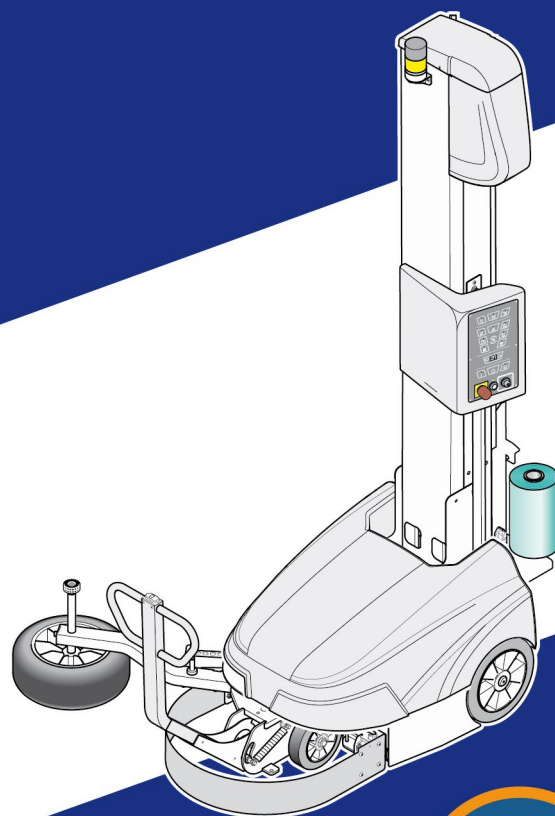




Semiautomatic Pallet Wrapping ROBOT



BeeWrap+ (A5)



Operation and maintenance manual

Translation of the “ORIGINAL INSTRUCTIONS”



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Purpose of the manual

- The purpose of the manual is to inform and train operators so that they can interact with the machine in SAFE CONDITIONS.
- The goal is the reduction of risks in order to limit people incidents and injuries.
- **In some cases, accidents may be due to the Operator using the machine carelessly.**
- **Caution is always necessary. Safety is also the responsibility of all the persons interacting with the machine throughout its operating life.**
- **Remember that it is too late to think about safety issues when the accident has already occurred.**
- **It is important to dedicate enough time to read the “Instruction Manual” in order to minimise the risks and to avoid any unpleasant accidents.**
- The content of this manual was originally edited by the Manufacturer in the mother tongue (ITALIAN), in compliance with the professional writing standards and the regulations in force.
- Any translation of the manuals shall be carried out directly and without alterations from the texts of the ORIGINAL INSTRUCTIONS.
- This applies also to the translations carried out by the agent or by the person who is in charge of delivering the equipment in the specific linguistic area.
- The Manufacturer reserves the right to update the documentation, should this prove necessary.
- All information supplied by the recipients represents an important contribution to the improvement of the after-sales service that the manufacturer will offer to his/her customers.
- All supplied information is organised into an index and a table of contents, so as to easily track specific topics of interest.
- **The SAFETY WARNINGS and the INSTALLATION MANUAL are supplied as hard-copy publications.**
- **The Manual, the operating diagrams and the post-sale documents can be downloaded from the Manufacturer’s Website.**
- Keep the manual and the attached documents in a place known and easily traceable, so that you may refer to them whenever necessary.
- Some symbols have been adopted to highlight parts of the text of this manual and relevant characteristics. Their description is as follows.

Danger Warning

This symbol indicates potentially hazardous situations which, if ignored, could cause serious harm to personal health and safety.

Attention Warning

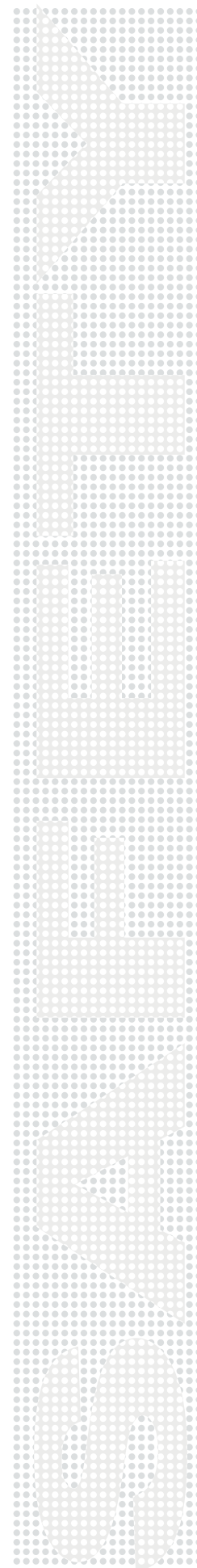
This symbol indicates that adequate actions must be taken to avoid harm to personal safety and health and economic damages.

Important

This symbol indicates critical technical and operating information that shall be observed.

NOTE

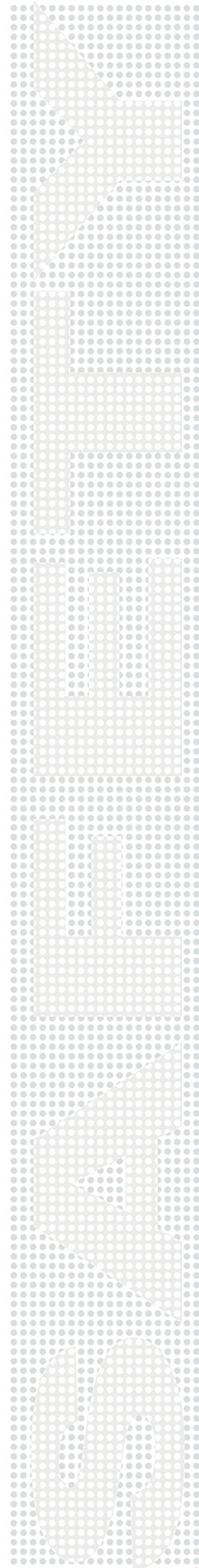
The symbol is used to strengthen the concept of reference information.



Glossary of the terms

The glossary includes some terms used when processing information, with their definition, in order to facilitate understanding.

- **Training:** A process aiming at transferring the knowledge, skills and behaviours required to work in an autonomous, correct and hazard-free manner.
- **Assistant:** person chosen, trained and coordinated in an appropriate manner to minimize the risks in carrying out their tasks.
- **Emergency stop:** voluntary activation of the special control that stops the dangerous elements of the work unit in the case of imminent risk.
- **Stop in alarm conditions:** this state causes the components to stop and is activated when the control system detects a problem in the machine operation.
- **General shut down:** In addition to the normal stop this state also causes the interruption of all the power sources (electrical, pneumatic, etc.).
- **Operating Stop:** state that does not cut off power supply to the actuators, but ensures control system monitoring in safe conditions.
- **Size change:** a set of interventions to be carried out before beginning to work with specifications different with respect to the ones previously in use.
- **Test-run:** a series of operations required to ensure compliance to the design specifications, and to commission the machine under safety conditions.
- **Installer:** a technician chosen and authorized by the manufacturer or his authorized representative, among those who fulfil the requirements for installation and testing of the machine or plant in question.
- **Maintenance technician:** technician selected and authorised to perform the operations that cannot be assigned to the operator.
The maintenance technician must be specifically trained and skilled, especially in his field of operation.
- **Routine maintenance:** all the operations necessary to maintain the efficiency and safety of the machine.
These operations are scheduled by the Manufacturer, who defines the necessary skills and methods of action.
- **Unscheduled maintenance:** operations to be performed following unpredictable events that are not programmed by the Manufacturer.
The unscheduled maintenance operations must be performed ONLY by authorised personnel.
- **Operator:** a person chosen and authorized, among those who fulfil the requirements, having the knowledge and skills necessary to operate the machine and carry out routine maintenance interventions.
- **Production Manager:** technician with expertise and knowledge on the use of packaging machines and similar equipment, who is authorised to supervise the production activity.
- **Person in charge of the installation:** a technical expert who must carry out the installation in compliance with the laws applicable to the workplace and, at the end, assess its compliance.
- **Residual risks:** all the risks remain even if all the safety solutions have been adopted and integrated when the machine has been designed.
- **Expert Technician:** A person authorised by the Manufacturer and/or his representative to carry out services that require specific technical skills and abilities.



- **Forwarder and Handler:** Authorized persons with recognized expertise in the use of means of transport and lifting devices, in safety conditions.
- **Intended use:** the machine is used according to the information included in the Use and maintenance manual.
- **Foreseeable improper use:** reasonably foreseeable use other than that recommended in the instruction manual, which may result from human behaviour.

Attached documentation

The **SAFETY WARNINGS** and the **INSTALLATION MANUAL** are supplied as hard-copy publications.

- The Manual, the operating diagrams and the post-sale documents can be downloaded from the Manufacturer's Website.
- The list shows the documentation supplied with the machine.
 - CE Declaration of conformity
 - Operation and maintenance manual
 - Installation manual
 - Wiring diagrams
 - Pneumatic system diagrams
 - Specific Manuals for installed components or sub-assemblies available commercially

General safety warnings

- The machine has been designed and built with all the precautionary measures aimed at minimising the possible risks over its expected life cycle.
- Tampering with and bypassing the safety devices may lead to severe risks for the Operators.
- Before interacting with the machine, and in particular, before its first use, read the SAFETY WARNINGS contained in the manual.
- It is important to dedicate enough time to read the "Instruction Manual" in order to minimise the risks and to avoid any unpleasant accidents.
- Observe the recommendations on the RESIDUAL RISKS that may persist and do not use the machine IMPROPERLY.
- When operating the machine, DO NOT wear clothes and/or accessories that could become caught in the moving or protruding parts.
- Carry out the interventions ONLY according to the modes recommended by the Manufacturer in the "Instructions for use".
- The personnel in charge of carrying out interventions on the machine must have suitable and proven experience in this specific field.
- Please keep safety signs and information legible and follow the instructions.
- The information signals may be of different shapes and colours, to indicate dangers, obligations, prohibitions and indications.
- Signals which are no longer legible must be replaced and repositioned in the same place of origin.
- **The non-compliance with the information provided herein may lead to risks for the safety and health of the persons involved and may also lead to economic damages.**

Safety Warnings for Handling and Installation

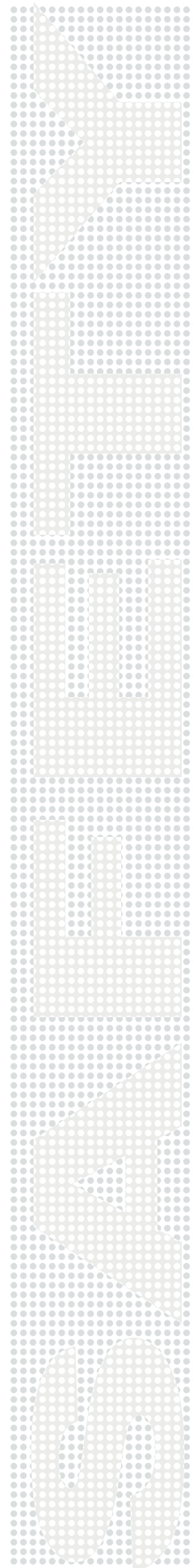
- The machine can be handled and installed **ONLY** by qualified personnel, with recognised skills in the specific field of operation.
- The Installation manual is enclosed with this Manual and includes the safety information and the operating modes.

Safety Warnings for Operation and Use

- The machine must be used by one single operator **ONLY**, who must be trained and capable of performing the work and be in suitable conditions.
- Consult the user manual, in particular during the first use, and make sure that you fully understand its content.
- Find out the position and function of the controls and simulate some operations (in particular start and stop) in order to acquire familiarity.
- The machine shall be used **ONLY** for the purposes and complying with the procedures specified by the Manufacturer.
- Make sure that all the safety devices are properly installed and efficient.
- The machine should be used **ONLY** with the original safety devices installed by the Manufacturer.
- Ensure the area around the machine, especially the control post, is **ALWAYS** unobstructed and in good condition to minimize the risks for the Operator.
- According to the type of operation to carry out, wear the Personal Protective Equipment listed in the “Instructions for use” and that indicated by the Labour laws.

■ Safety Manager Obligations

- The safety manager must train the operator and help him or her familiarise and interact with the machine in an independent, adequate and risk-free manner.
- The operator must be informed about the **PROPER USE** of the machine and about the remaining **RESIDUAL RISKS**.
- The operator must demonstrate that he has acquired the relevant skills and has understood the “User Instructions” in such a way as to carry out his activities safely.
- The operator must be able to recognise the safety signals and demonstrate that he is in suitable condition to carry out his assigned duties.
- The safety manager must release educational material to trainees and document the delivered training, so as to be able to produce such documentation in case of litigation.



Safety Warnings on Misuse

- ONLY trained, documented and authorized Operators are allowed to use the machine.
- DO NOT use or allow other persons to use the machine if the safety devices are faulty, disabled and/or incorrectly installed.
- DO NOT use or allow other persons to use the machine for purposes and in ways different from what specified by the Manufacturer.
- DO NOT wear clothes and/or accessories that could become caught in the moving or protruding parts.
- When operating the machine, ALWAYS wear the Personal Protective Equipment specified by the Manufacturer and by the current regulations on safety at work.
- If troubles arise, do NOT continue to use the machine. Stop it immediately and restart only after restoring the normal operating condition.
- DO NOT use the machine if the scheduled routine maintenance interventions have not been carried out.
- DO NOT tamper with, override, bypass or eliminate the safety devices installed on the machine.
- DO NOT modify the manufacturing and functional characteristics of the machine in any manner whatsoever.
- DO NOT perform any interventions other than those specified in the Operation Manual without the explicit authorization of the Manufacturer.
- DO NOT carry out any intervention when the machine is being operated. Stop the machine and put it in safety condition before carrying out any intervention.
- DO NOT clean or wash the machine with water, steam or aggressive products that might irreversibly damage the components.
- DO NOT replace the components with non-genuine spare parts or other components with different design and manufacturing specifications.
- DO NOT dump in the environment any materials, polluting liquids and maintenance waste generated during the operations. Dispose of them according to the regulations in force.
- DO NOT leave the machine unattended during operation and DO NOT leave it at the end of the work without stopping it to safety conditions.

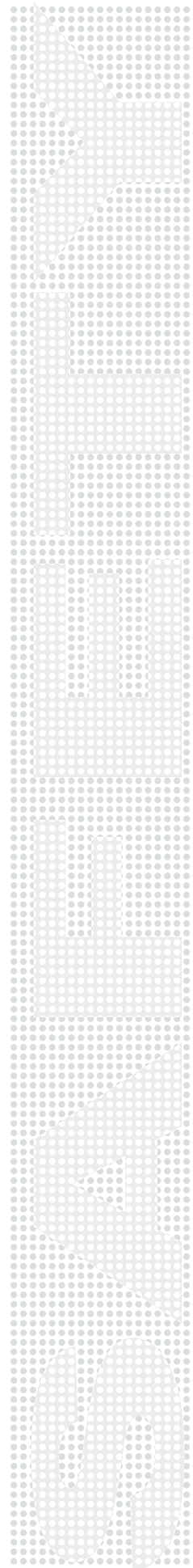
Safety Warnings on Residual Risks

Residual risks: all the risks remain even if all the safety solutions have been adopted and integrated when the machine has been designed.

- Upon designing and building the machine, the Manufacturer has paid particular attention to the RESIDUAL RISKS that may affect the safety and health of the Operators.
- For specific information about residual risks, please refer to the machine user manual.

Safety Warnings for Maintenance and Adjustments

- Always keep the machine in optimum operating condition and carry out the routine maintenance according to the intervals and procedures specified by the Manufacturer.
- **A good maintenance will ensure a stable performance over time, longer working life and constant compliance with the safety requirements.**
- The personnel authorized to carry out the ordinary maintenance must have qualified expertise and specific skills in the field of intervention.
- Any work on the electrical system must **ONLY** be performed by technicians with acknowledged, field-specific skills.
- Mark the intervention area and prevent access to the devices that, if activated, may cause unexpected hazards and jeopardize the safety level.
- According to the type of operation to carry out, wear the Personal Protective Equipment listed in the “Instructions for use” and that indicated by the Labour laws.
- Observe the recommendations on the RESIDUAL RISKS that may persist and do not use the machine IMPROPERLY.
- Before carrying out any intervention, activate all the safety measures, and assess any residual energy which may still be present.
- Carry out the operations in areas which are difficult to access or hazardous **ONLY** after disconnecting all power sources.
This operating mode is necessary in order to work under safe conditions.
- Carry out the operations according to the procedures and modes shown by the Manufacturer in the “Instruction Manual”.
- All operations must be carried out **ONLY** with suitable tools which shall be in good condition, in order to avoid damaging any components and parts of the machine.
- Replace the components and/or safety devices **ONLY** with original spare parts in order not to alter the required safety level.
- The use of similar but not genuine spare parts can lead to non-compliant repairs, impaired performance and economic damage.
- Use the lubricants (oils and greases) recommended by the Manufacturer or lubricants of equivalent chemical and physical characteristics.
- At work completion, restore all the security conditions aimed to prevent and minimize the risks during the human-machine interaction.
- At the end of operations check that there are no other tools or other material near the moving parts or in dangerous areas.
- Refer to the Technical Assistance Service of the Manufacturer, in case interventions not described in the “Instructions for use” are needed.
- All EXTRAORDINARY MAINTENANCE interventions shall be performed only by authorized Technicians with proven and gained experience in the field.
- Some operations may require the use of support devices and/or equipment that shall be used properly in order to avoid any safety risks.



Safety warnings for the electrical equipment

The electrical equipment has been built in accordance with the applicable standards and its efficiency is ensured if the listed conditions are met.

- Ambient temperature and relative humidity between maximum and minimum permitted limits.
- Absence of environmental electromagnetic noise and radiation (X-rays, laser, etc.).
- Absence of environment areas with gas and dust concentration levels potentially explosive and/or at risk of fire.
- Use of products and materials free from contaminants and corrosive agents. Products containing chemicals, acids, salts, etc. can come into contact with the electrical components and cause irreversible damage.
- Transport and storage temperatures between minimum and maximum permitted limits.
- Altitude not exceeding the maximum permitted limits.
Do not carry out the installation under conditions that are different from those allowed.
- Power Cable with section suitable for the current power and intensity values indicated in the data plate.
- Protection class in accordance with data plate indications.
- The power supply line to which the machine must be connected must have identical characteristics to those mentioned in the data plate.

Important

All the listed requirement values are contained in the technical specifications table.

- **If one or more of the listed requirements cannot be met, alternative solutions should be agreed at the ordering stage.**

Safety warnings for the environmental impact

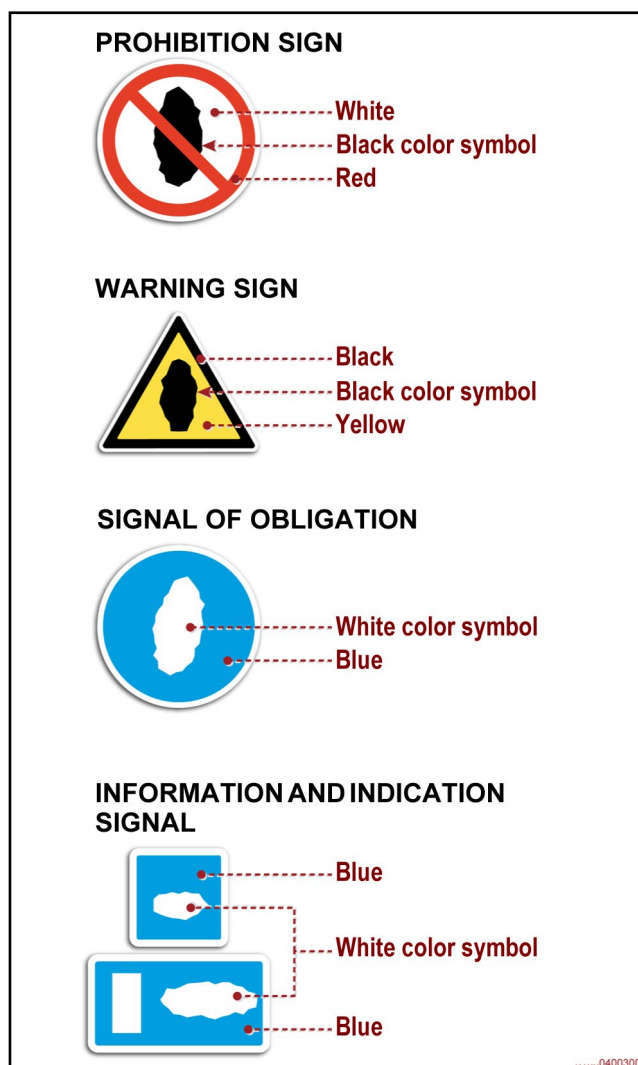
Each organization is responsible for implementing procedures aimed at identifying, evaluating and controlling the environmental impact of its own activities (products, services, etc.).

- Procedures for identifying significant environmental impact must take account of the factors listed.
 - Discharges for liquids and lubricants
 - Waste disposal
 - Soil contamination
- In order to minimize the environmental risks during the man-machine interaction follow the recommended instructions.
 - Dispose of all packing in accordance with the laws in force in the country of installation.
 - Keep noise level to the minimum to reduce noise pollution.
 - Select materials on the basis of their composition and provide for differentiated disposal in accordance with the laws in force.
 - Avoid dumping polluting materials and products in the environment (oils, greases, electrical and electronic apparatus etc.).

- All the components of Electrical and Electronic Apparatus contain dangerous substances and are appropriately marked.
- Dispose of Electrical and Electronic Apparatus Waste properly, at authorised collection centres, to avoid harmful and damaging effects.
- Incorrect disposal of dangerous waste is punishable with sanctions regulated by the laws in force on the territory in question.

Safety and information symbols

- The information signals may be of different shapes and colours, to indicate dangers, obligations, prohibitions and indications.
- The illustrations show the shapes of the signals that can be applied, with the function indicated
- For more details on the type and position of the signals applied, refer to the paragraph “Position of safety signals and information”.
- Please keep safety signs and information legible and follow the instructions.
- Signals which are no longer legible must be replaced and repositioned in the same place of origin.



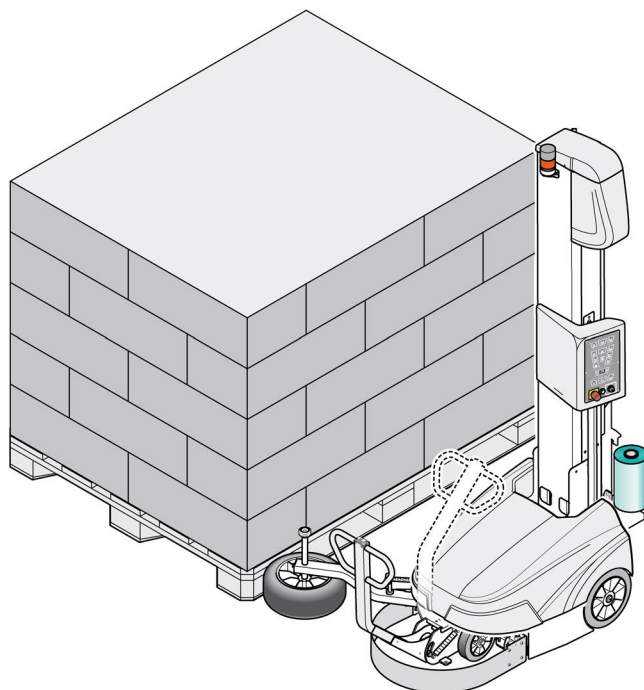
General description of the machine

The semiautomatic robot series BeeWrap+ is a machine designed and built to stabilise palletised products with stretch film.

- To wrap loads, commercially available reels of stretch film are used.
- The products to be wrapped must be contained in packages (cases, containers for liquids, etc.) having a regular shape or in any case, such as to allow for stable palletising.
- The containers of liquids or fluids should be hermetically sealed and with suitable characteristics to avoid spilling any content.
- The wrapping surface shall be uniform and smooth (without projections or recesses) in order to prevent the risk of film breaking.
- The machine has been designed, built and equipped by applying integrated safety principles.
- The machine is for professional use only and must be used in industrial-type settings - factories or workshops.
- The premises must have no areas with gas and dust concentration levels that are potentially explosive and/or at risk of fire.
- The working area must be flat (no slopes), compact and smooth to allow for easy and safe movement of the machine.
- On request, the machine may be equipped with accessories, either when it is ordered or later.

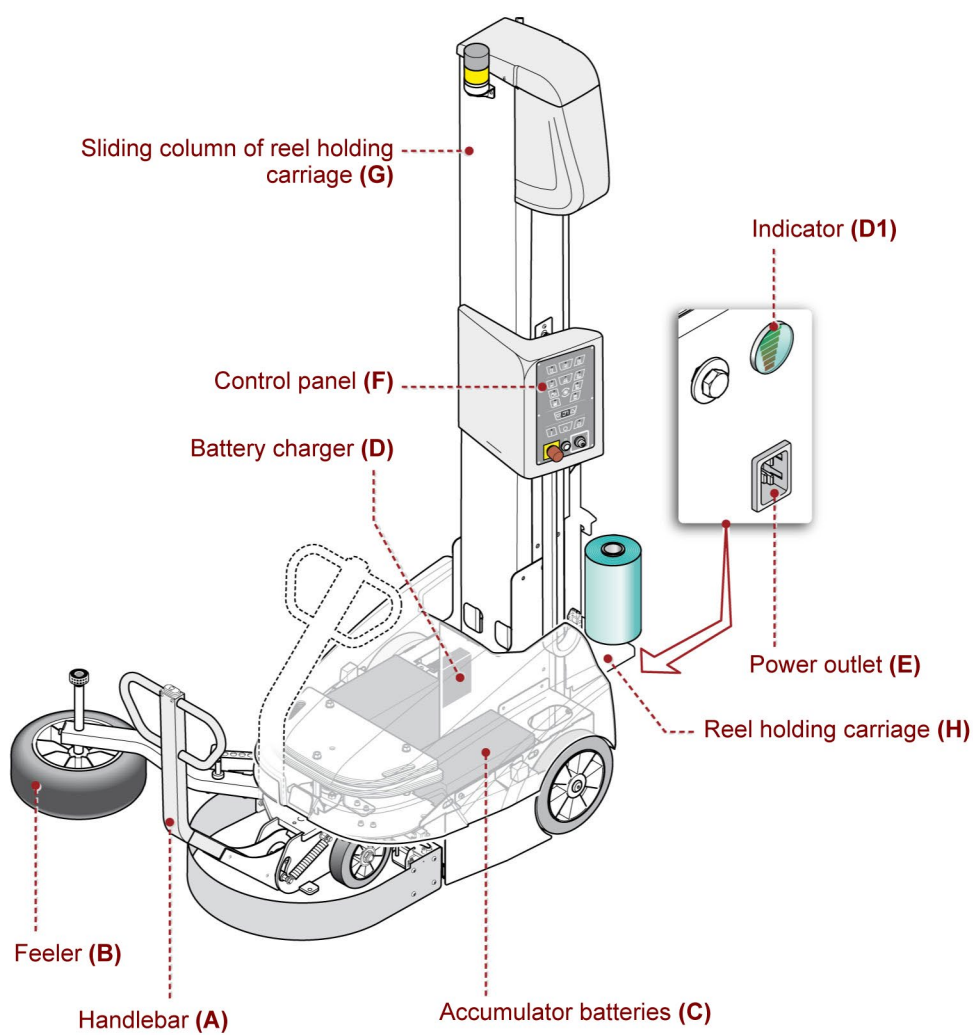
See [Description of optional devices](#) for further details.

- The machine must be used by one single operator **ONLY**, who must be trained and capable of performing the work and be in suitable conditions.
- The operator is in charge of programming and controlling the production cycle, perform the refilling and the scheduled maintenance.



Description of the main components

The image shows the main components and the list reports their description and function.



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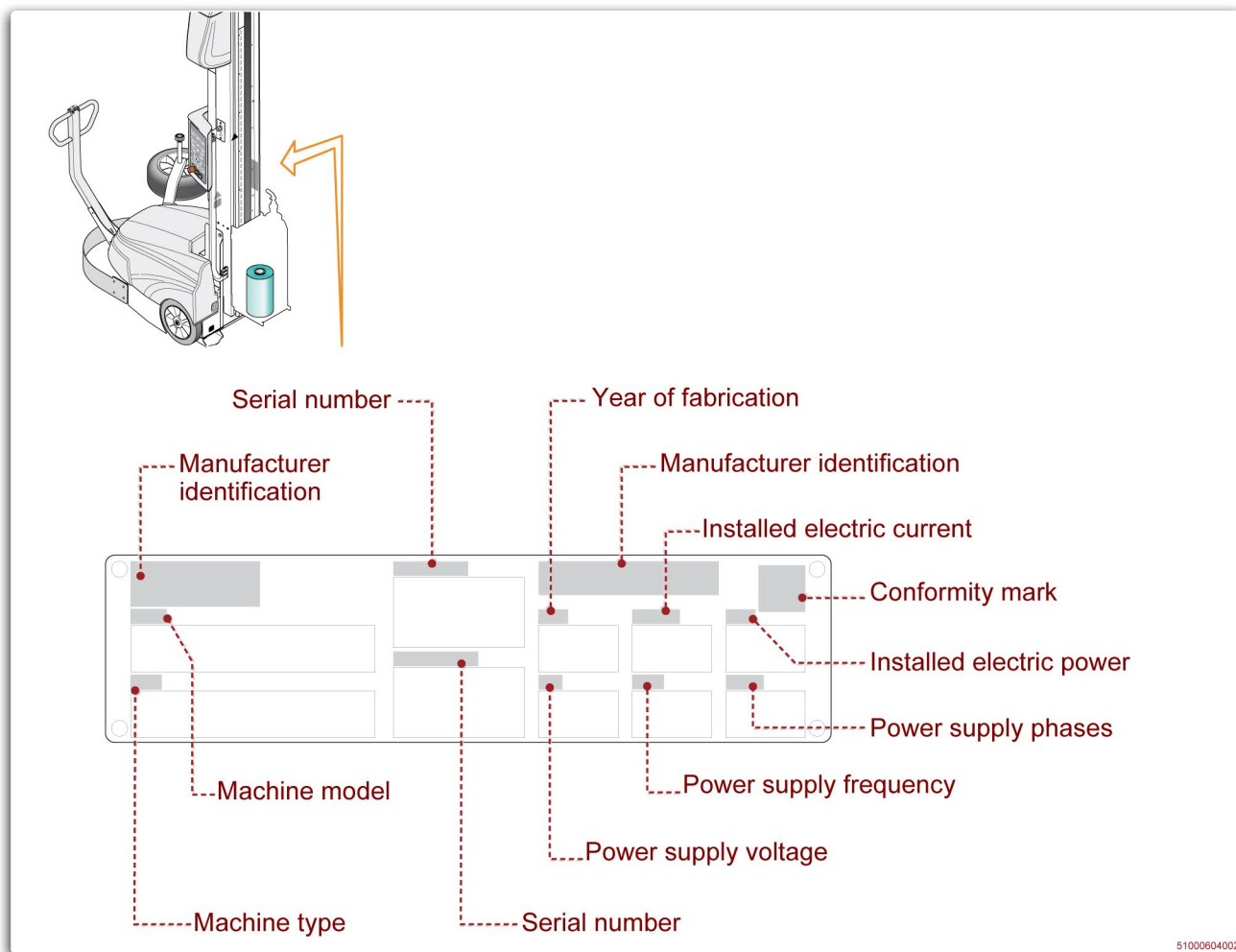
IDM 510312-2

- A) Handlebar:** control that drives the machine during the movement.
 - The controls installed in the handlebar start the movement.
- B) Feeler:** it helps keeping the machine in contact with the perimeter of the load to be wrapped.
- C) Accumulator batteries:** they supply the circuit and electric motors with power.
- D) Battery charger:** This electronic device is used to recharge the batteries **C**.
 - To charge battery , connect the power supply cable to power outlet **E**.
 - The indicator **D1** signals the charging conditions.
- E) Electrical power outlet:** it is used to connect battery charger to the power supply network.
- F) Control panel:** it contains the devices to start and control all the operation functions.
- G) Column:** it is used for vertical movement of reel holding carriage **H**.
- H) Reel holding carriage**
 - According to production requirements, in the ordering phase the machine can be equipped with one of the listed carriages.
 - **Reel holder carriage (type M):** suitable for wrapping, allows the operator to adjust the film tension manually using the ring nut of the mechanical brake.
 - **Reel-holder carriage (type FM):** suitable for wrapping, allows the operator to adjust the film tension from the control panel.
 - **Reel-holder carriage (type LP):** suitable for wrapping, with motorised film pre-stretching and electronic tension adjustment from the control panel.
 - **Net reel holding carriage (MR):** specific for wrapping operations with manual adjustment of the net tension by means of the ring nut of the mechanical brake.

Manufacturer and machine identification

The identification plate (pictured) is affixed directly to the machine.

- In addition to the references for identification provided by the Manufacturer, they also list all the essential information for a safe operation.

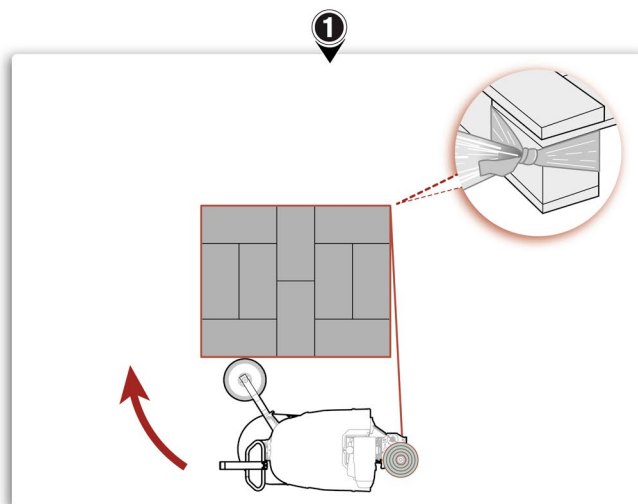


Cycle

The figure shows the operating cycle with indication of the main operating steps.

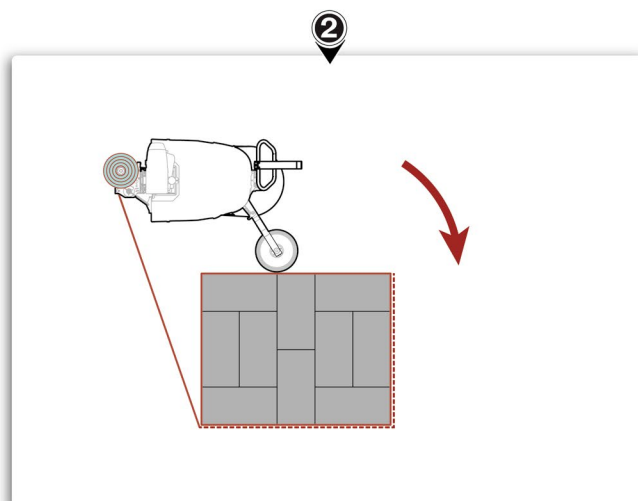
Stage ①

- Approach the machine to the pallet until touching the feeler.
- Tie the trailing end of the film to the base of the product to be wrapped.



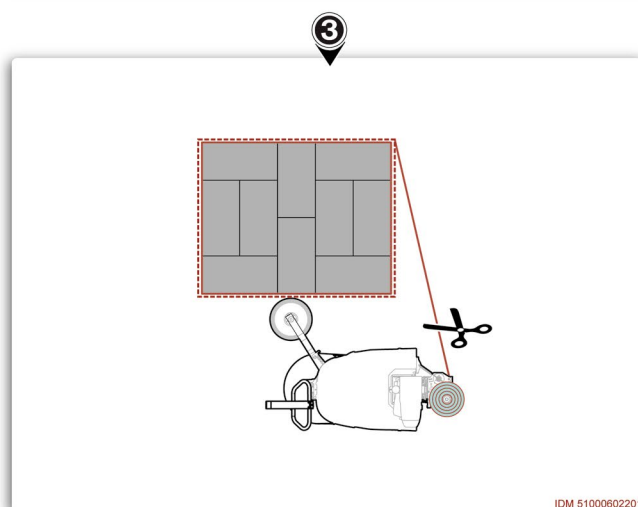
Stage ②

- Start the wrapping cycle that will be performed based on the previously set parameters.
- The machine moves clockwise around the product and stops once it finishes wrapping it.



Stage ③

- Manually cut the film and cause it to adhere to the wrapped product.
- The machine is ready for a new wrapping cycle.



IDM 51000602201

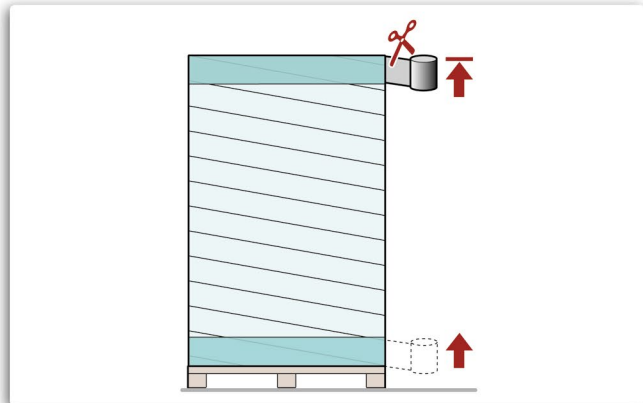
Types of wrapping

The figures show the types of wrapping that can be carried out.

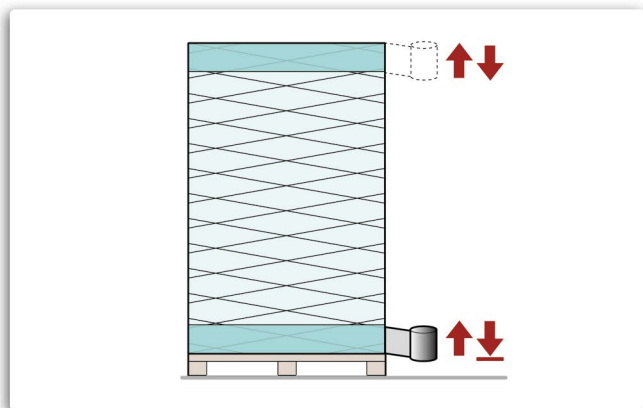
- **Single wrapping:** starts at the base of the load to be wrapped and ends in its upper part. Stabilisation wrappings can be made at the base and in the upper part of the load to be wrapped.
- Reel holding carriage is moved back to the base from control panel in order to start a new wrapping operation.

NOTE

The operator can decide whether to cut the film when the carriage is in the high position or in the low position.



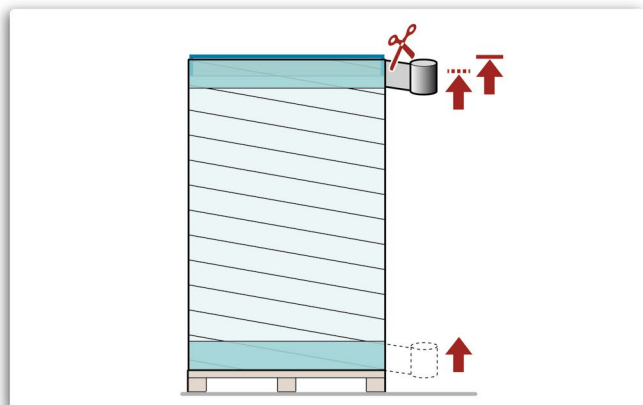
- **Double wrapping:** starts and ends at the base of the load after wrapping it in the lifting and lowering steps of reel holding carriage. Stabilisation wrappings can be made at the base and in the upper part of the load to be wrapped.



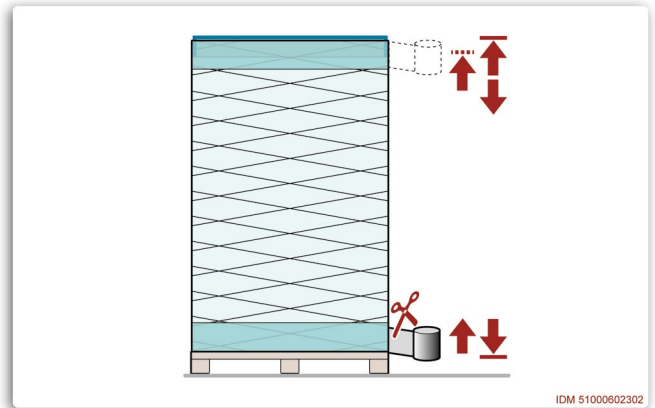
- **Single wrapping with sheet feeder:** starts at the base of the load to be wrapped and temporarily stops in its upper part. Stabilisation wrappings can be made at the base and in the upper part of the load to be wrapped.
- After inserting the covering sheet the operator must enable the control to restart the wrapping.
- After completing the upper reinforcement, the wrapping stops. Stabilisation wrappings can be made in the upper part of the load to be wrapped.
- Reel holding carriage is moved back to the base from control panel in order to start a new wrapping operation.

NOTE

The operator can decide whether to cut the film when the carriage is in the high position or in the low position.



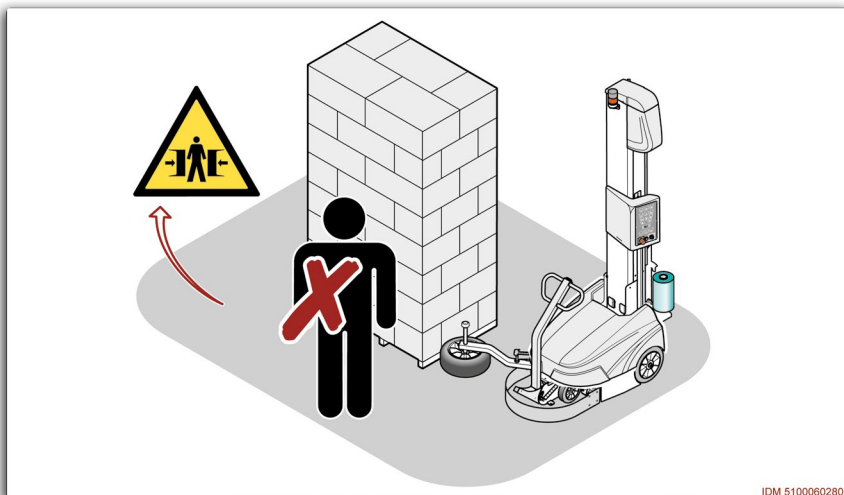
- **Double wrapping with sheet feeder:** starts at the base of the load to be wrapped and temporarily stops in its upper part. Stabilisation wrappings can be made at the base and in the upper part of the load to be wrapped.
- After inserting the covering sheet the operator must enable the control to restart the wrapping.
- After completing the reinforcement at the top of the load, the wrapping continues downwards and stops after the closing wrapping. Stabilisation wrappings can be made in the upper part of the load to be wrapped.



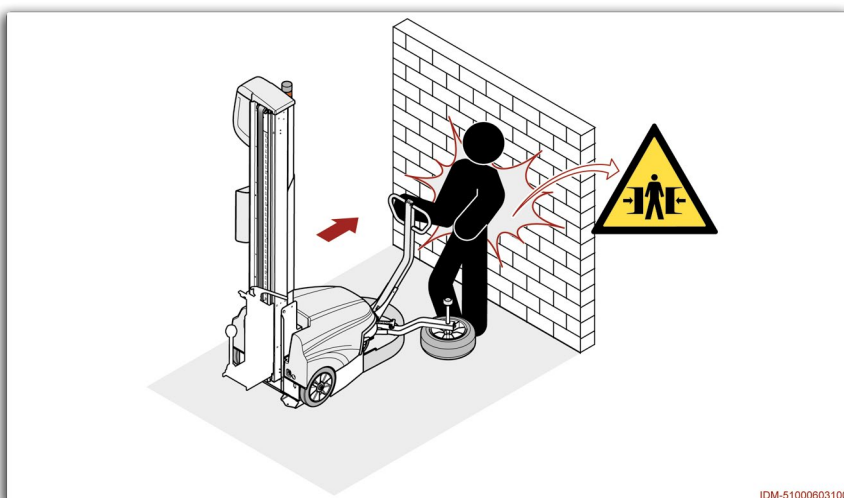
Residual risks

Residual risks are defined as: “Any risk that remains notwithstanding the safety solutions adopted and integrated during the design phase”.

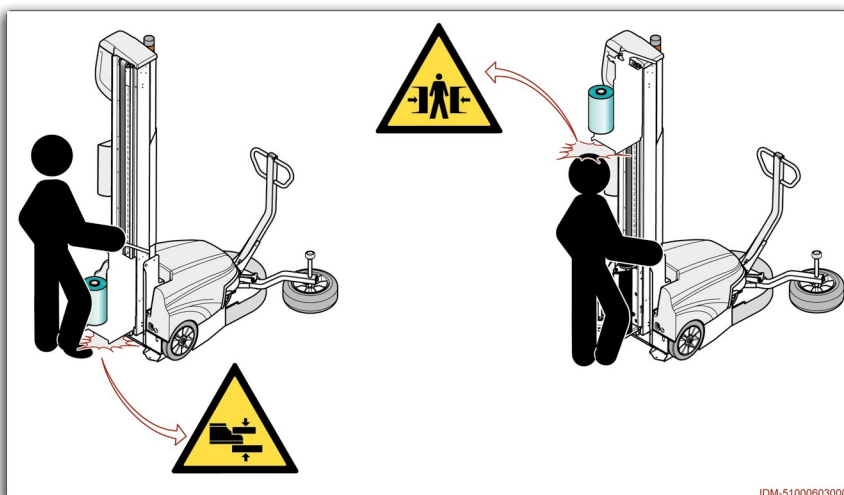
- Each residual risk is signalled with a special sign. Some of them are applied close to the areas where the risk is present, others are placed in an easily visible position.
- The list includes the residual risks that may persist on this type of machine.
- **Risk of crushing body parts:** do not stay or pass through the operating area during wrapping.



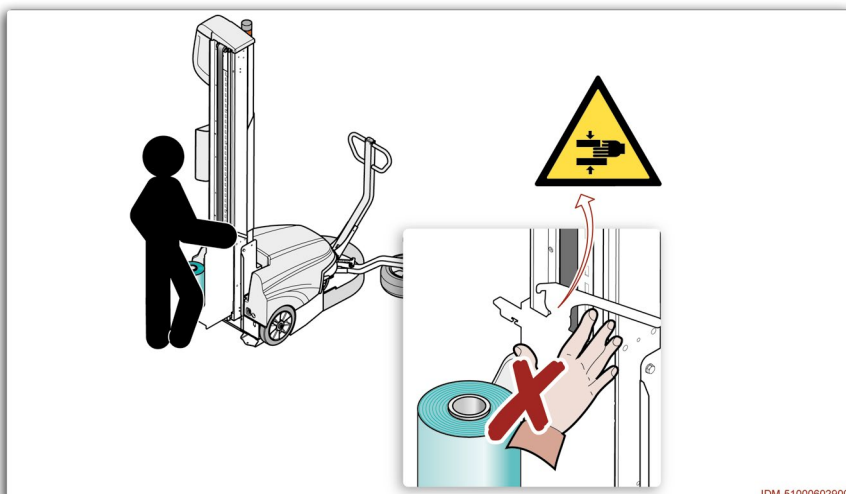
- **Risk of crushing body parts:** pay attention that there are no obstacles during the manual reverse movement.



- **Risk of crushing body parts and lower limbs:** do not stay within the operating area while the reel holding carriage is lowering.



- **Risk of crushing upper limbs:** do not introduce or place upper limbs in/next to any machine moving parts during operation. The risk mainly relates to the area between the sliding column and the reel holding carriage.
- In addition to the precautions for the signalled risks, the following measures must be implemented.
 - Do NOT approach or allow people to approach the moving parts of the machine in order to avoid dangerous collisions.
 - When the film is inserted, pay special attention in order to prevent collisions, abrasion and crushing of the upper limbs.



Incorrect uses that are reasonably expected

Improper use: reasonably foreseeable use different from what is specified in the use manual, that may be caused by human behaviour.

- ONLY trained, documented and authorized Operators are allowed to use the machine.
- DO NOT use or allow other persons to use the machine for purposes and in ways different from what specified by the Manufacturer.
- NEVER use the tool if the scheduled maintenance interventions have not been carried out accordingly
- DO NOT use the machine in unstable, uneven, sloping and unsuitably protected areas to prevent the risk of capsizing or falling.
- DO NOT enable the wrapping cycle during road, rail or sea transport (even if the means is not moving).

NOTE

To be used on naval means, carefully assess its stability to be able to operate in safe conditions.

- DO NOT use the machine in places that are at risk of fire and / or explosion.
- Do not use the machine as a means to transport people or things.
- When the products are wrapped, the radius of action of the machine must be kept free from people.
- DO NOT carry out any intervention when the machine is being operated. Stop the machine and put it in safety condition before carrying out any intervention.
- DO NOT clean or wash the machine using aggressive products that may damage its components.
- DO NOT leave the machine unattended during operation and DO NOT leave it at the end of the work without stopping it to safety conditions.

Description of the safety devices

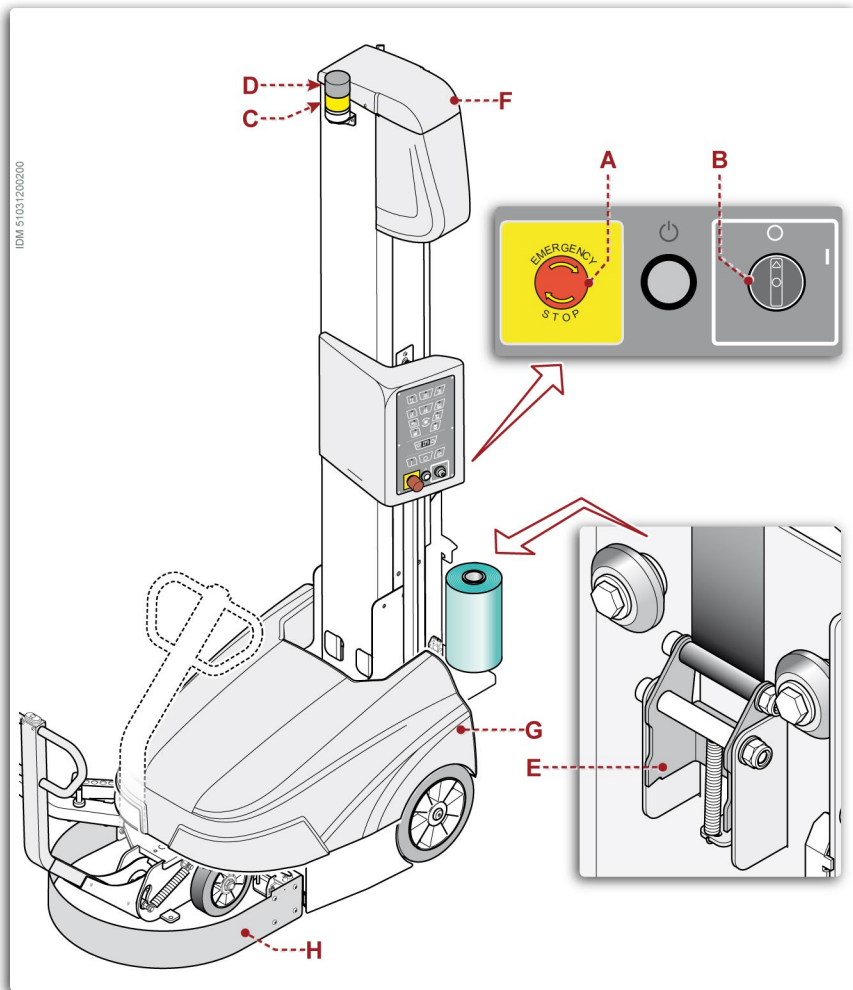
The machine is equipped with safety devices that reduce the risks during the man-machine interaction.

- A) Emergency stop button:** safety control that, in case of an imminent risk, stops all parts whose function might constitute a risk.
- B) Isolator switch:** safety control to disconnect power supply.
- C) Warning light (yellow light):** safety device that signals the operating conditions of the machine.
- D) Audible warning device:** safety device indicating the wrapping or machine conveying process with manual control.

NOTE

For further details on devices A-B-C-D, refer to paragraph "Description of the controls."

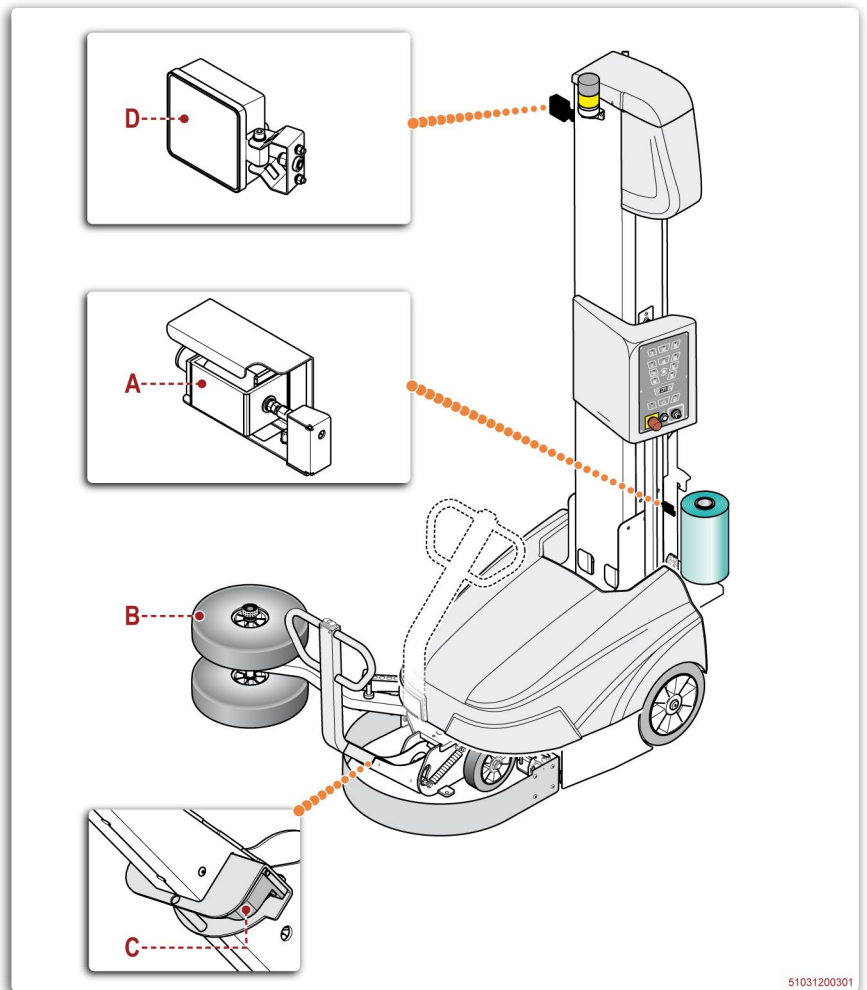
- E) Fall arrest system:** safety device that blocks the fall of reel holding carriage in the event of lifting strap breaking.
- F) Fixed guard:** safety device that prevents access to the parts whose operation may be dangerous.
 - The guard is secured in such a way that it can be disassembled only by using tools.
 - Guard can be removed only when the machine is stopped under safe conditions and must be installed before starting it.
- G) Fixed guard:** safety device that prevents access to the parts whose operation may be dangerous.
 - The guard is secured in such a way that it can be disassembled only by using tools.
 - Guard can be removed only when the machine is stopped under safe conditions and must be installed before starting it.
- H) Emergency bumper:** safety device that stops the operation in emergency conditions, in case of collision against an obstacle.



Description of optional devices

On request, the machine may be equipped with accessories, either when it is ordered or later.

- A) Double wheel feeler:** compared to the single wheel version, it increases the contact with the perimeter of the load to be wrapped.
- B) Film cutting device:** it cuts the film automatically at the end of wrapping (only for reel holding carriage of type "LP").
- C) Scanner device:** it prevents start-up or it stops operation in case there are foreign elements.
- D) Warning light (blue):** when it is on, it shows that the machine is moving.



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Technical data of machine

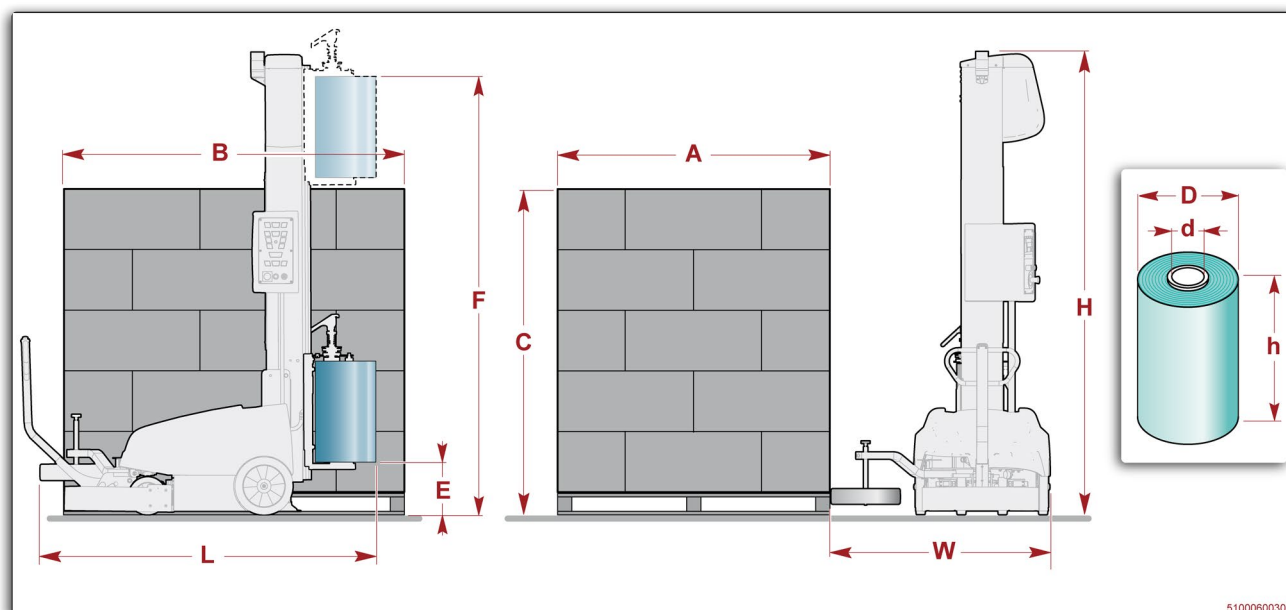


Table: Technical data of the machine

Description	Unit of measurement	Value
Features of the machine (C=2100)		
LxWxH (Length, width, height).	mm	1600 x 1200 x 2440
E - Wrapping start value	mm	50
F - Wrapping end value	mm	2260
Weight	kg	330
Features of the machine (C=2600)		
LxWxH (Length, width, height).	mm	1600 x 1200 x 2940
E - Wrapping start value	mm	50
F - Wrapping end value	mm	2760
Weight	kg	340
Features of the machine (C=2800)		
LxWxH (Length, width, height).	mm	-
E - Wrapping start value	mm	50
F - Wrapping end value	mm	-
Weight	kg	-
OPERATING PROPERTIES		
traverse speed	m/min.	50 ÷ 80
Maximum level of noise	dB(A)	72
Electric supply		
The power supply specifications are those shown in the identification plate applied to the machine.	-	-
Features of accumulator batteries		
Batteries 1)	- Type	AGM
	- Quantity	2
	- Power intensity	87
	- Weight of every battery	29
Features of battery charger		
See the technical specifications on the identification plate of battery charger.	-	-

Description		Unit of measurement	Value
Characteristics of the load to be wrapped (C=2100)			
AxBxC (Length, width, height).	- Min dimensions	mm	400 x 500 x 600
	- Max dimensions	mm	6000 x 7000 x 2100
Maximum perimeter		m	26
Minimum weight	- With film tensioning power from 2 kg	kg	20
	- With film tensioning power from 6 kg	kg	45
	- With film tensioning power from 10 kg	kg	55
Characteristics of the load to be wrapped (C=2600)			
AxBxC (Length, width, height).	- Min dimensions	mm	400 x 500 x 600
	- Max dimensions	mm	6000 x 7000 x 2600
Maximum perimeter		m	26
Minimum weight	- With film tensioning power from 2 kg	kg	20
	- With film tensioning power from 6 kg	kg	45
	- With film tensioning power from 10 kg	kg	55
Characteristics of the load to be wrapped (C=2800)			
AxBxC (Length, width, height).	- Min dimensions	mm	400 x 500 x 600
	- Max dimensions	mm	6000 x 7000 x 2800
Maximum perimeter		m	26
Minimum weight	- With film tensioning power from 2 kg	kg	20
	- With film tensioning power from 6 kg	kg	45
	- With film tensioning power from 10 kg	kg	55
Dimensions of film reel			
Maximum external diameter D		mm	250
Inside Diameter d		mm	76
Maximum height h		mm	500
Film thickness		µm	17 - 23
Max Weight		kg	17
Net reel dimensions			
Maximum external diameter D		mm	250
Inside Diameter d		mm	76
Maximum height h		mm	500
Max Weight		kg	17
Environmental conditions			
Maximum operating height (asl)		m	1000
Relative humidity (detected at a temperature included between 20°C and 40°C)		-	80%
Ambient functioning temperature		°C	+5 ÷ 40
Environmental brightness		LUX	150

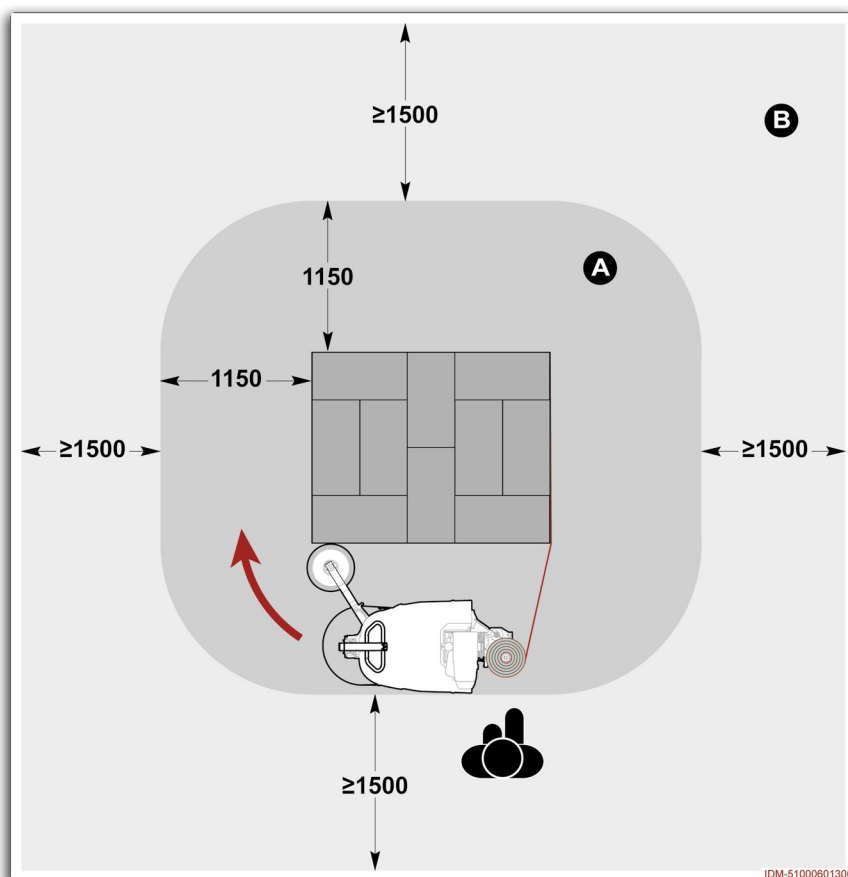
*) Accumulator batteries are installed as already ready for use (charged).

Description of outer areas

The figure shows different areas to be considered in the planning of the installation area.

A) Machine working area

B) Perimeter area



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Safety and information signals

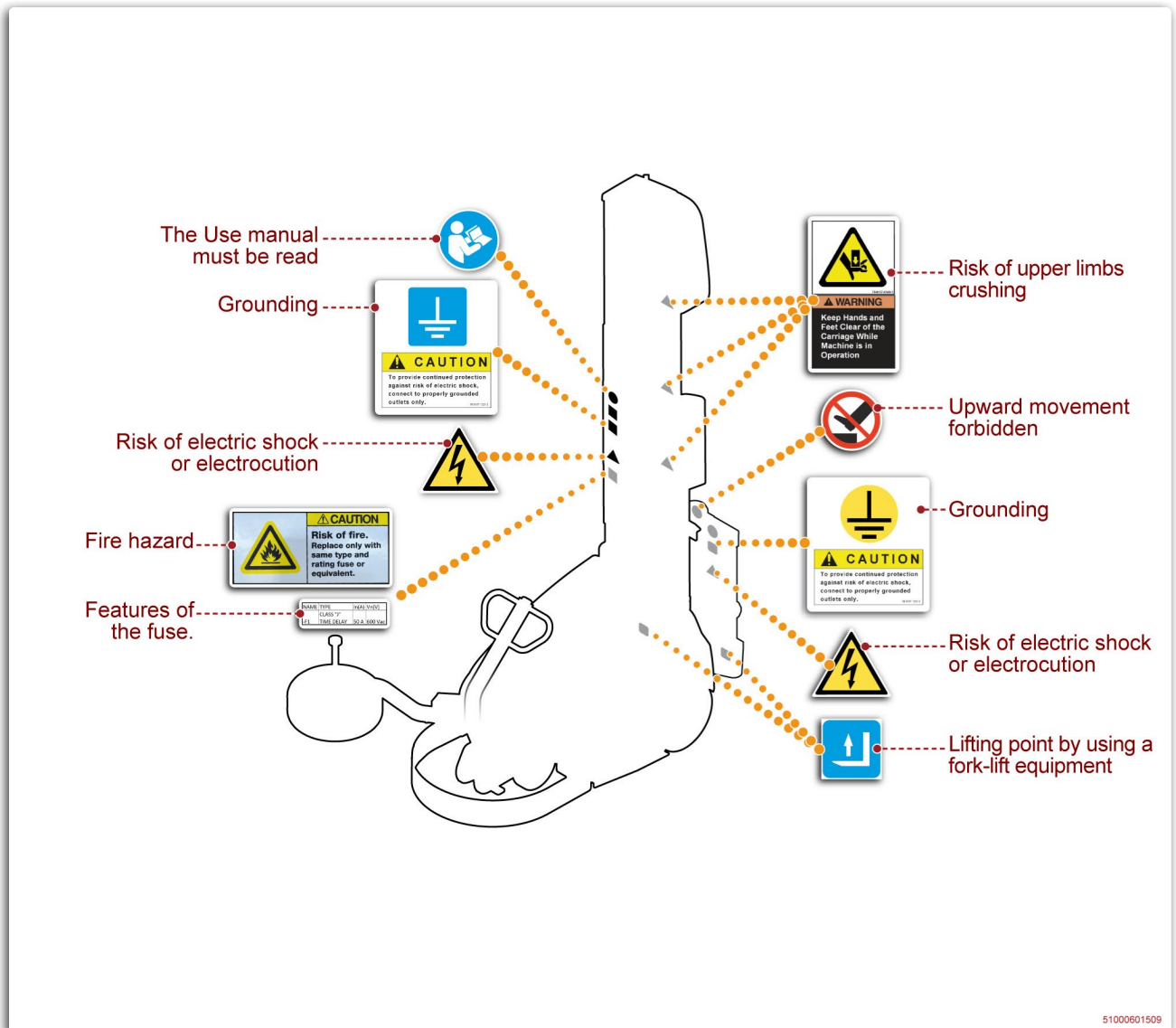
Please keep safety signs and information legible and follow the instructions.

- Signals which are no longer legible must be replaced and repositioned in the same place of origin.

Important

At the time of ordering provide the code of each signal to be replaced that is specified in the spare parts catalogue.

- The figure shows the position of the signals applied on the machine.



Recommendations on Operation and Use

- The machine must be used by one single operator **ONLY**, who must be trained and capable of performing the work and be in suitable conditions.
- Consult the user manual, in particular during the first use, and make sure that you fully understand its content.
- Find out the position and function of the controls and simulate some operations (in particular start and stop) in order to acquire familiarity.
- The machine shall be used **ONLY** for the purposes and complying with the procedures specified by the Manufacturer.
- Make sure that all the safety devices are properly installed and efficient.
- Ensure the area around the machine, especially the control post, is **ALWAYS** unobstructed and in good condition to minimize the risks for the Operator.
- Check whether according to the “Instructions for use” the operators are obliged to wear Personal Protective Equipment during use and operation.
- Even if the “Instructions for use” do not prescribe the use of PPE, keep to the laws applicable to the workplace.

Control description

The illustration shows the main commands and their description and function are listed.

A) Key: control that selects the type of load to be wrapped (signalled by the LED switching-on mode).

NOTE

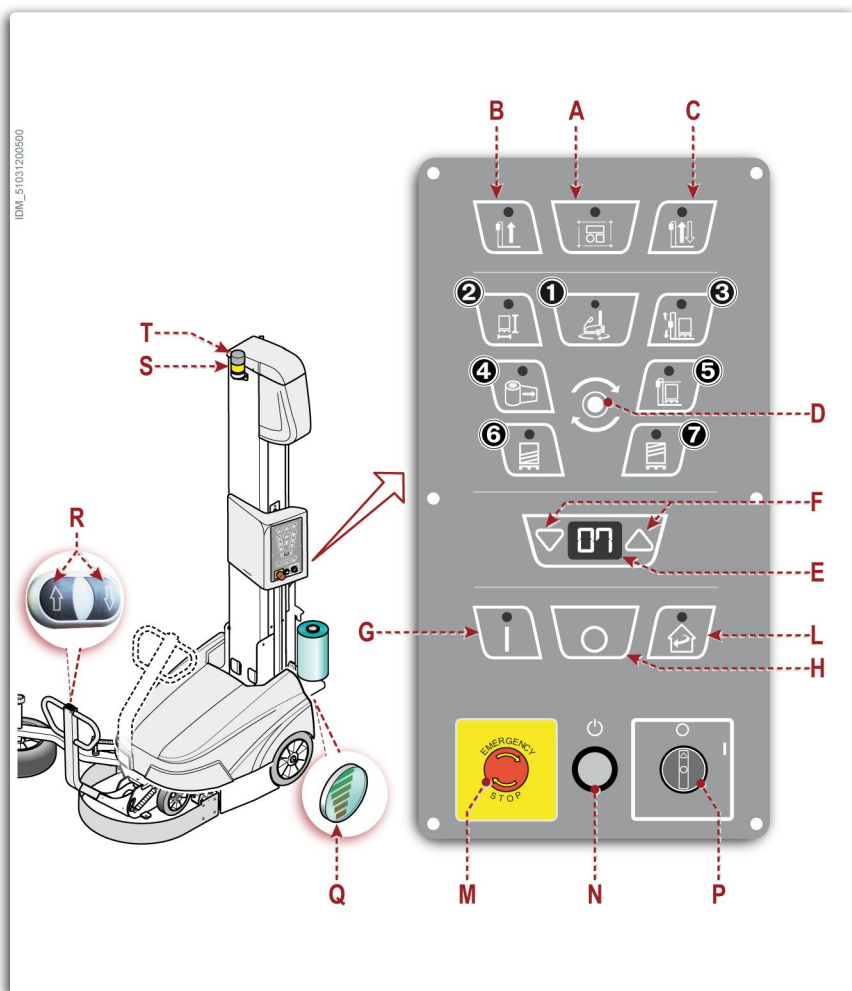
Press control repeatedly until you select the **LED switching-on mode corresponding to the load to be wrapped**.

- **LED off:** rectangular standard-sized load to be wrapped.
- **LED with steady light:** circular load to be wrapped.
- **LED with flashing light:** large-size load to be wrapped.

B) Button: control that enables single automatic wrapping (rise of the reel holder carriage).

- **Single automatic wrapping without sheet feeder:** press control once (LED with solid light).
- **Single automatic wrapping with sheet feeder:** press control twice (blinking LED).

C) Button: control that enables double automatic wrapping (rise and descent of the reel holder carriage).



- **Double automatic wrapping without sheet feeder:** press control once (LED with solid light).
- **Double automatic wrapping with sheet feeder:** press control twice (blinking LED).
- D) Key:** control for selecting the wrapping parameter to set and for enabling recipe selection.
 - **Recipe enabling:** press control and keep it pressed (about 5 seconds).
 - **Parameter selection:** press control repeatedly and release it when the LED corresponding to the icon to be programmed turns on.
 - **❶ - Setup of wrapping speed**
 - The number shown on display **E** refers to a value scale from 0 to 10.
 - **❷ - Setup of the size of the load to be wrapped**
 - The value is expressed in metre and it can be measured with a tolerance of $\pm 10\%$.
 - LED on with steady light combined with LED on with steady light of key **A**: programming of the diameter of the load to be wrapped.
 - Flashing LED: programming of the height of the load to be wrapped.
 - Set up value 0 to allow special photocell to detect the height without measuring the load to be wrapped.
 - **❸ - Setup of the speed of reel holding carriage**
 - LED on with steady light: programming of the lifting speed of the reel holding carriage.
 - Flashing LED: programming of the lowering speed of the reel holding carriage.
 - The number shown on display **E** refers to a value scale from 0 to 10.
 - **❹ - Setup of the tension and cut of film**
 - Solid LED ON: programming of film tension (only for reel holding carriage of type FM - LP).
The number shown on display **F** refers to a value scale from 0 to 99.
 - Flashing LED: programming of film cut (only for reel holding carriage of type LP).
Value "0": function deactivated.
Value "1": function activated
 - **❺ - Setup of the detection delay of photocell**
 - Led on: programming time (in seconds) from the detection of the end of the load until the stop of the reel holder carriage.
 - Blinking LED: programming of the descent (in seconds) of the reel holder carriage in order to allow the insertion of the protection sheet.
 - **❻ - Setup of the number of wrapping revolutions for bottom reinforcement.**
 - The number shown on display **E** refers to the number of wrapping revolutions to be carried out for the reinforcing bands.
 - **❼ - Setup of the number of wrapping revolutions for upper reinforcement.**
 - The number shown on display **E** refers to the number of wrapping revolutions to be carried out for the reinforcing bands.
- E) Digital display:** it displays different functions (selected parameters, active alarm, selected recipe, etc.).

NOTE

After 30 seconds from the last control activation, the brightness intensity of display decreases.

F) Keys: controls that increase or reduce the value shown in the display **E**.

- Controls (held pressed) are used to lift or lower reel holding carriage.

NOTE

The operation mode is possible **ONLY** if the wrapping cycle is completed and/or all LEDs are off.

G) Key: control to start the wrapping phase.

- LED on: function activated.
- LED on with flashing light: reel holding carriage not timed.

H) Key: control to stop the wrapping phase at a different point than the pre-set one.

L) Key: control that is used to reset the position of reel holding carriage.

- LED on: press control to perform the reset.

M) Emergency stop button: safety control that, in case of an imminent risk, stops all parts whose function might constitute a risk.

- The control must stay "locked" until all the normal operating conditions have been restored.
- After having normalised running conditions, unblock the button with a deliberate action to authorise restart.

N) Illuminated button (blue light): control designed to activate electric power supply.

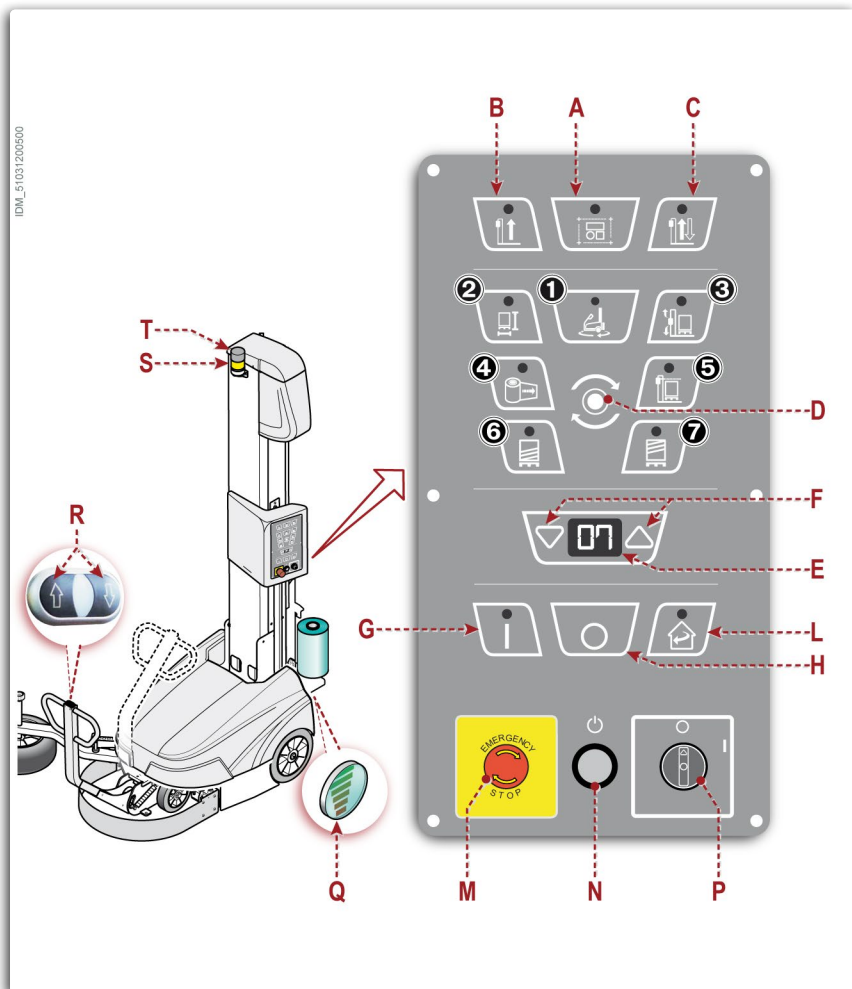
- Control enabled only when selector **P** is in position "I" (ON).
- Blue light off: activated power supply line.
- Blue light on: power supply deactivated.

P) Isolator switch: safety control to disconnect power supply.

- Position "O" (OFF): power supply off
- Position "I" (ON): power supply on
- Control can be padlocked in order to avoid operations by non-authorised personnel.

Q) Battery charge level indicator: it shows the battery state of charge.

- Green LED: battery charged.
- Orange LED: battery to be recharged.
 - Turn the selector **P** on position "O" (OFF).
 - Recharge the battery.
- Red LED: charge level below the minimum threshold.



NOTE

When the red LED is on, it is **NOT** possible to transfer the machine to the charge area.

R) Buttons: non-release controls that manually move the machine.

NOTE

Controls are enabled only when reel holding carriage is in its lowest position.

S) Warning light (yellow light): safety device that signals the operating conditions of the machine.

T) Audible warning device: safety device indicating the wrapping or machine conveying process with manual control.

Emergency stop and new start-up

■ Stop with activation of the emergency button

1. In the presence of an imminent risk press emergency button **M**.
- All moving devices immediately stop.
- The pilot light of button **N** turns on.
2. Identify the causes that have caused the stop.
3. Restore normal running conditions

Important

The recovery operations that are not within the operator's field of competence shall be carried out by authorised personnel and with recognised skills.

4. Manually cut the film and cause it to adhere to the wrapped product.

NOTE

Decide whether to remove or to leave the already wrapped film.

5. Unlock the emergency stop button with a voluntary action.
6. Press the push-button **N**.
- The push-button lamp **N** shuts off.
7. Press key **L**.
8. Wait until reel holding carriage automatically reaches its end-of-cycle position.
9. Tie the trailing end of the film to the base of the product to be wrapped.
10. Start the wrapping process.

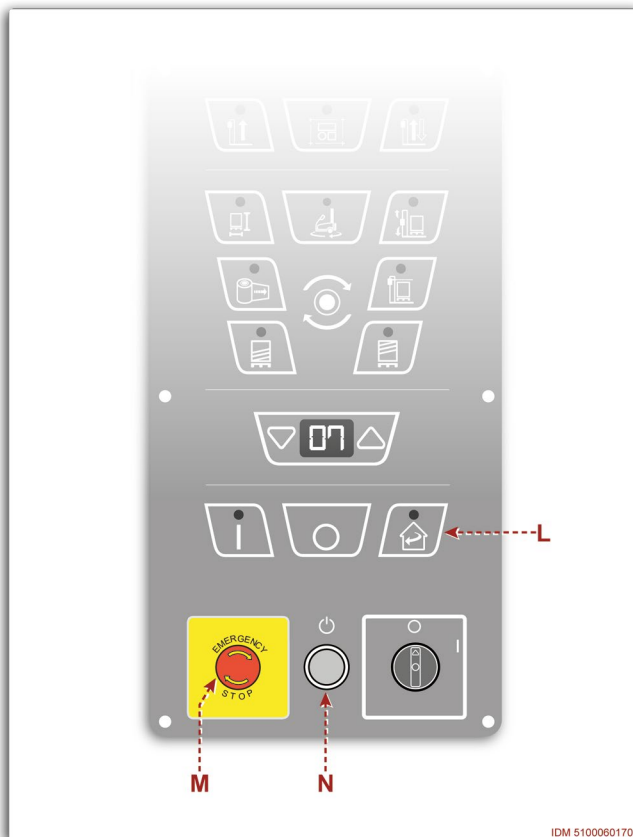
■ Stop with activation of the emergency bumper

- Operation stops automatically in emergency conditions when the bumper collides against an obstacle.
- In case of emergency conditions, the pilot light of button **N** is on and audible warning device is off.
 1. Remove the obstacle.
 2. Manually cut the film and cause it to adhere to the wrapped product.

NOTE

Decide whether to remove or to leave the already wrapped film.

3. Press the push-button **N**.
- The push-button lamp **N** shuts off.
4. Press key **L**.
5. Wait until reel holding carriage automatically reaches its end-of-cycle position.
6. Tie the trailing end of the film to the base of the product to be wrapped.
7. Start the wrapping process.



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■ Stop with activation of scanner device

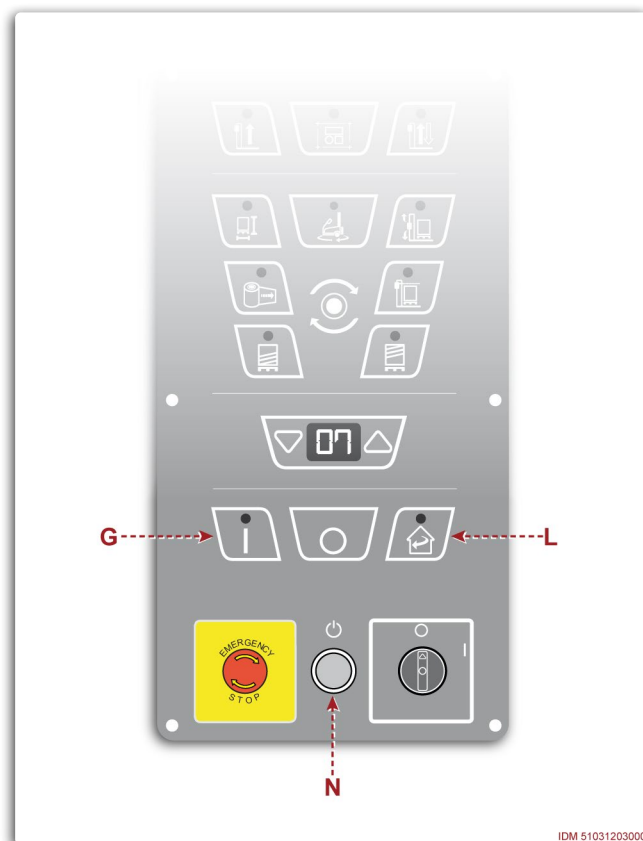
- Operation stops automatically in emergency conditions when the scanner device detects an obstacle.
- In case of emergency conditions, the pilot light of button **N** is on, the pilot light of button **G** is blinking and audible warning device is off.
- Remove the obstacle.
- After some seconds the automatic operation cycle starts again from the point at which it was stopped.
- The light of the button **G** remains steadily on.
- The push-button lamp **N** shuts off.

NOTE

Decide whether to remove or to leave the already wrapped film.

If the operation does not start again, proceed as follows.

1. Manually cut the film and cause it to adhere to the wrapped product.
 2. Press the push-button **N**.
- The push-button lamp **N** shuts off.
3. Press key **L**.
 4. Wait until reel holding carriage automatically reaches its end-of-cycle position.
 5. Tie the trailing end of the film to the base of the product to be wrapped.
 6. Start the wrapping process.



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(Single or double) automatic wrapping

At the beginning of the work cycle **ALWAYS** check the charge of batteries.

- The indicator **B** signals the charging conditions.
- When the orange LED is on, immediately charge the batteries.

NOTE

Once the charge process is completed, the green LED turns on.

Important

NEVER interrupt the battery charge cycle before it reaches its maximum capacity.

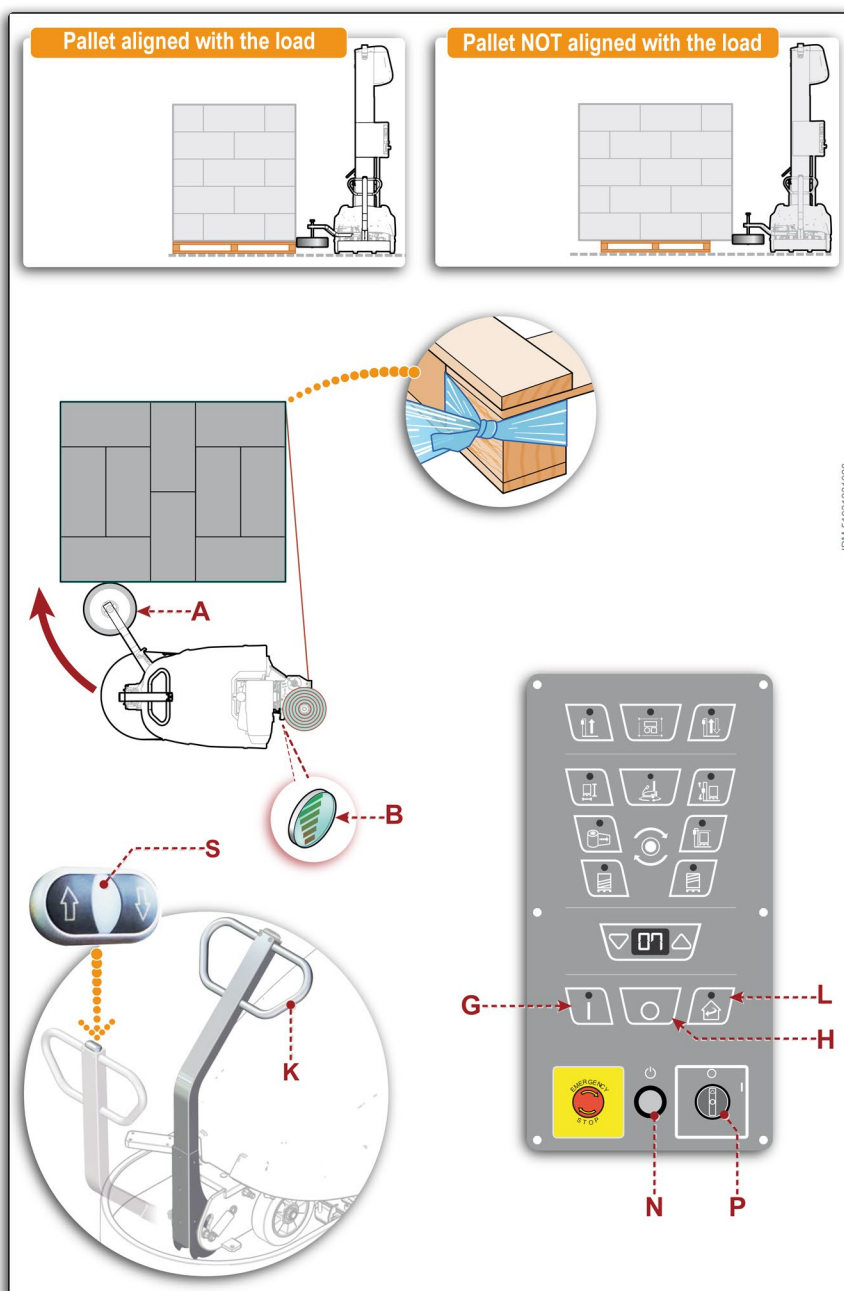
- The figure shows the points of intervention and the description shows the procedures to be adopted.

1. Check whether the wrapping film has the same chemical-physical properties as that installed in the reel holder carriage.
- If film characteristics appear to be different, consider whether you should adjust the film tension.
2. Before commissioning, check that roller feeler is next to the upper surface of the pallet.
- If the pallet is smaller than the load to be wrapped, roller feeler must be positioned on the lowest side of the load.

NOTE

The support area must be sufficiently regular to allow roller feeler to rotate properly.

3. Rotate main disconnecter **P** to position “I” (ON) to activate the power supply.
- The pilot light of button **N** turns on.
4. Press the push-button **N**.
- The pilot light of button **N** turns off.
5. Use the buttons **S** to lean the roller feeler **A** against the load to be wrapped.
6. Move the handlebar **K** to its “backward” position.
7. Tie the trailing end of the film to the base of the product to be wrapped.
8. Select and activate the recipe of interest.
See [Recipe management](#) for further details.
9. Press button **G** to start the wrapping cycle.



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NOTE

Check that the handlebar **K** is folded before starting the winding cycle.

- If the LED of key **L** is flashing, press key **L** to move reel holding carriage to its end-of-cycle position.
- When reel holding carriage is timed, the LED of key **L** turns off.
- To restart the wrapping cycle, press key **G** again.
- Audible warning device is activated to warn that the machine is operating.
- The machine stops as previously described, based on the selected type of wrapping.

NOTE

Press button **H** to stop wrapping; press button **G** to continue.

Wrapping will start at the point where it has been stopped.

- **Single mode:** the wrapping stops automatically with the reel holder carriage at the upper side of the load.
Press button **L** to move reel holder carriage to the start of the cycle (lower part).
- **Double mode:** the wrapping stops automatically with the reel holder carriage at the starting point (lower side of the load).

10. Manually cut the film and cause it to adhere to the wrapped product.


Important

Keep the reel suitably refilled to prevent to avoid interrupting the wrapping due to absence of film.

11. Use the buttons **S** to lean the roller feeler **A** against the load to be wrapped.

12. Move the handlebar **K** to its “backward” position.

13. Press button **G** to start the wrapping cycle.

NOTE

Check that the handlebar **K** is folded before starting the winding cycle.

- Audible warning device is activated to warn that the machine is operating.
- The machine performs the new wrapping and, at the end of the set cycle, stops automatically.

14. Repeat the same steps for the rest of the loads.

15. At the end of the working activity, adjust the buttons **S** to park the machine within the battery charging area.

16. Carry out battery recharge (See [Charge of accumulator batteries](#)).

■ Normal stop

- Make sure that the wrapping process has been completed.
- **DO NOT control a machine stop if the wrapping cycle has not been completed.**
- Manually cut the film and cause it to adhere to the wrapped product.
- Remove the wrapped product.
- Turn the selector **P** on position “**O**” (OFF).
- The power supply of batteries is deactivated.

(Single or double) automatic wrapping with sheet feeder

At the beginning of the work cycle **ALWAYS** check the charge of batteries.

- The indicator **B** signals the charging conditions.
- When the orange LED is on, immediately charge the batteries.

NOTE

Once the charge process is completed, the green LED turns on.

Important

NEVER interrupt the battery charge cycle before it reaches its maximum capacity.

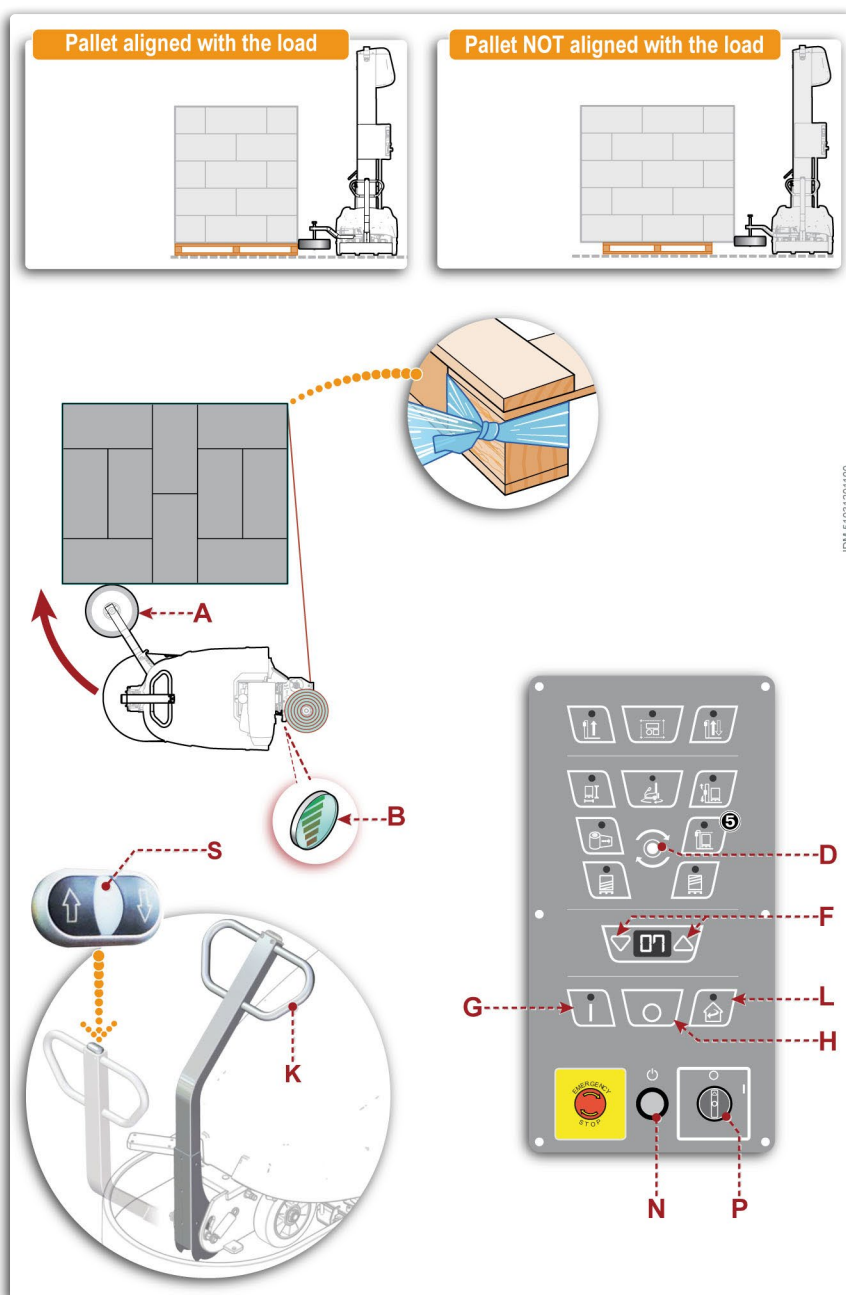
- The figure shows the points of intervention and the description shows the procedures to be adopted.

1. Check whether the wrapping film has the same chemical-physical properties as that installed in the reel holder carriage.
- If film characteristics appear to be different, consider whether you should adjust the film tension.
2. Before commissioning, check that roller feeler is next to the upper surface of the pallet.
- If the pallet is smaller than the load to be wrapped, roller feeler must be positioned on the lowest side of the load.

NOTE

The support area must be sufficiently regular to allow roller feeler to rotate properly.

3. Rotate main disconnecter **P** to position “I” (ON) to activate the power supply.
- The pilot light of button **N** turns on.
4. Press the push-button **N**.
- The pilot light of button **N** turns off.
5. Use the buttons **S** to lean the roller feeler **A** against the load to be wrapped.
6. Move the handlebar **K** to its “backward” position.
7. Tie the trailing end of the film to the base of the product to be wrapped.
8. Select and activate the recipe of interest.
See [Recipe management](#) for further details.



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9. Repeatedly press the button **D** until selecting the parameter **⑤**.
10. Use one of controls **F** to define the descent of reel holder carriage with regard to the upper part of the product.
- The greater is the value, the greater is the movement of the reel holder carriage.
11. Press button **G** to start the wrapping cycle.

NOTE

Check that the handlebar K is folded before starting the winding cycle.

- If the LED of key **L** is flashing, press key **L** to move reel holding carriage to its end-of-cycle position.
- When reel holding carriage is timed, the LED of key **L** turns off.
- To restart the wrapping cycle, press key **G** again.
- Audible warning device is activated to warn that the machine is operating.
- The machine stops as previously described, based on the selected type of wrapping.

NOTE

**Press button H to stop wrapping; press button G to continue.
Wrapping will start at the point where it has been stopped.**

- **Single mode:** the wrapping stops automatically with the reel holder carriage at the upper side of the load.
- Insert the covering sheet.
- Press the key **G** to complete the wrapping of the covering sheet.
Press button **L** to move reel holder carriage to the start of the cycle (lower part).
- **Double mode:** the wrapping stops automatically with the reel holder carriage at the upper side of the load.
- Insert the covering sheet.
- Press key **G**.
- The machine completes the wrapping cycle and stops automatically with the reel holder carriage at the lower side of the load.
- 12. Manually cut the film and cause it to adhere to the wrapped product.



Important

Keep the reel suitably refilled to prevent to avoid interrupting the wrapping due to absence of film.

13. Use the buttons **S** to lean the roller feeler **A** against the load to be wrapped.
14. Move the handlebar **K** to its “backward” position.
15. Press button **G** to start the wrapping cycle.

NOTE

Check that the handlebar K is folded before starting the winding cycle.

- Audible warning device is activated to warn that the machine is operating.
- The machine performs the new wrapping and, at the end of the set cycle, stops automatically.
- 16. Repeat the same steps for the rest of the loads.
- 17. At the end of the working activity, adjust the buttons **S** to park the machine within the battery charging area.
- 18. Carry out battery recharge (See [Charge of accumulator batteries](#)).

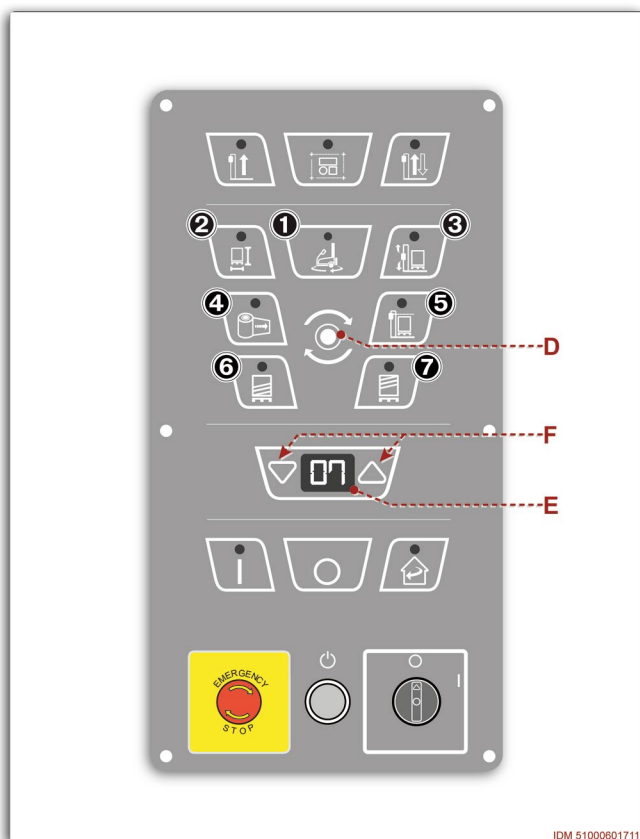
■ Normal stop

- Make sure that the wrapping process has been completed.
- **DO NOT control a machine stop if the wrapping cycle has not been completed.**
- Manually cut the film and cause it to adhere to the wrapped product.
- Remove the wrapped product.
- Turn the selector **P** on position “**O**” (OFF).
- The power supply of batteries is deactivated.

Setup of parameter values

The figure shows the points of intervention and the description shows the procedures to be adopted.

1. Press control **D** repeatedly and release it when the LED corresponding to the icon to be programmed turns on.
- The value of the selected parameter appears on display **E**.
2. Press one of buttons **F** to modify the value.
- With the parameter **1** selected: the number shown refers to a value scale from 0 to 10.
 - With parameter **2** selected: the displayed value refers to the diameter or height of the load to be wrapped.
 - Diameter of the load to be wrapped: from 0,8 to 9 metre
 - Height of the load to be wrapped: from 0,6 to 2,6 metre
 - With parameters **3** selected: the number shown refers to a value scale from 0 to 9.
 - With parameter **4** selected
 - Solid LED ON: the displayed number refers to a range of values from 0 to 99.
 - Flashing LED: the displayed number refers to the activation of film cut (from 0 to 1).
 - With the parameter **5** selected: the number shown refers to the time expressed in seconds (from 0 to 9.9).
 - With the parameters **6** - **7** selected: the number shown refers to the number of revolutions to be performed for the reinforcing wrappings (from 0 to 10).



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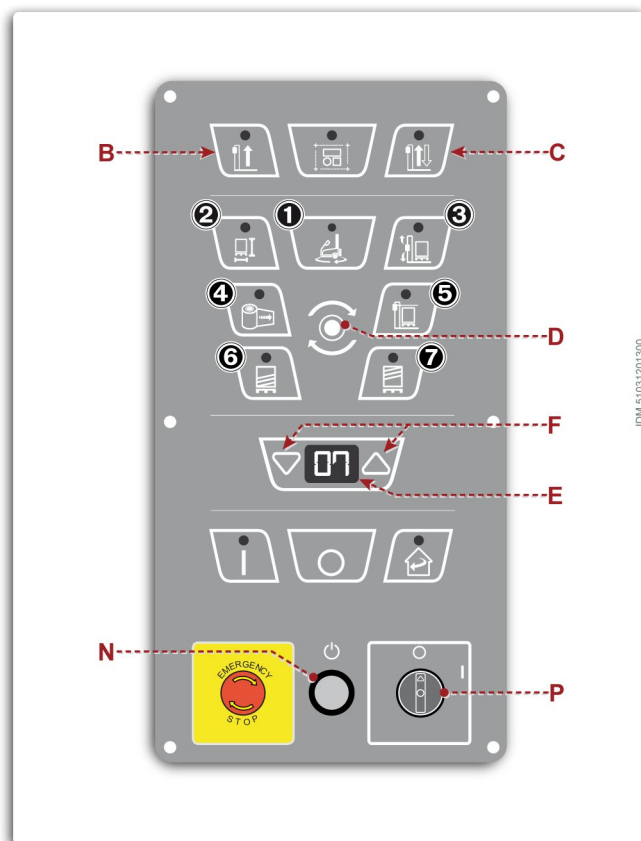
Recipe management

The figure shows the points of intervention and the description shows the procedures to be adopted.

- The described procedures refer to how to modify and/or activate a recipe.

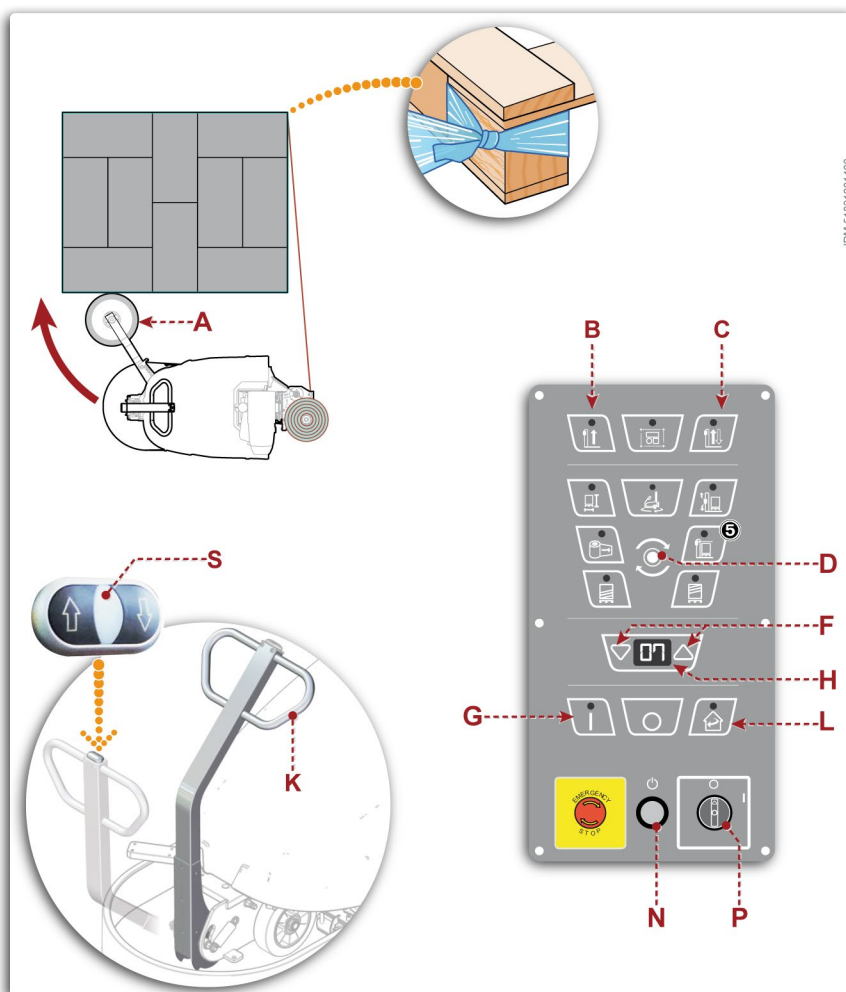
■ Modifying a recipe

1. Rotate main disconnecter **P** to position “I” (ON) to activate the power supply.
- The pilot light of button **N** turns on.
2. Press the push-button **N**.
- The pilot light of button **N** turns off.
- The number of the last used recipe appears on display **E**.
3. Select the wrapping of interest by means of one of buttons **B-C**.
4. Keep button **D** pressed (about 5 seconds) in order to enable programming.
5. Press one of buttons **F** to select the number of the recipe to be modified.
6. Set up all parameters of recipe one at a time.
7. Press control **D** repeatedly and release it when the LED corresponding to the desired icon turns on.
- The value of the selected parameter appears on display **E**.
8. Press one of buttons **F** to modify the value.
- With the parameter **1** selected: the number shown refers to a value scale from 0 to 10.
- With parameter **2** selected: the displayed value refers to the diameter or height of the load to be wrapped.
 - Diameter of the load to be wrapped: from 0,8 to 9 metre
 - Height of the load to be wrapped: from 0,6 to 2,6 metre
- With parameters **3** selected: the number shown refers to a value scale from 0 to 9.
- With parameter **4** selected
 - Solid LED ON: the displayed number refers to a range of values from 0 to 99.
 - Flashing LED: the displayed number refers to the activation of film cut (from 0 to 1).
- With the parameter **5** selected: the number shown refers to the time expressed in seconds (from 0 to 9.9).
- With the parameters **6** - **7** selected: the number shown refers to the number of revolutions to be performed for the reinforcing wrappings (from 0 to 10).



- **Loading a recipe**

1. Rotate main disconnect **P** to position “**I**” (ON) to activate the power supply.
- The pilot light of button **N** turns on.
2. Press the push-button **N**.
- The pilot light of button **N** turns off.
- The number of the last used recipe appears on display **E**.
3. Use the buttons **S** to lean the roller feeler **A** against the load to be wrapped.
4. Move the handlebar **K** to its “backward” position.
5. Tie the trailing end of the film to the base of the product to be wrapped.
6. Keep button **D** pressed (about 5 seconds) in order to enable programming.
7. Press one of buttons **F** to select the number of the recipe to be loaded.
8. Press button **G** to start the wrapping cycle.



NOTE

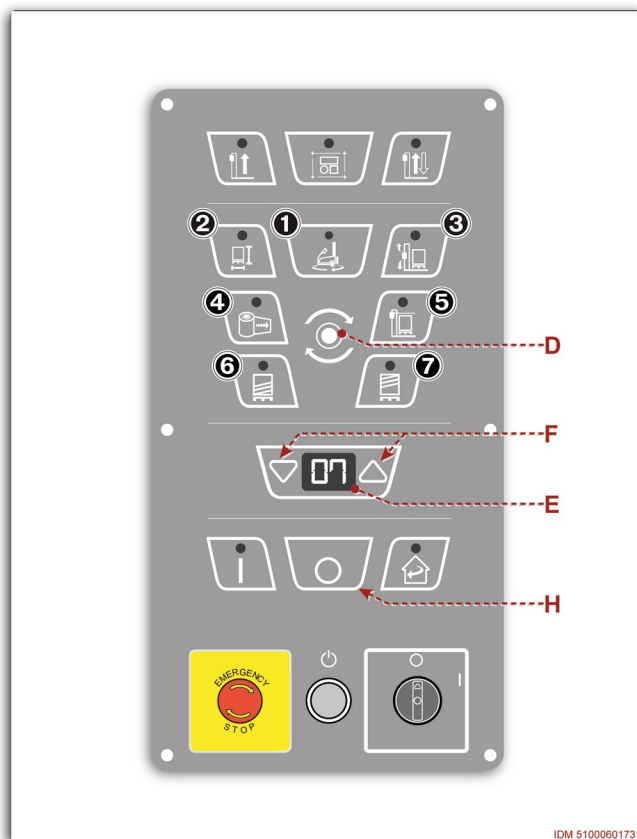
Check that the handlebar K is folded before starting the winding cycle.

- If the LED of key **L** is flashing, press key **L** to move reel holding carriage to its end-of-cycle position.
- When reel holding carriage is timed, the LED of key **L** turns off.
- To restart the wrapping cycle, press key **G** again.
- Audible warning device is activated to warn that the machine is operating.

Recipe lock/unlock mode

The lock mode is used to avoid that the parameters of the stored recipes are changed.

- The figure shows the points of intervention and the description shows the procedures to be adopted.
 1. Keep key **H** pressed until value “n. 0” is shown on display **E**.
 2. Press key **D**.
 3. Press keys **F** until value “19” is shown on display **E**.
 4. Press the key **D** to confirm.
- Display shows message “c.1”.
 5. Press keys **F** until value “c.9” is shown on display **E**.
 6. Press the key **D** to confirm.
 7. Press one of keys **F** to select value “0” or “1”.
 - **Value “0”**: recipes unlocked.
The parameters of the stored recipes can be changed.
 - **Value “1”**: recipes locked.
The parameters of the stored recipes cannot be changed.
 8. Press the key **D** to confirm.
- After some seconds the programming mode is automatically closed.



■ Recipe function “P0”

- Recipe “**P0**” is used to programme the wrapping process of a non-standard load, without changing the parameters of the programmed recipes.
- Recipe “**P0**” is enabled only through the recipe unlocking function.
To upload and change the recipe “**P0**” see [Recipe management](#).

Disassembly and reassembly of battery panel

This operation allows easy access to internal areas where the battery is installed.

- The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge. Fulfilling the requirements is necessary in order to work properly and under safe conditions.



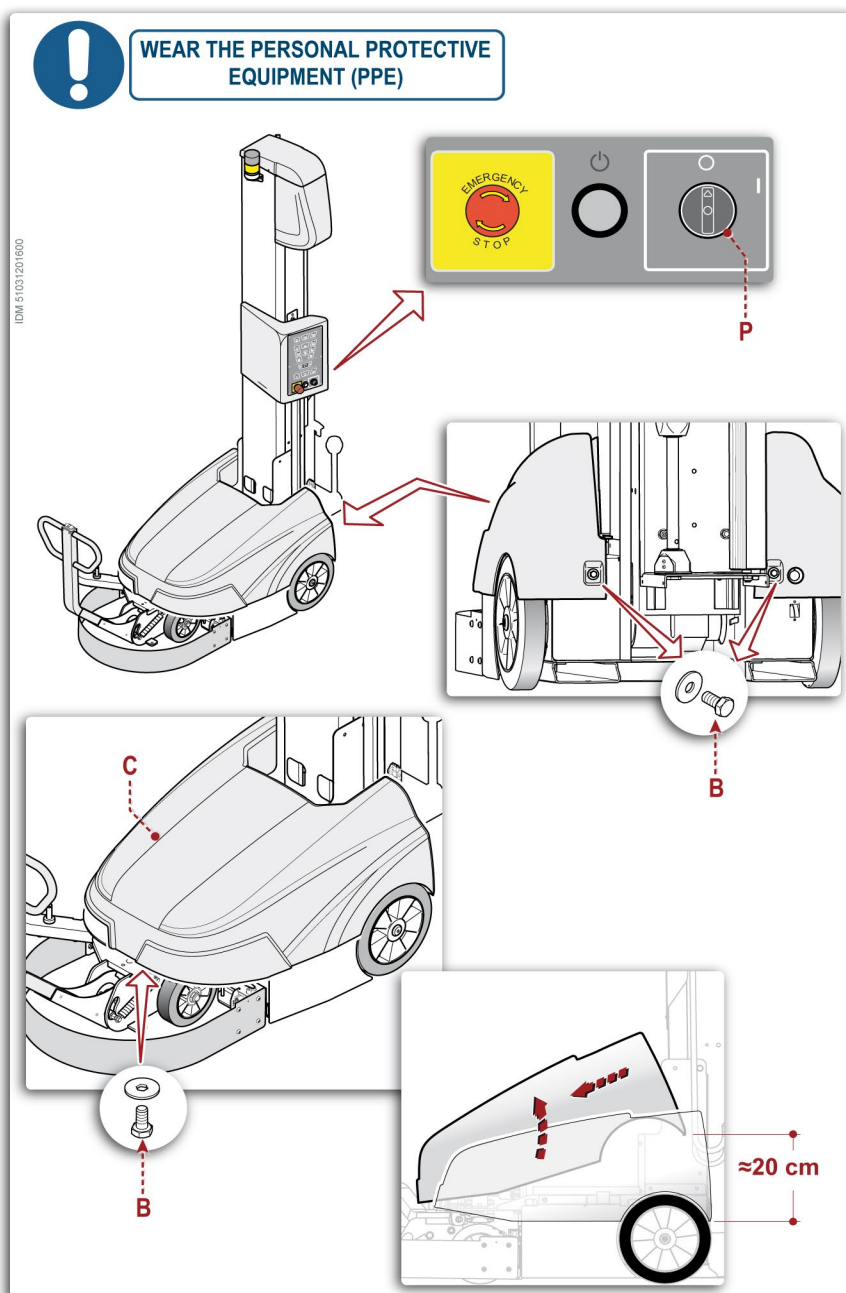
Wear the Personal Protective Equipment specified in the “Instructions for use” and those required by occupational laws.

- The figure shows the points of intervention and the description shows the procedures to be adopted.

1. Signal the areas of operation to prevent access to controls that, if activated, could compromise safety.
 2. Turn the selector **P** on position “O” (OFF).
- The power supply of batteries is deactivated.
 - 3. Loosen screws **B** and remove them.
 - 4. Slightly lift the rear side of panel **C** and extract it forward to remove it.

■ Assembly of battery panel

5. Check that there are no tools or other materials in the risk areas.
6. Connect the front side of panel **C** to the machine and lower it to starting position.
7. Introduce and tighten the screws **B**.
8. Rotate main disconnecter **P** to position “I” (ON) to activate the power supply.



Recommendations for maintenance interventions

- The recommendations represent a summary of those shown in the SAFETY WARNINGS section.
- The personnel authorized to carry out the ordinary maintenance must have qualified expertise and specific skills in the field of intervention.
- Any work on the electrical system must ONLY be performed by technicians with acknowledged, field-specific skills.
- Signal the areas of operation to prevent access to controls that, if activated, could compromise safety.
- According to the type of operation to carry out, wear the Personal Protective Equipment listed in the “Instructions for use” and that indicated by the Labour laws.
- Before carrying out any intervention, activate all the safety measures, and assess any residual energy which may still be present.
- Carry out the interventions ONLY according to the modes recommended by the Manufacturer in the “Instructions for use”.
- All operations must be carried out ONLY with suitable tools which shall be in good condition, in order to avoid damaging any components and parts of the machine.
- At work completion, restore all the security conditions aimed to prevent and minimize the risks during the human-machine interaction.
- At the end of operations check that there are no other tools or other material near the moving parts or in dangerous areas.
- Refer to the Technical Assistance Service of the Manufacturer, in case interventions not described in the “Instructions for use” are needed.
- **In order to avoid safety hazards for the operators and financial losses, follow not only the recommendations but also the information in the SAFETY WARNINGS section.**

Scheduled maintenance intervals

Always keep the machine in optimum operating condition and carry out the routine maintenance according to the intervals and procedures specified by the Manufacturer.

- In case of prolonged inactivity, carry out some maintenance operations in order to preserve functionality and prevent further damages.
- After prolonged inactivity, carefully check that the operating functionality has remained unaltered.
- A good maintenance will ensure a stable performance over time, longer working life and constant compliance with the safety requirements.

Maintenance schedule

Every working day

Component	Operation required	Procedures to implement
Machine	Control of emergency bumper	- Check the correct operation (See Daily check of the safety bumper).
	Check of scanner device (optional)	- Check the correct operation (See Daily check of scanner device).
Control panel	Control of emergency stop button	- Check the correct operation.
Accumulator batteries	Charge	- Perform a full charge cycle at the end of the working activity (See Charge of accumulator batteries).

Every 40 work hours (max 1 week)

Component	Operation required	Procedures to implement
Sliding column	Cleaning of reel holding carriage sliding guides	- Remove any impurities with a plastic scraper. - Clean with a soft cloth soaked in a non-flammable and non-corrosive detergent. - Properly dry the surfaces.
	Check of lifting belt of the reel holding carriage	- Check this component for wear. - Replace the belt in case it is excessively worn. (See Replacing the lifting belt of the carriage).
Reel holding carriage	Cleaning of the detection photocell of the load to be wrapped	- Clean the detection area of the photocell. - Use a clean, dry (not abrasive) cloth.

Every 200 work hours (max 1 month)

Component	Operation required	Procedures to implement
Accumulator batteries	Cleaning	- Clean batteries - Use a clean, dry (not abrasive) cloth.
Machine	Control of emergency bumper	- Check the correct operation (See Monthly check of the safety bumper).

Every 5000 work hours (max 12 months)

Component	Operation required	Procedures to implement
Reel holding carriage	Check of vertical movement wheels	- Check this component for wear. - Replace the component, if it is worn out
Machine	Control of emergency bumper	- Check the correct operation (See Yearly check of the safety bumper).

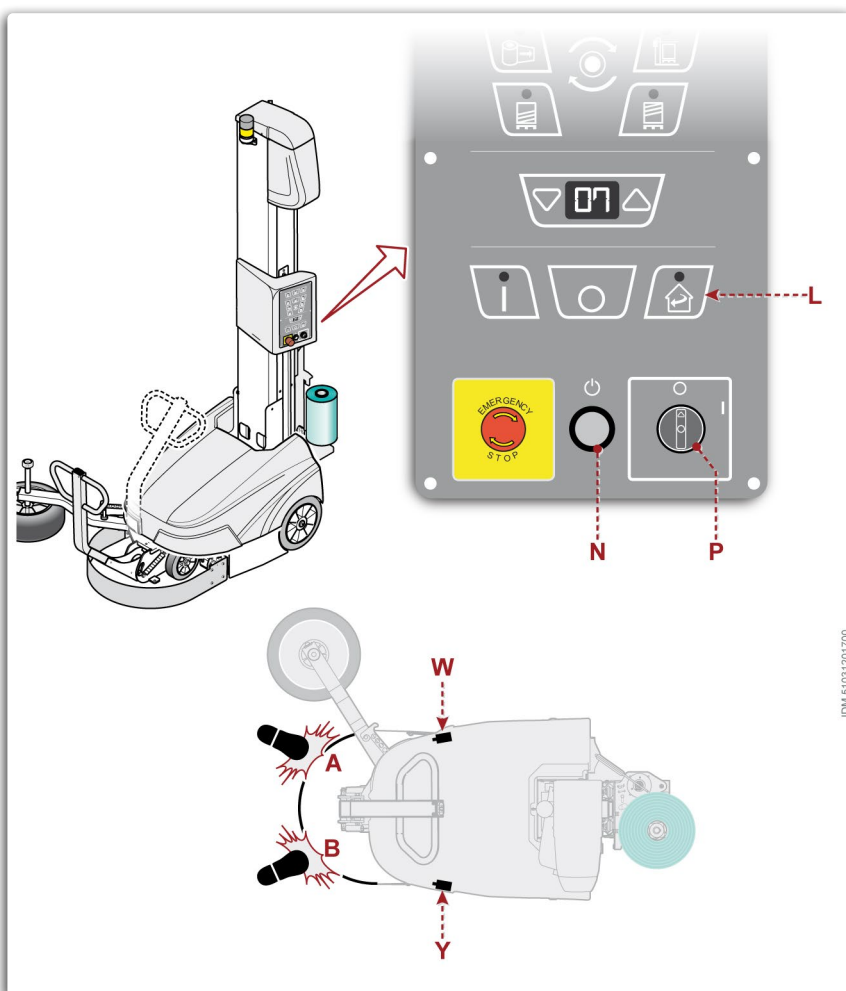
Daily check of the safety bumper

The check is necessary to verify the efficiency of the safety system and to maintain a suitable efficacy level to prevent unexpected risks.

Important

The check must be carried out with the machine connected to the power supply, but NOT MOVING.

- The figure shows the points of intervention and the description shows the procedures to be adopted.
- 1. Rotate main disconnector **P** to position “I” (ON) to activate the power supply.
- The pilot light of button **N** turns on.
- 2. Press the push-button **N**.
- The pilot light of button **N** turns off.
- 3. Exercise a strong pressure onto point **A** and check whether the pilot light of button **N** is on.
- Microswitch **W** is damaged if the pilot light of button **N** stays off.
- 4. Press the Reset key **L**.
- 5. Exercise a strong pressure onto point **B** and check whether the pilot light of button **N** is on.
- Microswitch **Y** is damaged if the pilot light of button **N** stays off.
- 6. Press the Reset key **L**.
- 7. Replace the components, if damaged.



Attention Warning

DO NOT keep using the machine if you have not solved the detected defects and avoid the risk of faults or unpredictable incidents.

- If the problem persists, please contact the Manufacturer's Technical Service.

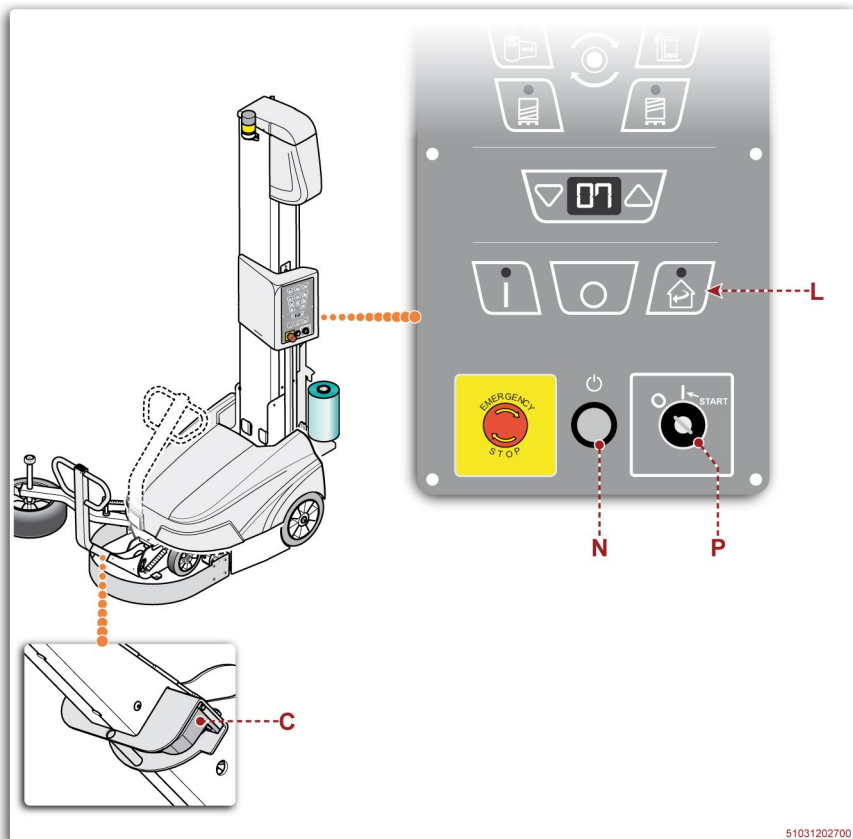
Daily check of scanner device

The check is necessary to verify the efficiency of the safety system and to maintain a suitable efficacy level to prevent unexpected risks.

Important

The check must be carried out with the machine connected to the power supply, but NOT MOVING.

- The figure shows the points of intervention and the description shows the procedures to be adopted.
- 1. Rotate main disconnector **P** to position “I” (ON) to activate the power supply.
- The pilot light of button **N** turns on.
- 2. Press the push-button **N**.
- The pilot light of button **N** turns off.
- 3. Insert a test sample in the detection area of the device **C** and make sure the pilot light of button **N** is on.
- The component **C** is damaged if the pilot light of button **N** stays off.
- 4. Press the Reset key **L**.
- 5. Replace the components, if damaged.



Attention Warning

DO NOT keep using the machine if you have not solved the detected defects and avoid the risk of faults or unpredictable incidents.

- If the problem persists, please contact the Manufacturer's Technical Service.

Monthly check of the safety bumper

The check is necessary to verify the efficiency of the safety system and to maintain a suitable efficacy level to prevent unexpected risks.

- The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge. Fulfilling the requirements is necessary in order to work properly and under safe conditions.

- The figure shows the points of intervention and the description shows the procedures to be adopted.

1. Rotate main disconnector **P** to position “I” (ON) to activate the power supply.

- The pilot light of button **N** turns on.

2. Press the push-button **N**.

- The pilot light of button **N** turns off.

3. Position the machine in the area **A**, next to the load to be wrapped.

4. Position a test load or pallet in position **C**, at the distance and having the weight that are specified in the image.

5. Adjust the control panel to set the minimum travelling speed of the machine.

6. Press button **G** to start the wrapping cycle.

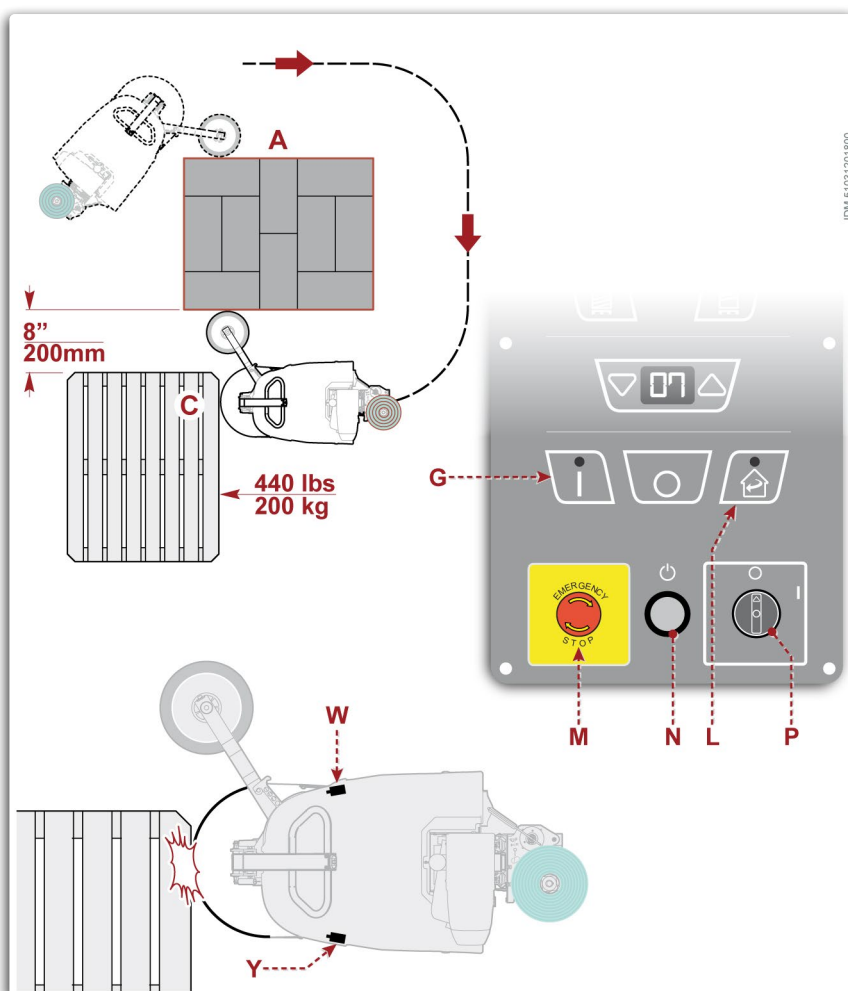
- The machine begins to move forward (audible warning device operating) until emergency bumper collides against test pallet.

- Due to collision, the machine must stop under emergency conditions.

- In case of emergency conditions, the pilot light of button **N** is on and audible warning device is off.

- If the machine does not stop under emergency conditions, one or both microswitches **W-Y** are damaged.

The fault can be detected also in case the driving wheel continues rotating.



Attention Warning

If the machine does not stop, press emergency stop button **M**.

7. Press the Reset key **L**.

8. Replace the components, if damaged.

Attention Warning

DO NOT keep using the machine if you have not solved the detected defects and avoid the risk of faults or unpredictable incidents.

9. Adjust the control panel to re-set the travelling speed of the machine.

- If the problem persists, please contact the Manufacturer's Technical Service.

Yearly check of the safety bumper

The check is necessary to verify the efficiency of the safety system and to maintain a suitable efficacy level to prevent unexpected risks.

- The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge. Fulfilling the requirements is necessary in order to work properly and under safe conditions.

Important

The check must be carried out with the machine NOT connected to the power supply.

DO NOT lift the machine from the ground to perform the checks.

Attention Warning

Wear the Personal Protective Equipment specified in the “Instructions for use” and those required by occupational laws.

- The figure shows the points of intervention and the description shows the procedures to be adopted.

1. Signal the areas of operation to prevent access to controls that, if activated, could compromise safety.

2. Remove any residues from bumper installation areas and from handlebar leverage points.

3. In area **A**, check that the levers that activate the micro-switches move freely and that they have no excessive clearance.

4. Check the efficiency of the springs **B**.

5. Check that all components of the safety system are undamaged and correctly tightened.

6. Screw all fasteners that are not correctly tightened.

7. Check the efficiency of the micro-switches **C**.

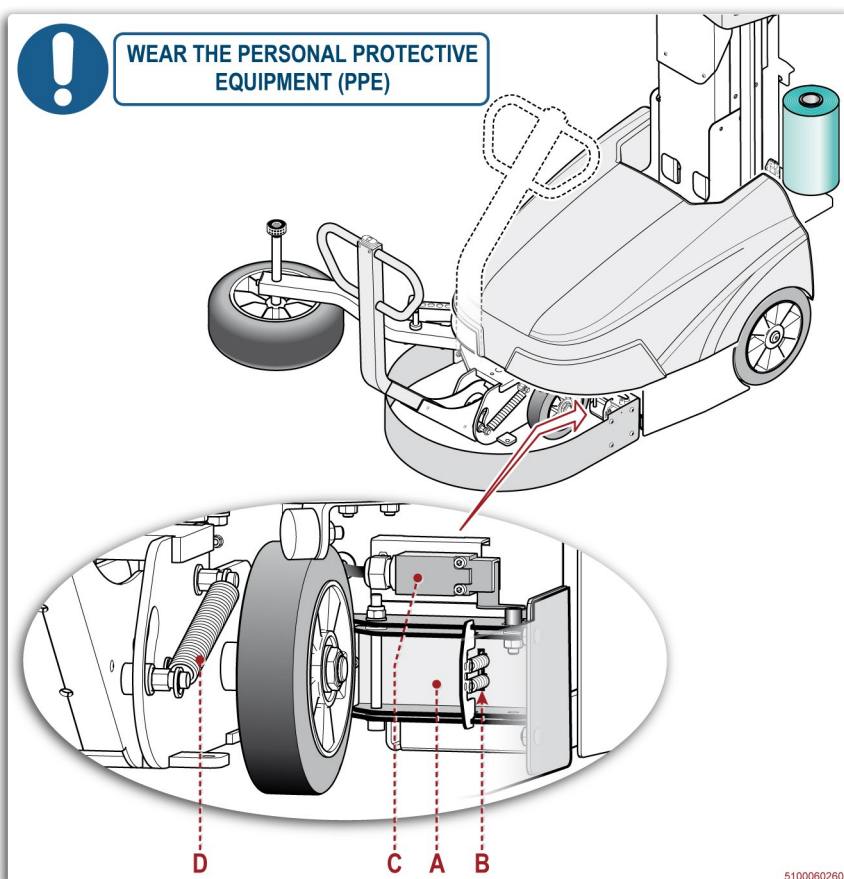
8. Check the sensitivity level of the safety bumper and that there are no deformations, cuts or abrasions.

9. Check that the handlebar moves in a correct way.

10. Check the efficiency of the springs **D**.

11. If you detect considerable irregularities, call the Technical Customer Service of the manufacturer.

- Start the operation **ONLY** after restoring the normal working conditions of the safety system.



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Recommendations for accumulator batteries

- Perform the maintenance and charge of accumulator batteries to increase their life and efficiency.
- Connect power supply cable of battery charger ONLY to a power outlet with suitable features.
- DO NOT connect the power supply cable of battery charger, if the values do not comply with those on the machine identification plate.
- When the machine is used for the first time with new batteries, perform a full charge cycle.
- At the end of the work activity move the machine to the designated area and charge the batteries (See [Charge of accumulator batteries](#)).

Important

EVERY day perform a full charge cycle of the batteries.

- NEVER interrupt the battery charge cycle before it reaches its maximum capacity.

Important

If the charge cycle is interrupted, the life batteries is greatly reduced.

- The full charge cycle of batteries requires about 8 hours.
- The charge time depends on the residual charge of batteries.
- NEVER leave the batteries in the charge station longer than the required and absolutely necessary time.
- In the event of prolonged non-use, turn off the machine (isolator switch in OFF position).
- DO NOT leave the machine powered when the batteries are at their minimum charge level to avoid that it gets completely exhausted.
- Repeated full discharge of the batteries will greatly reduce their life cycle.
- DO NOT prolong the use of exhausted accumulator batteries.
- DO NOT use naked flames and DO NOT smoke during battery charge to avoid any risk of explosion.
- DO NOT generate sparks while installing, removing, checking, etc. the batteries to avoid any risk of explosion.
- In case of connection to auxiliary batteries or equipment DO NOT generate sparks to avoid any risk of explosion.

Important

These precautions must be taken because a dangerous concentration of explosive gas mixtures can accumulate in the charge area.

- Connect the battery cables to those of the battery charger without inverting poles.
- DO NOT leave metallic objects between the battery poles and/or do not use them to check the charge status to prevent the risk of any dangerous short-circuit.
- The recharging area must be arranged in ventilated premises, sheltered from weathering agents and out of the operating areas.
- The installation of a charge area in a non-conforming place can generate a dangerous concentration of explosive gas mixtures.
- Batteries are sealed and DO NOT require any refilling.
- Avoid discharging the batteries completely in order not to jeopardise their life cycle.

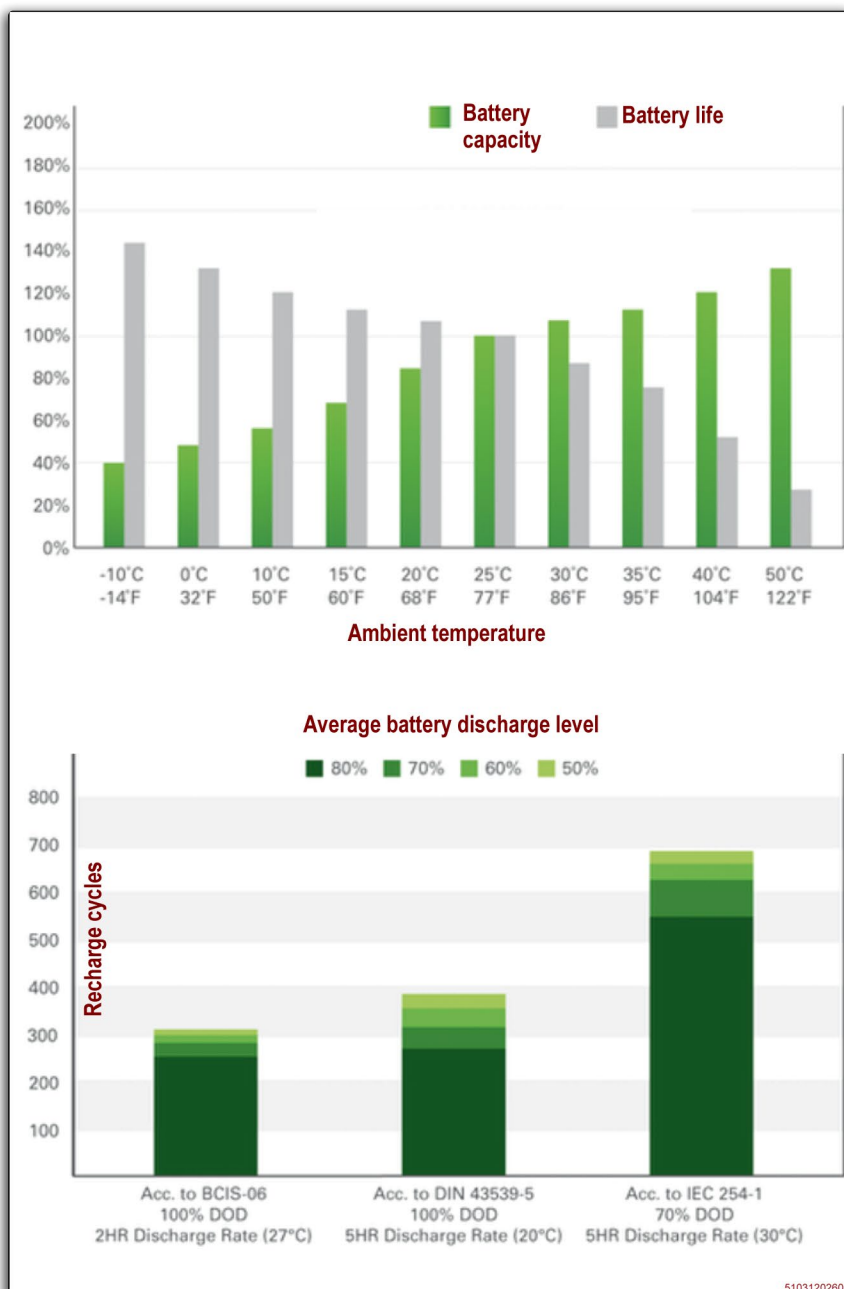
- Position the batteries in a suitable place.
The storage location should not be accessible to unauthorised persons, especially to children, elderly and people with disabilities.
- In view of a prolonged period of inactivity, perform a full charge cycle of the batteries.

Important

In case of prolonged inactivity fully recharge batteries every 4 months.

Once this operation is completed disconnect the cables of batteries.

- Do not dispose of the old batteries in the environment. Carry out disposal according to the laws in force.
- To ensure longer life to batteries keep to the conditions shown in diagrams.



Charge of accumulator batteries

The accumulator battery must be charged any time the status bar Q is close to the minimum threshold.

- The wrapping stops automatically when the status bar Q turns orange.
- The battery has sufficient charge level in order to reach the recharge area.
- The residual charge that remains in the battery is important to safeguard its lifespan.

Important

Carry out recharge immediately to avoid that the level falls below the minimum threshold.

- EVERY day perform a full charge cycle of the batteries.

Important

The recharging area must be arranged in ventilated premises, sheltered from weathering agents and out of the operating areas.

- For further details on the batteries, see the Manufacturer's information.
- Charge the battery as follows.
 1. Manually cut the film and cause it to adhere to the wrapped product.
 2. Adjust the buttons S to park the machine within the battery charging area.
 3. Turn the selector P on position "O" (OFF).

Important

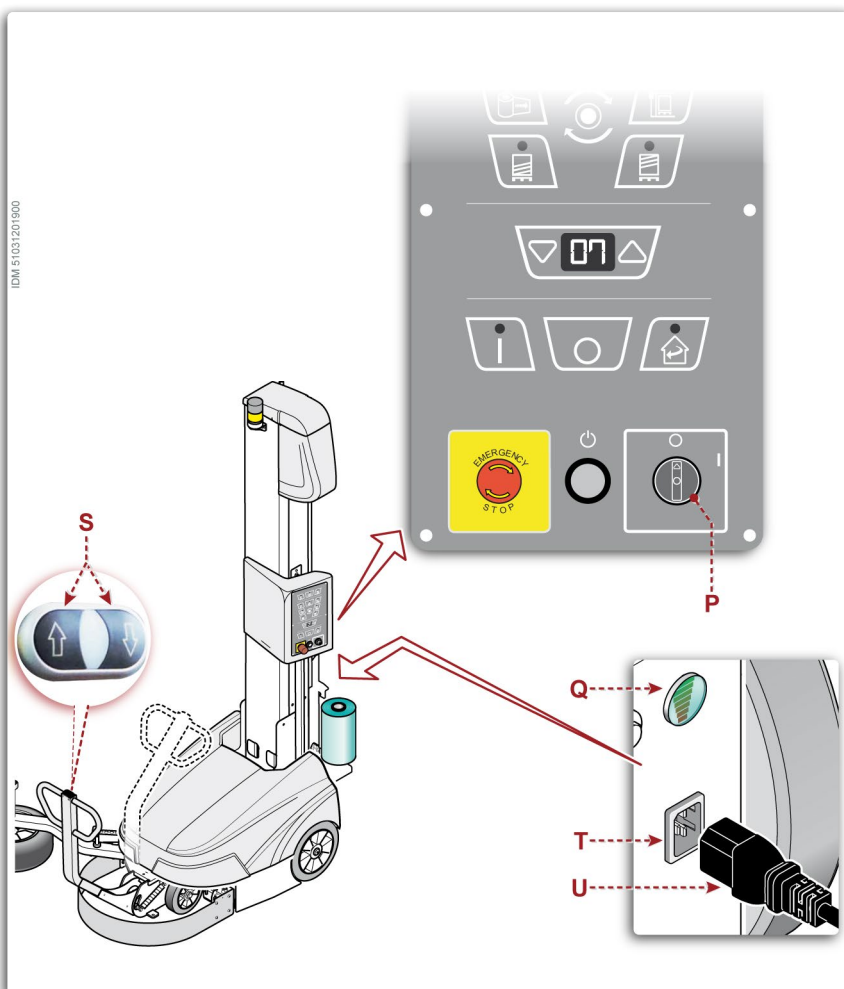
DO NOT carry out the recharge with the control P switched ON to prevent the electric components from being damaged by overcurrents.

4. Check that the power supply line has the same specifications as those stated in the identification plate.
5. Connect the power cable U to the socket T.

NOTE

The charge time of batteries depends on the residual charge.
The full charge cycle of batteries requires about 8 hours.

- Green status bar Q shows that recharge has been completed.
- 6. Disconnect cable U from power outlet T when batteries are completely charged.



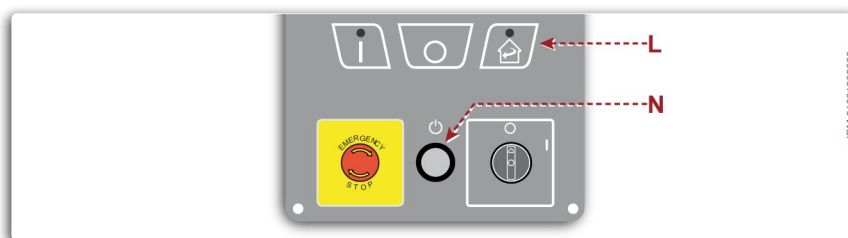
Problems, causes, remedies

The table shows the list of faults that can occur during the standard operation and it highlights possible remedies.

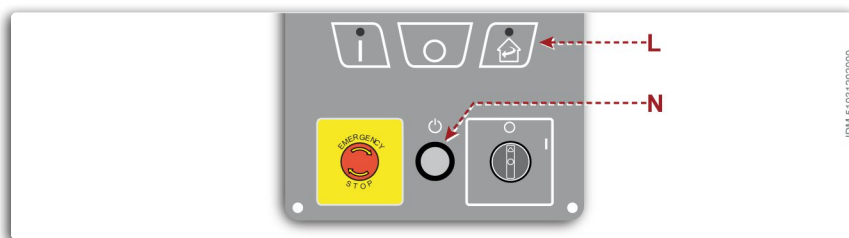
Table: Operation failures

Problem	Cause	Remedy
The machine does not start	Emergency stop button pressed	- See Stop with activation of the emergency button
	The bumper hit an obstacle within the working area	- See Stop with activation of the emergency bumper
	Flat battery	- Carry out battery recharge (See Charge of accumulator batteries).
The reel holding carriage will not go up.	Top limit stop detecting microswitch failure	- Check the functionality of the component. - The component must be adjusted.
	Failure of the inverter of the reel holding carriage	- Check the error code.
The reel holder carriage raises but does not stop at the top of the load to be wrapped.	Upper part of the load to be wrapped not detected by photocell	- Check the functionality of the component. - The component must be adjusted (See Sensitivity adjustment for the product to be wrapped detection photocell).
The ends of the load are wrapped with an excessive amount of reinforcing bands.	Top reinforcing band quantity not correctly set	- Modify the programming (See Setup of parameter values).
	Bottom reinforcing band quantity not correctly set	- Modify the programming (See Setup of parameter values).
The film is too tightly stretched or too loose.	Tension of film not properly adjusted	- Adjust the tension of film (See Tension adjustment of film).
The machine stops with the reel holding carriage not correctly positioned.	Presence of residues or dust on the reel holding carriage sliding guides	- Release the safety brake of the reel holder carriage and remove the residues. Use brushed with soft plastic bristles.
	There is an obstacle under the reel holder carriage.	- Release the safety brake of the reel holder carriage and remove the obstacle.
	Braking or excessive wear of the reel holder carriage lifting belt	- Release the safety brake of the reel holder carriage and replace the component (See Replacing the lifting belt of the carriage).
The noise level is too high.	The gearmotor that moves the reel holding carriage is faulty	- Check the functionality of the component.
	The gearmotor that starts the wheels is faulty	- Check the functionality of the component.
Reel holding carriage jogging motion.	Presence of residues or dust on the reel holding carriage sliding guides	- Remove any residues. Use brushed with soft plastic bristles.
The batteries do not recharge completely.	Faulty batteries	- Replace the component.
	Faulty battery charger	- Replace the component.

Alarm message table



no.	Type of failure	Remedy
Machine alarms		
01	Sensor does not detect the shifting of machine.	<ul style="list-style-type: none"> - Check the connections and/or the position of sensor. - Press control N to silence the alarm.
02	(Lower and upper) sensors do not detect the end of stroke of the reel holding carriage.	<ul style="list-style-type: none"> - Check the connections and/or the position of sensors. - Press control N to silence the alarm.
04	The reel holding carriage is locked	<ul style="list-style-type: none"> - Check the connections and/or mechanical devices. - Press control N to silence the alarm.
05	The carriage drive chain is not correctly tensioned.	<ul style="list-style-type: none"> - Make sure that the reel holding carriage can move freely and without obstacles. - Check the connections and/or the position of the photocells. - Press control N to silence the alarm. - Control L lights up. - Press control L. - Reel holding carriage moves upwards and then it moves downwards again in order to phase the operating units.
06	The photocell does not detect any load to be wrapped.	<ul style="list-style-type: none"> - Make sure that the load to be wrapped is properly positioned. - Check the connections and/or the position of the photocell. - Press control N to silence the alarm.
08	The film reel is exhausted (Only for reel holding carriages of type LP).	<ul style="list-style-type: none"> - Replace reel (See Film Coil Feeding).
Machine shifting inverter alarms		
10	The inverter parameters are not properly set up.	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
11	The activation of the inverter electric power is not correctly enabled.	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
12	The electric motor is damaged due to a short circuit.	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
13	The heat protection is damaged because of the overheating of the electric motor.	<ul style="list-style-type: none"> - Let the motor cool down. - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
14	The electric motor is damaged due to the overvoltage of the supply circuit.	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
17	Communication was interrupted because of an internal error.	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.



no.	Type of failure	Remedy
Alarms of inverters of drive motor for reel holding carriage		
20	The inverter parameters are not properly set up.	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
21	The activation of the inverter electric power is not correctly enabled.	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
22	The electric motor is damaged due to a short circuit.	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
23	The heat protection is damaged because of the overheating of the electric motor.	<ul style="list-style-type: none"> - Let the motor cool down. - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
24	The electric motor is damaged due to the overvoltage of the supply circuit.	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
27	Communication was interrupted because of an internal error.	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
Alarms of inverters of pre-stretch motor for reel holding carriage (type LP)		
30	The inverter parameters are not properly set up.	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
31	The activation of the inverter electric power is not correctly enabled.	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
32	The electric motor is damaged due to a short circuit.	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.

no.	Type of failure	Remedy
33	The heat protection is damaged because of the overheating of the electric motor.	<ul style="list-style-type: none"> - Let the motor cool down. - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
34	The electric motor is damaged due to the overvoltage of the supply circuit.	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
37	Communication was interrupted because of an internal error.	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Replace electronic board if the alarm persists. - Contact the Manufacturer's Technical Assistance Service.
Battery charger alarms		
40	Battery charger is damaged due to an internal error.	<ul style="list-style-type: none"> - Press control N to silence the alarm. - Remove hood , disconnect battery charger and then reconnect it. - If the alarm persists, replace battery charger.
41	The battery charger is damaged due to the overvoltage of the supply circuit.	<ul style="list-style-type: none"> - Press control N to silence the alarm. - Remove hood , disconnect battery charger and then reconnect it. - If the alarm persists, replace battery charger.
42	Battery charger is damaged due to an error in the charging time.	<ul style="list-style-type: none"> - Press control N to silence the alarm. - Remove hood , disconnect battery charger and then reconnect it. - If the alarm persists, replace battery charger.
43	The battery charger is damaged due to a short circuit.	<ul style="list-style-type: none"> - Press control N to silence the alarm. - Remove hood , disconnect battery charger and then reconnect it. - If the alarm persists, replace battery charger.
44	Battery charger is disconnected from battery.	<ul style="list-style-type: none"> - Press control N to silence the alarm. - Remove hood , disconnect battery charger and then reconnect it. - If the alarm persists, replace battery charger.
45	Battery charger has reversed polarity.	<ul style="list-style-type: none"> - Press control N to silence the alarm. - Remove hood , disconnect battery charger and then reconnect it. - If the alarm persists, replace battery charger.
47	Communication was interrupted because of an internal error.	<ul style="list-style-type: none"> - Press control N to silence the alarm. - Remove the hood and check the connection between the battery charger and the control panel. Disconnect the battery charger and then reconnect it. - If the alarm persists, replace battery charger.
Machine alarms		
50	Machine in emergency	<ul style="list-style-type: none"> - Make sure that emergency button is not pressed. - Make sure that feeler of the reel holding carriage is not pressed. - Make sure that mobile guard of the reel holding carriage is not open. - Press control N to silence the alarm.
99	Keyboard card communication timeout - main card	<ul style="list-style-type: none"> - Press control N or deactivate and re-activate power (even more than once) to silence the alarm. - Check the connection (ethernet cable) between the cards. - Contact the Manufacturer's Technical Assistance Service.

How to adjust the feeler

Before commissioning, check that roller feeler is next to the upper surface of the pallet.

- If the pallet is smaller than the load to be wrapped, roller feeler **C** must be positioned on the lowest side of the load.

NOTE

The support area must be sufficiently regular to allow roller feeler to rotate properly.

- The solution is valid also for the double wheel feeler.

- The figure shows the points of intervention and the description shows the procedures to be adopted.

1. Move the machine to match the load to be wrapped.

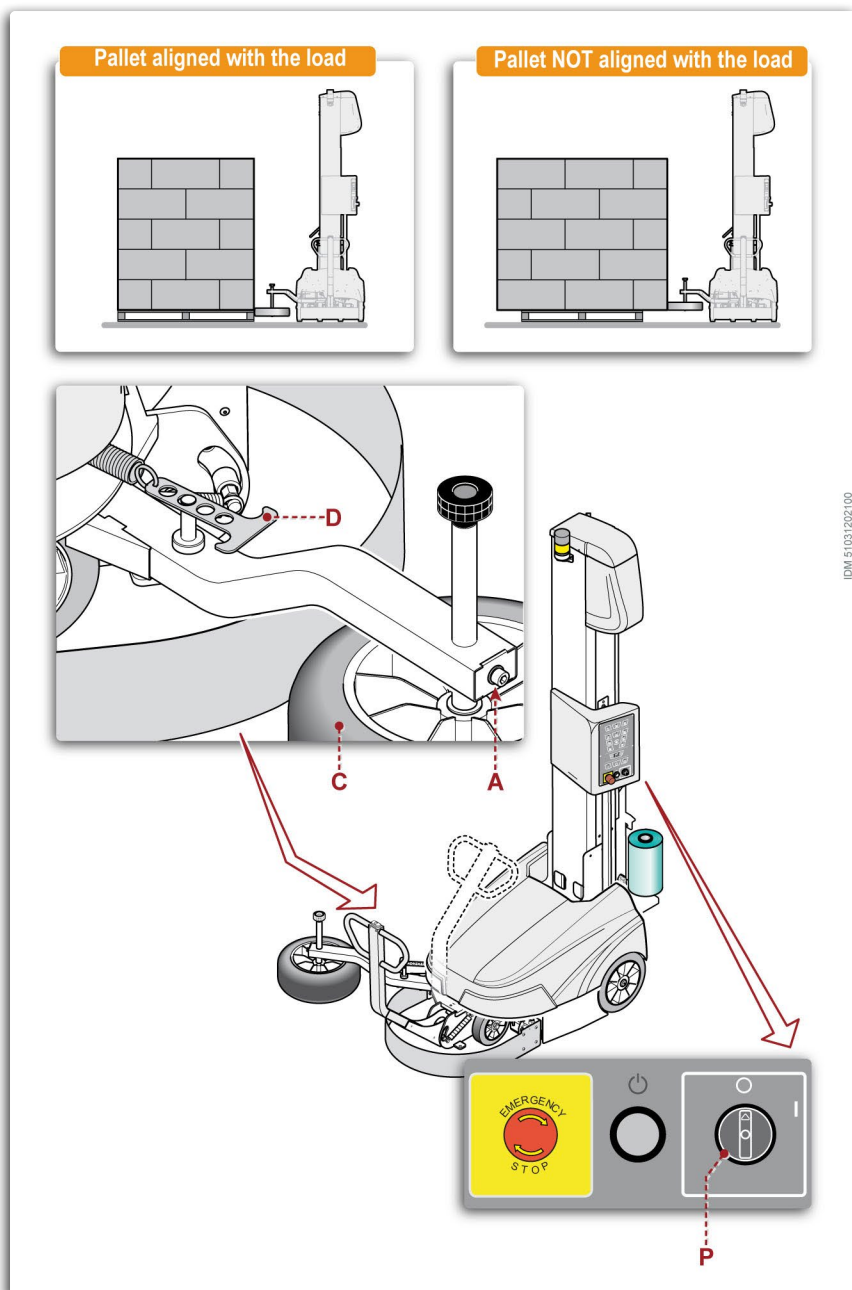
2. Turn the selector **P** on position “O” (OFF).

- The power supply of batteries is deactivated.

3. Loosen the screw **A**, take the wheel **C** to the desired height, and then tighten the screw.

4. Regulate the pressure of wheel **C** on the pallet by means of tie rod **D**, according to the wrapping speed and the load dimensions.

5. Perform a practical test to check whether the operation is correct and, if necessary, repeat it.



IDM 51031202100

IDM 510312-2

Adjusting the feeler spring

The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge.

Fulfilling the requirements is necessary in order to work properly and under safe conditions.

- This service should be carried out with the reel holding carriage lowered and the machine “switch OFF”.



Attention Warning

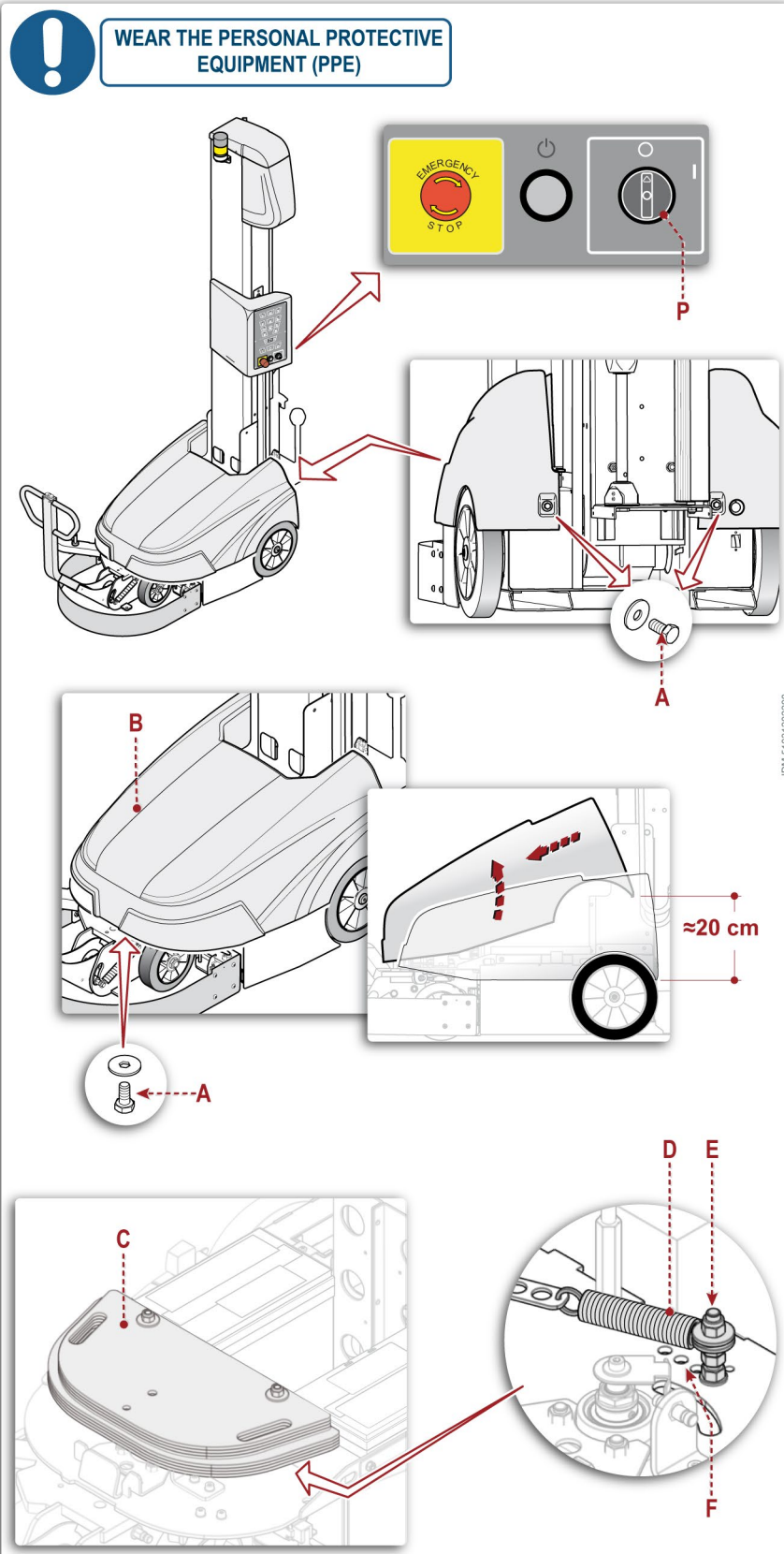
Wear the Personal Protective Equipment specified in the “Instructions for use” and those required by occupational laws.

- The figure shows the points of intervention and the description shows the procedures to be adopted.
 1. Signal the areas of operation to prevent access to controls that, if activated, could compromise safety.
 2. Turn the selector **P** on position “O” (OFF).
- The power supply of batteries is deactivated.
 3. Loosen screws **A** and remove them.
 4. Slightly lift the rear side of panel **B** and extract it forward to remove it.
 5. Remove the ballast **C**.
 6. Release the spring **D**.
 7. Remove the pin **E** and insert it in one of the holes **F**.
- Select the most suitable hole to increase or decrease the tension of the spring **D**.
 8. Connect the spring **D**.

NOTE

The manufacturer can deliver a spring ?1 with a tensile strength higher than the standard one.

9. Install the ballast **C**.
10. Check that there are no tools or other materials in the risk areas.
11. Connect the front side of panel **B** to the machine and lower it to starting position.
12. Introduce and tighten the screws **A**.
13. Start the machine and make sure that the operation has been carried out properly.



IDM 51031202200

Sensitivity adjustment for the product to be wrapped detection photocell

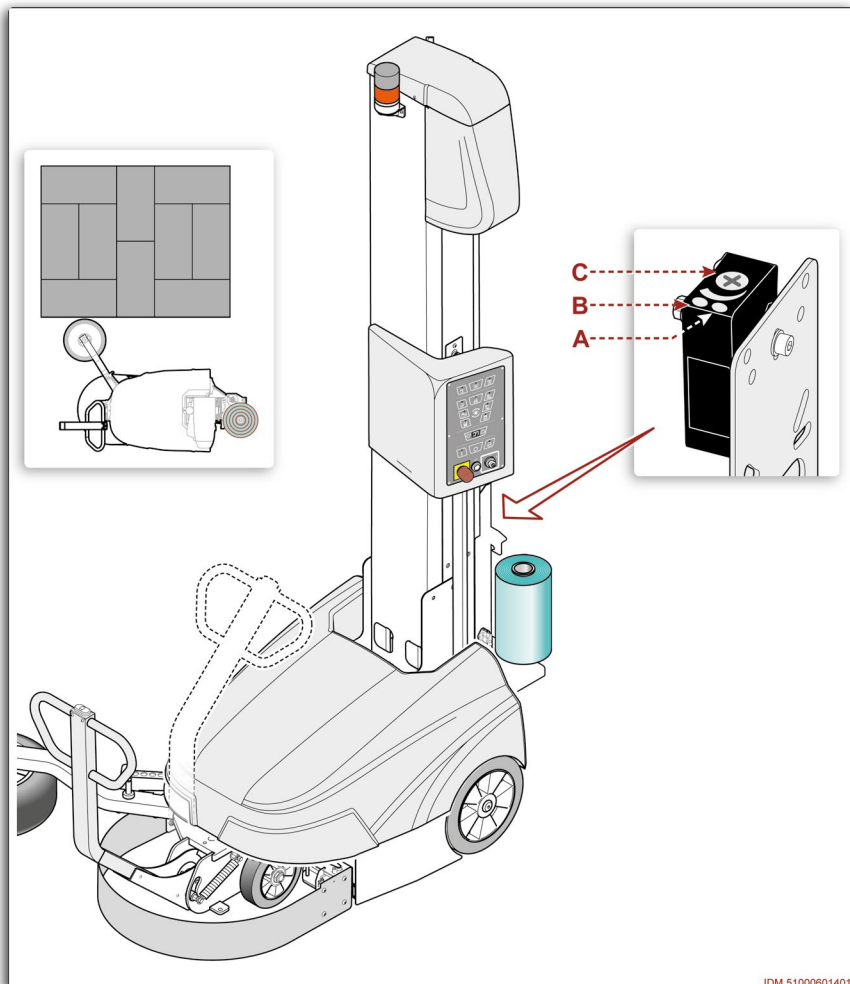
The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge.

Fulfilling the requirements is necessary in order to work properly and under safe conditions.

- The sensitivity adjustment is required when the photocell does not detect the presence of the load to be wrapped.
- The figure shows the points of intervention and the description shows the procedures to be adopted.
 1. Signal the areas of operation to prevent access to controls that, if activated, could compromise safety.
 2. Lean the roller feeler against the pallet containing the product (see figure).
 3. Check if the photocell detects the load to be wrapped.
- The light **A** lighting up (green light) indicates that the photocell is powered.
- When pilot light **B** turns on (yellow light), it means that the load to be wrapped has been detected.
- When the light **B** is off, slowly rotate the control **C** until the indicator light illuminates.

NOTE

Do NOT increase the photocell sensibility excessively in order to prevent it from detecting elements that are not to be wrapped. The detection of elements that are not to be wrapped can alter the point of stop of reel holding carriage.



IDM 51000601401

Replacing the lifting belt of the carriage

The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge.

Fulfilling the requirements is necessary in order to work properly and under safe conditions.

- This service should be carried out with the reel holding carriage lowered and the machine “switch OFF”.



Wear the Personal Protective Equipment specified in the “Instructions for use” and those required by occupational laws.

- The figure shows the points of intervention and the description shows the procedures to be adopted.

1. Signal the areas of operation to prevent access to controls that, if activated, could compromise safety.

- 1° 2. Turn the selector **A** on position “O” (OFF).

- The power supply of batteries is deactivated.

3. Remove reel.

4. Unhook tie rod **K**.

5. Completely rotate handlebar **B**.

6. Remove the fastening elements and remove the component **C**.

7. Install support **D** and fix it with screw **D1**.

- 2° 8. To reach high, not easily accessible or otherwise hazardous areas, implement adequate safety measures to avoid risks.

9. Attach the column **G** to a lifting device.

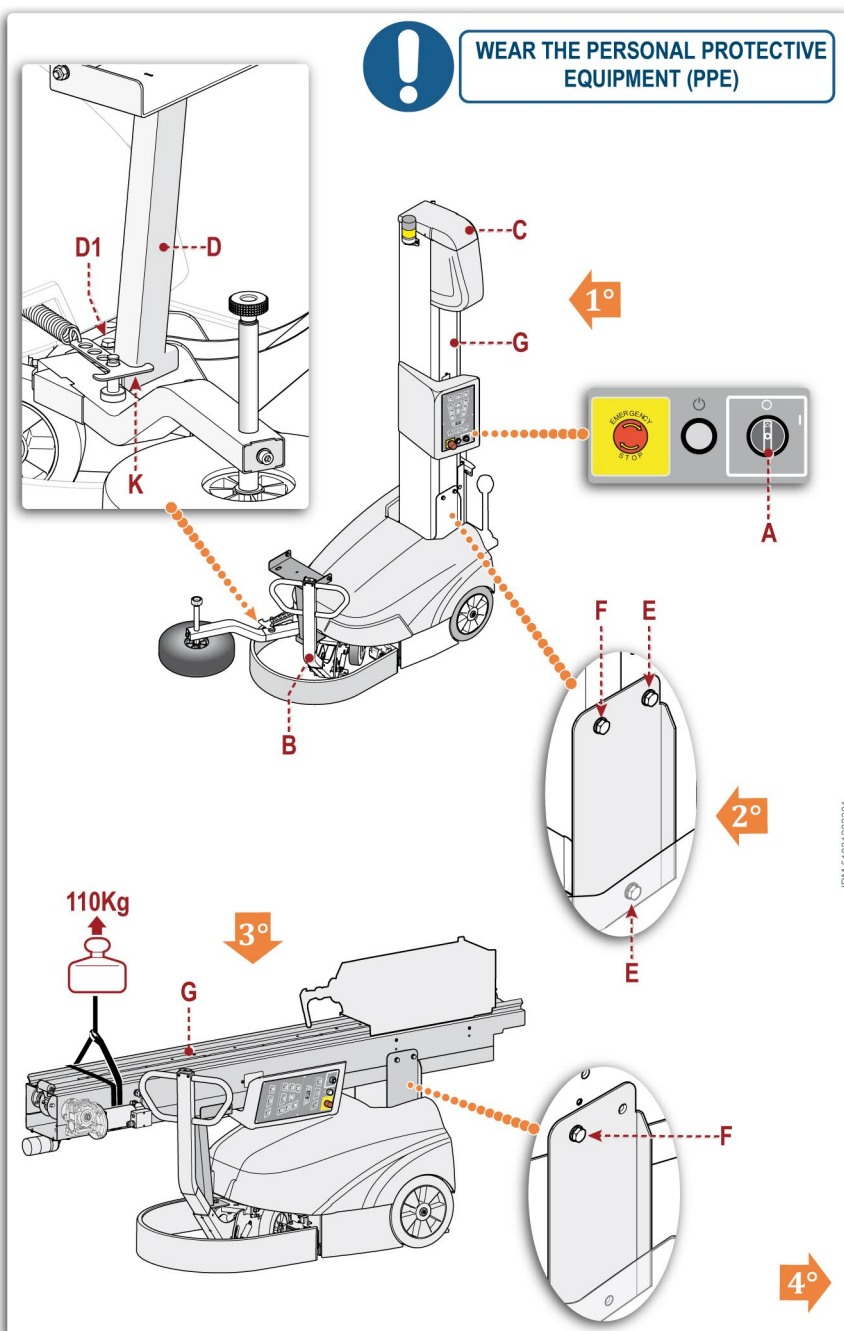
10. Loosen screws **E** on both sides.

11. Slightly loosen screws **F** on both sides.

- 3° 12. Bring the column to a horizontal position.

13. Tighten the screws **F** on both sides.

14. Remove the lifting device.



- 4°** **15.** Remove the fastening elements **H** and remove the component **L**.
- 16.** Slip out pin **M**.
- 17.** Partially remove the reel holder carriage to reach the fastening elements **N**.

NOTE

Remove the cable bracket if necessary.

18. Remove the fasteners **N**.
19. Remove the bushing **P** and remove the damaged belt **Q**.
20. Insert the bushing **P** in the new belt.

i Important

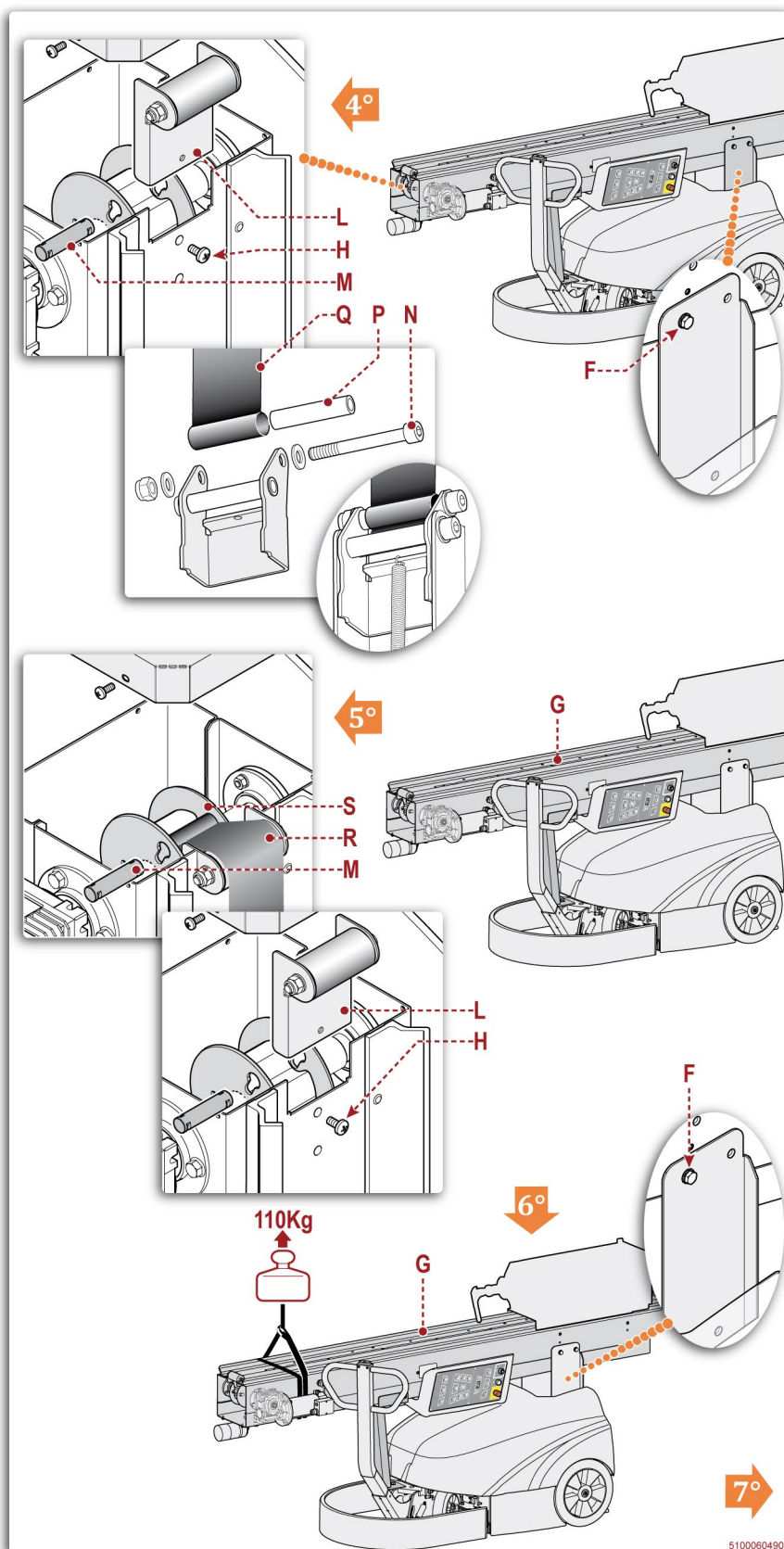
Replace the components ONLY with GENUINE SPARE PARTS or with other components of equivalent design and functional specifications.

- 21.**Secure the end of the belt (with bushing) by means of the fastening elements **N**.
- 22.**Remount the reel holder carriage.

NOTE

Remount the cable bracket if previously removed.

- 5** ➤ **23.** Lead the belt over the roller **R**.
- 24.** Insert the pin **M** to connect the end of the belt to the pulley **S**.
- 25.** Install the component **L** and lock it in place with the fastening elements **H**.
- 26.** Keep the belt taut and move the reel holder carriage to match the base of the column.
- 6** ➤ **27.** Loosen the screws **F** on both sides.
- 28.** Attach the column **G** to a lifting device.



- 7° 29. Lift the column **G** to its vertical position.

Attention Warning

Keep reel holding carriage conveying belt tensioned until column is in vertical position.
Do not remove the locking devices of reel holding carriage until column is in vertical position.

30. Tighten the screws **E** on both sides.

31. Tighten the screws **F** on both sides.

Attention Warning

Check that in column base electric or pneumatic cables are not crushed and that there is no interference with machine or external elements.

32. Remove the lifting device.

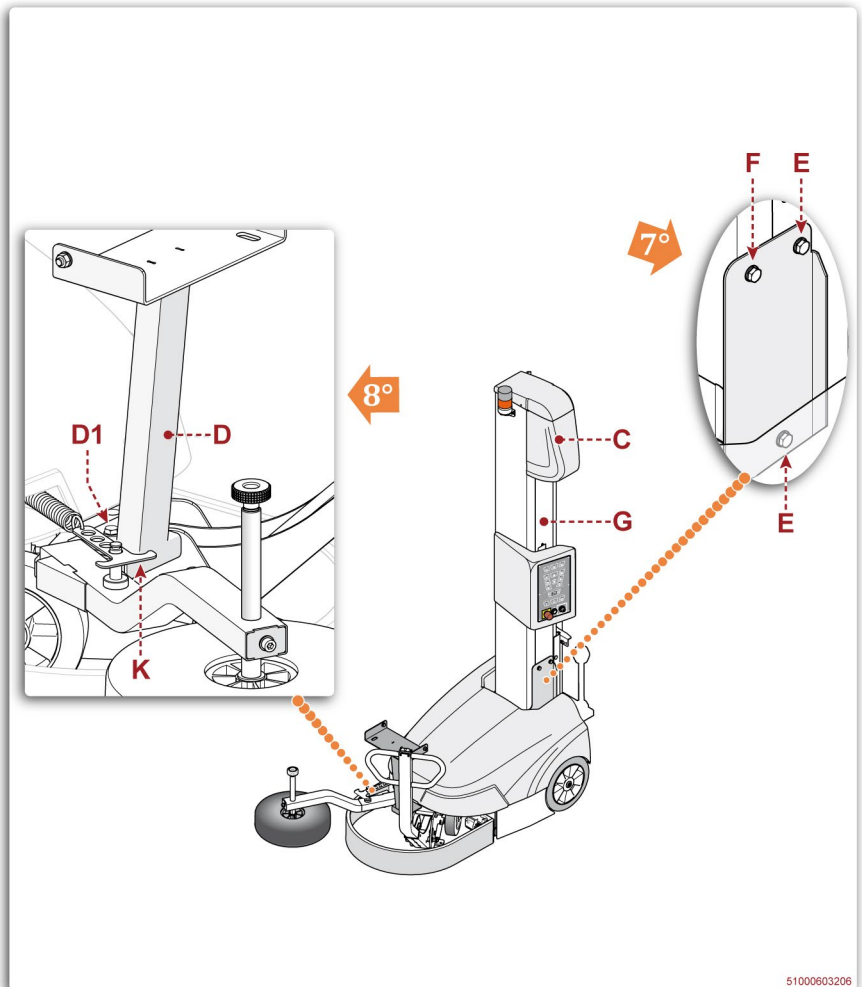
- 8° 33. Loosen screw **D1** and remove support **D**.

34. Install the component **C** and lock it in place with the fastening elements.

35. Hook tie rod **K**.

36. Check that there are no tools or other materials in the risk areas.

37. Start the machine and make sure that the operation has been carried out properly.



Battery replacement

The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge.

Fulfilling the requirements is necessary in order to work properly and under safe conditions.

- This service should be carried out with the reel holding carriage lowered and the machine “switch OFF”.

Attention Warning

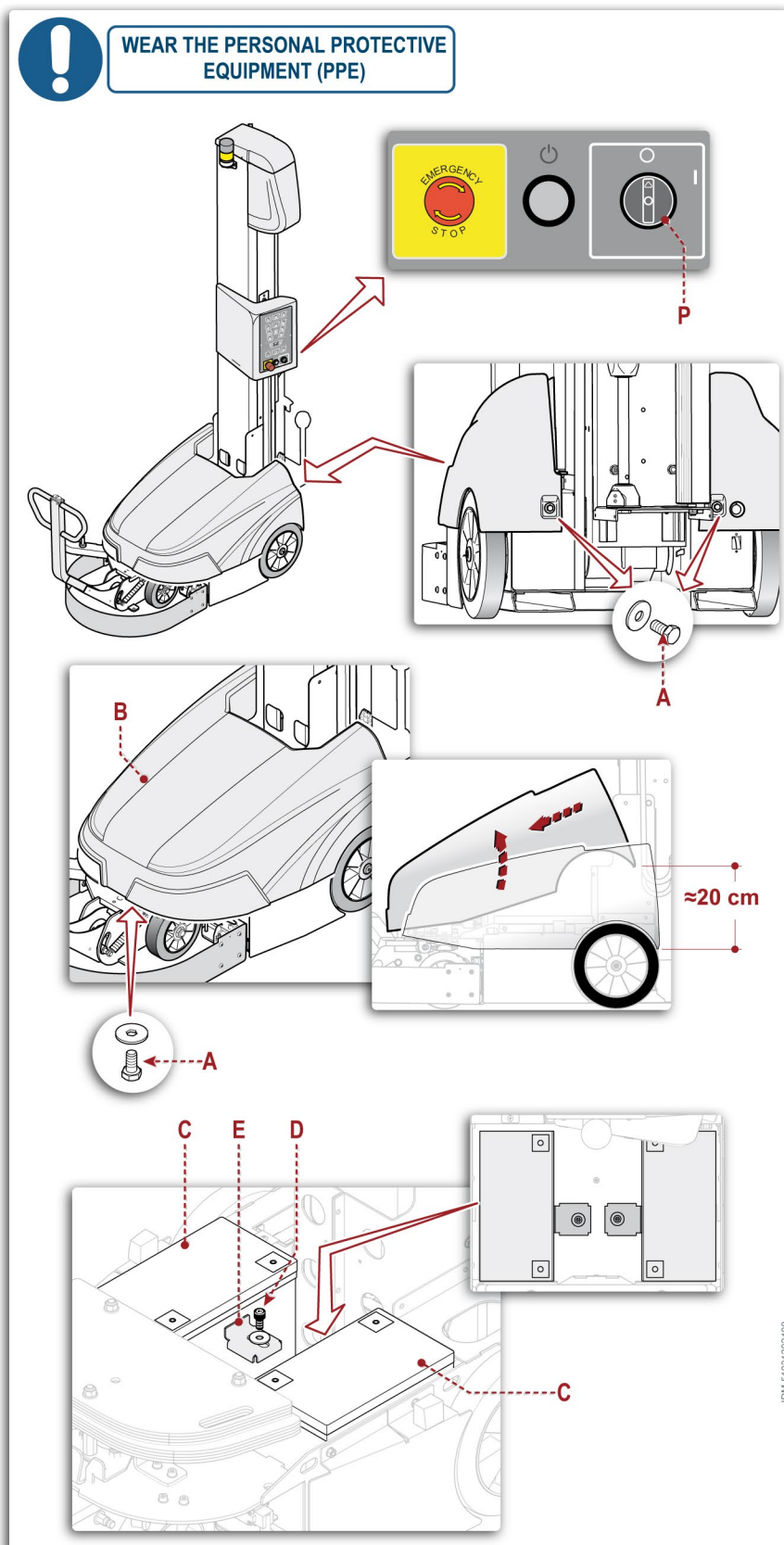
Wear the Personal Protective Equipment specified in the “Instructions for use” and those required by occupational laws.

- The figure shows the points of intervention and the description shows the procedures to be adopted.
1. Signal the areas of operation to prevent access to controls that, if activated, could compromise safety.
 2. Turn the selector **P** on position “O” (OFF).
- The power supply of batteries is deactivated.
3. Loosen screws **A** and remove them.
 4. Slightly lift the rear side of panel **B** and extract it forward to remove it.
 5. Disconnect clamps from accumulator batteries **C**.
 6. Loosen screws **D** and remove brackets **E**.
 7. Extract accumulator batteries **C**.
 8. Insert new accumulator batteries in its original position.

Important

Replace the components **ONLY** with **ORIGINAL SPARE PARTS**.

9. Install brackets **E** and fix it with screws **D**.
10. Connect clamps to the corresponding poles of batteries.
11. Check that there are no tools or other materials in the risk areas.
12. Connect the front side of panel **B** to the machine and lower it to starting position.



IDM 51031202400

IDM 510312-2

13. Introduce and tighten the screws **A**.



Important

When the batteries are used for the first time, perform a full charge cycle.

14. Start the machine and make sure that the operation has been carried out properly.

Fuse replacement

The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge.

Fulfilling the requirements is necessary in order to work properly and under safe conditions.

- This service should be carried out with the reel holding carriage lowered and the machine “switch OFF”.

Attention Warning

Wear the Personal Protective Equipment specified in the “Instructions for use” and those required by occupational laws.

- The figure shows the points of intervention and the description shows the procedures to be adopted.

1. Signal the areas of operation to prevent access to controls that, if activated, could compromise safety.
- 1°** 2. Turn the selector **A** on position “O” (OFF).
- The power supply of batteries is deactivated.
3. Loosen the screws **B**.
4. Remove the control panel **C**.
- 2°** 5. Loosen the screws **D**.
6. Lower the electronic card **E**.

NOTE

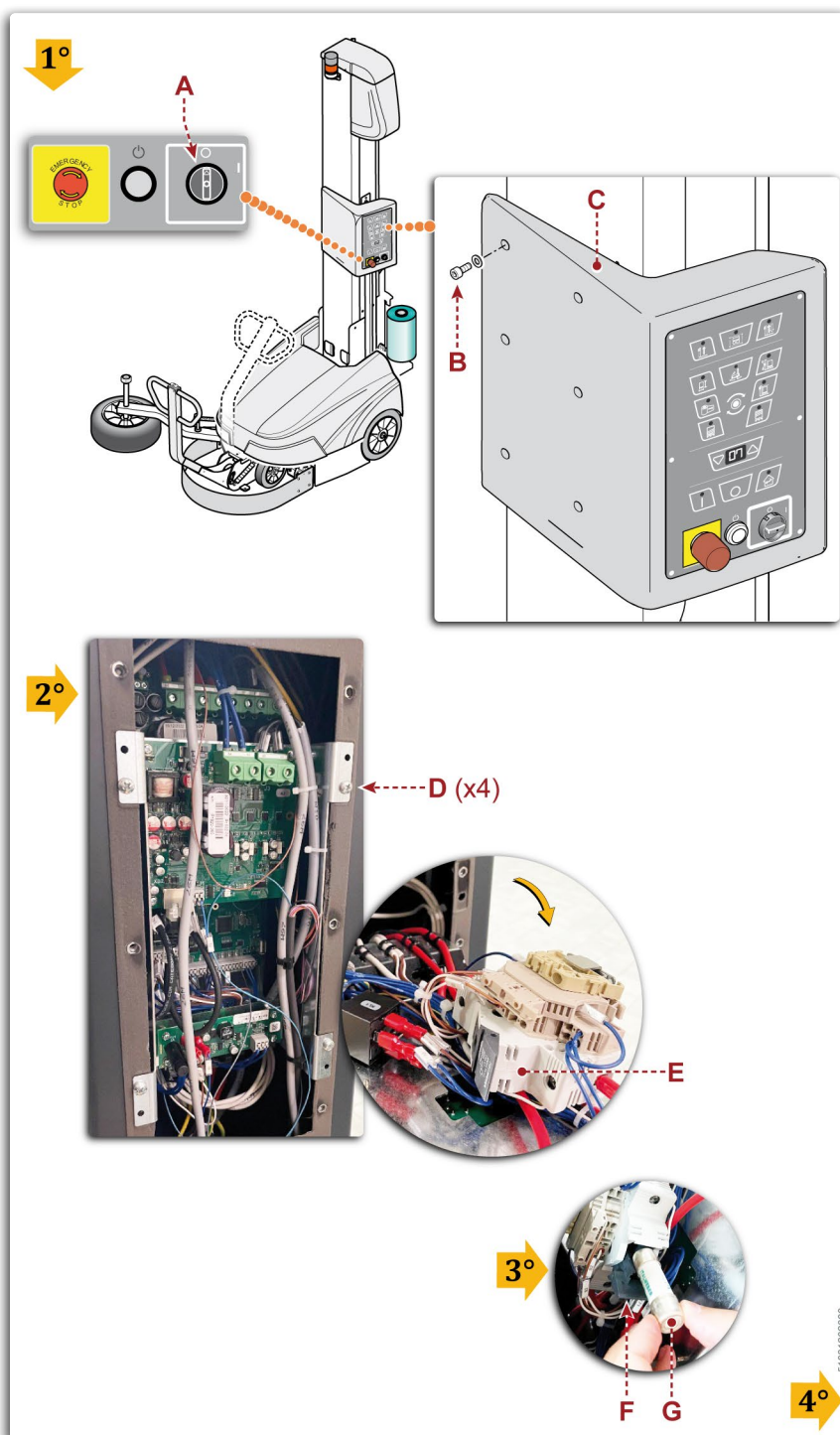
Take care not to damage the electrical wires.

- 3°** 7. Open door **F**.
8. Replace burnt fuse **G** with another fuse having the same features.

Important

Replace the components **ONLY** with **ORIGINAL SPARE PARTS**.

9. Close door **F**.



51031202800

IDM 510-312-2

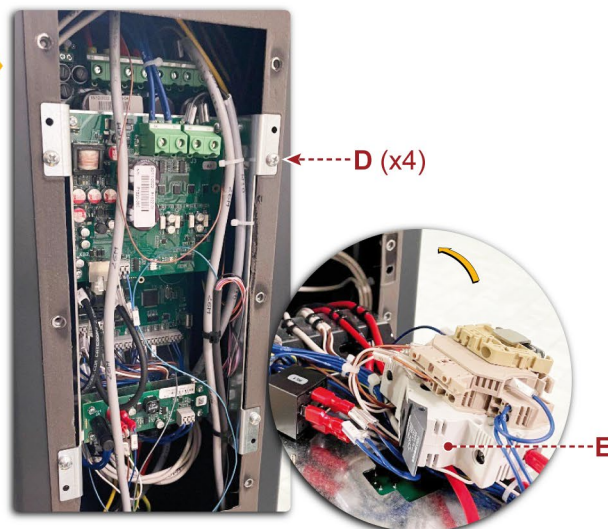
- 4° 10. Lift the electronic card **E** to its original position.

NOTE

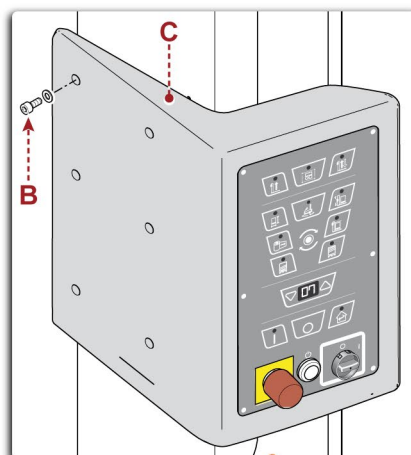
Take care not to damage the electrical wires.

11. Introduce and tighten the screws **D**.
- 5° 12. Install the control panel **C**.
13. Introduce and tighten the screws **B**.
14. Check that there are no tools or other materials in the risk areas.
- 6° 15. Turn the selector **A** on position "I" (ON).
16. Start the machine and make sure that the operation has been carried out properly.

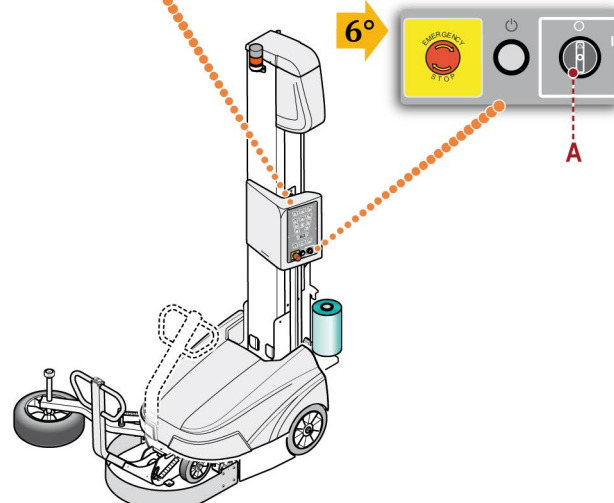
4°



5°



6°



51031202900

Reel holding carriage (M)

■ Main components

A) Structure: it is equipped with wheels for vertical shifting of carriage on column.

- In the structure a fall arrest system is installed, which stops the carriage in case of lifting belt failure.

B) Reel holder: it is equipped with braking system to avoid reel unwinding.

C) Roller: designed to tension the film.

- Roller is coated with inserts in order to ensure film pulling during wrapping.

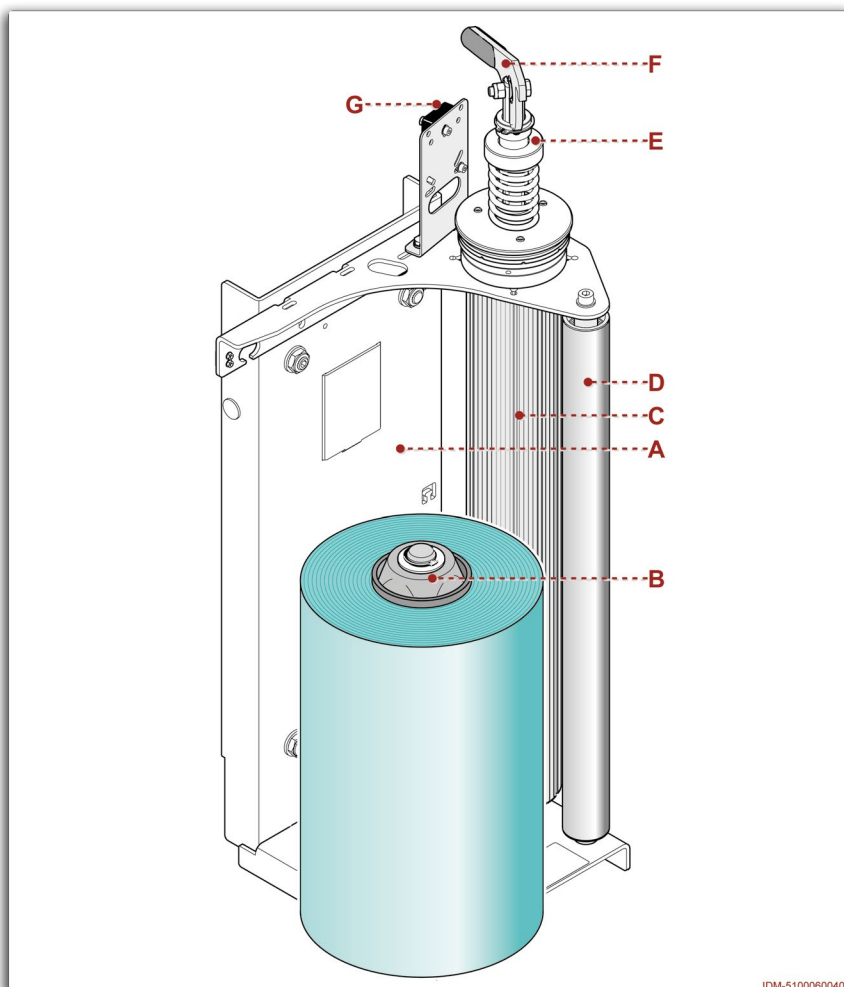
D) Roller (idle)

E) Ring: device used to adjust the tension of the film.

F) Lever: device used to disengage the roller **C**.

G) Photocell: it detects the presence and the height of the load to be wrapped in order to stop the upward movement of reel holding carriage.

- On request, a “black” version of the photocell can be supplied, specifically designed to detect wrapped items or products with a prevalence of dark surfaces.



IDM-51000600400

NOTE

On request, the reel holder carriage can be supplied in version for net-type wrapping.

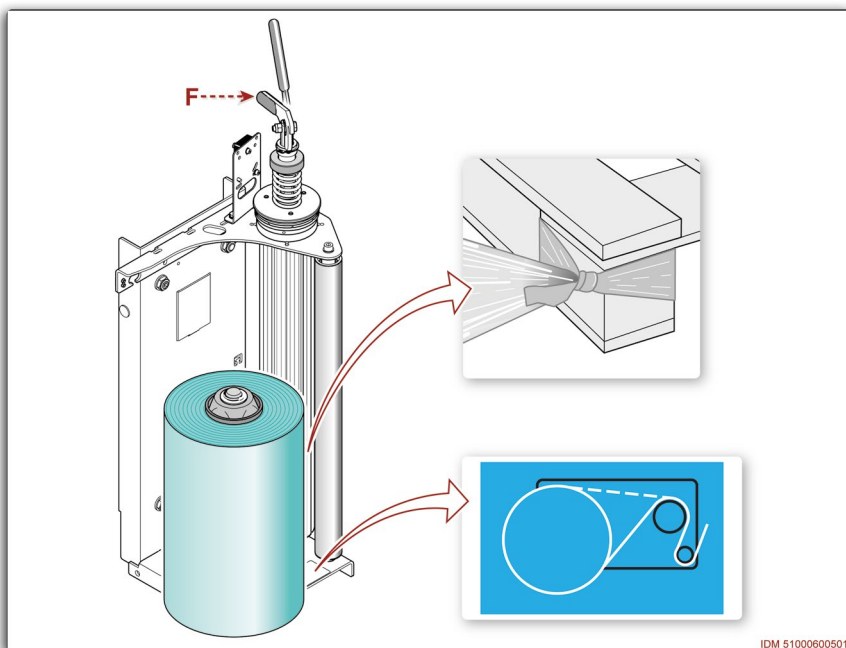
■ Film Coil Feeding

1. Lower the reel holding carriage until its endstroke.
2. Lift the lever **F** to its vertical position.
3. Remove the cardboard core of the reel.
4. Insert the new reel.

NOTE

Check whether the wrapping film has the same chemical-physical properties as that installed in the reel holder carriage.
If film characteristics appear to be different, consider whether you should adjust the film tension.

5. Insert film according to the required direction of the adhesive size.



IDM 51000600501

Important

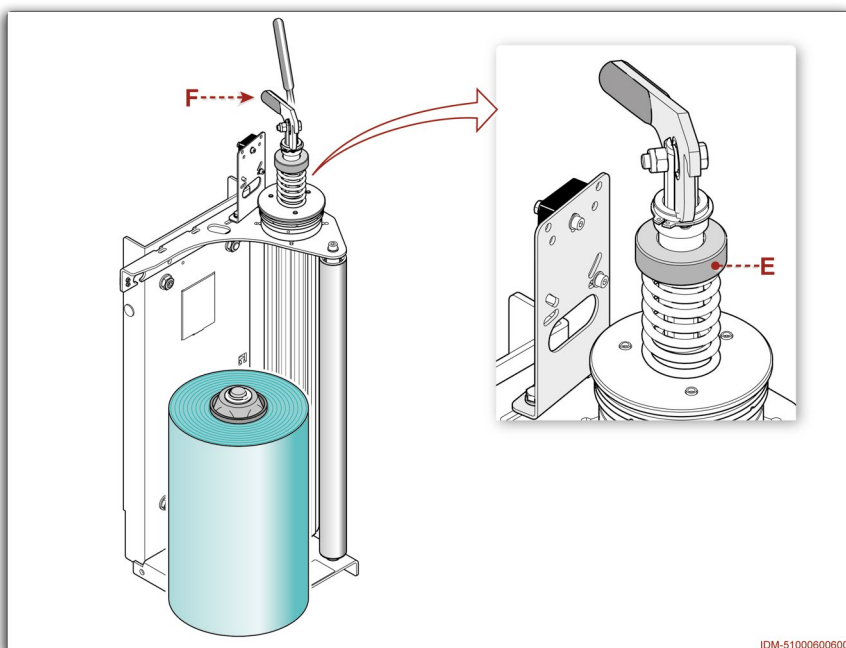
In order to avoid transferring impurities to the surfaces of the guiding rollers, discard the outer wrapping film layer on the reel.

6. Tie the trailing end of the film to the base of the product to be wrapped.
7. Start wrapping.
8. Lower the lever **F** to horizontal position after performing at least one wrap.

■ Tension adjustment of film

The operation is necessary to adjust the film tension on the load to be wrapped.

1. Lower the reel holding carriage until its endstroke.
 2. Lift the lever **F** to its vertical position.
 3. Start wrapping.
 4. Lower the lever to horizontal position after performing at least one wrap.
 5. Adjust the film tension via the ring **E**.
- **Clockwise:** the value increases.
 - **Anti-clockwise:** the value decreases.
6. Start the machine and make sure that the operation has been carried out properly.



IDM-51000600600

■ Cleaning and replacement of brake disc

The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge.

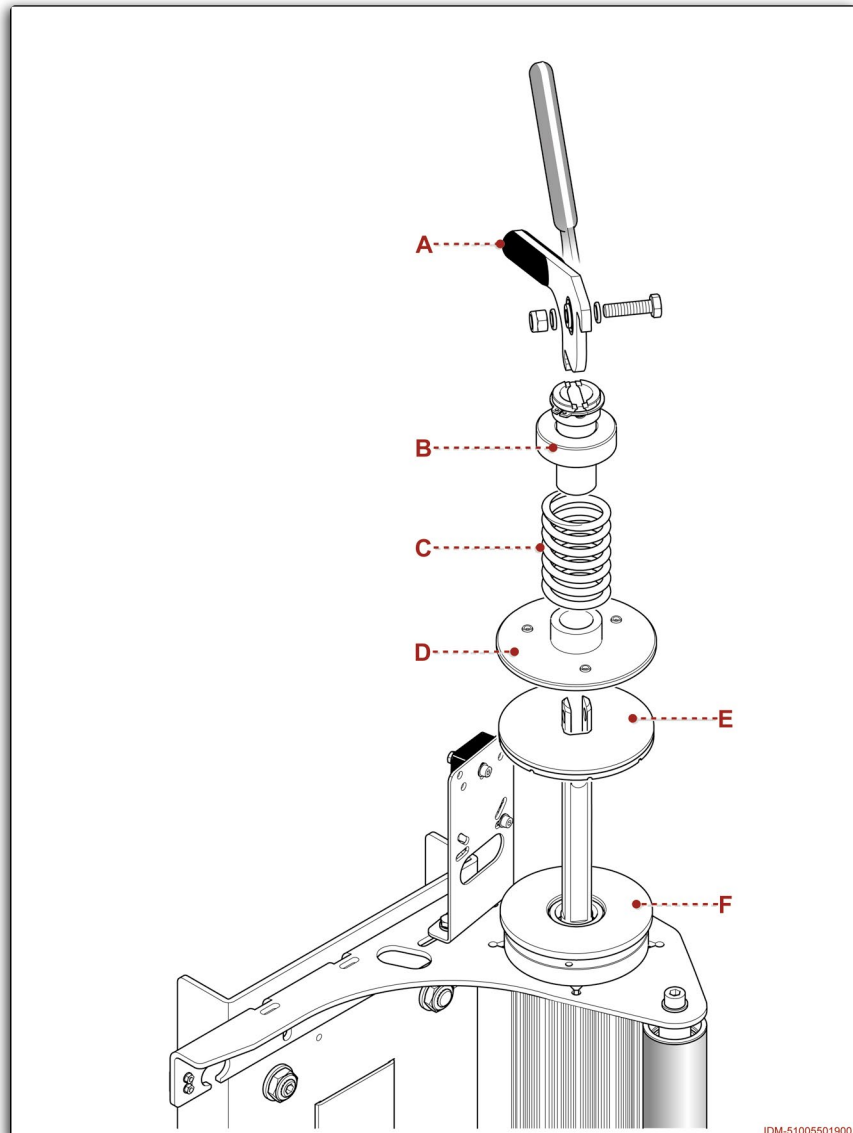
Fulfilling the requirements is necessary in order to work properly and under safe conditions.

- This service should be carried out with the reel holding carriage lowered and the machine “switch OFF”.



Wear the Personal Protective Equipment specified in the “Instructions for use” and those required by occupational laws.

1. Lift the lever **A** to its vertical position.
 2. Remove the fastening elements and remove the lever.
 3. Remove in a sequence the components **B-C-D-E**.
 4. Clean the contact surfaces of the brake discs **E-F**.
 5. Check the wear level of the friction material of the disc **E**.
- In the case of excessive wear, replace the component.
6. Install the disc **E** with the friction material facing downwards.
 7. Install in a sequence the components **D-C-B**.
 8. Engage the lever **A** in a vertical position and insert the fastening elements.
 9. Lower the lever to its horizontal position.
 10. Check that there are no tools or other materials in the risk areas.
 11. Start the machine and make sure that the operation has been carried out properly.



IDM-51005501900

■ Replacing the outer surface of roller

The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge.

Fulfilling the requirements is necessary in order to work properly and under safe conditions.

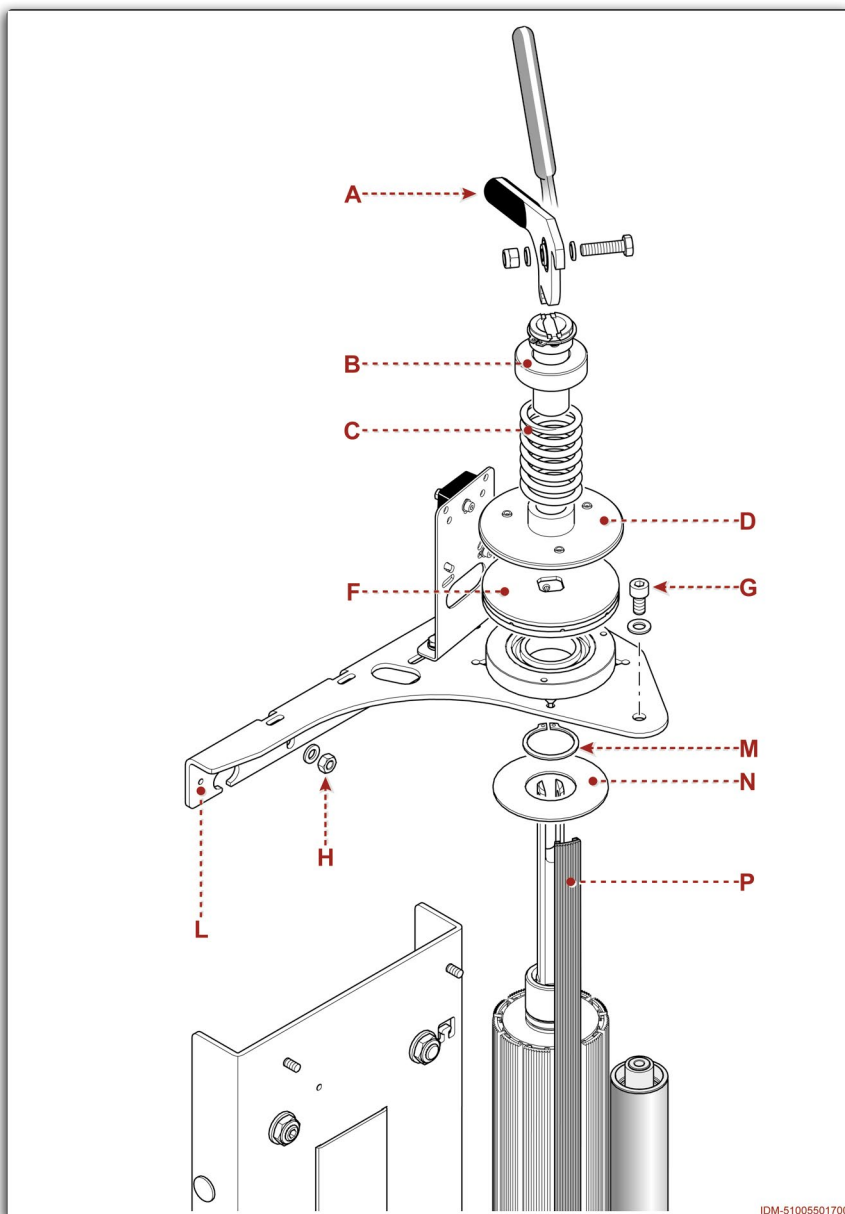
- This service should be carried out with the reel holding carriage lowered and the machine “switch OFF”.



Attention Warning

Wear the Personal Protective Equipment specified in the “Instructions for use” and those required by occupational laws.

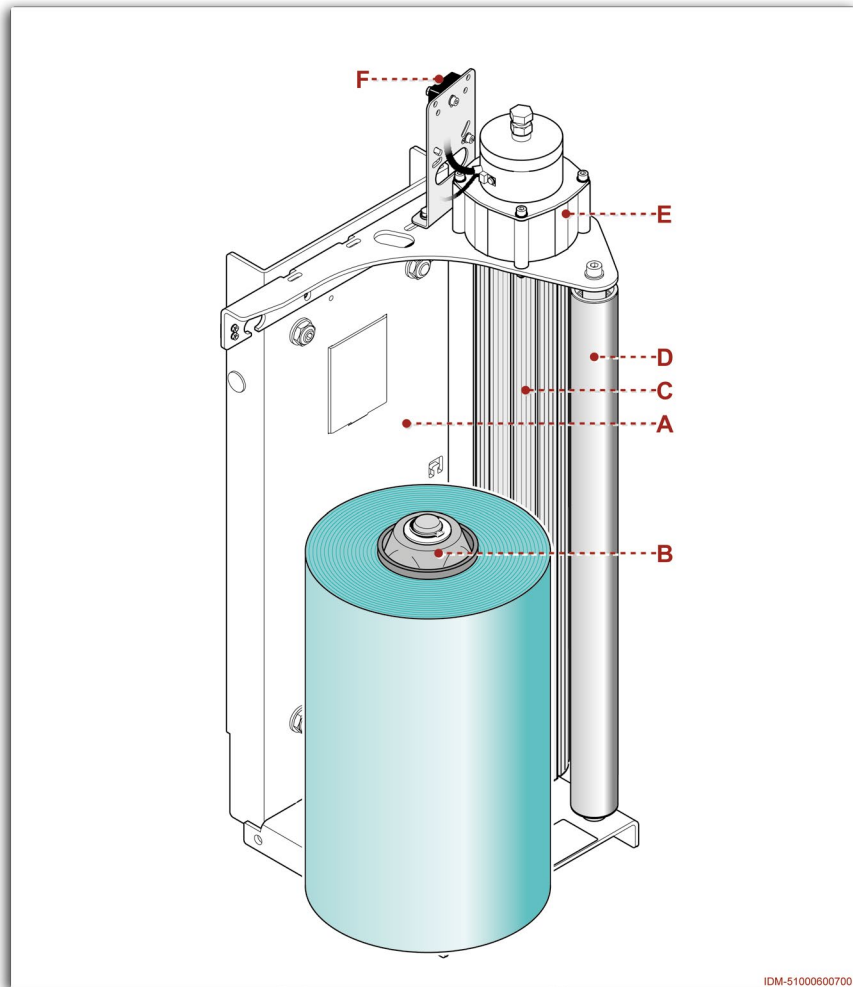
1. Lift the lever **A** to its vertical position.
2. Remove the fastening elements and remove the lever.
3. Remove in a sequence the components **B-C-D**.
4. Remove the component **F**.
5. Unscrew screw **G**.
6. Unscrew the nuts **H**.
7. Remove the plate **L**.
8. Remove stop ring **M**.
9. Remove the component **N**.
10. Remove all the external cylinder surface inserts **P**, one at a time.
11. Thoroughly clean the grooves of the roller.
12. Insert in a sequence, one at a time, all the new external cylinder surface inserts.
13. Install component **N**.
14. Reinstall the retainer ring **M**.
15. Fit back the plate **L** and fix it with the nuts **H** without tightening.
16. Insert screw **G** and tighten it.
17. Adjust the position of the plate **L** and tighten the nuts **H**.
18. Install component **F**.
19. Install in a sequence the components **D-C-B**.
20. Engage the lever **A** in a vertical position and insert the fastening elements.
21. Lower the lever to its horizontal position.
22. Check that there are no tools or other materials in the risk areas.
23. Start the machine and make sure that the operation has been carried out properly.



Reel holding carriage (FM)

■ Main components

- A) Structure:** it is equipped with wheels for vertical shifting of carriage on column.
- In the structure a fall arrest system is installed, which stops the carriage in case of lifting belt failure.
- B) Reel holder:** it is equipped with braking system to avoid reel unwinding.
- C) Roller:** designed to tension the film.
- Roller is coated with inserts in order to ensure film pulling during wrapping.
- D) Roller (idle)**
- E) Electromechanical brake:** device that adjusts the tension of the film.
- F) Photocell:** it detects the presence and the height of the load to be wrapped in order to stop the upward movement of reel holding carriage.
- On request, a “black” version of the photocell can be supplied, specifically designed to detect wrapped items or products with a prevalence of dark surfaces.



IDM-51000600700

■ Film Coil Feeding

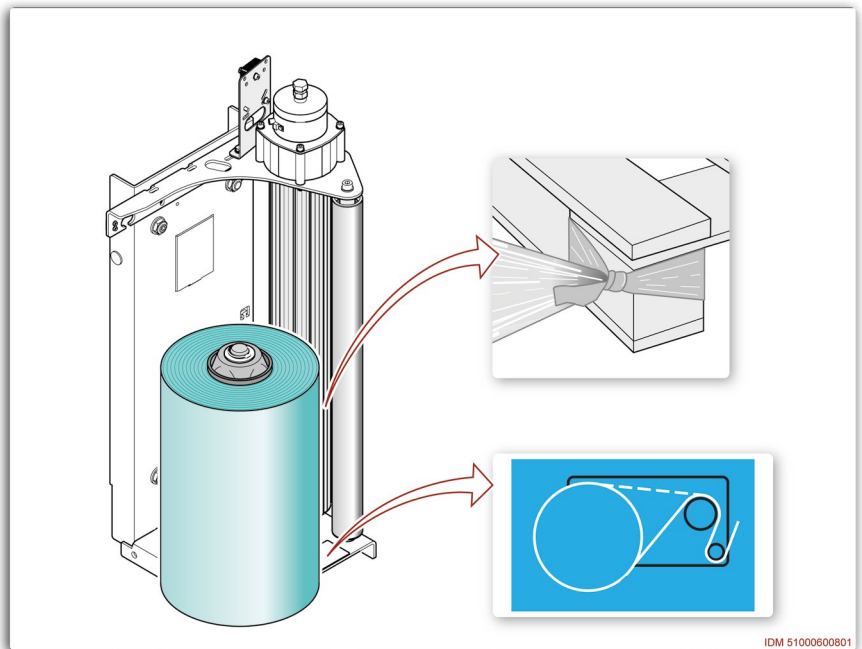
1. Lower the reel holding carriage until its endstroke.
2. Remove the cardboard core of the reel.
3. Insert the new reel.

NOTE

Check whether the wrapping film has the same chemical-physical properties as that installed in the reel holder carriage.

If film characteristics appear to be different, consider whether you should adjust the film tension.

4. Insert film according to the required direction of the adhesive size.



IDM 51000600801

Important

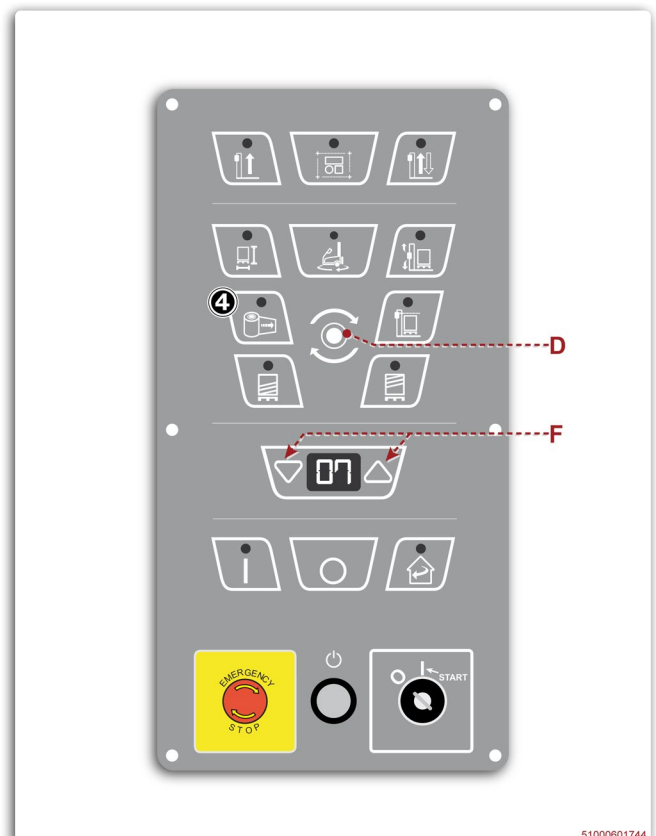
In order to avoid transferring impurities to the surfaces of the guiding rollers, discard the outer wrapping film layer on the reel.

5. Tie the trailing end of the film to the base of the product to be wrapped.
6. Start wrapping.

■ Tension adjustment of film

The operation is necessary to adjust the film tension on the load to be wrapped.

1. Repeatedly press the button **D** until selecting the parameter **④**.
- LED turns on.
2. Adjust the film tension via the controls **F**.



51000601744

■ Cleaning and replacement of brake disc

The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge.

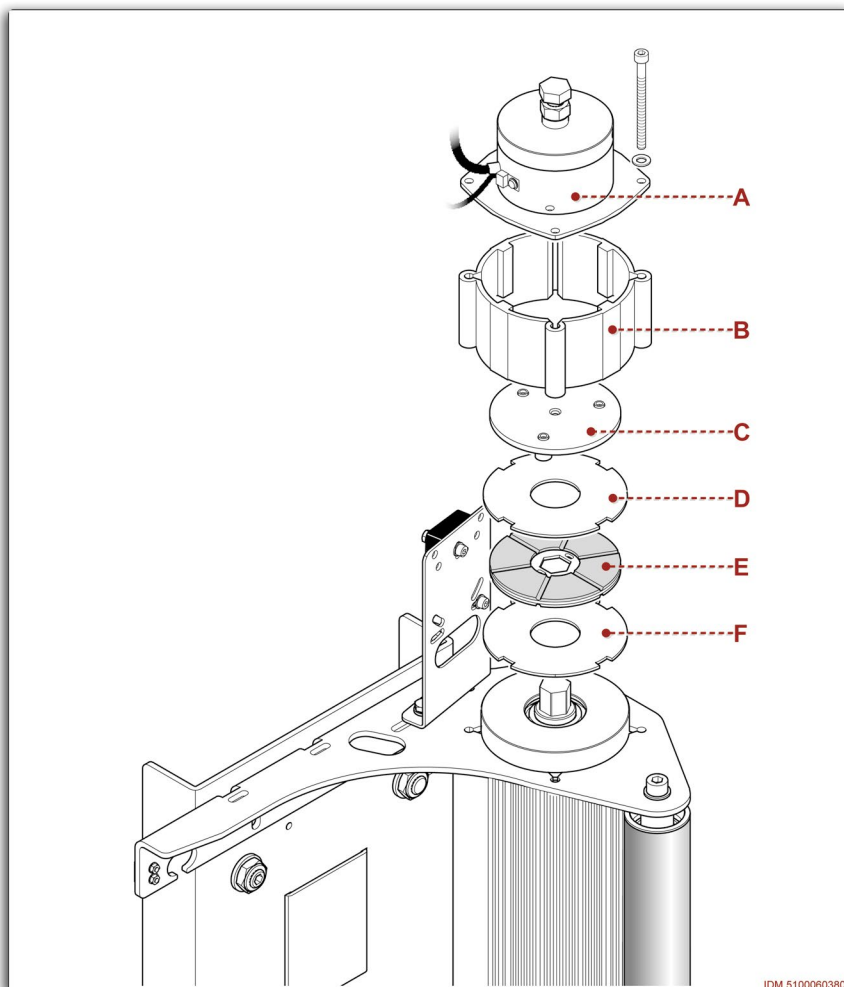
Fulfilling the requirements is necessary in order to work properly and under safe conditions.

- This service should be carried out with the reel holding carriage lowered and the machine “switch OFF”.

Attention Warning

Wear the Personal Protective Equipment specified in the “Instructions for use” and those required by occupational laws.

1. Remove the fastening elements and remove the actuator **A**.
 2. Remove in a sequence the components **B-C-D-E-F**.
 3. Clean the matching surfaces of the friction discs **D-F**.
 4. Check the wear level of the friction material of the disc **E**.
- In the case of excessive wear, replace the component.
5. Install in a sequence the components **F-E-D-C-B**.
 6. Install the component **A** and lock it in place with the fastening elements.
 7. Adjust brake.
See [Adjustment of brake](#) for further details.
 8. Check that there are no tools or other materials in the risk areas.
 9. Start the machine and make sure that the operation has been carried out properly.



■ Adjustment of brake

The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge.

Fulfilling the requirements is necessary in order to work properly and under safe conditions.

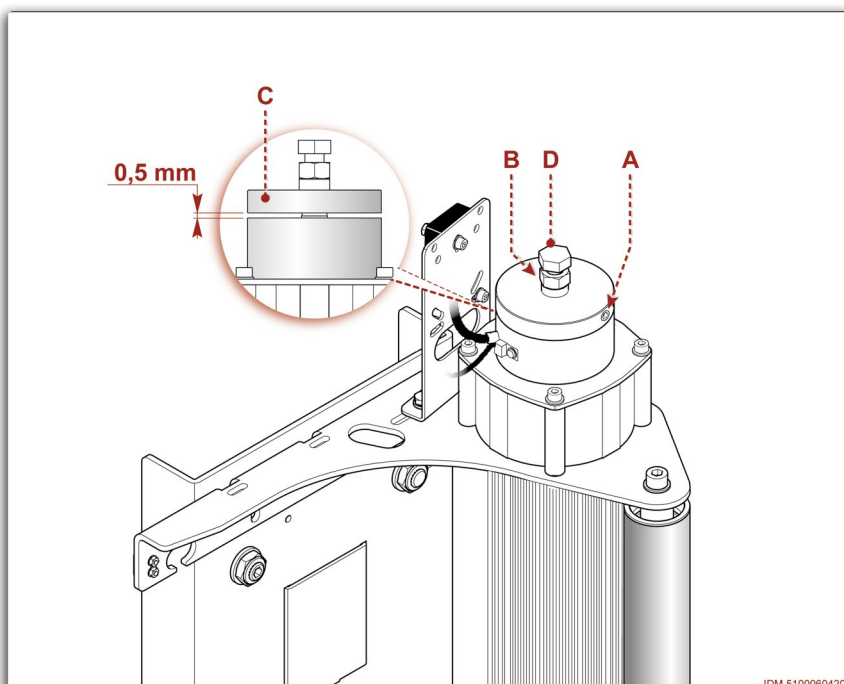
- This service should be carried out with the reel holding carriage lowered and the machine “switch OFF”.



Attention Warning

Wear the Personal Protective Equipment specified in the “Instructions for use” and those required by occupational laws.

1. Loosen the screw **A**.
 2. Loosen the lock nut **B**.
 3. Insert thickness gauge (thickness 0,5 mm) under disc **C**.
 4. Keep disc **C** in proper position and regulate screw **D** to adjust brake.
- Clockwise: the distance gets higher.
 - Counter clockwise: distance gets shorter.
5. Tighten lock nut **B**.
 6. Tighten the screw **A**.
 7. Check that there are no tools or other materials in the risk areas.
 8. Start the machine and make sure that the operation has been carried out properly.



■ Replacing the outer surface of roller

The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge.

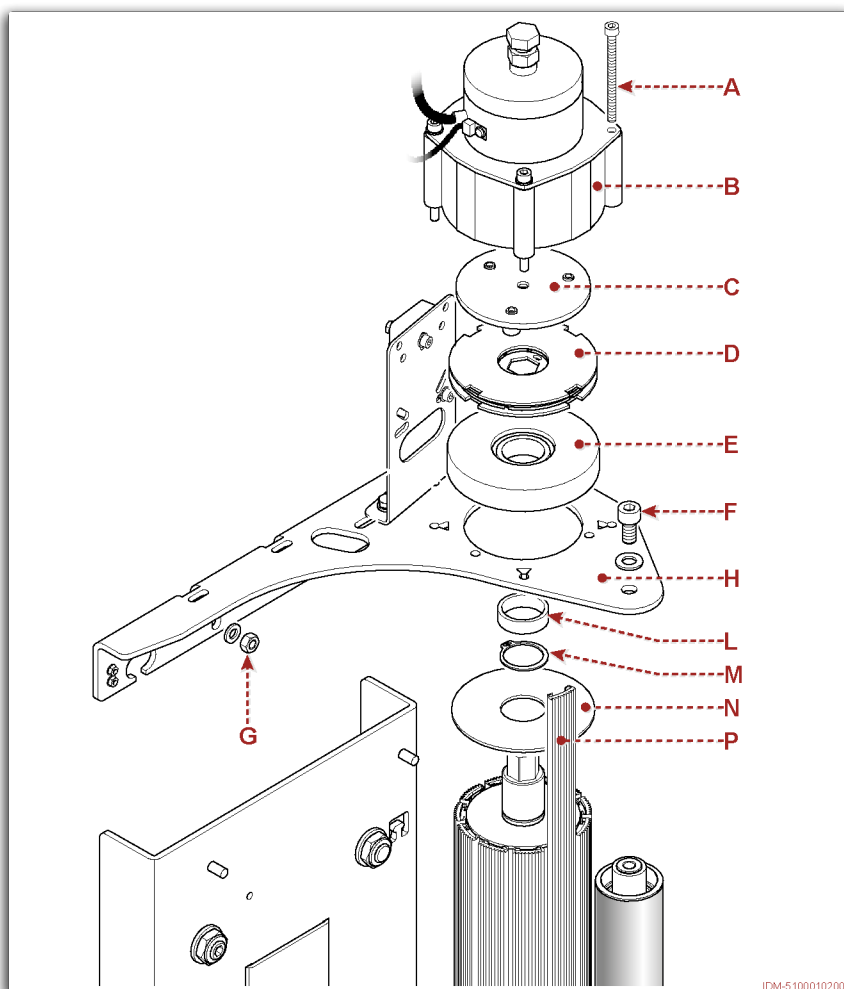
Fulfilling the requirements is necessary in order to work properly and under safe conditions.

- This service should be carried out with the reel holding carriage lowered and the machine “switch OFF”.

Attention **Warning**

Wear the Personal Protective Equipment specified in the “Instructions for use” and those required by occupational laws.

1. Loosen the screws **A**.
2. Disassemble the brake assembly **B**.
3. Remove in a sequence the components **C-D-E**.
4. Unscrew screw **F**.
5. Unscrew the nuts **G**.
6. Remove the plate **H**.
7. Extract spacer **L**.
8. Remove stop ring **M**.
9. Remove the component **N**.
10. Remove all the external cylinder surface inserts **P**, one at a time.
11. Thoroughly clean the grooves of the roller.
12. Insert in a sequence, one at a time, all the new external cylinder surface inserts.
13. Install component **N**.
14. Reinstall the retainer ring **M**.
15. Install the spacer **L**.
16. Fit back the plate **H** and fix it with the nuts **G** without tightening.
17. Insert screw **F** and tighten it.
18. Adjust the position of the plate **H** and tighten the nuts **G**.



IDM-51000102000

19. Install in a sequence the components **E-D-C**.
20. Install the brake assembly **B** and fix it with the screws **A**.
21. Check that there are no tools or other materials in the risk areas.
22. Start the machine and make sure that the operation has been carried out properly.

Reel holding carriage (LP)

■ Main components

A) Structure: it is equipped with wheels for vertical shifting of carriage on column.

- In the structure a fall arrest system is installed, which stops the carriage in case of lifting belt failure.

B) Reel holder: it is equipped with braking system to avoid reel unwinding.

C) Rollers: they are used to pre-stretch the film.

- The rollers are coupled with gears.

D) Roller (idle)

- On closing the guard, the roller **D** is positioned centrally with respect to the rollers **C**.

E) Dancer roller (idle): it is equipped with sensor to detect the film tension.

- The roller is equipped with a sensor that interfaces with the electric motor **G** to adjust the speed of the rollers **C**.

F) Roller (idle)

G) Electric motor: it drives the pre-stretch rollers.

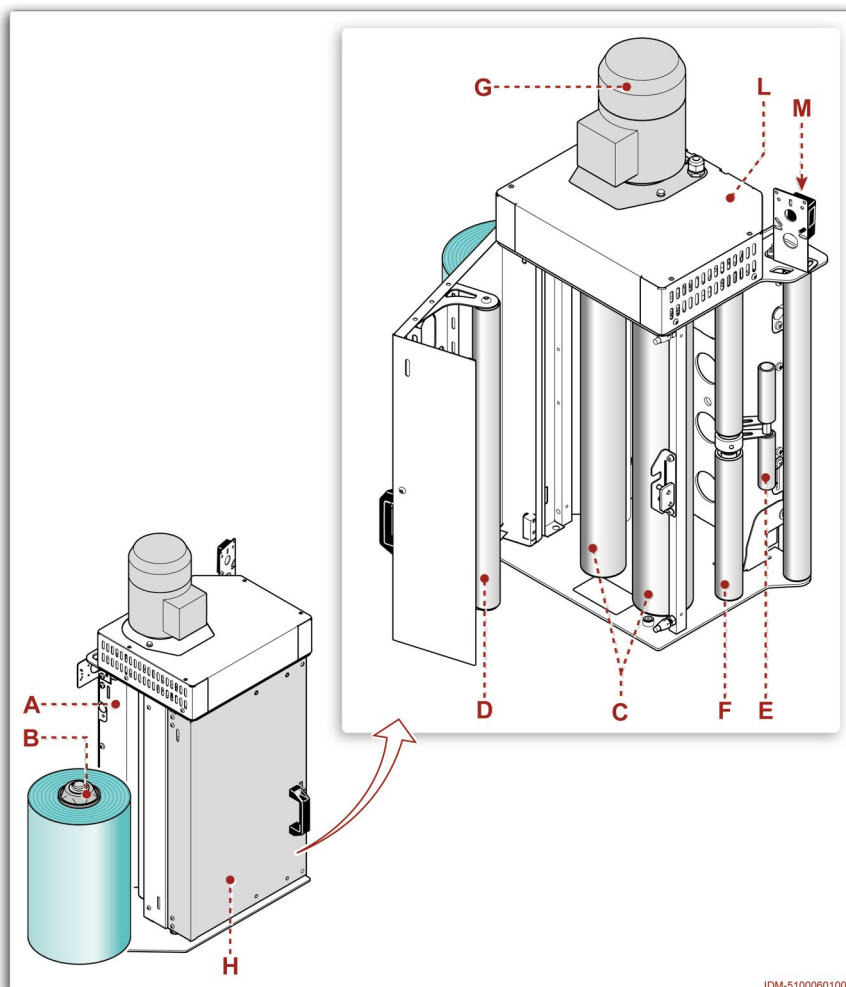
H) Interlocked mobile guard: safety device to prevent access to the components whose operation may represent a risk.

- When opening the guard, the machine stops in safe conditions. The machine restarts only once the guard has been closed and operation has been restored.

L) Protective guard for the drive system of rollers

M) Photocell: it detects the presence and the height of the load to be wrapped in order to stop the upward movement of reel holding carriage.

- On request, a “black” version of the photocell can be supplied, specifically designed to detect wrapped items or products with a prevalence of dark surfaces.



IDM-51000601000

Film Coil Feeding

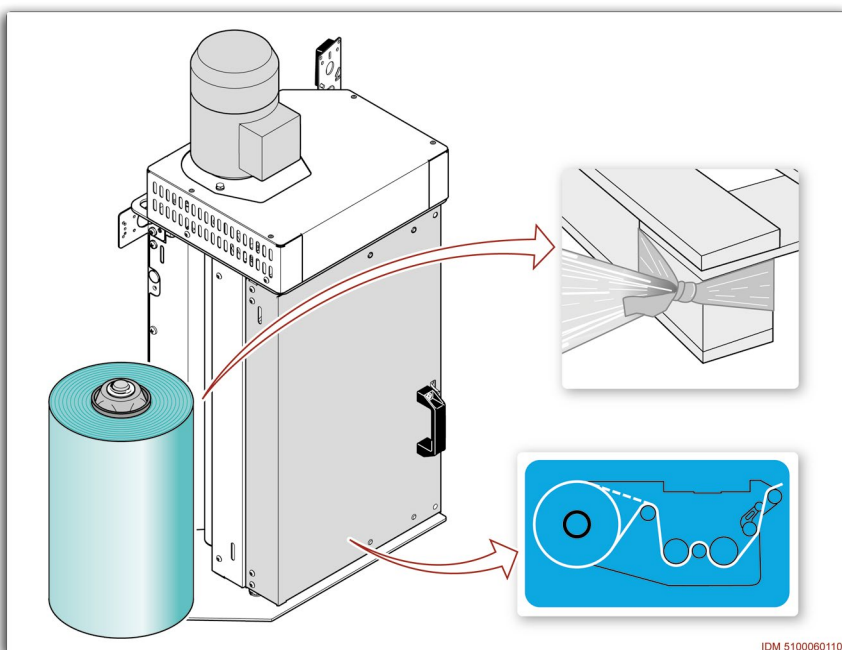
1. Lower the reel holding carriage until its endstroke.
2. Open the cover **G**.
3. Remove the cardboard core of the reel.
4. Insert the new reel.

NOTE

Check whether the wrapping film has the same chemical-physical properties as that installed in the reel holder carriage.

If film characteristics appear to be different, consider whether you should adjust the film tension.

5. Insert film according to the required direction of the adhesive size.



Important

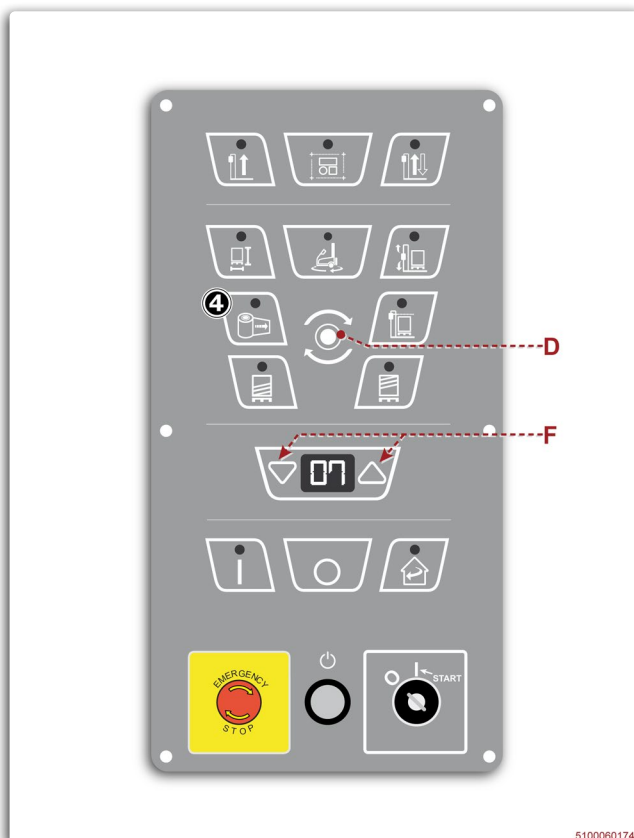
In order to avoid transferring impurities to the surfaces of the guiding rollers, discard the outer wrapping film layer on the reel.

6. Tie the trailing end of the film to the base of the product to be wrapped.
7. Close the cover **G**.
8. Start wrapping.

Tension adjustment of film

The operation is necessary to adjust the film tension on the load to be wrapped.

1. Repeatedly press the button **D** until selecting the parameter **4**.
- LED turns on.
2. Adjust the film tension via the controls **F**.



■ Replacement of pre-stretch kit

The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge.

Fulfilling the requirements is necessary in order to work properly and under safe conditions.

- This service should be carried out with the reel holding carriage lowered and the machine “switch OFF”.



Attention Warning

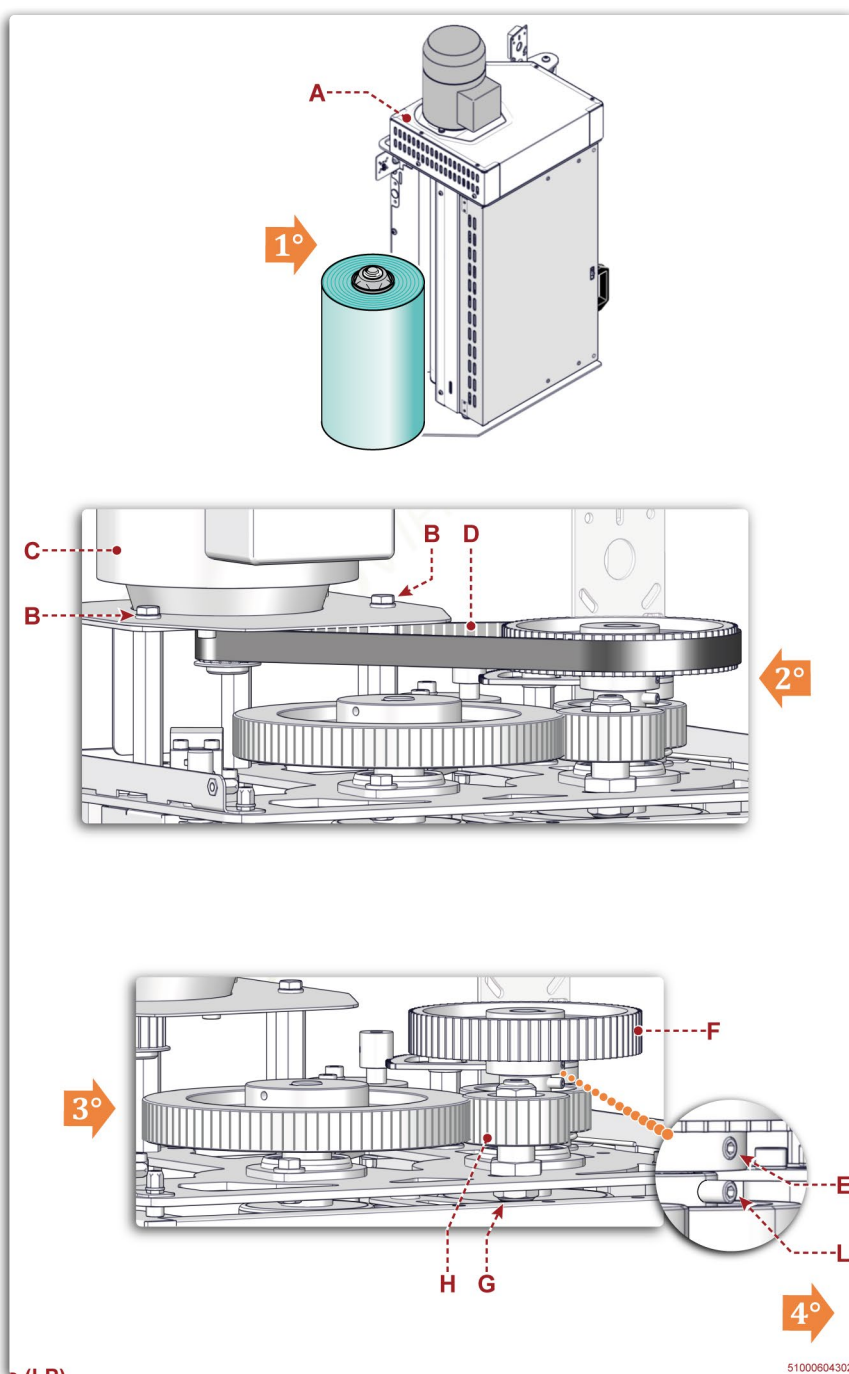
Wear the Personal Protective Equipment specified in the “Instructions for use” and those required by occupational laws.

NOTE

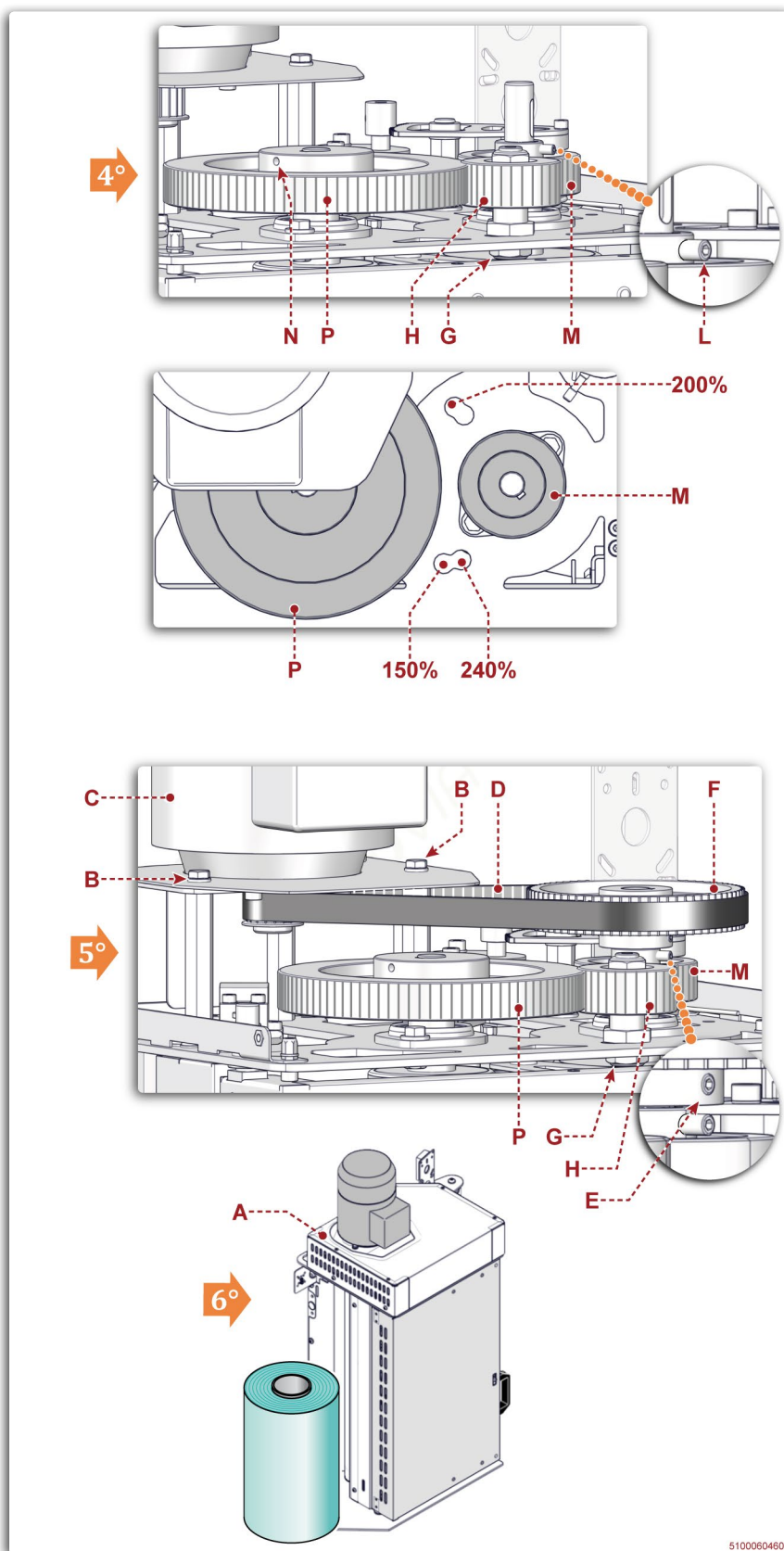
At delivery, machine pre-stretch corresponds to 240%.

To set pre-stretch to 150 / 200 %, replace the gears as indicated.

- 1° 1. Disassemble the guard **A**.
- 2° 2. Loosen screws **B** and move motor **C** in order to completely loosen belt **D**.
3. Remove the belt **D**.
- 3° 4. Loosen screw **E** and remove gear **F**.
5. Loosen nut **G** and loosen gear **H**.



- 4° 6. Loosen screw **L** and remove gear **M**.
7. Loosen screw **N** and remove gear **P**.
8. Install new gear **M** and tighten screw **L**.
9. Install new gear **P** and tighten screw **N**.
10. Insert the pin of gear **H** into one of the holes in order to combine it properly with gears **M-P** (see figure).
11. Lock gear in proper position by means of nut **G**.
- 5° 12. Install gear **F** again and tighten screw **E**.
13. Install belt **D**.
14. Shift electric motor **C** and simultaneously tighten screws **B** to adjust the tension of belt **D**.
- 6° 15. Reassemble the guard **A**.
16. Check that there are no tools or other materials in the risk areas.
17. Start the machine and make sure that the operation has been carried out properly.



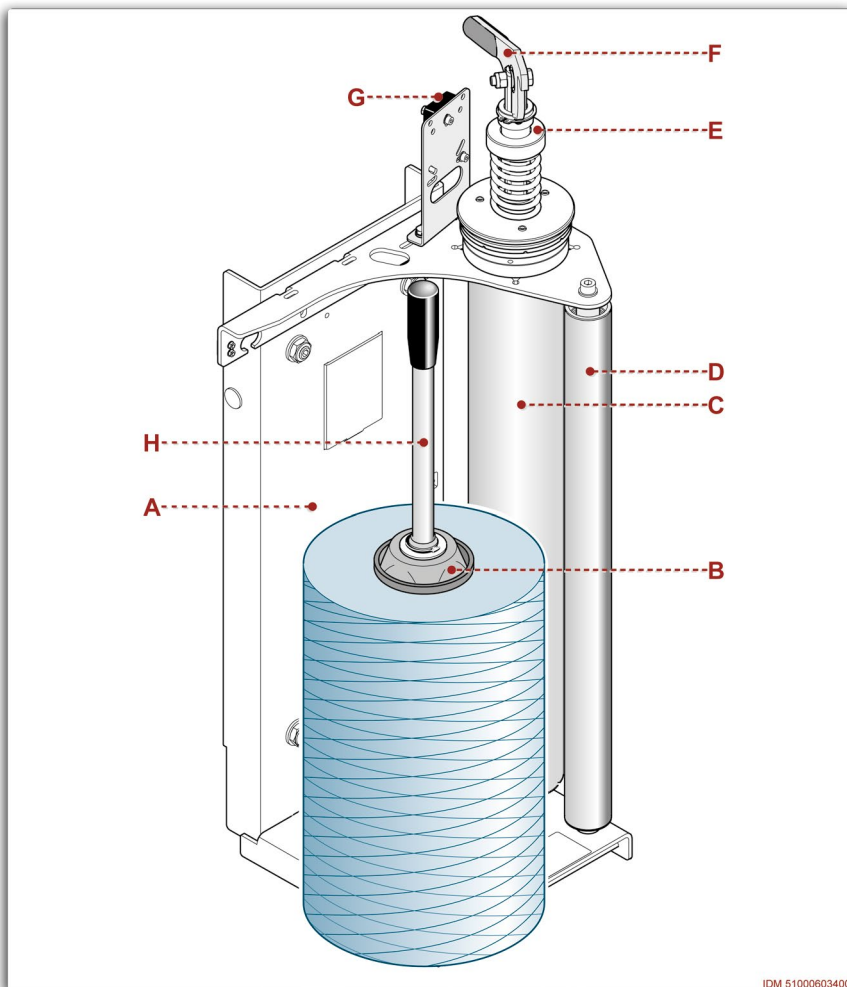
51000604602

IDM 510-312-2

Net-type reel holder carriage (MR)

■ Main components

- A) Structure:** it is equipped with wheels for vertical shifting of carriage on column.
- In the structure a fall arrest system is installed, which stops the carriage in case of lifting belt failure.
- B) Reel holder:** it is equipped with braking system to avoid reel unwinding.
- C) Roller:** it tightens the net.
- D) Roller (idle)**
- E) Ring:** this device is used to adjust the tightening of net.
- F) Lever:** device used to disengage the roller **C**.
- G) Photocell:** it detects the presence and the height of the load to be wrapped in order to stop the upward movement of reel holding carriage.
- On request, a “black” version of the photocell can be supplied, specifically designed to detect wrapped items or products with a prevalence of dark surfaces.
- H) Lever:** control to be rotated to adjust the braking degree.
- **Clockwise:** the value increases.
 - **Anti-clockwise:** the value decreases.



IDM 51000603400

■ Supplying the reel with net

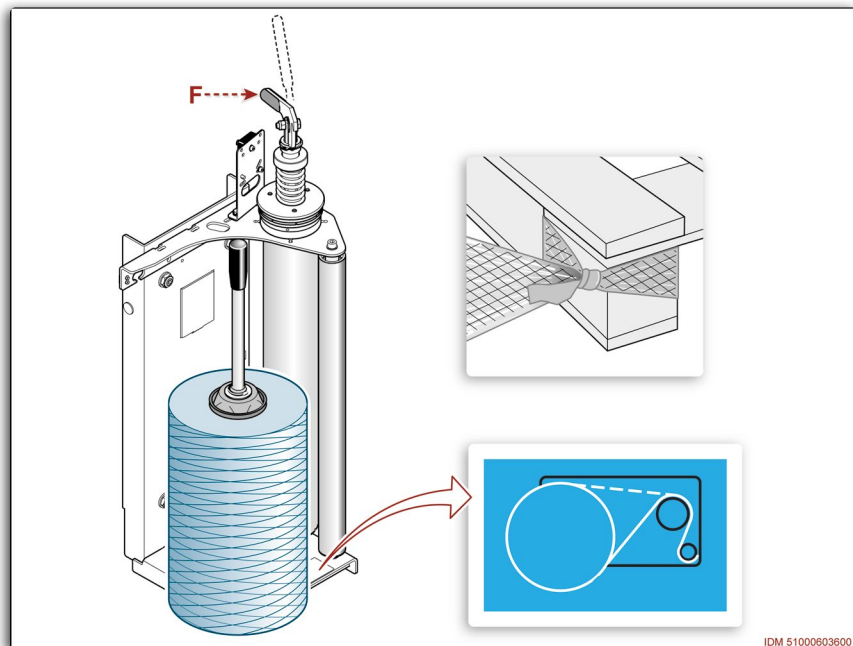
1. Lower the reel holding carriage until its endstroke.
2. Lift the lever **F** to its vertical position.
3. Remove the cardboard core of the reel.
4. Insert the new reel.

NOTE

Check whether the wrapping film has the same chemical-physical properties as that installed in the reel holder carriage. If film characteristics appear to be different, consider whether you should adjust the film tension.

Important

In order to avoid transferring impurities to the surfaces of the guiding rollers, discard the outer wrapping film layer on the reel.

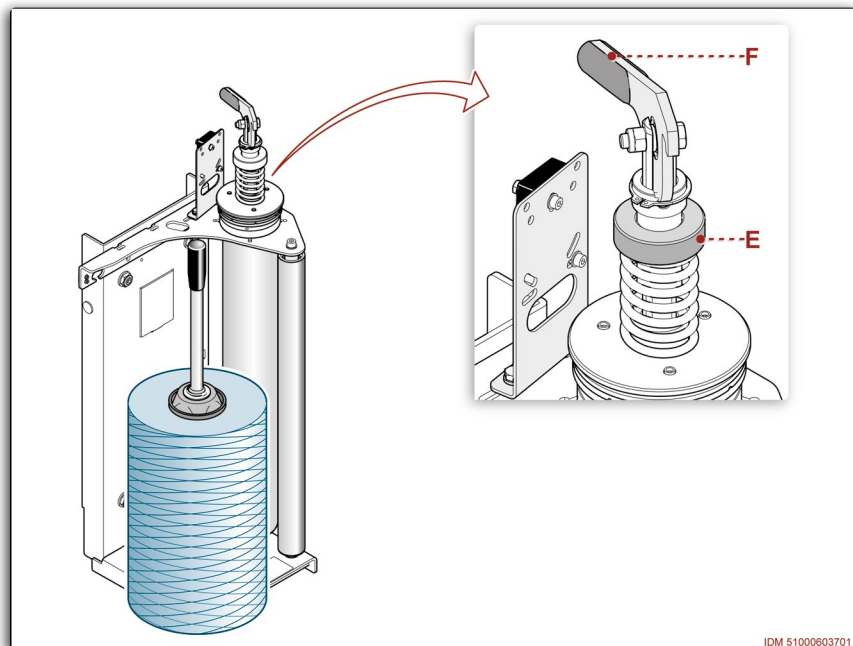


5. Tie the end of the net to the base of the product to be wrapped.
6. Start wrapping.
7. Lower the lever **F** to horizontal position after performing at least one wrap.

■ Adjustment of net tension

The operation is necessary to adjust the net tension on the load to be wrapped.

1. Lower the reel holding carriage until its endstroke.
 2. Lift the lever **F** to its vertical position.
 3. Start wrapping.
 4. Lower the lever **F** to horizontal position after performing at least one wrap.
 5. Adjust the net tension by means of ring **E**.
- **Clockwise:** the value increases.
 - **Anti-clockwise:** the value decreases.
6. Start the machine and make sure that the operation has been carried out properly.



■ Cleaning and replacement of brake disc

The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge.

Fulfilling the requirements is necessary in order to work properly and under safe conditions.

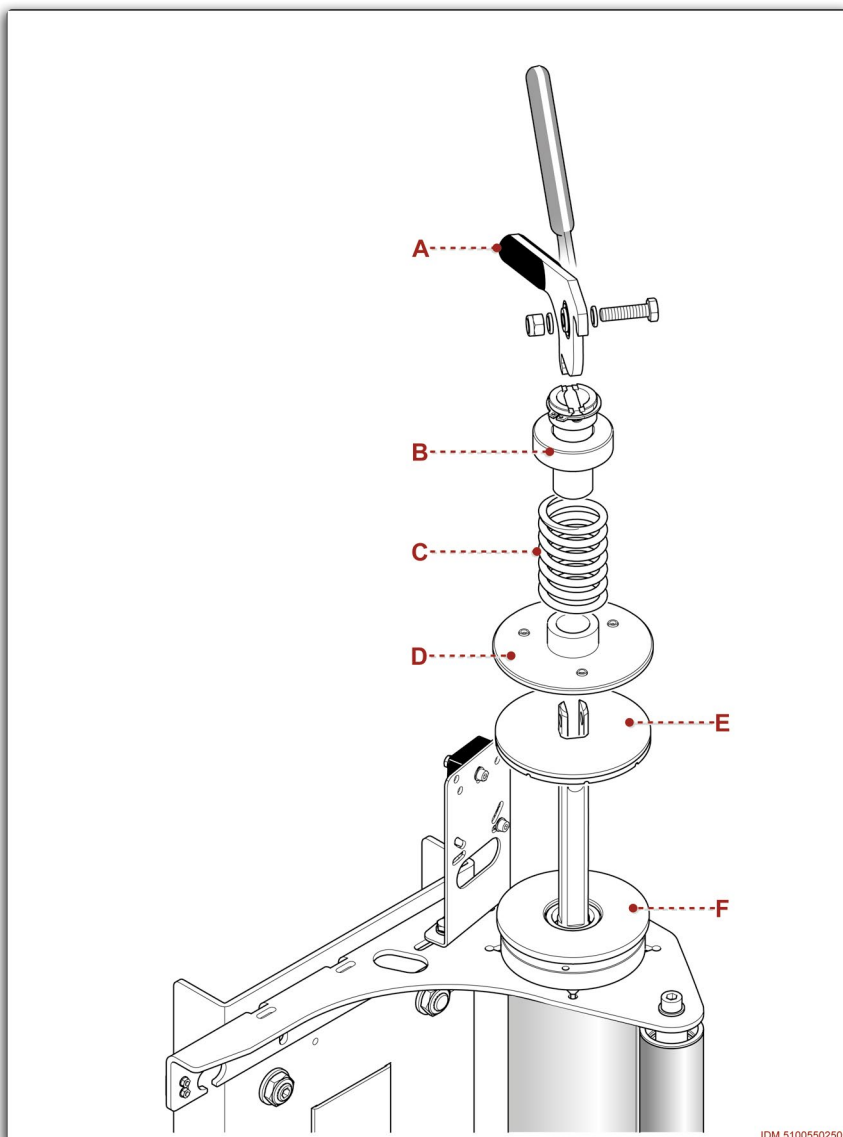
- This service should be carried out with the reel holding carriage lowered and the machine “switch OFF”.



Attention Warning

Wear the Personal Protective Equipment specified in the “Instructions for use” and those required by occupational laws.

1. Lift the lever **A** to its vertical position.
 2. Remove the fastening elements and remove the lever.
 3. Remove in a sequence the components **B-C-D-E**.
 4. Clean the contact surfaces of the brake discs **E-F**.
 5. Check the wear level of the friction material of the disc **E**.
- In the case of excessive wear, replace the component.
6. Install the disc **E** with the friction material facing downwards.
 7. Install in a sequence the components **D-C-B**.
 8. Engage the lever **A** in a vertical position and insert the fastening elements.
 9. Lower the lever to its horizontal position.
 10. Check that there are no tools or other materials in the risk areas.
 11. Start the machine and make sure that the operation has been carried out properly.



IDM 51005502500

■ Replacement of the net tensioning roller

The operation must be carried out by the maintenance technician or by personnel with suitable competences, skills and knowledge.

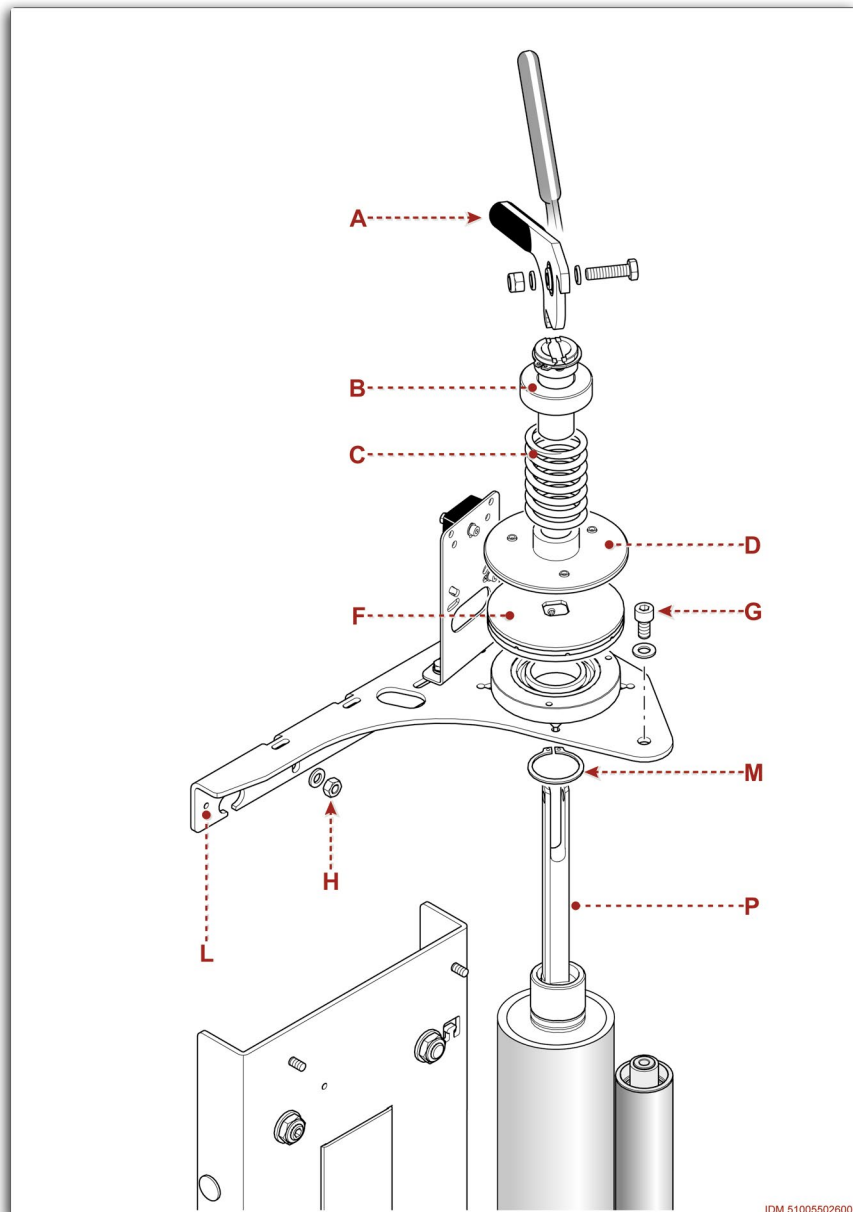
Fulfilling the requirements is necessary in order to work properly and under safe conditions.

- This service should be carried out with the reel holding carriage lowered and the machine “switch OFF”.



Wear the Personal Protective Equipment specified in the “Instructions for use” and those required by occupational laws.

1. Lift the lever **A** to its vertical position.
2. Remove the fastening elements and remove the lever.
3. Remove in a sequence the components **B-C-D**.
4. Remove the component **F**.
5. Unscrew screw **G**.
6. Unscrew the nuts **H**.
7. Remove the plate **L**.
8. Remove stop ring **M**.
9. Disassemble the roller (**P**) and replace it.
10. Reinstall the retainer ring **M**.
11. Fit back the plate **L** and fix it with the nuts **H** without tightening.
12. Insert screw **G** and tighten it.
13. Adjust the position of the plate **L** and tighten the nuts **H**.
14. Install component **F**.
15. Install in a sequence the components **D-C-B**.
16. Engage the lever **A** in a vertical position and insert the fastening elements.
17. Lower the lever to its horizontal position.
18. Check that there are no tools or other materials in the risk areas.
19. Start the machine and make sure that the operation has been carried out properly.



IDM 51005502600

Machine Disposal and Scrapping

■ Machine dismantling

- Disconnect the supplies from the energy sources (electrical, pneumatic, etc.) in order to prevent any restart.
- Carefully drain the systems containing hazardous substances, according to the applicable regulations on safety at work and environmental protection.
- Position the machine in a place that is not easily accessible by non authorised people.

■ Machine Scrapping

- The machine is to be scrapped at the authorized centres by skilled personnel equipped with all the necessary means to operate in safety conditions.
- The personnel carrying out the scrapping of the machine must identify any residual energy and implement a “safety plan” to avoid any unexpected hazard.
- Check whether there are any residual risks and take all necessary measures in order to work under safe conditions.
- Dispose of all polluting materials and liquids and all waste generated during the operations according to the laws in force.
- Dispose of Electrical and Electronic Apparatus Waste properly, at authorised collection centres, to avoid harmful and damaging effects.

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