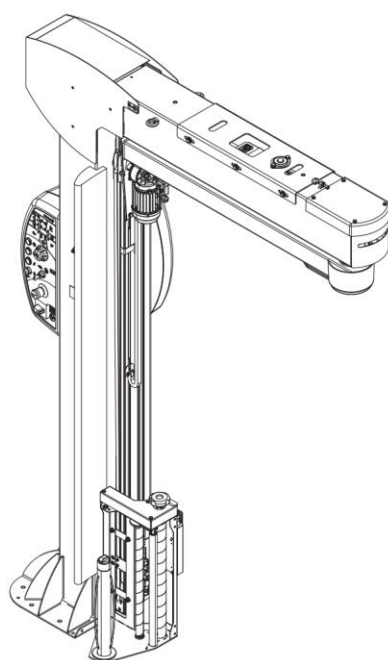




ECOWRAP PLUS XL FRD MASTERWRAP PLUS XL FR



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

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Cod.: 3709304952

Ed.: 19.12

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



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	kw
PESO WEIGHT	11	Nl/min
		bar
		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 BY IMA

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.



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.



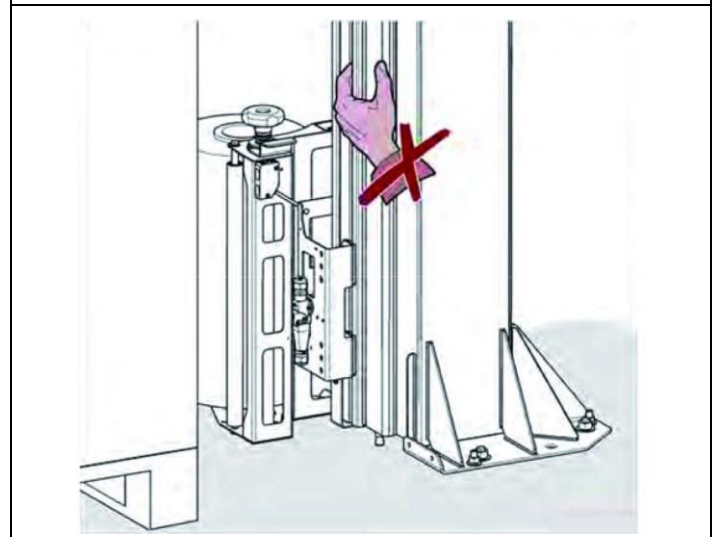
Risk of impact:

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 fall:

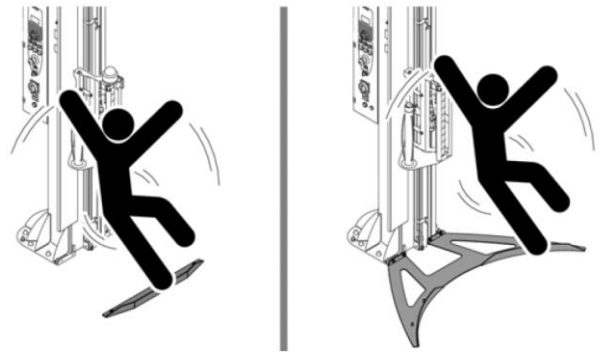
Do not climb onto the machine to access high areas but use suitable means.

Risk of fall of packages:

Adjust the speed and stretch of the machine if the pallet is made with unstable elements.


Risk of tripping:

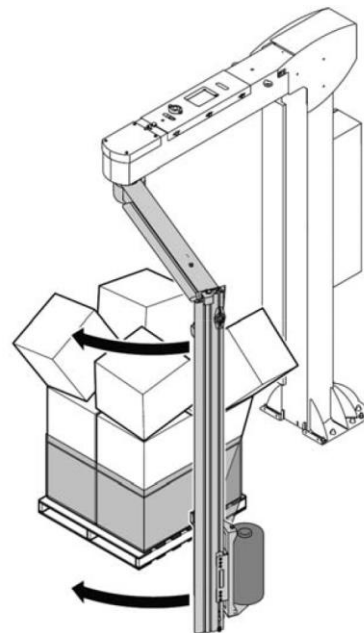
Do not access the machine operating area.


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

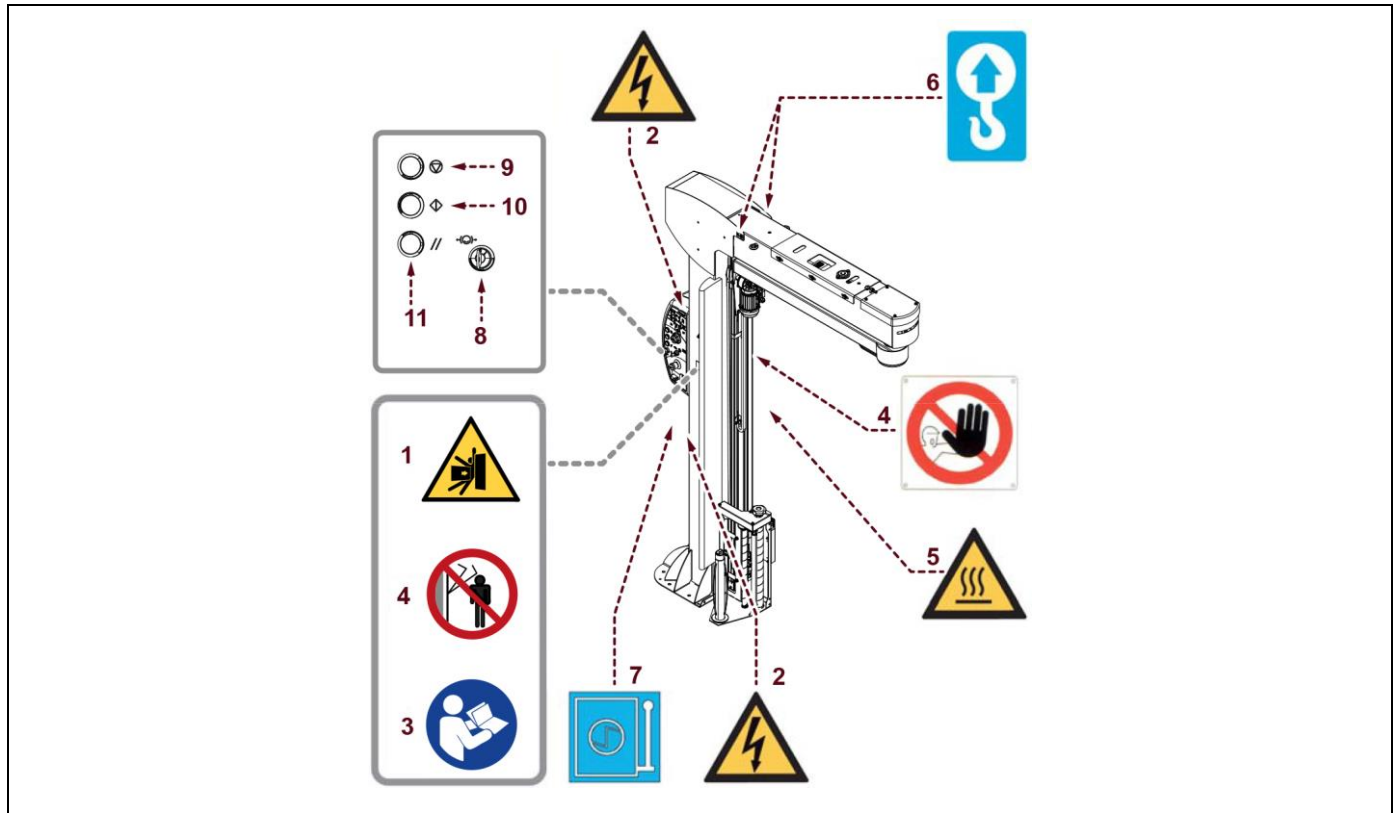
The figure indicates the position of the safety and information signs affixed to the machine.
For each sign the relative description is specified.

1. **Danger sign**
Risk of body crushing.
2. **Electrical hazard sign**
Do not access the area to avoid risks of electric shock or electrocution.
3. **Obligation sign**
It indicates the obligation, before using the machine, to read all the parts of the documentation.
4. **Prohibition sign**
It is forbidden to stand or transit in the operating area.
5. **Prohibition sign**
Do not touch the area to avoid risks of burns.
6. **Information sign**
It indicates the lifting points with hook device.
7. **Information sign**
It identifies the electric cut-out.
8. **Information sign**
Brake release symbol.
9. **Information sign**
Machine Stop symbol.
10. **Information sign**
Machine Start symbol.
11. **Information sign**
Machine Reset symbol.



Important

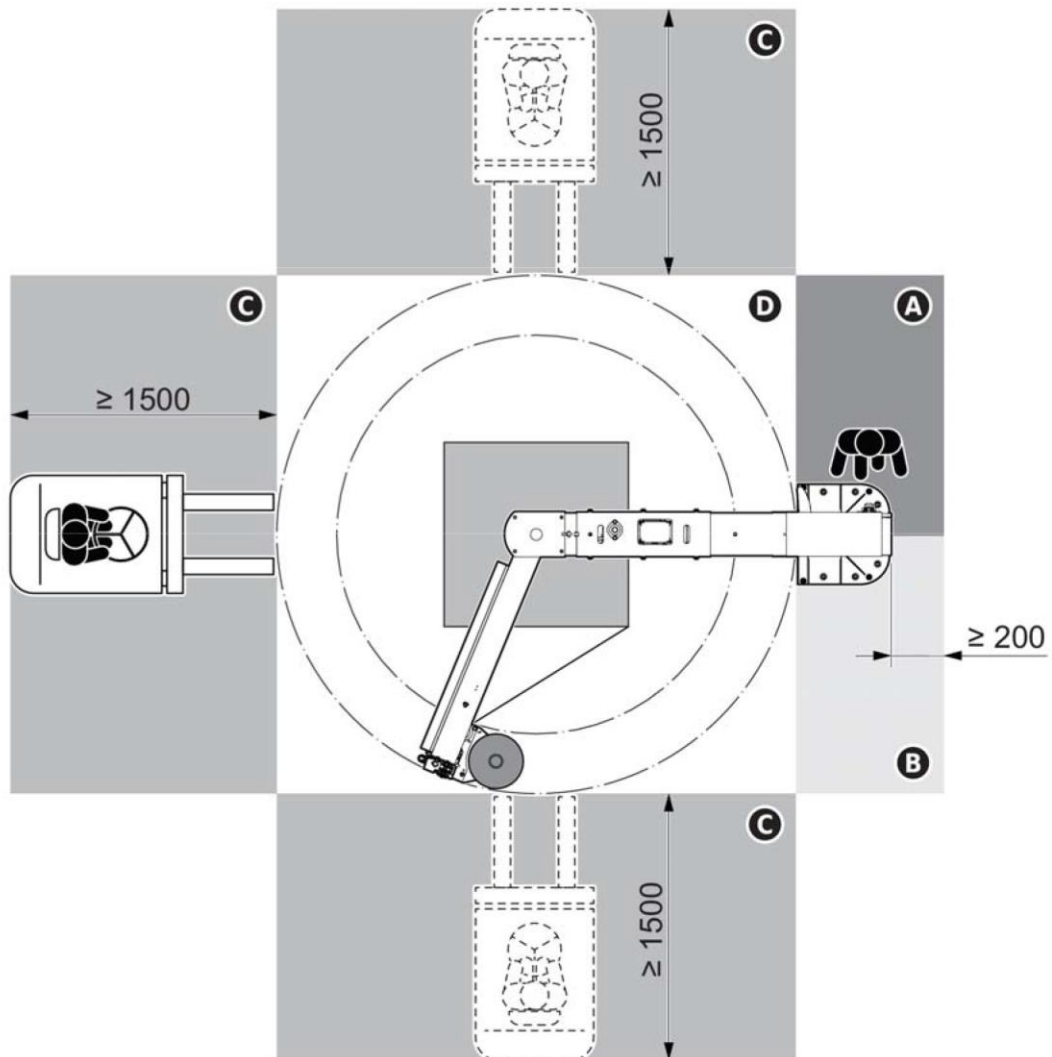
Make sure that the nameplates are clearly legible.
If not, replace and reposition them at the original position.



2.9. PERIMETER AREAS

The illustration shows the perimeter working areas of the machine.

- A) Operator standing area.
Reel refilling area.
- B) Access area for maintenance.
- C) Pallet loading/unloading area.
- D) Machine operating 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 arm, which rotates around the pallet and makes the pallet turn, and a film 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 reels 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

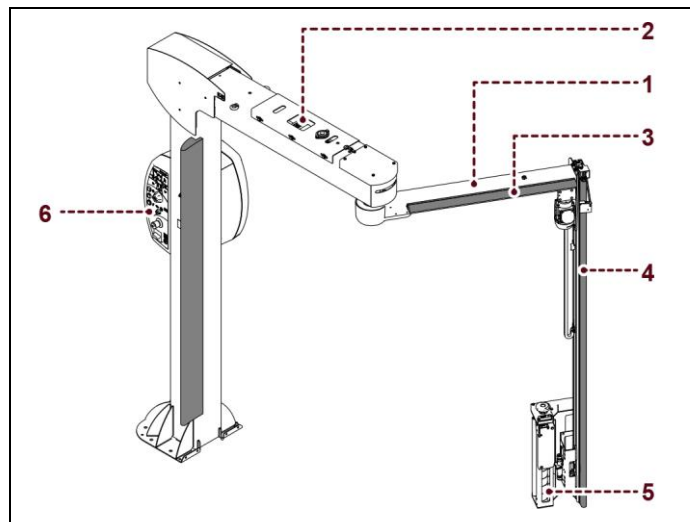
Using this machine in explosive environments or when exposed to atmospheric agents is strictly forbidden.

- 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. **Rotary arm**
It allows the film carriage to rotate around the pallet.
2. **Arm motor**
The motor drives the rotation of the arm.
The gearmotor is equipped with brake that keeps the arm locked when stopped in synchronised manner.
3. **Safety sensible edge**
It stops the rotation in case of impact with people and/or objects placed in the range of action of the arm.
4. **Safety sensible edge**
It stops the rotation in case of impact with people and/or objects placed in the range of action of the arm.
5. **Film carriage**
It comprises a reel support that moves vertically to wrap the product.
6. **Control panel**
It allows activating machine functions.



3.1.1. MACHINE MODELS DESCRIPTION

Table: Film carriage features

Film carriage type		General features
FR	h = 500mm	Film carriage of "FR" type with roller with clutch, electromagnetic brake and film stretch adjustment from control panel.
FRD		Film carriage of "FRD" type with roller with clutch, mechanical brake and manual adjustment of film stretch.

3.2. DESCRIPTION OF THE OPERATION CYCLE

Phase 1

The operator places the pallet in the centre of the machine and hooks the film to it.



Caution - warning

Risk of crushing upper limbs: do not insert the film in the clamp (if installed) by hand.

Phase 2

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

Phase 3

Once the wrapping phase has ended, the machine stops and manual film cutting is necessary.

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. 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.

2. Emergency stop: when pressed, it immediately stops the machine in emergency conditions.



Danger - warning

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

3. Key-operated switch:

- Carriage emergency override

Rotate the key clockwise in hold to run position: the user interface screen will display the page “emergency override” and this allows the carriage alone to be lifted by simultaneously pressing the “multi-function selector”.

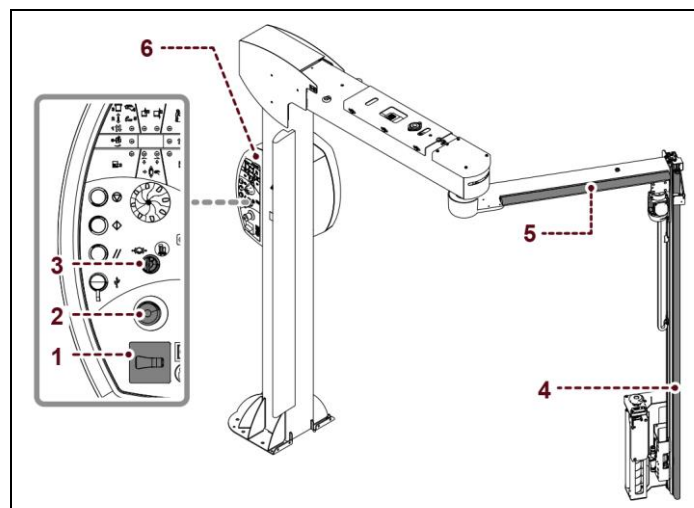
- Rotary arm brake release

Rotate the key counter-clockwise (stable position): it is used to release the rotary arm and move it manually (see “Safety device description”).

4. Sensible edge: safety device that stops the rotation in case of impact with people and/or objects placed in the range of action of the arm.

5. Sensible edge: safety device that stops the rotation in case of impact with people and/or objects placed in the range of action of the arm.

6. Acoustic signal: it signals the wrapping cycle start.



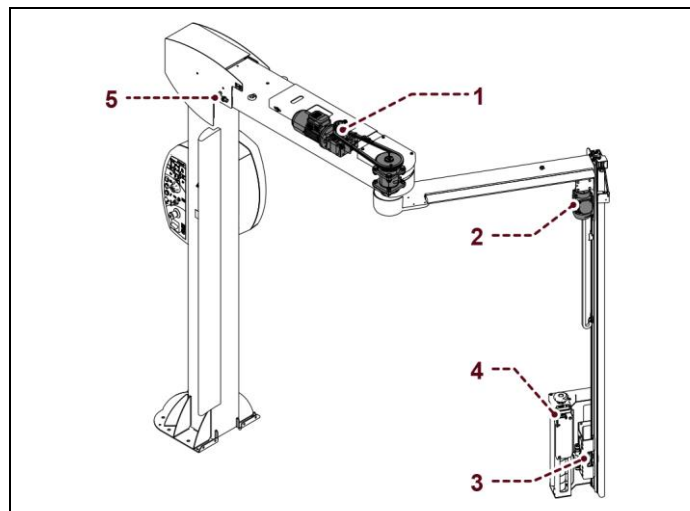
3.4. DESCRIPTION OF ELECTRICAL DEVICES

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

1. **Gearmotor:**
it activates the arm 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. **Photocell:**
it detects the height and the presence of the load to be wrapped.
5. **Inductive sensor:**
it detects the "synchronised" position of the rotary arm and enables the brake engagement.



Important
For further details see the wiring diagram.

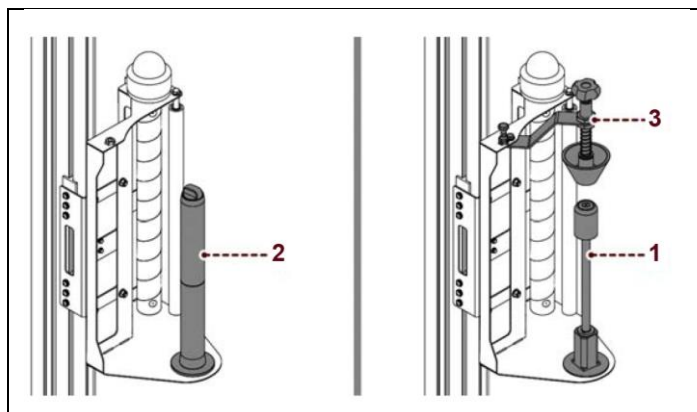


3.5. DESCRIPTION OF ACCESSORIES ON REQUEST

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

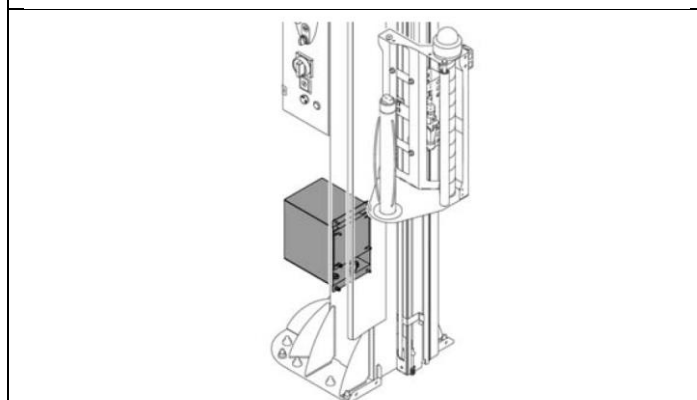
Reel-holder shaft Ø50 mm (version CORE (1) - CORELESS (2)):

A tailstock (3) is also provided with the **CORE** version for better stability of the reel.



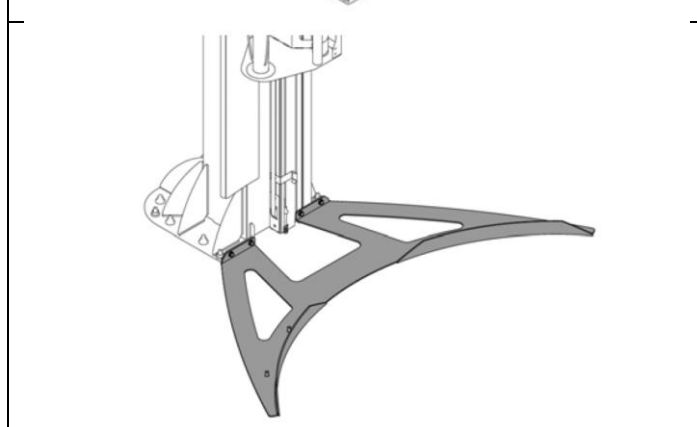
4. Autotransformer unit:

It allows the machine to operate at 110 V.



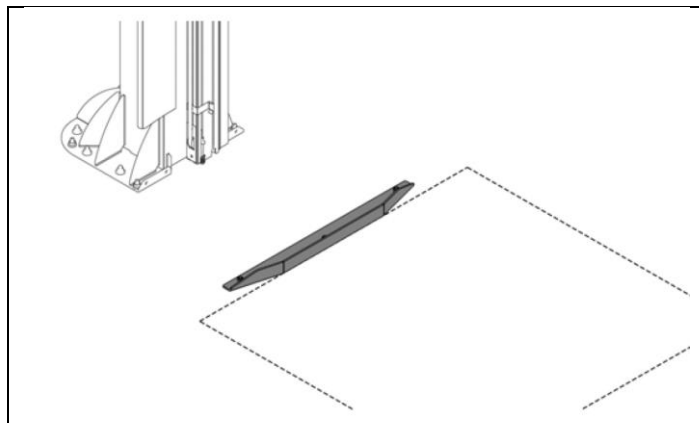
5. Front stop device:

Reference device for pallet front loading.



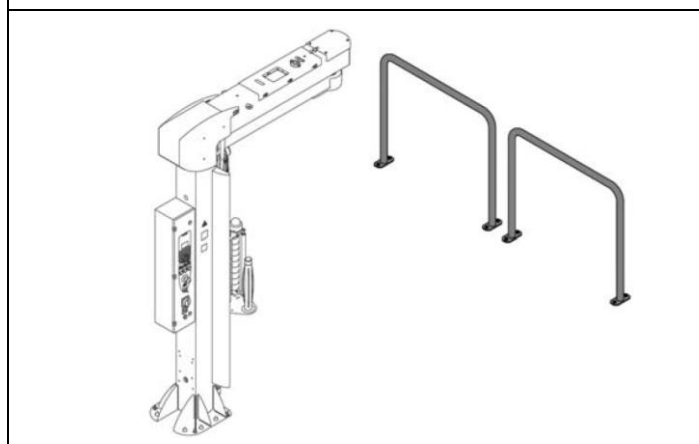
6. Longitudinal stop device:

Reference device for pallet positioning.



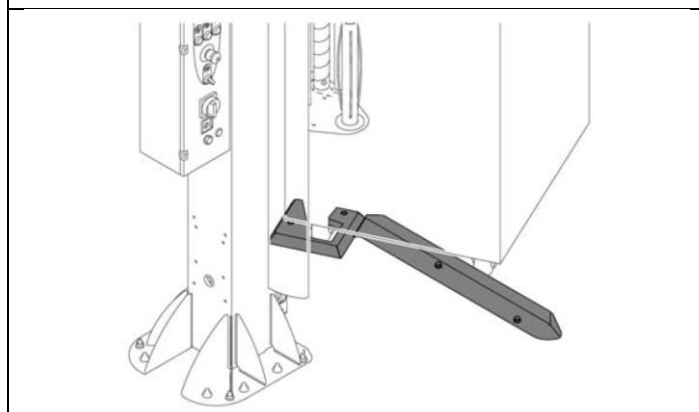
7. Work area delimitation barrier

Device to install near the machine to divide the work area from the transit area.



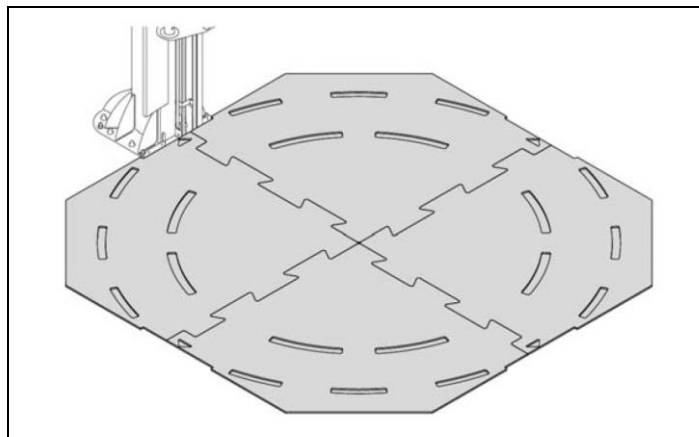
8. Roll container stop device:

Device that allows the correct positioning of the roll containers in front of the machine.



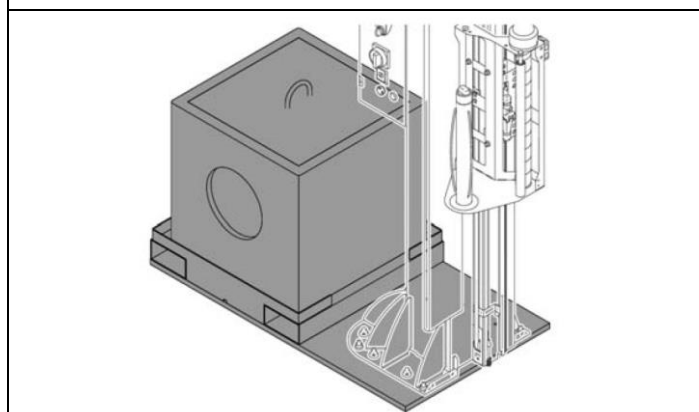
9. Template for work area drawing:

Template that allows drawing on the ground the pallet positioning area (1) and the machine footprint area (2).



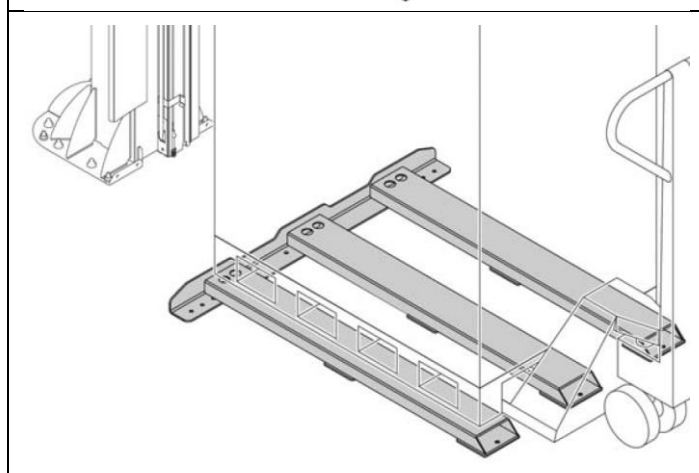
10. Mobile base:

Base equipped with counterweight to use the machine without fastening it to the ground.



11. Pallet lifting frame:

Structure that allows lifting the pallet from the ground so that it can also be wrapped during wrapping.



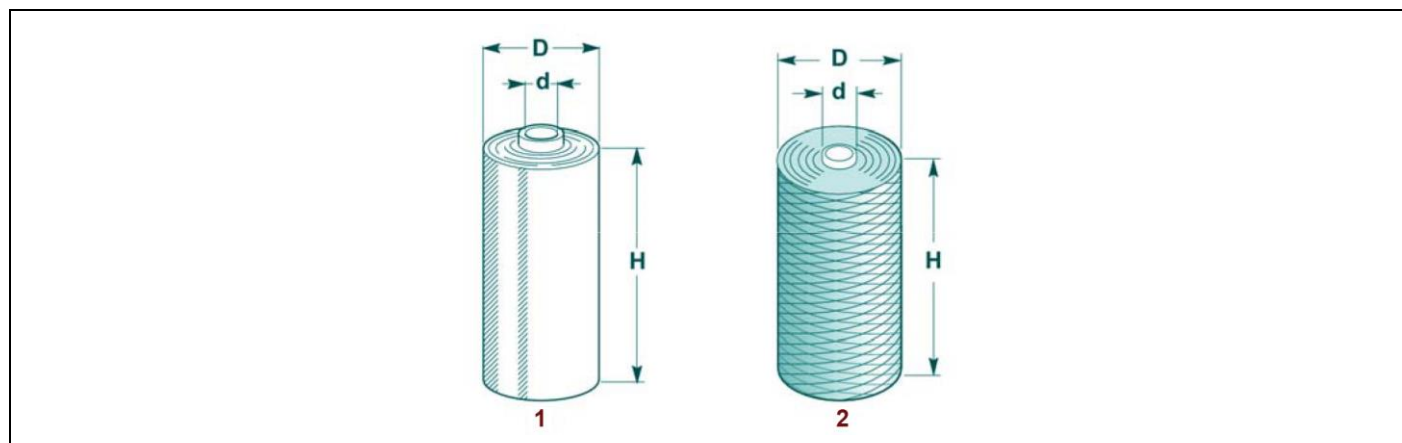
3.6. TECHNICAL SPECIFICATIONS

Description	Unit of measurement	Value			
		Ecowrap XL Plus FRD h=2000	Masterwrap XL Plus FR h=2000	Ecowrap XL Plus FRD h=2400	Masterwrap XL Plus FR h=2400
Supply voltage		220-240 1 Ph 220-240 3 Ph 380-415 3 Ph+ N			
Electrical current frequency	Hz	50/60			
Installed power	kW	0.7			
Wrapping speed	turns/min	7 ÷ 11			
Carriage upstroke / downstroke speed	m/min	2.6 ÷ 6.0			
Overall weight	kg	200	200	215	215
Ambient operating temperature	°C	0 ÷ 40			

Installation area floor characteristics

Concrete foundation with resistance to compression in compliance with UNI 6132		C25-30
Foundation minimum thickness	mm	150
Diameter of the reinforcement rods of the framework in metallic cage	mm	8

3.6.1. SPOOL FEATURES

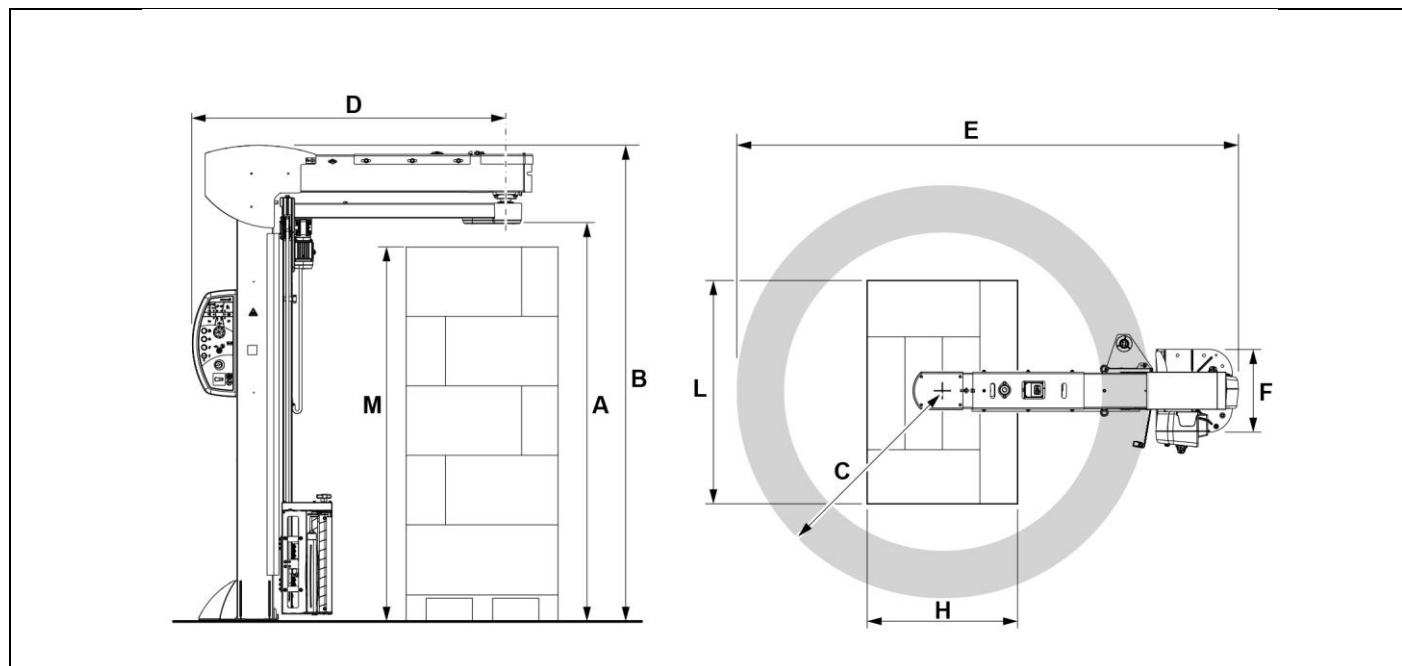


Description	Unit of measurement	Value
Maximum outer diameter (D)	mm	275
Reel height (H)	mm	500
Film thickness	μm	7÷35
Internal diameter (d)	mm	Ø 50* - Ø 76
Max. weight	kg	8

(*) Install the optional reel-holder shaft

3.6.2. MACHINE DIMENSIONS

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



	Unit of measurement	Ecowrap XL Plus FRD h=2000	Masterwrap XL Plus FR h=2000	Ecowrap XL Plus FRD h=2400	Masterwrap XL Plus FR h=2400
A	mm	2148	2148	2620	2620
B	mm	2575	2575	3050	3050
C	mm	1223	1223	1223	1223
D	mm	1673	1673	1673	1673
E	mm	2896	2896	2896	2896
F	mm	470	470	470	470
H	mm	1200	1200	1200	1200
L	mm	1200	1200	1200	1200
M	mm	2000	2000	2400	2400

3.7. NOISE LEVEL

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

- UNI EN ISO 3744
- EN ISO 11201

Description	Average sound pressure level (L _{pm})	Emitted sound power level (L _{wa})	Level at operator position (L _{op})
Operation in working conditions	56,2 dB (A)	72,0 dB (A)	56,5 dB (C)



Caution - warning

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



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

3.8. 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.

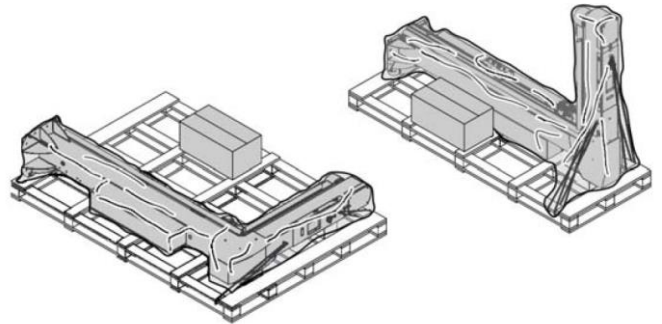
The packages bear all necessary information for loading and unloading.

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

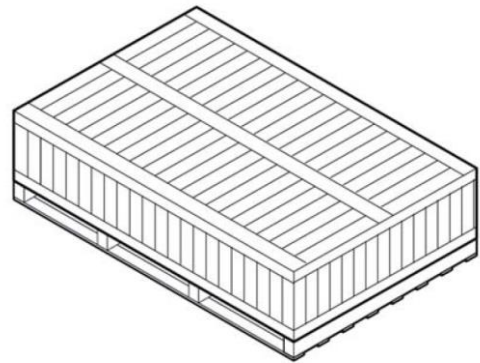
Packaging material should be appropriately disposed of according to the laws in force.

The illustrations show the common types of packaging used.

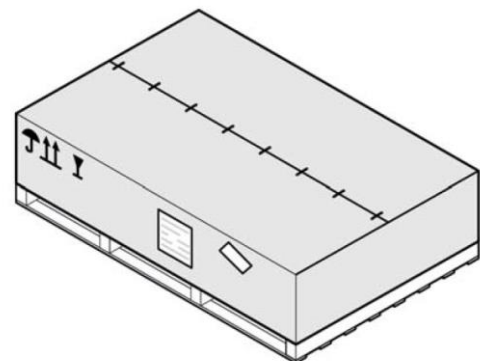
Package on pallet with nylon protection



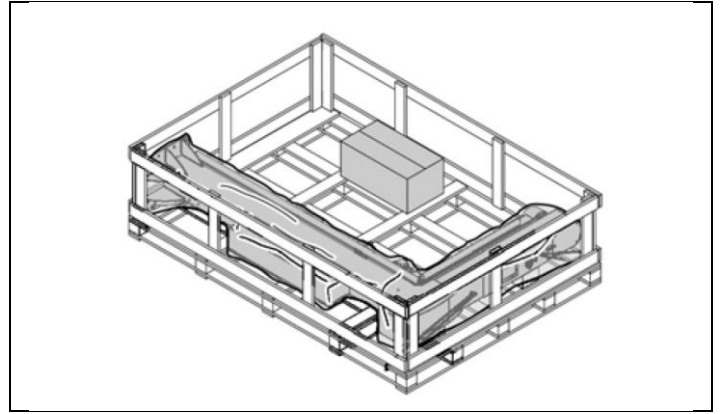
Package in crate



Package with cardboard box



Package in cage



4.3. TRANSPORT AND HANDLING

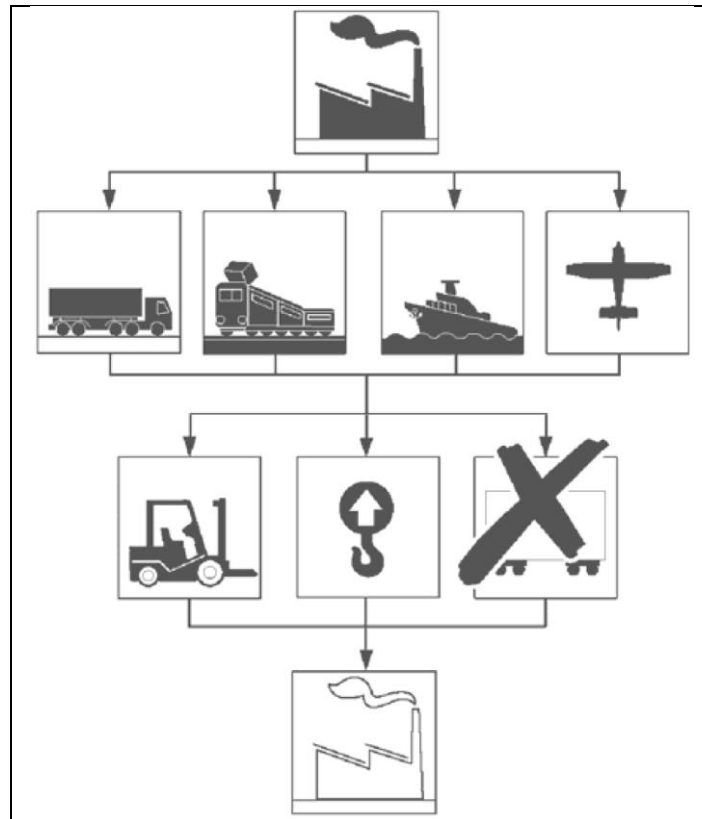
Transport, also according to the destination, can be performed with different vehicles.
The diagram represents the most used solutions.

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



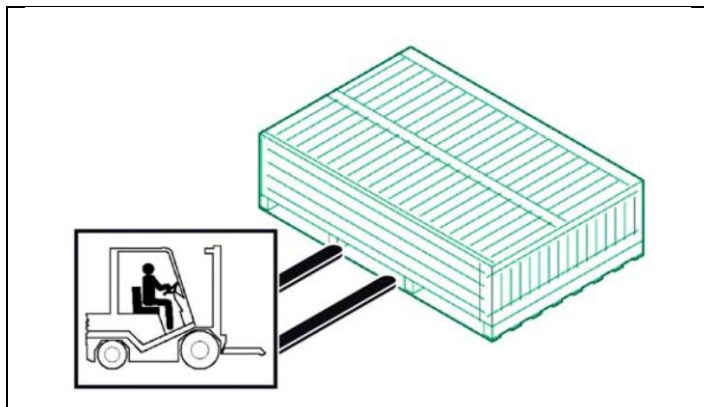
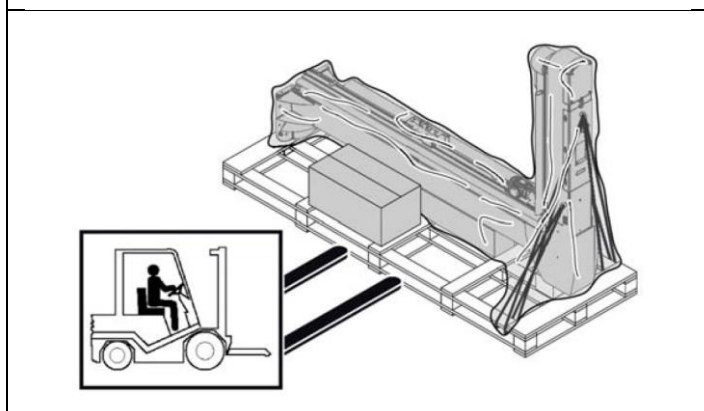
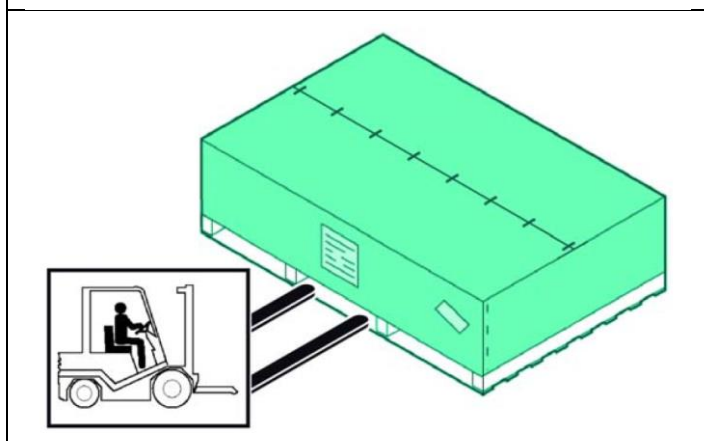
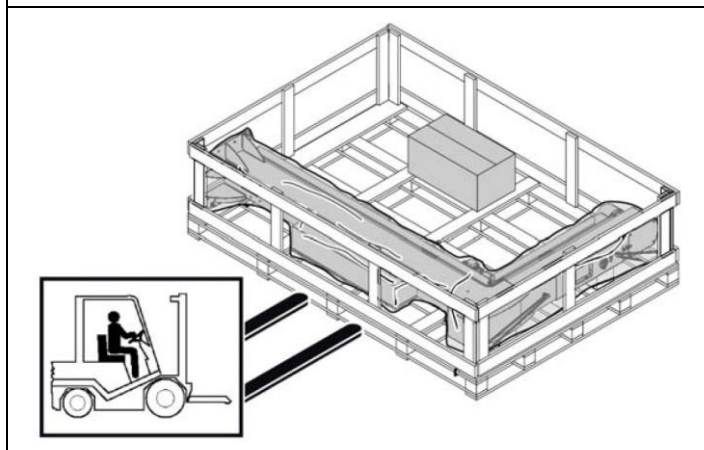
Important

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




Caution - warning

Before lifting, check the position of the load's centre of gravity.

Package in crate

Package on pallet

Package with cardboard box

Package in cage


4.4. 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.

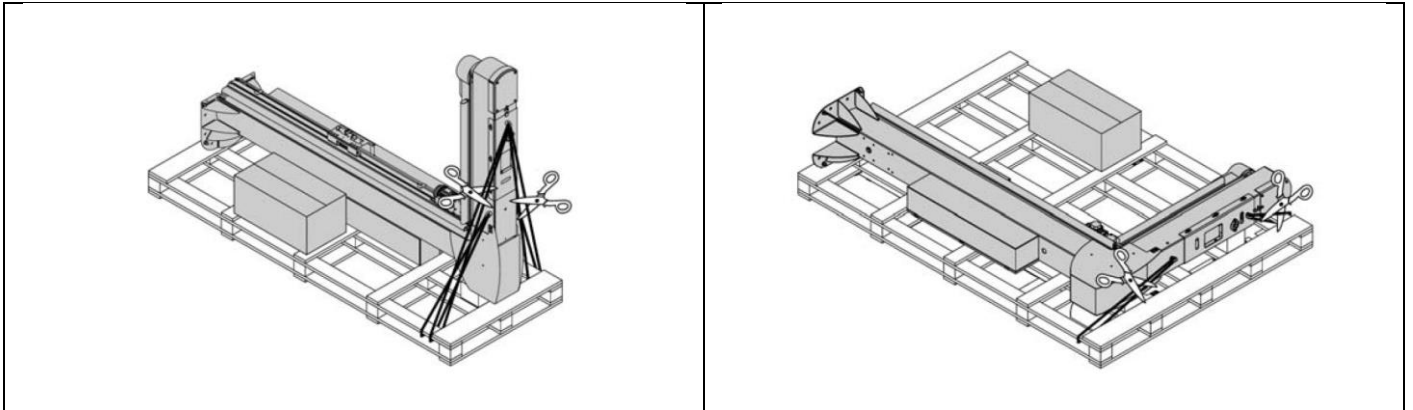


Danger - warning

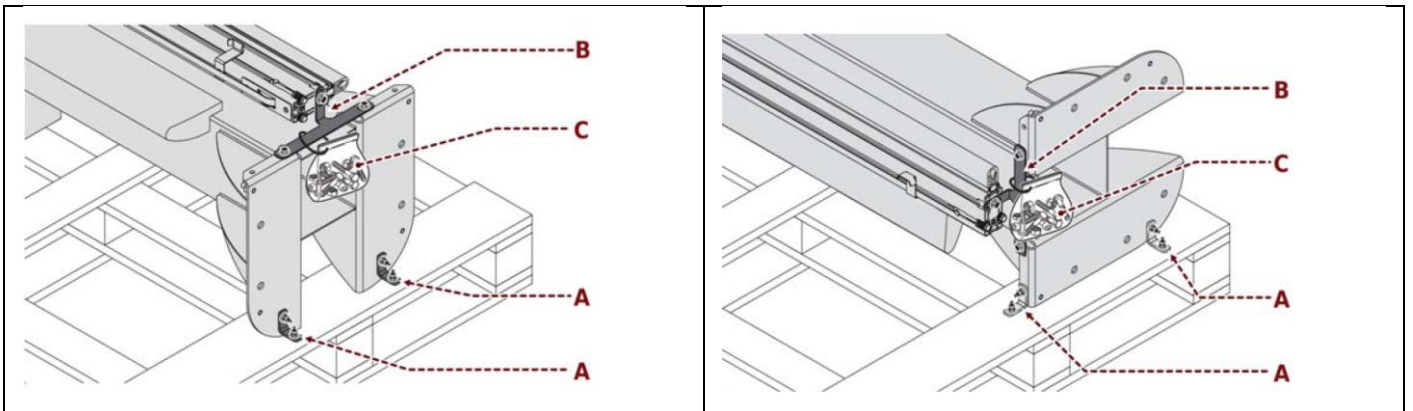
Authorised technical service personnel must perform installation and assembly operations.

Proceed as follows:

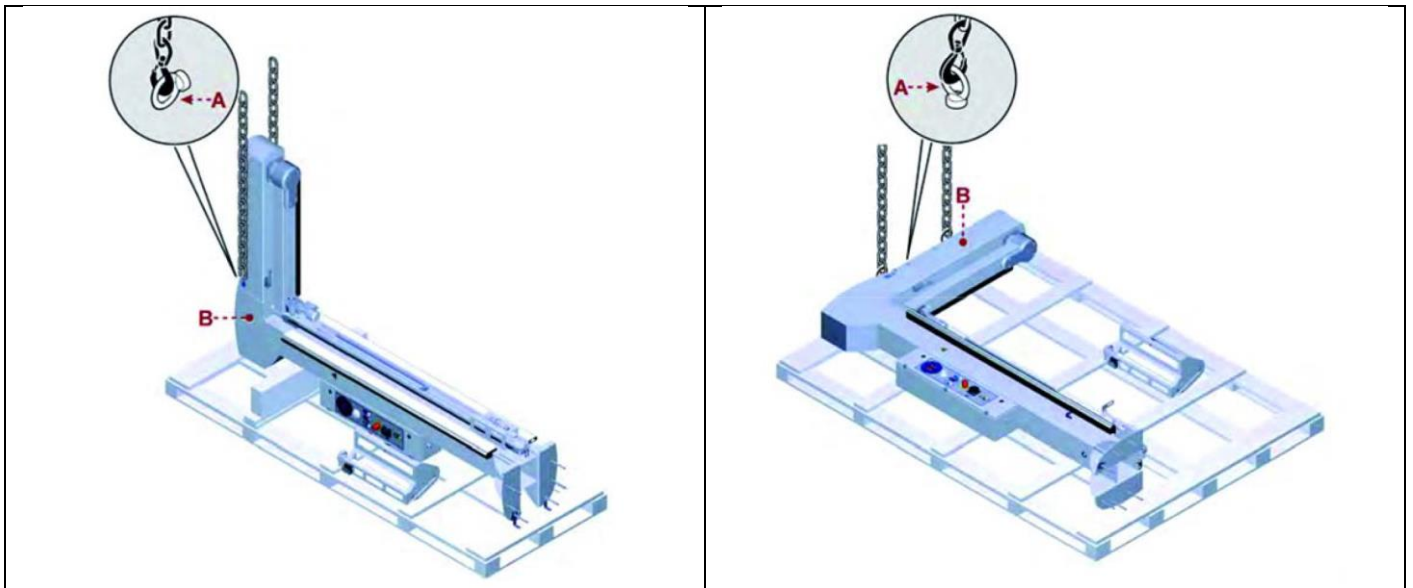
1. Cut the straps fastening the machine to the pallet.



2. Remove the mounting brackets (A-B) for transport.
The components for the fastening of the column to the ground are in the bag (C).



3. Hook the lifting device to the eyebolt (A) and lift the column (B).



Important

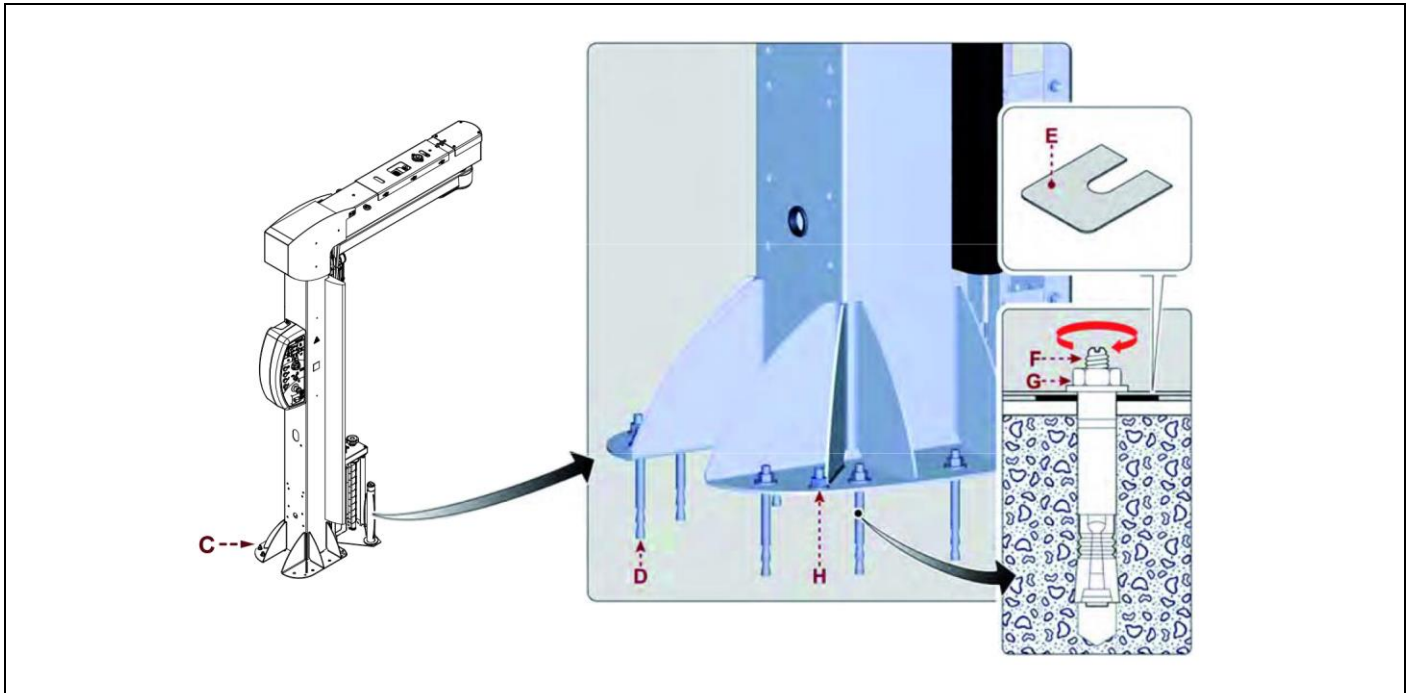
Always hook the machine in two points to avoid side tipping.



Danger - warning

Slowly lift and handle with caution to avoid oscillations.

4. Position the base of the column in the installation point.
Place the machine on the floor and keep it hooked to the lifting device



5. Drill the holes ($\varnothing 12 \times 110$ mm) on the floor in correspondence of the base fastening holes (C).



Important

Thoroughly clean the holes to eliminate any residual material.

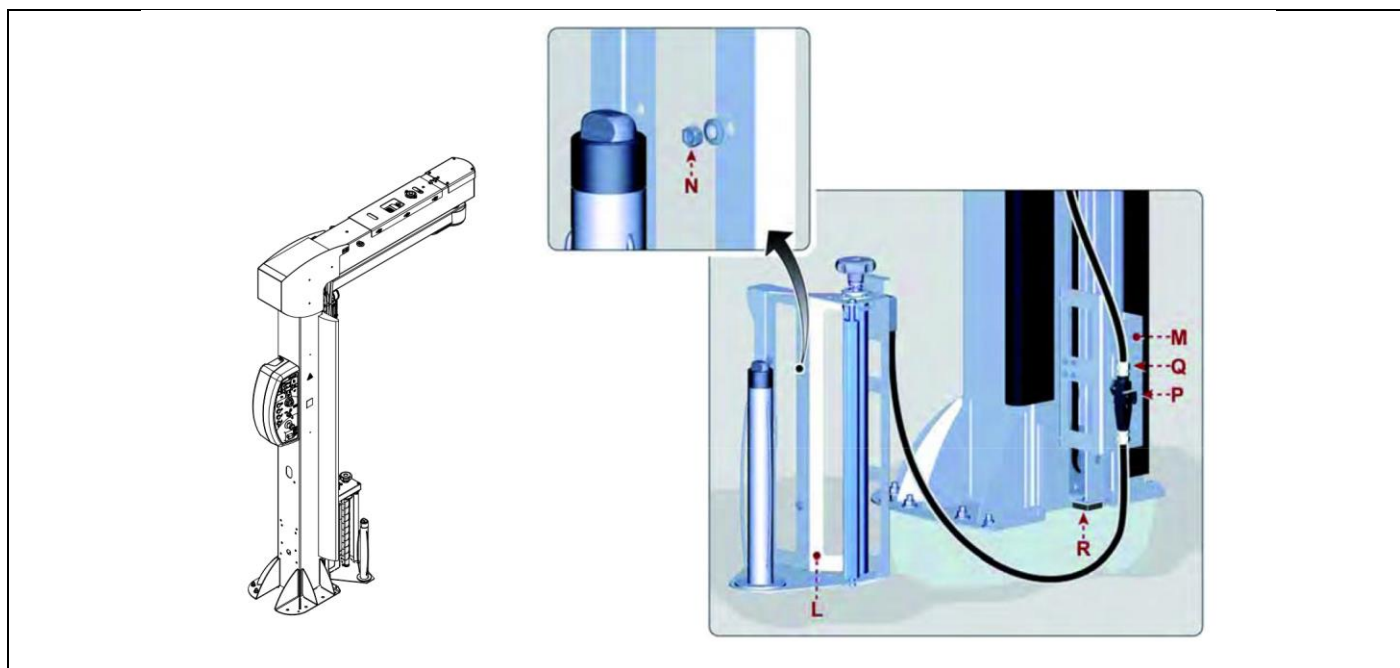
6. Insert the supplied plugs (D).
7. Place the machine on the floor.
8. Insert nuts (G) and the relevant washers of each threaded bar (F).
9. Tighten the two nuts of the threaded bars placed at the end of one of the two diagonals.
10. Level the machine through the adjuster screws (H).
Slightly loosen the nuts (G), if necessary.
11. Insert additional shims (E) in correspondence of the threaded bars (F), until there is no more gap between the frame and the floor, in order not to deform the base of the column during the final tightening.
12. Loosen the screws (H) and remove them.
13. Fully tighten the nuts (G) following a criss-crossed or alternated pattern (Tightening torque (65/70 Nm)).



Important

After the first period of operation (approx. one week), check that the machine fastening has not been affected.

14. Remove the lifting device.



15. Fit the film carriage (L) and fasten it to the support (M) with nuts (N) complete with relevant washers.

16. Connect the connector (P) to the socket (Q).



Danger - warning

Remove the fastening elements (R) used for transport.

4.4.1. FRONT STOP DEVICE INSTALLATION (OPTIONAL)

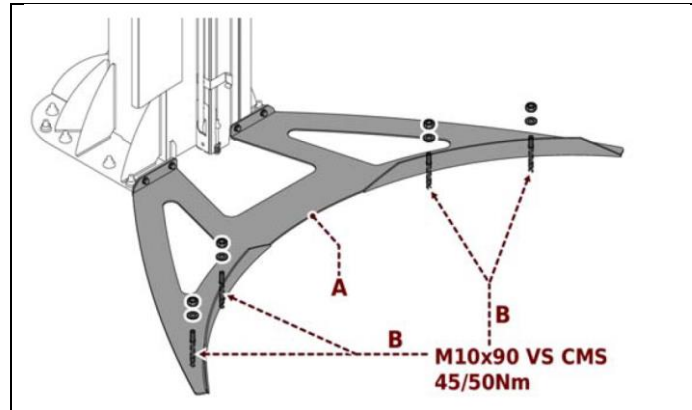
1. Secure the stop device (A) to the base of the column with the screws supplied.
2. Drill the holes ($\varnothing 10 \times 70\text{mm}$) on the floor in correspondence of the stop device fastening holes.



Important

Thoroughly clean the holes to eliminate any residual material.

3. Fix the stop device to the ground by means of plugs (B).



4.4.2. LONGITUDINAL STOP DEVICE INSTALLATION (OPTIONAL)

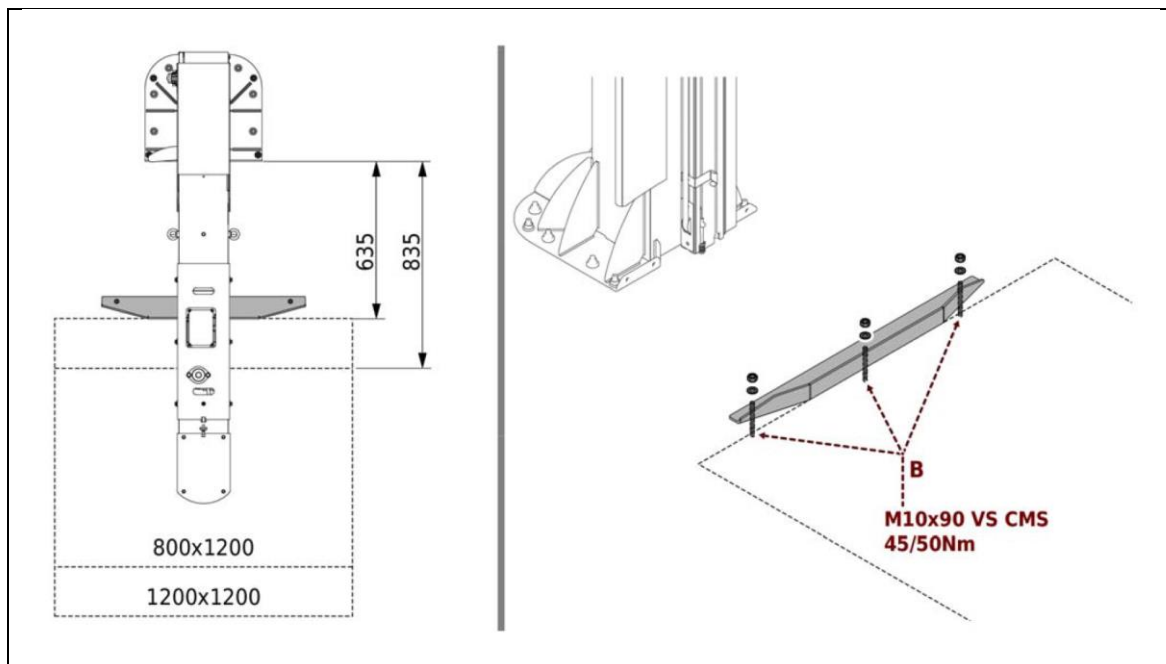
1. Position the stop device according to the shown diagram.
2. Drill the holes ($\varnothing 10 \times 70\text{mm}$) on the floor in correspondence of the stop device fastening holes.



Important

Thoroughly clean the holes to eliminate any residual material.

3. Fix the stop device to the ground by means of plugs (B).



4.4.3. WORK AREA DELIMITATION BARRIER INSTALLATION (OPTIONAL)

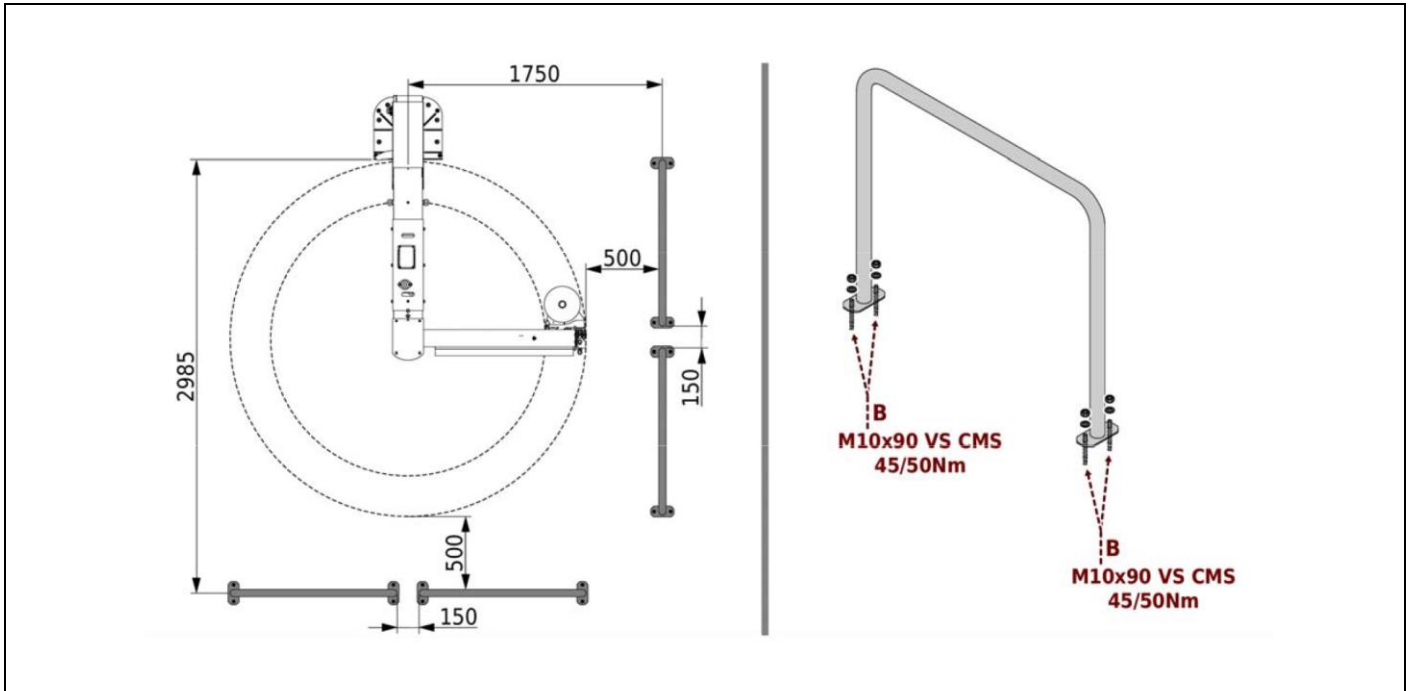
1. Identify the installation position of the barrier (A).
2. Drill the holes ($\varnothing 10 \times 70\text{mm}$) on the floor in correspondence of the barrier fastening holes.



Important

Thoroughly clean the holes to eliminate any residual material.

3. Fix the stop device to the ground by means of plugs (B).



4.4.4. INSTALLATION OF STOP DEVICE FOR ROLL CONTAINER (OPTIONAL)

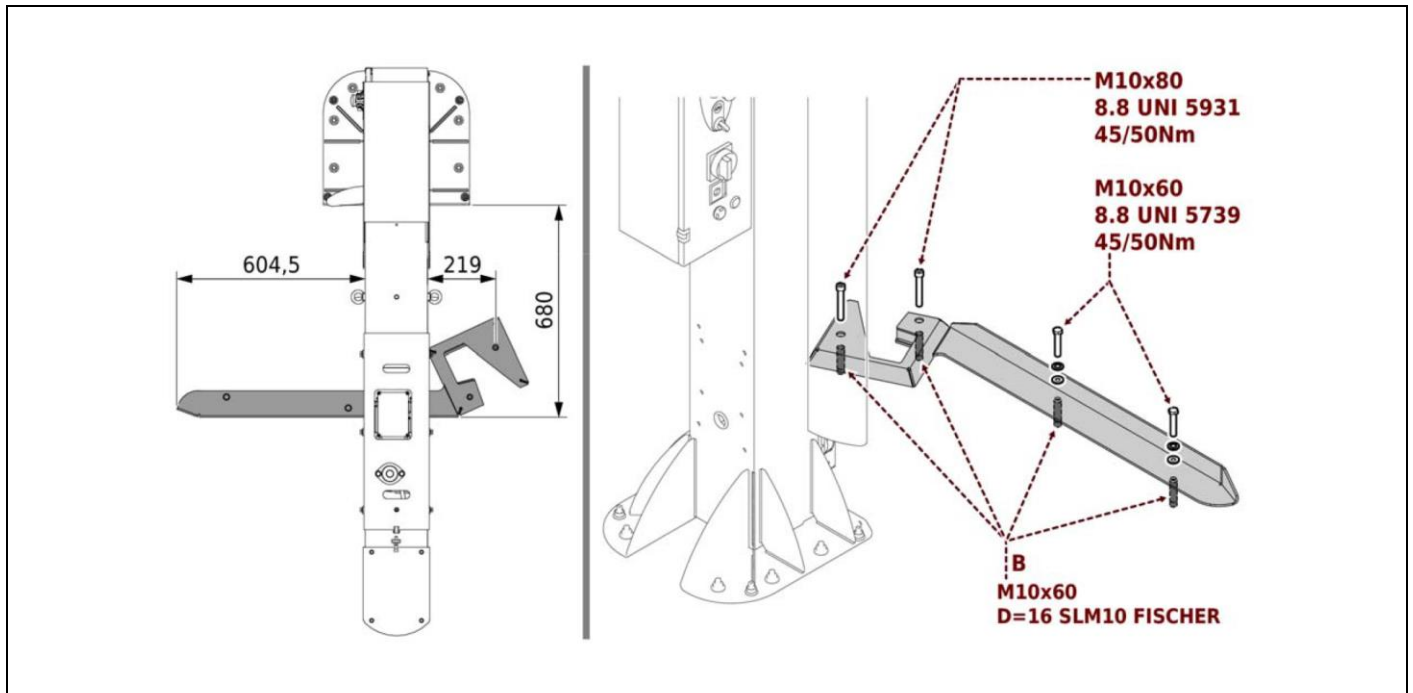
1. Position the stop device according to the shown diagram.
2. Drill the holes ($\varnothing 16 \times 70\text{mm}$) on the floor in correspondence of the stop device fastening holes.



Important

Thoroughly clean the holes to eliminate any residual material.

3. Fix the stop device to the ground by means of plugs (B).



4.4.5. POSITIONING OF TEMPLATE FOR WORK AREA DRAWING (OPTIONAL)

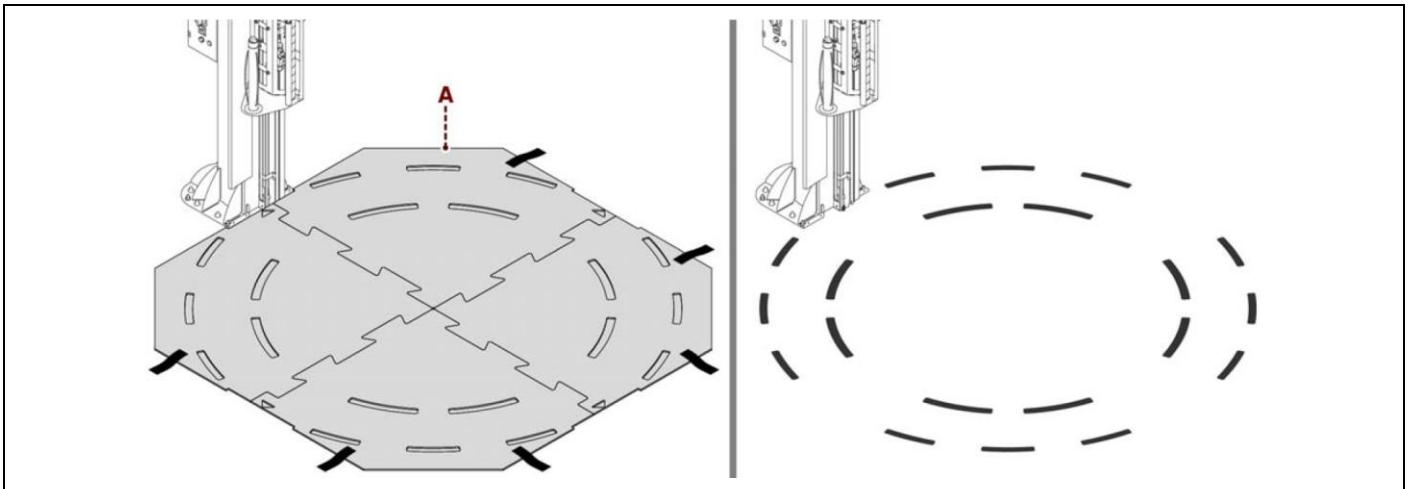
1. Install template (A) by using the engagement sections and position it resting against the column as indicated in the figure.



Important

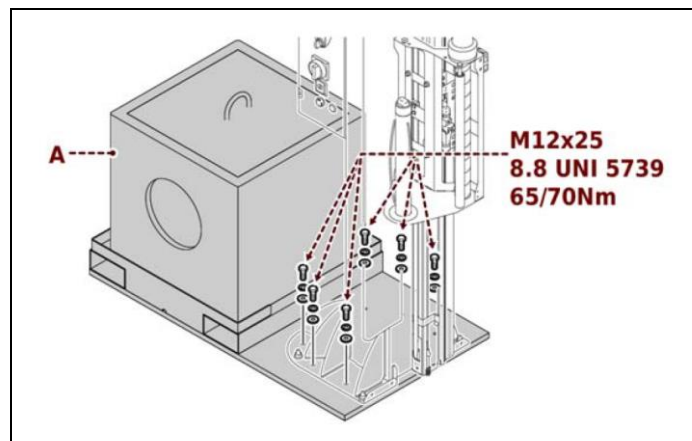
Perform a test rotation at low speed to check the correct alignment of the template with the arm.

2. Fix it to the ground with gummed paper tape or similar.
3. Make the drawing with the paint spray can provided.



4.4.6. MOBILE BASE INSTALLATION (OPTIONAL)

1. Refer to the chapter "Machine installation".
2. Keep the column hooked to the lifting device.
3. Fasten the column to the base (A) using the screws and washers provided and tighten using a tightening torque of 65/70 Nm.
4. Remove the lifting device.



4.4.7. PALLET LIFTING FRAME INSTALLATION (OPTIONAL)



Important

Fit the longitudinal members (A) according to the pallet used.

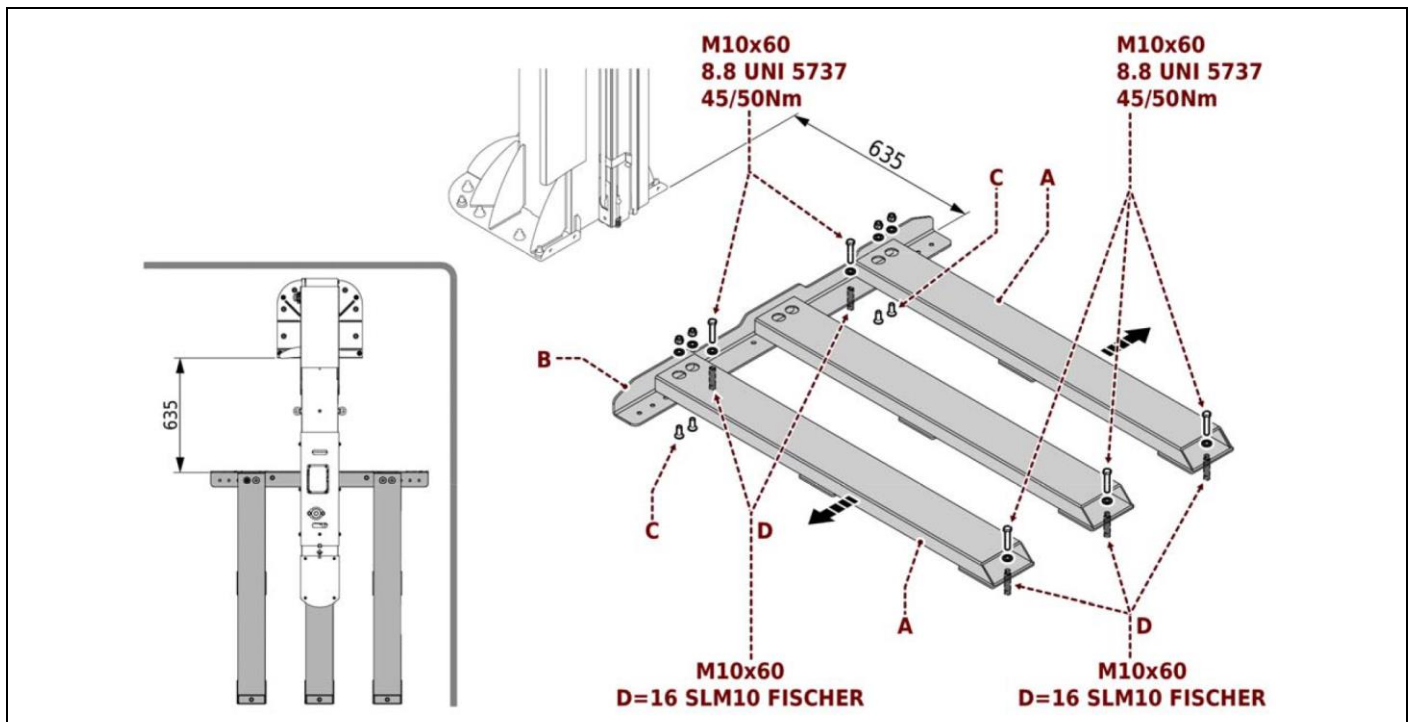
1. Assemble the frame according to the pallet size: fasten the longitudinal members (A) to the front bracket (B) through the screws (C).
2. Position the frame according to the shown diagram.
3. Drill the holes ($\varnothing 16 \times 70\text{mm}$) on the floor in correspondence of the frame fastening holes.



Important

Thoroughly clean the holes to eliminate any residual material.

4. Fix the frame to the ground by means of plugs (D).



4.5. RECOMMENDATIONS FOR CONNECTIONS



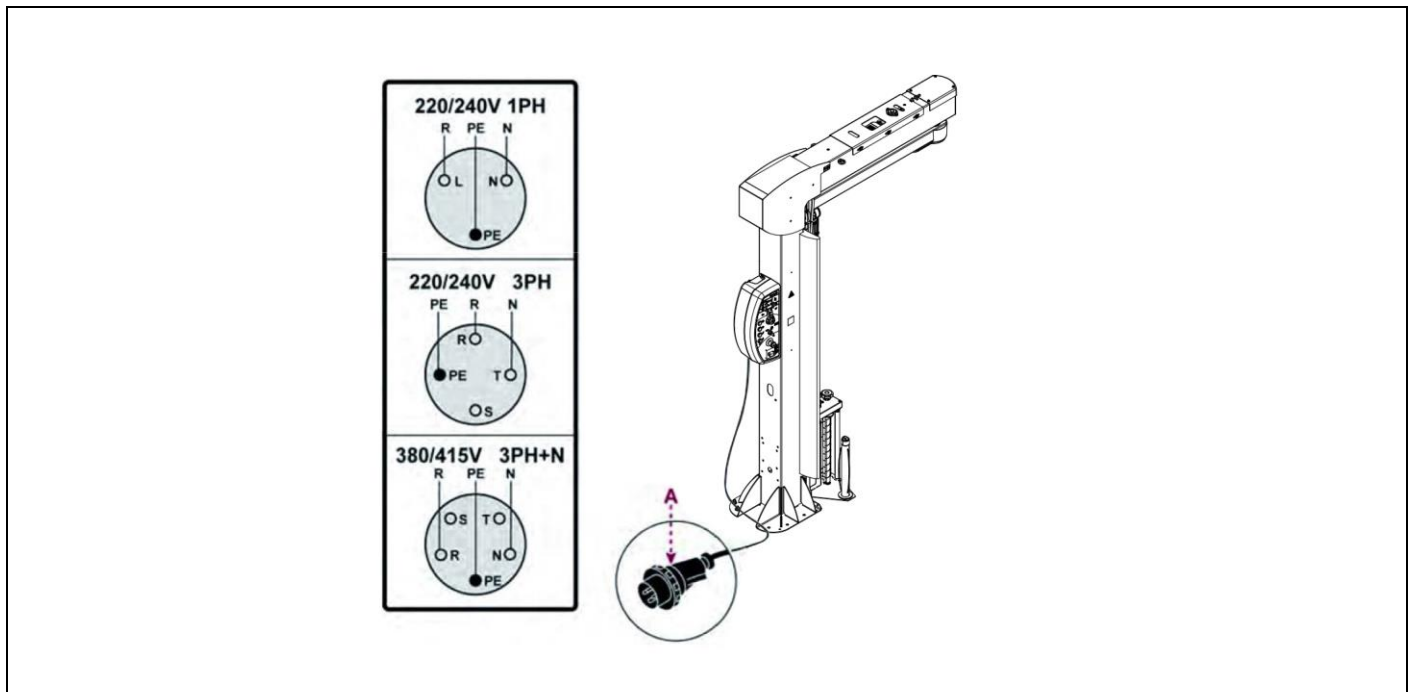
Important

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.

4.6. 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 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. INFORMATION ON ADJUSTMENTS

5.1. RECOMMENDATIONS FOR ADJUSTMENTS

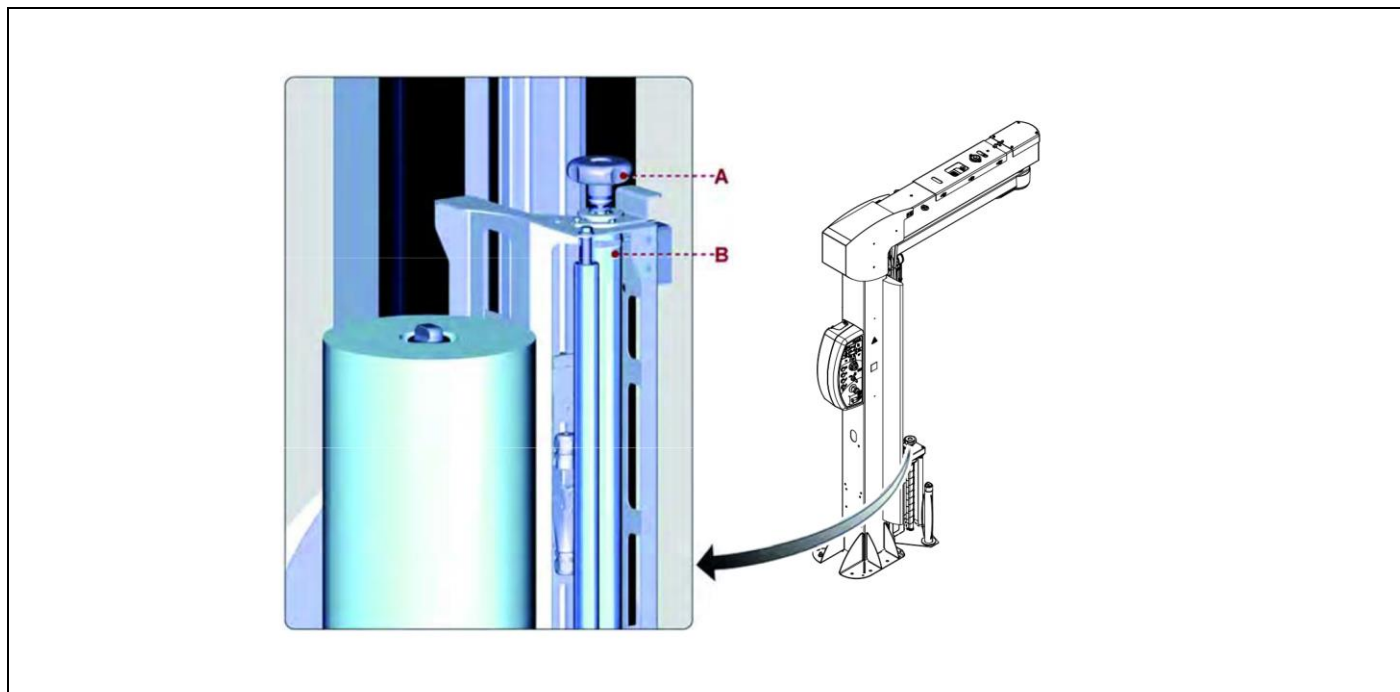
- Before performing any operation, the authorised operator must make sure to have understood the "Instructions for use".
- Activate all the safety devices provided, stop the machine and assess whether there is any residual energy before carrying out the operations.
- Provide suitable safety conditions 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. "FILM STRETCH" ADJUSTMENT

5.2.1. SPOOL CARRIAGES OF "FRD" TYPE

Use the handwheel (A) to adjust the braking action of the stretching roller (B) which determines the film stretch.

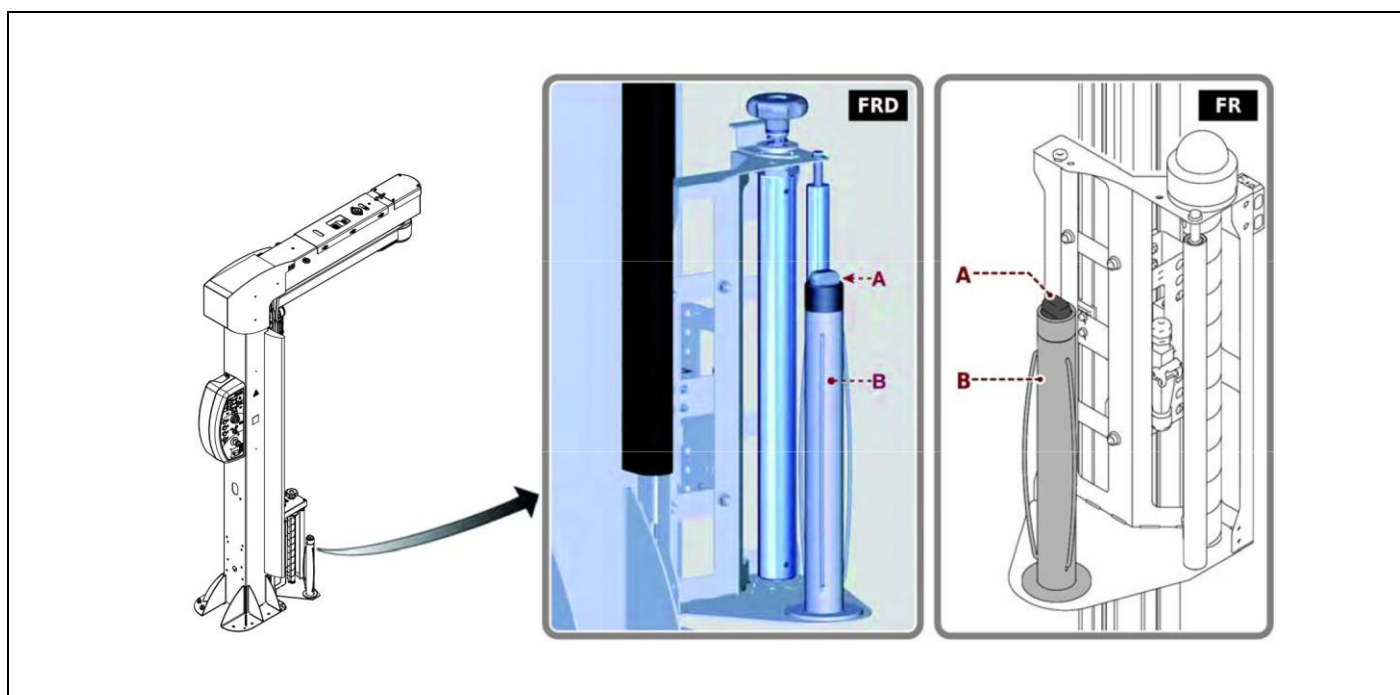
- **Clockwise:** value increases.
- **Anticlockwise:** value decreases.



5.3. REEL BRAKE ADJUSTMENT

Use the knob (A) to adjust the braking action of the reel carriage roller (B) which determines the film tensioning.

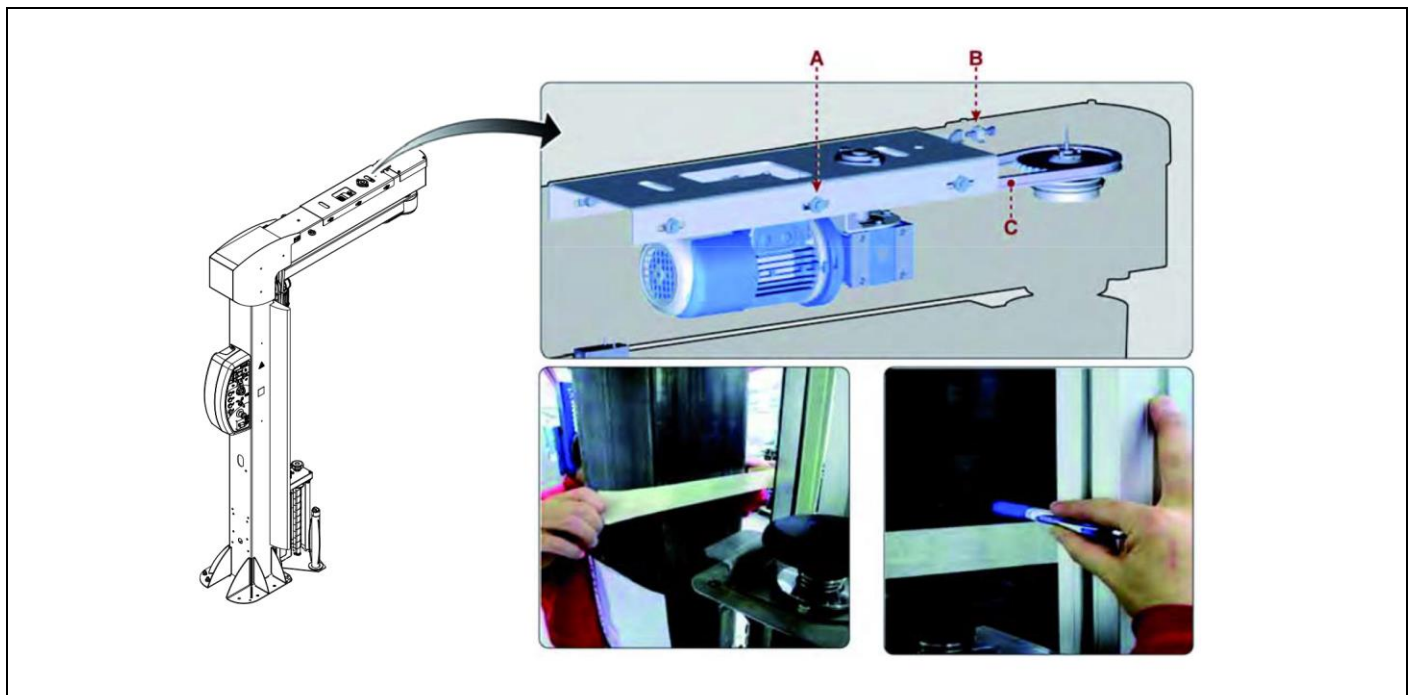
- **Clockwise:** value increases.
- **Anticlockwise:** value decreases.



5.4. WRAPPING MACHINE ARM DRIVE CHAIN TENSION ADJUSTMENT

The intervention is required to limit the movement of the arm with braked drive.

The figure shows the intervention points and the description indicates the procedures to use.



1. Stop the machine in safety conditions.
2. Apply adhesive tape on the column.
3. Position the marker, pull the arm (anticlockwise direction) fully home and mark the position on the adhesive tape.
4. Push the arm (clockwise direction) fully home and mark the position on the adhesive tape.
The distance between the marks should be 45 mm (± 15).
If this is not the case, adjust the chain tension.
5. Slightly loosen the screws (A).
6. Act on the screw (B) to adjust the chain tension (C).
 - Clockwise: value decreases.
 - Anticlockwise: value increases.
7. Tighten the screws (A).
8. Double-check to verify that the operation has been performed correctly.
If this is not the case, repeat the operation.

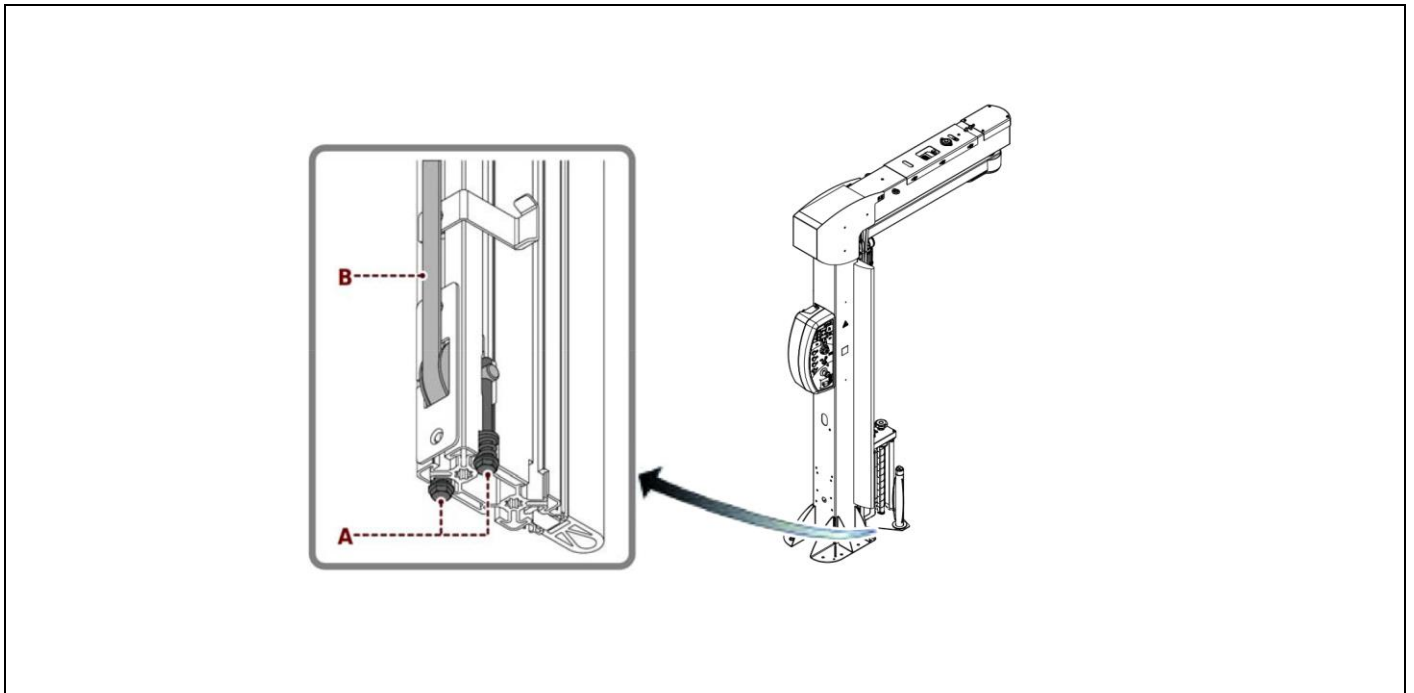


Important

Maintenance interventions in areas that are not easily accessible or dangerous must be carried out after having made sure that the necessary conditions are met.

5.5. FILM CARRIAGE BELT ADJUSTMENT

The figure shows the intervention points and the description indicates the procedures to use.



1. Lift the film carriage (with the machine operating in “manual mode”) until it reaches the “upper” limit switch.
2. Stop the machine in safety conditions.
3. Act on the screws (A) to adjust the belt tension (B).



Important

The correct tension is reached when the springs are loaded until reaching a length of 18 mm.
Make sure that both springs have the same length.

4. Lower the film carriage until fully home.

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.
- Daily, before each use of the machine, check that it stops by pressing the emergency button to trigger the bumper.



Caution - warning

Bumper can be triggered by placing an obstacle in front of the machine at a distance of approximately 20 cm.



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.

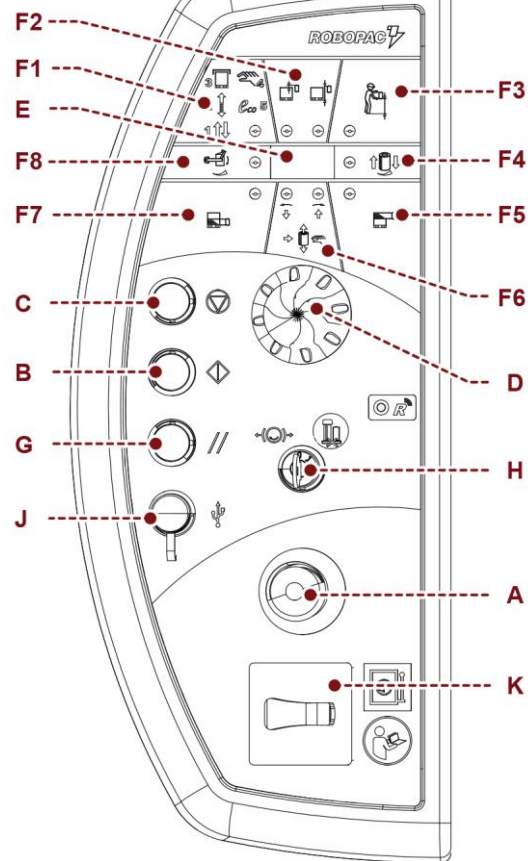
Only carry out the operations foreseen by the Manufacturer and do not tamper with any device to obtain different performance levels.

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 CONTROLS (ECOWRAP PLUS)

- A) **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 further details, see the paragraph "description of safety devices".
- B) **"Cycle start" button:**
it is used to start the wrapping automatic cycle.
- C) **"Cycle stop" button:**
it is used to stop the wrapping automatic cycle.
- D) **Multi-function selector:**
it allows activating and setting machine functions.
Turn the selector (clockwise or counter-clockwise) until the LED for the desired function turns on.
- E) **Digital display:**
it shows the working parameters and alarm codes.
- F) **Machine functions:**
 - F1-F8: these are the various functions available on the machine (see the "Machine functions" section).
- G) **"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.
- H) **Key-operated switch:**
 - Carriage emergency override
Rotate the key clockwise in hold to run position: the user interface screen will display the page "emergency override" and this allows the carriage alone to be lifted by simultaneously pressing the "multi-function selector" (D).
 - Rotary arm brake release
Rotate the key counter-clockwise (stable position): it is used to release the rotary arm and move it manually (see "Safety device description").
- J) **USB port:**
used to update the machine software.
If a USB flash drive containing updated software is inserted into the port, the software will be installed on the machine when it is turned on.
- K) **Main disconnecter:**
it enables and disables the power supply.
Pos. "O": power supply off.
Pos. "I": power supply on.



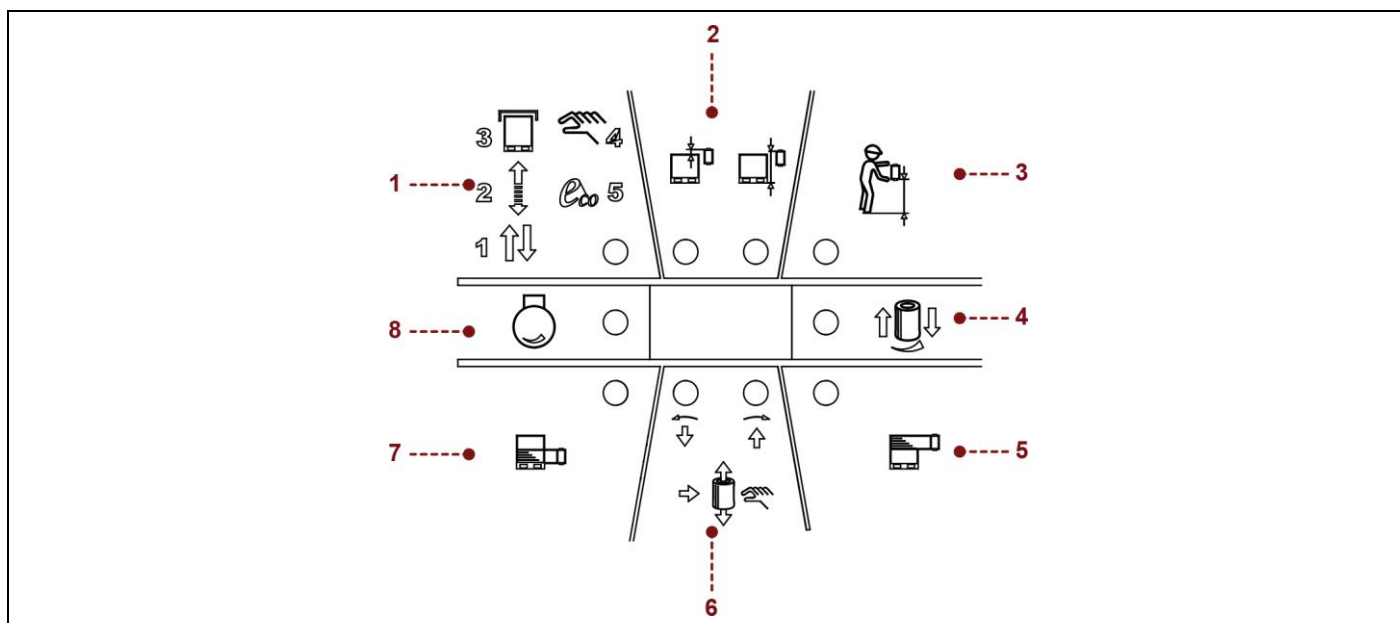
6.2.1. MACHINE FUNCTIONS (ECOWRAP PLUS)





To view and/or set the functions, turn or press the multi-function selector.




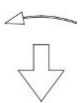



Functional logic diagrams show the navigation modes.

The illustration corresponding to each view shows the abbreviation which indicates the activation mode.

- Abbreviation "**R**":
turn the control to access the views or to modify the values.
To modify the values, press the control, turn it until the concerned value is displayed and press it again to save it.
- Abbreviation "**P**":
Press the control to activate the selected function.
- Abbreviation "**PH**":
It indicates a long press of the multi-function selector (D), which provides access to the second level functions.



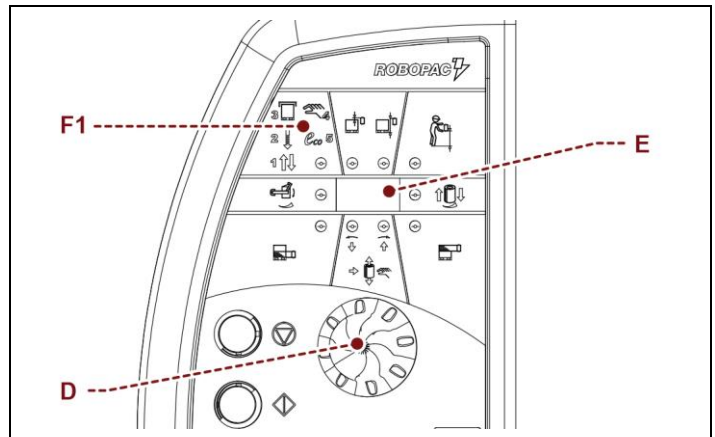
Ref.	Code activation mode	Icon	Description
1	P		Wrapping type program selection
	R	1 ↑↓	"Double wrapping" cycle
	R	2 ↑↓	"Single wrapping" cycle
	R	3 	"Double wrapping with feeder" cycle
	R	4 	Manual cycle
	R	5 <i>Eco</i>	Eco cycle
2	PH		Photocell or Altimeter selection (after having selected the photocell or altimeter (PH), the (P) action is used to access the adjustment mode for the selected parameter)
	R		Photocell delay adjustment via the rotation of the multi-function selector.
	R		Altimeter adjustment via the rotation of the multi-function selector

3	P	Carriage "Home" height adjustment	
	R		Carriage "Home" height adjustment, by rotating the multi-function selector, the height can be adjusted at 5-centimetre intervals, up to a maximum height of 1 metre
4	P	Carriage upstroke / downstroke speed adjustment	
	R		Carriage upstroke / downstroke speed adjustment via the rotation of the multi-function selector.
5	P	Adjustment of the number of cycles at the top of the pallet	
	R		Adjustment of the number of cycles at the top of the pallet via the rotation of the multi-function selector.
6	P	Manual controls	
	P		Carriage downstroke in manual mode by keeping the multi-function selector turned to the left
	P		Carriage upstroke in manual mode by keeping the multi-function selector turned to the right
7	P	Adjustment of the number of cycles at the base of the pallet	
	R		Adjustment of the number of cycles at the base of the pallet via the rotation of the multi-function selector.
8	R	Machine rotation speed adjustment	
	R		Machine rotation speed adjustment (max speed 11 RPM)

6.3. MULTI-FUNCTION SELECTOR USAGE MODE (ECOWRAP PLUS)

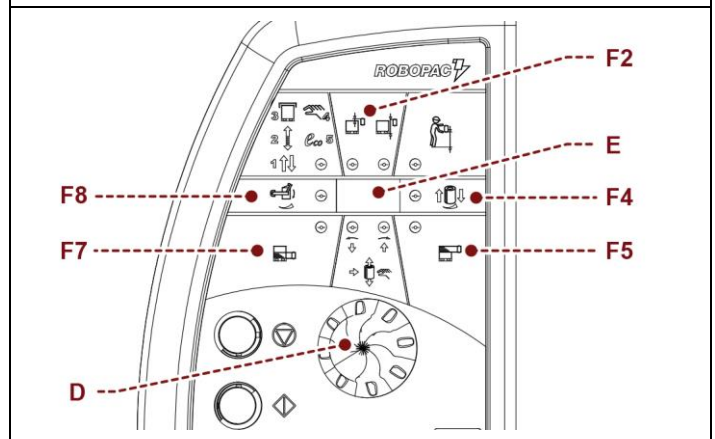
To select the wrapping cycle:

1. Turn the selector to the first function on the line on the upper left (F1).
2. Press the selector (D).
The LED starts flashing.
3. Turn the selector to select the number of the work cycle.
4. Press the selector to confirm the selection.
The identification number appears on the display (E).
The machine is ready to start the cycle.



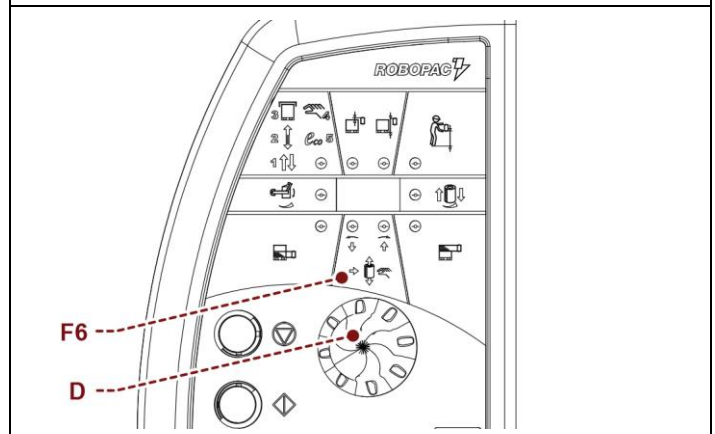
To change the production parameters:

1. Turn the selector to one of the functions (F2-F4-F5-F7-F8).
2. Press the selector (D).
The LED starts flashing.
The set value appears on the display (E).
3. Turn the selector to change the value.
4. Press the selector to save the change.
The LED remains on steady.



To move the film carriage in manual mode:

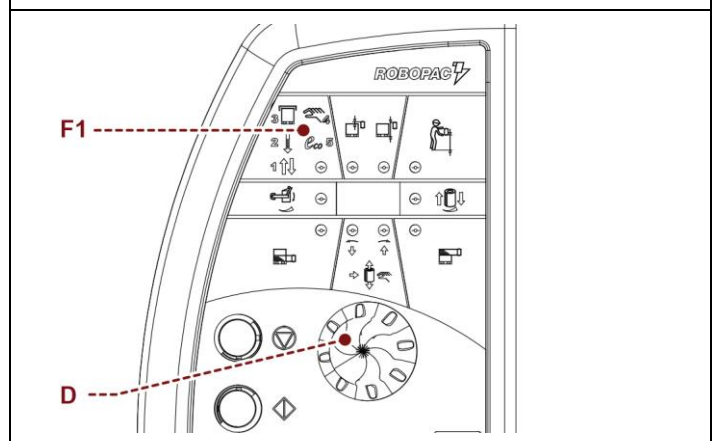
1. Turn the selector to the function (F6).
2. Press the selector (D).
The LEDs start flashing.
3. Turn the selector to move the carriage.
 - Clockwise: carriage moves up.
 - Anticlockwise: carriage moves down.
4. Press the selector to quit the function.
The LED remains on steady.



To perform multiple reinforcing wrapping:

During the double cycle (F1 sel. 1) or single cycle (F1 sel. 2), press the selector (D) for at least 2 seconds while the film carriage is in the upstroke or downstroke phase to stop the film carriage and obtain reinforcing wrapping.

To carry out several reinforcing wrappings at the same point, press selector (D) a few times (maximum 5). The carriage will resume moving once the set number of wrapping operations have been completed.



To view the production data:

Activate the main electrical disconnecter and at the same time press selector (D).

The following message appears on the display (E):

- "d1" cycle partial counter.

To reset, briefly hold the selector down (for about 3 seconds).

- "d2" – cycle total counter (1000÷999000)
- "d3" – cycle total counter (0÷999)
- "d4" – Software revision version
- "d5" – Power supply voltage
- "d6" – Board temperature
- "d7" – Machine run status time counter

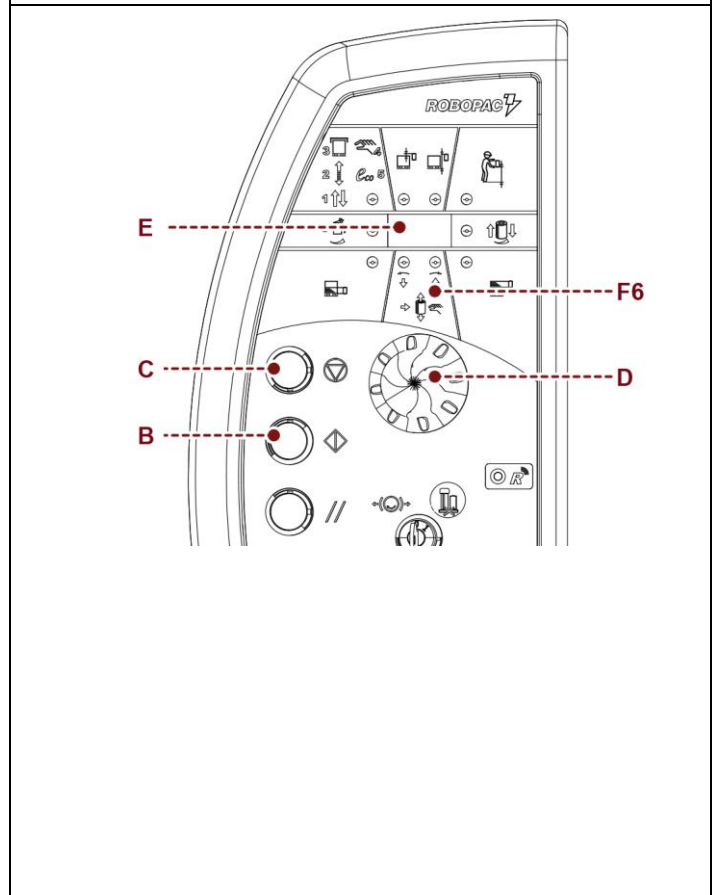
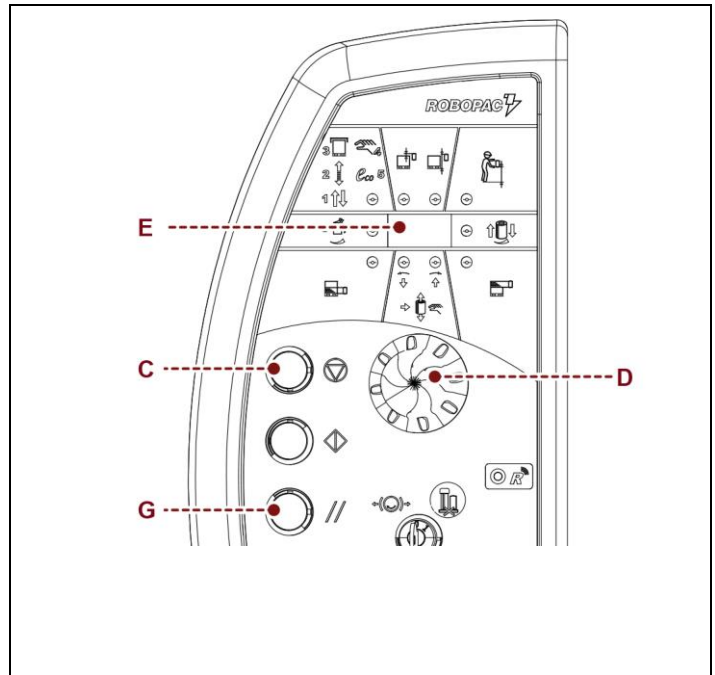
Upon pressing the "Cycle stop" (C) button, the machine will prompt the user to press the "Reset" button (G).

To program the "Eco" wrapping cycle:

Select the "Eco" cycle (F1 sel. 5)

The "Eco" wrapping cycle can be customised in order to optimise it and reduce waste in terms of time and wrapping material.

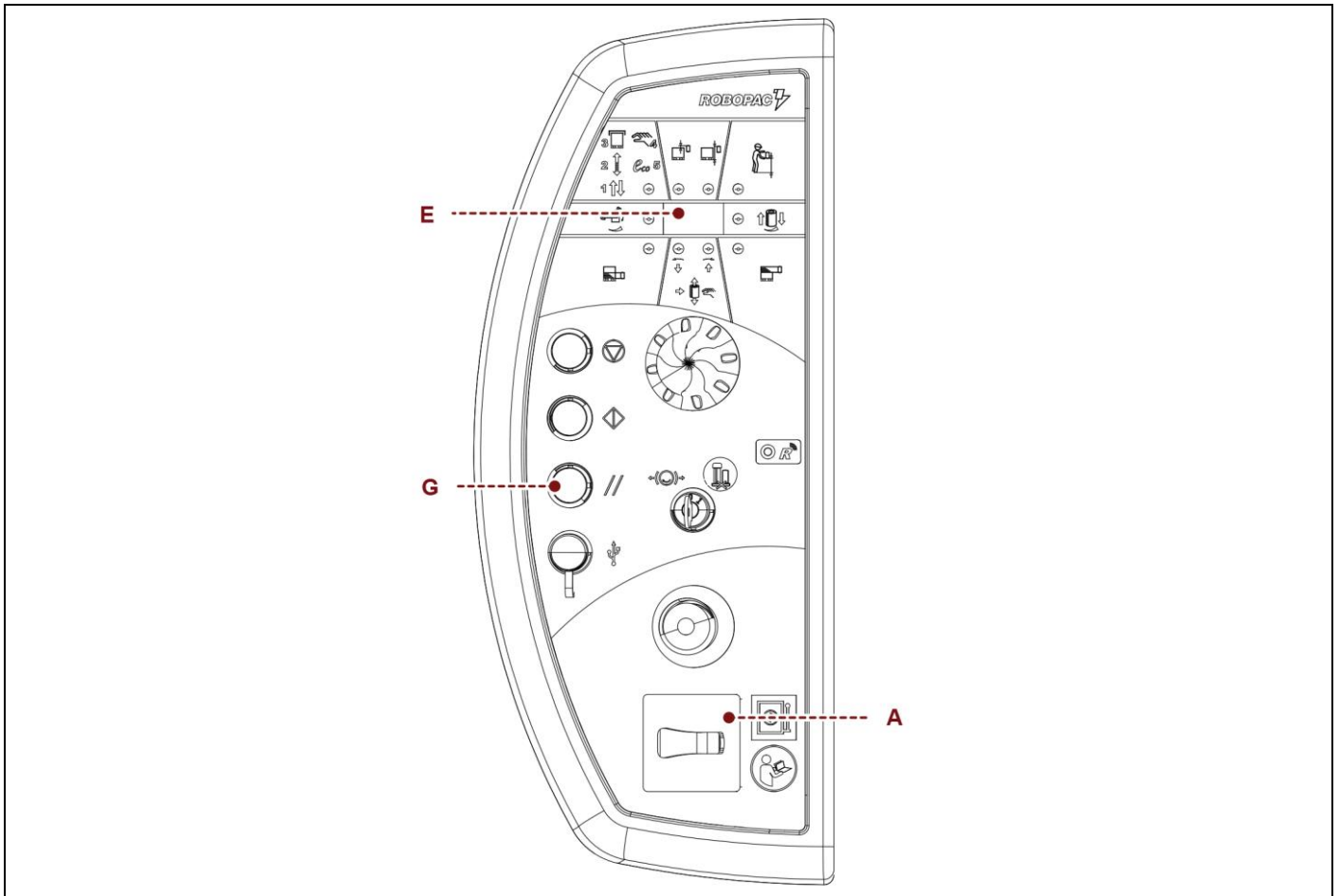
1. Press and hold down the selector (D) and simultaneously press the "cycle stop" button (C). The message "rEC" appears on the display (E). "Self-learning" mode is activated. The system records all operations required to customise a wrapping cycle (Max 20 steps).
2. Upon pressing the "Cycle start" button (B) the carriage is returned to the lower limit switch. Upon pressing the "Cycle start" button (B) again, the arm rotation is activated and the film carriage movement is simultaneously activated in manual mode (F6).
3. Engage the selector (D) to move the film carriage.
4. When the film carriage is returned to the "lower" limit switch position, press the "Cycle stop" button (C) to stop recording. The machine runs a synchronised stop.
5. Press and hold down the selector (D) and simultaneously press the "Cycle stop" button (C) to exit the recording mode.



6.4. TURNING THE MACHINE ON AND OFF (ECOWRAP PLUS)

1. Turn the main switch (A) to "I" (ON) to activate the power supply.
The LEDs turn on to indicate that the system is running machine check-up routine and the display (E) shows the installed software version for a few seconds.
After the check-up routine, the display shows the message "rES".
2. Press the "Reset" button (G).
The machine gets ready to start the cycle.
Display (E) shows the identification number of the programmed wrapping cycle.
3. Perform the cycle starting operations (see "Cycle start and stop").

Turn the main switch (A) to 0 (OFF) to switch the machine off.



6.5. CYCLE START AND STOP (ECOWRAP PLUS)

Proceed as follows.

1. Place the pallet in the wrapping area within the rotary arm trajectory and move the loading device away.
2. Tie the film end to the pallet.
3. Set the cycle parameters.
4. Press the "Cycle Start" button (B).

The machine starts the wrapping cycle, based on the previously set operating mode.

- Setting the manual wrapping cycle activates the rotary arm rotation.

The operator must activate the multi-function selector to move the film carriage up and then down so as to complete the wrapping.

Once wrapping is completed, the rotary arm will run a synchronised stop when film carriage reaches the "low" limit stop position.

Press "cycle stop" button to stop the cycle without taking the film carriage to "down" limit stop.

- Setting the automatic wrapping cycle activates the rotary arm rotation.

The film carriage performs the programmed wrapping and, once this stage is over, automatically stops with the rotary arm synchronised.

To temporarily suspend the cycle, press the "Cycle Stop" button (C).

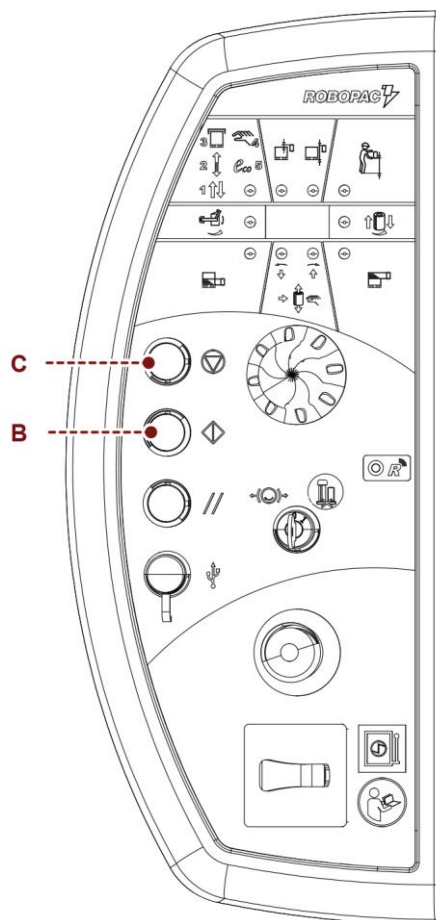
Press the "Cycle Start" button (B) to restart it.

5. Cut the film.
6. Remove the pallet and position a new pallet to start a new cycle.



Caution - warning

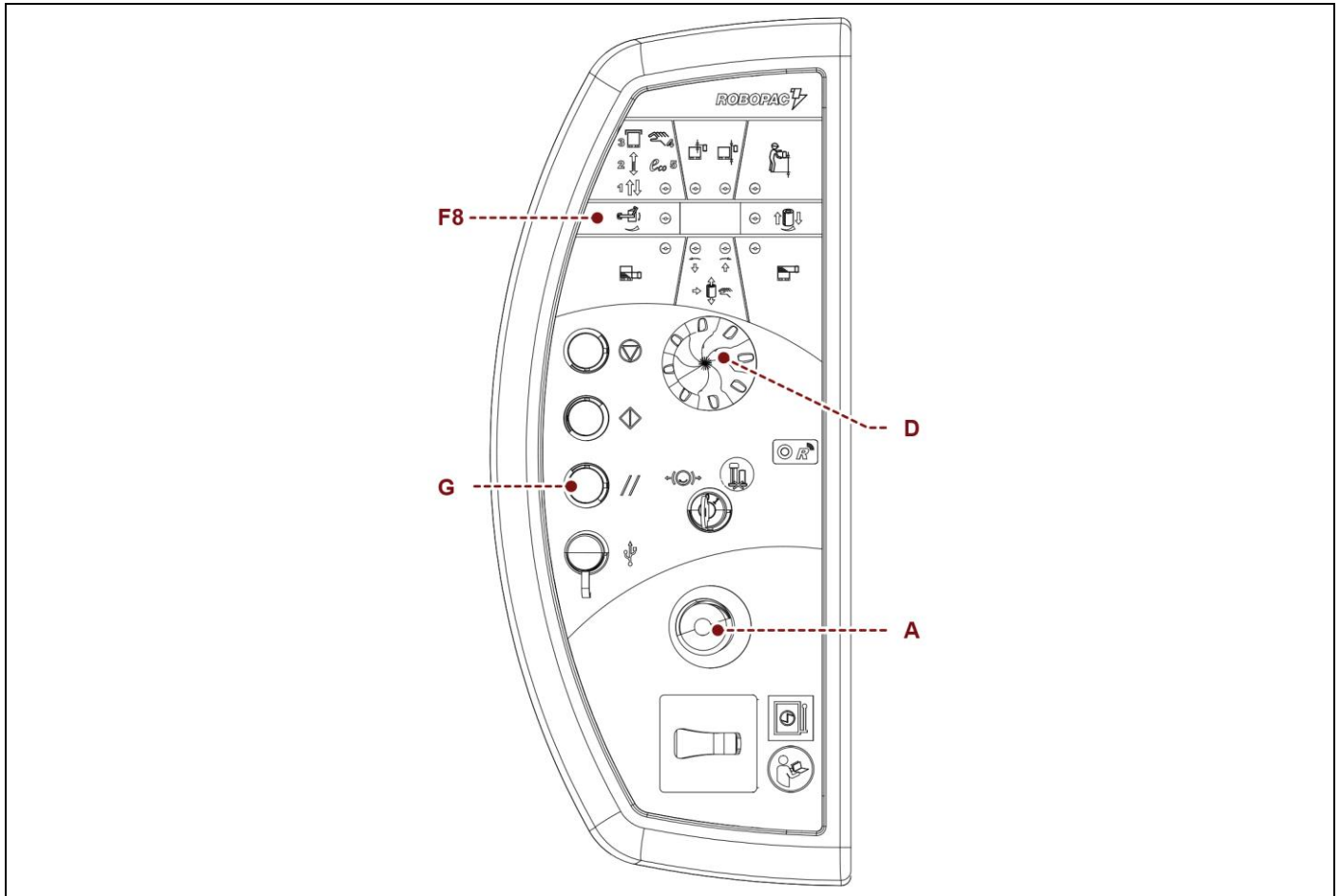
Do not stretch or pre-stretch the film excessively and do not wrap the product with too many wrappings in order to prevent damaging the packages and the products contained in them.



6.6. EMERGENCY STOP AND RESTART (ECOWRAP PLUS)

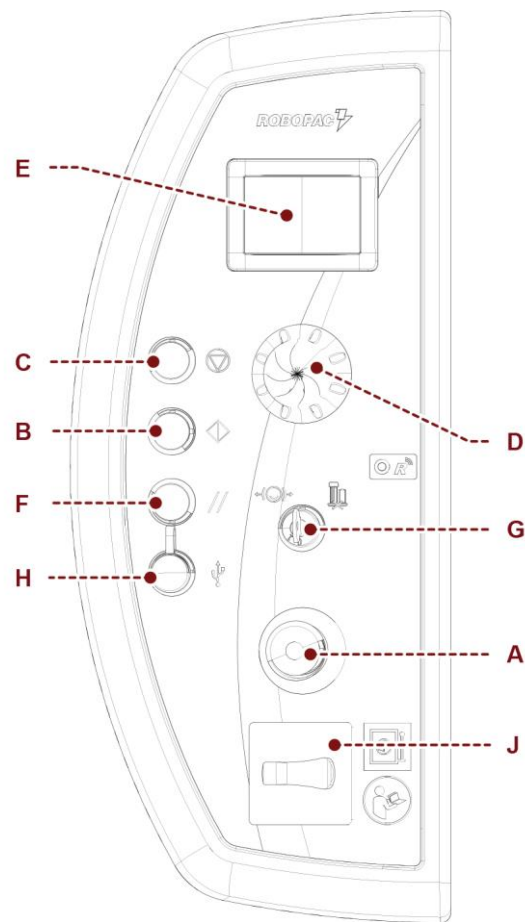
Proceed as follows.

1. Press the emergency button (A) of the machine in situations of imminent risk.
Its functions stop immediately.
2. After setting the working conditions back to normal, release the button to allow the machine to resume operation.
3. Press the "Reset" button (G).
4. Turn the selector (D) to the function (F8).
5. Press and hold selector (D) to move the rotary arm to the cycle start position.
6. Repeat all automatic cycle starting operations (see "Cycle start and stop").



6.7. DESCRIPTION OF CONTROLS (MASTERWRAP PLUS)

- A) **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 further details, see the paragraph "description of safety devices".
- B) **"Cycle start" button:**
it is used to start the wrapping automatic cycle.
- C) **"Cycle stop" button:**
it is used to stop the wrapping automatic cycle.
- D) **Multi-function selector:**
it allows activating and setting machine functions.
- E) **Digital display:**
it shows the working parameters and alarm codes.
- F) **"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.
- G) **Key-operated switch:**
 - Carriage emergency override
Rotate the key clockwise in hold to run position: the user interface screen will display the page "emergency override" and this allows the carriage alone to be lifted by simultaneously pressing the "multi-function selector" (D).
 - Rotary arm brake release
Rotate the key counter-clockwise (stable position): it is used to release the rotary arm and move it manually (see "Safety device description").
- H) **USB port:**
used to update the machine software.
If a USB flash drive containing updated software is inserted into the port, the software will be installed on the machine when it is turned on.
- J) **Main disconnecter:**
it enables and disables the power supply.
 - Pos. "O": power supply off.
 - Pos. "I": power supply on.



6.8. DESCRIPTION OF USER INTERFACE (MASTERWRAP PLUS)

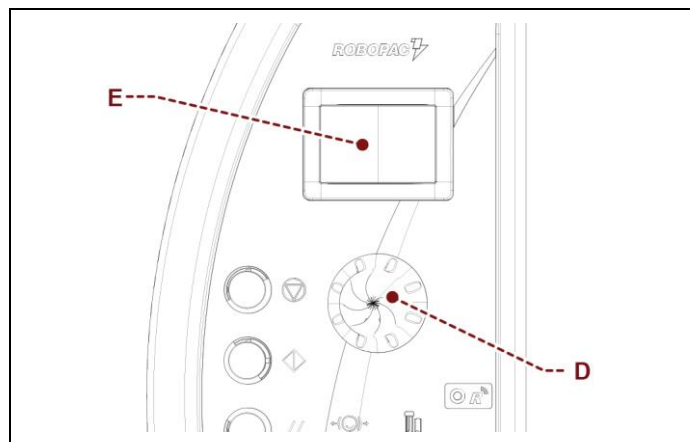
The user interface is equipped with a multi-function selector (**D**), which is used to view and set the machine functions, and a display (**E**), which shows recipes, parameters, etc.

To view and/or set the functions, turn or press the multi-function selector.

Functional logic diagrams show the navigation modes.

The illustration corresponding to each view shows the abbreviation which indicates the activation mode.

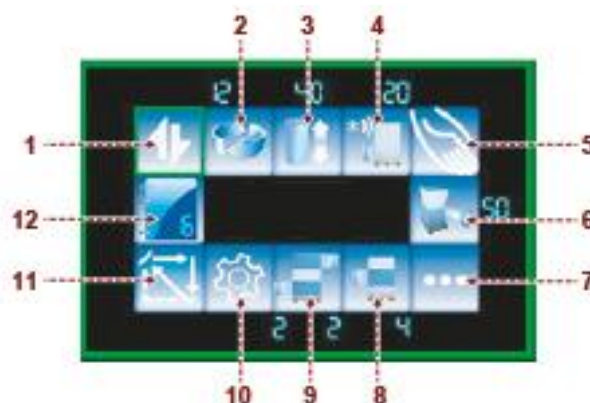
- Abbreviation “**R**”:
turn the control to access the views or to modify the values.
To modify the values, press the control, turn it until the concerned value is displayed and press it again to save it.
- Abbreviation “**P**”:
press the control to activate the selected function.
- Abbreviation “**PH**”:
it indicates a long pressure of the multi-function selector (**D**), which allows accessing the second level functions.



Colours of page edges:

- **Yellow**: machine in “Stop” mode with locked values (padlock function).
- **Green**: machine in “Stop” mode with editable values.
- **Purple**: machine in “Manual” mode.
- **Blue**: machine in “Reset” mode.
- **Orange**: machine in automatic “Run” mode.
- **Red**: machine in alarm mode.
- **White**: parameter value edit pages.


6.9. "MAIN MENU" PAGE



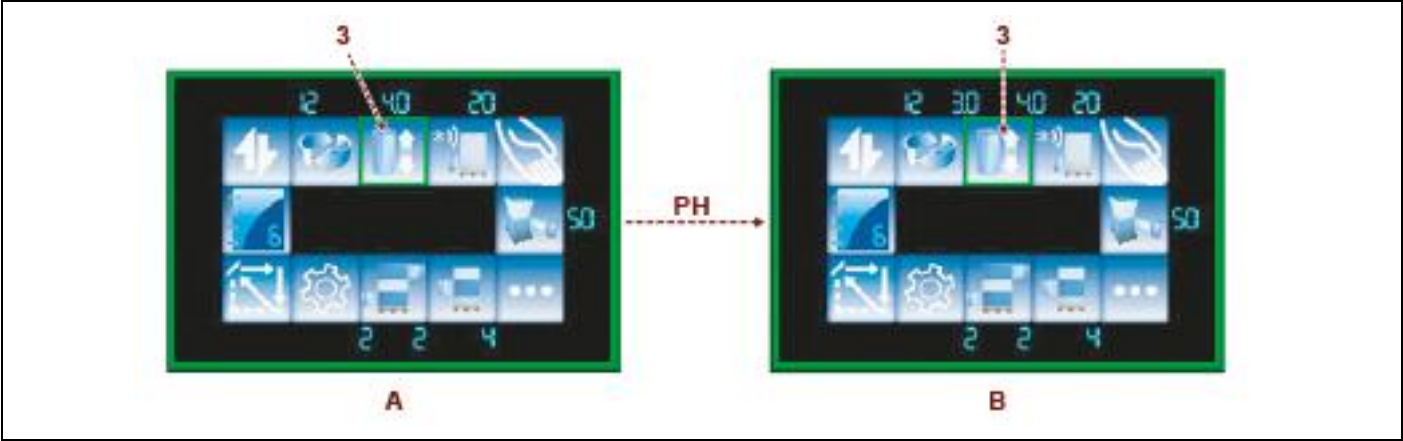
Ref.	Button	Description
1		Wrapping cycle
2		Arm rotation speed (rpm)
3		Carriage speed
4		Wrapping end delay
5		Access to "Manual Controls" Menu. (See "Manual Controls Menu")
6		Access to "Film Tensioning" Menu (See "Film tensioning menu")
7		Access to "Other" Menu (See "Other Menu")
8		Intermediate wrapping turns
9		Intermediate and upper wrapping turns
10		Access to "Settings" Menu (See "Settings Menu")
11		Synchronisation of the machine: arm in initial position, carriage down. If "JOG" is pressed again, movements will stop
12		Access to the "Recipe" Menu (See "Recipe" Menu)




6.9.2. ARM ROTATION SPEED (rpm)



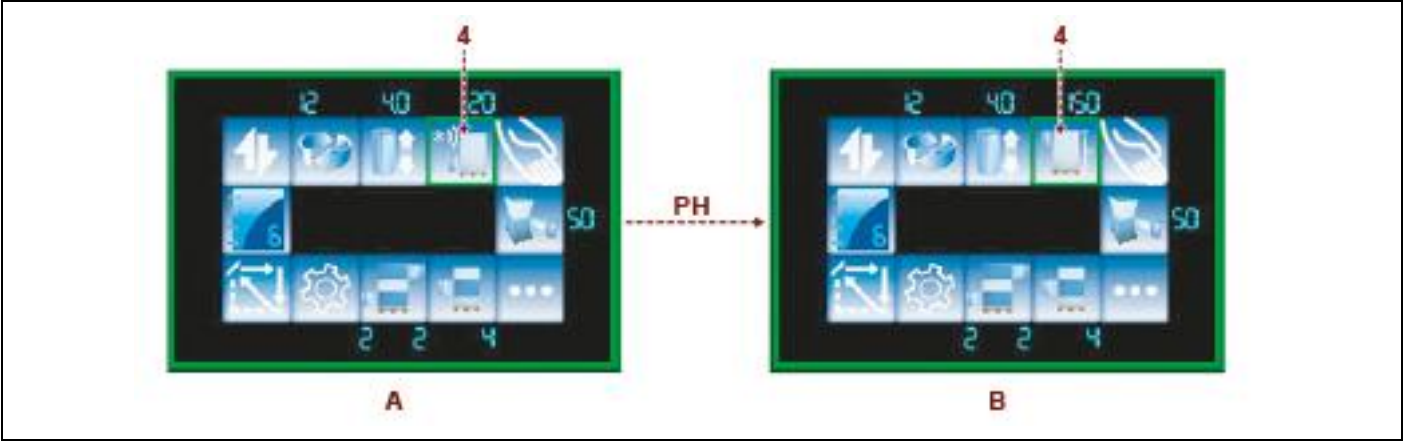
Activation mode abbreviation	Button	Description
P		View arm rotation speed (rpm)

6.9.3. CARRIAGE SPEED



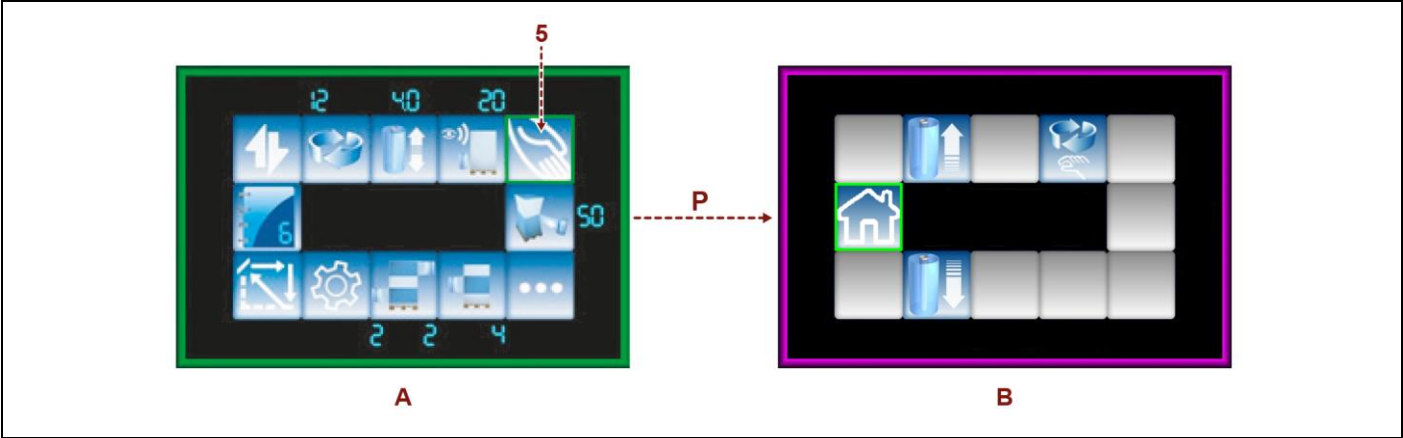
Ref.	Activation mode abbreviation	Button	Description
A	P		Display carriage speed
B	P		Display carriage upstroke speed
	P		Display carriage downstroke speed


6.9.4. WRAPPING END DELAY / PALLET HEIGHT







Ref.	Activation mode abbreviation	Button	Description
A	P		View the distance of the wrapping end delay in cm
	P		View the dimension of the offset from the ground in cm
B	P		View the set pallet height
	P		View the dimension of the offset from the ground in cm

6.9.5. MANUAL CONTROLS

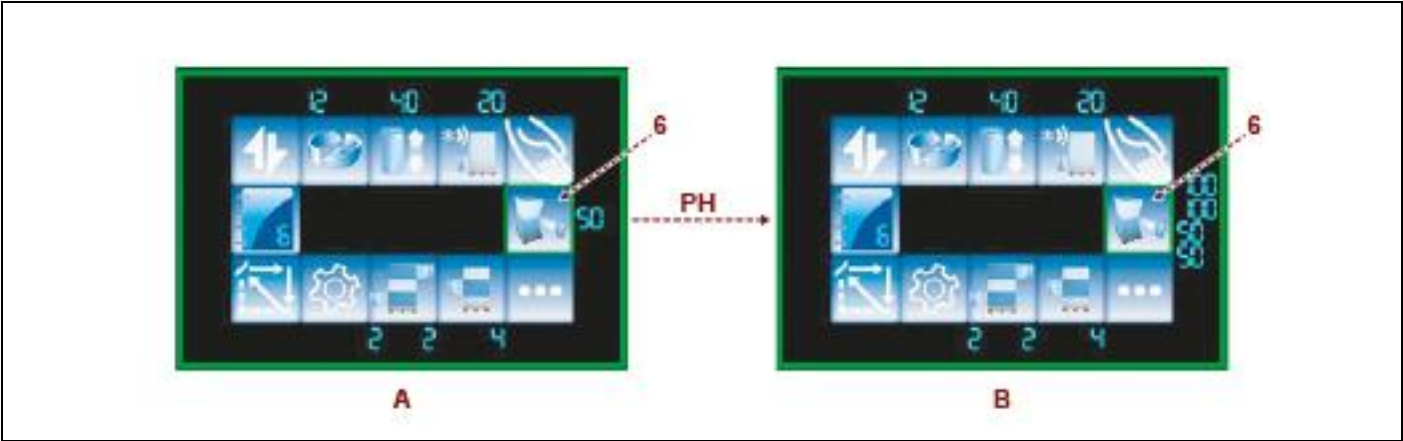


Activation mode abbreviation	Button	Description
P		Press the button (5) to access the “Manual controls” Menu.

Activation mode abbreviation	Button	Description
R		If “JOG” is pressed, the carriage (hold to run) rises until reaching the upper limit switch
R		If “JOG” is pressed, the arm (hold to run) turns until reaching the initial position
R		If “JOG” is pressed, the carriage (hold to run) moves down until reaching the lower limit switch
R		Return to the previous menu

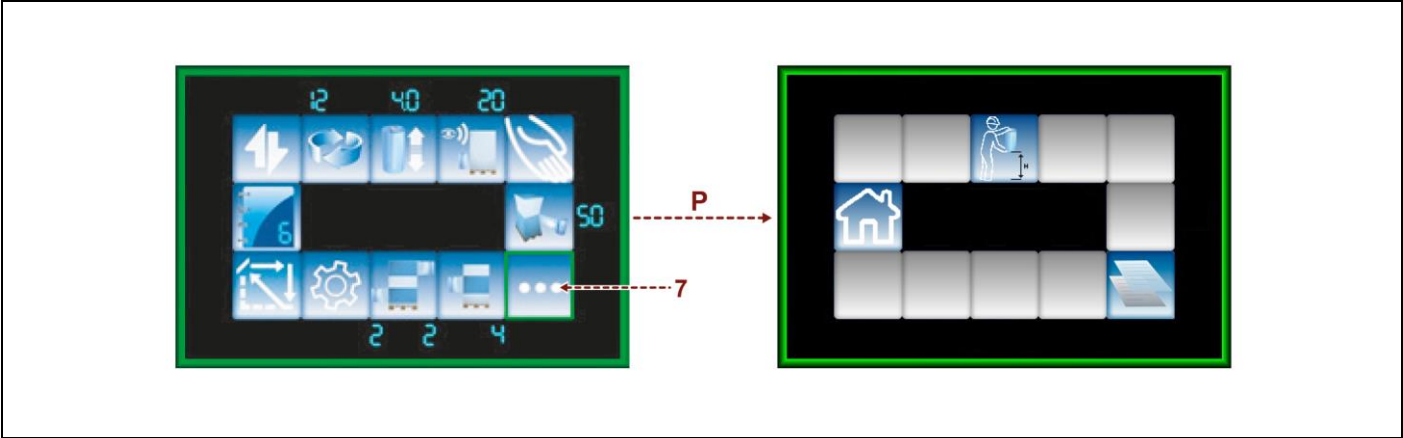
6.9.6. FILM TENSIONING


For PGS version only









Ref.	Activation mode abbreviation	Button	Description
A	P		View the film tensioning value
B	P		View the lower film tensioning value
	P		View the film upstroke tensioning value
	P		View the upper film tensioning value
			View the film downstroke tensioning value

6.9.7. OTHER

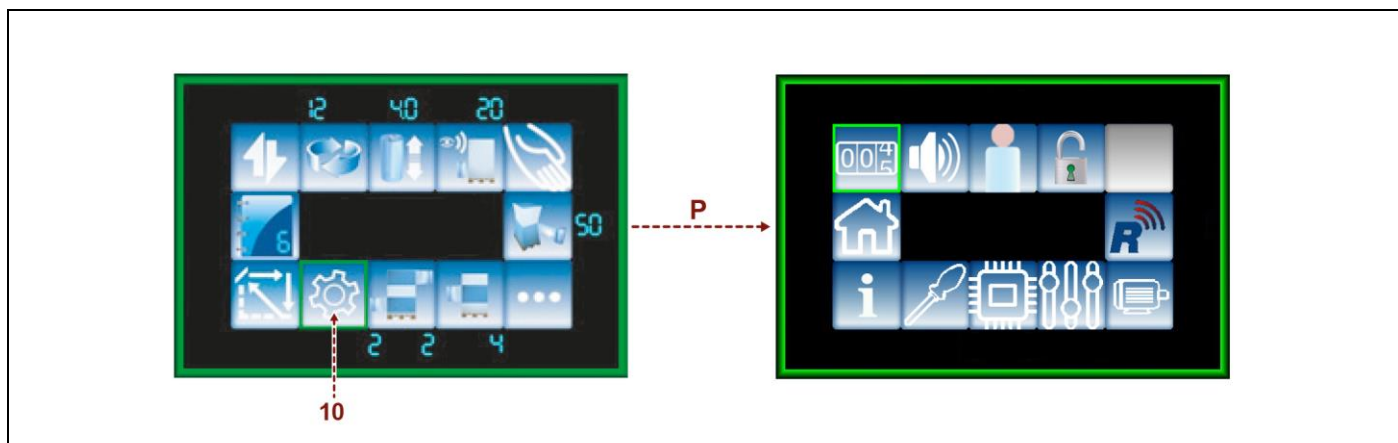



Activation mode abbreviation	Button	Description
P		Press the button (7) to access the “Other” Menu.











Activation mode abbreviation	Button	Description
R		“Copy recipe” function
R		“Ergonomic upstroke” function




Icon ref.	Code activation mode	Page	Description
	R		Selection of the carriage stop height in cm at the end of the cycle
	P/R		Select the numbers of the source and target recipes on which you wish to copy the values.

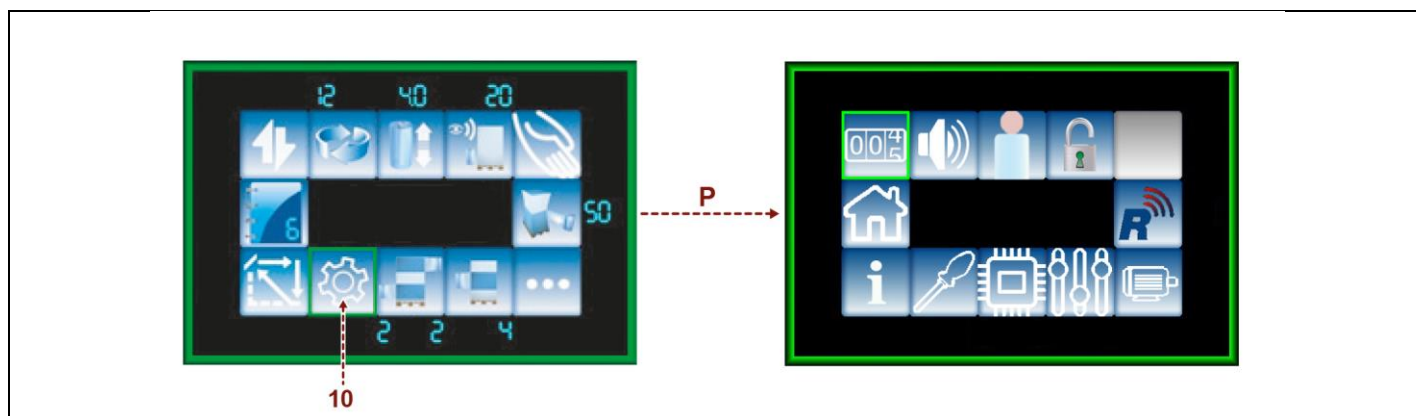
6.9.8. SETTINGS


















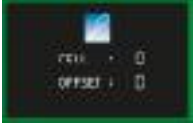
Activation mode abbreviation	Button	Description
P		Press the button (10) to access the settings Menu.

Activation mode abbreviation	Button	Description
R		Cycle counter
R		Acoustic signal
R	 	User. Page alternative options depend on the login status
R		Panel lock
R		Function to change the panel lock password (Available depending on to the login status and with unlocked panel)
R		R-Connect device status
R		Motor parameters - Assistance page
R		Machine parameters - Assistance page
R		Input/Output status - Assistance page

R		Load cell settings (PGS only)
R		Info - Assistance page
R		Return to the previous menu











Icon Ref.	Activation mode abbreviation	Page	Description
	P		View counters P = Partial T = Total H = hours FILM dm = decimetres of film unwound by the machine during the wrapping cycle FILM g/5m = weight of the used film expressed in grams/5 metres FILM cycle = decimetres of film unwound by the machine during the last wrapping cycle
	R		Acoustic signal ON
	R		Acoustic signal OFF
 	P		Page for entering the password to change the user; Turn to select the digit and press to confirm. Select "C" to delete the password. Select the "Checkmark" to confirm the password.
	P	 	Enter the password (default 9999) to lock the panel. When the panel is locked, the edge of the screen is yellow.
	P		Enter the password to unlock the panel.




	P		To change the panel lock password, enter a new password and select the "checkmark". Enter the chosen password again and confirm to update its value.
	P		CELL = Load cell reading instant value. OFFSET = Offset value (with film tensioning = 0). Press and keep pressed (for about 3 seconds) to set the parameter (only after logging in).

6.9.9. RECIPE

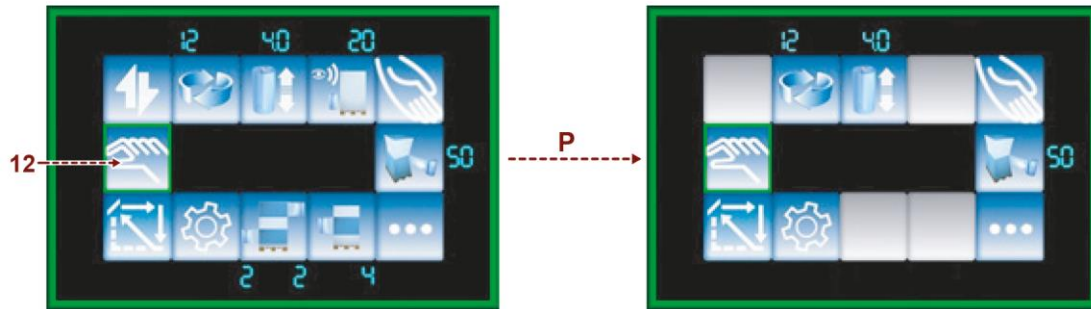



Activation mode abbreviation	Button	Description
P		Programme








Icon ref.	Code activation mode	Page	Description
	R		Programme "1"
			Programme "2"
			Programme "3"
			Programme "4"
			Programme "5"
			Programme "6"

	R		Manual cycle (See “Manual Cycle”)
			“ECO” cycle (See “Eco Cycle”)

6.9.10. MANUAL CYCLE









Activation mode abbreviation	Button	Description
P		Press the button (12) to access the manual cycle menu Home page Set the arm rotation speed, the carriage upstroke/downstroke speed and the film stretch as previously indicated in programmes from 1 to 6.

Activation mode abbreviation	Button	Description
R		Arm rotation speed
		Carriage speed
		Manual controls
		Film stretch (for FR-PGS version only)
		Other menu
		Settings
		Synchronisation of the machine

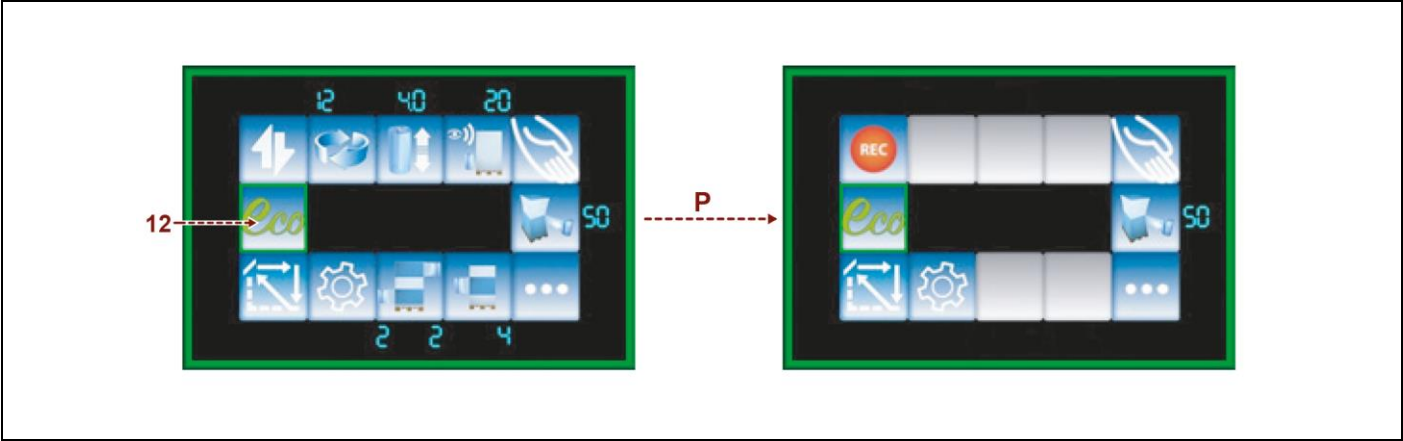



When the “START” button is pressed, the arm starts to turn and the Home page looks as follows.







Activation mode abbreviation	Button	Description
R		Arm rotation speed
		Carriage upstroke/downstroke speed
		Film stretch (for FR-PGS version only)
P		Carriage downstroke At every pressure, the carriage moves down or stops
P		Carriage upstroke At every pressure, the carriage moves down or stops
P		Arm stop in initial position The arm stops in the initial position and the cycle ends

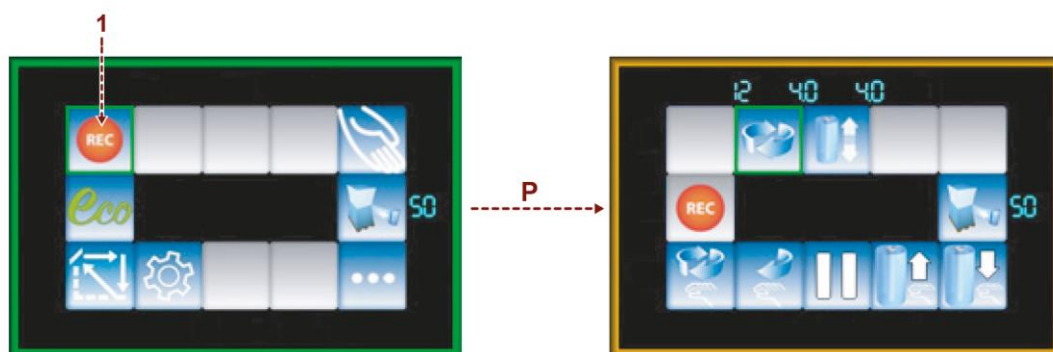
The cycle ends when the carriage downstroke movement brings it to the lowest position or when the “STOP” button is pressed.


6.9.11. ECO CYCLE


















Activation mode abbreviation	Button	Description
P		Press the button (12) to access the self-learning cycle Home page.

Activation mode abbreviation	Button	Description
R		Start logging mode
		Manual controls
		Film stretch (for FR-PGS version only)
		Other menu
		Settings
		Synchronisation of the machine



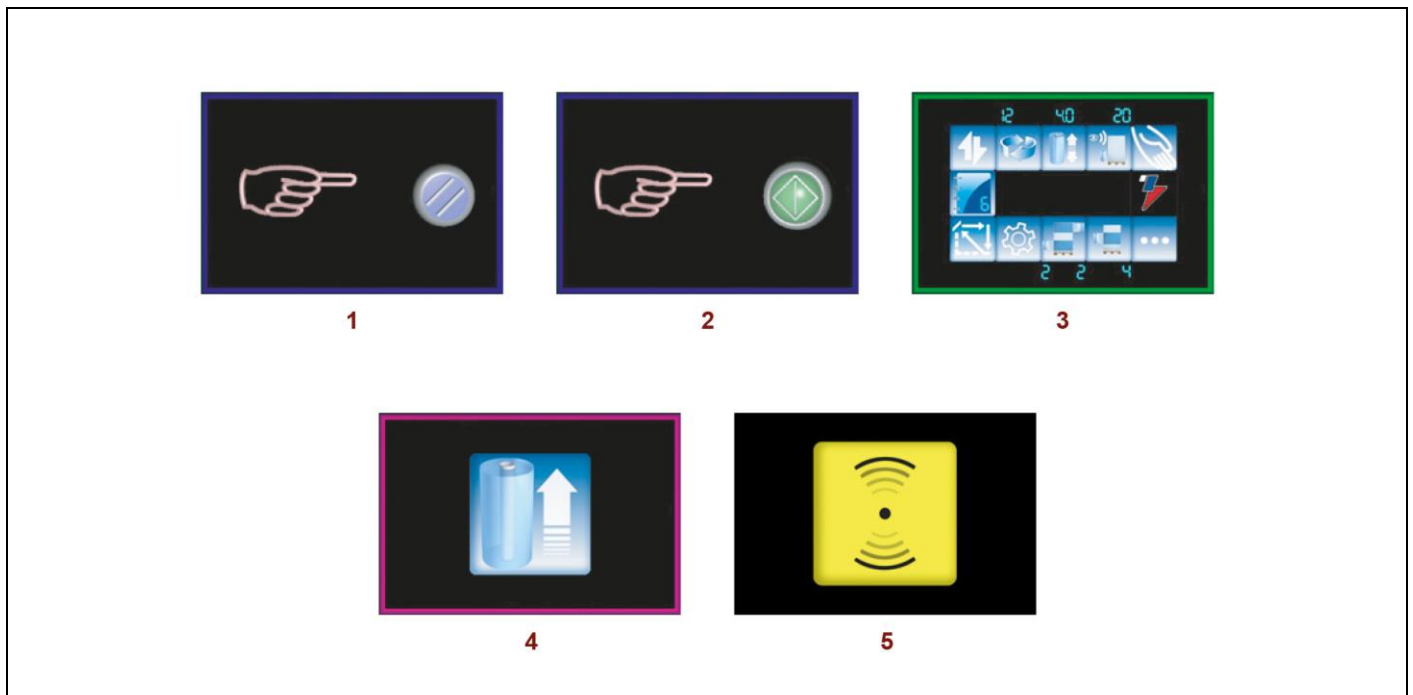
Activation mode abbreviation	Button	Description
P		Press the “Start logging mode” button (1) to access the logging mode. Set the arm rotation speed, the carriage upstroke/downstroke speed and the film stretch as previously indicated in programmes from 1 to 6. Once any of these control buttons has been pressed, these values can no longer be modified.

Activation mode abbreviation	Button	Description
R		Arm rotation speed
		Carriage movement speed
		Film stretch (for FR-PGS version only)
		Carriage downstroke Start/Stop
		Carriage upstroke Start/Stop
		Cycle pause
		Arm stop in initial position
		Arm rotation start.

Activation mode abbreviation	Button	Description
P		When the button is pressed, the arm starts to turn.
P	    	Use the buttons to perform the required movements.
P		Press the jog button to confirm the selected control.

Press the “STOP” button to end the logging.

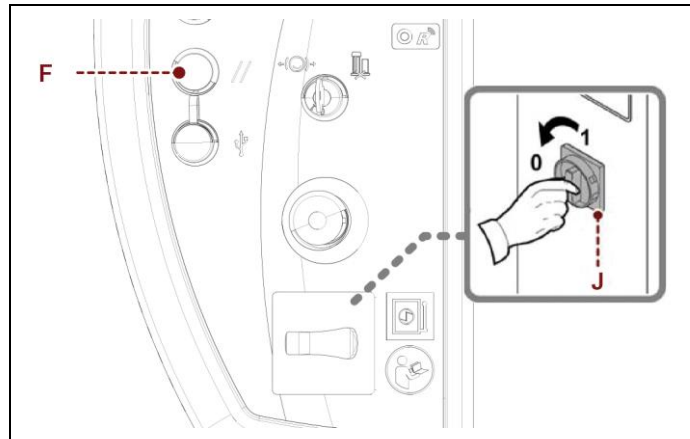
6.9.12. MISCELLANEOUS



1. Press the "Reset" button.
2. Press the "Cycle Start" button.
Restart from feeder cycle.
3. Home page if the film stretch function is absent.
4. Emergency bypassed.
The carriage can be lifted (using the "start" button) even in case of carriage emergency.
5. Wrapping cycle in starting phase.

6.10. TURNING THE MACHINE ON AND OFF (MASTERWRAP PLUS)

1. Turn the main switch (J) to "I" (ON) to activate the power supply.
The displayed icon indicates that the "Reset" button (F) must be pressed.
2. Press the "Reset (F)" button.
3. Set the cycle parameters (See paragraph "cycle parameters setting").
4. Perform the cycle starting operations (see paragraph "Cycle start and stop").
5. Turn the main switch (J) to "0" (OFF) to switch the machine off.



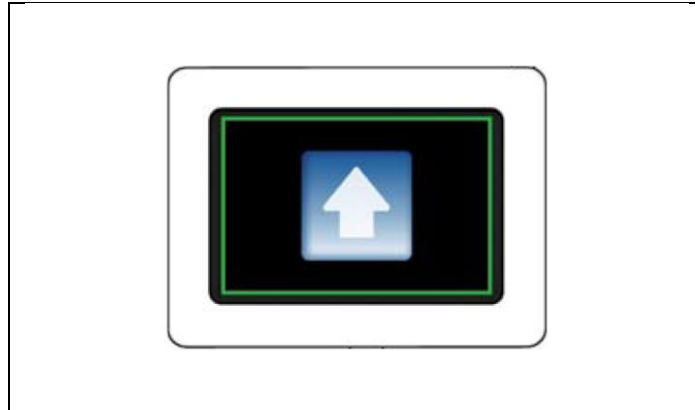
6.11. CYCLE PARAMETERS SETTING

1. Switch on the machine (See "Machine switching on and off").
2. Choose the recipe by turning the jog control.
3. Press the jog control to select the recipe.
4. Turn to view and modify, if necessary, the parameters already set for the recipe.
5. Press the jog control to select the parameter and turn to edit the value.
This value will be stored in the relevant recipe.

6.12.DESCRPTION OF THE WRAPPING CYCLES

6.12.1. SINGLE WRAPPING CYCLE

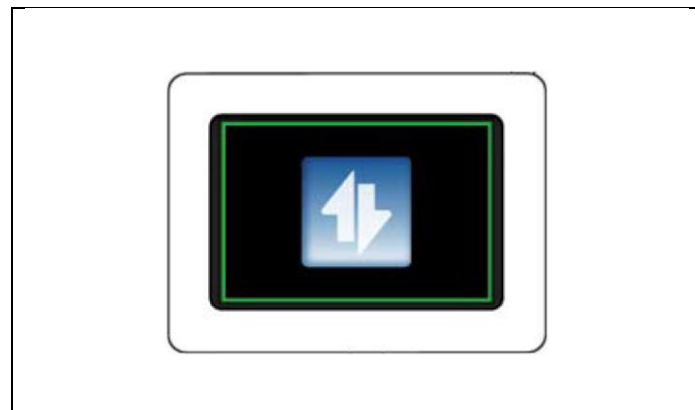
1. Turn the jog control to enable the wrapping cycle page.
2. Press the jog control and select the single wrapping.
3. Press the jog control to confirm.
4. The film carriage starts moving from the pallet base and stops when it reaches the upper end, after having performed the required number of wrapping turns at the base and at the upper end of the pallet.
(See "Description of user interface").



6.12.2. DOUBLE WRAPPING CYCLE

To select the "double cycle":

1. Turn the jog control to enable the wrapping cycle page.
2. Press the jog control and select the double wrapping.
3. Press the jog control to confirm.
4. 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 "Description of user interface").



6.12.3. WRAPPING CYCLE WITH FEEDER

To select the cycle:

1. Turn the jog control to enable the wrapping cycle page.
2. Press the jog control and select the wrapping with feeder.
3. Press the jog control to confirm.

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.

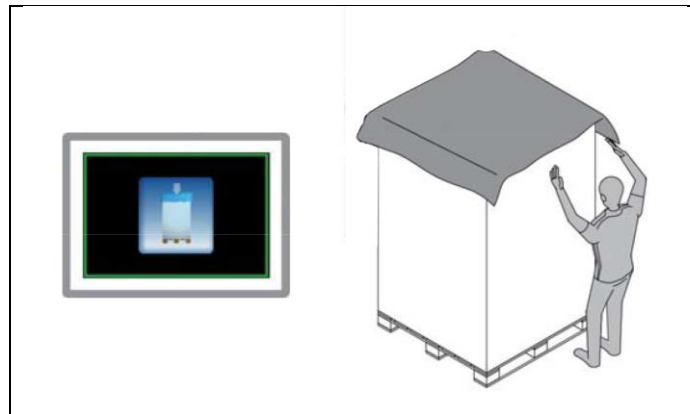
If the machine features a presser, it rises from the load by approximately 200 mm.

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.).

(See "Description of user interface").



6.13.CYCLE START AND STOP (MASTERWRAP PLUS)

Proceed as follows.

1. Place the pallet inside the rotary arm operating area and move the loading device away.
2. Lock the film end to the pallet.
3. Set the wrapping mode.

For more details, see the paragraph "Description of user interface".



Caution - warning

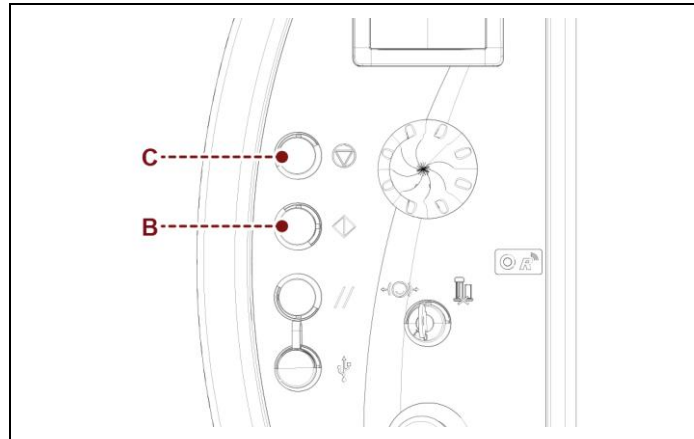
Do not stretch or pre-stretch the film excessively and do not wrap the product with too many wrapping turns to prevent damaging the packages and the products contained in them.

4. Press the "Cycle Start" button (**B**).
- The machine completes the cycle and stops automatically.
5. Cut the film.
6. Remove the pallet and position a new pallet to start a new cycle.



Important

To temporarily suspend the cycle, press the "Cycle Stop" button (**C**).
Press the "Cycle Start" button (**B**) to restart it.



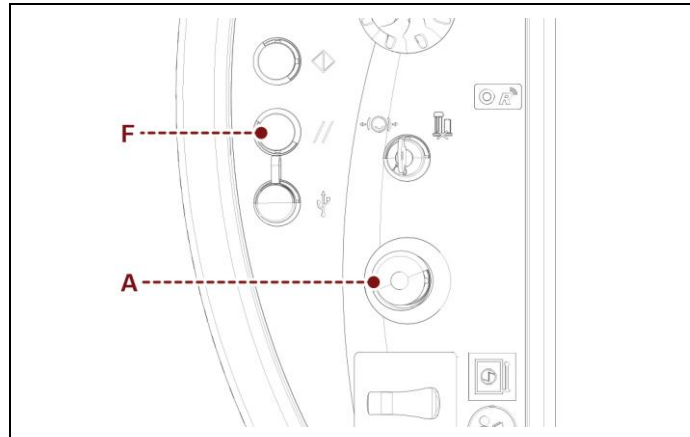
6.13.1. INFORMATION VALID ONLY FOR "FEEDER CYCLE" WRAPPING MODE

1. When the machine stops in the pallet upper section, position the TOP sheet (do not cut the film).
2. Press the "Cycle Start" button.
3. The machine performs the wrapping and, at the end of the set cycle, it stops at the pallet base.

6.14. EMERGENCY STOP AND RESTART (MASTERWRAP PLUS)

Proceed as follows.

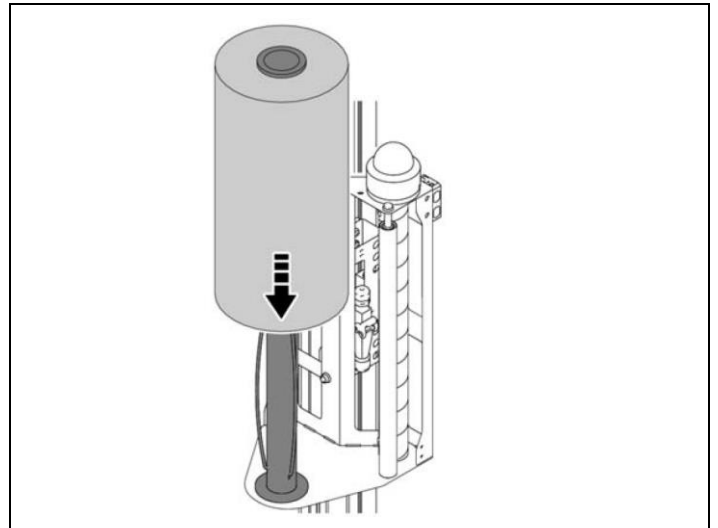
1. Press the emergency button (A) of the machine in situations of imminent risk.
Its functions stop immediately.
The cycle will reset.
2. After setting the working conditions back to normal, release the button to allow the machine to resume operation.
3. Press the "Reset" button (F).
4. Repeat all automatic cycle starting operations (see "Cycle start and stop").



6.15.SPOOL LOADING

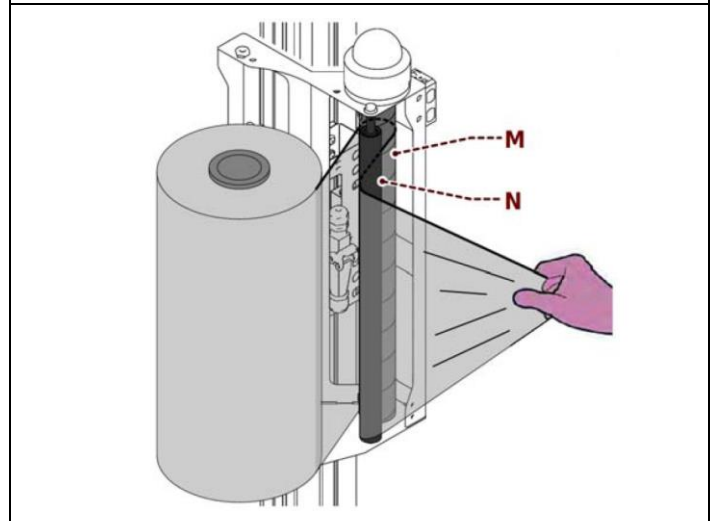
Carriage FR - FRD

1. Insert the reel in the relevant seat on the film carriage, with adhesive side prepared according to the required wrapping modes.



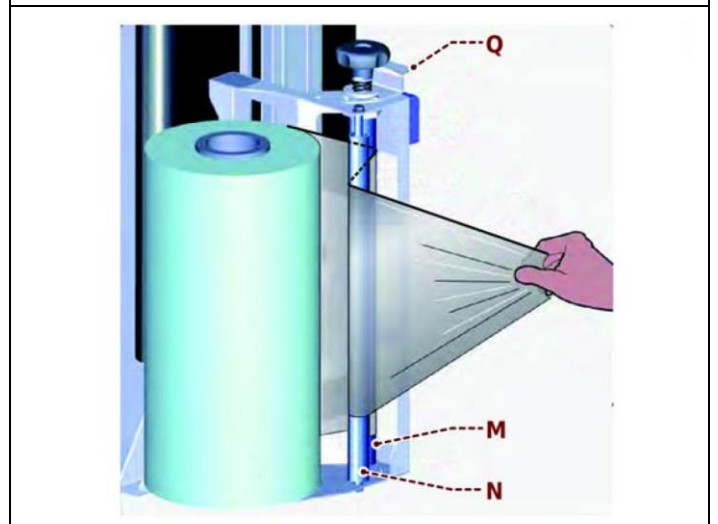
Carriage FRD

2. Gather the film making a thin rope and route it through the rollers (M) and (N).



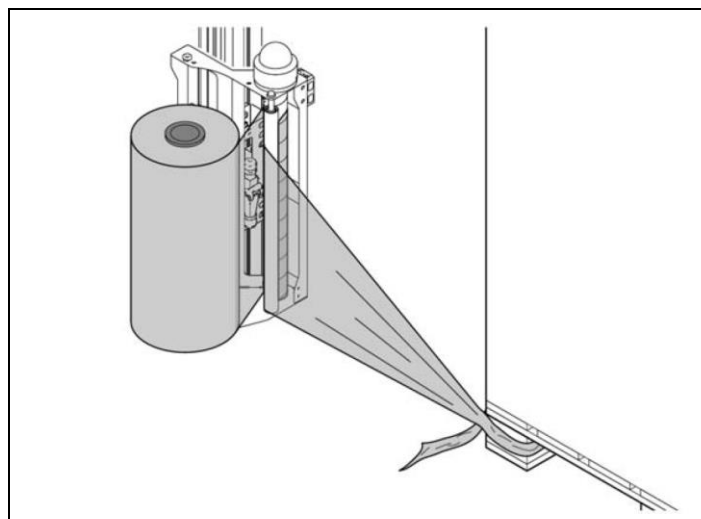
Carriage FR

3. Pull the cord outwards.
The film automatically moves down to the roller and covers it over its entire length.
4. For the FR carriage, activate the lever (Q) upwards and at the same time pull the film rope.
Release the lever when the film covers the roller surface correctly.



Carriage FR - FRD

5. Block the film edge at the pallet's corner.



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 30 days	Machine	Cleaning	Clean with a cloth or air jet	-
	Rubber roller	Cleaning	Clean with a cloth or air jet	-
		General check	Remove any film fragments	-
	Sliding guide shoes	Lubricate	Use spray grease or spray silicone oil	
Every 2000 cycles or every month	Braking disc	Cleaning	Use a cloth. If noisy, slightly lubricate with spray oil and dry with a cloth	-
	Arm rotation chain	General check	Check tension and adjust, if necessary	See "Wrapping machine arm drive chain tension adjustment"
		Lubricate	-	See "Lubrication point diagram"
	Carriage movement belt	General check	Check tension and adjust, if necessary	See "Film carriage belt adjustment"
	Drag chain	General check	Check correct fastening and operation	-
	Carriage screw tightening	General check	Check the tightening of the screws on the film carriage axis, tailstock, rubber roller, knob and release lever.	-

Every 20000 cycles or every year	Arm rotation chain	Wear check	Have the chain replaced if it is worn	Contact the assistance service
	Carriage movement assistance belt	Wear check	Have the component replaced if it is worn	Contact the assistance service
	Carriage sliding guide shoes	Wear check	Have the components replaced if worn	Contact the assistance service
	Safety devices	Efficiency check	Have the faulty devices replaced	Contact the assistance service
	Arm rotation gearmotor brake disc	Wear check	Have the component replaced if the thickness is lower than 3 mm	Contact the assistance service
	Screws fastening the column base to the ground	Tightening check	Tighten the screws	-
	Adjustable support on rotation shaft	Lubricate	Grease moderately using the specific grease nipple	-
Every 100000 cycles	Arm rotation gearmotor brake	Check operation and braking torque	Check that the arm, if pushed, remains still in the stop position	Contact the assistance service
	Arm rotation chain	General check	Replace	Contact the assistance service
	Arm rotation gearmotor	General check	Have the component replaced if faults are detected in clearance and sealing	Contact the assistance service
	Film carriage movement gearmotor	General check	Have the component replaced if faults are detected in clearance and sealing	Contact the assistance service



Important

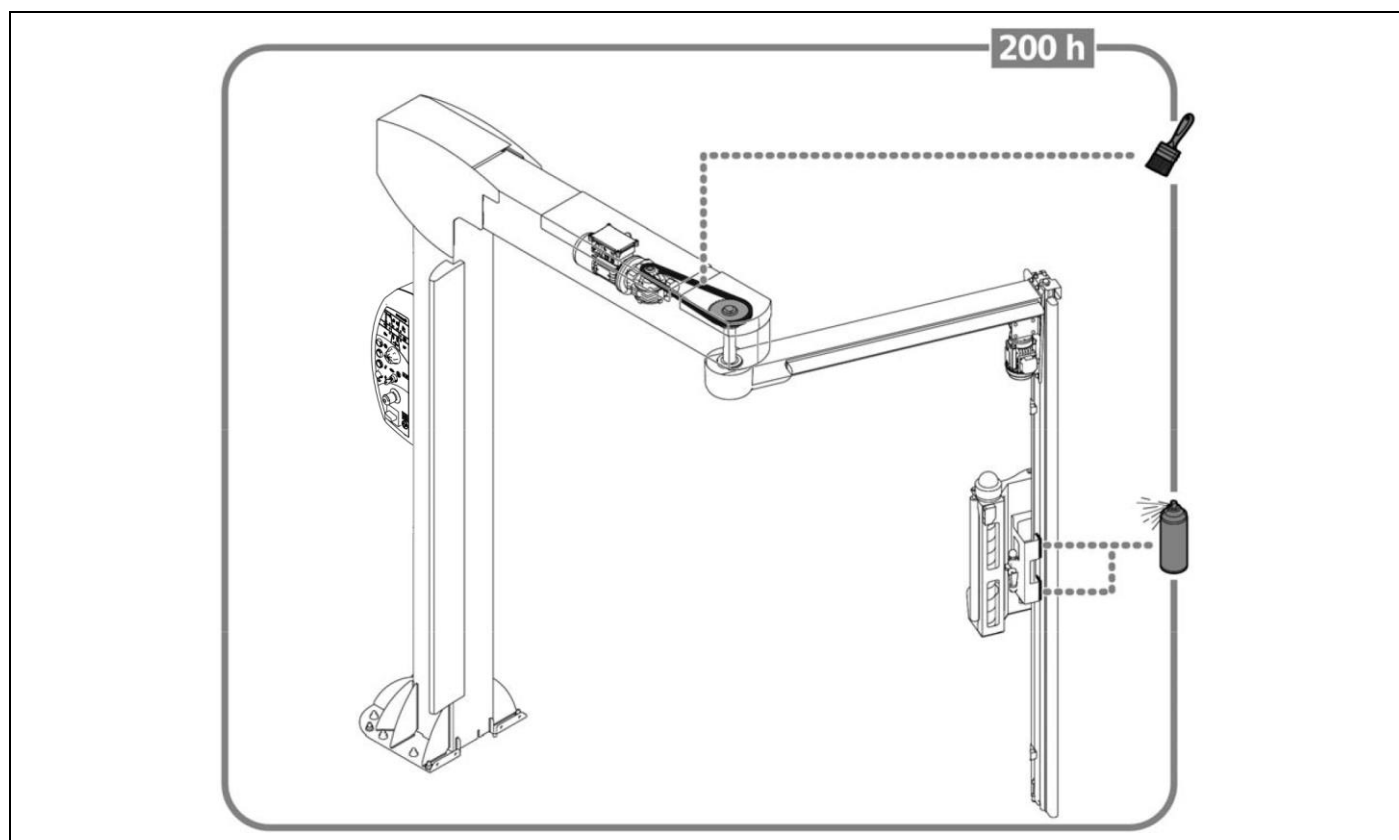
In case of heavy duty use, increase inspection frequency by halving the maintenance intervals.



Definition of heavy duty use:

- Operating temperature <10°C
- Number of packages >50/day
- Dusty environment

7.3. LUBRICATION POINT DIAGRAM

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



	Spread grease over it.
	Lubricate with spray silicone grease.

7.4. LUBRICANT TABLE

The table below lists the specifications of the lubricants recommended by the Manufacturer for each component and/or reference area.

Use lubricants (oils and greases) 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 and 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	TELESIA OIL IP SYNTHESO D 220 EP KLUBER BLASIA S 220 AGIP	Bearings with support
Synthetic oil	+25°C / +45°C VG 150 (SAE 40) +45°C / +70°C VG 220 (SAE 50)	Drive chain



Important

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

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.

8.1.1. ALARM LIST (ECOWRAP PLUS)

Code	Problem	Cause	Solution
E01	Emergency stop alarm	Emergency push-button pressed	Reset by turning the button in the direction of the arrow and press "Reset"
E02	Alarm due to the activation of emergency plate at the film carriage or emergency bumper base	Emergency plate or contact of the rotary arm with an obstacle	Rotate the key-operated selector (G) to "I1" and press the multi-function selector to release the film carriage. Remove the obstacle hindering arm rotation
E60	Film breakage alarm	Film breakage during wrapping cycle	Connect the film to the product and press the "Cycle Start" button (B) to complete the wrapping
E61	Arm rotation alarm	A fault or an obstacle is preventing the arm from rotating	Check that the trajectory of the arm is free from obstacles and the timing sensor works correctly
E64	Carriage lifting alarm	A fault or an obstacle is preventing the film carriage from shifting	Check that the guides of the carriage are not hindering its movement. Check also the correct operation of the high and low limit switches
E74	Pallet Start Alarm	No pallet after the "Start cycle" button (B) has been pressed	Position the pallet and press the "Cycle start" button (B) to wrap it
E69	Generic alarm	Maximum number of permitted actions in the ECO cycle has been exceeded (30 maximum actions)	Record a wrapping cycle that does not exceed 30 actions
E31	Arm rotation motor alarm	Motor faults	Contact technical support
E32	Carriage lifting motor alarm	Motor faults	Contact technical support
E83	Communication alarm	Electronic fault	Contact technical support

8.1.2. ALARM LIST (MASTERWRAP PLUS)

Code	Problem	Cause	Solution
E001	Emergency stop alarm	Emergency push-button pressed	Reset by turning the button in the direction of the arrow and press "Reset"
E002	Emergency plate at the film carriage base pressed alarm	Emergency plate pressed.	Rotate the key-operated switch (G) to "II" and press "START" to release the film carriage
E005	Carriage opening alarm	Opening of the film carriage protection door	Close the film carriage door
E006	Emergency bumper pressed alarm	Contact of the rotary arm with an obstacle	Remove the obstacle hindering arm rotation
E009	Emergency devices disabled alarm	"Cycle start" button (B) pressed with key-operated switch (G) set to "I" or "II"	Set the key-operated switch (G) to "O"
E060	Film breakage alarm	Film breakage during wrapping cycle	Connect the film to the product and press the "Cycle Start" button (B) to complete the wrapping
E061	Arm rotation alarm	A fault or an obstacle is preventing the arm from rotating	Check that the trajectory of the arm is free from obstacles and the timing sensor works correctly
E064	Carriage lifting alarm	A fault or an obstacle is preventing the film carriage from shifting	Check that the guides of the carriage are not hindering its movement. Check also the correct operation of the high and low limit switches
E074	Pallet Start Alarm	No pallet after the "Start cycle" button (B) has been pressed	Position the pallet and press the "Cycle start" button (B) to wrap it
E098	Carriage emergency Bypass alarm	Key-operated switch (G) set to "II"	Set the key-operated switch (G) to "O"
E099	Generic alarm	Maximum number of permitted actions in the ECO cycle has been exceeded (30 maximum actions)	Record a wrapping cycle that does not exceed 30 actions
E031	Arm rotation motor alarm	Motor faults	Contact technical support
E032	Carriage lifting motor alarm	Motor faults	Contact technical support
E033	Film unwinding motor alarm	Motor faults	Contact technical support
E083	Communication alarm	Electronic fault	Contact technical support

8.1.3. PROBLEM LIST (ECOWRAP PLUS - MASTERWRAP PLUS)

Problem	Cause	Solution
The carriage vibrates during the stroke without film	Excessive friction on the guide	Clean the guide, lubricate it with silicone oil or spray grease.
	Excessive wear of sliding guide shoes	Replace sliding guide shoes
	Poor belt tension	Check the belt tension verifying that the tensioning springs have a length, after pre-load, of 18 mm.
The carriage does not release the film smoothly but with jerks	Excessive film stretch	Loosen the braking on the rubber roller.
	Obstructions on the rubber roller	Check that the roller is idling when released from the brake. Inspect and remove, if necessary, any fragment of film in the lower side of the roller.
	Dirty friction disc	Disassemble the friction disc and clean the surfaces with a cloth soaked in alcohol.
	Worn out friction disc	Replace the disc if the thickness of the friction material is lower than 3 mm.
	Unstable reel carriage axis	Check the correct tightening of the reel carriage axis. If pre-stretched film is utilised, use the specific tailstock for the stable anchoring of the reel.
Noise coming from the friction disc	Excessive dirt on disc	Disassemble and clean the two mating surfaces with a cloth soaked in alcohol. Slightly lubricate with spray oil the friction material. The oil temporarily reduces the friction coefficient and the film braking action, but inhibits the formation of future oxide that creates the noise.
Film breakage	Excessive film tension	Reduce the tension through the braking knob on-board the carriage.
	Presence of sharp edges on the product to pack.	<ul style="list-style-type: none"> - Reduce the tension through the braking knob on-board the carriage. - Increase the thickness of the film used. - Reduce the rotary arm rotation speed.
	Rubber roller locking	Check that the roller is idling when released from the brake. Inspect and remove, if necessary, any fragment of film in the lower side of the roller.
	Film carriage axis locking	Check the correct tightening of the reel carriage axis. Check that the reel is correctly engaged on the lower bushing through the metallic timing blade. Replace, if necessary.
The carriage does not move beyond the pallet	Altimeter function activated	Change the set value, or activate the pallet height detection photocell.
The carriage does not move up, or stops in the wrong position	Reel too heavy	Use only reels with maximum weight of 8 kg.
	Wrong cam position for limit switches	Check the correct cam position for limit switches.
	Drive locked	Check the correct operation of the drive components: motor and reduction unit.
	Sliding on guide not possible	Check that there are no obstructions on the path of the sliding guide shoes.
	Limit switch breakage	Check the correct operation of the limit switch.
	Breakage of cables in chain	Check the continuity of the electric connections.
	Poor belt tension	Check the belt tension verifying that the pre-load springs have a length of 18 mm.

Poor drive force on rotary arm	Excessive friction on rotary arm drive parts.	Contact technical support.
	Brake on rotation motor not released	Adjust the brake gap on the arm rotation motor. Contact technical support.
	Rubber roller jammed on carriage	<ul style="list-style-type: none"> - Reduce the tension through the braking knob on-board the carriage. - Check that the roller is idling when released from the brake. Inspect and remove, if necessary, any fragment of film in the lower side of the roller.
	Brake release control activated	Rotate the brake release button to standard position.
Unsynchronised stop	Chain elongation	Adjust chain tension and replace if necessary. Pay attention not to tension it excessively. Minimum perimeter clearance of 10 cm. See "Wrapping machine arm drive chain tension adjustment".
Excessive movement of the rotary arm in rest position	Chain elongation	Adjust chain tension and replace if necessary. Pay attention not to tension it excessively. Minimum perimeter clearance of 10 cm. See "Wrapping machine arm drive chain tension adjustment".
Noise at rotation motor	Chain elongation	Adjust chain tension and replace if necessary.
	Reduction unit	Check operation.
	Wrong gap	Adjust the brake gap on the arm rotation motor. Contact technical support.
Arm rotation alarm (E61)	Arm jamming	Check that the drive parts are in perfect conditions.
	The inductive sensor does not read the cam	Adjust the distance of the inductive sensor from the cam.
Alarms (E02)	Contact of the arm with an obstacle	Remove the obstacle. If necessary, move the arm using the brake release button.
	Deformation of the sensor inside the sensible edge	Manually handle the sensible edge in the contact area. If the control unit does not reset it is necessary to replace the sensible edge.
	Breakage of the sensible edge	Replace component.
	Breakage of the control unit	Replace component.

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:

- Drive chain.
- Drive belt.
- Idle pulley bushings.
- Sliding guide shoes.

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.



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:

NAME DENOMINATION	
MODEL MODEL	
SERIAL NUMBER 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 and their annexes, at the applicable points:

EN ISO 12100:2010, EN 60204-1:2006, EN 60204-1:2006/A1:2009, EN 60204-1:2006/AC:2010, 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)

Document date and place

Robopac S.p.A.

San Marino,

Engineer Cristiano Casale
R&D Manager

ROBOPAC MACHINERY

Robopac S.p.A.

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Decreto Riconoscimento del 05/12/1983
Capitale Sociale € 1.000.000 Cod. Op. Ec. 02346

ROBOPAC SPA

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