



USE AND MAINTENANCE INSTRUCTION HANDBOOK

Ironer Folder Model IR/IQ/IF Series

IR - IQ



IF





When modifications at the present document are carried out by the manufacturer, the customer must ensure that only the received revised version of the manual is available at workstations.



OFFICIAL LANGUAGE CHOSEN BY THE MANUFACTURER IS ENGLISH
The manufacturer disclaims responsibility for incorrect translations in other languages.

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0 INTRODUCTION

1 DEFINITIONS

MANUFACTURER or BUILDER or PRODUCER any natural or legal person who designs and/or manufactures machinery or partly completed machinery covered by this Directive and is responsible for the conformity of the machinery or the partly completed machinery with this Directive with a view to its being placed on the market, under his own name or trademark or for his own use. In the absence of a manufacturer as defined above, any natural or legal person who places on the market or puts into service machinery or partly completed machinery covered by this Directive or has put his plate or other identified sign and/or presents himself as manufacturer or producer of the machine shall be considered a manufacturer.

PLACING ON THE MARKET making available for the first time in the Community machinery or partly completed machinery with a view to distribution or use.

PUTTING INTO SERVICE the first use, for its intended purpose, in the Community, of machinery covered by this Directive.

SAFETY COMPONENT a component:

- which serves to fulfill a safety function,
- which is independently placed on the market,
- the failure and/or malfunction of which endangers the safety of persons, and
- which is not necessary in order for the machinery to function, or for which normal components may be substituted in order for the machinery to function.

HAZARD a potential source of injury or damage to health.

DANGER ZONE any zone within and/or around machinery in which a person is subject to a risk to his health or safety.

EXPOSED PERSON any person wholly or partially in a danger zone.

OPERATOR the person or persons installing, operating, adjusting, maintaining, cleaning, repairing or moving machinery.

RISK a combination of the probability and the degree of an injury or damage to health that can arise in a hazardous situation.

GUARD a part of the machinery used specifically to provide protection by means of a physical barrier.

PROTECTIVE DEVICE a device (other than a guard) which reduces the risk, either alone or in conjunction with a guard.

INTENDED USE the use of machinery in accordance with the information provided in the instructions for use.

MISUSE the use of machinery in a way not intended in the instructions for use

RESIDUAL RISKS Remaining risk, despite the inherent safe design measures safeguarding and complementary protective measures adopted.

MACHINE If not specified in different way, it is in brief form the complete machine object of this manual; if the object of this manual is instead a machine to be completed or to be assembled in another machine or in a production lane or in a plant, this is called "**PARTLY COMPLETED MACHINE**" (following the definitions of the directive 2006/42/CE) In any case the contest will view the mean where make a distinction would be needed.

MAINTENANCE If not specified in different way, is either the ordinary maintenance either the extraordinary one (repair).

RESELLER If not specified in different way, he is either the authorized reseller either not authorized one, which is also the responsible of the warranty application to the final Customer.

The intended use expressly indicated by the manufacturer in this manual is the only one for which the warranty is valid and for which all the safety measures and correct and safe working ways have been studied. For any other different use from which indicate by the manufacturer in this manual, also if imposed by public authorities, each warranty falls and the manufacturer declines each responsibility.

2 PURPOSE OF USE AND MAINTENANCE INSTRUCTION HANDBOOK

The present handbook has been prepared in order to give the user some general information about the machine and instructions for a safe use.

The present handbook is integral part of the machine and provides all the instructions. By way of example but not limited to

- safe handling of the packed and unpacked machine;
- correct installation of the machine;
- knowing technical specifications of the machine;
- knowing exhaustively machine functioning and its limits;
- skills and specific training requirements for operators and maintainers;
- exhaustively knowing the intended, not intended and not permitted uses;
- correct and safe use of the machine;
- enabling repair and maintenance to be carried out safely;
- technical support and spare parts service;
- disposal of waste produced by the machine;
- safe dismantling of the machine in respect of current regulations for workers and environmental health protection.

This document requires that, in facilities where the machine is installed, all health and safety regulations are respected.



The authorized person in charge is obliged to read carefully the operation and maintenance instruction handbook. The person in charge must ensure also that operators, ordinary and extraordinary maintainers included, read the document.

Instructions, documentation and drawings contained in this document are confidential and property of the manufacturer. Therefore any duplication without prior permission of the manufacturer, either partial or total, except for the purposes for which it has been produced, is forbidden.

The manufacturer declines each responsibility for any damage (direct and/or indirect to persons and/or things) resulting from uncorrect use and/or maintenance of the machine.

The electrical diagrams and any other document together with the product are integral part of this manual and, then, have to be conserved and read with maximum diligence.



ATTENTION ! Do not use the machine before have read, understand and memorie each part of this manual, also all the warnings and/or all the signes on the machine and any add and correction and each other information, instruction, explanation that the manufacturer, in written way (e-mail, fax, website or letter) will give you.



ATTENTION ! Do not use the machine ever in different way from one indicated in this manual and/or in the warnings and/or pictograms located on the machine because this uncorrect use could cause dangers for the safety of the persons and for the integrity of the things near.

The manufacturer and the reseller of the machine aren't responsible in any way for any consequence of conduct not in compliance with those indicated in this manual and/or in the warnings and/or pictograms on the machine.

The missing respect of the indicated instructions and/or pictograms of this manual cancels any warranty form either implicit either explicit.



ATTENTION ! Do not modify in any way (neither minimum) the machine in any its part and remind that each change:
constitutes violation of the in force legislation on the safety of the job and can assume serious penal importance on who has performed is, both on who has ordered it;
cancels every form of guarantee both explicit and implicit;
exonerates the Builder and the retailer of the machine from every responsibility about any direct consequence indirect e/o of the done changes.



ATTENTION ! Don't tamper neither modify none of the devices of the machine, since

all the devices both those generic and those specific for the safety, are directly or indirectly necessary to Your safety.



ATTENTION ! Any employment of the machine not expressly allowed in this manual is forbidden and heralding of risks, and, for so much, it is in contrast with the in force dispositions of law on the safety of the job and determines proper responsibility both for the one who orders it and for the one who performs it.



ATTENTION ! Despite many safety measures have been provided, in general dangers not totally reducible through the planning and the techniques of protection, exist; such dangers are denominated not eliminable residual risks and as evident potential dangers are present not: so it is obligatory to read carefully and to understand the manual present and all the instructions and the pictograms set on the machine meticulously respecting all the furnished prescriptions without any exclusion.

3 INTENDED AUDIENCE

The handbook is addressed to machine installer, operator/user and skilled personnel for machine use and maintenance.

The machine is only for professional use, therefore its use is limited to qualified personnel, technical experts, with the following features:

- age of majority and if women, it isn't in pregnant at any phase;
- physically and psychologically fit to carry out difficult technical activities;
- properly trained on use and maintenance of the machine;
- considered by the employer able to carry out the assigned activity;
- able to comprehend the operator's manual and safety prescriptions;
- aware of emergency procedures and their implementation;
- comprehension of operation procedures defined by the manufacturer.

In particular, it is forbidden to use the machine to the holders of impairments and / or debilitation temporary and / or permanent physical and / or psychological because the machine is designed only for use with people in possession of all the common skills psychophysical.

People with particular states of fatigue and / or weakness, although not dependent declared illness and / or certified, must be considered not in possession of all the common physical and psychological qualities necessary for the safe use of the machine.

It should be absolutely forbidden even the only approach the machine and persons under the influence of alcohol, drugs, drugs (both light and heavy).

Each operator using the machine must be familiar with its operation. It is prohibited to use the machine by untrained operators without continuous surveillance of an experienced operator to ensure the proper use of the machine. With inexperienced operator is necessary and vital to continuous surveillance of a qualified operator who, in addition to an instructor, ensuring the safe use of the machine.

The machine is not designed for use by non-professional users, therefore, each task must be performed by qualified personnel, any maintenance and / or repair only by service technicians and / or skilled repairers; disposal only by qualified breakers.

Leaving the machine without direct supervision of his manager (examples: end shift, weekend, vacation, holidays and permits; absences for whatever reason), never leave the machine electrically powered while not in motion, or valve adduction gas open, nor with any steam pressure not completely discharged; this is for safety reasons, and to avoid unnecessary consumption of energy.

At the end of each shift the machine should be turned off by its power button and it should also put in an emergency by pressing the red mushroom. If the control panel is equipped with a security key for the ignition (optional) the operator must remove the key from the control and keep it diligently without giving it to others.

Remind anyone using the machine that the diligence and caution during use preserve accidents and increase job security.

The machine is supplied complete with safety and security devices required that is absolutely forbidden to remove and / or modify; ensure that the equipment is equipped with guards and safety devices and original unmodified or circumvented in any way and / or for any reason.



The term SKILLED/SPECIALIZED PERSONNEL means personnel who are trained and experienced on this type of machines and has been recognized competent to use and/or maintenance them with safety and have been expressly authorized to carry out installation, use and maintenance of the machine.

4 HANDBOOK STORAGE

The present handbook must be stored with care and must go with the machine in any transfer of property during its life cycle.

The handbook must be handled carefully with clean hands and put on clean surfaces so that its conservation is facilitated.

Do not remove, tear or modify arbitrarily any part of the handbook. The handbook must be stored in a cool dry place near the machine.

5 HANDBOOK REVISION

The Manufacturer has the right to make, at any time, the changes he thinks necessary to the production or to the use and maintenance manuals, without any obligation to update the equipment already supplied or manuals already issued, except in cases expressly provided for as mandatory by current legislation.

The manufacturer is responsible only for the Instructions drafted by the manufacturer himself (Original Instructions); any translation of this manual **MUST** be always stored together with the Original Instructions of this manual, in order to check the accuracy of the translation. In any case the Manufacturer is not responsible for translations not approved by the Manufacturer himself, therefore in case of doubts in the interpretation of other language translation, only the original English version of this manual should be considered

In case the interpretation doubts are also in the original English version of this manual is required to contact the Manufacturer for needed explanations.

The Manufacturer reserves the right to modify machine design, to carry out changes/improvements to the machine and revisions of the handbook without notice to the Customers.

However, in case that the Manufacturer arranges with the customer to modify the installed machine, the manufacturer shall send to the Customer any modified chapters affected by the modification.

The customer must update/replace all the copies of the manual of the modified machine no longer valid with the new ones.

6 HOW TO READ THE HANDBOOK

The handbook is divided in chapters. Each chapter is dedicated to a specific class of information and is addressed to operators with the relevant competencies.

To facilitate the comprehension, the meaning of terms, abbreviations and pictograms used in the handbook, is provided in Paragraph "Pictograms".

FIGURE NUMBERING

Each figure is numbered in sequence, numbering is build as follows:

Example Figure 0.1.2

Figure	0	.	1	.	2
	↓		↓		↓
	Chapter	.	Paragraph	.	Sequential number

The sequential number starts from 1 every new paragraph.

TABLE NUMBERING

Each table is numbered in sequence, numbering is build as follows:

Example Table 0-1.2

Table	0	-	1	.	2
	↓		↓		↓
	Chapter	.	Paragraph	.	Sequential number

The sequential number starts from 1 every new paragraph.

ABBREVIATION

- Chap. = Chapter
- Par. = Paragraph
- Sec. = Section
- Pag. = Page
- Fig. = Figure
- Tab. = Table

UNITS OF MEASUREMENT

The units of measurement used in the handbook are the following:

Base quantities	Unit of measurement	Symbol
Time	second	s
Length	meter	m
Mass	kilogram	kg
Temperature	Celsius	°C
Amount of substance	mole	mol
Electric current	ampere	A
Luminous Intensity	candela	cd

Mechanical quantities	Unit of measurement	Symbol	Expression
Frequency	hertz	Hz	$1 \text{ Hz} = 1 \text{ s}^{-1}$
Force	newton	N	$1 \text{ N} = 1 \text{ kg m s}^{-2}$
Pressure	pascal	Pa	$1 \text{ Pa} = 1 \text{ N m}^{-2}$
Energy, work, heat	joule	J	$1 \text{ J} = 1 \text{ N m}$
Power	watt	W	$1 \text{ W} = 1 \text{ J s}^{-1}$

7 SAFETY PICTOGRAMS


General information

Pictograms are placed such that they are readily visible to the intended viewer and alert the viewer to the potential hazard in time to take appropriate action.



According to the regulation, pictograms must be periodically inspected and cleaned as necessary to maintain a good legibility for safe viewing distance. Safety pictograms must be replaced when they no longer meet the legibility requirements for safe viewing distance or in cases where products are exposed to extreme conditions.

In case of needed replacement of one or more pictograms, it is obliged to ensure the surfaces on which they will be placed, are clean, smooth and free from grease, oil or chemical products that could reduce the adherence.






PICTOGRAMS CONCERNING OPERATOR QUALIFICATION

SYMBOL	DESCRIPTION
	Operator formed, qualified, authorized to use of the machine




PICTOGRAMS CONCERNING MACHINE OPERATING MODES

SYMBOL	MACHINE OPERATING MODES
	Machine OFF: with power and pneumatic energy supply or any other supply disconnected.
	Machine on: not running and ready to start (stand-by condition) by functional activation (e.g. presence of materials to be processed), moving guards closed with safety devices included and fixed guards closed.

HAZARD ALERT PICTOGRAMS

SYMBOL	DESCRIPTION
	Electrical Hazard
	Moving machinery
	High temperature
	Crushing hands danger
	Danger for drag by rotating rolls: beware to the hands

PROHIBITION PICTOGRAMS

SYMBOL	DESCRIPTION
	This unit is to be serviced only by authorized and trained personnel
	Do Not Remove Guards.
	No maintenance/repair on moving machinery

MANDATORY ACTION PICTOGRAMS

SYMBOL	DESCRIPTION
	Hear enclosing cap

1 GENERAL INFORMATION

1 MANUFACTURER DETAILS

MANUFACTURER	
LEGAL HEADQUARTERS	
TELEPHONE	
FAX	
E-MAIL	
AFTER-SALES SERVICE SPARE PARTS	
CALL CENTER	
CONTACTS	

2 CE MARKING

Each Machine is identified by an EC plaque on which details of the machine are indelibly recorded. Plaque position may vary from machine to machine.

For any communication with the manufacturer or customer service always cite these references.

3 DECLARATIONS

The equipment has been designed and manufactured in accordance with the relevant European Directives in force at the time of construction.

PROHIBITION OF PUTTING INTO SERVICE

The machine cannot be put into service after having undergone alterations or additions of other components that do not fall within ordinary or extraordinary maintenance without a new declaration of compliance with the requirements of the Directive 2006/42/EC and other directives currently in force.

Place and Date of issue

Place, xx,yy,zzzz

The manufacturer

Name and signature

4 INFORMATION CONCERNING CUSTOMER SERVICE

Machines are covered by warranty, according to the general terms of sale available that you have received in purchasing phase.

Any modification made by the user, without the express written permission of the manufacturer, shall invalidate the warranty and release the manufacturer from any liability for damage caused by the defective product. This is valid especially when these changes are performed on safety devices, impairing their effectiveness. The same considerations are valid when spare parts non-original or different from those explicitly specified by the manufacturer as "safety devices" are used. For all these reasons, we recommend our customers to call always our Customer service department before any modification to the machine.

Defects clearly visible when the product is delivered (defects on visible parts, breakage, dents, operation defects, missing parts,...) must be immediately communicated to the manufacturer.



The manufacturer is not liable for defects not communicated at the moment of delivery.

5 CUSTOMER RESPONSIBILITIES

Except for any other agreements, customer responsibilities are:

- Preparation of the installation site, including any building works and/or ducts required;
- Power supply, in accordance with the regulations in force in the country where the machine is to be used;
- Pneumatic fluid power.
- Gas or steam supply in accordance with the machine heating

6 OPTIONALS

The machine can be provided with optionals that the customers can order at the order time and are the following:

For IR model:

✓ Vacuum table

✓ Automatic feeder for sheets "Feeder"

✓ Small items rear stacker 2 lanes "Stacker 2"

✓ Small items rear stacker 4 lanes "Stacker 4"

✓ Rear linen exit

✓ Supply different from 400 V 3N~ 50Hz

For IQ model:

✓ Vacuum table

✓ Automatic feeder for sheets "Feeder"

✓ Small items rear stacker 2 lanes "Stacker 2"

✓ Small items rear stacker 4 lanes "Stacker 4"

✓ By-pass

✓ Supply different from 400 V 3N~ 50Hz

✓ Teleservice system

✓ Double pressure on length folds

√ Linen reject

√ Rear linen exit (by pass included)

For IF model:

√ Vacuum table

√ Automatic feeder for sheets "Feeder"

√ Small items rear stacker 2 lanes "Stacker 2"

√ Small items rear stacker 4 lanes "Stacker 4"

√ By-pass

√ Supply different from 400 V 3N~ 50Hz

√ Teleservice system

√ Double pressure on length folds

√ Linen reject

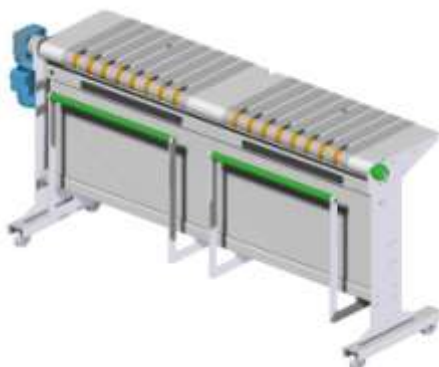
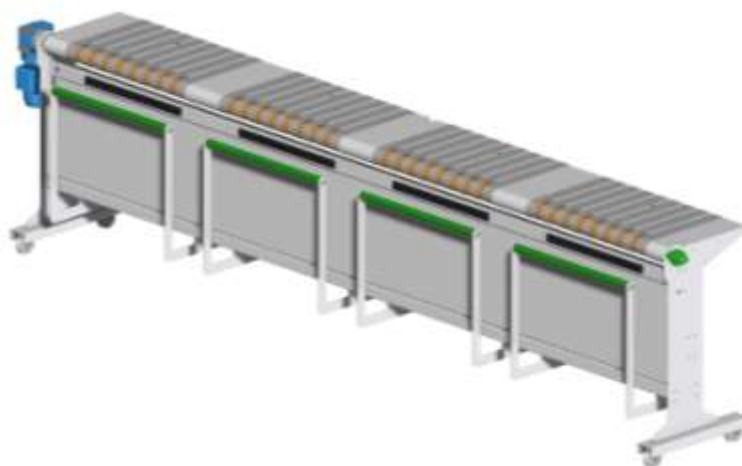
√ Side stacker "Stacker"

√ Side stacker "Roll-off"

Some optionals are other functions not fundamental of the machine meanwhile other are devices that can be installed on the machine to give it more working ways in according with the different needs of the customers.

The electrical plant of each machine is always dimensioned as the machine would be equipped with the bigger number of optionals. This allows to reduce the electrical diagrams needed, the electrical components (and spare parts). Besides there aren't problems when the customer would do the upgrade from a model less equipped to a model with more optionals.

In this paragraph these optional are described in details.

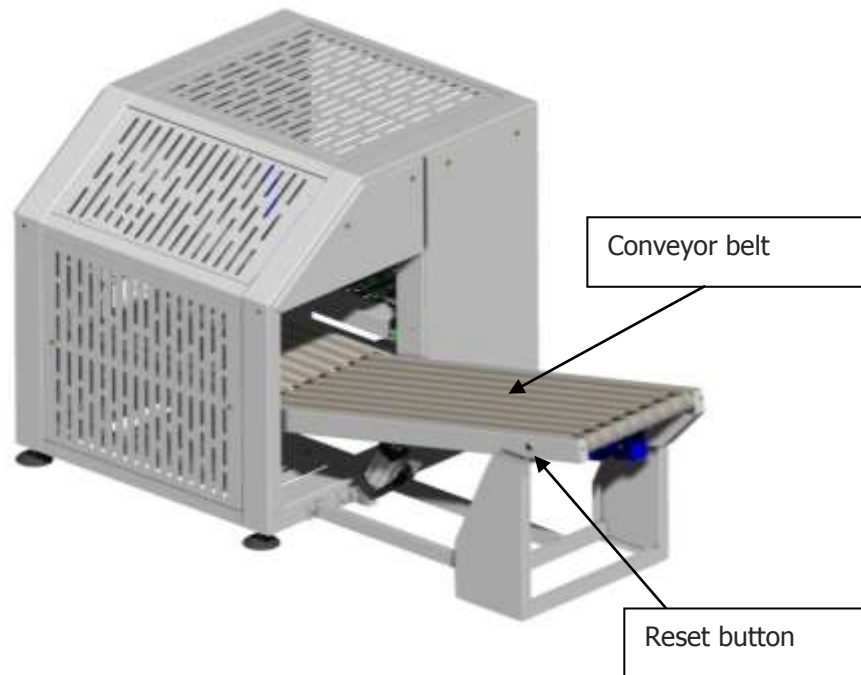
Small items rear stacker 2 "Stacker 2" or 4 lanes "Stacker 4"**Stacker 2****Stacker 4**

The rear stacker is located at the end of the machine linen exit.

If Stacker 2 it can be located indifferently on the right or left rear machine part, if Stacker 4 it will keep all the rear exit machine width.

The rear stacker is used to collect the small items ironed that are stacked on stacks and collected to lead them to another working automatic or manual phase as the customer likes.

Side stacker "Stacker" (only for IF model)



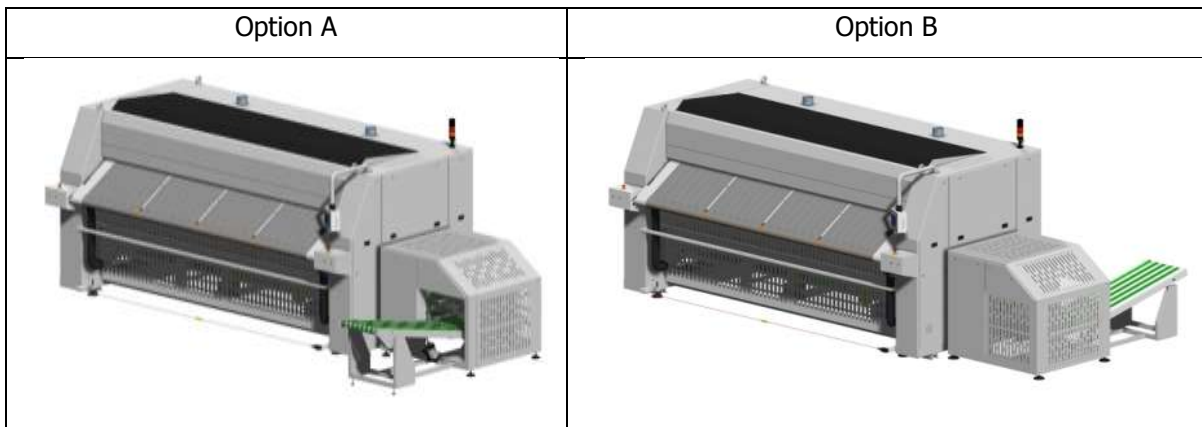
The stacker has the aim to collect the linen at the machine exit and to stack the items on stacks. The stacking are made by a so-called stacking blade that collect the item and then by a rapid rotation of 180° invert it laying as stacks on stacking plane.

The items number of each stack is selected by the operator on the keyboard (see attached "Keyboard manual") and when this number is reached the stack is automatically translated on the stacker exit belt to leave the place to a new stack.

When the operator want pick up the stack before the items selected number reaching, it is sufficient press the button RESET located on the side on conveyor belt or operate on the keyboard command as described in the attached "Keyboard manual".

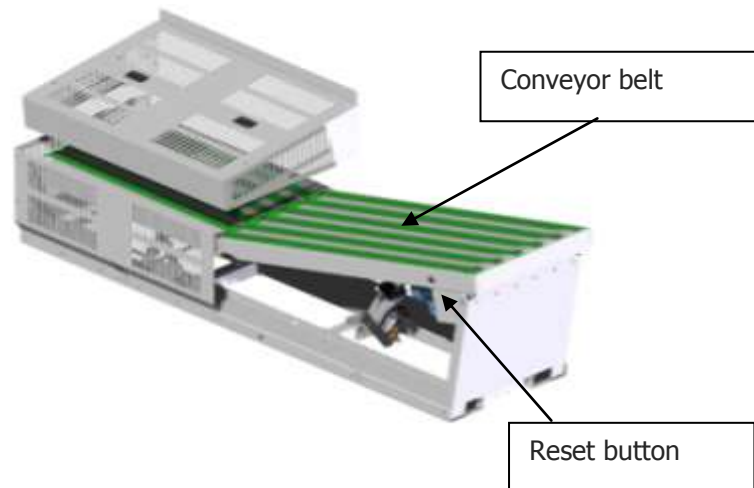
The operator will have to remove the stacks from the conveyor belt when it is full.

The stacker can be located in four different positions that the customer can choose indifferently at the order time.





Side stacker "Roll-off" (only for IF model)



The stacker has the aim to collect the linen at the machine exit and then to stack the items on stacks.





The stacking are made by a belts concealed system that thanks to a pneumatic mechanism pick up the items at the machine exit and lay down them as stacks on stacking plane.

The items number of each stack is selected by the operator on the keyboard (see attached "Keyboard manual") and when this number is reached the stack is automatically translated on the stacker exit belt to leave the place to a new stack.

When the operator want pick up the stack before the items selected number reaching, it is sufficient press the button RESET located on the side on conveyor belt or operate on the keyboard command as described in the attached "Keyboard manual".

The operator will have to remove the stacks from the conveyor belt when it is full.

The stacker can be located in four different positions that the customer can choose indifferently at the order time.

Option A	Option B
	
Option C	Option D
	

2 SAFETY

1 GENERAL SAFETY INSTRUCTIONS



Before putting into service the machine, read carefully the present handbook and closely follow the instructions.

In any case, it is necessary to follow closely the following instructions:

- It is absolutely forbidden to operate the machine with fixed and/or movable guards removed.
- It is absolutely forbidden to disable or make inefficient safety devices installed on the machine.
- Cleaning operations must be carried out with electrical power disconnected, gas manual valve closed, pneumatic and steam supply closed.
- Place the machine according to the instructions provided by the manufacturer, otherwise the manufacturer shall not be held responsible for any inconveniences.
- Never wear loose clothing that can be caught in parts of the machine.
- Never wear ties or other swirling accessories.
- Never wear rings or bracelets because they can be caught in parts of the machine.
- Tie the hair and keep them collected on a suitable cap in order to avoid that could be caught by machine parts.

The user can conveniently complement instructions provided by the manufacturer with additional operating instructions, obviously not in conflict with those presented in this handbook, to contribute to the safe use of the machine.

The manufacturer is not responsible for damage caused by the machine to people, animals or things in case of:

- use of the machine by unskilled personnel;
- misuse of the machine;
- defects on electrical hydraulic or pneumatic power supply;
- improper installation;
- lack of maintenance;
- modifications or not authorized operations;
- use of spare parts not original or not suitable for the model;
- total or partial noncompliance with instructions;
- use not in compliance with specific national regulations;
- calamities and exceptional events.

General provisions

This handbook must be always available for the operator at the workstation.

All the safety devices cannot be either modified, removed, or made ineffective but must be properly preserved and must not be damaged.

The user must inform promptly the employer or the immediate superior about defects or malfunction revealed by the machine.

Checks and inspections

Inspections must be both visual and functional and carried out by skilled personnel in order to ensure a safe use of the machine.

They include:

- test of all the bearing structures, which must not present cracks, breakages, damage, deformation, corrosion, wear or changes compared to the original features;
- inspection of all mechanical parts;
- inspection of all safety measures installed on the machine;
- inspection of all joints with hinges and screws;
- functional inspection of the machine;
- check of machine conditions;
- leak tightness test and check of the efficiency of pneumatic circuit;
- leak tightness test and check of the efficiency of gas or vapore circuit
- check of the efficiency of smokes suction system

Results of inspections must be written in a special form.

When the person responsible for inspections detects cracks or hazardous anomalies must:

- inform promptly the manufacturer.
- put the machine out of service and carry out the appropriate checks and/or repair.
- ensure that foreign objects are not caught in parts of the machine.
- ensure to have made all the connections in the right way as described in the present manual (see paragraph Connections of the chapter Installation)



If noticed anomalies, must be removed before the next use and the expert responsible for inspections must write down in a special form that repair is completed, consenting in this way the use of the machine.

Check that no foreign objects are caught in moving parts after maintenance.

If worn or defective parts are not promptly replaced, the manufacturer is not responsible for damage caused by such failure.

In order to ensure the highest degree of safety it is in any case FORBIDDEN:

- to tamper with any part of the Machine;

- to leave moving parts unsupervised;
- to use the machine in suboptimal conditions;
- to modify the machine in order to change the use originally established without the explicit permission of the Manufacturer or without assumption of full responsibility imposed by Directive 2006/42/EC on Machinery;
- to move moving parts manually in case of absence of energy supply.

Instructions detailed on :

2 PERSONAL PROTECTIVE EQUIPMENT



PERSONAL PROTECTIVE EQUIPMENT UNDER: All personal protective equipment (PPE) described below must comply with their respective technical regulations (Directive 89/656 / EEC, as amended) and, therefore, must be CE marked and must have appropriate declaration of conformity, which generally refers to specific European standards (EN) type harmonized.

OPERATORS SHOULD WEAR ALL REQUIRED PERSONAL PROTECTIVE EQUIPMENT EVEN WHEN NOT SUPERVISION

HEAD: It is mandatory to use a headset to keep breathable collected hair, so as to avoid entanglement in moving parts; for reasons of hygiene, the headset must be free of dirt and dust and must be able to hold your hair operators although long and / or bulky for they could get caught and cause injury or serious.

EYES: only during the cleaning and the maintenance for the protection of the eyes from the possible projection of the washing liquids and / or lubrication and / or any jets of gas and / or steam, it is mandatory to wear safety glasses, integral or separate than devices to protect the respiratory tract (nose, mouth).

NOSE, MOUTH: only during cleaning and maintenance to protect the respiratory tract from the possible projection of the washing liquids and / or lubrication and / or any jets of gas and / or steam, it is mandatory to wear filter masks, changing with as directed by their manufacturer and also when giving signs of being dirty or partially clogged.

EARS: given the low noise level of the machine, there is no need to use headphones or earplugs to protect your ears.

ARTS AND BODY (Don'ts): never wear rings, watches, bracelets, jewelry, piercing in exposed body parts, clothing or torn limbs flying, scarves, ties, belts are not fully inserted into one of the loops trousers; they could get caught and cause injury or serious.

ARTS AND BODY (what to do) for the surface protection of the trunk and limbs is always required to wear overalls or a breathable shirts breathable work with elastic wrist bands; both should be worn tightly closed, not left open or closed or only partially with flaps flying; tighten the sleeves around the wrists, and keep the zip closed and the buttons buttoned. For hands use protective gloves thermally insulating, but as thin as possible and comfortable, and do not hinder the movement of the fingers because it is necessary that the operator can grasp well the materials in textile processing.

NOTE: Depending on the type of work to be done, it is the employer's burden to choose the most appropriate type of security devices; operators must always report to their manager or in charge, any defects and / or deficiencies and / or inadequacies and / or inconvenience of use of the safety devices provided.

3 INTENDED USE

IR

The machine is intended to ironing and drying of lat linen in cotton or in textile fibers resistant to temperature of 250°C as sheets, towels, pillow cases, napkins and similar items.

IQ

The machine is intended to ironing, drying and length folding of lat linen in cotton or in textile fibers resistant to temperature of 250°C as sheets, towels, pillow cases, napkins and similar items.

" IF "

The machine is intended to ironing, drying, length folding and crossfolding of lat linen in cotton or in textile fibers resistant to temperature of 250°C as sheets, towels, pillow cases, napkins and similar items. Thanks to suitable optionals the machine is able to stack the items at the exit in stacks ready to be wrapped and delivered.



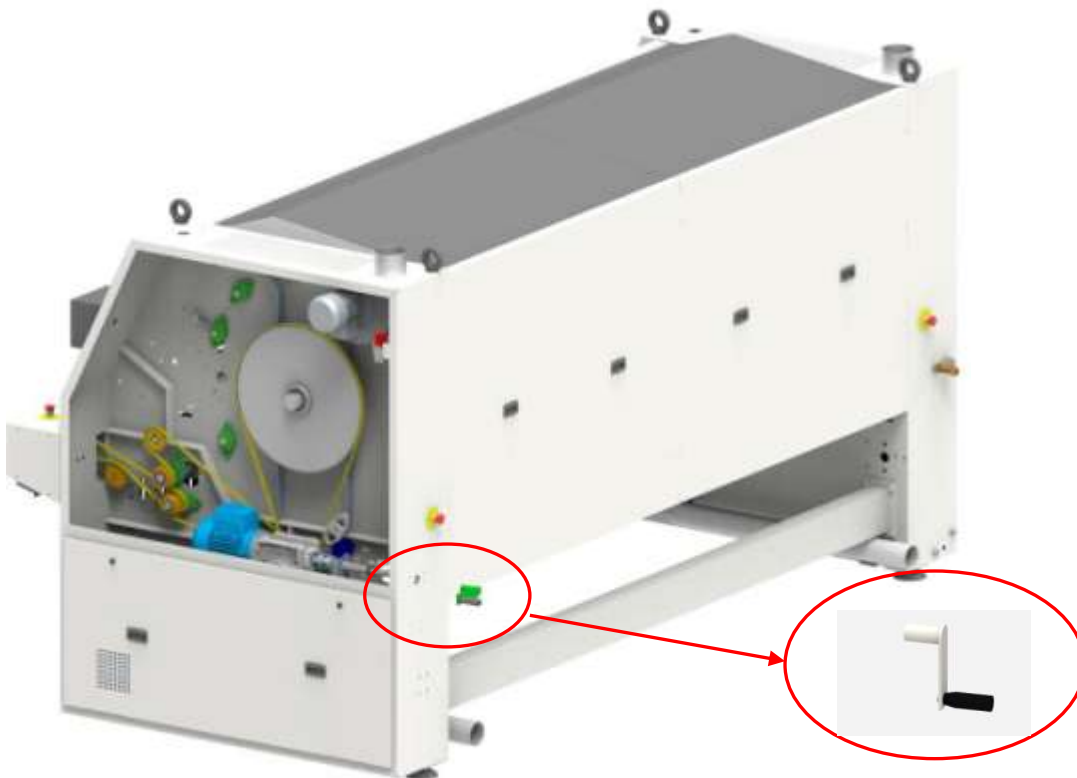
Use of machine for uses different from those specified by the manufacturer, that may cause damage to the machine and danger to the operator and/or people nearby, is considered incorrect or improper.

4 PERMITTED USAGES INSTRUCTION

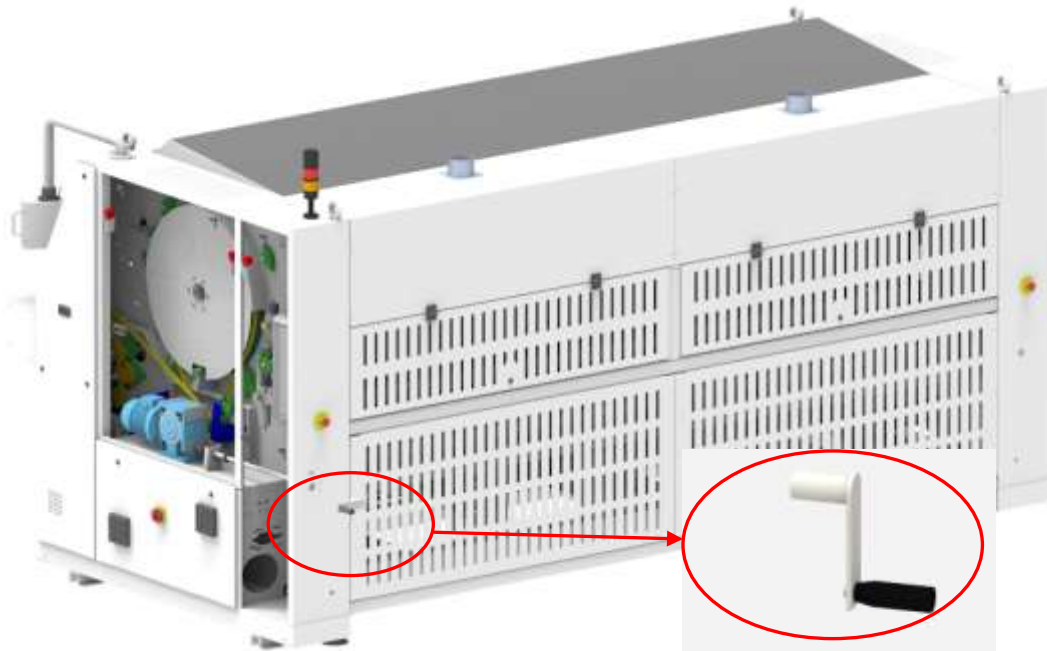
- For a correct movement, installation and use of the machine it is needed follow what is present **in this manual**. These operations have to be made by qualified personnel.

- At the time of first installation, check that the rotation of the two fans for the fumes drawing is concordant to the arrows direction on them. If the rotation isn't right, invert two phases on feeding plug (neutral excluded).
- The roll ironing temperature hasn't to exceed ever the 170°C. Higher temperatures, aside from worsen the work quality, cause irreparable damages to ironing belts.
- **It is required**, during the working phases, **use all the ironing roll width**, so to avoid temperatures reaching on roll parts not used (this can happen also with temperatures lower than 170°C).The failure to comply this rule, cause the ironing belts damage that work in these parts.
- For **no reason** (except for safety or danger reasons), the machine has to be stopped when the roll temperature exceeds the 80°C.
- If, machine still hot ($T > 80^{\circ}\text{C}$), a sudden supply lack happens, it is needed turn manually the machine (until the temperature isn't under 80°C) using the suitable crank given with the machine inserted in the rear side of the machine in the special hole; a second operator should insert wet linen to make the cooling faster.

For IR -"JOKER" model:



For IF model:



- The ironing speeds to use depend on the textile weight and on the residual humidity rate.
It is suggested not iron linen with residual humidity lower than 27% and higher than 50%
- Note Well: The productivity depends on the textile type, ironing temperature, linen dimensions and operator ability
- For synthetic textile with low residual humidity rate, the ironing at high speed cause the static electricity. It suggests use softeners and antistatic during rinse phase, in order to avoid problems in folding. For these tissues, a working temperature too high can cause sticking of item to ironing roll, with consequent damage of roll itself.
- The item must not exceed the feeding table width.
- **It is needed wax the machine roll**, at least two times during the 4 working hours by the special sheet for this use. The failure to comply this rule could create ironing quality faults.


5 PROHIBITED USAGES

The Machine must not be used:


- For uses different from those established by the manufacturer, for uses different from or not mentioned in this handbook;
- In an explosive or corrosive atmosphere or where there is a high concentration of dust or oily substances in air.
- In environments with risk of fire.


- when exposed to the elements and/or to open air
- with safety devices disabled or out of service or with any modifications
- it is forbidden any modification, also simple or reversible, that changes in any way any function of the machine
- With items including plastic or metallic components or components composed with any material different from textile fiber (for example buttons, zipper, etc...) because could damage parts in movement.


6 ZONES WHERE MORE ATTENTION IS REQUIRED

 The feeding table is composed by a series of ironing belts in movement towards the inside the machine; the operator has to lay down on it the linen taking care to not near the hands to the safety bar located in the upper side.

Also if the zone is equipped with useful safety devices, the operator has to always take maximum care and respect all the safety prescriptions given by this manual and by his/her employer.

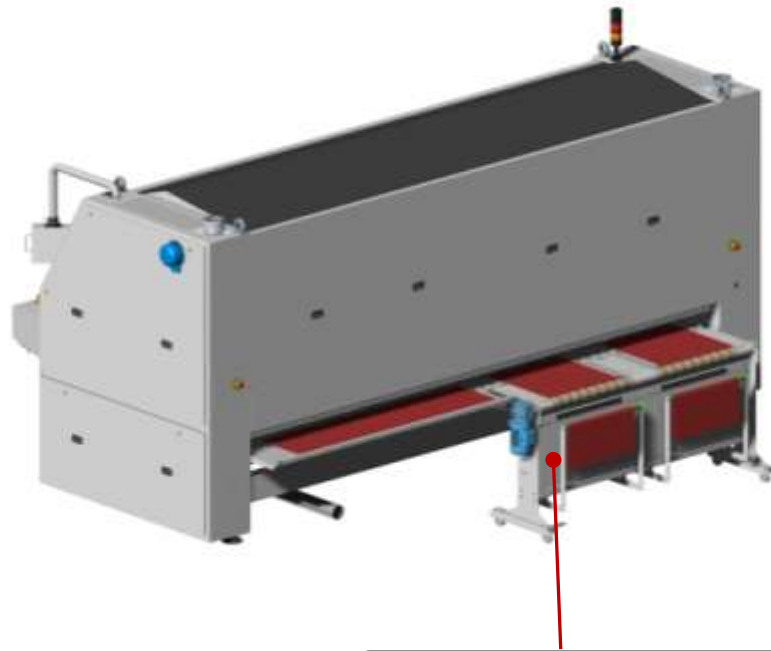
 Do not ever insert, hands, arms or any other body limb in any opened part of the machine, also if there would be needs to pick up the jammed linen, that should be removed at machine totally off (disconnected by electrical power and not simply stopped) by means of hook.

 When there is the rear stacker Stacker 2 or 4 it is required use safety gloves anti-crushing marked CE in according with the DPI/PPE standards; remind the danger that can not be eliminated about the belts that can be pull along and/or lock hair and/or flying tissues, necklaces, etc...

 When there is side stacker "Stacker" or "Roll-off" it is required use aside from the anti-crushing safety gloves marked CE in according with DPI/PPE standards also the safety shoes marked CE in according with DPI/PPE standards; remind the danger that can be eliminated about the belts that can be pull along and/or lock hair and/or flying tissues, necklaces, etc...

For IRIIQ Model:





Back exit with stacking

For IF model:



Accatamento

Tavolo introduzione biancheria

Uscita anteriore biancheria



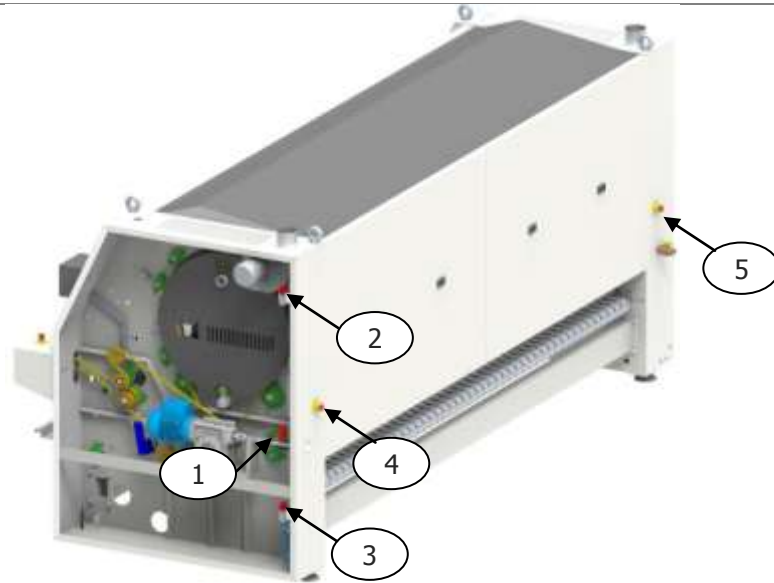
Uscita posteriore con accatastamento

7 SAFETY DEVICES

In the machine there are the following safety devices:

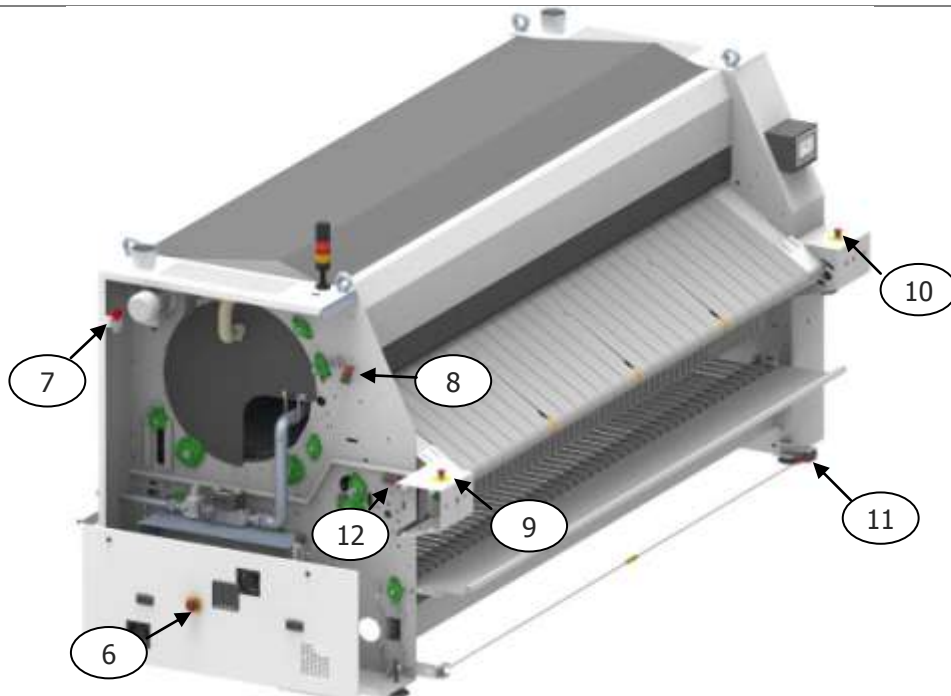
- Emergency stop from the general board
- other emergency stop located on the machine following the needs
- Interlocked safety switch installed on sliding guards.

Safety devices and emergency buttons IR IQ diam. roll 600-800: back view



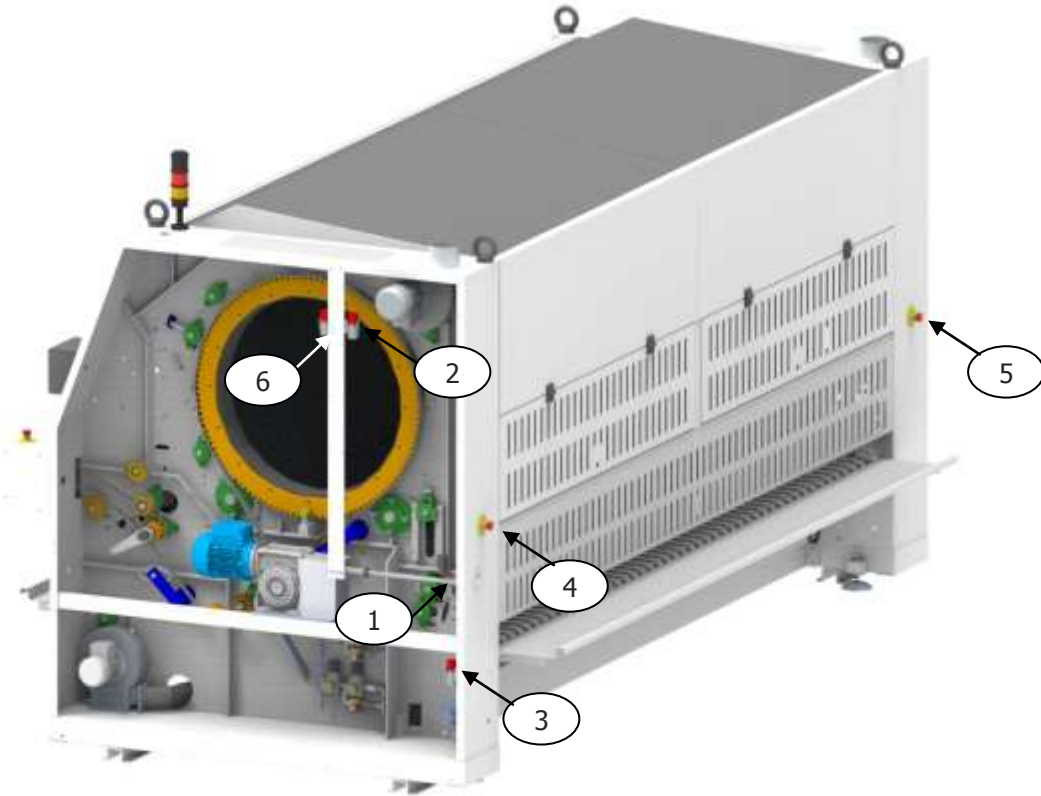
Id	SAFETY MSW INTENDED FOR:	Id	SAFETY MSW INTENDED FOR:
1	Rotation manual crank inserted	4*	Left back emergency
2	Upper left panel	5*	Right back emergency
3	Lower left panel	*Only if back exit is present	

Safety devices and emergency buttons IR IQ diam. roll 600-800: front view



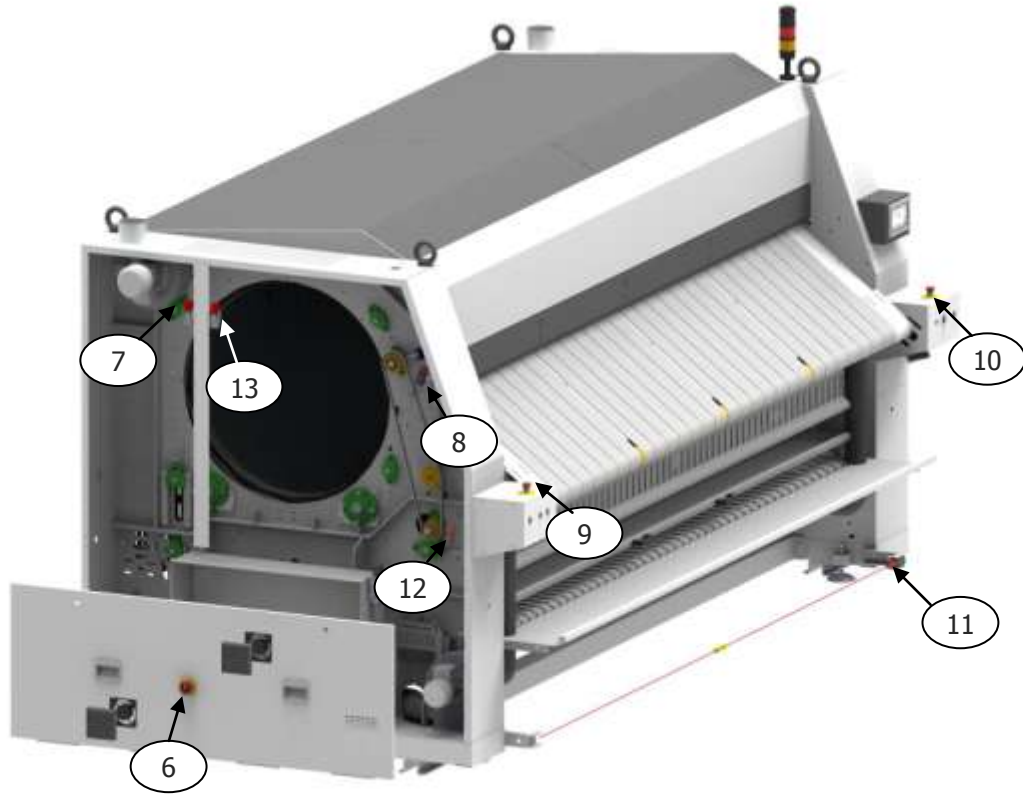
Id	SAFETY MSW INTENDED FOR:	Id	SAFETY MSW INTENDED FOR:
6	General switch	10	Left front emergency
7	Right panel	11	Rope safety
8	Safety hands bar	12	First length fold panel
9	Right front emergency		

**Safety devices and emergency buttons IR IQ diam. roll 1000:
back view**



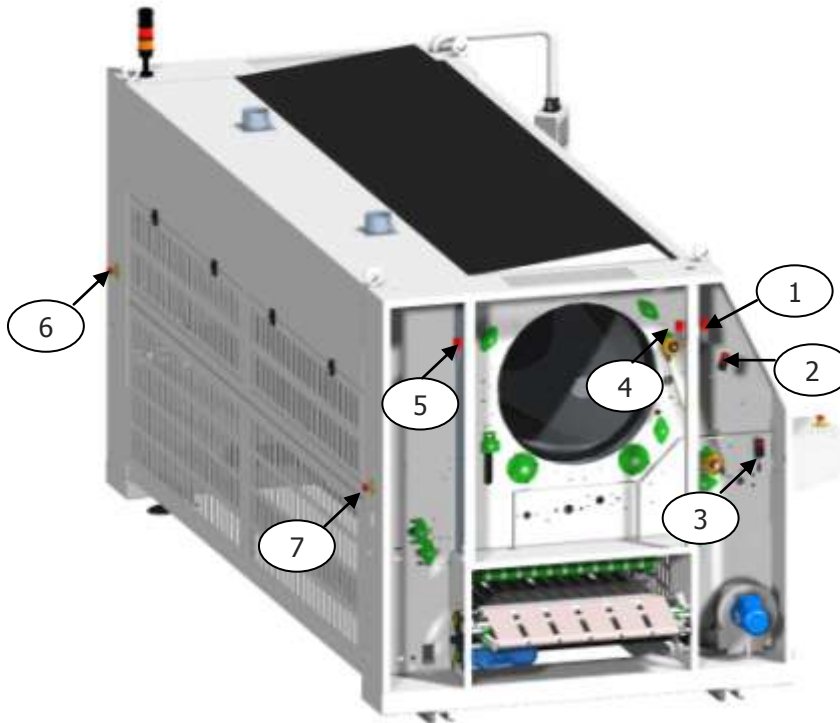
Id	SAFETY MSW INTENDED FOR:	Id	SAFETY MSW INTENDED FOR:
1	Rotation manual crank inserted	5*	Right back emergency
2	Back upper left panel	6	Front upper left panel
3	Lower left panel	*Only if back exit is present	
4*	Left back emergency		

**Safety devices and emergency buttons IR IQ diam. roll 1000:
front view**



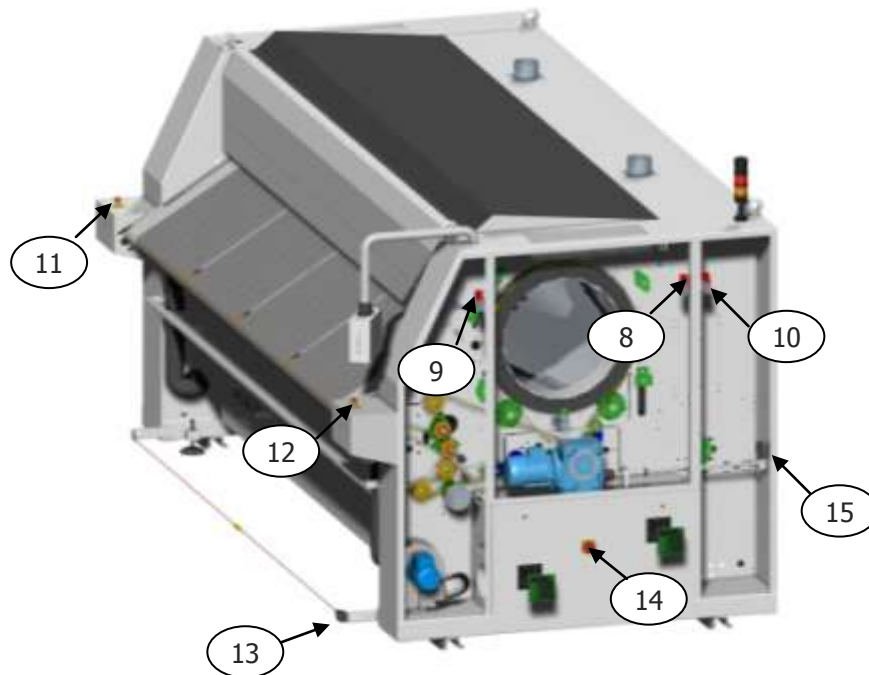
Id	SAFETY MSW INTENDED FOR:	Id	SAFETY MSW INTENDED FOR:
6	General switch	10	Left front emergency
7	Right panel	11	Rope safety
8	Safety hands bar	12	First length fold panel
9	Right front emergency	13	Right front upper panel

Safety devices and emergency buttons " IF ": back view



Id	SAFETY MSW INTENDED FOR:	Id	SAFETY MSW INTENDED FOR:
1	Front right pannel	5**	Back right panel
2	Safety hands bar	6*	Back left emergency
3	First length fold panel	7*	Back right emergency
4	Central right panel	*Only if the back exit is present **Only in case of electrical heating	

Safety devices and emergency buttons " IF ": front view



Id	SAFETY MSW INTENDED FOR:	Id	SAFETY MSW INTENDED FOR:
8	Central left panel	12	Front left emergency
9	Front left panel	13	Safety rope
10	Back left panel	14	General switch
11	Front right emergency	15	Rotation manual crank inserted

From a machine to another one, the model or the type of one or more safety devices can change as well as their position on the machine without any reduction of the safety function.

8 SIGNS

Signs to be placed near the machine and the workstation are the following:

PROHIBITION SIGNS

SYMBOL	DESCRIPTION
	No Access For Unauthorized Persons.

HAZARD ALERT SIGNS

SYMBOL	DESCRIPTION
	General hazard

MANDATORY ACTION SIGNS




SYMBOL	DESCRIPTION
	Hear enclosing cap

9 RESIDUAL RISKS

It is necessary to mind the following residual risks associated with the use of the machine that cannot be eliminated.

The one residual risk that can't be eliminated, on basis of the nature of type of working and of the machine, is only due to inobservance or inattention or negligence on the use of the machine from the operator especially as regards the attempt to insert hands or arms for any reason in the input or exit of the linen.

Other residual risks:

	<p>WARNING: DANGEROUS MOVEMENTS</p> <p>Only the operator can stand nearby the machine. In case of presence of other people, stop immediately movements and compel them to stand clear of the machine.</p>
	<p>WARNING: ELECTRICAL RISKS FOR LIVE ELECTRICAL EQUIPMENT</p> <p>Work on the main electrical panel must be carried out only by skilled staff and in any case with power supply disconnected.</p>
	<p>WARNING: STEAM PRESSURE EXCESS</p> <p>As near as possible to the machine on the steam net a pressure limiter has to be installed compulsorily. This component in case of failure on the steam supply net allows to discharge automatically the exceeded pressure (pressure higher than 12 bar) in the steam circuit because this exceed could lead to very dangerous machine breakages.</p>

3 INSTALLATION

1 TRANSPORT AND HANDLING

The Machine can be transported by a standard mean of transport (truck) capable of bearing machine weight and size. Use always means capable of bearing machine weight and size in order to avoid damage to the machine itself, people and things.

Since the machine is delivered completely assembled, it is only to be positioned in the place of use.


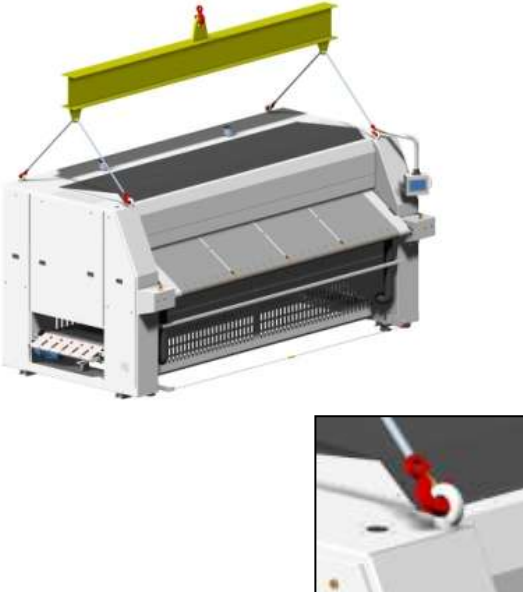
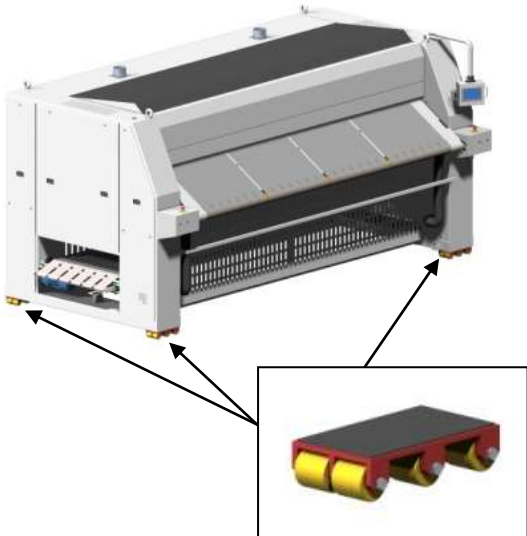
For the loading, unloading and movement of the machine, use crane or bridge crane taking care of sling in right way by ropes/chains with suitable strength for the machine weight. The chains have to apply to lifting eyebolts of the machine as shown in the table 3.1.1.

To move indoors the factory you can use also some rollers or wheels to place in the right way under the machine base as shown in the table 3.1.1.





In case of use of rollers/wheels it is recommended not leave never unattended the machine and remove the rollers/wheels soon after the machine is placed in the new wanted position.

N.W. It is severely forbidden in any case use the forklift to lift or move the machine.



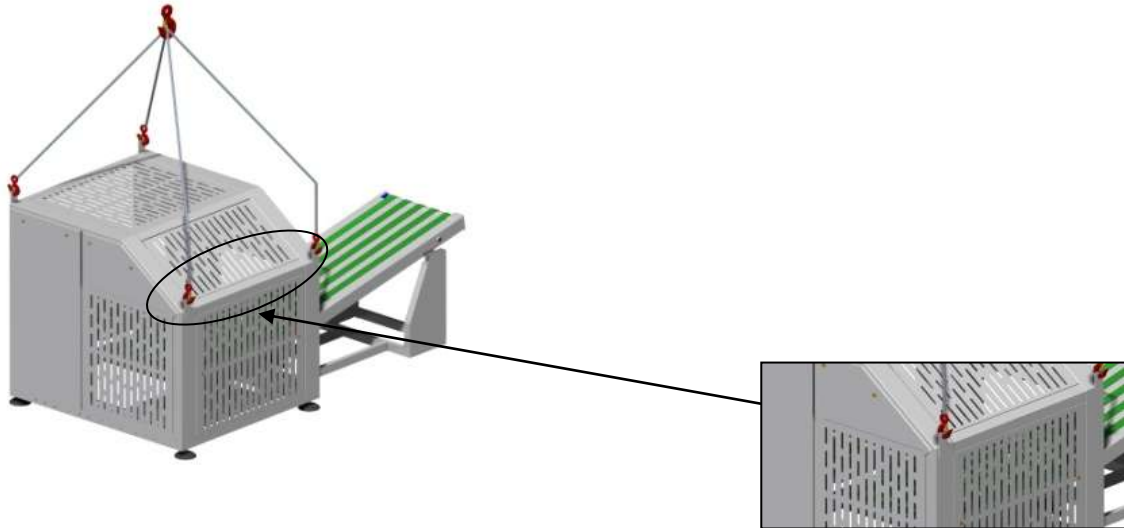
Tabella 3.1.1	
Load by crane and chains on eyebolts	Load by crane and outrigger on eyebolts
	
Movement by rollers/wheels	
	

If the optionals are present follow the following drawings about their lifting **(only in case of optionals the forklift use is allowed. The forklift use remain always forbidden for the main machine)**:

Rear stacker two lanes	
Load by crane and chains on pallet	Load with pallet on transpallet
	
Rear stacker four lanes	
Load by crane and chains on pallet	Load with pallet on transpallet
	

Side stacker "Stacker"

Load by crane and chains



Load with pallet on transpallet

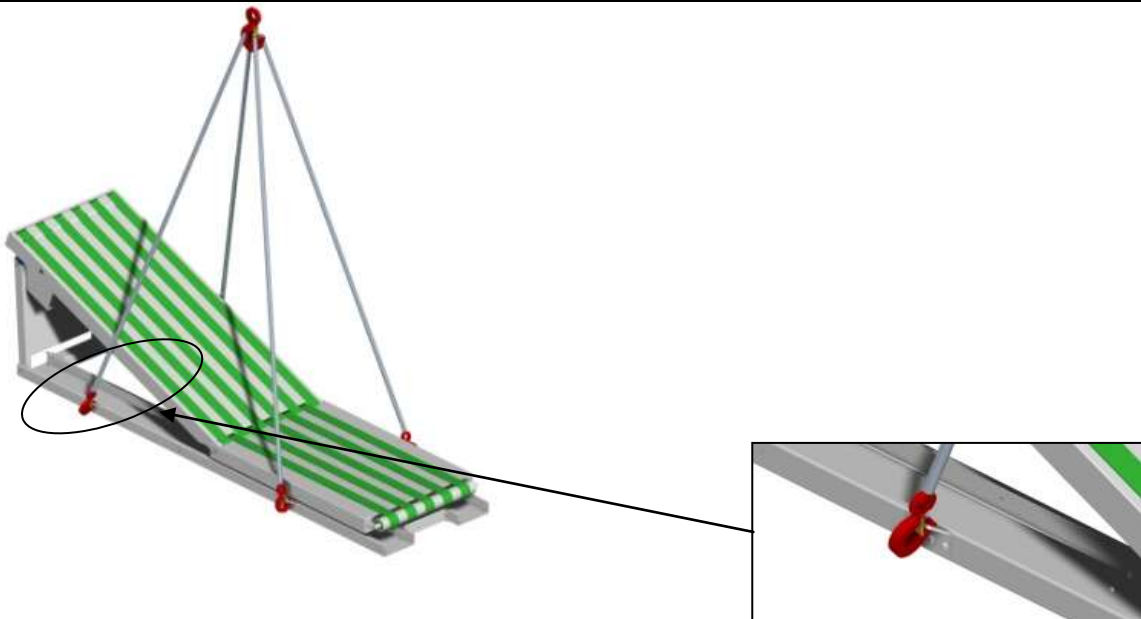




Load by crane and ropes on pallet



Side stacker "Roll-off"

Load by crane and chains



Load with pallet on transpallet	Load by crane and ropes on pallet
	



The manufacturer is not responsible for damage to people, animals and/or things caused by the use of lifting systems different from those described above.

2 STORAGE

To preserve the machine is not operational for a period not negligible, in addition to disconnecting it from the mains electricity supply by means of detachment of the plug ("male") from the outlet ("female") power, it must also observe the following rules:

- • If the heating of the machine is gas, close the gas feeding valve of the gas feed placed on the pipe of yellow color outside the machine and, if possible, lock it in the closed position and / or put a warning sign on the obligation to maintain the valve closed.
- • If the heating of the machine is steam, disconnect the steam supply. Instead, leave open the condensate valve.
- • If the heating is electric, place the power switch of the resistors in position O = OFF
- • Avoid placing the machine on the machine or other objects of any kind, shape and weight and cover the machine with a sheet of soft plastic material and resistant (and possibly equipped with bubbles shockproof) of adequate size.
- • The storage place must be as dry, wet, dust, no dirt and protected from insects or other animals or bad weather or other agents (eg pollution, dripping water or other liquids, solar radiation) and that is free of significant temperature ranges.
 - store the machine indoors;
 - protect the machine from collisions and strains;
 - store the machine in a dry place;
 - do not expose the machine to extreme temperatures and protect it from high temperature variations;

- prevent contact with corrosive substances;
- ensure that the ironing roll is always suitably protected with wax coating

3 PROVISIONS

Provisions for installation

For installation, it is necessary to arrange an area appropriate for the machine size and for the chosen lifting systems.

Machine arrangement must ensure optimal workspace ergonomics and safety: leave around the machine a proper area for an easy use and handling of materials and for maintenance and adjustment.

Leave around the same area sufficient to allow easy operations of use and handling of the material to be processed and for the operations of maintenance and adjustment.

(corridor having a minimum width of 1.2 meters completely free along the perimeter)

Connection instructions for electrical system

Connection to the electrical system for power supply must be carried out by specialized and skilled personnel making:

- earthing system in accordance with local regulations;
- any other measures for the proper putting into service in accordance with current laws and technical regulations about workplace safety and electrical installations.

Connection instructions for gas system (for machines with gas heating)

Connection to the gas system (lpg or natural) for supply the machine must be carried out by specialized and skilled personnel in accordance with the gas diagram and the provisions of gas laws and/or technical regulations about workplace safety and gas installations.

Connection instructions for steam system (for machines with steam heating)

Connection to the steam system for supply the machine must be carried out by specialized and skilled personnel in accordance with the steam diagram and the provisions of steam laws and/or technical regulations about workplace safety and steam installations.



Such arrangements shall be made always by the customer on his own responsibility.



The manufacturer is not responsible for damage to people, animals and/or things caused by failure to comply with such provisions.

4 ASSEMBLY

In general the machine is already supplied assembled so any assembly operation is required from the installer.

But in some particular cases, one or more external components (for example a panel or optional group) could be supplied not assembled with the main machine; in this case for their assembly is enough follow the sheets supplied with the machine, also not needed because is clearly evident and without any error chance how these parts are to mount on the machine.

5 PLACEMENT

The machine must be placed on a perfectly level surface.

- The floor where the machine will be placed has to be plane, any slope, also minimum can be calibrated by the feet regulations.

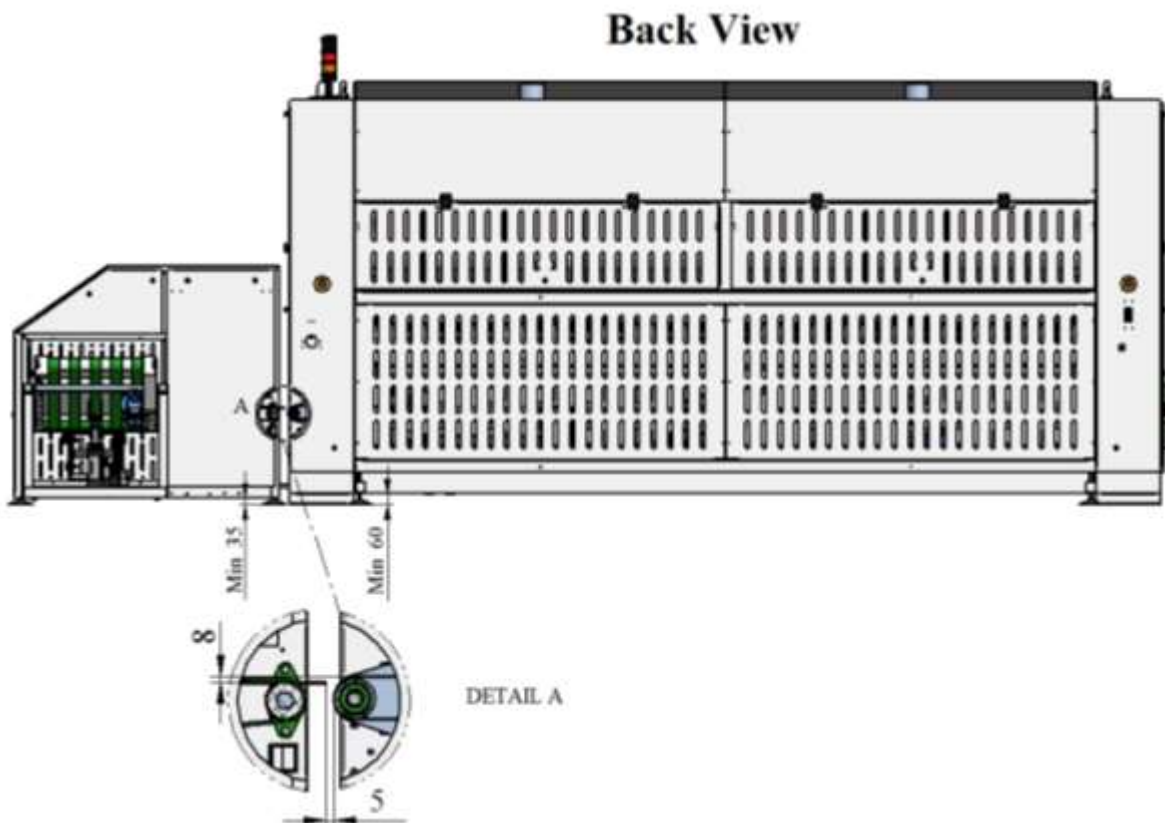


This operation has to be done in comply with the safety workplace rules in law.

- The environment within you want install the machine has to be **well airy and not dusty**. The dust presence can damage the right working of electrical, electronic, mechanical and electromechanical parts.

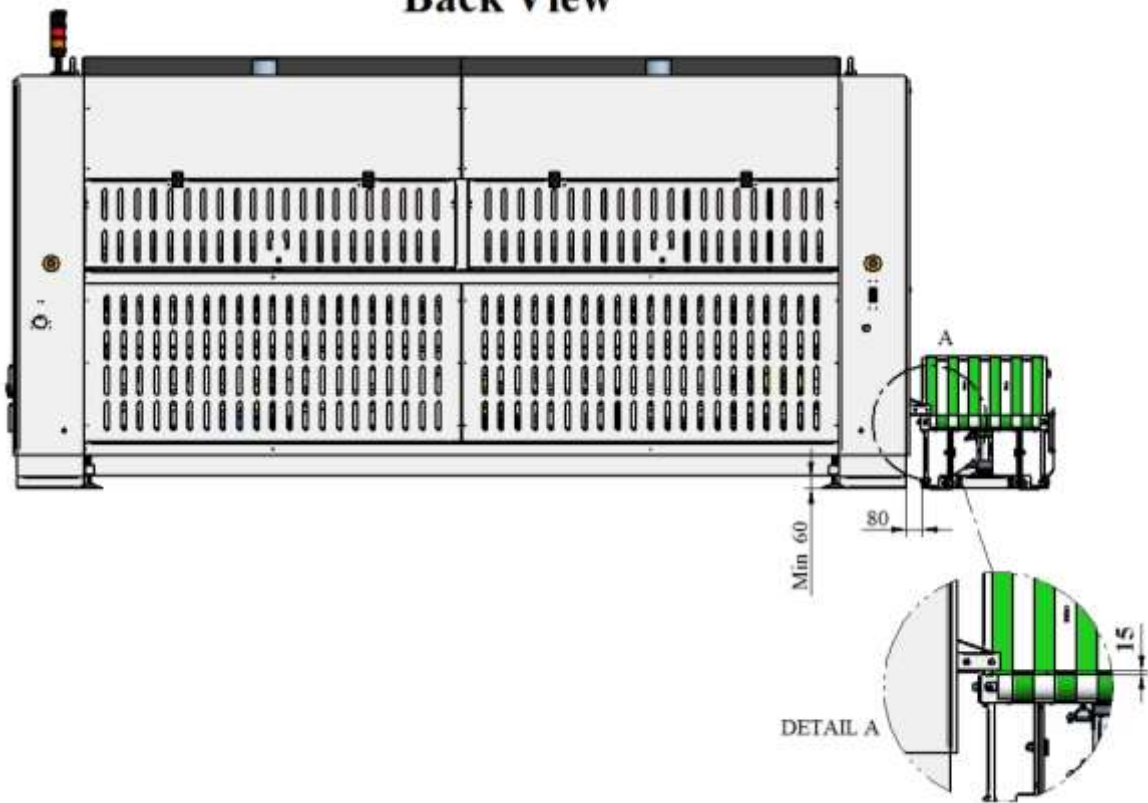
- The area where the machine will be located must have around a space minimum of 1,2 meters completely free along all the perimeter. This free area allows to manage the maintenance and/or repair operations in safe way and grant the necessary space to pass.
- About the environmental conditions in the installation area see paragraph "AMBIENTAL CONDITIONS" (see index).

After locate correctly the machine, in case of side stacker "Stacker" presence please follow the following diagram to place it:

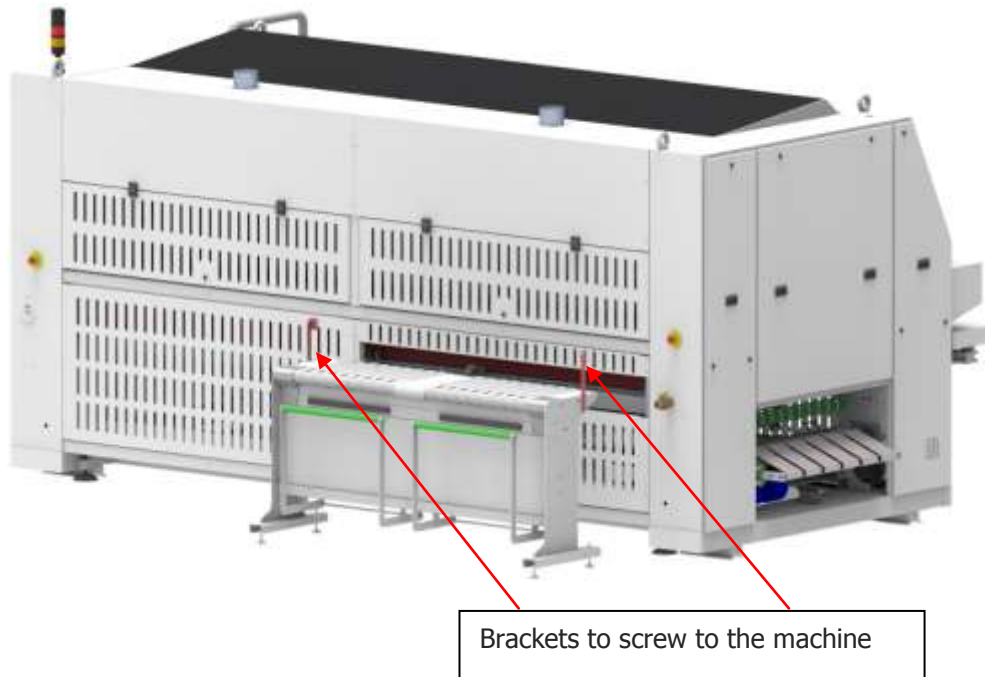


After locate correctly the machine, in case of side stacker "Roll-off" presence please follow the following diagram to place it:

Back View



After locate correctly the machine, in case of rear stacker "Stacker2" or "Stacker4" presence please follow the following diagram to place it:

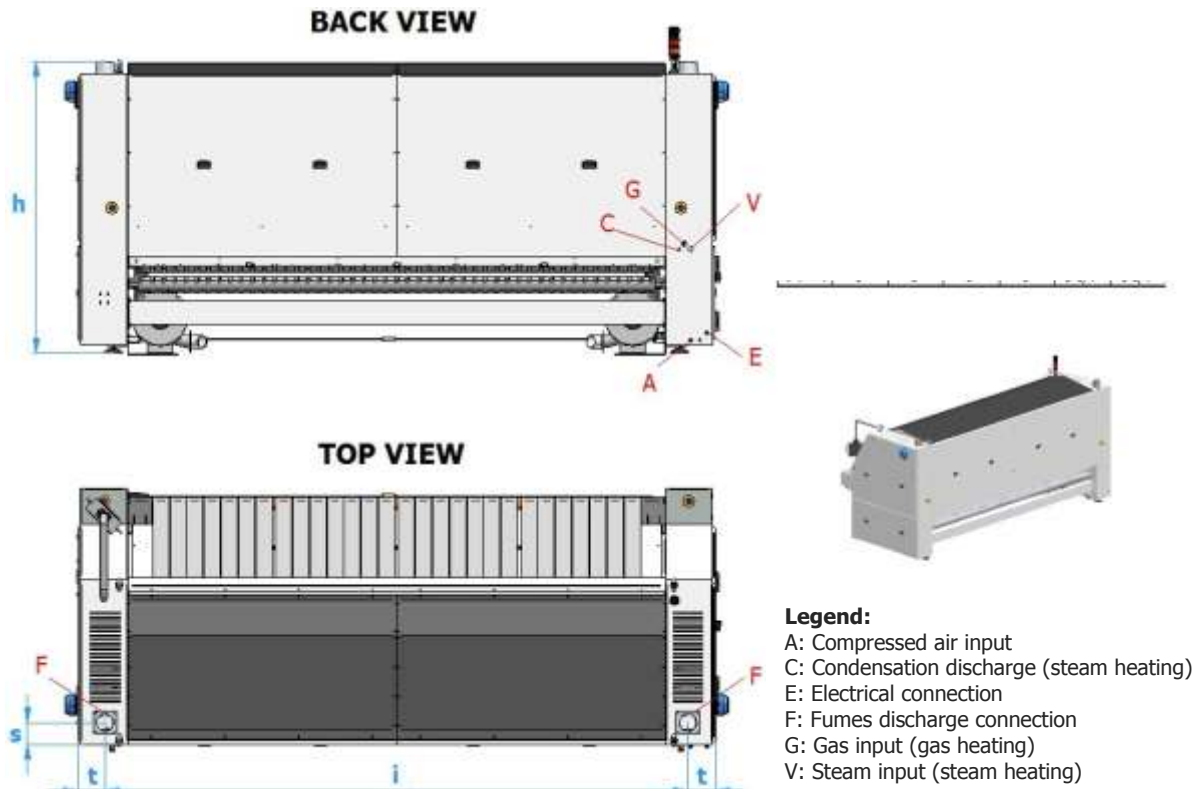


6 CONNECTIONS

Machine connections are carried out by skilled personnel

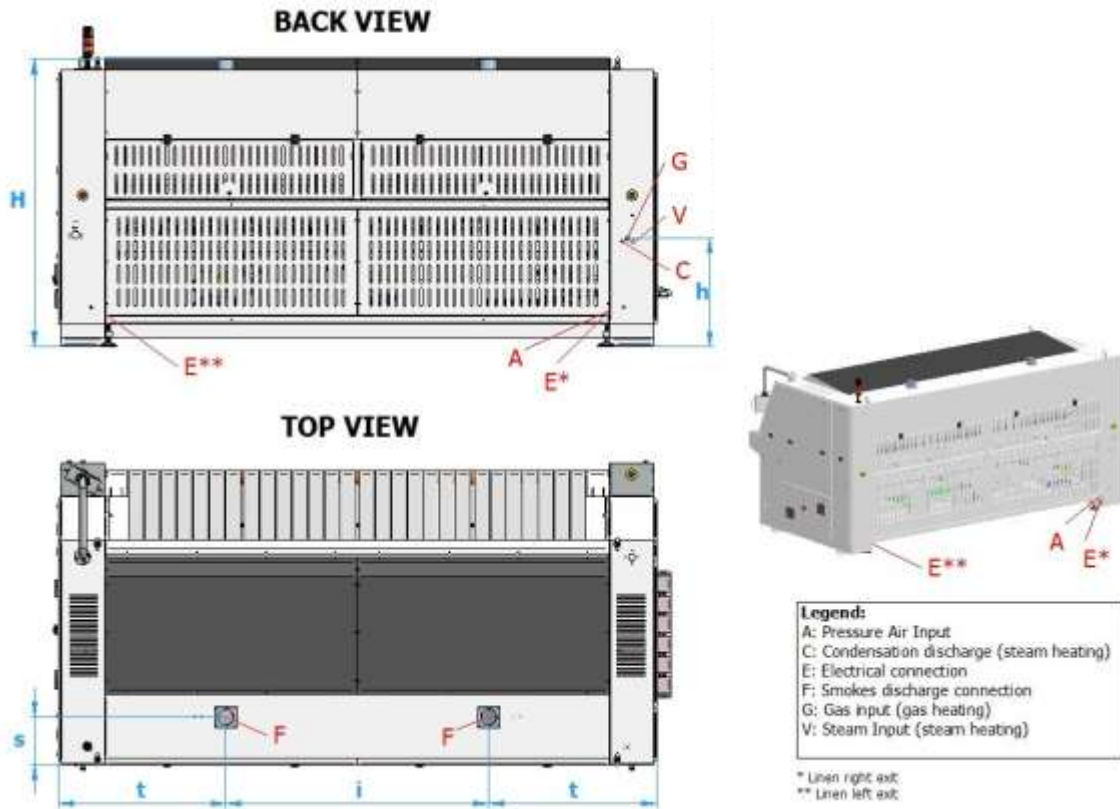
Below a summary diagram for the electrical, gas or steam connections and for the pneumatic circuit of compressed air:

Model IR/IQ:



Mod.	626	633	826	833	1026	1033
h (mm)	1800	1800	1966	1966	2166	2166
i (mm)	3242	3942	3242	3942	3242	3942
t (mm)	186	186	186	186	186	186
s (mm)	152	152	152	152	152	152
A (mm)	φ 12	φ 12	φ 12	φ 12	φ 12	φ 12
C (inch)	1/2"	1/2"	1/2"	1/2"	1"	1"
E (mm²)	5x2,5	5x2,5	5x2,5	5x2,5	5x2,5	5x2,5
F (mm)	φ 120	φ 120	φ 120	φ 120	φ 120	φ 120
G (inch)	1"	1"	1"	1"	1"	1"
V (inch)	1"	1"	1"	1"	1-1/4"	1-1/4"

Model IF



Mod.	526	533	626	633	826	833	1026	1033
H (mm)	1700	1700	1785	1785	2067	2067	2247	2247
i (mm)	1546	1896	1196	1896	1196	1896	1196	1896
t (mm)	1039	1208	1208	1208	1208	1208	1208	1208
s (mm)	474	474	514	514	340	340	345	345
A (mm)	φ 12	φ 12	φ 12	φ 12	φ 12	φ 12	φ 12	φ 12
C (inch)	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1"	1"
E (mm²)	5G4	5G4	5G4	5G4	5G4	5G4	5G4	5G4
F (mm)	φ 120	φ 120	φ 120	φ 120	φ 120	φ 120	φ 120	φ 120
G (inch)	1"	1"	1"	1"	1"	1"	1"	1"
V (inch)	1"	1"	1"	1"	1"	1"	1-1/4"	1-1/4"
h (mm)	785	785	765	765	765	765	800	800

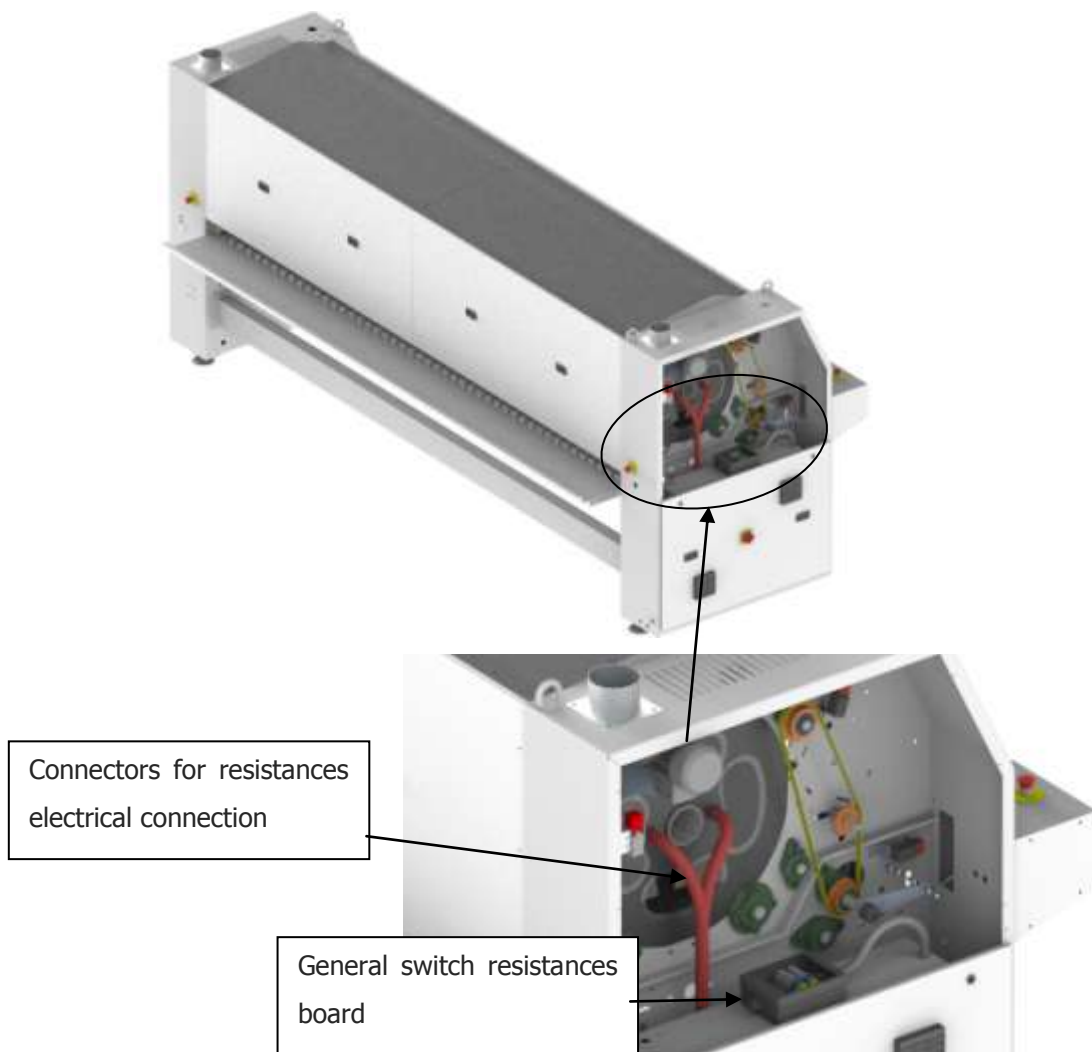
6.1 General electrical connection

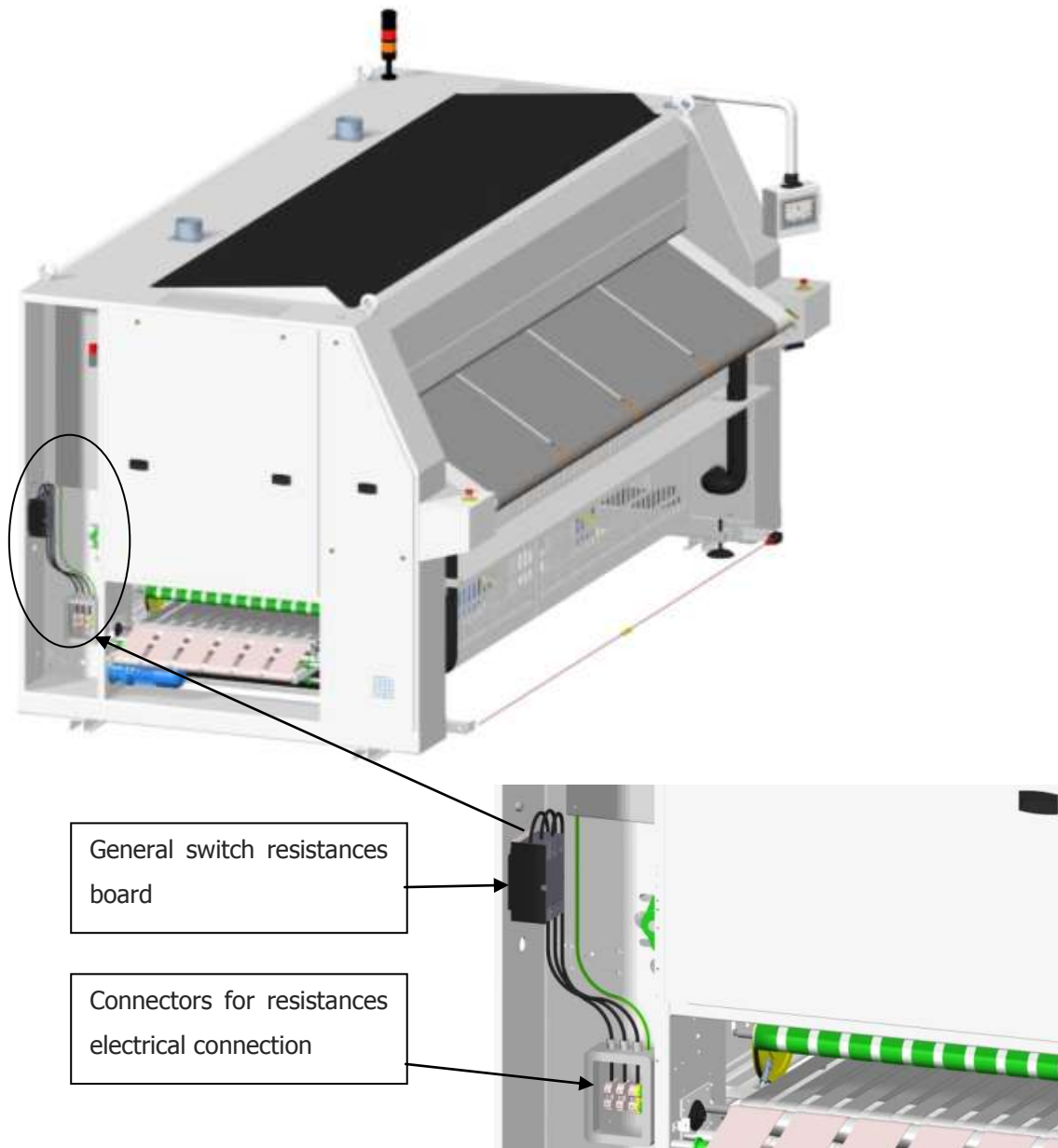
Check always the CE plate data before to do the connection in order to verify that the manufacturer data are compatible with electrical supply net.

Electrical connection between machine panel and the electricity supply system of the customer shall be carried out by customer's skilled personnel. Besides, the machine connection on site have to comply the laws standard and has to be installed near the machine an automatic differential switch (not supplied from the manufacturer) calibrated with the machine nominal power.

6.2 Heating electrical connection (only for machines with electrical heating)

For the machines with electrical heating it is required to manage the electrical connection also with the resistances board. An image about follows:





6.1 Pneumatic connection

For the connection to pneumatic net, it is required use dry air that is without humidity. So it is required to install an air dryer and condensation discharger at the end of the compressor that supplies the machine with compressed air and as near as possible at the point of machine connection. It is recommended also that the pneumatic system is depressured at the end of each working cycle.

To connect to the pneumatic machine is equipped with a fitting (1) with quick release coupling for pipe diameter 12mm.

You must use dry air that is free of moisture. Therefore, you have to install a dryer and steam trap downstream of the compressor that powers the machine. The pneumatic system must always be depressurized at the end of each work cycle.



6.2 Gas connection (only for machines with gas heating)

Follow the following table for gas category in the different countries:

paesi countries ↓	gruppi/groups	2H	2E	2E+		2L	G31			categorie di apparecchi commercializzate / marketed appliances categories		
	gas	G20	G20	G20	G25	G25	3P					
	P _n (mbar)	20	20	20	25	25	30	37	50			
AT,		20 _{2H}	-	-	-	-	-	-	50 _{3P}	I _{2H}	I _{3P}	II _{2H3P}
BE, FR,		-	-	20 _{2E+}	25 _{2E+}	-	-	37 _{3P}	-	I _{2E+}	I _{3P}	II _{2E+3P}
CH, GR,		20 _{2H}	-	-	-	-	-	37 _{3P}	50 _{3P}	I _{2H}	I _{3P}	II _{2H3P}
EE, HU, LV, CY, TR,		20 _{2H}	-	-	-	-	-	-	-	I _{2H}	-	-
DK, NO, SE,		20 _{2H}	-	-	-	-	-	-	-	I _{2H}	-	-
DE,		-	20 _{2E}	-	-	-	-	-	50 _{3P}	I _{2E}	I _{3P}	---
IT, ES, PT, GB, IE,		20 _{2H}	-	-	-	-	-	37 _{3P}	-	I _{2H}	I _{3P}	II _{2H3P}
CZ, HR, LT, SI,		20 _{2H}	-	-	-	-	-	37 _{3P}	-	I _{2H}	I _{3P}	II _{2H3P}
FI,		20 _{2H}	-	-	-	-	30 _{3P}	-	-	I _{2H}	---	---
LU,		20 _{2H}	-	-	-	-	-	-	-	I _{2E}	-	-
NL,		-	-	-	-	25 _{2L}	30 _{3P}	37 _{3P}	50 _{3P}	I _{2L}	I _{3P}	II _{2L3P}
PL,		-	20 _{2E}	-	-	-	-	37 _{3P}	-	I _{2E}	I _{3P}	---
SK,		20 _{2H}	-	-	-	-	-	37 _{3P}	-	I _{2H}	---	II _{2H3P}
RO,		-	20 _{2E}	-	-	-	30 _{3P}	-	-	I _{2H}	I _{3P}	II _{2H3P}
BG, IS, MT, AL, MK,		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.

For the machines that use this heating type (gas), it required mount/install the manual valve supplied with the machine.

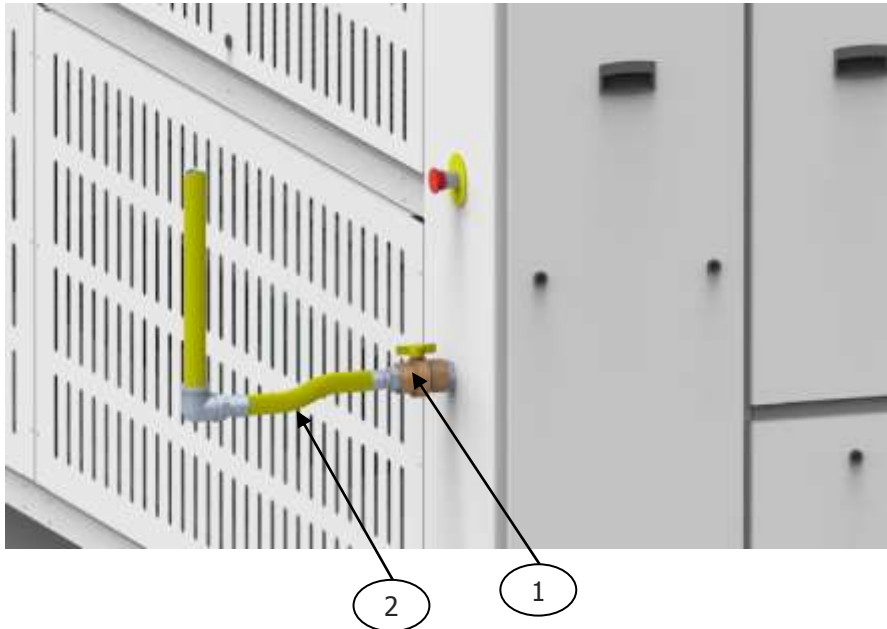
The pipes to the machine have to be suitable to the gas type and in comply to the laws standard.

Making references to destination direct to the category of gas in different countries.

For machines that use gas heating is necessary to assemble / install the shut-off valve manually operated (1) supplied with the machine, upstream of the valve, you must install a hose (2) to avoid dangerous fluctuations in the pipes.

The machine must be installed in accordance with the provisions in force in each country.

The piping upstream must be appropriate to the type of gas used and comply with regulations.



6.3 Steam connection (only for machines with steam heating)

For an optimal working, the steam pressure that supplies the machine has to be about 10bar. In any case the max allowed pressure is 12bar.

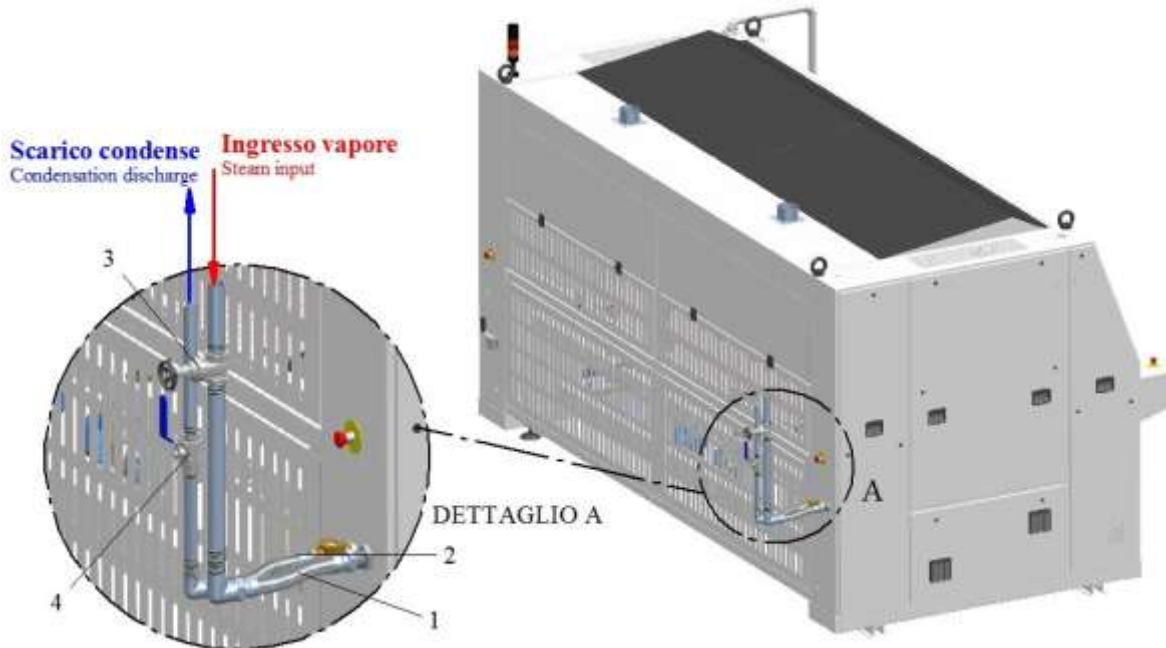
As near as possible to the machine on the steam net a pressure limiter has to be installed compulsorily. This component in case of failure on the steam supply net allows to discharge automatically the exceeded pressure (pressure higher than 12 bar) in the steam circuit because this exceed could lead to very dangerous machine breakages.

Steam and condensation system connections have to be made as shown in the previous tables.

A suggested steam connection diagram is shown in the following image. It is suggested to connect the steam input and the condensation discharge to the pipes of the external steam system, by means of flexible pipes **(1, 2)** high pressure resistant (12 bar). Besides a manual valve **(3)** has to be put on the steam net before the machine connection and a ball valve **(4)** on the condensation discharge. Both the lines have to be properly insulated in order to avoid heat dispersions.

In heating phase open gradually the valve **(3)** to avoid damages of internal components. In cooling phase it is required to close the valve **(3)**. The valve **(4)** for condensation discharge, can

remain opened, except for any maintenance operations. It is important avoid to run the machine without steam presence because the rotating joint could be damaged.

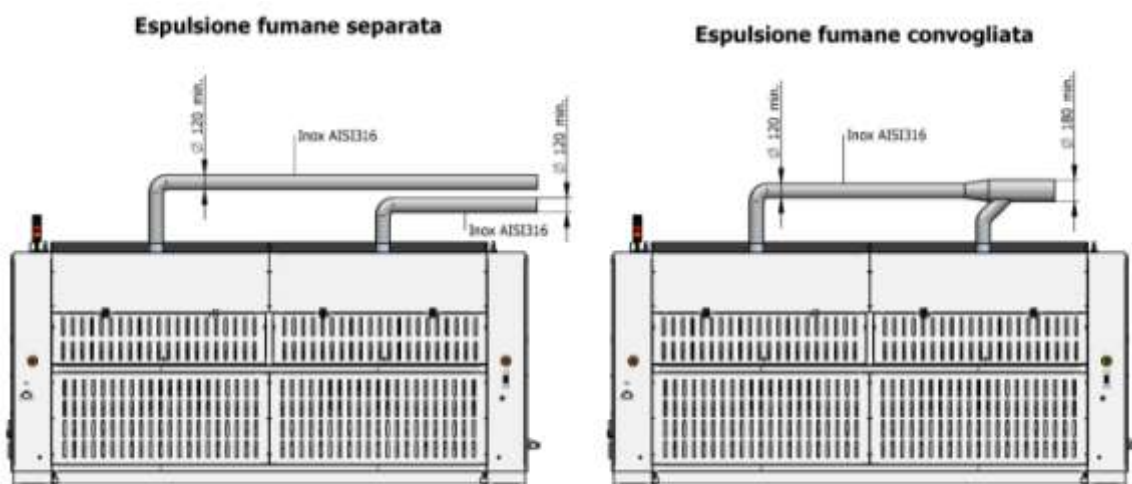


6.4 Combustion fume and ironing water steam exhaust connection

Combustion fumes (in case of heating gas) and steam produced from ironing are discharged by two electrical fans located in the internal upper part of the machine.

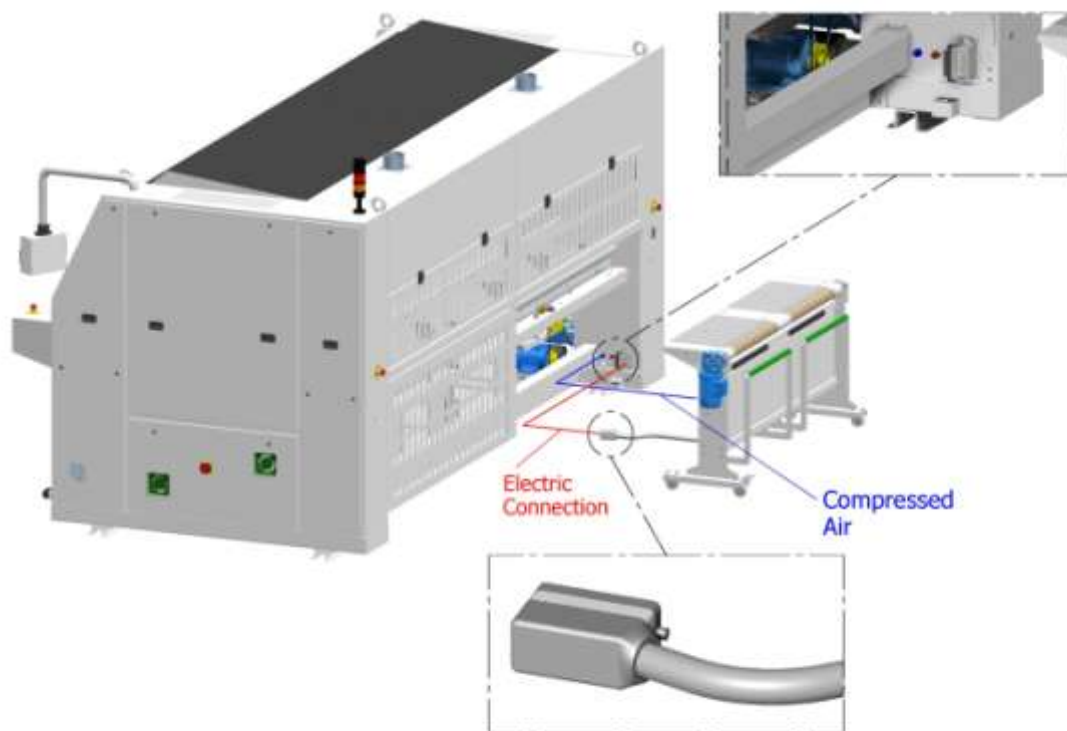
Electro-fan exhaust tubes (\varnothing 120) located at the upper part of the machine must be connected to the exhaust hood (if applicable) or, in any case, externally using tubes with diameter no less than 120 mm. These tubes must be made as illustrated, with 45° open curves and without narrowing to avoid load loss. The exhaust conduit must not be over 5 meters long since this could cause excessive distributed load loss prevent correct fume and mist evacuation.

Model " IF " rear view

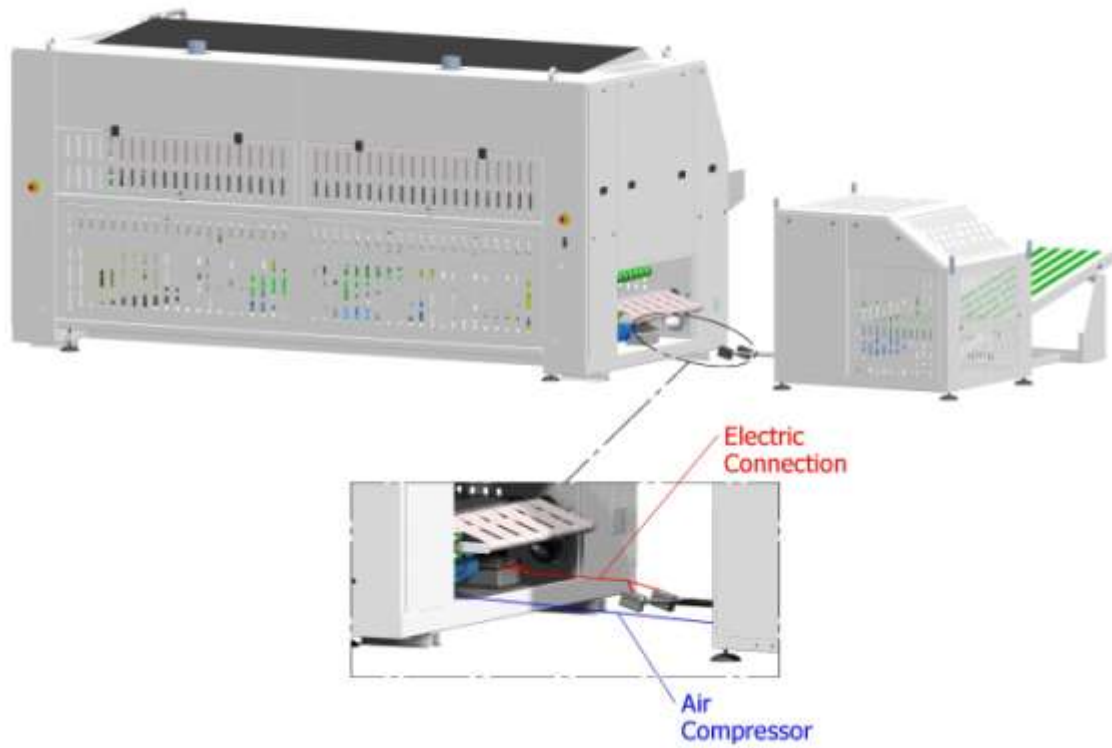


6.5 Optionals electrical and pneumatic connections (if optionals present)

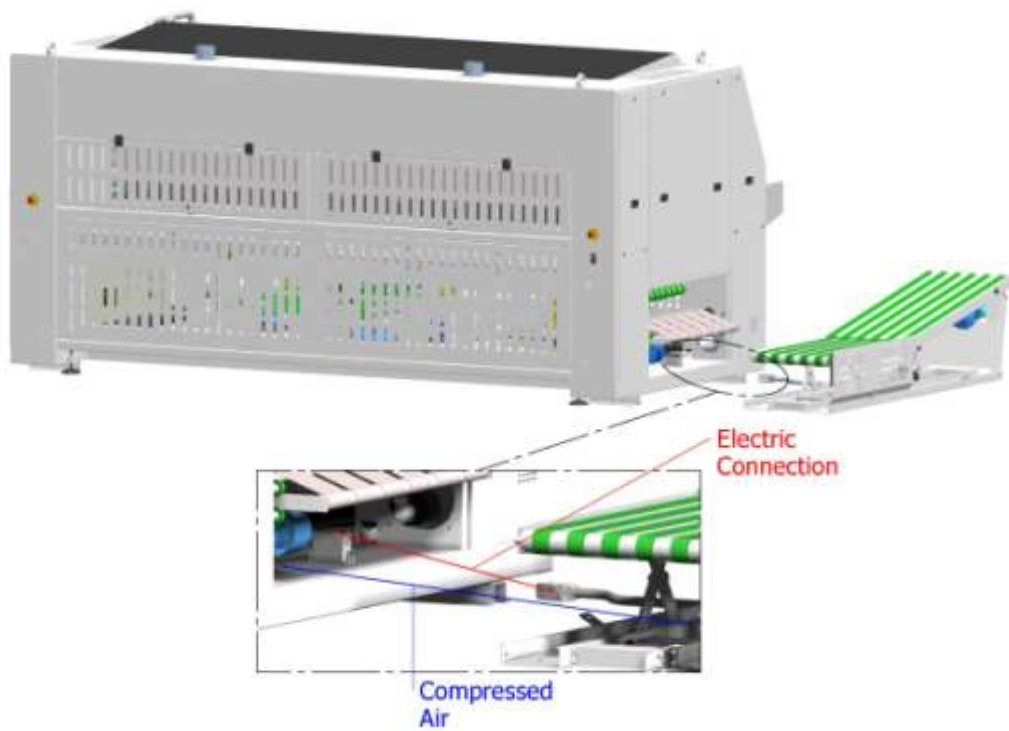
Rear stacker two or four lanes



Side stacker "Stacker"



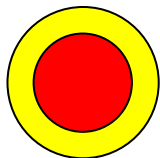
Side stacker "Roll-off"



7 PRELIMINARY CHECKS

Before putting into service the machine, it is necessary to carry out some checks and inspections in order to prevent errors and accidents:

- check safety devices;
 - check protective measures;
 - check signs;
 - check the correct connection of all external power sources;
 - check pneumatic and hydraulic connection tightening to prevent dangerous leakage;
 - check that the machine has not been damaged during assembly;
 - check carefully that electrical panels, control panels, electrical cables and pipes are undamaged;
 - check that all moving parts can move and rotate freely;
- **WARNING !** With careful visual inspection at each start or end of the work shift, check:
- - Cleaning and integrity of the belts that drag furniture fabrics towards the interior and the exterior of the machine with particular regard also to metal elements finger jointing;
 - - The integrity of the electrical cable (complete its plug) external to the body, the display, the buttons (also check for any cracks, scrapes, sprains, cuts, etc. and any hardening or jams or malfunctions);
 - - The efficiency and integrity of the emergency stop command to volunteer (the mushroom buttons red yellow background on most parts of the machine and the possible horizontal cable safety on the front bottom);



Check that pressing the button (red mushroom on a yellow background) emergency stop the machine immediately and I reboot never without the volunteer manual reset which is to rotate clockwise the emergency button is pressed.

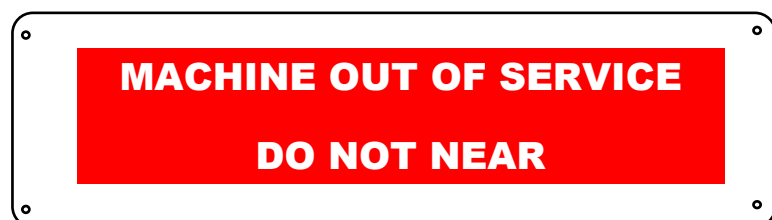


Similarly with the touch up to tension the lifeline at the front

bottom. His Reset is through a special blue button on the switch to which it is connected. Under and alongside examples of conceptual and delivery options.



- NOTE: If there are damages or malfunctions, immediately stop the machine by turning it off and unplugging it physically from the mains supply via detachment of the plug ("male") from the outlet ("female") power. Also:
- If the heating of the machine is to close the gas feeding valve of the gas feed placed on the pipe of yellow color outside the machine and, if possible, lock it in the closed position and / or put a warning sign on the obligation to maintain the valve closed.
- • If the heating of the machine is steam, disconnect the steam supply. Instead, leave open the condensate valve.
- If the machine heating of the electric is to place the power switch of the resistors in position O = OFF
- Issuing instructions prohibition of use to anyone and put a sign forbidding use (in one example) then contact a specialist repairer of the machine and / or dealer for repair (if deemed simple) and the manufacturer to warn of interventions to be done, especially if the intervention does not appear easy to expert maintenance charge.



8 ADJUSTMENTS

Over than the mechanical regulation of feet to align horizontally the machine that we have described in the paragraph "Placement", the machine can need the following regulations:

- For the gas machines you have to check that the gas regulator is correctly calibrated in according with machine technical data and gas type.

9 NO LOAD TESTS

Before putting into service the machine, run at least one no load test in order to verify the absence of anomalies.

Before begin the ironing and folding operations put the machine in movement for about 10 minutes without feeding any item in order to check anomalies lack.

10 LOAD TESTS

Run at least one load test in order to verify absence of anomalies.

Before begin the machine working cycle it is necessary to do some tests with test linen in order to check anomalies lack on the working programs.

4 DESCRIPTION OF THE MACHINE

1 WORKING PRINCIPLE

IR

The machine has the aim to iron and dry flat linen as sheets, towels, pillow cases and similar.

The operator picks up the washed items (washing in a washer) and partially dried (usually in a dryer) and taking the ends lay them on the feeding belts.

Then the items are inserted through the feeding belts inside the machine until reach the contact the metallic cylinder heated from inside. By the ironing belts that spin ever and that drive the items during their contact with the roll the ironing and consequent drying phase is done.

After this phase the items are layed on cotton belts that drive them to exit tables where the operators will pick up them.

IQ

The machine has the aim to iron, dry and length fold flat linen as sheets, towels, pillow cases and similar.

The operator picks up the washed items (washing in a washer) and partially dried (usually in a dryer) and taking the ends lay them on the feeding belts.

Then the items are inserted through the feeding belts inside the machine until reach the contact the metallic cylinder heated from inside. By the ironing belts that spin ever and that drive the items during their contact with the roll the ironing and consequent drying phase is done. After the ironing phase is ended the items are folded in the middle by a mechanism composed of air jets and rotating rolls. Continuing their advance on cotton belts the items are folded again in the middle with the same mechanism until obtain a final dimension of 1/4 of the original one.

After the ironing and folding phase the items are layed on cotton belts that drive them to exit tables (front or back if present s optional) where the operators will pick up them.

In case of particular needs, the operator through right regulations (see attached "Regulations list"), can do the working cycle without one or two folds length until arrive to use the machine only to iron.

The machine, as told above, can work on the central lane or if expected in the model configuration on the side lanes. The side lanes work in independent way and this means that can manage many combinations of linen to work because for each lane the operator can set folds number and items exit.

The machine has the aim to iron, dry and length and crossfold flat linen as sheets, towels, pillow cases and similar.

The operator picks up the washed items (washing in a washer) and partially dried (usually in a dryer) and taking the ends lay them on the feeding belts.

Then the items are inserted through the feeding belts inside the machine until reach the contact the metallic cylinder heated from inside. By the ironing belts that spin ever and that drive the items during their contact with the roll the ironing and consequent drying phase is done. After the ironing phase is ended the items are folded in the middle by a mechanism composed of air jets and rotating rolls. Continuing their advance on cotton belts the items are folded again in the middle with the same mechanism until obtain a final dimension of 1/4 of the original one.

After this ironing and folding phase the items are layed on cotton belts that carry them to a table in movement (crossfold table) that at a selected point stops and allow some air jets to insert the items between rotating rolls under and then fold the items (already length folded twice) in the middle (first trasversal or cross fold). Then the item is folded again other two times until reach the final dimension of 1/4x1/8 of the original one. This happens only if the operator works on the central lane because on the side lanes the item can have in total max two crossfolds and the final dimension can be max 1/4x1/4.

The item now can be collected from the operator on a side exit table or if the side stacker "Stacker" or "Roll-off" is present is stacked in stacks of folded items.

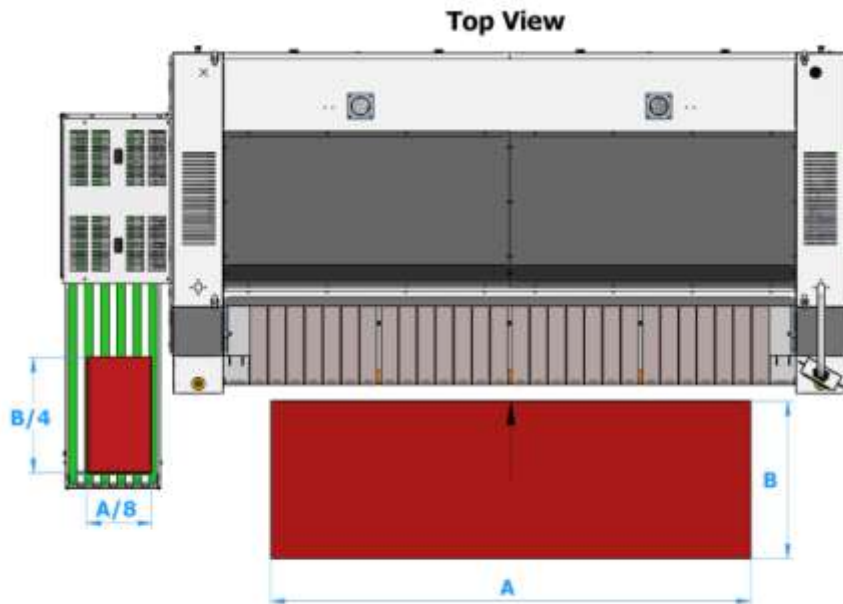
The stack is then translated on conveyor belts until the packing plant or is collected by the operator and packed.

In case of particular needs, the operator through right regulations (see attached "Regulations list"), can do the working cycle without one or two folds length and without one or more crossfolds until arrive to use the machine only to iron.

The machine, as told above, can work on the central lane or if expected in the model configuration on the side lanes. The side lanes work in independent way and this means that can manage many combinations of linen to work because for each lane the operator can set folds number and items exit.

" IF "

Figure 4.1. 1 Feeding diagram on the central lane and exit on "Stacker" for a sheet.



The machine, as told above, can be equipped on request at the order time, with some optionals that increase and simplify the machine functionality:

Automatic feeder with clamps "Feeder"

Through this feeder the operator can insert the large items on the central lane applying each upper end on the correspondent clamp.

Then it is sufficient a simple pressure of a button and the feeder automatically insert the item simplifying the operator activity.

Besides for large dimensions items as sheets for example, the manual insertion achieve two operators intervention while with the feeder **it is necessary one only operator.**



Rear stacker "Stacker 2 or 4"

The rear stacker is located on the opposite side of the linen feeding one.

It can have two or four lanes and it is used when the little items have to be stacked after the only ironing phase.



2 MAIN COMPONENTS

IR

The machine is composed from five main blocks from functional point of view:

- Feeding table
- Ironing system
- Exit belt

and from two main blocks at plant level:

- Heating system gas or steam or electrical
- Transmission

IQ

The machine is composed from five main blocks from functional point of view:

- Feeding table
- Ironing system
- Length folds system
- Exit belt

and from two main blocks at plant level:

- Heating system gas or steam or electrical
- Transmission

“ IF ”

The machine is composed from five main blocks from functional point of view:

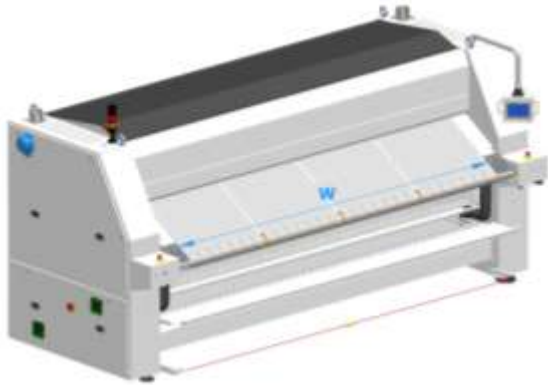
- Feeding table
- Ironing system
- Length folds system
- Transversal folds system so called crossfold
- Exit belt

and from two main blocks at plant level:

- Heating system gas or steam or electrical
- Transmission

The feeding table is composed from cotton belts series located on a table slanting in ergonomic way to allow the operators to lay on it in right way the linen.

Figura 4.2. 2

IR/IQ**IF**



The dimension **W** shows the feeding table width. This value can be 2600 mm or 3300 mm in according with the machine model and it is the working width to use. The operator has to take care to work as uniformly as possible on all the feeding table width in order to manage in optimal way the next ironing phase.

N.W. For all the items there is the rule that they have to be inserted with the max dimension long the feeding table width in order to allow to have the max efficiency from the machine.

On request, to supply ad optional, the feeding table can be "sucking" that is on it there are some little holes through which the air is sucked. In this way, the items during the feeding phase have more grip on the table simplifying further the operator activity.

The machine is built to work on one central lane or on two lateral independent lanes.

Feeding possibilities examples series are shown as follows:

Sheet feeding on central lane	Towels feeding on lateral lanes
	

Napkins feeding on a lane and towels on the other one.	Three table covers feeding at the same time
	

As told above, the feeding can be facilitate by the presence of automatic feeder "Feeder" of which a working image is shown:



After the feeding phase the items reach the ironing section of which the first element is the so-called pressure roll.

The pressure roll produces a right pressure on the items in the point in which they pass from the feeding belts contact to ironing roll contact.

This area is guarded from the feeding zone from a safety hands bar equipped with a safety switch on the opening or on the pressure in way to protect rightly the operator from any accident.

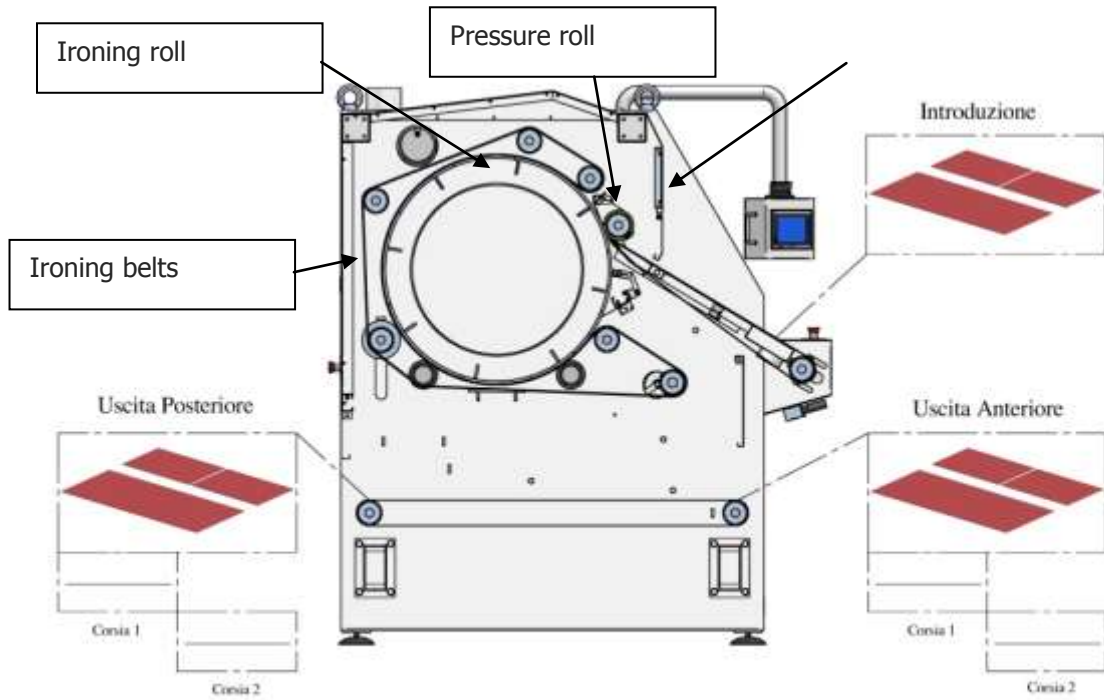
In any case this area remains a zone in which the operator has to take the max care and remind that the operator has to wear appropriate clothes so to have not parts that can be pulled from the feeding belts. The operator has to leave any necklace, bracelet, ring or pendant and has to keep the hair collected.

After the pressure roll zone, the items are maintained in contact with the ironing roll by the ironing belts composed by specific textile fibers that sure a perfect items ironing.

After the ironing phase the item is conducted in a point where, reaching the half of its dimension, is inserted by air jets in two rolls rotating in contrary way.

The item, ironed and folded, go again on a cotton belts system until reaches a point with the half of its dimension and is inserted by air jets in two rolls rotating in contrary way.

An image of ironing section follows for IR model:



An image of ironing and folding section follows for IQ model:

Figura 4.2. 3

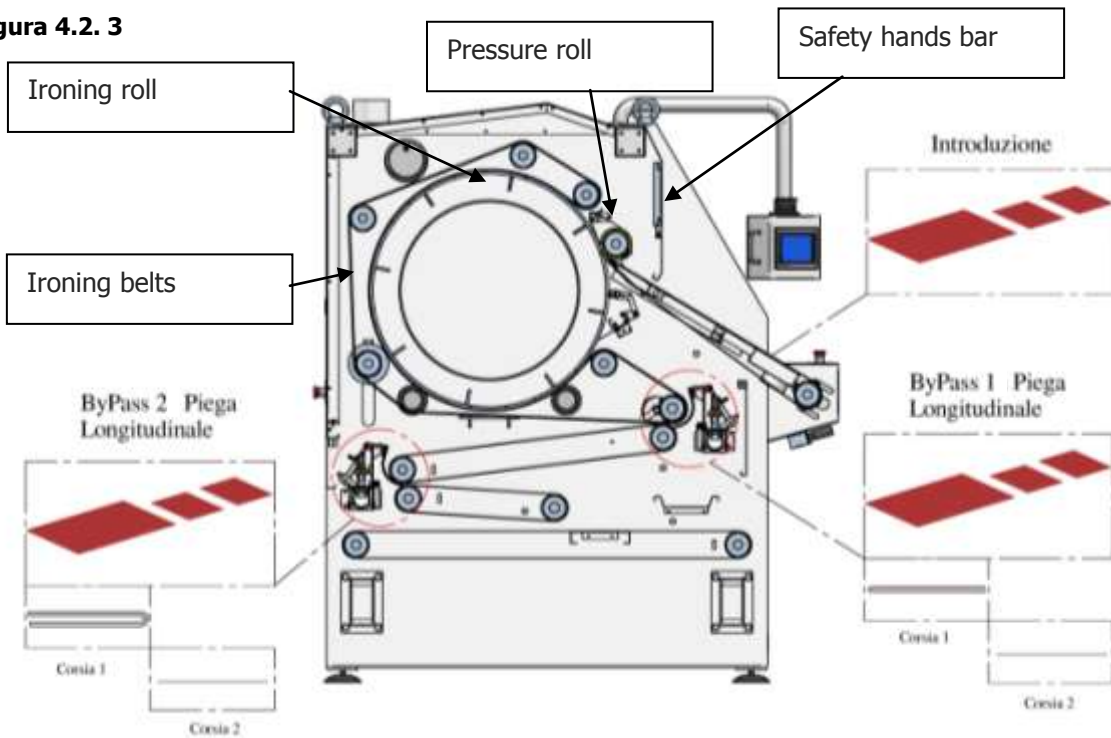


Figura 4.2. 4

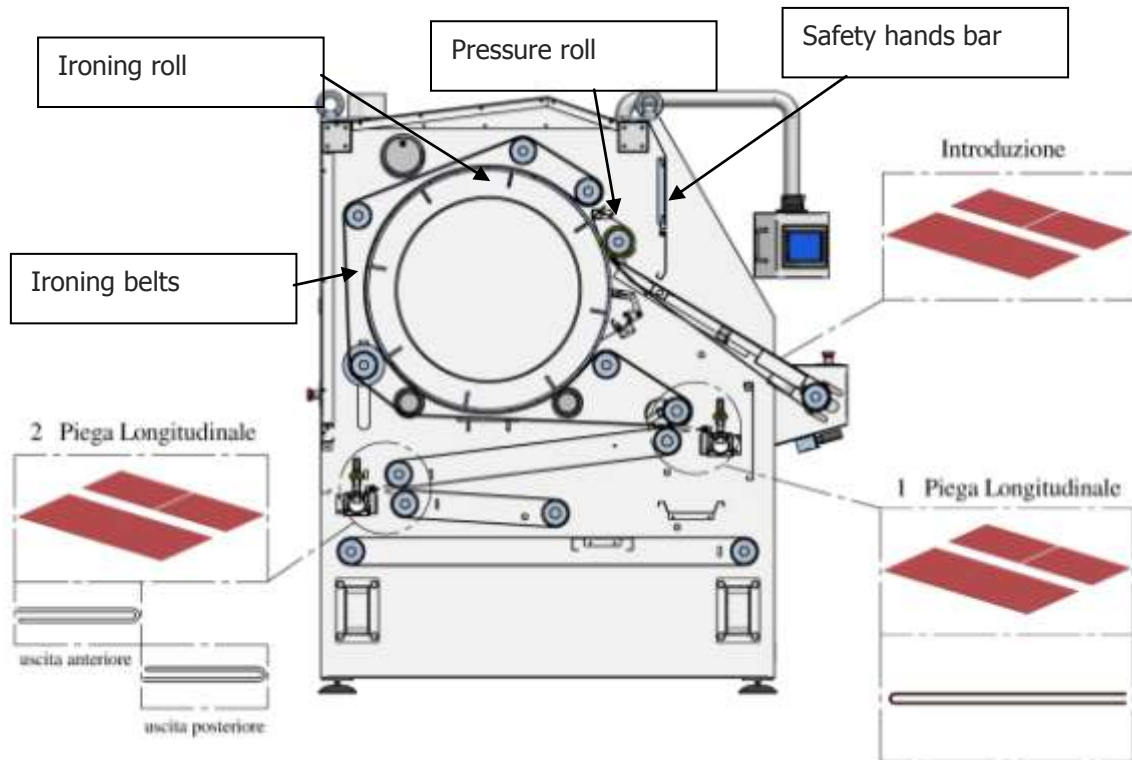


Figura 4.2. 5

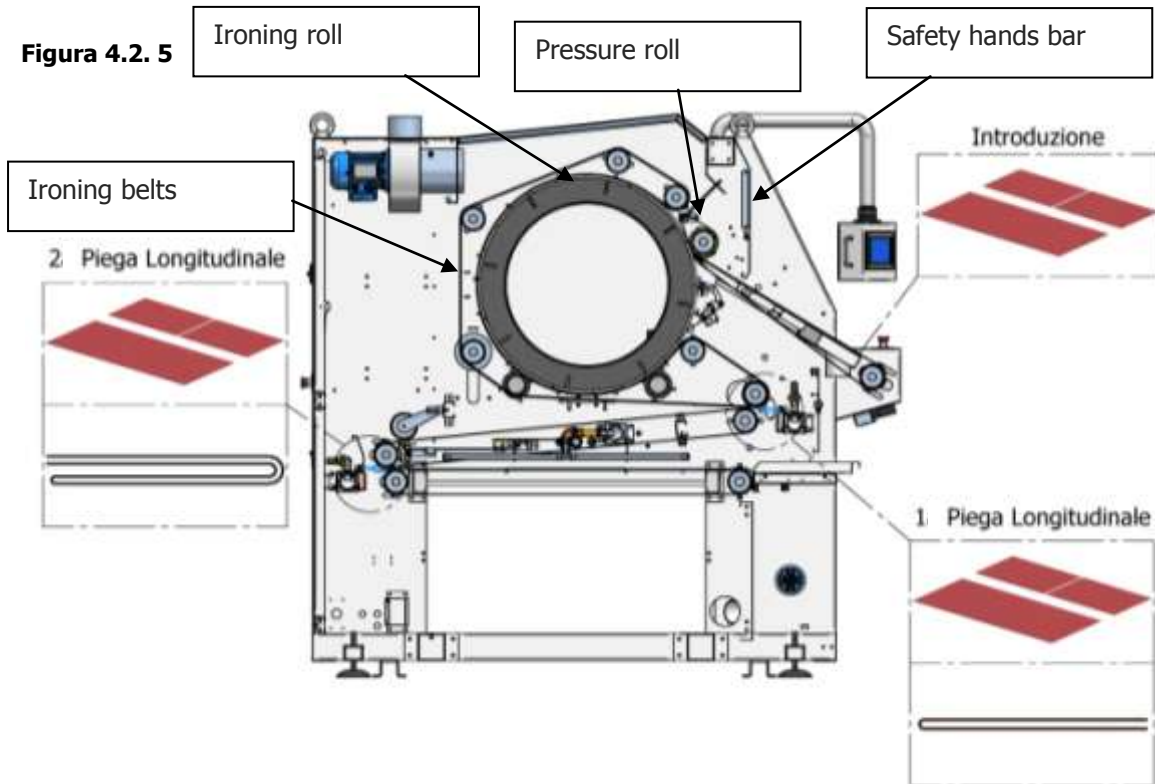
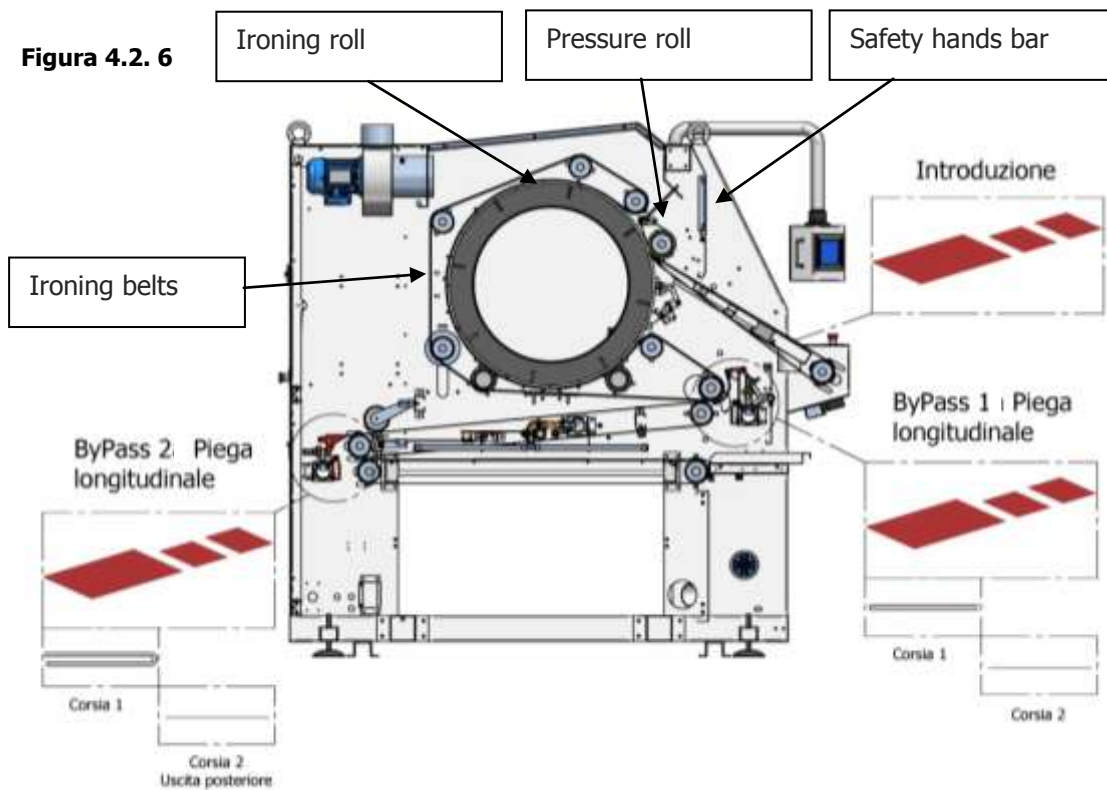


Figura 4.2. 6



After the length folding, the item is layed on cotton belts series, the so-called "crossfold table".

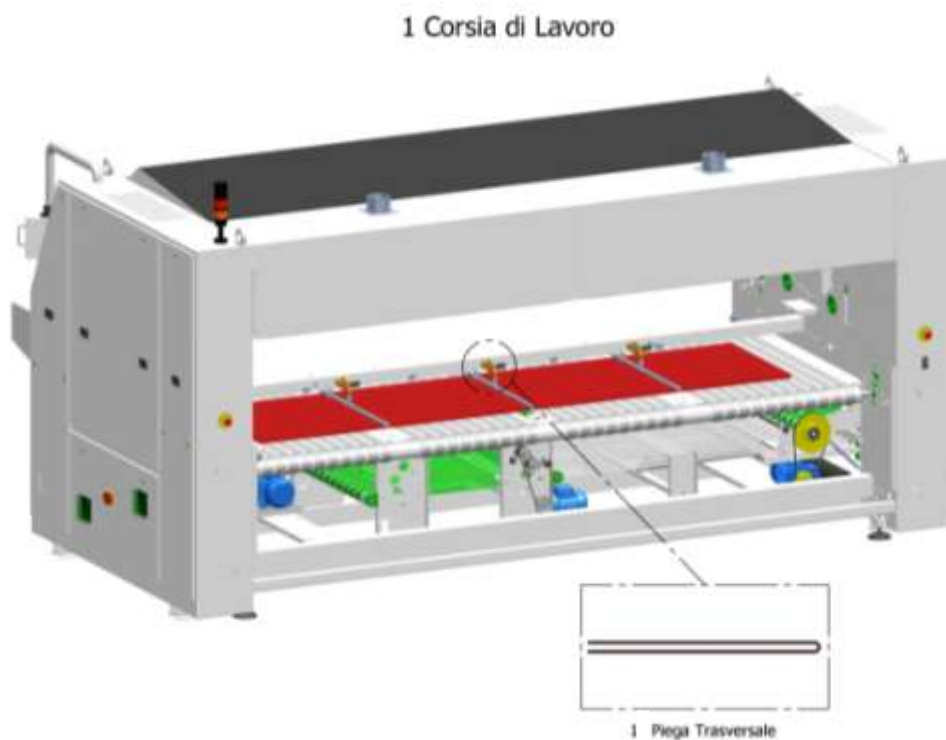
The crossfold table is equipped with three slots in correspondence of the central and lateral lanes under each there is a couple of rolls rotating.

When the item, ironed and length folded, is completely located on crossfold table, the table stops and by air jets the item is inserted in the rolls below and translated on conveyor belts in crossfold system.

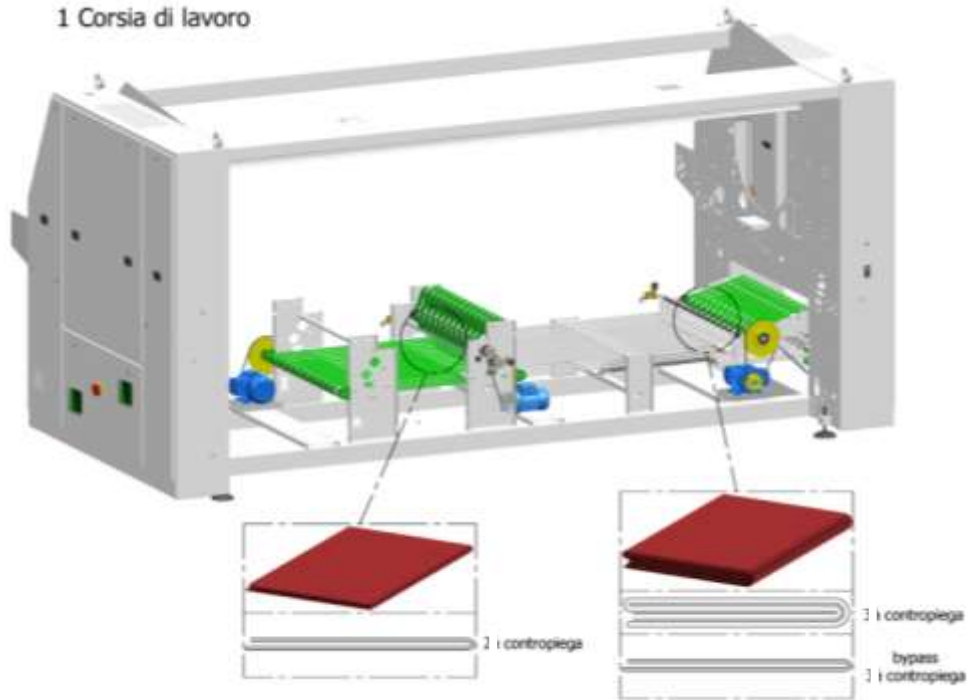
Then, if the work is on one lane (large items), the item can be folded other two times, but if the work is on two lanes (little items) the item will be subjected to one only fold.

The machine will have the chance to work on two lanes only if expected in the model selected by the customer at the order time.

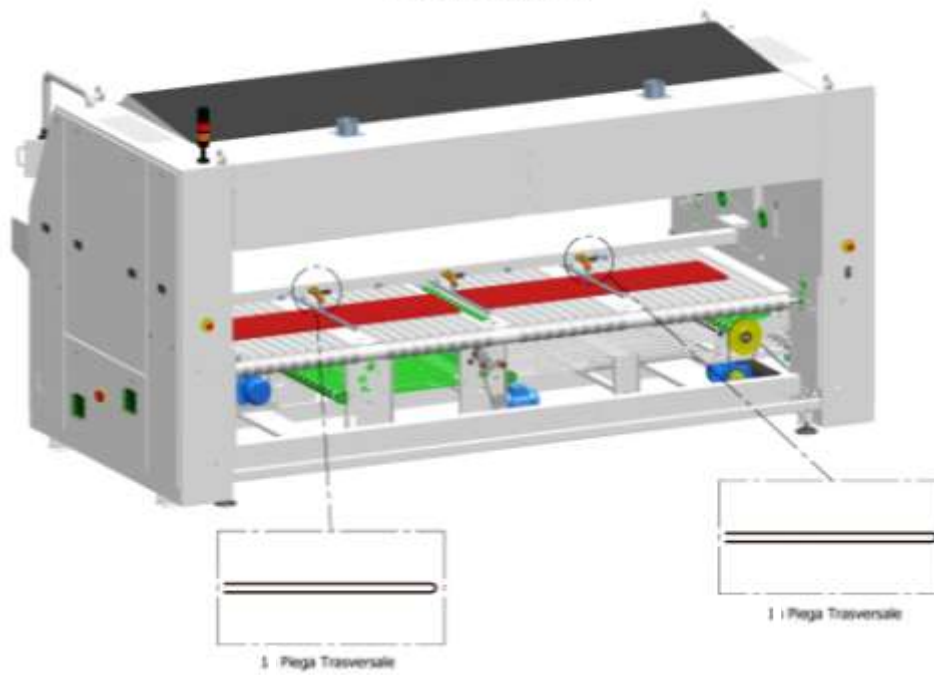
The crossfold system is well exemplified in the following diagrams:

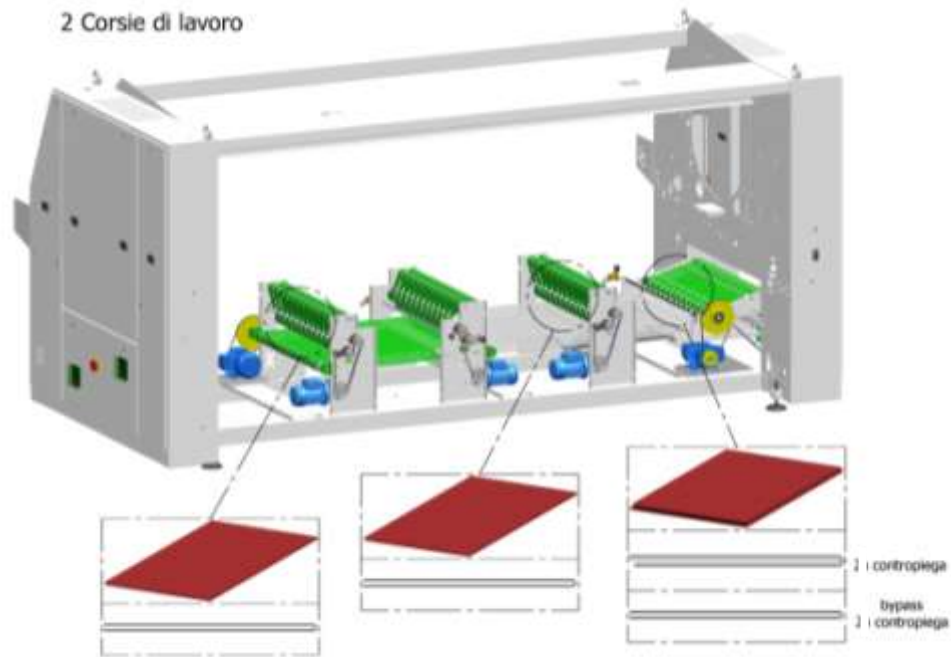


1 Corsia di lavoro

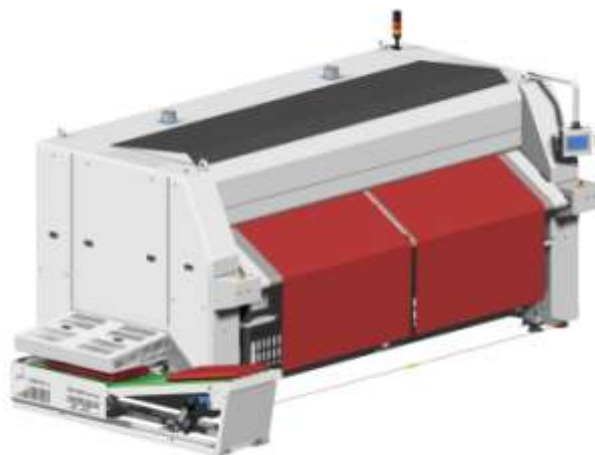


2 Corsie di Lavoro










The item, ironed, folded and crossfolded will be collected on a collection table or in it there is the optional "Stacker" will be stacked on a stack and then translated and already ready to be packed. An example in the following image:



In any time, the user will be put the machine jumping one or more folding phase until it will work as a simple ironing and collecting the items in front as for the following example image:

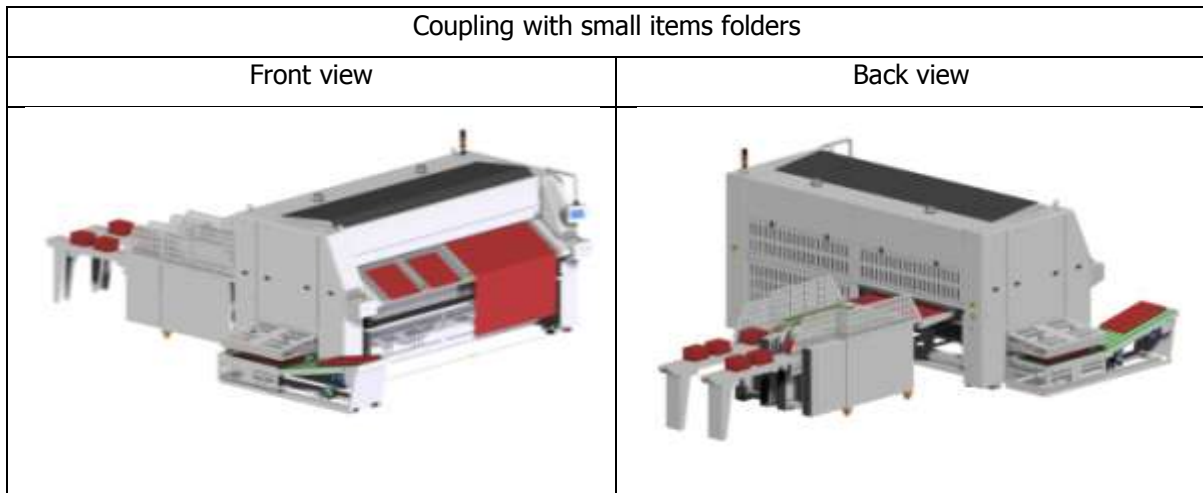
Sheet front exit	Three table covers front exit
	

The exit could be also back and some use options are the following:

Sheet back exit	Two towels back exit
	
Two napkins back exit	Three table covers back exit
	

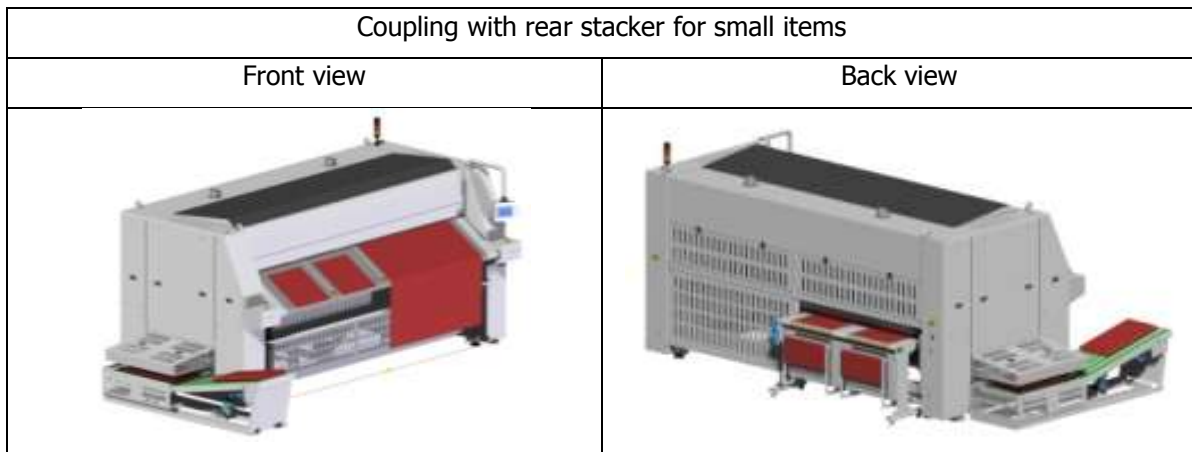
The machine can be coupled with other machines in order to increase the functionality.

An example of coupling with folder for small items is showed below. This folders type is located after the machine. They receive the small items (napkins, pillow cases, face towels, etc...) only ironed and fold in specific way them.



Until 4 folders can be located after the machine.

The machine can be also coupled with a rear stacker for small items and also in this case the items exit only ironed and then are stacked back by the stacker as shown below:



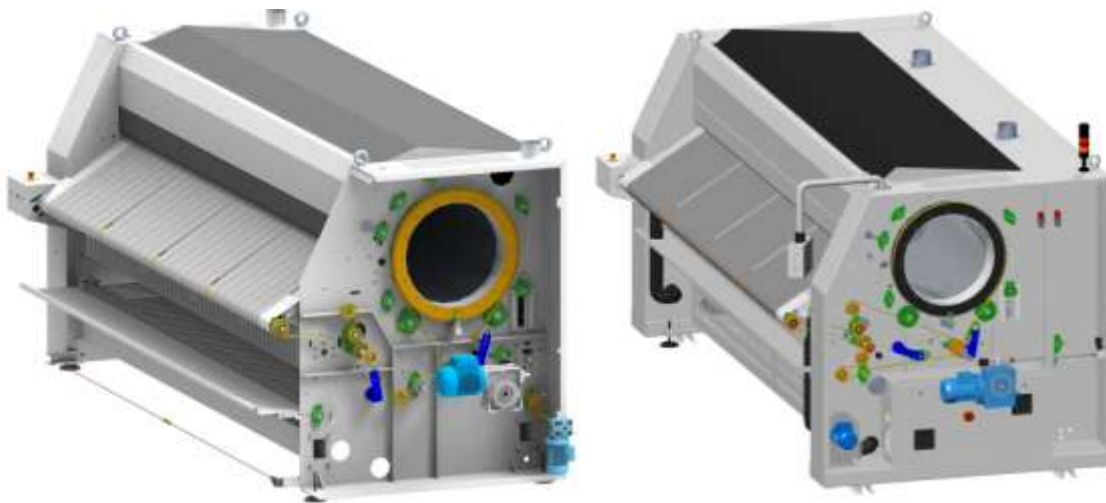
The rear stacker in this image is the two lanes model but it can be also four lanes and in this case it will hold all the space of the machine rear width.

From the plant level point of view we have pointed the importance of the trasmission and heating system.

About the transmission, it is located inside one of the two machine shoulders and it moves all the ironing, folding section rolls and ironing rolls.

A machine transmission diagram with gas/electrical heating is the following:

Figura 4.3 1

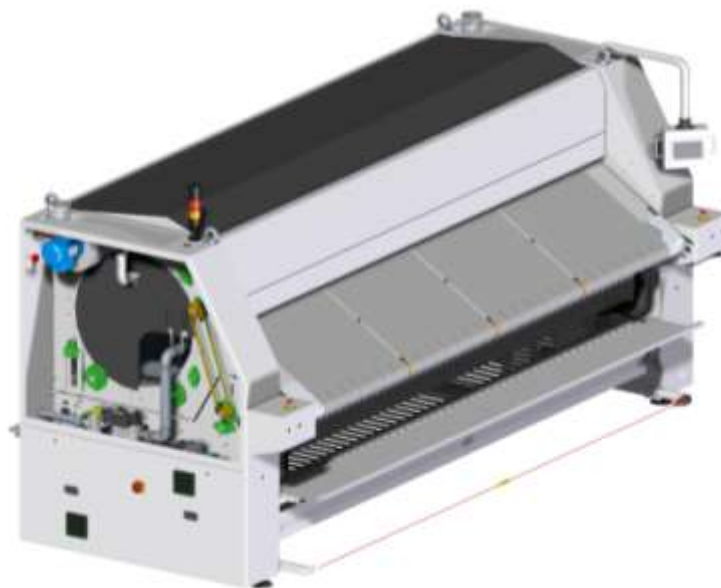


About the heating system the machine can be heated with gas, steam or electrical resistances.

3 GAS HEATING SYSTEM

When the heating is by gas combustion, the machine is equipped with a burner driven by an electronic device that control its ignition and shutdown. This device is driven from PLC installed on electric board that elaborates, with the help of the 2 temperature converters, the signals from the thermocouples, 1 of work and 1 of safety and according the set working temperature activates and deactivates the burner control device.

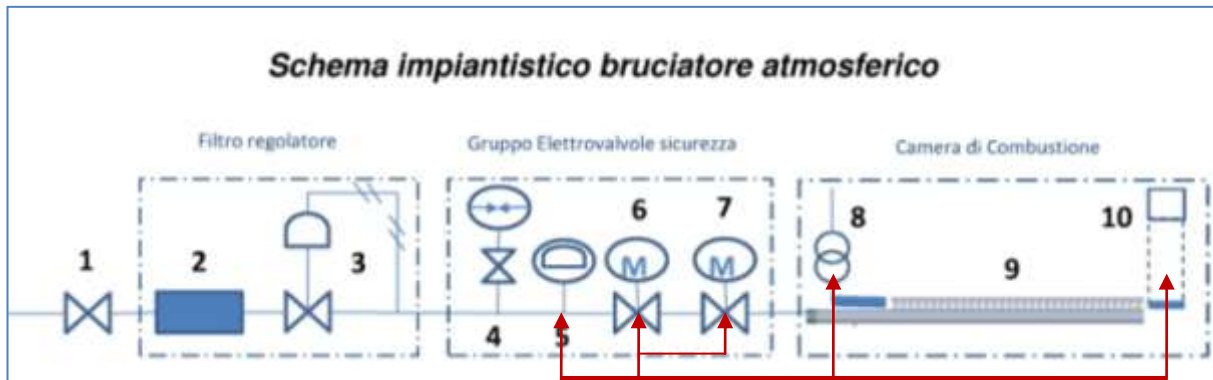
To indicate if the heating is on on the touch keyboard is shown the icon



The burner can be of two different types:

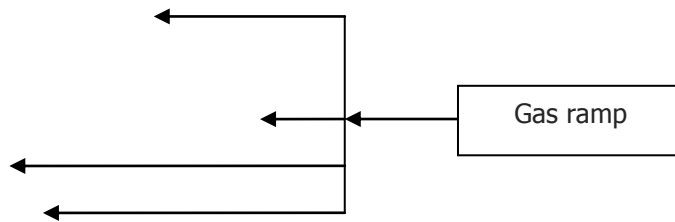
- Atmospheric burner
- Premixed burner

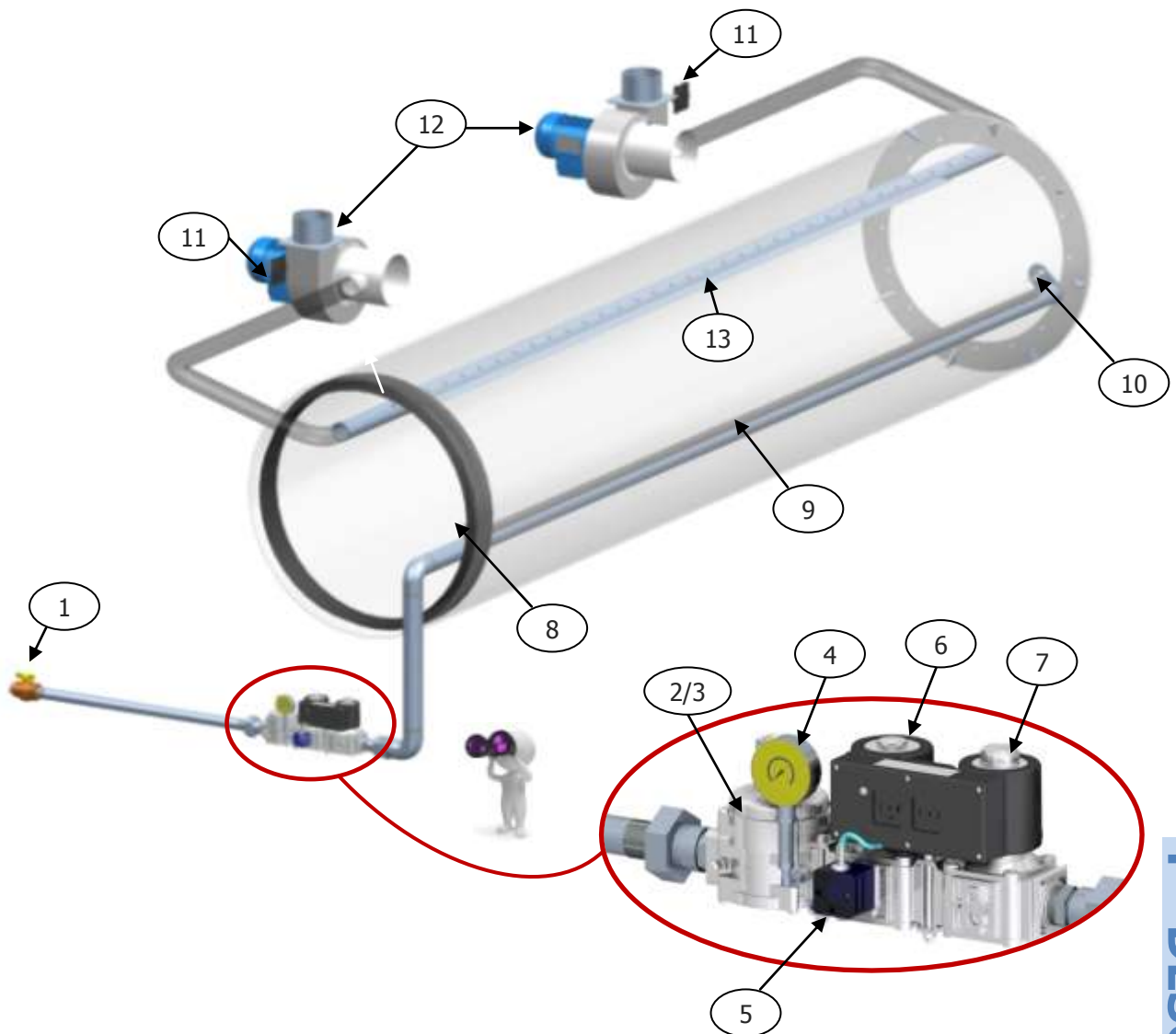
3.1 ATMOSPHERIC BURNER









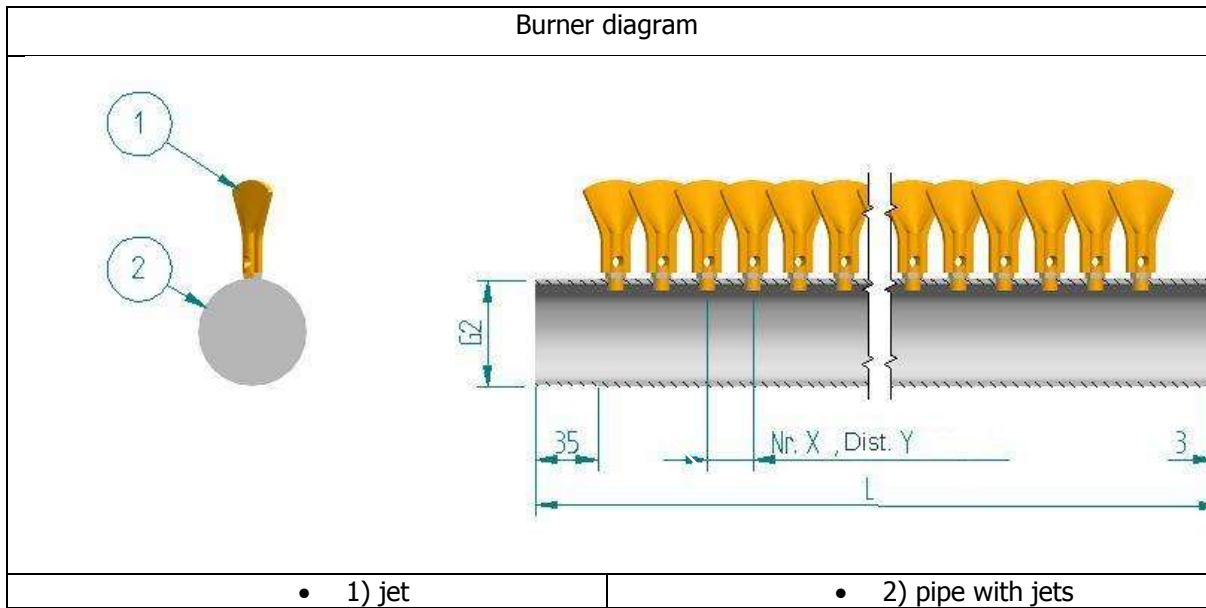
Legend:

- 1 – Manual stop valve
- 2/3- Gas pressure Filter/ Regulator
- 4 – Gas pressure gauge
- 5 – Low pressure gas safety device
- 6 – First safety device
- 7 - Second safety device
- 8 – Ignition device
- 9 – Burner jets
- 10 – Flame guard device
- 11 - Differential pressure switch
- 12 – Fumes suction motors
- 13 – Fumes suction pipes
- 14 – Burner control device



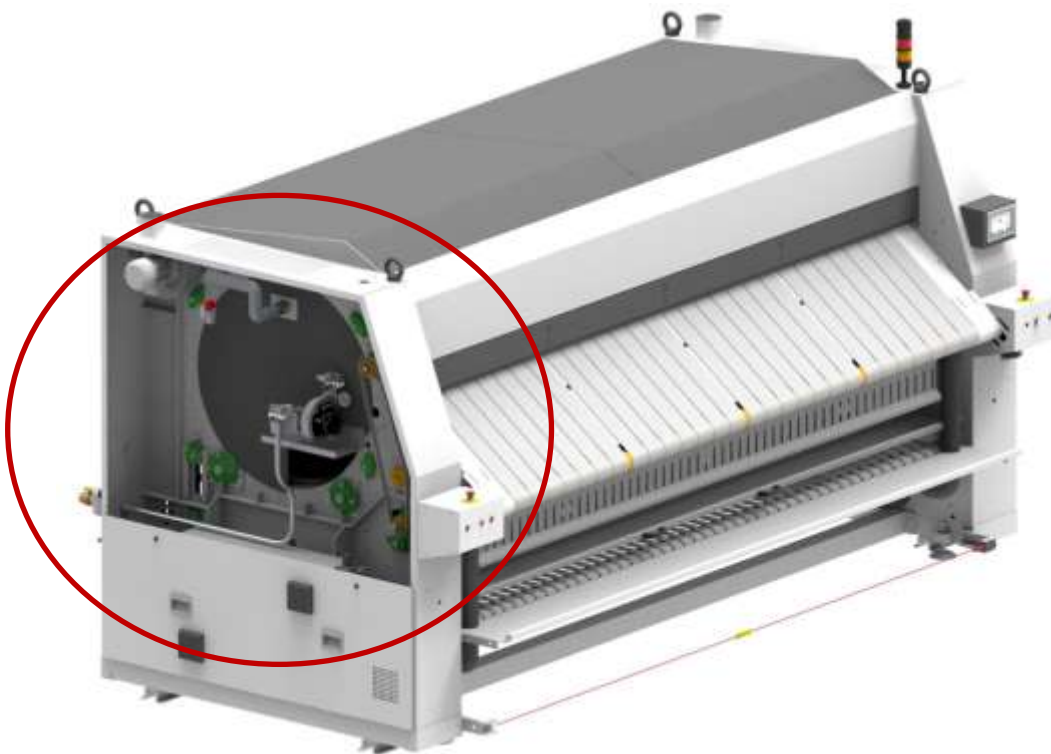


 Id 1 Manual valve	 Id 2/3 - 4- 5 - 6 - 7 Gas ramp	 Id 4 Gas pressure gauge
 Id 9 Jets (LPG or Natural)	 Id 8 - 10 Electrode ignition/detection	 Id 11 Differential pressure switch

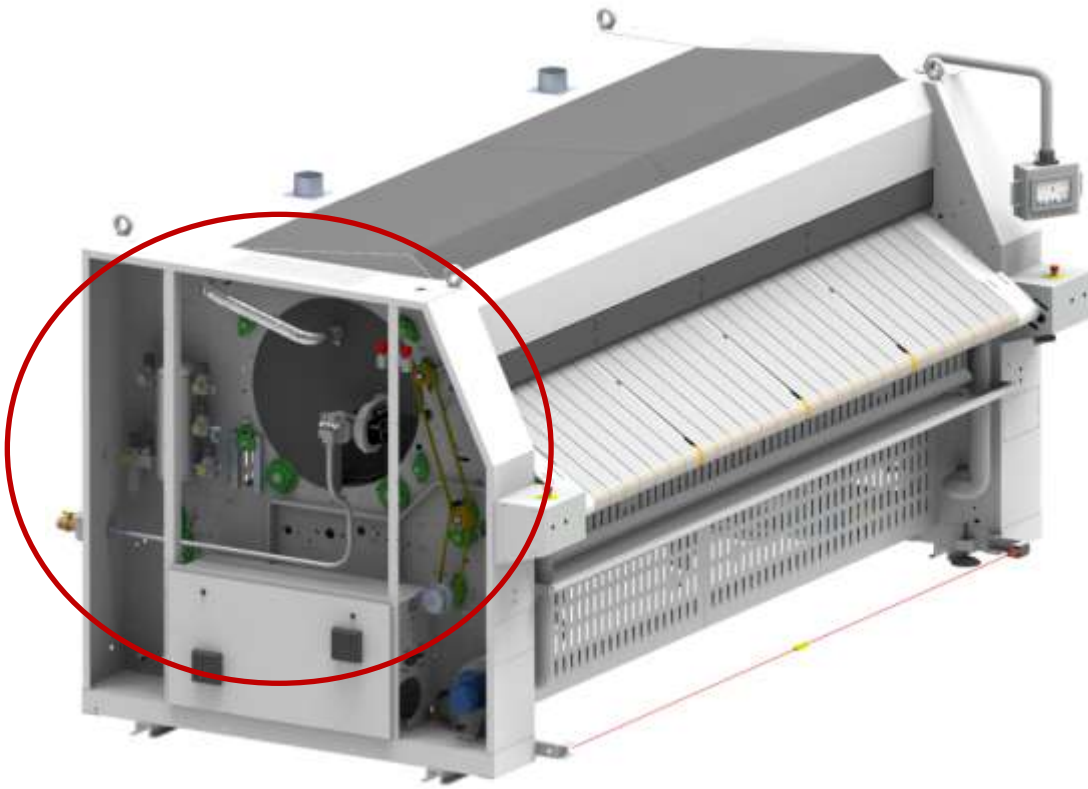


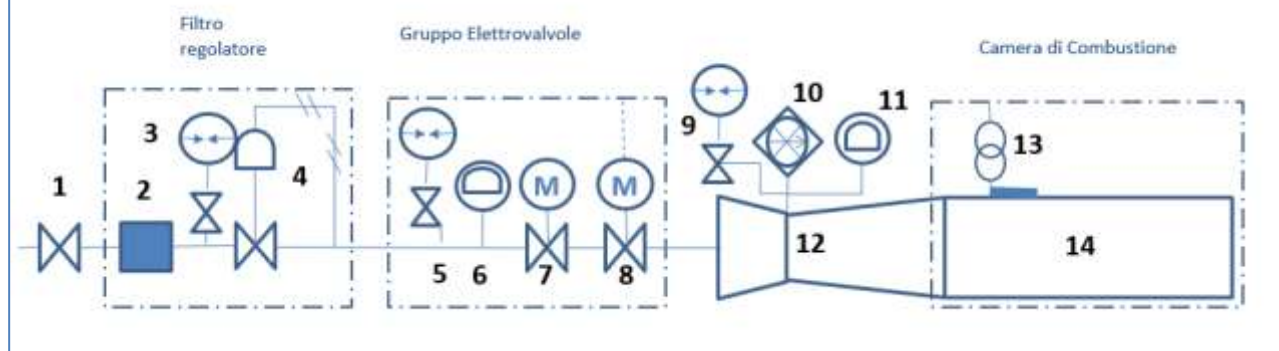
3.2 PREMIXED BURNER

DIAGRAM OF GAS CURCUIT AND CONNECTION WITH THE SUPPLY LINE
 VIEW IR - IQ

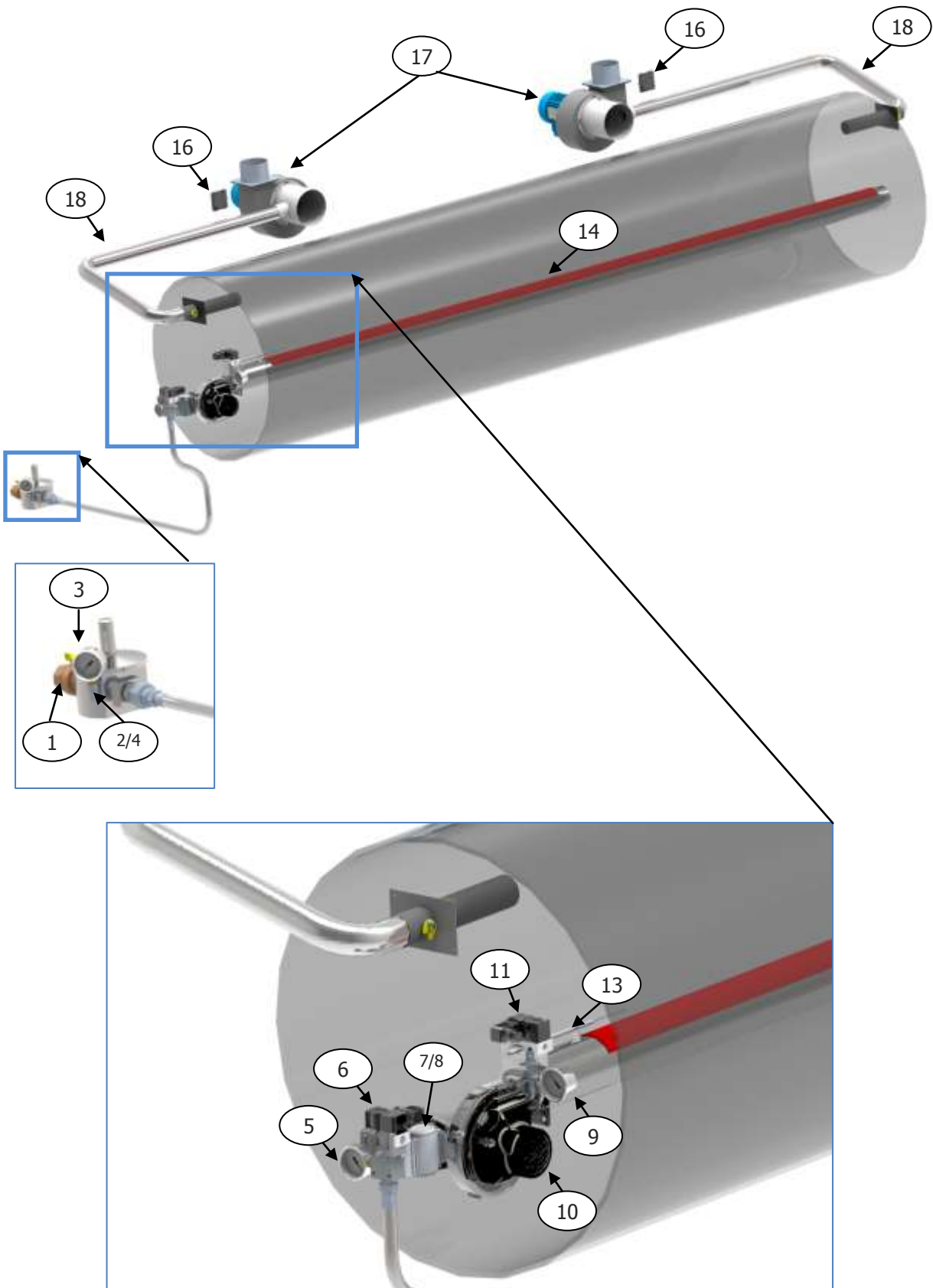









Vista IF



Schema impiantistico bruciatore premiscelato**Legend:**

- 1 – Manual stop valve;
- 2/4 – Filter regulator;
- 3/5 – Manometer del gas;
- 6 – Gas low pressure safety device
- 7 – First safety device (valve);
- 8 - Second safety device (valve);
- 9 – Pressure switch mix air/gas;
- 10 - Fan;
- 11 – Mix air/gas low pressure safety device;
- 12 - Venturi;
- 13 – Flame ignition/detection device;
- 14 – Burner radiant pipe;
- 15 – Control burner device;
- 16 – Differential pressure gauge;
- 17 – Fumes suction motors;
- 18 – Fumes suction pipe;

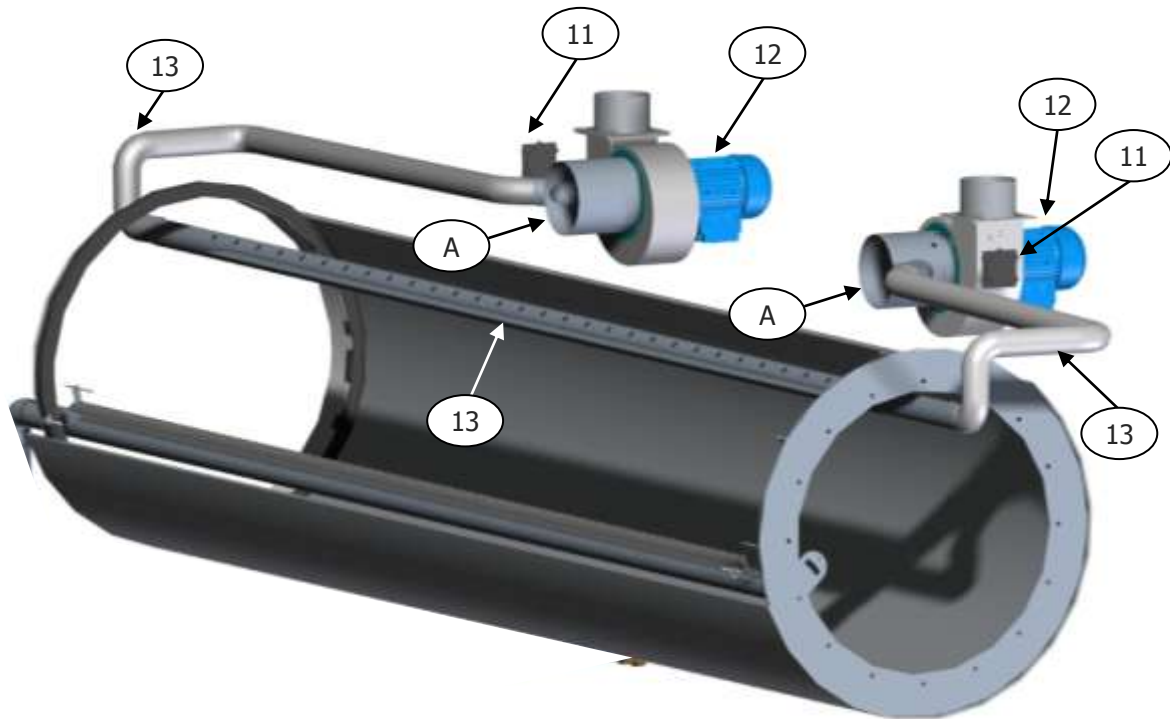


			
Manual valve	Fan valves group		Gas pressure switch
			
Pressure gauge Air/Gas	Electrode ignition/detection	Differential pressure gauge	Burner radiant pipe

4 AIR CIRCUIT DESCRIPTION

The burning products are sucked from two fans **(12)** by fumes suction pipes **(13)** located inside the combustion room. These products are then collected by chimneys smoke extraction located on the upper part of machine. All the water steam from ironing phase meet the fumes and are sucked from the front part **(A)** of the fans.

The differential pressure switches **(11)** are near the fans and connected to them by a silicon pipe to pressure plug (Venturi pipe) installed inside snails, in order ti detect the differential pressure on sucking circuit.



5 BURNER WORKING PRINCIPLE

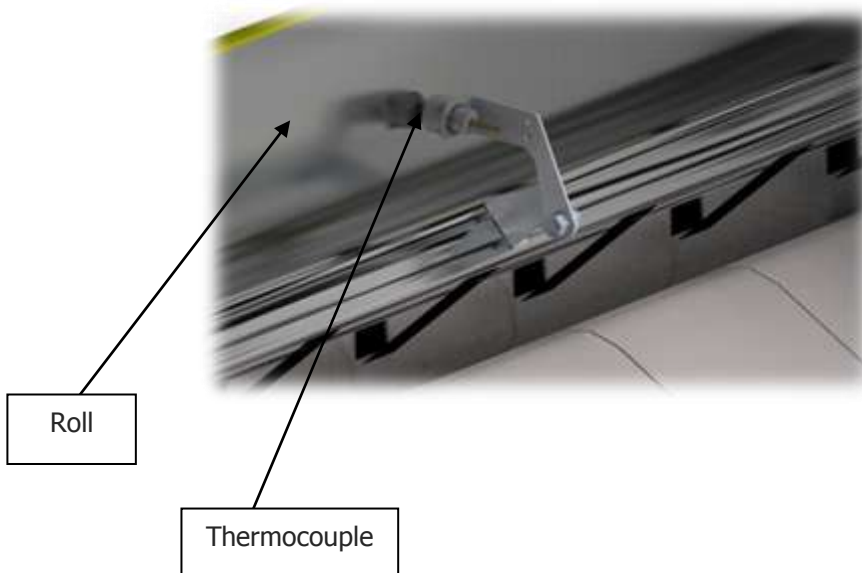
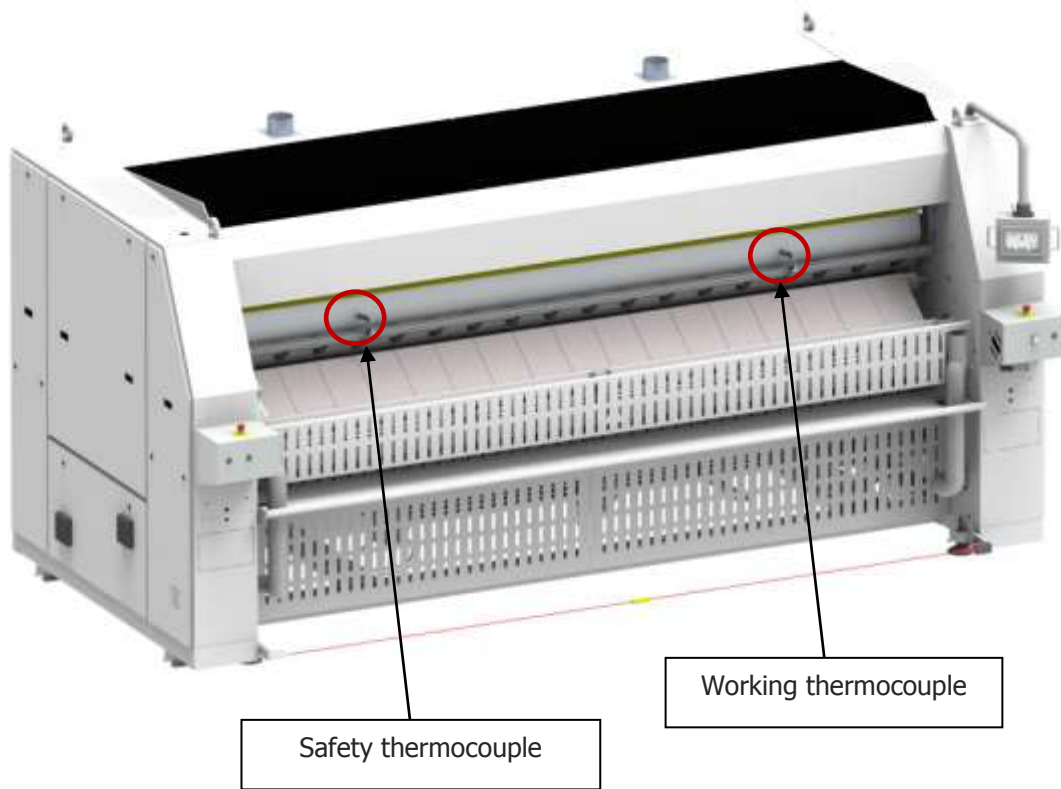
In the ironers – folders model IR - IQ the burner is controller by PLC installed in the machine that switches on and off the burner in according with the operators work. They can activate and deactivate the heating and set the desired temperature value until the max value of 170°C.

For the atmospheric burner, for a right maintenance it is required to do at least 2 times each year the burner pipe and jets cleaning by compressed air, also in relation with the work conditions.

6 TEMPERATURE CONTROL

To calibrate the ignition and the switch off during the working cycle, the ironing roll temperature trend has to be monitored so its value is more constant as possible by two thermocouples (temperature sensors).

The first is to detect the roll temperature by working temperature converter located on electric board, while the other is for safety temperature converter located always in the electric board that operates in case o working converter anomaly.



7 STEAM HEATING SYSTEM

The steam heating system is composed from a metallic roll filled of steam in pressure by an adduction circuit. The steam heated machine hasn't any temperature regulation (it will be directly proportional to the steam pressure max 12 bar see table 4.7.1). The touch panel indicates simply the roll temperature but doesn't control the heating.

If there the temperature regulation need the machine is electrically set to command a valve coil (max 5 watt), that can command a steam valve with pneumatic drive but with gradual opening.

This roll is a pressure recipient and it is subjected to european directive PED of which we attach the conformity declaration.

The roll is subjected to this directive and it has to be subject at a new test within 10 years from the first one (see conformity declaration date).

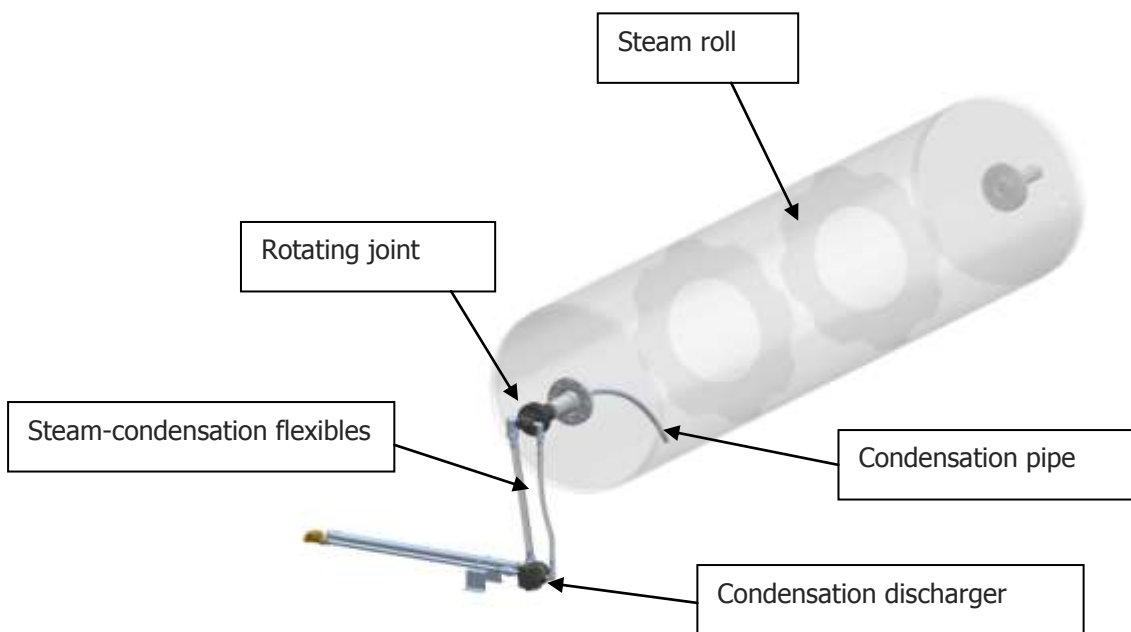
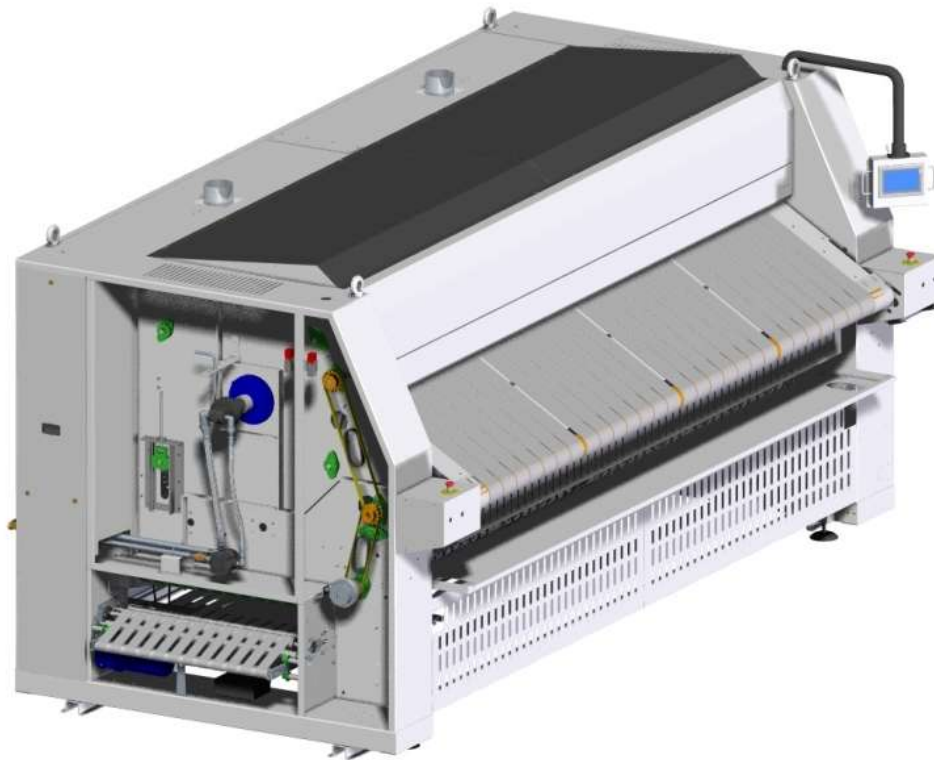
The steam adduction is made by a rotating joint that inlays steam in the roll and takes out the condensation from inside keeping the roll rightly heated.

Table 4.7.1

Steam features table		
Steam pressure (bar)	Steam temperature (°C)	Theoretical temperature * ironing roll surface (°C)
6	165	150
7	171	155
8	175	160
9	180	165
10	184	170
11	188	175
12	192	180

Suggested minimum working pressure 10 bar

* Steam generator near the machine and optimal insulation (The data are indicative)

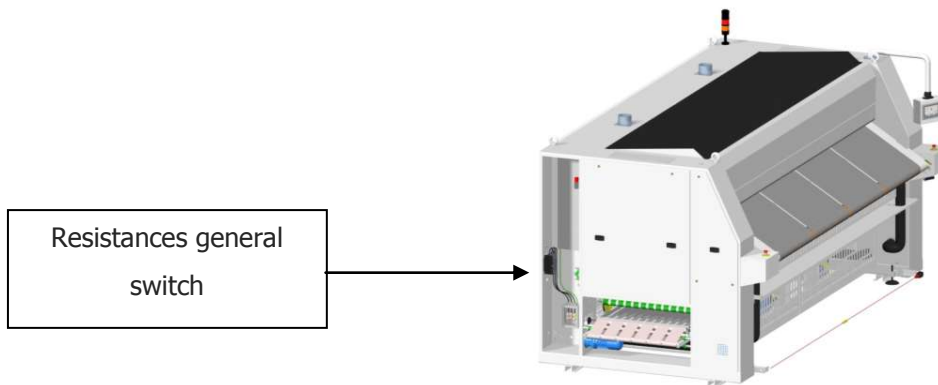


8 ELECTRICAL HEATING SYSTEM

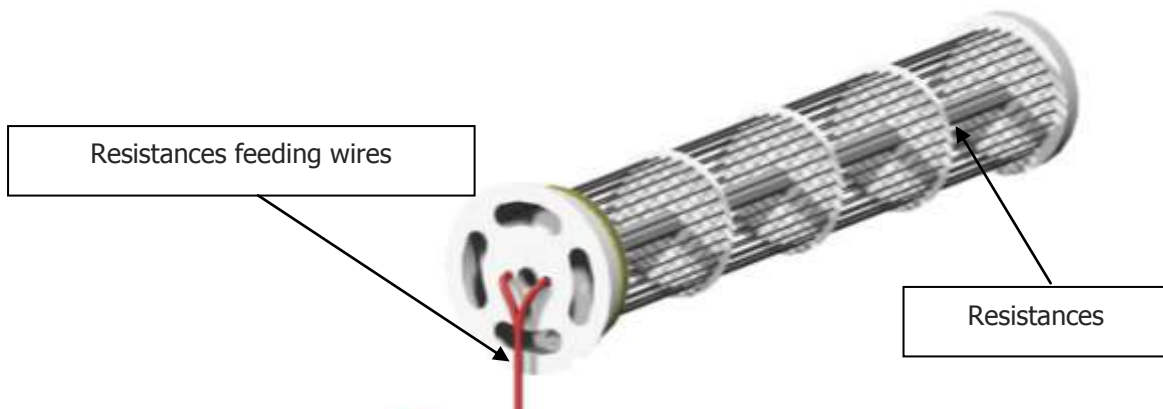
The machine electrical heating is by electrical resistances series installed inside the ironing roll. They are crossed by current and become incandescent passing the heating to roll.

To indicate the heating is on on touch keyboard the icon  appears.

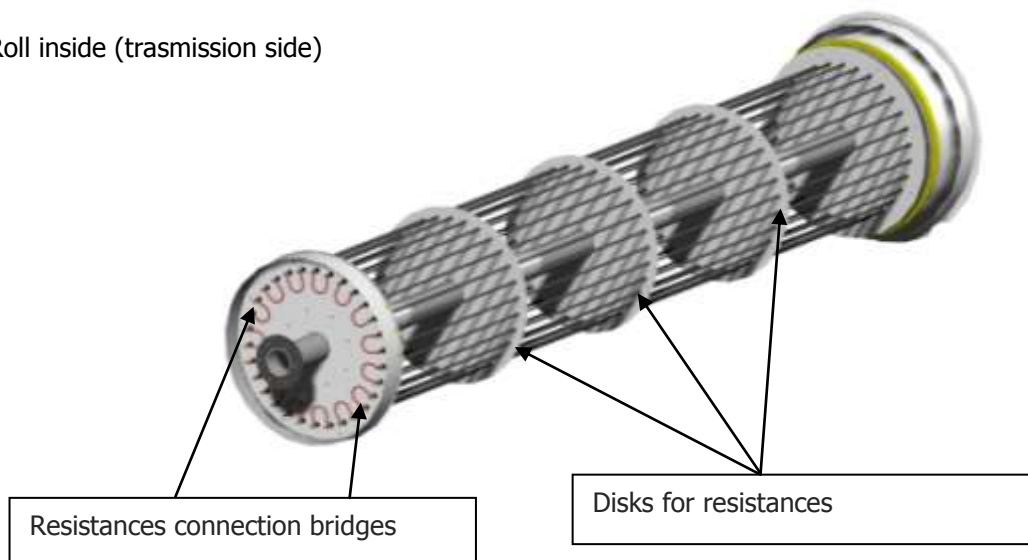
Some resistances images are the following:



Roll inside (feeding side)



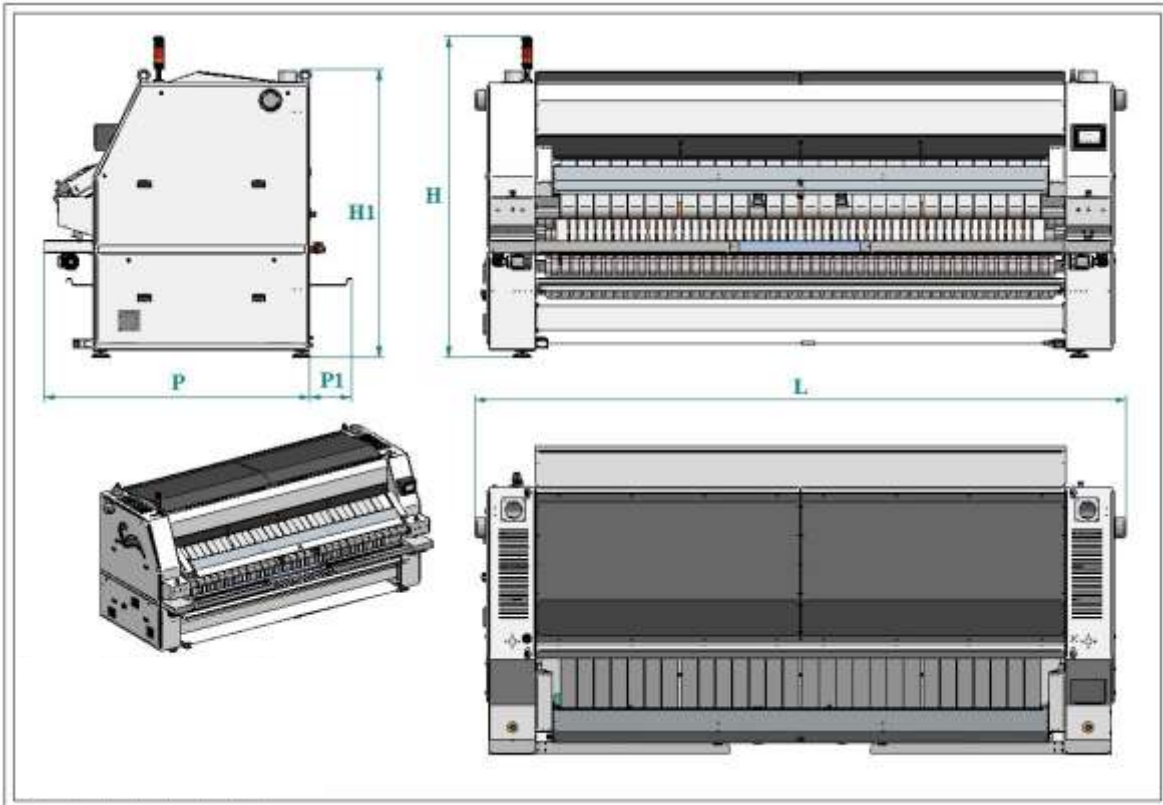
Roll inside (trasmission side)



9 SIZE

A summary diagram for the machine dimension for the different model is the following:

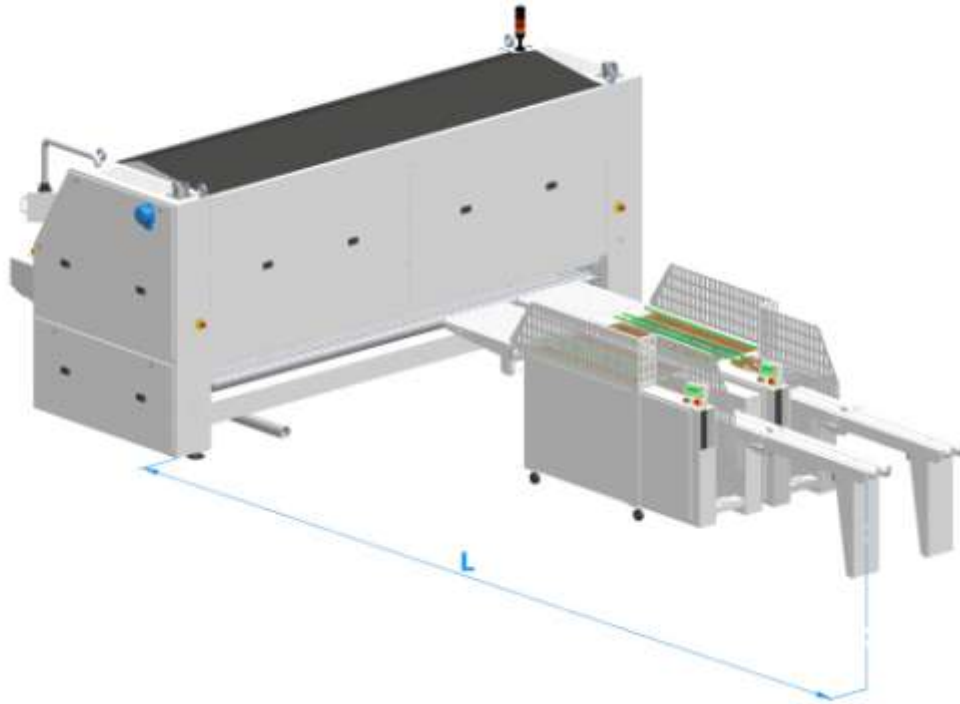
IR/IQ Series:



Mod.	626	633	826	833	1026	1033
L (mm)	3674	4374	3786	4486	3786	4486
H (mm)	2030	2030	2200	2200	2400	2400
H1 (mm)	1800	1800	1977	1977	2177	2177
P (mm)	1500	1500	1827	1827	2030	2030
P1 (mm)	290	290	290	290	290	290

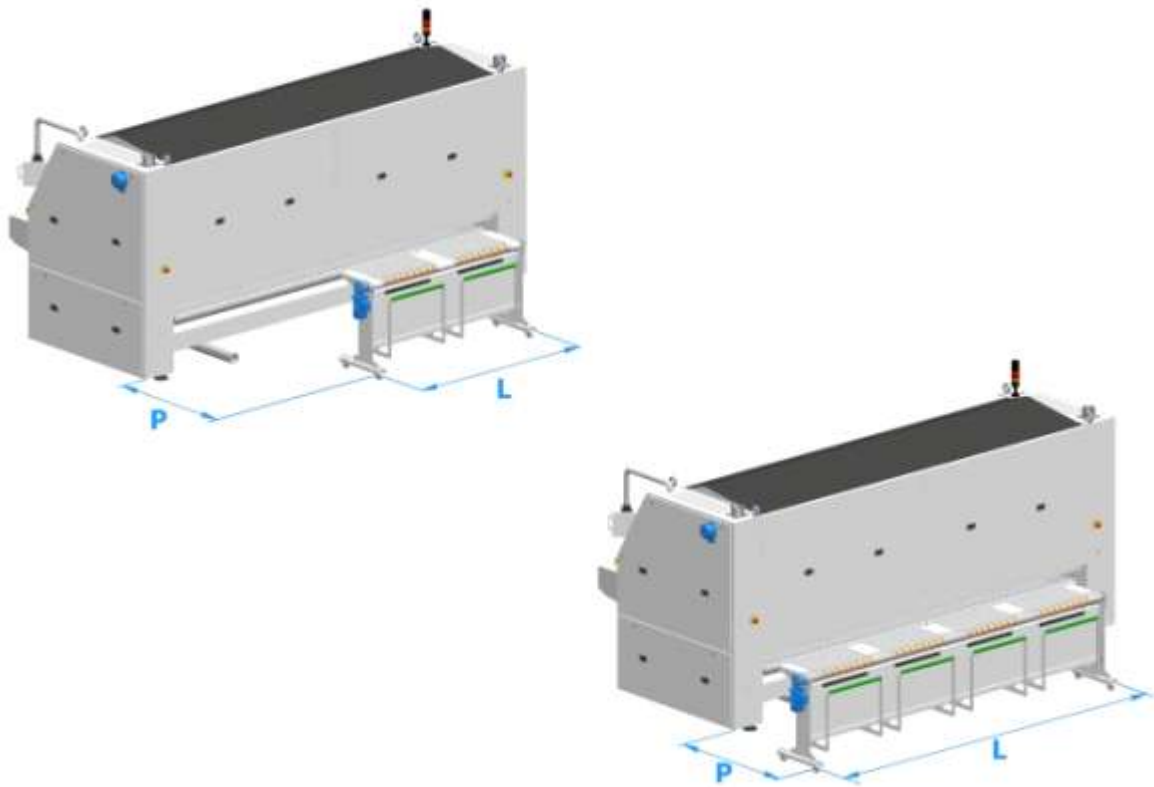
And the optional dimensions (if present):

Figura 4.3 3



Mod.	FSI	FSI-S
L (mm)	4235	2830

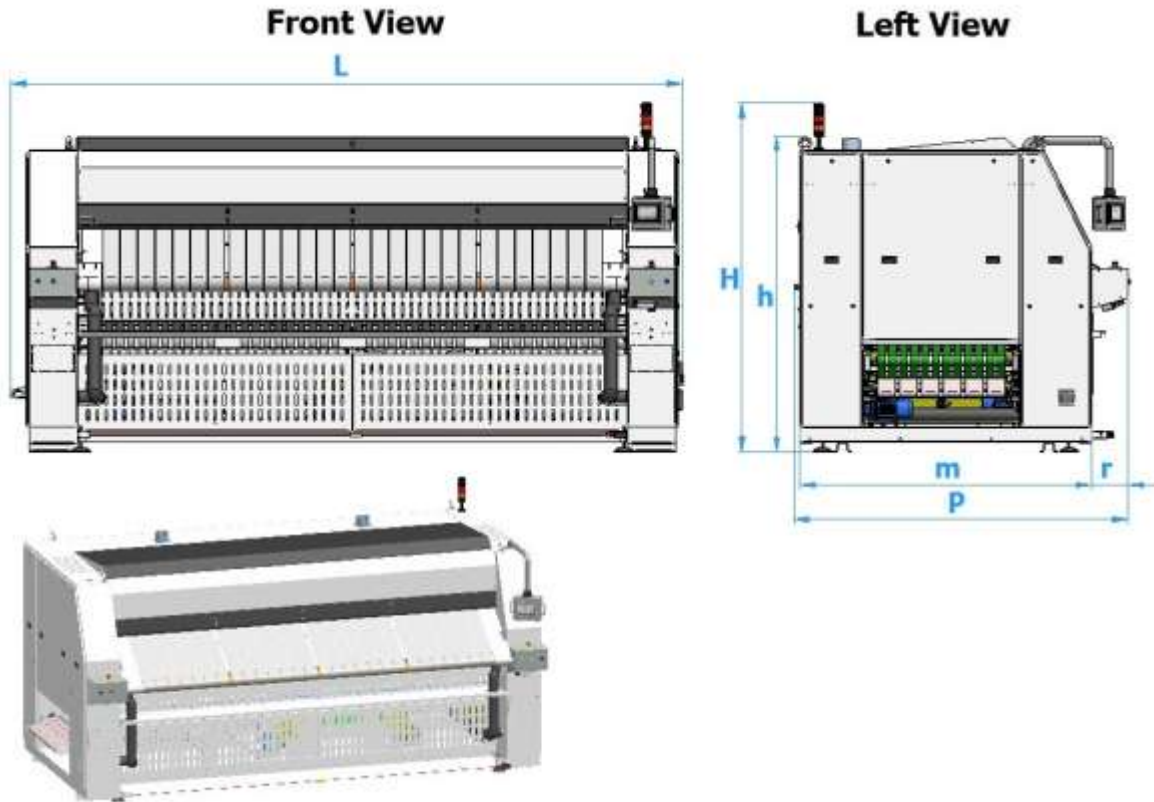
Figura 4.3 4



Mod.	Stacker 2	Stacker 4
L (mm)	1871	3491
P (mm)	532	532

For IF model:

Figura 4.3 2



Mod.	526	533	626	633	826	833	1026	1033
L (mm)	3718	4418	3718	4418	3718	4418	3718	4418
H (mm)	1932	1932	2022	2022	2300	2300	2482	2482
h (mm)	1710	1710	1810	1810	2080	2080	2279	2279
P (mm)	2109	2109	2209	2209	2209	2209	2289	2289
m (mm)	1832	1832	1932	1932	1932	1932	2012	2012
r (mm)	240	240	240	240	240	240	240	240

And the optional dimensions (if present):

Figura 4.3 2

Stacker 2 / 4							
Mod.	526	533	626	633	826	833	1026 1033
L2 (mm)	1766	1766	1766	1766	1766	1766	1766
L4 (mm)	2686	3386	2686	3386	2686	3386	3386
P (mm)	2496	2496	2596	2596	2596	2678	2678

RollOff							
Mod.	526	533	626	633	826	833	1026 1033
L (mm)	4300	5000	4300	5000	4300	5000	5000
P (mm)	2760	2760	2774	2774	2774	2856	2856

Stacker							
Mod.	526	533	626	633	826	833	1026 1033
L (mm)	5070	5770	5070	5770	5070	5770	5770
P (mm)	2849	2849	2863	2863	2863	2863	2945

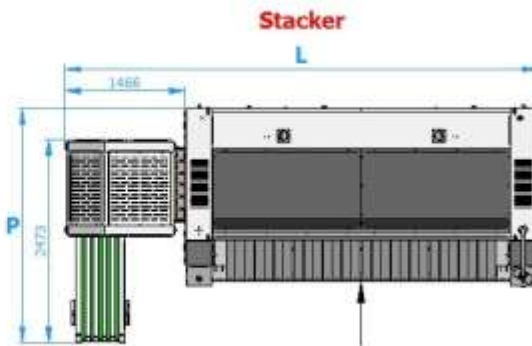
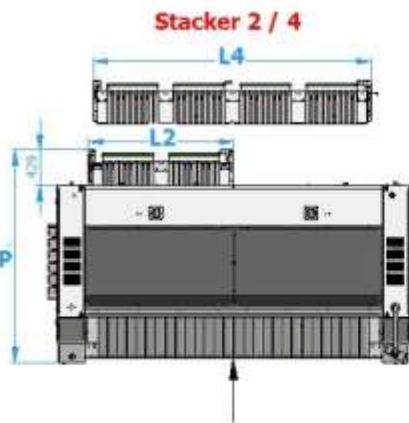
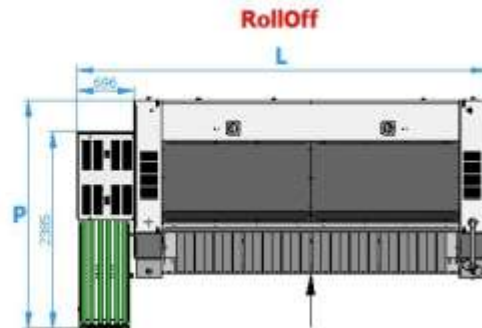
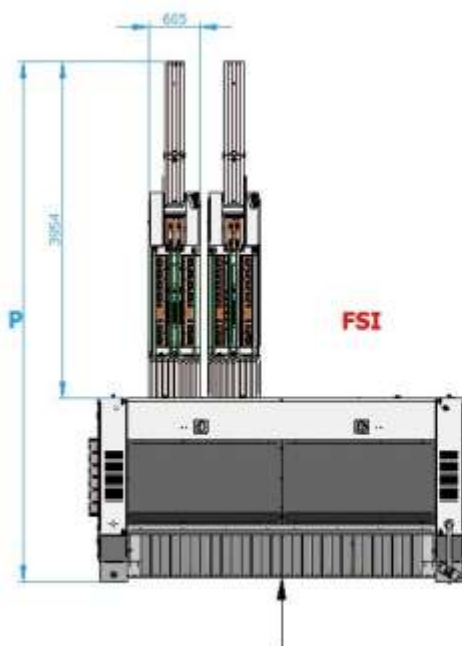
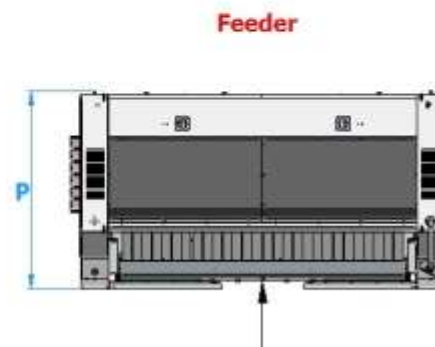


Figura 4.3 3



FSI							
Mod.	526	533	626	633	826	833	1026 1033
P (mm)	6040	6040	6140	6140	6140	6140	6222 6222

Feeder							
Mod.	526	533	626	633	826	833	1026 1033
P (mm)	2228	2228	2328	2328	2328	2328	2410 2410



10 ENVIRONMENTAL CONDITIONS

The machine must be installed inside an industrial building illuminated, ventilated and provided with solid and level floor.

The machine is suitable for operating in environments:

- at an altitude lower than 1500 m.a.s.l.;
- with temperatures between + 10°C and + 35°C;
- with relative humidity between 30 and 95%, lower than 50% at 40°C, lower than 90% at 20°C

The machine must not be used in environments:

- dusty;
- with corrosive atmosphere;
- presenting fire risk;
- with explosive atmosphere;



The machine is not suitable for operating in explosive / corrosive / very dusty atmosphere.

11 LIGHTING

Lighting of the installation area must meet the current regulations of the country in which the machine is installed and in any case ensure good visibility in any point, must not create dangerous reflections and allow clear reading of the control panels and detection of the emergency buttons.

The machine is without independent light sources. It is necessary that workspace is illuminated in such a way to ensure in any point of the machine lighting values between 200 and 300 lux.

12 VIBRATIONS

In case of use of the machine in compliance with the instructions, vibrations are not expected to cause danger.

13 NOISE EMISSIONS

The level emission sound at workstation does not exceed 70 dB(A).

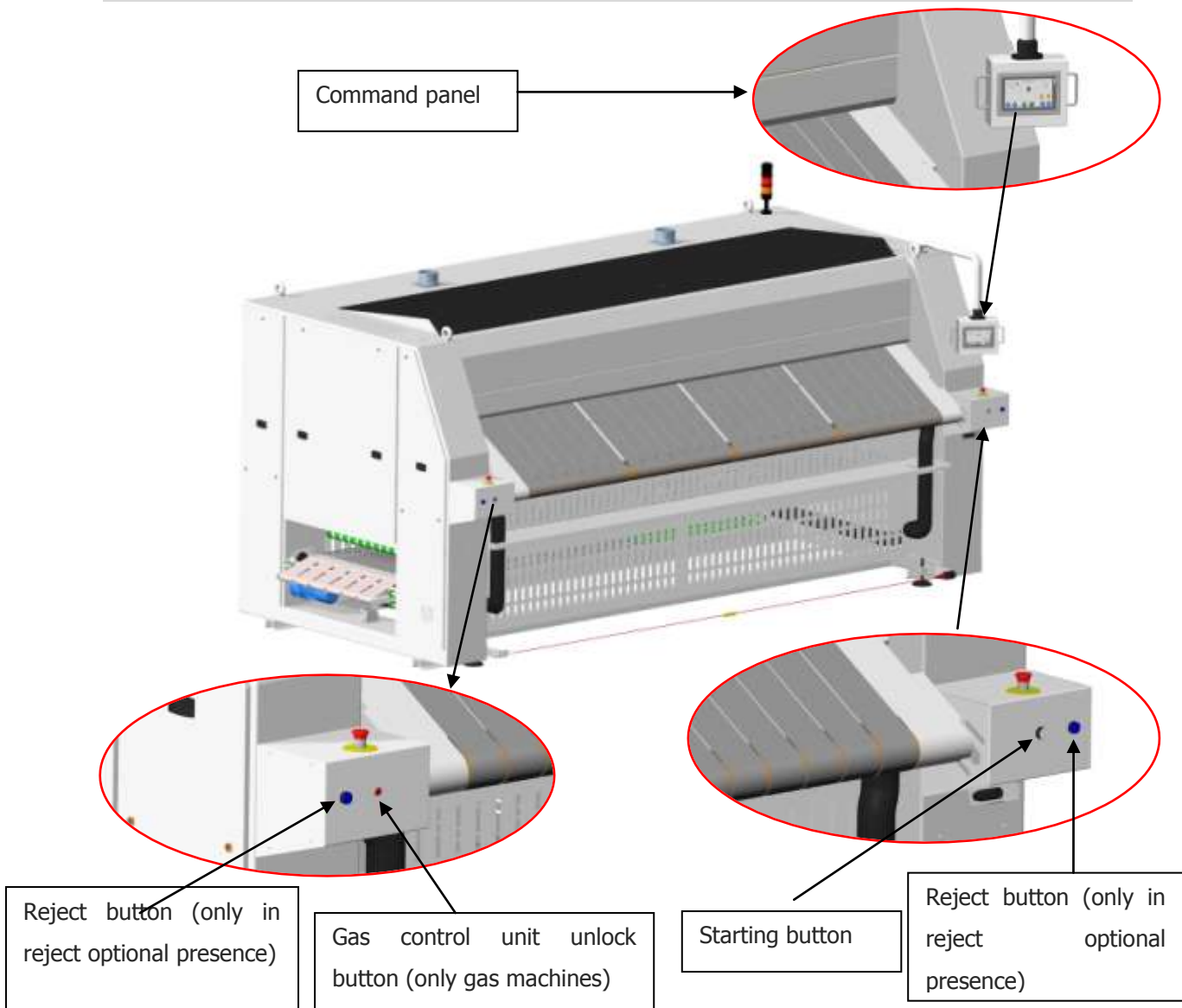
14 TECHNICAL DATA

The main technical data of the machine are provided below

See technical sheet attached with the present manual

15 PANELS AND BUTTONS

Besides the emergency buttons that are described in detail, the machine is equipped other buttons for the machine working.



In particular the reject buttons are present only if the machine is equipped of optional reject .
When the operator wants reject from working cycle the inserted items for any reason, it is sufficient press one of two buttons while the items pass on feeding table and the machine will discharge the items in the front side.

16 STANDARD SUPPLY

The Machine is supplied ready for putting into service.

It is provided with:

- Use and Maintenance Instruction Handbook;
- EC Declaration of Conformity;
- Plaque with CE marking;

17 ELECTROMAGNETIC ENVIRONMENT

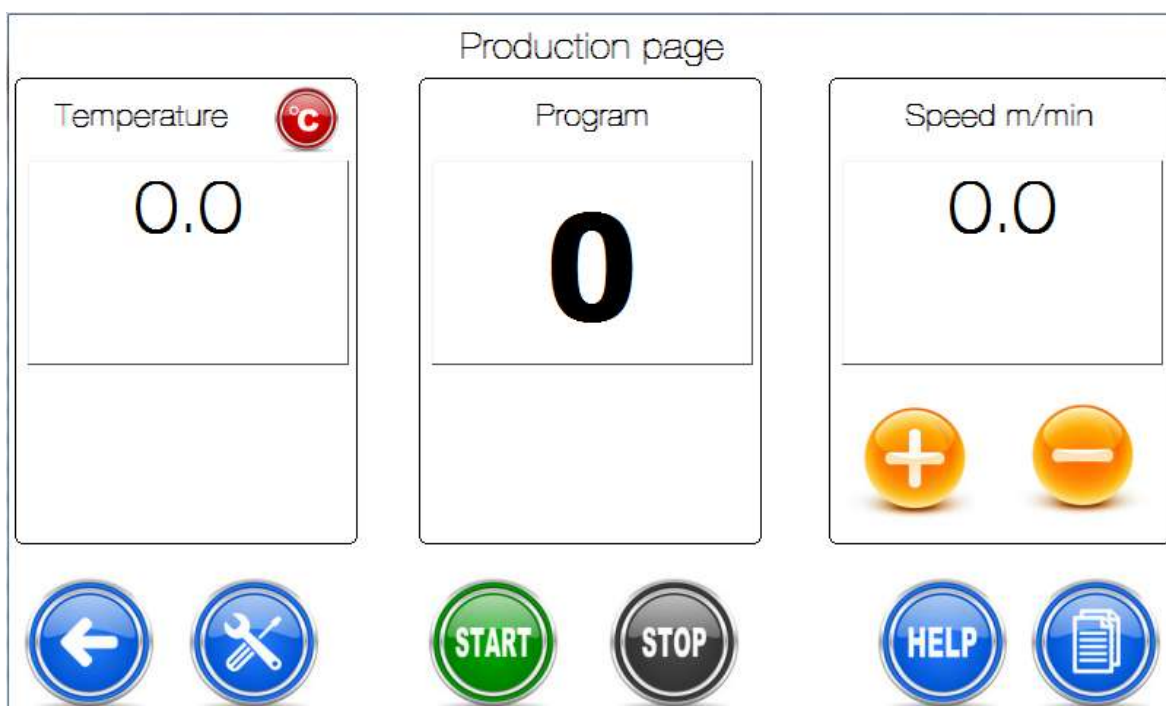
The Machine is designed to work properly in industrial electromagnetic environments, meeting Emission and Immunity requirements provided for in the following standardized regulations:

IEC 61000-6-2	Electromagnetic compatibility (EMC) - Generic standards - Immunity for industrial environments
IEC 61000-6-4	Electromagnetic compatibility (EMC) - Generic standards - Emission standard for industrial environments

5 USE OF THE MACHINE

1 CONTROL PANEL

The machine is equipped with touch control panel, by which the operator gives on, off heating system and working commands to the machine.



2 PUTTING INTO SERVICE

After powering the machine or the line to which it is connected, carry out an accurate visual inspection of the entire machine and ensure that there are no objects left inadvertently on it, people or materials that might disturb the correct functioning.

Verify that all safety devices of the machine are enabled, otherwise enable them. In particular:

- Emergency stop devices unlocked.
- Correct functioning of safeguards not removed.
- Guard.

Data setting

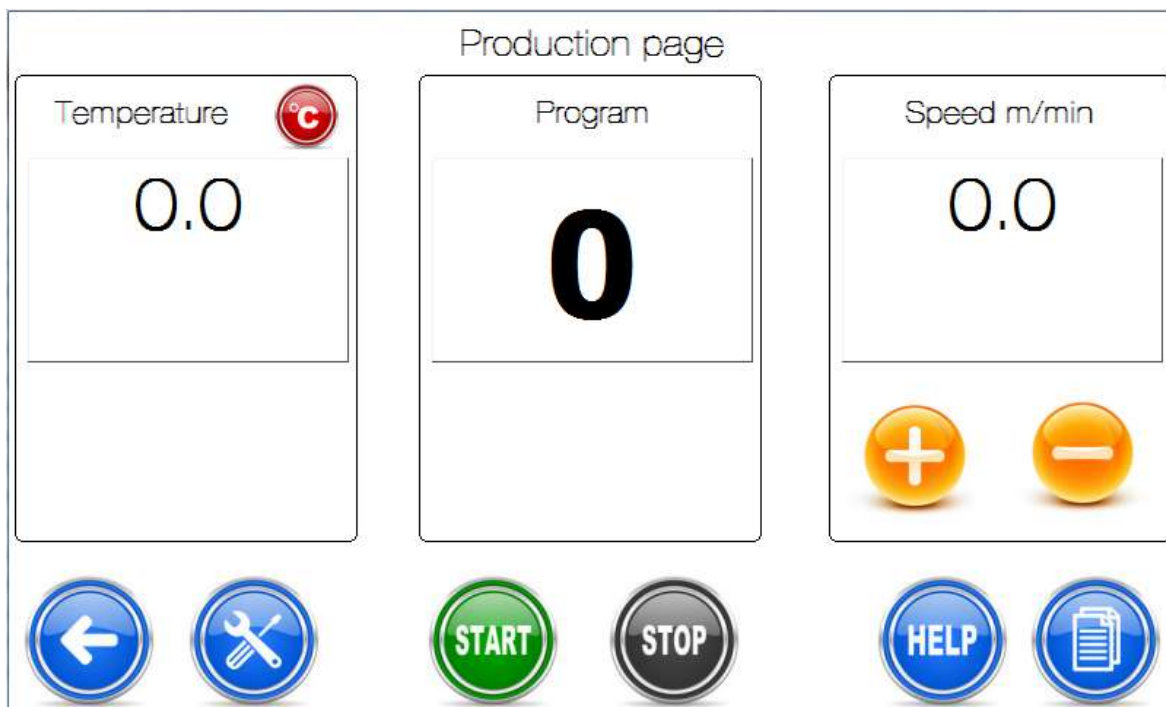
Set data according to the procedures given by the manufacturer of the electrical panel and connect it with respect to the instructions.

The machine starting mode is the following:

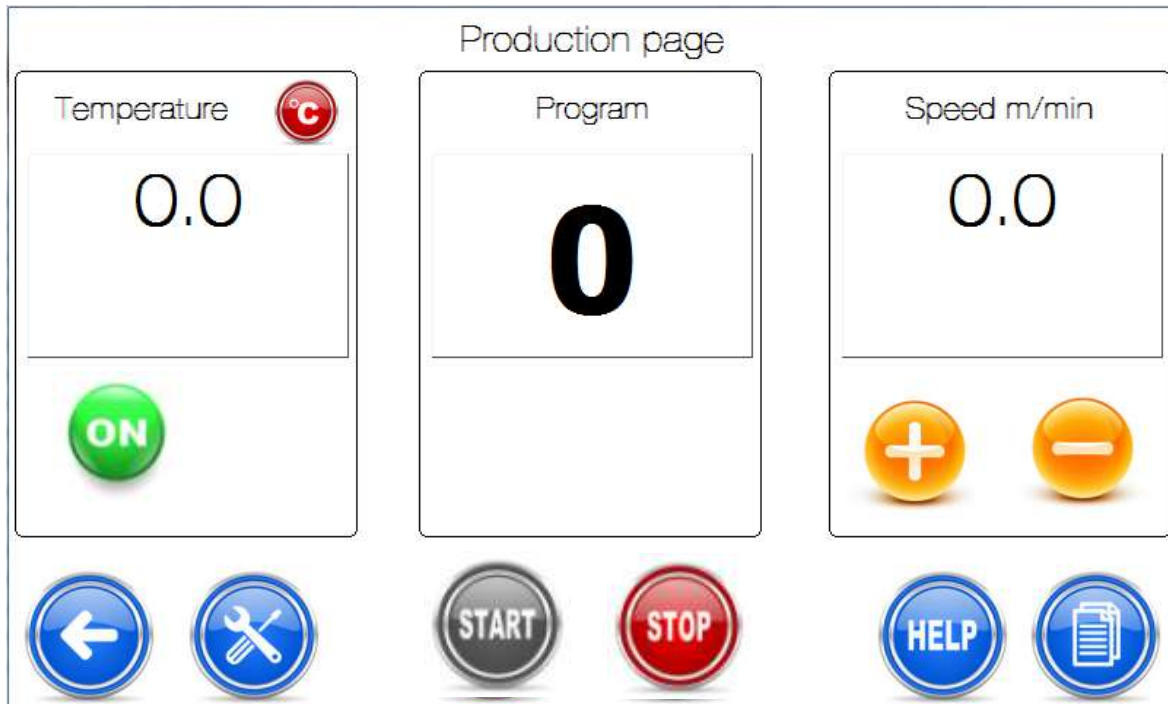
1. Put ON the general switch located on electric board panel (on one of two machine sides)
2. Press the button STARTING located on the right box of the machine feeding side
3. After the button STARTING is lighted the operator will proceed to start the machine in the following way

At the machine starting the touch command panel is on Production page that has three displays:

1. The left one that displays the roll temperature in grades Celsius
2. The central one that displays the program number in progress
3. that on the right displays the machine belts speed in meters for minute



- From Production page to start the machine press 
- After pressed, the button  becomes grey and becomes light red the button 
- Besides the heating starting command appears  and the page turns as follows:



At this point it is necessary to open the heating supply:





In electrical heated machines put ON the resistances general switch.

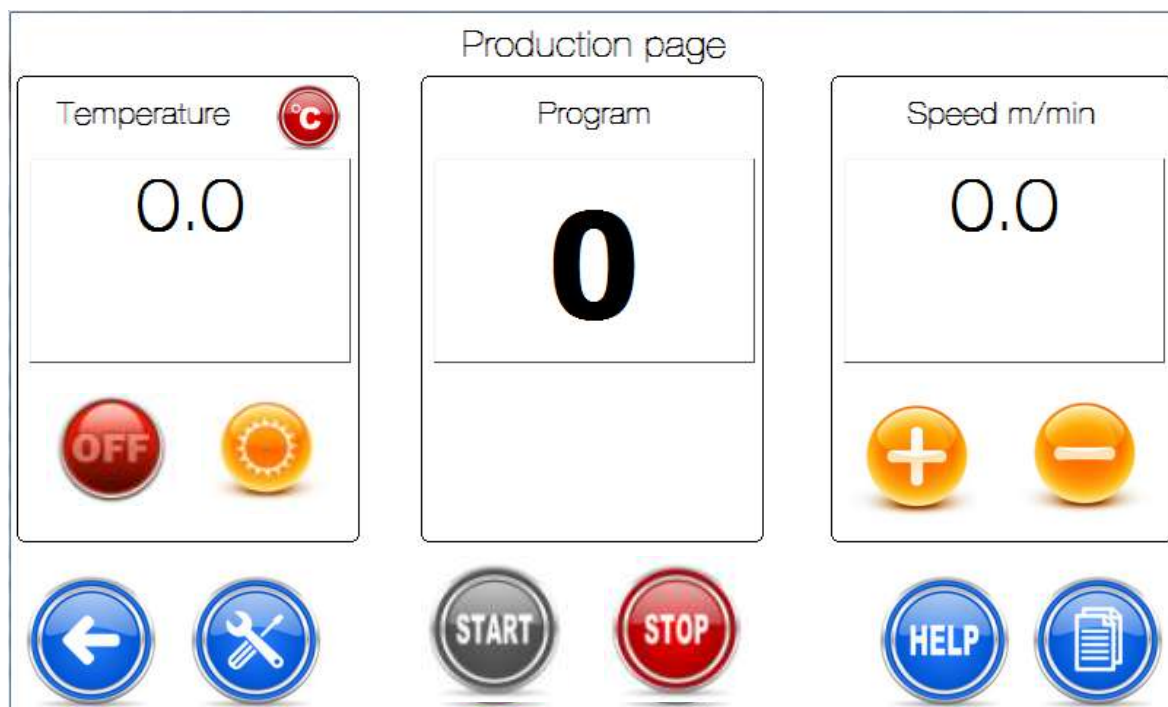
In gas heated machines open the gas supply valve

In steam heated machines, **only after put in movement the machine:**

- open the manual valve in gradual way so not damage the internal parts of the plant. The valve opening has to last at least 5 minutes.
- check the completely opening of condensation discharge valve

Now the operator can proceed to start the heating by touch keyboard in the following way:

- To start the machine heating you have to press the button  that after pressed is exchanged by the button 
 - After starting the ignition procedure, when the heating results on, at the side of the button  the bright image  appears and the page turns as follows:



Before to start the machine the operator has to read carefully the attached "Keyboard use instructions manual" that is part of the present manual to understand how manage all the settings and put the right commands from keyboard,

3 OPERATING MODES

The machine works in semi-automatic mode as described in the paragraph 1 chapter 4 of the machine working.


4 NORMAL STOP

To stop the machine follow the following steps:

- switch off the heating system by button



- as soon as the temperature comes down the 80°C the machine stop also the feeding and ironing belts movement.
- After the end of the previous phases the operator can locate in position OFF the general switch of electric board for the complete machine off.

N.W. If you press the button  when the heating temperature is still over the 80°C the machine will do a signal on keyboard together with a buzzer noise to advise the operator that the machine will have to be put in movement again until the temperature will be down the 80°C.

After machine stop:

- check that the pneumatic circuit is discharged.
- for gas machines close the gas supply towards the machine
- for steam machines close the steam supply towards the machine
- for the electrical machines put on OFF also the general switch of resistances electrical supply.

5 EMERGENCY STOP

Emergency stop action is carried out pushing the red mushroom-type button. Such action causes immediate stopping of all parts in service.



In case of need, the machine can be stopped pressing one of two/four emergency buttons located on the shoulders, in front and back or by the pressure of safety rope located under the machine feeding table.

Emergency lock condition is automatically when any mobile guard is removed or moved for any safety switch intervention.

To restore the working conditions it is needed re position in the right way the guard and repeat the starting procedure.

6 RESTART AFTER EMERGENCY STOP

After manual rearming of the emergency mushroom-type button by twisting it clockwise 30 degrees, normally restart the machine according to the procedure provided.

If the emergency is activated by the rope switch or by the mobile guards removal it is needed to position again the rope switch in its housing and position rightly the mobile guards. Then the normal starting will be possible again.

7 PROCESS CHANGEOVER

The machine is equipped with 20 working programs. Some programs are created from manufacturer and are listed in the attached "Programs list" but the customer can create new ones or modify and personalize them as he wants, following the instructions of the attached "Keyboard manual" and "Regulations list".

The working change corresponds to working program change that can be done following the procedure described in detail in the attached "Keyboard manual".

8 PUTTING OUT OF SERVICE

In case of long periods of inactivity, disconnect power supply from the main electrical panel and all energy sources (pneumatic and/or hydraulic).

Physically disconnect the machine from the power supply by the assignment of the plug ("male") from the outlet ("female") of power, it must also observe the following rules:

- If the machine is to close the gas feeding valve of the gas feed placed on the pipe of yellow color outside the machine and, if possible, lock it in the closed position and / or put a warning sign on the obligation to keep the valve closed.
- protect the machine from moisture;
- ensure that the drawing roller is adequately protected by a layer of protective wax

6 MAINTENANCE

1 MAINTENANCE MODE

Maintenance operations must be carried out with the machine operating mode described in the column "Machine mode" in the table 6-6.1 "Planned Maintenance Schedule".

2 ISOLATION OF THE MACHINE

Before carrying out maintenance and/or repair, disconnect the machine from power supply and other energy sources, disconnecting all the plugs from the supplies.

after making sure that the roller temperature is below 80 ° C.

In particular, turn off the machine by putting the switch in position O = OFF and disconnecting it from the mains supply via detachment of the plug ("male") from the outlet ("female") power. All the operations of cleaning or maintenance, without exception, must be performed with the machine without any power supply. Also:

- If the heating of the machine is to close the gas feeding valve of the gas feed placed on the pipe of yellow color outside the machine and, if possible, lock in the closed position and / or put a warning sign on the obligation to maintain the valve closed.
- If the machine heating is electric to place the power switch of the resistors in position O = OFF



Before (re) feeding the machine with electricity and / or gas and / or steam to ensure that there are other people who are touching the machine and drive away the foreign workers not to use the machine.

3 SPECIAL PRECAUTIONS

During maintenance and/or repair, follow carefully the instructions below:

- Before starting work, affix the "Maintenance in progress" sign in a clearly visible position.
- Do not use solvents or flammable materials.
- Prevent release of refrigerants and lubricants.
- To reach the top part of the machine, use means appropriate to the operations to be performed.

- Do not go onto parts of the machine because they are not designed to bear the weight of people.
- After work, re-enable and fix properly protective devices and guards disabled or open.



The manufacturer is not responsible for failure to comply with the recommendations above and for any other use not mentioned or different from the present instructions.

4 CLEANING

Before cleaning, disconnect the machine from power supply and other energy sources.

Clean all parts of the machine to remove residues of linen stretched or loose dust. Regular cleaning of the machine (and its use) according to the instructions of this manual reduce the need for extraordinary maintenance and repairs; the frequent cleaning of the machine is also useful to discover promptly any defects or damage.

➔ At least once a week to clean the machine with a soft, dry, lint or fibers or fragments surfaces rub. If necessary use brush with rounded bristles sufficiently rigid. Do not use for any reason any other type of brushes, scrapers, steel wool, sandpaper and abrasive products.

⊘ Avoid the use of petrol, solvents, chlorinated substances, and any other type of cleaner on the non-metallic parts, which, in case of need, can only be cleaned with a detergent strictly neutral and non-foaming water-based.

WARNING ! The machine must not be washed using water in the form of jets abundant, ie without throw buckets of water or basting with water pipe

5 LUBRICATION

Planned Maintenance Schedule in Table 6-6.1 must be implemented in order to keep machine functionality efficient.

Periodically lubricate/grease mechanical parts involved in motion of the moving parts, chains, gearings.

Check periodically lubricant level in the gear reducer.

6 PLANNED ORDINARY MAINTENANCE

General provisions

Ordinary maintenance includes inspections, checks and operations that, in order to prevent interruption and breakdown, keep under systematic control conditions of machine lubrication and parts subject to wear. Such operations, even if simple, must be carried out by skilled personnel. Before doing any maintenance operation the machine has to be stopped rightly in the way already described and the operator should wait for the necessary time so the machine is completely cool and check before proceed.

The machine has been designed in order to minimize ordinary maintenance, the operator must assess machine conditions and suitability for use. Every time suboptimal functioning is noticed, stop the machine and carry out maintenance. This will result in the highest efficiency.

Wear always appropriate PPE personal protective equipment:

- Gloves
- Slip-resistant shoes
- Goggles
- Mask
- Proper clothing

Procedure

Visually check the condition of each single part of the machine and make sure that there are no changes due to failure or deformation.








For maintenance that does not require power supply, stop the machine isolating the power source with the disconnecter in the electrical main panel. Lock the disconnecter with the padlock in the "O" position (OFF).









Check and prove once a month the correct functioning of emergency stop devices, running the machine without load.







In case of malfunction, assign fault-finding only to skilled personnel or call support service of electrical panel manufacturer.

Verify the continuity of the protective bonding circuit according to the procedure in the IEC standard 60204-1 p. 18.2.2.

Planned Maintenance Schedule:

MAINTENANCE	SCHEDULE	MACHINE OPERATING MODE	SYMBOL
1. Check the machine stops correctly when the protection devices are triggered (mobile guards and emergency devices).	Every day before every shift	Stand-by	
2. Clean all photocells	Every day before every shift	Isolated for maintenance	
3. Grease drive elements	Every 120 working hours	Isolated for maintenance	
4. Clean liner removal bar plates	Every 120 working hours	Isolated for maintenance	
5. Accurately clean the two iron roller temperature detection sensors.	Every 120 working hours	Isolated for maintenance	
6. Remove any dust from both the inside and the outside of the machine.	Every 120 working hours	Isolated for maintenance	
7. Clean the ventilation grilles of the electrical motors carefully	Every 120 working hours	Isolated for maintenance	

8. Check ironing belt status and their tension. Tension must be the minimum required for them to slide avoiding excessive wear.	Every 200 working hours	Isolated for maintenance	
9. Check the conditions and tension of the cotton belts, check they run smoothly.	Every 200 working hours	Isolated for maintenance	
10. Check the conditions of the pneumatic system.	Every 200 working hours	Isolated for maintenance	
11. Check the tension and centering of the drive belts.	Every 200 working hours	Isolated for maintenance	
12. Grease and check the bearings keeping the rollers in position, the chains and the transmission axle housings.	Every 200 working hours	Isolated for maintenance	
13. Check safety crank operations	Every three months	Isolated for maintenance	
14. Accurately clean steam and gas exhaust fans.	Every three months	Isolated for maintenance	
15. Lubricate cylinder rotation rollers and cylinder areas in contact with rollers.	Every three months	Isolated for maintenance	

<p>16. Check the gearboxes and their seals (they have been greased by the manufacturer "for life", so they don't need any maintenance, but a visual inspection is always recommended).</p>	<p>Every three months</p>	<p>Isolated for maintenance</p>	
<p>17. Check the electrical connectors on the terminal board are tightened.</p>	<p>Every three months</p>	<p>Isolated for maintenance</p>	
<p>18. Make sure the iron roller is not dirty. If necessary, clean with fine sand paper.</p>	<p>Every six months</p>	<p>Isolated for maintenance</p>	
<p>19. Check temperature detection sensor operations and wear. If necessary, replace ordering spare parts from the manufacturer.</p>	<p>Every six months</p>	<p>Isolated for maintenance</p>	
<p>20. Inspect and clean gas exhaust hoods.</p>	<p>Every six months</p>	<p>Isolated for maintenance</p>	
<p>21. inspect wiring connections on the terminal board to ensure they are tightened properly.</p>	<p>Every six months</p>	<p>Isolated for maintenance</p>	

Tab. 6-6.1

The guards to go to the gas circuit and to the transmission (for the maintenance reasons) can be removed only by authorized and trained personnel with special keys supplied. They are connected to special safety systems that cause the machine lock.

It is required then to do all the operations over indicated with machine off and reposition rightly the mobile guards to allow a proper machine starting.



In case of failure to comply with the procedures, the manufacturer is exempt from any responsibility provided for in the guarantee.

7 EXTRAORDINARY MAINTENANCE

General provisions

Every time suboptimal functioning is noticed, stop the machine and carry out extraordinary maintenance. This will result in the highest efficiency.

Wear always appropriate PPE personal protective equipment:

- Gloves
- Slip-resistant shoes
- Goggles
- Mask
- Proper clothing

Procedure

Visually check the condition of each single part of the machine and make sure that there are no changes due to failure or deformation.

For maintenance that does not require power supply, stop the machine isolating the power source with the disconnecter in the main electrical panel. Lock the disconnecter with the padlock in the "O" position (OFF).



In case of failure to comply with the procedures, the manufacturer is exempt from any responsibility provided for in the guarantee.

8 DIAGNOSTICS AND FAULT FINDING

A table in which all the causes and suggested solutions for some potential machine problems is the following:

Problems	Possible reasons	Suggested solutions
The machine doesn't start and the display is off	<ol style="list-style-type: none"> 1. Tension lack 2. General supply switch off 3. Fuses burned 	<ol style="list-style-type: none"> 1. Verify by a tester the tension presence 2. Switch on the general supply switch 3. Change the burned fuses
The machine doesn't start and the display is on	<ol style="list-style-type: none"> 1. Emergency buttons activated 2. Protection panels on transmission parts (see image on attached exploded views) 3. Thermal cutoff switches on 4. Inverter alarm 5. Display alarm signal 6. Stacker connectors not in right position 	<ol style="list-style-type: none"> 1. Verify by a tester the tension presence 2. Verify if all the protections are in right position 3. Put on service the switches 4. Verify the inverter 5. See which signal is and see at chapter 5 paragraph 1, the means 6. Put in right position the stacker connectors
The machine starts but the burner doesn't start (only gas version)	<ol style="list-style-type: none"> 1. Gas supply lack 2. Gas pressure switch 3. Air pressure switch 4. Gas control unit 5. Ignition electrode 6. Flame detection electrode 7. Manual valve closed 8. Fuses burned 	<ol style="list-style-type: none"> 1. Verify gas presence 2. Verify if the gas pressure is enough 3. Check if the fans work and the air pipes are cleaned 4. Check if the gas control unit is blocked (in case press the external red button) 5. Check if the electrode is connected and in line with the jets 6. Check if the electrode is connected and in line with the jets 7. Open the valve

		8. Replace the burned fuses
The first length fold doesn't work	<ul style="list-style-type: none"> 9. Encoder 10. Air jets pipes 11. The photocells 12. The electrovalves 	<ul style="list-style-type: none"> 9. Verify the encoder wheel and the sensor 10. Verify if the pipes are positioned with the holes towards the rolls insertion 11. Verify if the photocells are working 12. Verify if the electrovalves are working
The second length fold doesn't work	<ul style="list-style-type: none"> 1. Encoder 2. Air jets pipes 3. The photocells 4. The electrovalves 	<ul style="list-style-type: none"> 1. Verify the encoder wheel and the sensor 2. Verify if the pipes are positioned with the holes towards the rolls insertion 3. Verify if the photocells are working 4. Verify if the electrovalves are working
The feeding belts are stopped The transporting belts are stopped	<ul style="list-style-type: none"> 1. Belts not tensioned 2. Transmission 	<ul style="list-style-type: none"> 1. After stopping the machine calibrate the support screws to tension the belts (transmission side) 2. After stopping the machine open the panels on the transmission side and check if the chain is tensioned and calibrate it moving the spring tensioner positioned on the lower part
The first crossfold doesn't work	<ul style="list-style-type: none"> 1. Air jets pipes 2. The photocells 3. The electrovalves 4. Table stop 5. First crossfold rolls 	<ul style="list-style-type: none"> 1. Verify if the pipes are positioned with the holes towards the rolls insertion 2. Verify if the photocells are working 3. Verify if the electrovalves are working 4. Check if the table stops from the air jets moment

		until the linen disappears 5. Check if the rolls spin when the fold has to be done
The second crossfold doesn't work	<ol style="list-style-type: none"> 1. Air jets pipes 2. The photocells 3. The electrovalves 4. Folding belt inversion 	<ol style="list-style-type: none"> 1. Verify if the pipes are positioned with the holes towards the fold line 2. Verify if the photocells are working 3. Verify if the electrovalves are working 4. Verify if the folding belt inversion is working
The third crossfold on the central line doesn't work	<ol style="list-style-type: none"> 1. Air jets electrovalves 2. The photocells 3. Rake electrovalves 4. Folding belt inversion 	<ol style="list-style-type: none"> 1. Verify the air jets electrovalves 2. Verify if the photocells are working 3. Verify if the electrovalves and the cylinders are working 4. Verify if the folding belt inversion is working
The third crossfold on the two lines doesn't work	<ol style="list-style-type: none"> 1. Air jets electrovalves 2. The photocells 3. Rake electrovalves 4. Folding belt inversion 	<ol style="list-style-type: none"> 1. Verify the air jets electrovalves 2. Verify if the photocells are working 3. Verify if the electrovalves and the cylinders are working 4. Verify if the folding belt inversion is working

For failure and/or malfunction not described in the present handbook, please contact the manufacturer.

7 SPARE PARTS

1 SUPPORT SERVICE

For any information about installation, use and maintenance, feel free to contact the manufacturer. The customer should enquire clearly in reference to the present handbook and the instructions provided.

2 SPARE PARTS



**ALWAYS USE ORIGINAL SPARE PARTS.
FOR ANY SPARE PART CONTACT THE MANUFACTURER.**

For spare parts request use the form provided here. For spare parts orders fill in all parts of the form and send it to the manufacturer.

In order to interact with our technicians in the most effective way during spare parts orders, please follow this procedure:

- call manufacturer's spare parts service and describe the type of fault found.
- describe the component not working (add exploded view drawing)
- find the part of the machine in which the component not working is located (add exploded view drawing)
- order the spare part filling the Order Form in the following page.

Avoid using not original spare parts: the use of not original spare parts will void the warranty (if still in force) and the manufacturer's responsibility for the use of the machine and any damage to people and/or things.

SPARE PARTS ORDER FORM

APPLICANT DETAILS	CORPORATE NAME	
	NAME SURNAME	
	ADDRESS	
	TOWN	
	POSTCODE	
	PROVINCE	
	TELEPHONE	
	FAX	
	E-MAIL	

MACHINE DETAILS	MACHINE NAME	
	MODEL	
	SERIAL NUMBER	
	YEAR OF CONSTRUCTION	

SPARE PARTS TO ORDER	ID	P/N	DESCRIPTION	QUANTITY

NOTES	
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8 ADDITIONAL INSTRUCTIONS

1 WASTE DISPOSAL

The user will check, observing local regulations, the correct disposal of waste produced by the machine during operation.

Disposal of lubricants and spare parts must be carried out in compliance with regulations in force in the country where the machine is installed.

2 DISABLING AND DISMANTLING

When dismantling, separate plastic parts, metal parts and electrical components, for separate collection in compliance with current regulations.

With regard to the metal mass of the machine, separate ferrous parts and those in other metals or alloys for a correct fusion recycling.

- DISPOSAL



It is forbidden to leave and / or dispose of the machine and / or the environment as well as its parts in banned disposal containers of MSW (Municipal Solid Waste) as indicated by the WEEE symbol on the side panel.

If you decide to stop using the machine, hand it to breakers qualified or authorized dealers.

- NOTES FOR THE SCRAP OPERATOR

During the disassembly not stand neither under nor over the machine because all the disassembly can be performed, without performing the above operations dangerous, staying next to the machine.

Before dismantling any part and / or disconnect and / or loosen any connecting element, make good that no piece can fall on someone.

Remember that it is also compulsory to wear PPE normally provided for breakers.

Never allow the aforementioned dismantling alone but always get help from someone who can help and / or help in case of error or accident.

The collection and separation of various types of materials (metals, plastics, electric cables, glass, etc.) is a matter of professional breakers and is not the subject of this manual.

3 SAFE WORKING PROCEDURES

Properly inform and train personnel on the specific procedures for:

- Safe use of the machine.
- Emergency situations.

9 ANNEX

1 EXPLODED VIEWS

2 ELECTRIC DIAGRAMS

3 PNEUMATIC DIAGRAMS

4 WORKING PROGRAMS LIST

5 WORKING PROGRAMS REGULATIONS LIST

6 KEYBOARD MANUAL

7 TECHNICAL SHEET
