate the neighbouring areas to prevent access to the devices that could, if activated, cause unexpected hazardous conditions posing a risk for people's safety and health.



Danger - warning

Maintenance operations must be performed with the machine disconnected from the power and pneumatic supplies.

The periodical check of the operation of some of the most important parts of the machine, may help to avoid operation problems and to maintain the machine to the maximum operating levels.

7.2. PERIODICAL MAINTENANCE INTERVALS



Important

Keep the machine in maximum efficiency conditions and perform all the scheduled maintenance operations provided for by the Manufacturer.

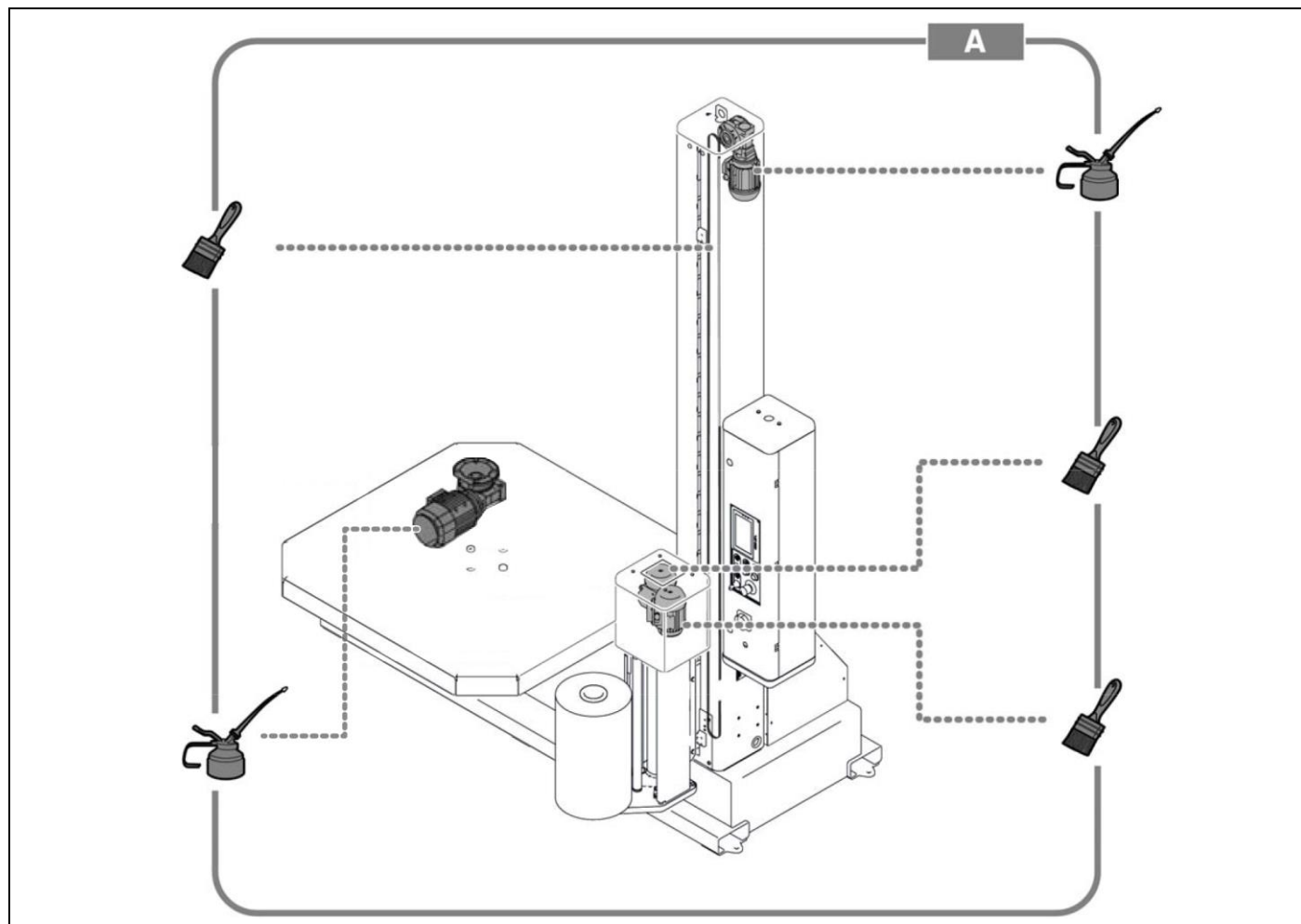
Proper maintenance will provide the best performance, a longer life span and constant compliance with safety requirements.

Maintenance interval table

Frequency	Component	Type of intervention	Intervention mode	Reference
Every 40 hours or 1000 cycles (*)	Machine	Cleaning	cloth or air jet	-
	Air filter unit	Condensate drainage	-	See "Condensate drainage"
		Filter cleaning	Clean with an air jet and alcohol	See "Cleaning the air filter"
	Variable roping device	Cleaning	Clean with an air jet and alcohol	-
Every 200 hours or 5000 cycles (*)	Rubber rollers	Cleaning	Clean with alcohol	-
	Lifting chains	Greasing	-	See "Lubrication point diagram"
		Tensioning check	Adjust	See "Film carriage lifting chain adjustment"
	Table rotation chain	Greasing	-	See "Lubrication point diagram"
		Tensioning check	Adjust	See "Rotary table chain adjustment"
	Reduction units and gearmotors	Checking lubricant level ¹	Top up, if necessary, with lubricant of the same type	See table of lubricants
	Gear wheels of carriage pre-stretch gears	Greasing	-	See "Lubrication point diagram"
	Variable roping device (guide and worm screw)	Lubrication	-	See "lubrication point diagram"
Every 2000 hours or 10000 cycles (*)	Lifting chains	Wear check	-	-
	Safety devices	Efficiency check	-	-
	Table rotation chain	Wear check	-	-
Every 5000 hours or 50000 cycles (*)	Rotary table wheels	Replacement	-	See "Replacing the rotary table wheels"
	Carriage lifting wheels	Replacement	-	-
	Reduction units and gearmotors	Lubricant change ¹	Use lubricant with the same characteristics	See table of lubricants

7.3. LUBRICATION POINT DIAGRAM

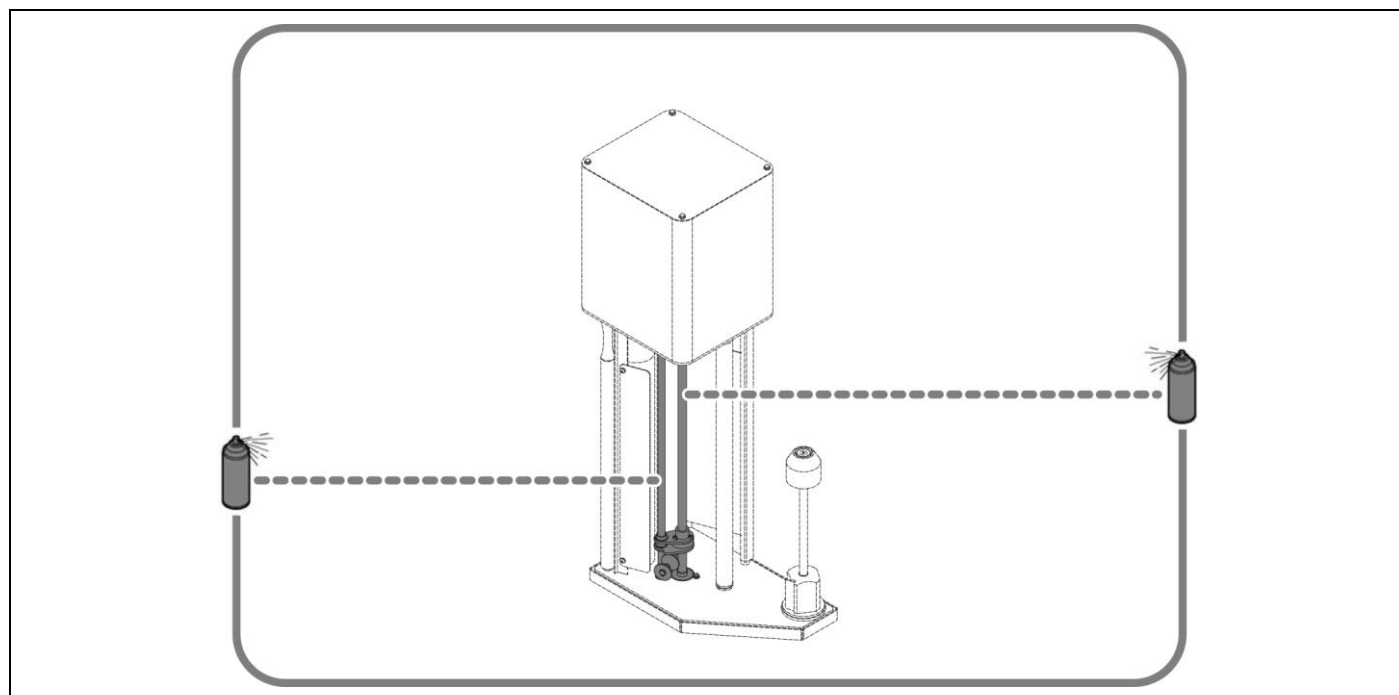
The diagram shows the main parts concerned by the lubrication interventions and their intervals.



	Spread grease over it.
	Check the lubricant level. Do not top up and/or change in life-lubed reduction units and gearmotors.

Observe the lubrication frequency to obtain the best performance and a longer machine's operating life.
Use lubricants (oils and greases) recommended by the Manufacturer or with similar chemical-physical features.

7.3.1. VRD CARRIAGE



Lubricate with spray silicone grease.

7.4. LUBRICANT TABLE

The table shows the specifications of the lubricants recommended by the Manufacturer on the basis of reference components and/or areas.

Use lubricants (oils or grease) recommended by the Manufacturer or with similar chemical-physical features.

Lubricant characteristics

Lubricant type	Code	Parts to be lubricated
Mineral oil	23°C / 50°C - 320 CST 40°C MELLANA OIL 320 IP SPARTAN EP 320 ESSO BLASIA 320 AGIP MOBILGEAR 632 MOBIL OMALA EP 320 SHELL ENERGOL GR-XP 320 BP	Gear reduction unit
Mineral oil	32°C / 50°C - 460 CST 40°C MELLANA OIL 460 IP SPARTAN EP 460 ESSO BLASIA 460 AGIP MOBILGEAR 634 MOBIL OMALA EP 460 SHELL ENERGOL GR-XP 460 BP	Worm screw reduction unit
Grease	TELESIA COMPOUND B IP STRUCTOVIS P LIQUID KLUBER TOTALCARTER SYOO TOTAL	Gear reduction unit and worm screw reduction unit
Synthetic oil	TELESIA OIL IP SYNTHESO D 220 EP KLUBER BLASIA S 220 AGIP	Gear reduction unit and worm screw reduction unit
Lithium grease	ALVANIA R2 SHELL HL 2 ARAL ENERGREASE LS2 BP BEACON 2 ESSO MOBILIX MOBIL	Bearings with support
Synthetic oil	-5°C / +5°C VG 68 (SAE 20) +5°C / +25°C VG 100 (SAE 30)	Spool carriage lifting chain
Synthetic oil	+25°C / +45°C VG 150 (SAE 40) +45°C / +70°C VG 220 (SAE 50)	Table rotation chain

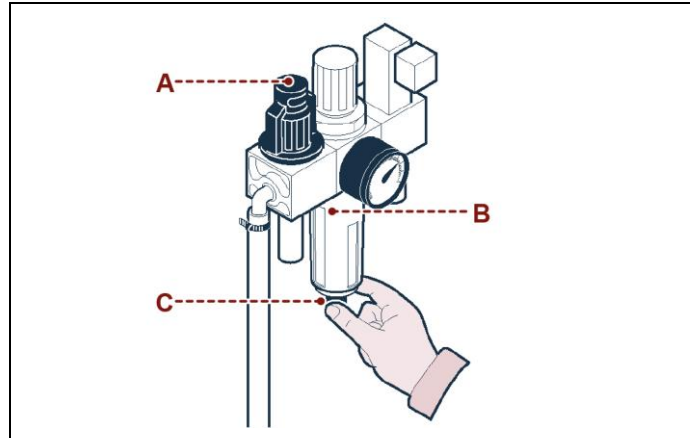


Important

Do not mix together oils of different brands or having different characteristics.

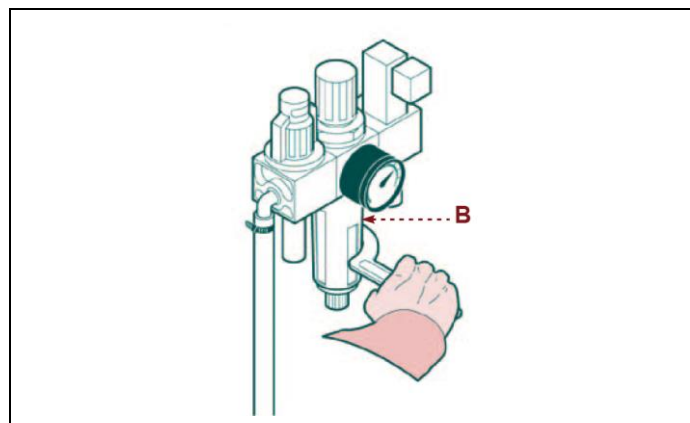
7.5. CONDENSATE DRAINAGE

1. Close the tap (A) and check the level of condensation in the container (B).
2. Unscrew, if necessary, the valve (C) to drain the condensation.
3. Push the valve (C) upwards until all condensation is let out.
4. Tighten the valve (C) again.



7.6. AIR FILTER CLEANING

1. Unscrew the container (B) with the specific wrench.
2. Remove the filter, clean it with compressed air and wash it, if necessary, with petrol or trichloroethylene.
3. Refit the filter and tighten the container (B).



8. FAULT INFORMATION

8.1. ALARM MESSAGES

In the event of a breakdown during operation the machine stops automatically and alarm messages appear on the display.

The table lists the displayed messages, the type of problem, the causes and possible solutions.



Important

For these operations a precise technical expertise or ability is required; therefore, these operations must be exclusively performed by qualified personnel with certified experience acquired in the specific field of intervention.

List of alarms

Code	Problem	Cause	Solution
E01	Emergency mushroom-head button alarm.	Emergency mushroom-head button pressed	Reset the button and press the "Reset" button
E02	Carriage emergency	An obstacle has been detected along the trajectory during the spool carriage downstroke.	Remove the obstacle and press the "Reset" button
E03	Hand pallet truck emergency	An obstacle has been detected on the pallet loading/unloading ramp.	Remove the obstacle and press the "Reset" button
E04	Protection alarm	Intervention of safety barriers or open door	Remove the obstacle and press the "Reset" button
E30	Inverter alarm: 1. Table 2. Carriage 3. Stretch 4. Pre-stretch 5. Presser	POWER DRIVER LOW POWER DRIVER HIGH OVER VOLTAGE MAX VOLTAGE UNDER VOLTAGE HW POWER CURRENT OVER HEAT PHASE FAIL CURRENT MAX CURRENT INT MAX PARAMETER WRONG COM.ERROR	Contact technical support
E60	"Film breakage" alarm	The film has broken or spool is finished	Insert the film or replace spool.
E61	Table synchronisation alarm	A fault or an obstacle is preventing the table from moving	Solve the fault or remove the obstacle and press the "Reset" button
E64	Blocked carriage alarm	The carriage has stopped its travel	Remove the obstacle and press the "Reset" button
E65	Blocked presser alarm	The presser has stopped its travel.	Remove the obstacle and press the "Reset" button
E71	Presser position alarm	Incorrect presser position	Move the presser down and start the cycle
E83	MODBUS alarm.	Electronic fault	Contact technical support

9. REPLACEMENT INFORMATION

9.1. RECOMMENDATIONS FOR REPLACING MACHINE PARTS

- Before performing any operation, the authorised operator must make sure to have understood the "Instructions for use".
- Carry out the interventions with all the safety devices enabled and wear the required PPE.
- Demarcate the surrounding areas and put in place adequate safety measures, as provided for by the standards on workplace safety, in order to prevent and minimise the risks.
- Do not carry out interventions that are not described in the manual but contact an service centre authorised by the Manufacturer.
- Do not dispose of materials, polluting liquids and the waste generated during the interventions into the environment but dispose of them according to the standards in force.
- Replace the components only with original spare parts or parts with similar design and construction features. The use of similar but non-original spare parts may result in improper repairs, altered performance and economic damage.
- Safety components and/or devices must be replaced only with original spare parts to preserve the safety level required.



Important

Before performing any maintenance operation, activate all safety devices provided and evaluate whether it is necessary to inform the personnel operating on the machine and the personnel nearby.

In particular, demarcate the neighbouring areas to prevent access to the devices that could, if activated, cause unexpected hazardous conditions posing a risk for people's safety and health.

When replacing worn parts, use only original spare parts.

The Manufacturer is not responsible for any damage to property or injuries to people caused by the use of non-genuine spare parts or which may result from repairs not authorised by the Manufacturer.

When ordering new spare parts, follow the instructions given in the spare parts catalogue.

9.2. RECOMMENDED SPARE PARTS LIST

List of the spare parts that wear easily and that should be always available to avoid long machine downtimes:

- No. 8 carriage supporting wheels.
- No. 1 braked roller pad.
- No. 1 drive belt.

To order them, contact your local dealer and refer to the spare parts catalogue.



Important

Replace worn parts with original spare parts.

Use oils and greases recommended by the Manufacturer.

All the above will ensure the proper operation of the machine and the correct level of safety.

9.3. MACHINE DECOMMISSIONING AND SCRAPPING

9.3.1. MACHINE DECOMMISSIONING

- Cut off any supply to the machine (power, pneumatic, etc.) so that it cannot be restarted and position it in a place that cannot be easily accessed.
- Empty the systems, which contain hazardous substances, in a proper manner and in compliance with the laws in force at workplaces and with those on environmental protection.

9.3.2. MACHINE SCRAPPING

- Scrapping must be performed by authorised centres with experienced personnel and by using the appropriate equipment for safe operating conditions.
- The person who performs the scrapping must identify any possible residual energies and implement a "safety plan" to eliminate unexpected risks.
- The components must be selected according to the chemical and physical features of the material and disposed of separately, in accordance with the applicable laws.
- Empty the systems, which contain hazardous substances, in a proper manner and in compliance with the laws in force at workplaces and with those on environmental protection.

10. ANNEXES

10.1. WARRANTY CONDITIONS

Robopac S.p.A. commits, within the limits described herein, to replace or repair, free of charge, the parts that are defective during the 12 (twelve) months following the date indicated on the company's shipping documents.

To utilise the warranty, the user must immediately notify the company of the detected fault, always referring to the machine serial number.

Robopac S.p.A., in its final judgement, will decide whether to replace the defective part or request it to be shipped for tests and/or repair.

By replacing or repairing the defective part, **Robopac S.p.A.** fully complies with its warranty obligations and will be released from all liabilities and obligations relative to transport, travel and lodge expenses for technicians and installers.

Robopac S.p.A. will in no case be held responsible for any losses due to lack of production or injuries to persons or damage to things caused by malfunctions or forced downtime of the machine covered by the warranty.

THE WARRANTY DOES NOT COVER:

- Transport failures.
- Damage due to incorrect installation.
- Improper use of the machine or negligence.
- Tampering with or repairs by unauthorised personnel.
- Lack of maintenance.
- Parts subject to normal wear and tear.

For purchased components and parts, **Robopac S.p.A.** offers the user the same warranty conditions that the company obtains from the suppliers of the aforementioned components and/or parts.

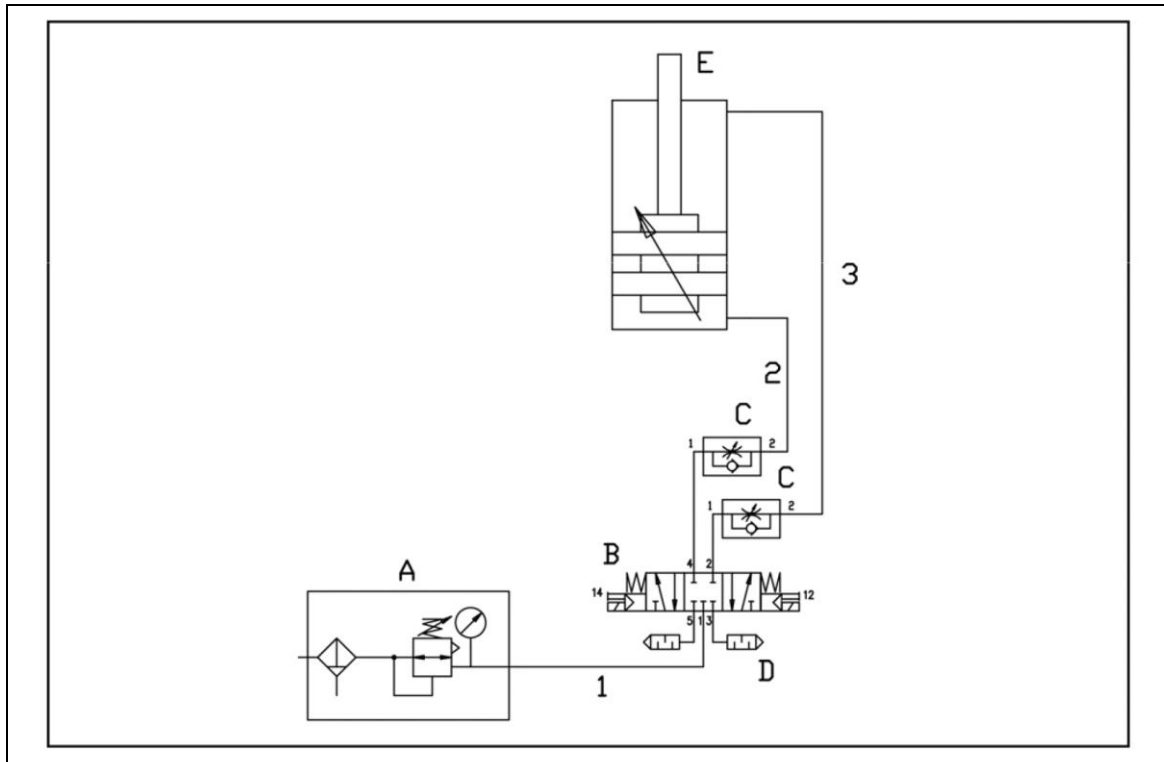
Robopac S.p.A. does not guarantee the conformity of machines to current standards in countries that are not part of the European Union.

Any adjustment to the regulations in force in the Country in which the machine is installed, will fall under the full responsibility of the user, who will be responsible also for the changes made, releasing **Robopac S.p.A.** from any obligation and/or liability relative to any claim that may be submitted by third parties due to non-compliance with the referenced standards.

10.2.CREASING HEAD PNEUMATIC DIAGRAM

Legend:

- A. Filter/regulator unit
- B. Solenoid valve
- C. Flow regulator
- D. Silencer
- E. Pneumatic cylinder without rod
- F. Presser actuating pneumatic cylinder



DECLARATION OF CONFORMITY

(Annex II 1.A of Directive 2006/42/EC)

The manufacturer:

Robopac S.p.A.
Via Fabrizio da Montebello, 81
47892 - Gualdicciolo
Republic of San Marino

of the machine identified as follows:

DENOMINAZIONE DENOMINATION	
MODELLO MODEL	
MATRICOLA SERIAL NUMBER	

DECLARES

under its own responsibility that this machine is compliant with the following European directives:

DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 May 2006 on machinery, and amending Directive 95/16/EC;

DIRECTIVE 2014/30/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility;

and with the following harmonised standards at the applicable points:

EN ISO 12100:2010, EN 60204-1:2018, EN 415-10:2014.

THE PERSON AUTHORISED BY THE MANUFACTURER TO PREPARE THE TECHNICAL REPORT AND DRAW UP THE DECLARATION OF CONFORMITY IS:

Engineer Cristiano Casale
R&D Manager

c/o Aetna Group S.p.A.

S. P. Marecchia, 59

47826 Villa Verucchio

Rimini (Italy)

Date and place of signature

Robopac S.p.A.

San Marino,

Engineer Cristiano Casale
R&D Manager

ROBOPAC SPA

Via Fabrizio da Montebello, 81 – 47892 Gualdicciolo, Repubblica S. Marino (RSM)
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