

STARBOX 50 STARBOX 65

serial n°

 USE AND MAINTENANCE MANUAL

**“TRANSLATION OF THE ORIGINAL
INSTRUCTIONS”**

CARTON ERECTING MACHINE

Instructions manual code 3709300424

English Edition 0/0615

EC DECLARATION OF CONFORMITY

(Annex IIA DIR. 2006/42/EC)

Robopac S.p.A.

Via Fabrizio da Montebello, 81 - 47892

Gualdicciolo Republic of San Marino

DECLARES THAT THE MACHINE

 Robopac S.P.A. a Socio Unico Via Fabrizio da Montebello, 81 47892 - Gualdicciolo Repubblica San Marino www.aetnagroup.com		
MODELLO		
MODEL		
MATRICOLA		
SERIAL NUMBER		
DATA		
DATE OF MAN.		
ALIMENTAZIONE		
SUPPLY VOL.		V
FREQUENZA		Hz
FREQUENCY		
N. FASI		
PHASE		
ASSORBIMENTO		A
ABSORPTION		
POTENZA TOT.		KW
TOTAL POWER		
CONSUMO ARIA		NI/min.
AIR CONSUMPTION		
PRESSIONE MAX		bar
MAX PRESSURE		
PESO		Kg
WEIGHT		

IS IN CONFORMITY WITH DIRECTIVES

European Parliament and Council Directive 2006/42/EC dated May 17, 2006

European Parliament and Council Directive 2004/108/EC dated December 15, 2004

European Parliament and Council Directive 2006/95/EC dated December 12, 2006

Reference to harmonised standards and relevant annexes, in applicable points:

EN ISO 12100:2010, EN 60204-1:2006/A1:2009, EN 415-5:2010, EN 415-6:2013, EN 415-10:2014.

THE INDIVIDUAL AUTHORISED TO DRAFT THE TECHNICAL BOOKLET IS

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Firma

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SUMMARY

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GENERAL INFORMATION

1.1. PURPOSE OF THE MANUAL

- The manual is an integral part of the machine and is aimed to provide the operator the instructions for use in order to prevent and reduce the risks that arise from man-machine interface.

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

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

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

The manuals must be translated directly from the ORIGINAL INSTRUCTIONS, without modification.

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

- Keep this manual for the entire duration of its useful life in a well known and easy to access place, available for reference any time the need should arise.
- Refer to the table of contents and the analytical index in order to easily identify the subjects of interest.
- Some information may not correspond completely to the actual configuration of the machine delivered.
- Any additional information does not affect the readability of the text and the safety level.
- The manufacturer reserves the right to modify the contents of the manual without prior notice provided that the safety level is not altered.
- 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.
- The symbols described below are used to highlight the most important information or specifications.



Danger Warning

The symbol indicates extremely hazardous situations which, if ignored, could seriously jeopardise personal health and safety.



Caution Warning

The symbol indicates that suitable actions must be adopted to prevent personal health and safety risks and avoid economic damages.



Important

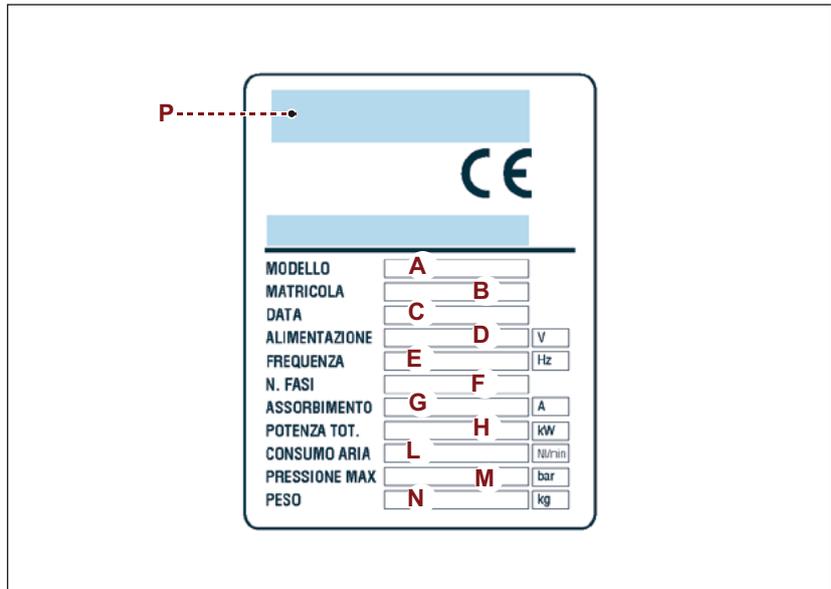
This symbol indicates critical technical and operating information that shall be observed.

GENERAL INFORMATION

1.2. MANUFACTURER AND MACHINE IDENTIFICATION

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

- A) Machine model.
- B) Machine's serial number.
- C) Year of manufacture.
- D) Power supply voltage.
- E) Power supply frequency.
- F) Power supply phases.
- G) Electrical power consumption.
- H) Total installed power.
- L) Air consumption.
- M) Max. air supply pressure.
- N) Machine weight.
- P) Manufacturer's name.



GENERAL INFORMATION

1.3. TERMS AND DEFINITIONS

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

- **Routine maintenance:**
Group of functions necessary to maintain suitable machine operations and efficiency. Normally the manufacturer, who defines the necessary skills and intervention procedures, plans these operations
- **Non-routine maintenance:**
The whole of the operations necessary to keep the operating and efficiency capacity of the machinery. These operations are not scheduled by the manufacturer and must be carried out by the maintenance technician
- **Operator:**
A person authorised and chosen from those who have the requirements, skills and information necessary for installation, use and ordinary maintenance of the machine
- **Maintenance technician:**
A person authorised and chosen among those who have the requirements, skills and information necessary to perform ordinary and extraordinary machine maintenance. He is expected, therefore, to possess precise information and skills with particular expertise in the field of intervention
- **Format Change:**
series of operations to carry out on the machine before starting to work with the machine with different characteristics respect to the previous ones
- **Training:**
training process aimed to transfer to the operator the knowledge, skills and behaviour required to operate the machine autonomously, properly and safely
- **Installer:**
technician chosen, among those that meet the requisites, and authorised by the manufacturer or by its representative, to install and test the machine or the system in question
- **Assistant:**
employee assigned to assist the production processes of the machine or system in question

GENERAL INFORMATION

1.4. MODES OF REQUESTING FOR ASSISTANCE

The distribution network ROBOPAC is at your service for any problem that requires technical support, to order spare parts, and for whatever new type of need that can help develop your business.

Report the data displayed on the ID plate, the estimated hours you have used the machine, and the type of flaw you have uncovered when requesting technical support.

Contact one of our authorized dealers at the listed address for all your needs.

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1.5. ATTACHED DOCUMENTATION

The machine is provided with the documentation listed below, in the absence of a different trade agreement.

- CE statement of conformity.
- Warranty conditions (included in this booklet).
- Instructions for unpacking and installation.
- Quick start guide.
- Pneumatic diagram and list of parts (included in this booklet).
- Manuals of installed commercial devices (if necessary for machine use).
- USB flash drive that contains the information listed.
 - Use and maintenance manual translated into various languages.
 - Spare parts catalogue.

SAFETY INFORMATION

2.1. GENERAL SAFETY PRECAUTIONS

- - Carefully read the “Instructions for use” specified in the manual and those applied directly to the machine.
It is important to dedicate a little time to read the “Instructions for use” in order to minimise the risks and avoid unpleasant accidents.
- Before performing any operation, the operator must make sure that he/she understood the “Instructions for use”.
- Pay attention to the SAFETY WARNINGS, do not use the machine for UNSPECIFIED PURPOSES and assess the possible RESIDUAL RISKS.
- Caution is essential.

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

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

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

- Preserve the readability of the information signs and observe the indications given.
The information signs may have different shapes and colours, indicating hazards, obligations, prohibitions and information.
- The manufacturer has designed the machine observing all the “good manufacturing regulations” and the standards in force.
The machine has been designed to be constructed and equipped with devices that ensure intrinsic safety.
Tampering with the safety devices and the removal of the same may create risks (even severe) for the operators.
- The personnel authorised to carry out any operation with the machine must have acknowledged experience in the specific field.

Non compliance with the instructions given may cause risks for safety and health of the persons and economic damages.

SAFETY INFORMATION

2.2. SAFETY WARNINGS FOR HANDLING AND INSTALLATION

- The personnel authorised to handle the machine (loading and unloading) must possess particular expertise in the field of intervention.
- Handle (load and unload) the machine according to the instructions affixed directly to the machine, to the package and those in the user manual.
- During handling use one or two assistants, if required. This operation may generate unpredictable risks.
In order to minimise the risks related to assistants' involvement, you must inform them priorly on the type of work and the behaviour to be used.
- The machine must be handled with the aid of specific means (crane, forklift etc.) by qualified personnel capable of observing the safety requirements.
- When using the lifting means, insert and/or fasten the devices (hooks, forks etc.) ONLY into the points provided on the package and/or the machine.
- Transport the machine suitable means of adequate capacity.
- Make sure the machine and its components are properly fastened to the transport mean.
Check the machine dimensions and affix proper signs if the machine overall dimensions exceed the values allowed by road regulations.
- The minimum and maximum temperature (during transport and/or storage) must fall within the range allowed in order to prevent damaging the electrical components.
- Install the machine ONLY in spaces free of explosion and /or fire risks.
- Avoid the spaces exposed to atmospheric and corrosive agents.
- Assess, prior to installation, if it is necessary to draw up a “safety plan” in order to protect the safety of the personnel involved.
- Provide proper safety conditions when operating at high altitudes areas that are dangerous and hard to access.
- Install the machine according to the minimum perimeter indicated by the manufacturer and the surrounding activities.
- Should the machine interface directly/indirectly with other machines or production lines, draw up the installation design of the machine.
The design must include all the operating conditions in order to comply with the standards in force on safety at work place.
- Check that the installation space is properly ventilated in order to avoid air concentration unhealthy for the operators.
- Apply the most suitable solutions for reducing the noise levels and the acoustic pollution to minimum.
- Carry out the pneumatic connections professionally, according to the instructions provided by the manufacturer and in conformity with current standards and legislation.

The pneumatic connections should be carried out only by installers who have gained the necessary skills in the field concerned.

SAFETY INFORMATION

- The operator must test the machine and check, through a general test, that the machine can be commissioned without any risk for the operator.
- Dismantle all the packaging components in compliance with the standards in force in the country of installation.

Non compliance with the instructions given may cause risks for safety and health of the persons and economic damages.

SAFETY INFORMATION

2.3. SAFETY WARNINGS FOR USE AND OPERATION

- The operator must be trained and possess the proper knowledge required to carry out the specific tasks and must meet the conditions required for the safe use of the machine.
- When using the machine for the first time, the operator must read the manual and identify the controls and simulate some operations, especially the start-up and shutdown.
- The machinery has been designed and manufactured to satisfy all the operating conditions indicated by the manufacturer.

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

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

- Do not modify the constructive and functional characteristics of the machine.
- Do not use the machinery with the safety devices not properly installed and efficient.
- Always wear the individual safety devices indicated in the “instructions for use” and provided by the standards in force regarding the safety at workplace.
- Always keep the surrounding areas in suitable conditions and free of obstacles in order to minimise the risks, especially near the control station.
- The machine must be used by one operator only, that must be assigned and authorised by the employer.
- The involvement of one or more assistants when performing some operations or maintenance (ordinary) interventions may present unpredictable risks.
In order to minimise the risks related to assistants’ involvement, you must inform them priorily on the type of work and the behaviour to be used.
- Make sure that no foreign persons are present within the machine operating area during its production activity and maintenance.

Non compliance with the instructions given may cause risks for safety and health of the persons and economic damages.

SAFETY INFORMATION

2.4. SAFETY WARNINGS RELATED TO INCORRECT USE

Incorrect use that can be reasonably expected

- The predictable incorrect use consists of: **“the use of the machine different from the indications given in the manual, that may stem from the easily predictable human behaviour”**.

The machine should be used only for bending the four lower flaps of the cardboard box.

- The machine must be used ONLY for the uses intended by the manufacturer.
- Do not allow the machine to be used by operators that are not properly trained, informed and unauthorised.
- Packages that contain liquid or inconsistent products must ensure that they do not leak.
- Do not use the machine as a workbench.
- Do not use or let the machine be used for purposes or in ways not provided by the manufacturer.
- Do not use or make use of machines with defective, deactivated and/or not perfectly installed safety devices.
- Do not continue to use the machine if malfunctions have been detected.
Stop the machine immediately and restart it only after the normal conditions of use have been restored.
- Never carry out an intervention with the machine enabled but only after having stopped it properly, under safety conditions.
- Never use the machine without wearing the personal protective devices indicated by the manufacturer and required by current workplace laws.
- Never use the machine if the scheduled maintenance interventions have not been carried out accordingly.
- Do not clean or wash the machine with aggressive products to avoid damaging the components.
- Do not replace the components with non-original spare parts or with different design and constructive features.
- Do not leave the machine unattended at the end of the work without shutting it down first in safety conditions.

Employer obligations

- The operator must be trained to acquire the skills required for the packaging machine or an equivalent machine.
Upon completion of training, make sure the operator has understood the contents in the use manual, especially the information regarding safety.
- The operator must possess the required training and meet the suitable conditions for carrying out the activities in safety conditions.
- The employer must inform the operator on the INCORRECT USES predictable and on the persistent Residual risks.

SAFETY INFORMATION

- The operator must be capable of reading and understanding the user manual and must easily identify the safety signs.
- Make sure the machine is ONLY used by adequately trained, documented and authorized operators.

The employer must draw up the documentation of the specific training carried out by the operators in order to exhibit it in case of litigation.

SAFETY INFORMATION

2.5. SAFETY WARNINGS ON RESIDUAL RISKS

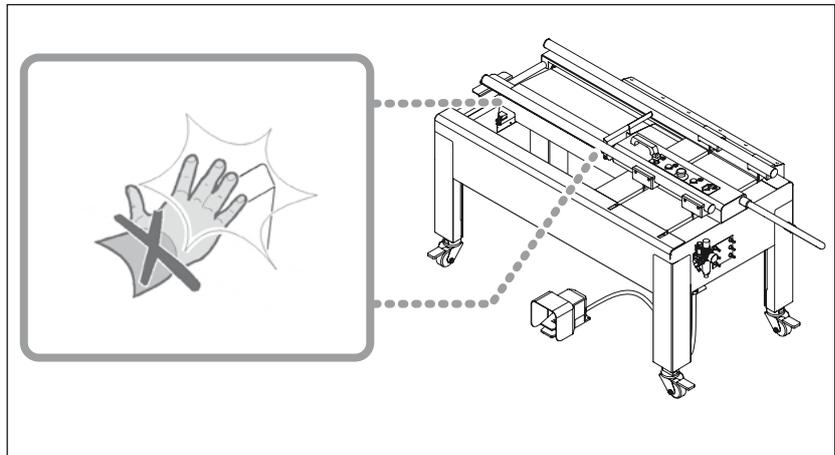
When designing and building the machine, the manufacturer has paid particular attention to the residual risks that may affect the safety and health of the operators.

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

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

– **Danger of crushing**

The machine is not protected against the involuntary starting of the actuating sheet, with a consequent starting of the cycle and crushing of the upper limbs.



SAFETY INFORMATION

2.6. SAFETY WARNINGS FOR REGULATIONS AND MAINTENANCE

- Keep the machinery in maximum efficiency condition and perform all the scheduled maintenance operations provided for by the manufacturer.
Proper maintenance will provide the best performance, a longer life span and constant compliance with safety requirements.
- Enable all machine safety devices before performing any maintenance and regulation operations.
- Delimitate the work area complying with the safety conditions as provided by the standards on workplace safety in order to minimise the risks.
- The maintenance interventions in the areas that are not easily accessible or dangerous must be carried out after having ensured the necessary conditions.
- The personnel authorised to carry out the ordinary maintenance (regulations, replacements etc.) Must possess the necessary technical and professional knowledge.
- Do not carry out interventions different from those indicated in the user manual without the written consent of the manufacturer.
- Do not use products that contain corrosive, toxic and inflammable substances.
- Wear the individual protection devices provided by the laws on workplace safety and indicated in the “instructions for use” and/or affixed to the machine.
- Replace the components only with original pare parts or with similar design and functional features.
- The use of similar but non-original spare parts may lead to improper repairs, altered performance and economic damage.
The components and/or safety devices shall be replaces only with original spare parts to avoid altering the provided safety level.
- Use lubricants (oils or grease) recommended by the manufacturer or with similar chemical-physical features.
- Do not dump into the environment polluting liquids, worn parts and maintenance waste.
- Select the components according to the chemical and physical features of the material and carry out the differentiated waste disposal as per the standards in force.
- All the extraordinary maintenance interventions shall be carried out exclusively by authorised personnel with particular expertise in the field of intervention.

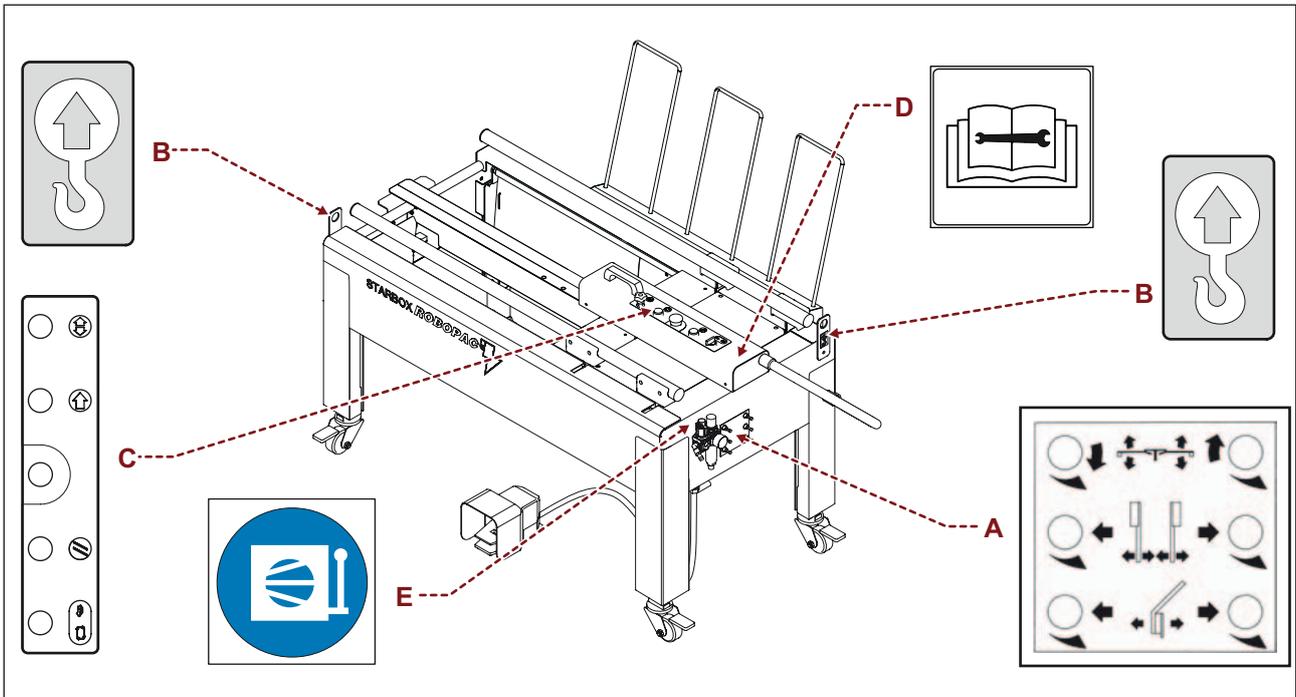
Non compliance with the instructions given may cause risks for safety and health of the persons and economic damages.

SAFETY INFORMATION

2.7. INFORMATION AND SAFETY SIGNALS

The figure indicates the position of the safety and information signs affixed to the machine.

For each sign is specified the relative description:



- A) Information sign**
Indicates the possible adjustments of the machine.
- B) Information sign**
Indicates the points for lifting with a hook device.
- C) Information sign**
Controls plate.
- D) Mandatory sign:**
Indicates the obligation to read the entire documentation before using the machine.
- E) Information signal:**
Identifies the pneumatic disconnecting switch.



Important

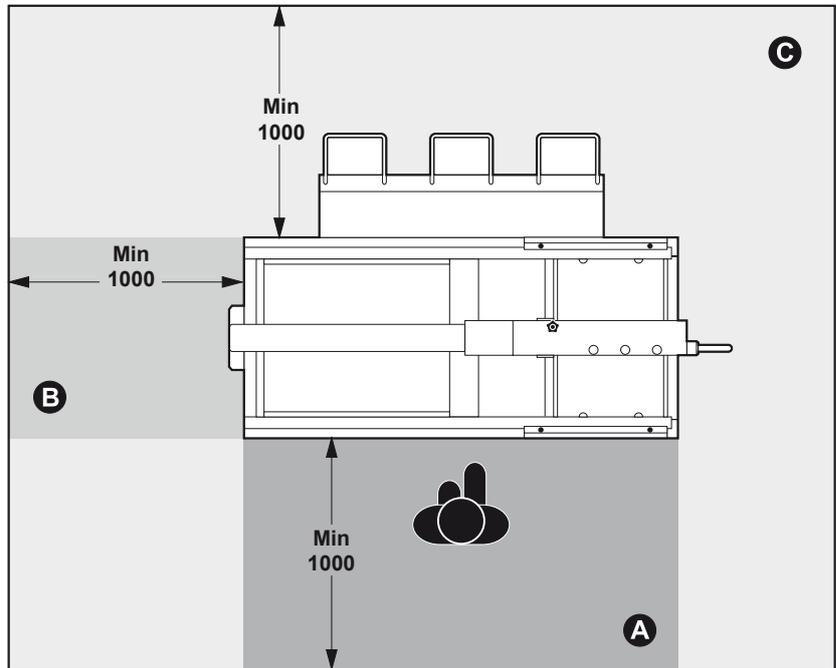
Check that the plates are clearly readable, and, if necessary, replace them with new ones that shall be positioned in the same places as previously.

SAFETY INFORMATION

2.8. SURROUNDING AREAS

The illustration depicts the perimeter work areas of the machine.

- A) Operator's working area
- B) Box exit zone.
- C) Surrounding area



TECHNICAL INFORMATION

3.1. MACHINE GENERAL DESCRIPTION

- STARBOX 50 / 65 is a semi-automatic machine that folds the four bottom flaps of the carton box.
 - The machine consists of a frame on which the operator leans the carton and on which the bottom flaps of the box are closed.
 - Upon request, the machine can be fitted with a roller conveyor for its connection to the machine downstream.
 - Use machine only for the purposes set forth by the manufacturer. improper use of machine can cause risks to safety and health of persons, further to economical damage.
 - The machine is manufactured in various models to satisfy the different market requirements (Refer to table 3.1. “machine type”).
 - The packs that contain liquids or insubstantial materials must be suitable for the product and must be perfectly closed and tight in order to prevent any leaks of the content.
 - It is equipped with a series of safety devices designed to avoid anyharm befalling the operator or other persons who come into contactwith the machine in any way. The machine is produced in a range ofdifferent models in order to suit market requirements.
 - This machine is normally installed in workshops or industrial environments protected from the atmospheric agents.
- Use of this machine in explosive environments or when exposed to the elements is strictly forbidden.**
- To use it just a single operator is required, who loads the boxes eventually unloads the boxes.

TECHNICAL INFORMATION

The figure shows, as a reference only, the machine models and the tables show the data and the main specifications.

Main parts**A) Base**

B) Ejector: Once the four lower flaps are closed, it pushes the box towards the machine downstream.

C) Guide bars: Continually operated they keep the cardboard box in the guide.

D) Flap folding sheet steel panel: Operated pneumatically, they close the four lower flaps.

E) Sheet steel sensing panel: Operated by the flaps of the box, it enables the flap-closing sheets to go up and the pipe guides to close.

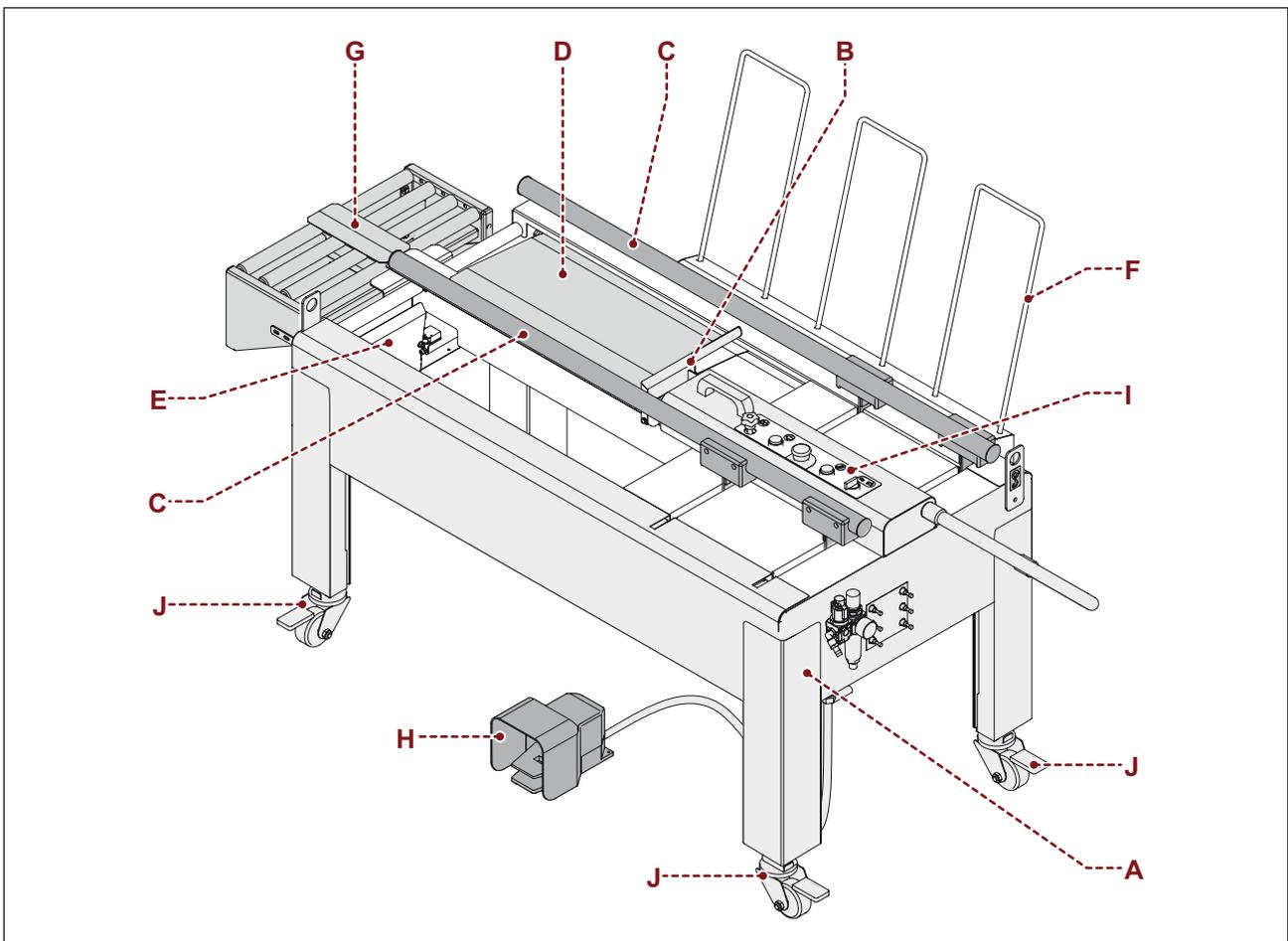
F) Carton hopper.

G) Outfeed roller conveyor (Optional).

H) Foot control.

I) Electric panel.

J) 4 set of castor wheels with brake (Optional).



TECHNICAL INFORMATION

According to the different operating requirements, this machine can be supplied in different models and configurations.

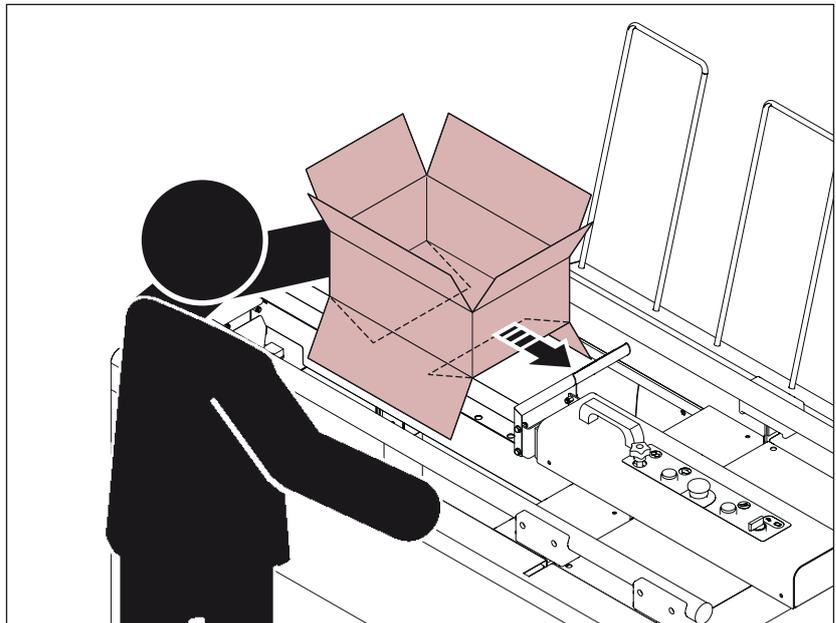
- **Starbox 50:** to erect boxes wide up to 500 mm and long up to 650 mm
- **Starbox 65:** to erect boxes wide up to 650 mm and long up to 800 mm.

The machine is designed just for one operator and requires his constant presence.

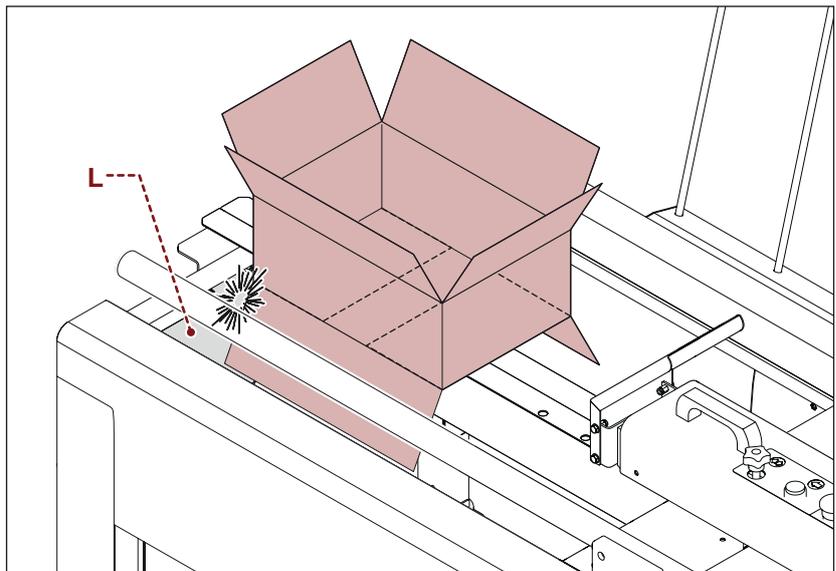
TECHNICAL INFORMATION

3.2. DESCRIPTION OF THE OPERATION CYCLE

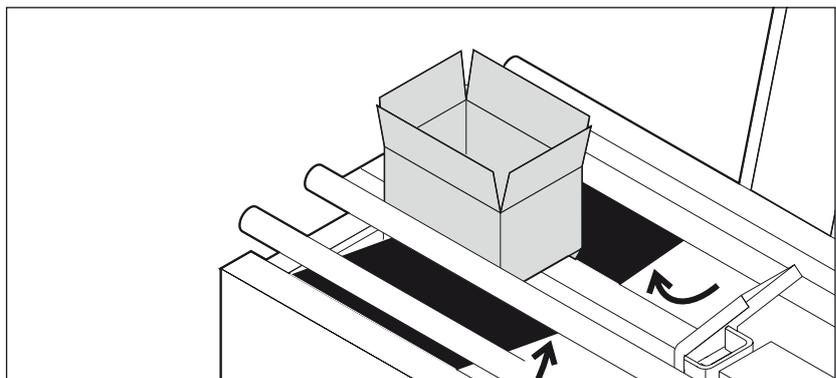
1. Withdraw a carton from the hopper and, keeping it horizontally, let the rear flap lean on the tilted table. When pressing the rear flap on the tilted table, the box contemporaneously begins to rotate so that the top flap leans on the work table. When the top flap leans on the table, always keeping the carton tilted, press downwards until the carton leans on the work table.



2. Direct the box towards outfeed, until it reached the sheet steel sensing panel (L). In this way, the work cycle begins.



3. Close the two bars that block the carton; the two sheet steel panels start and close the side flaps. The operator must keep the carton pressed on the work table. If the flaps are very precise (lengthwise they gaze the central sheet steel panel making closure difficult), the operation can be facilitated by performing slight forward and backward rotations keeping the box pressed on the table.

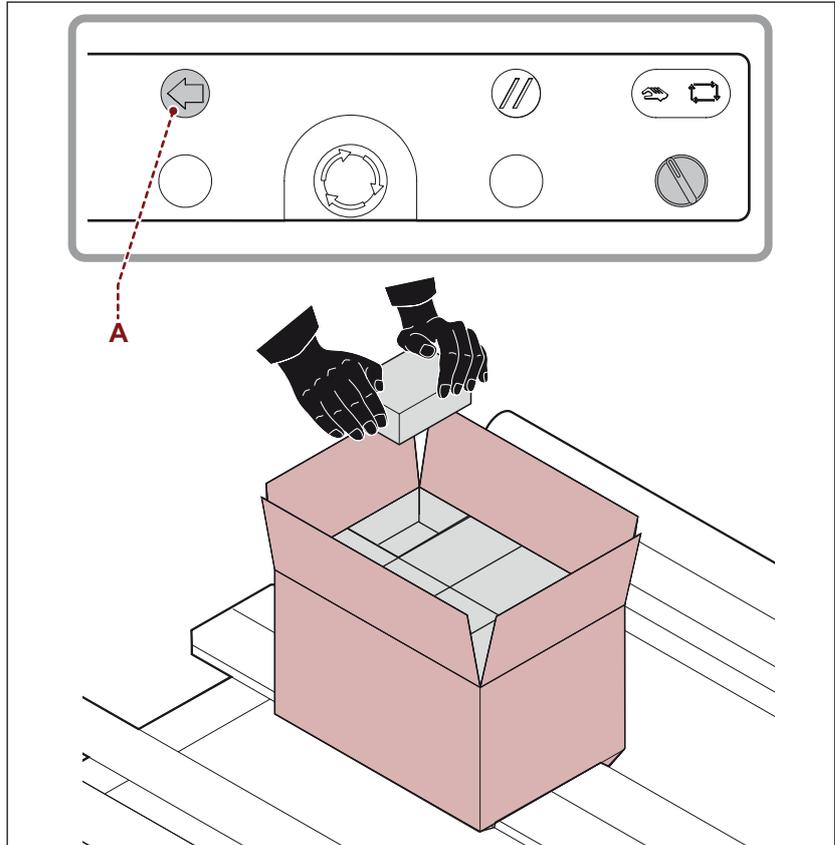


TECHNICAL INFORMATION

4. At this point, according to the position of the operating selector, there are two types of cycles.

– **Manual cycle**

The box remains blocked allowing the operator facilitated filling. Once the filling operation is finished, press the “unload” button” (A) or press the pedal control starting the ejector. The machine completes the cycle and is ready for the next cycle.



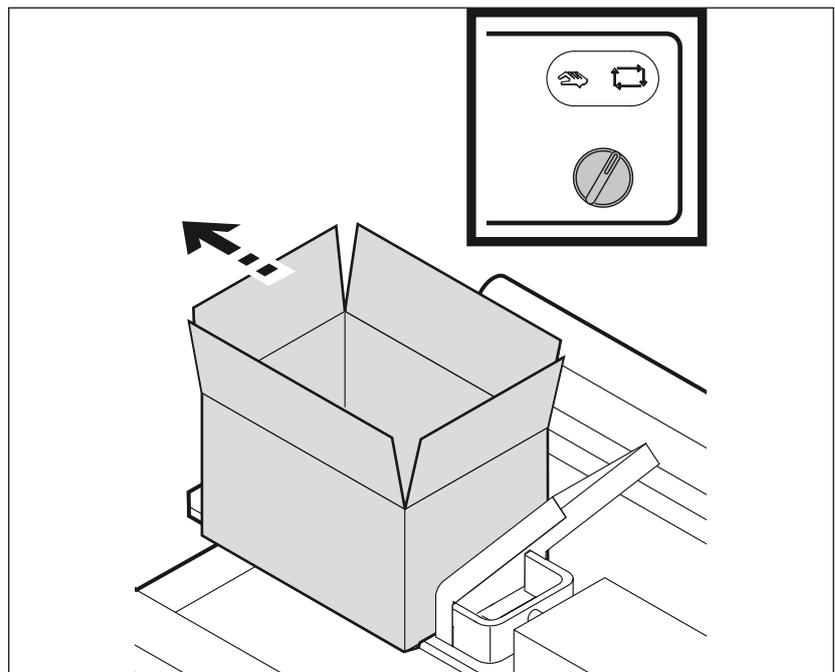
– **Automatic cycle**

Ejection is performed automatically without any further consent.



**Danger
Warning**

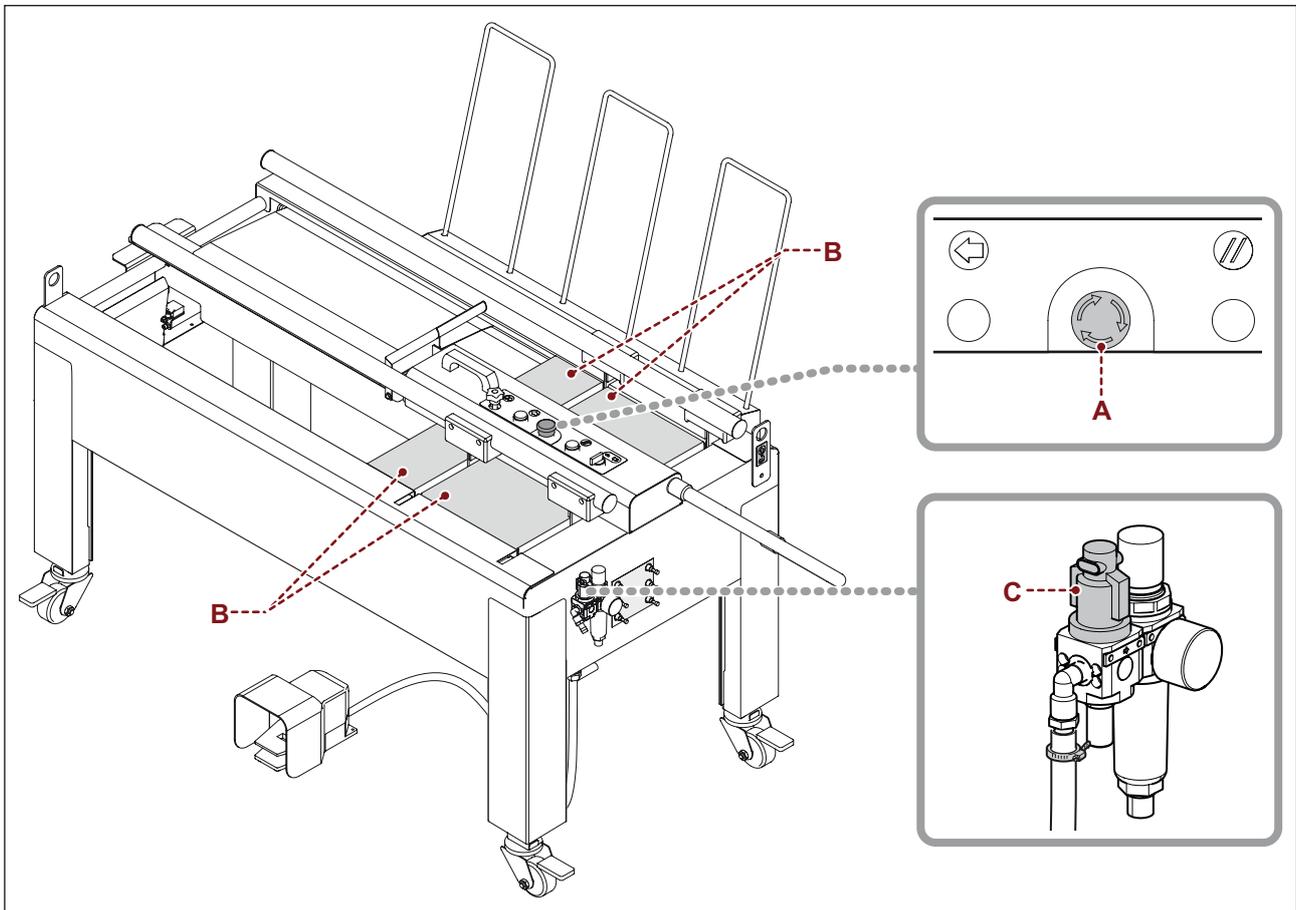
The automatic cycle must be used with a taping machine that closes only the bottom part of the box.



TECHNICAL INFORMATION

3.3. SAFETY DEVICE DESCRIPTIONS

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

**A) Main electrical knife switch (with padlock):**

to activate and deactivate the power supply.

It comes with a padlock to prevent unauthorised personnel from activating the power supply.

B) Emergency button:

the machine stops immediately when this button is pressed in emergency situations.

To reset, rotate the button in the direction indicated by the arrow.

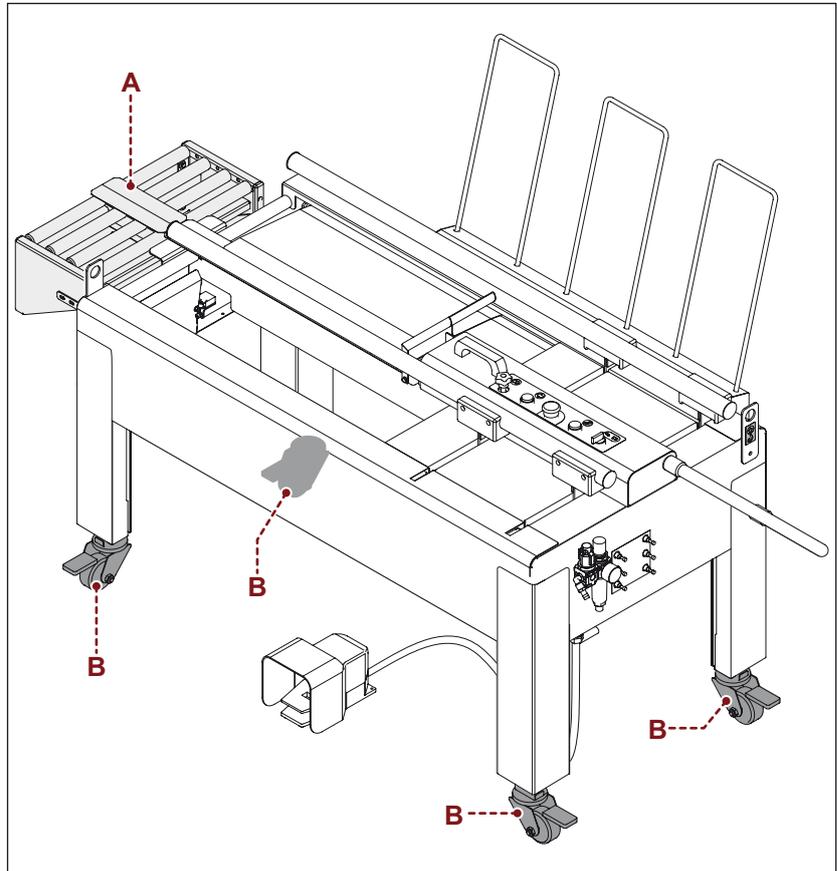
TECHNICAL INFORMATION

3.4. DESCRIPTION OF ACCESSORIES ON REQUEST

To enhance the performance and to increase the versatility of the machine, the manufacturer furnishes the accessories listed below.

A) Product outfeed roller conveyor: Can be connected to the downstream machine, usually a taping machine.

B) Casters.



TECHNICAL INFORMATION

3.5. TECHNICAL SPECIFICATIONS

The figure and table specify the dimensional characteristics and technical data of the machine.

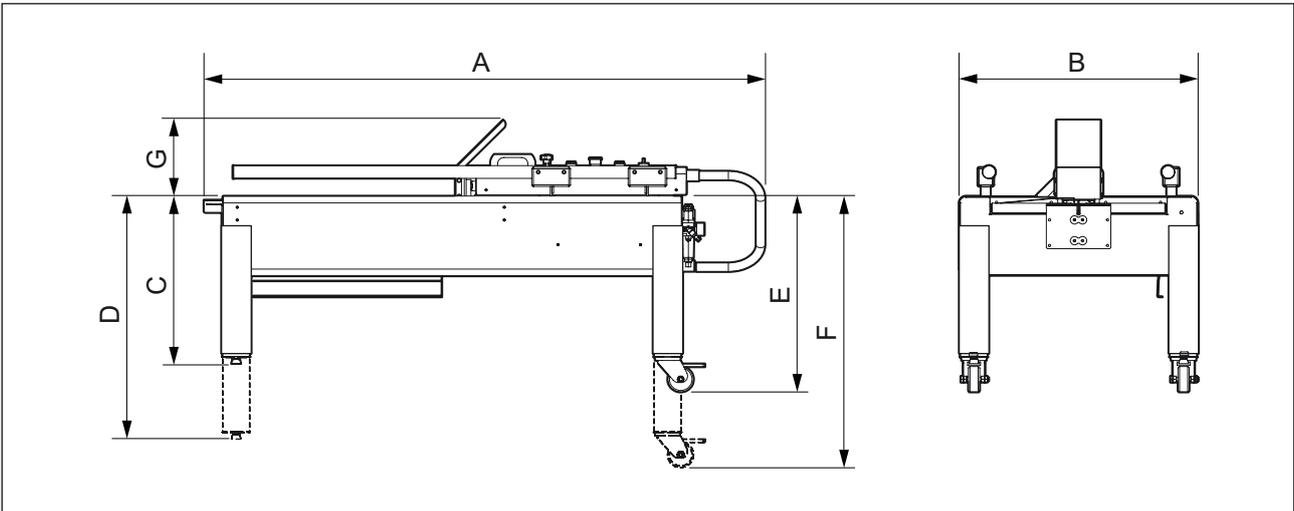


Table 3.1.: Machine dimensions

Machine model	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
STAR BOX 50	1740	740	610	890	700	975	250
STAR BOX 65	1890	890					

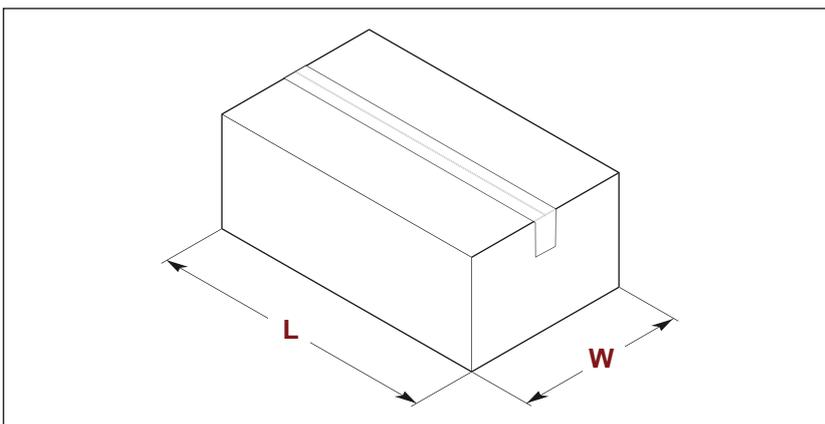


Table 3.2.: Product size.

Description	Machine model	
	STARBOX 50	STARBOX 65
L min.	See taping machine downstream	
L max.	650 mm	800 mm
W min.	230 mm	300 mm
W max	500 mm	650 mm

Note: You can reach minimum measurements in smaller widths (W) with favourable thickness and box creasing, but never less than 160 mm.

TECHNICAL INFORMATION

Table 3.3.: Machine technical specifications

<i>Description</i>	<i>Description</i>	
	<i>STAR BOX 50</i>	<i>STAR BOX 65</i>
Air consumption (NI/cycle)	8.5	9
Operating pressure	6 ± 1 bar	6 ± 1 bar
Total weight	115 kg	120 kg

TECHNICAL INFORMATION

3.6. NOISE LEVEL

The noise levels were measured in compliance with the:

- ISO 4871
- ISO 11201



Important

The noise level can vary according to the type of adhesive tape used.

Surface sound pressure level (**L_{pf}**)= 68,2 dB

Sound power level (**L_{wa}**)=84,5 dB



Caution Warning

Prolonged exposure over 80 dB (A) may cause health problems. The use of appropriate protection systems is recommended (headphones, ear plugs, etc.).

3.7. INSTALLATION ENVIRONMENT CHARACTERISTICS

Careful consideration must be given to the place where the machine is to be installed, in order to ensure that it may be easily operated, without creating any unnecessary risks for personnel. Therefore we suggest the following prerequisites.

- Suitable room temperature.
- A suitably aired place so that when the machine is working, the degree of humidity is not unpleasantly high/low from the point of view of the operator.
- A sufficient lighting in order that a pleasant, relaxing working environment is created for the operator.
- A boundary area that must be left around the machine for safety reasons (See 2.8. "surrounding areas").
- A flat surface, steady and without vibrations with adequate weight supporting capacity, also in consideration of the palletised loads to be wrapped.
- The zone should have a pneumatic energy connection.



Danger Warning

Use of this machine in explosive environments or when exposed to the elements is strictly forbidden.

4.1. RECOMMENDATIONS FOR HANDLING AND LOADING

- Before performing any operation, the authorised operator must make sure that he/she understood the “Instructions for use”.
- Carefully read the “Instructions for use” specified in the manual and those applied directly to the machine and/or the package.
- Provide suitable safety conditions in compliance with the regulations on workplace safety to prevent and minimise the risks.
- Pay attention to the **SAFETY WARNINGS**, do not use the machine for **UNSPECIFIED PURPOSES** and assess the possible **RESIDUAL RISKS**.

4.2. PACKAGING AND UNPACKING

The packing is realised, keeping the overall dimensions low, also in consideration of the transport chosen

To facilitate transport, shipping can be performed with some components disassembled and appropriately protected and packaged

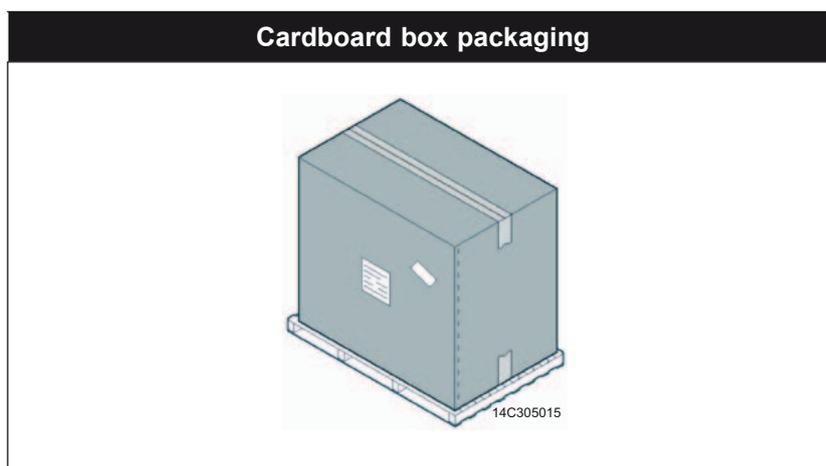
Some parts, especially electric equipment, are protected with anti-moisture nylon covers.

The cases are marked with all necessary information for loading and unloading.

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

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

The figure shows the type of package used.



INFORMATION ON HANDLING AND INSTALLATION OPERATIONS

4.3. TRANSPORT AND HANDLING

Transport, also according to the destination, can be performed by different vehicles.

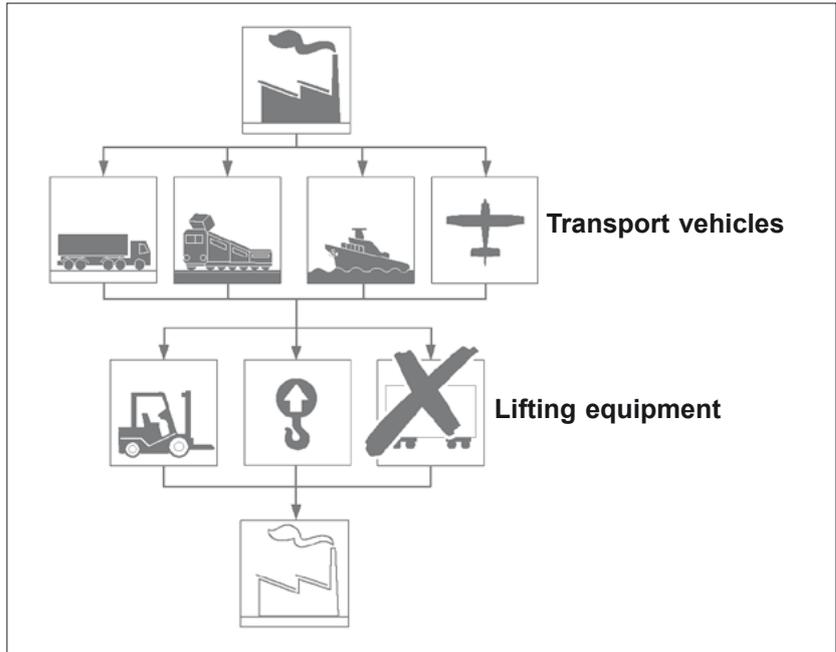
The diagram represents the most popular solutions.

During transport, with the purpose to avoid sudden movements, adequately anchor the machinery to the means of transportation.

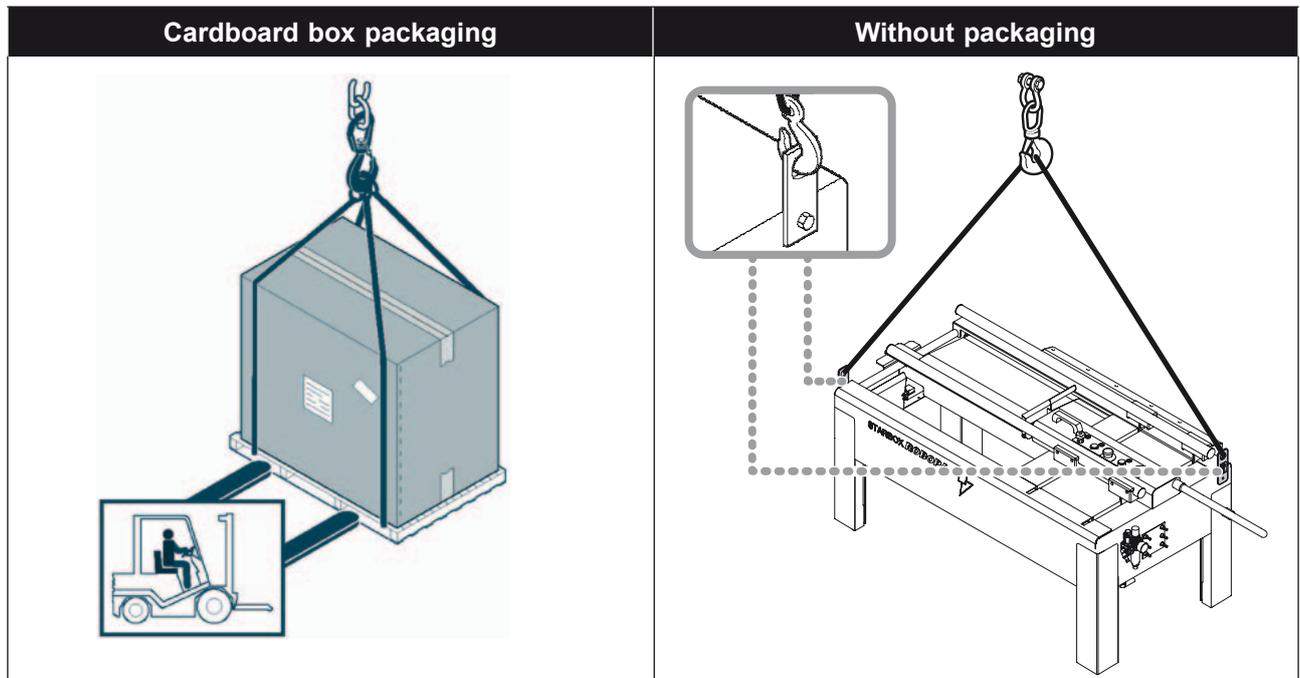
Important
 For further transportation, recreate the initial packaging conditions for transport and handling.

The machine can be handled with a fork or hook lift truck having adequate capacity.

Position a lifting device as indicated in the figure.



Caution Warning
 Before lifting the machine, check for centering position of the load.



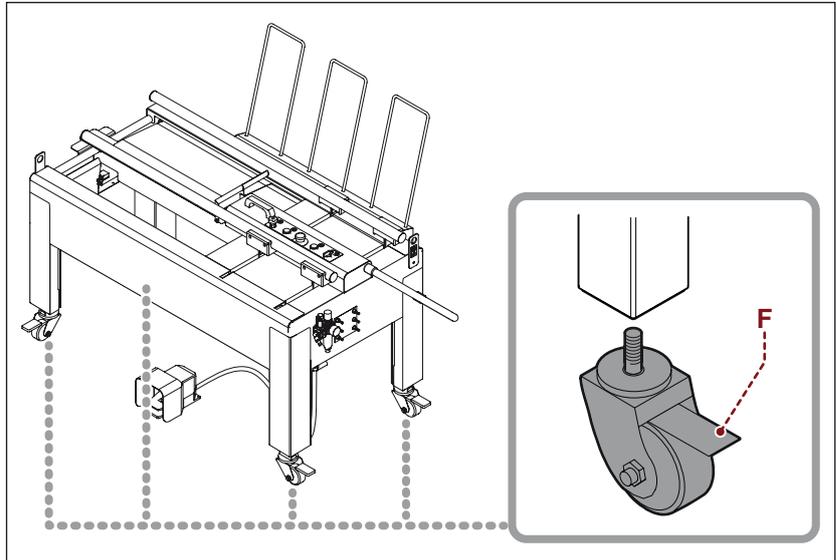
INFORMATION ON HANDLING AND INSTALLATION OPERATIONS

4.4. MACHINE INSTALLATION

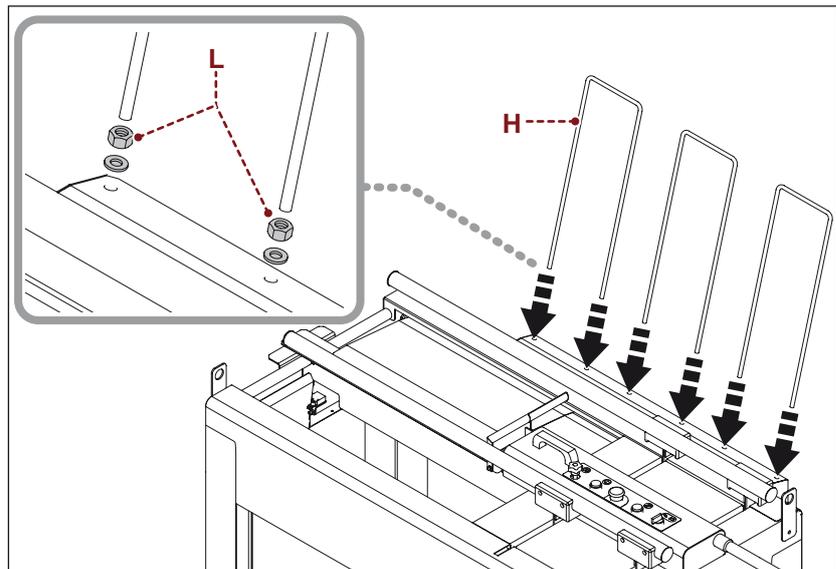
Following are the steps to be taken to install dismantled parts.

Proceed as indicated

1. Lift the machine (See 4.3. "transport and handling").
2. If the machine is equipped with swivel wheels (**F**), screw them onto the feet.



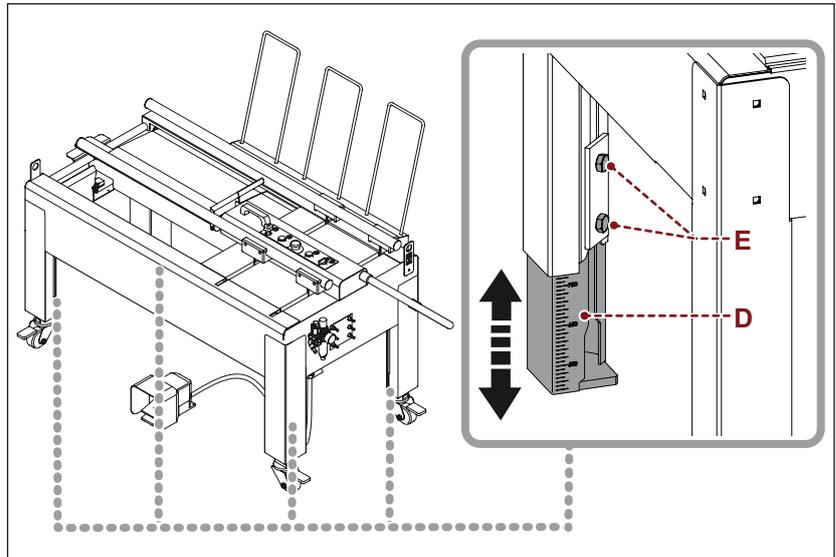
3. Mount the rods (**H**) of the box magazine and fix with the nuts (**L**).



4. If necessary, identify the exact position and trace the co-ordinates to correctly place the machine.

INFORMATION ON HANDLING AND INSTALLATION OPERATIONS

5. Operate screws (E) to move feet (D) and level the machine.

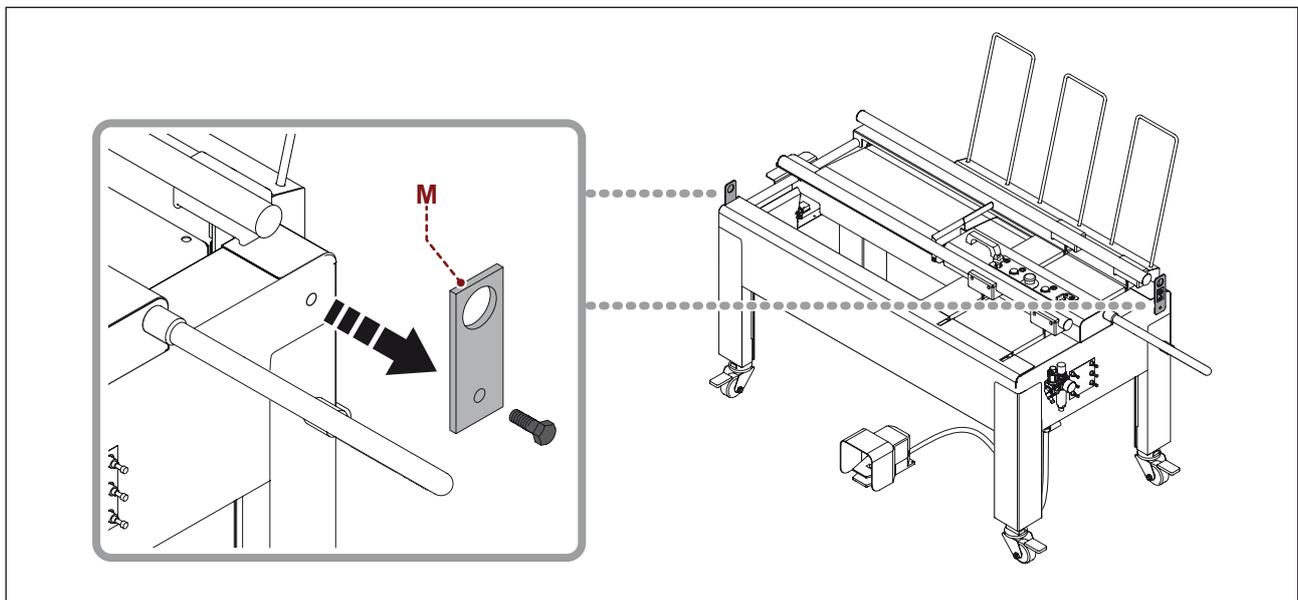


6. Remove the lifting bars (M).

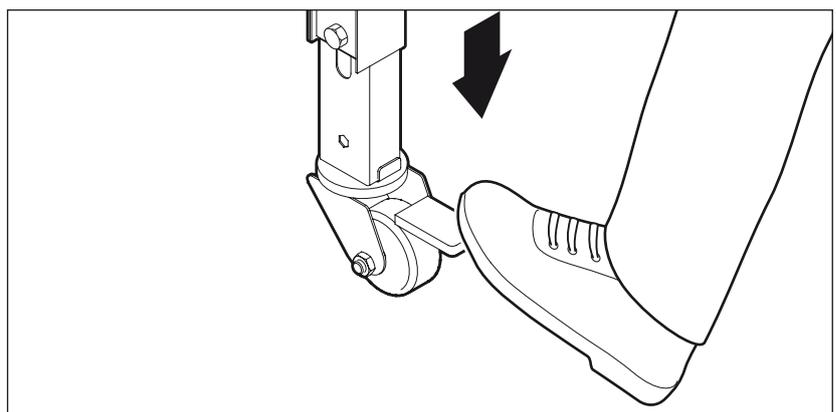


Important

Conserve the bars for the consequent lifting of machine.



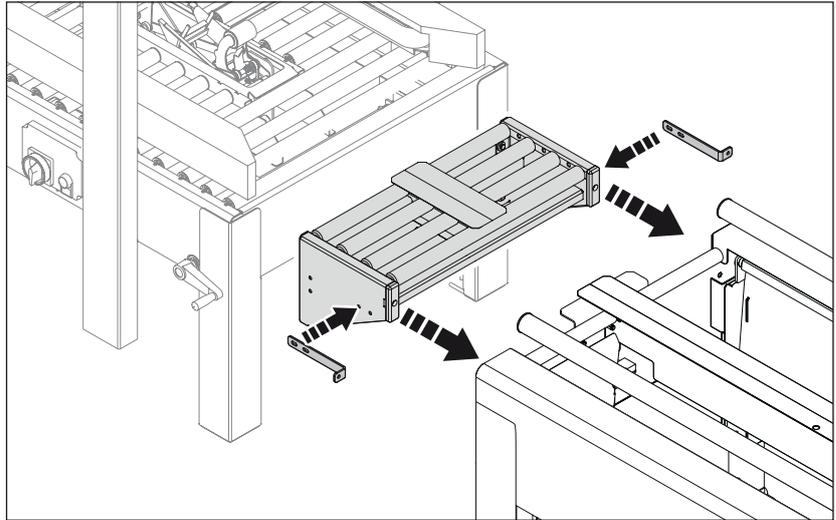
7. If machine is supplied with casters, block them.



4.5. INSTALLATION OF ROLLER CONVEYOR

In the case of a former equipped with idle roller conveyor, use this roller on the taping machine set after the former.

Block it to the machine with proper bars.



4.6. RECOMMENDATIONS FOR CONNECTIONS



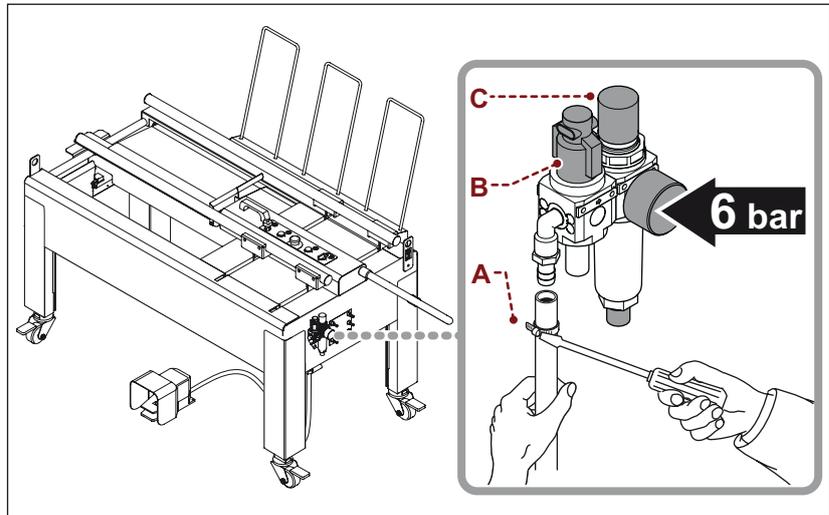
Important

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

4.7. PNEUMATIC CONNECTIONS

Proceed as indicated.

- Insert a flexible tube on the end of the rubber fitting and fasten it with a metallic screw clamp **(A)**.
- Check that the valve **(B)** is in the "OPEN" position.
- Turn on the power supply line.
- Check that the pressure gauge indicates **6 bar** and use the knob **(C)** to compensate any pressure differences. Repeat this operation when the machine is running.



INFORMATION ON ADJUSTMENTS

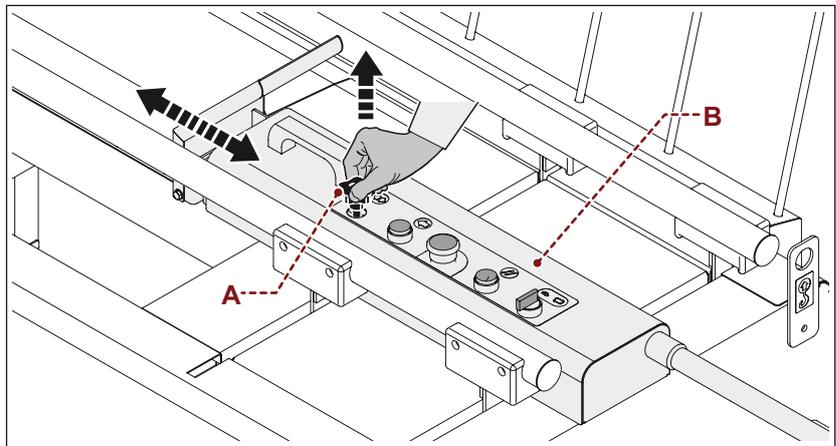
5.1. RECOMMENDATIONS FOR ADJUSTMENTS

- Before performing any operation, the authorised operator must make sure that he/she understood the “Instructions for use”.
- Before carrying out any intervention, activate all the safety devices provided, stop the machine and assess if any residual energy is still present.
- Provide suitable safety conditions in compliance with the regulations on workplace safety to prevent and minimise the risks.
- Pay attention to the safety warnings, do not use the machine for unspecified purposes and assess the possible.

INFORMATION ON ADJUSTMENTS

5.2. EJECTOR STROKE ADJUSTMENT

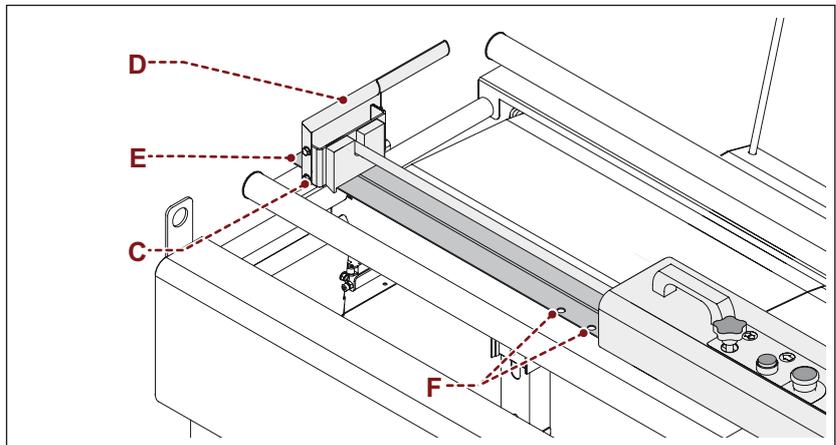
Ejector's position is adjustable by lifting knob **(A)** and moving the ejector **(B)** in the different positions; these positions depend from the box's length.



Caution
Warning

In the event the former is used without an idle roller, do not use the last holes **(F)** on the sheet in order to avoid operating problems.

With ejector totally out, guide-shoe **(C)** on sheet steel plate **(D)** must remain leaning on guide **(E)**.



INFORMATION ON ADJUSTMENTS

5.3. ADJUSTING THE CHAIN FOR MOVING THE FLAP-CLOSING SHEETS

Proceed as indicated.

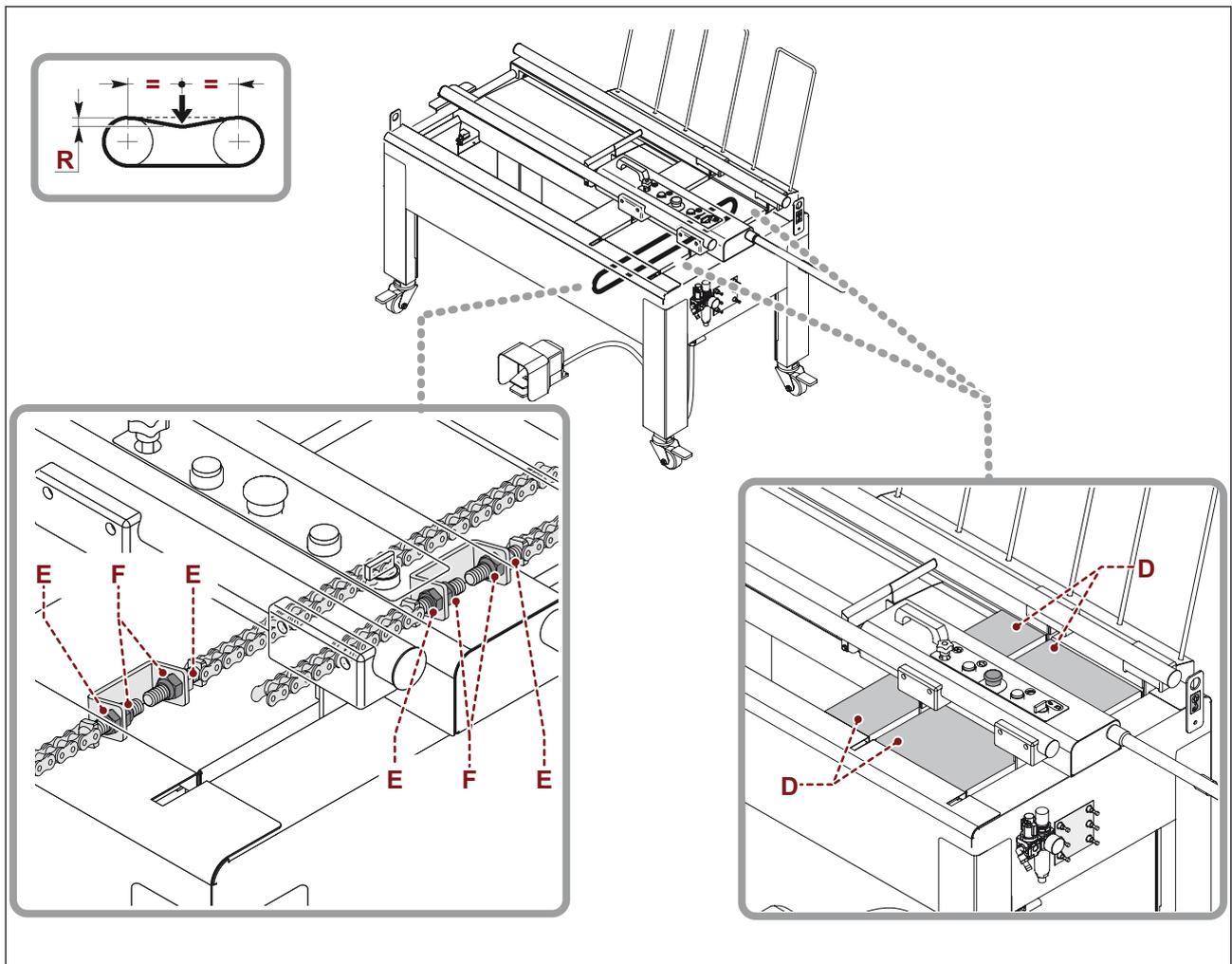
1. Deactivate the main pneumatic cut-off switch to put the machine in safety conditions.
2. Dismantle the fixed protections (D).
3. Loosen the nuts (E).
4. Operate nuts (F) to adjust chain tension.
5. Tighten the nuts (E).

 Important

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

 Caution Warning

Before re-starting the machine, check that no tools or other equipment has been left near the moving parts.



ABOUT THE USE

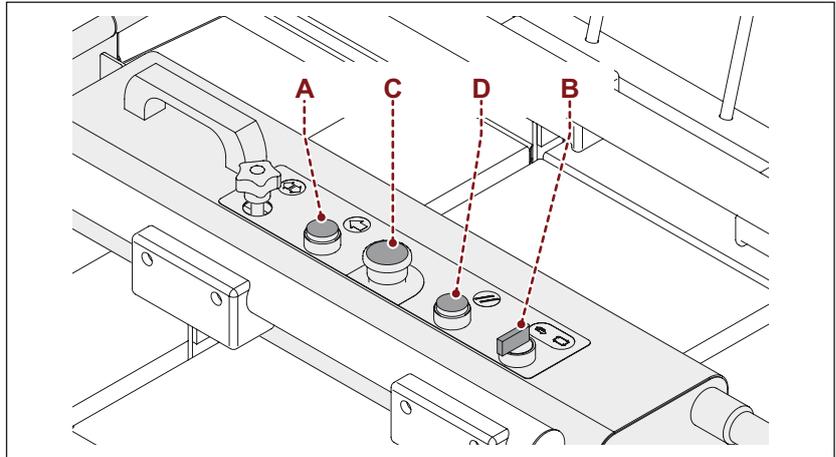
6.1. RECOMMENDATIONS FOR OPERATION AND USE

- Before performing any operation, the operator must make sure that he/she understood the “Instructions for use”.
- When using the machine for the first time, the operator must read the manual and identify the controls and simulate some operations, especially the start-up and shutdown.
- Check that all safety devices are installed correctly and in good working order.
- Only implement the uses intended by the manufacturer and do not tamper with any device to obtain performances different from the intended ones.

ABOUT THE USE

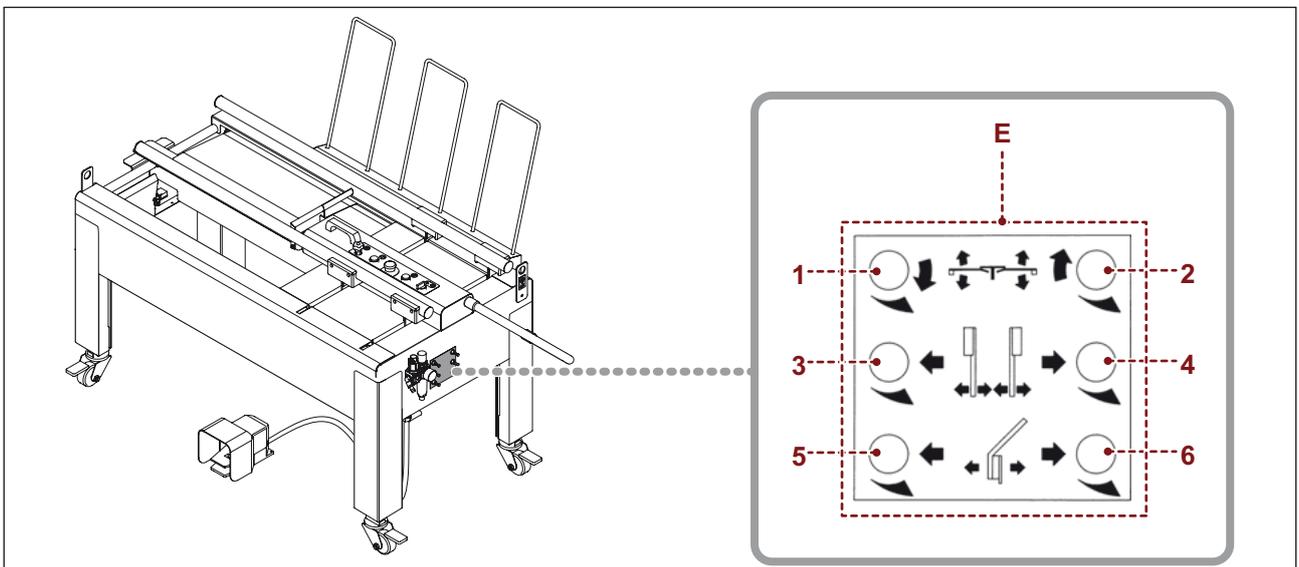
6.2. DESCRIPTION DEVICES AND PNEUMATIC CONTROLS

- A) Outfeed start button**
Press to activate outfeed and allow box exit.
- B) Cycle selector**
Select the operating mode.
 -  Automatic cycle
 -  Manual cycle
- C) Emergency button**
With button on, the two sheet steel flap folders return to the start position and the ejector returns to the initial stroke.



The button is mechanically bound; to reset, turn the knob in the direction indicated by the arrow found on the button.

- D) Repositioning button**
Button must be pressed to bring into the cycle start position the various machine components.
- E) Work speed regulators**
The individual speeds of the flap folding sheet steel panels, of the guide bars and of the ejector are adjusted at testing by the servicing personnel; however, some adjustments might be necessary due to wear.
 - 1 - 2 Adjustors**
They adjust the upward and downward speed of the flap folding sheet steel panels.
 - 3 - 4 Adjustors**
They adjust the guide bars' speed.
 - 5 - 6 Adjustors**
They adjust the outfeed speed forward and backward.

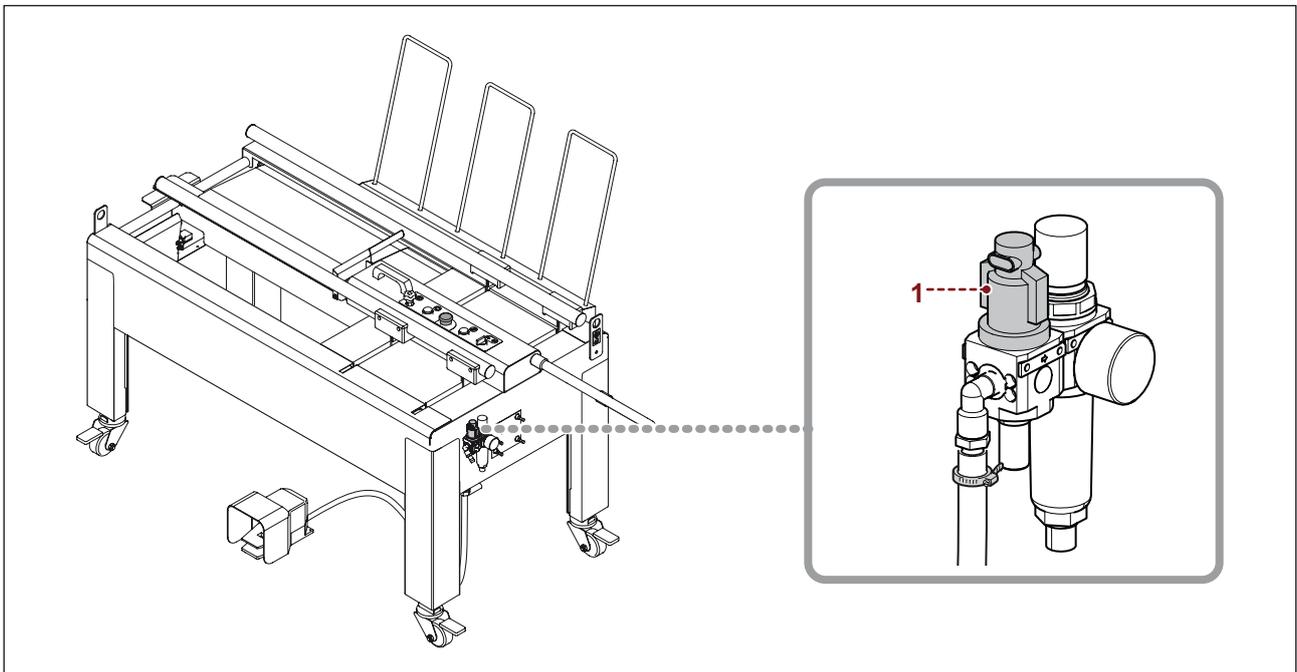


ABOUT THE USE

6.3. SWITCHING THE MACHINE ON AND OFF

Proceed as indicated.

- Rotate main inlet **(1)** on **I** to power pneumatic circuit.
- Rotate main inlet on **0** to close pneumatic circuit and stop machine, eventually locking the inlet.



6.4. EMERGENCY STOP AND RESTART

- Press the EMERGENCY button.
Machine operation stops immediately.
- After having normalized the working conditions, unblock the emergency stop button to allow machine operation.
- For the consequent restart, simply insert a new carton in the machine.

MAINTENANCE INFORMATION

7.1. MAINTENANCE INSTRUCTIONS

- A good maintenance will allow for a longer working life and constant compliance with the safety requirements.
- Before performing any operation, the authorised operator must make sure that he/she understood the “Instructions for use”.
- Pay attention to the **SAFETY WARNINGS**, do not use the machine for **UNSPECIFIED PURPOSES** and assess the possible **RESIDUAL RISKS**.
- Carry out the interventions with all the safety devices enabled and wear the DPI provided.
- Mark the intervention area and prevent access to the devices that, if activated, may cause unexpected hazards and jeopardize the safety level.
- **DO NOT** carry out any intervention that is not described in the manual but contact an Assistance Service authorised by the manufacturer.
- **DO NOT** dump in the environment materials, pollutant liquids and the residues created during the interventions but dispose them according to the standards in force.
- Before carrying out any maintenance work, turn off the electric power supply.

MAINTENANCE INFORMATION

7.2. MAINTENANCE PERIOD TABLE**Important**

Keep the machinery in maximum efficiency condition and perform all the scheduled maintenance operations provided for by the manufacturer.

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

Table 7.1.: Maintenance period

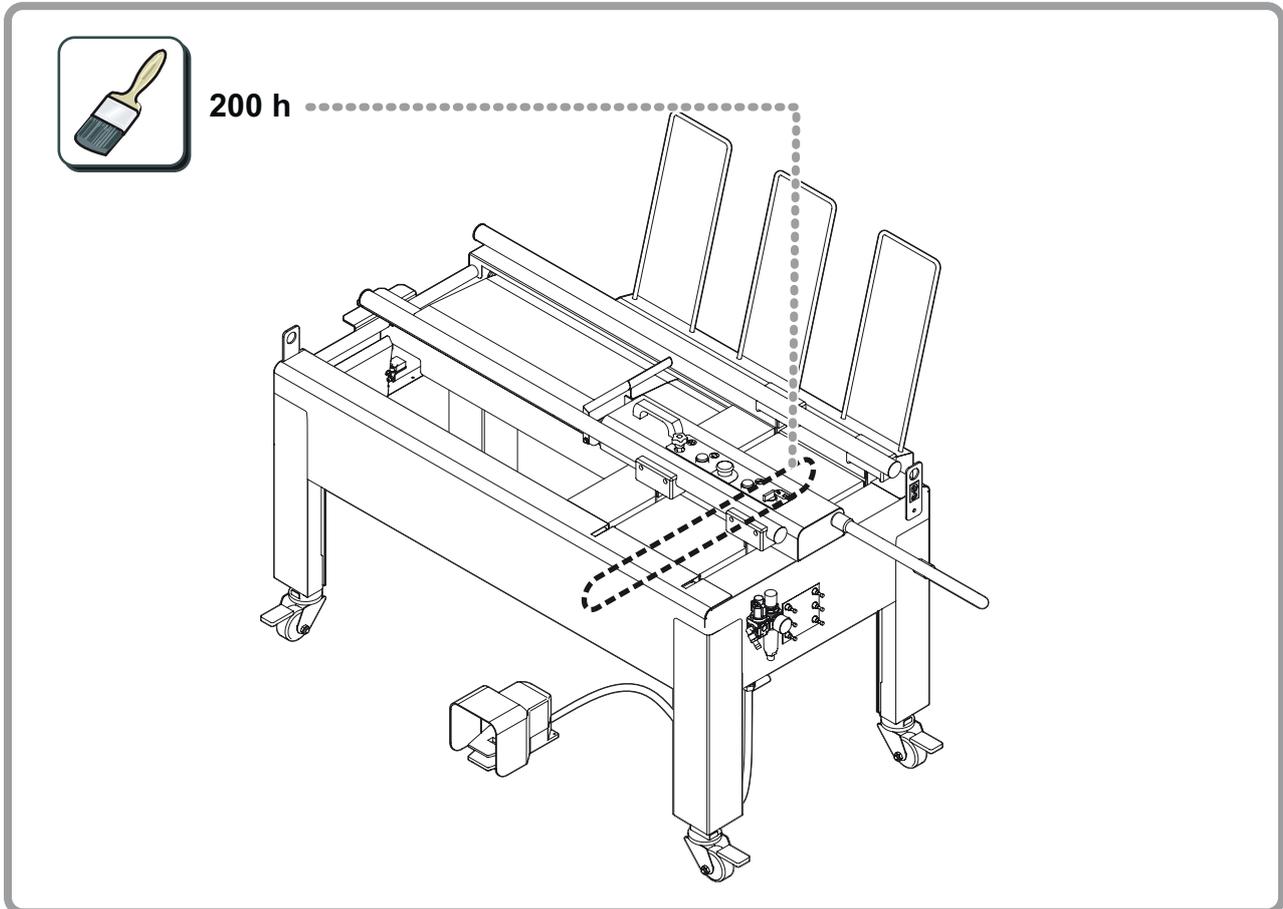
<i>Frequency</i>	<i>Component</i>	<i>Type of intervention</i>	<i>Procedure</i>	<i>Reference</i>
Every 8 hours	Machine	General inspection	Clean with a cloth of air jet	
	Reducer filter	Condensation control	Condensation discharging.	See 7.5. "Condensate drainage"
Every 200 hours	Reducer filter	Cleanliness	Clean with a blast of air and alcohol	See 7.6. "cleaning air filter"
	Safety devices	Efficiency control	Replace the damaged components	
	Slide guides	General inspection	Cleaning and lubrication (*)	See 7.3. "Lubrication point diagram"
	Shifting chains	General inspection	Cleaning and lubrication (*)	See 7.3. "Lubrication point diagram"
Every 2000 hours	Chain for moving the flap-closing sheets	General inspection	Cleaning and lubrication (*)	See 7.3. "Lubrication point diagram"

(*) Chains and sliding guides can be reached from the bottom part of the machine.

MAINTENANCE INFORMATION

7.3. LUBRICATION POINT DIAGRAM

The following diagram shows the main components and the frequency of the lubrication interventions.



Symbol and Description

	Smear with grease.	
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Keep to the recommended lubrication frequency to get top machine performances and a longer operating life.

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

MAINTENANCE INFORMATION

7.4. LUBRICANTS TABLE**Table 7.2.:** Lubricant specifications.

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

**Important**

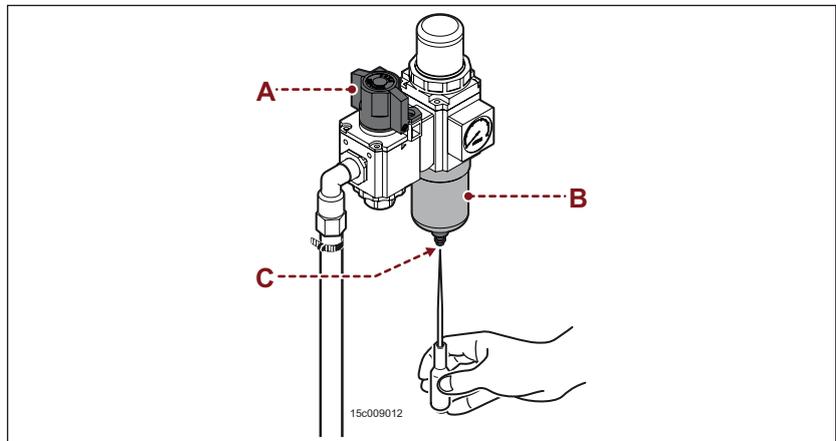
Do not mix oils of different makes and specifications.

MAINTENANCE INFORMATION

7.5. CONDENSATE DISCHARGE

Proceed as indicated.

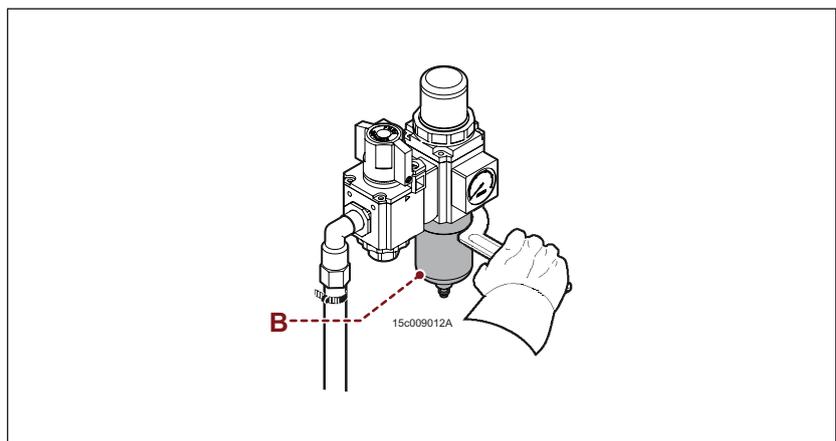
- Close the tap **(A)** and control the level of condensation in the container **(B)**.
- Push the valve **(C)** up until all condensation is removed.



7.6. CLEANING THE AIR FILTER

Proceed as indicated.

- Loosen the cup **(B)** with the specific key.
- Detach the filter and clean with compressed air and wash, if necessary with petrol or trichloroethylene.
- Reassemble the filter and tighten the container **(B)**.



TROUBLESHOOTING

8.1. TROUBLES – CAUSES – REMEDIES

The troubleshooting table lists the problems, the possible causes and solutions.

Table 8.1.: List of problems.

<i>Problem</i>	<i>Cause</i>	<i>Remedy</i>
The main drawbacks are principally related to the some of the pneumatic parts breaking.	Breakage or malfunction of pneumatic components.	Have an expert technician check, with the help of the pneumatic diagram, the component(s) to be replaced.

SPARE PARTS REPLACEMENT INFORMATION

9.1. RECOMMENDATIONS FOR REPLACING PARTS

- Before performing any operation, the authorised operator must make sure that he/she understood the “Instructions for use”.
- Carry out the interventions with all the safety devices enabled and wear the DPI provided.
- Delimitate the work area complying with the safety conditions as provided by the standards on workplace safety in order to minimise the risks.
- Do not carry out any intervention that is not described in the manual but contact an assistance service authorised by the manufacturer.
- Do not dump in the environment materials, pollutant liquids and the residues created during the interventions but dispose them according to the standards in force.
- Replace the components only with original spare parts or with similar design and functional features.
- The use of similar but non-original spare parts may lead to improper repairs, altered performance and economic damage.
- The components and/or safety devices shall be replaced only with original spare parts to avoid altering the provided safety level.

SPARE PARTS REPLACEMENT INFORMATION

9.2. REPLACING THE CHAIN FOR MOVING THE FLAP-CLOSING SHEETS

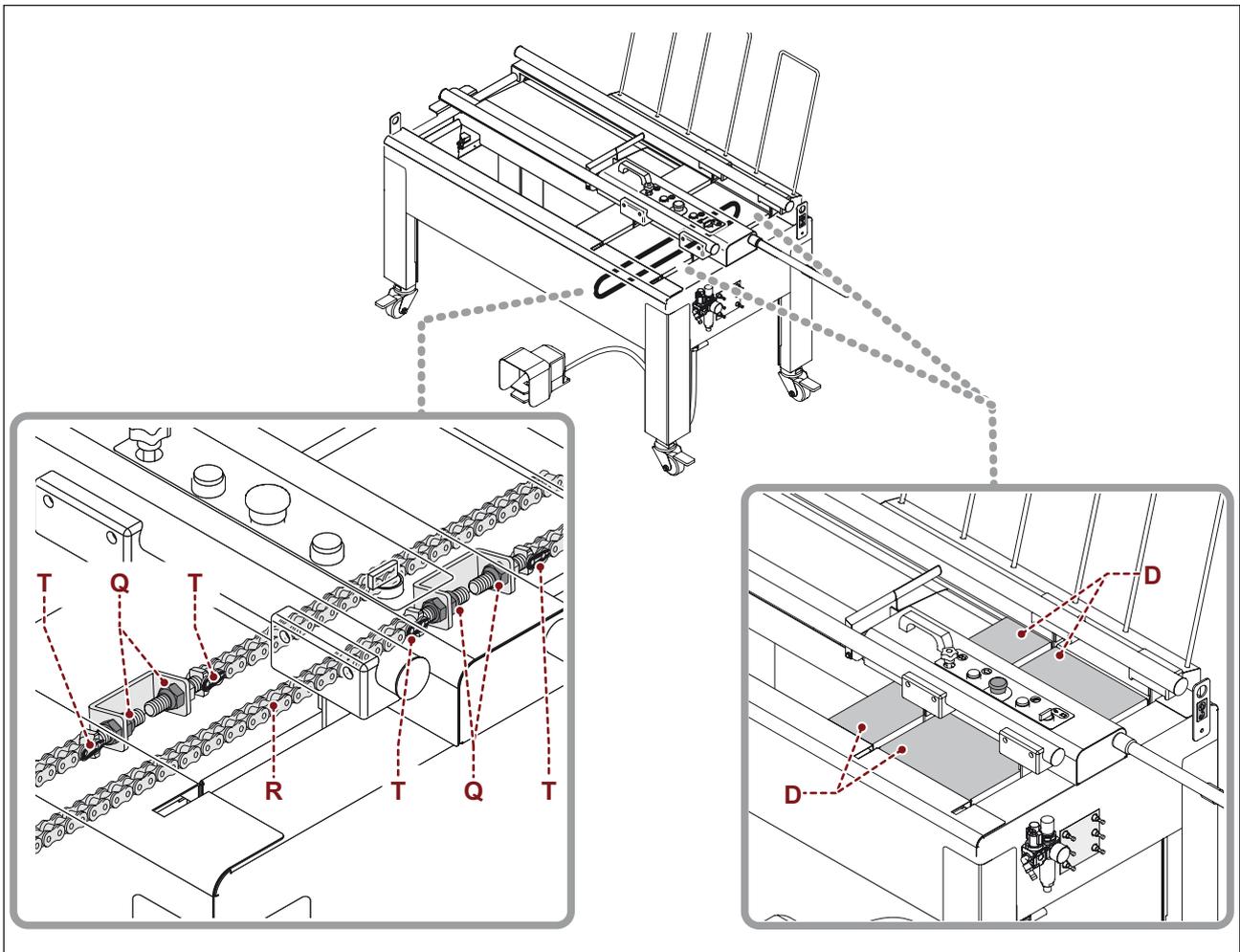
Proceed as indicated.

1. Deactivate the main pneumatic cut-off switch to stop the machine safely.
2. Dismantle the fixed protections (D).
3. Unscrew the nuts (Q) to loosen chains (R) completely.
4. Remove the chain links (T) and remove chains (R).
5. Install the new chains and lock them with the chain links.
6. Adjust chain tension (See 5.3. "Adjusting the chain for moving the flap-closing sheets").
7. Restart the machine and check that it functions correctly.



**Caution
Warning**

Before re-starting the machine, check that no tools or other equipment has been left near the moving parts.



SPARE PARTS REPLACEMENT INFORMATION

9.3. LIST OF THE RECOMMENDED SPARE PARTS

List of the spare parts of easy wear and of which it would be necessary to have available to avoid long operation stops of the machine.

For ordering, contact your local Dealer and refer to the spare parts catalogue.

- No. 1 pneumatic valve for cycle start.



Important

Substitute the parts that are worn with genuine spare parts. Use the oils and greases specified in the manual. All these measures may guarantee the expected operating and safety level of the machine.

9.4. MACHINE DISPOSAL AND SCRAPING

Taking the machinery out of service

- Disconnect the supplies to the machine (electrical, pneumatic, Etc...) so that it cannot be restarted and position it in a place not easy to access..
- Empty in ad adequate way the systems containing damaging substances and do it in accordance with the current laws in force at workplaces and those regulating environmental protection.

Machine scrapping

- Scrapping must be entrusted to authorized centres having the adequate skills and equipment to operate in safety conditions.
- Those who carry out the scrapping must locate the possible residual energies and implement a "safety plan" with the purpose of eliminating unexpected residual risks.
- The components must be selected depending on the chemical and physical characteristics of the materials and disposed of in a differentiated way, as per current regulations.
- Empty in ad adequate way the systems containing damaging substances and do it in accordance with the current laws in force at workplaces and those regulating environmental protection.

ENCLOSED DOCUMENTATION

10.1. WARRANTY CONDITIONS

ROBOPAC S.p.A. pledges, within the limits described herein, to replace or repair, at no charge, the parts that become defective during the 12 (twelve) months following the date indicated on the company's shipping documents.

To utilise the warranty, the user must immediately notify the company that a defect exists, always referring to the machine serial number.

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

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

ROBOPAC S.p.A. will never be held responsible for any losses due to lack of production or injuries to persons or damage to things caused by malfunctions or forced suspension in using the machine covered by the warranty.

The warranty does not cover:

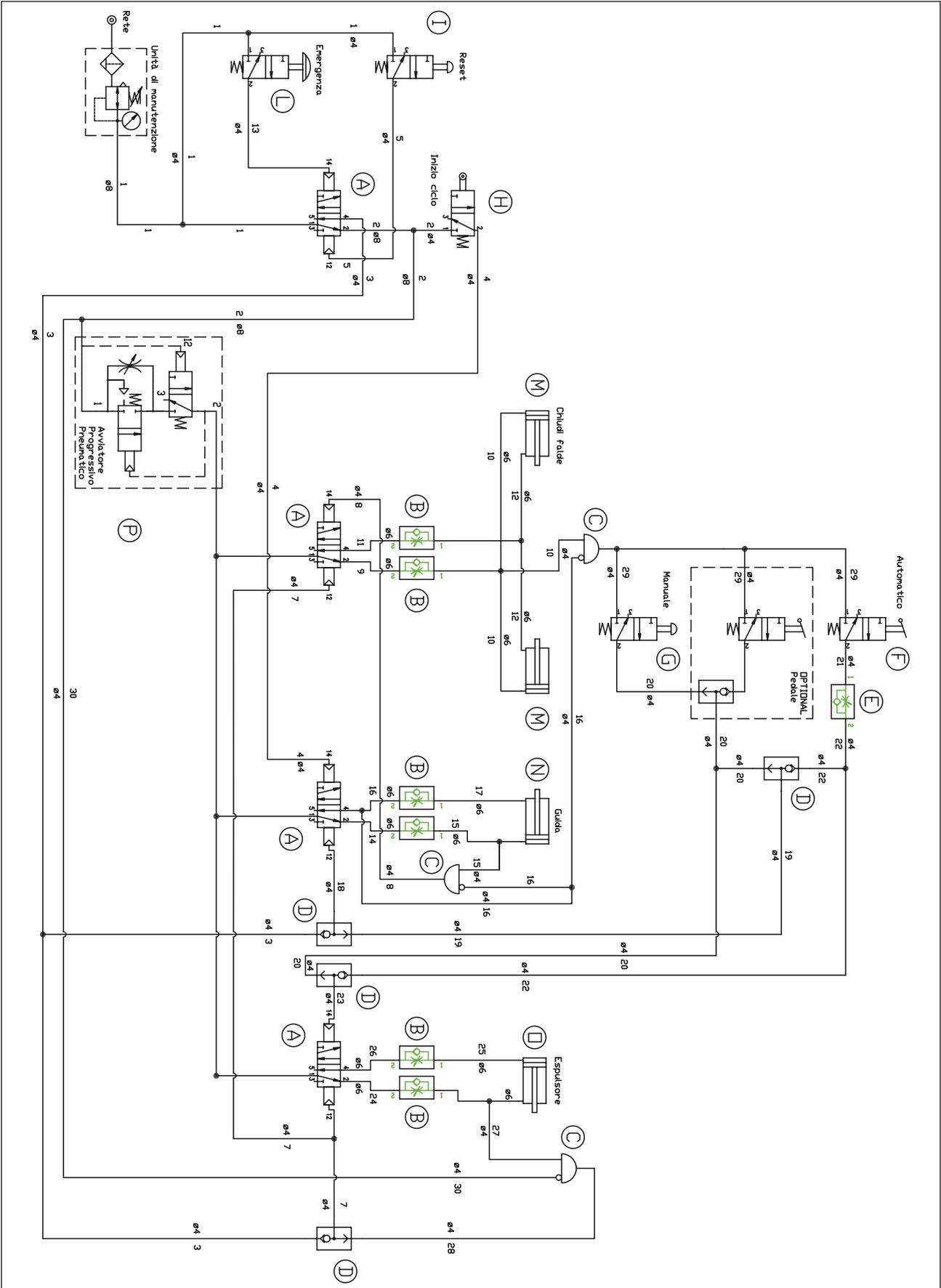
- damage caused by transport;
- damage due to incorrect installation;
- improper use of the machine or negligence;
- tampering or repairs by unauthorised personnel;
- lack of maintenance;
- parts subject to normal wear and tear.

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

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

Concerning any adjustments to standards of the country in which the machine is installed, the user will be fully responsible for the changes made, releasing ROBOPAC S.p.A. from any obligation and /or liability relative to any claims that may be submitted by third parties due to non-compliance with the referenced standards.

10.2. PNEUMATIC SYSTEM



ENCLOSED DOCUMENTATION

- A) Toggle valve.
- B) Unidirectional flux regulator.
- C) Automatic end stop.
- D) Selector valve.
- E) Unidirectional flux regulator.
- F) Monostable valve.
- G) Monostable valve.
- H) Roller end stop.
- I) Monostable valve.
- L) Monostable valve.
- M) Cylinder.
- N) Cylinder.
- O) Cylinder.
- P) Pneumatic soft starter.