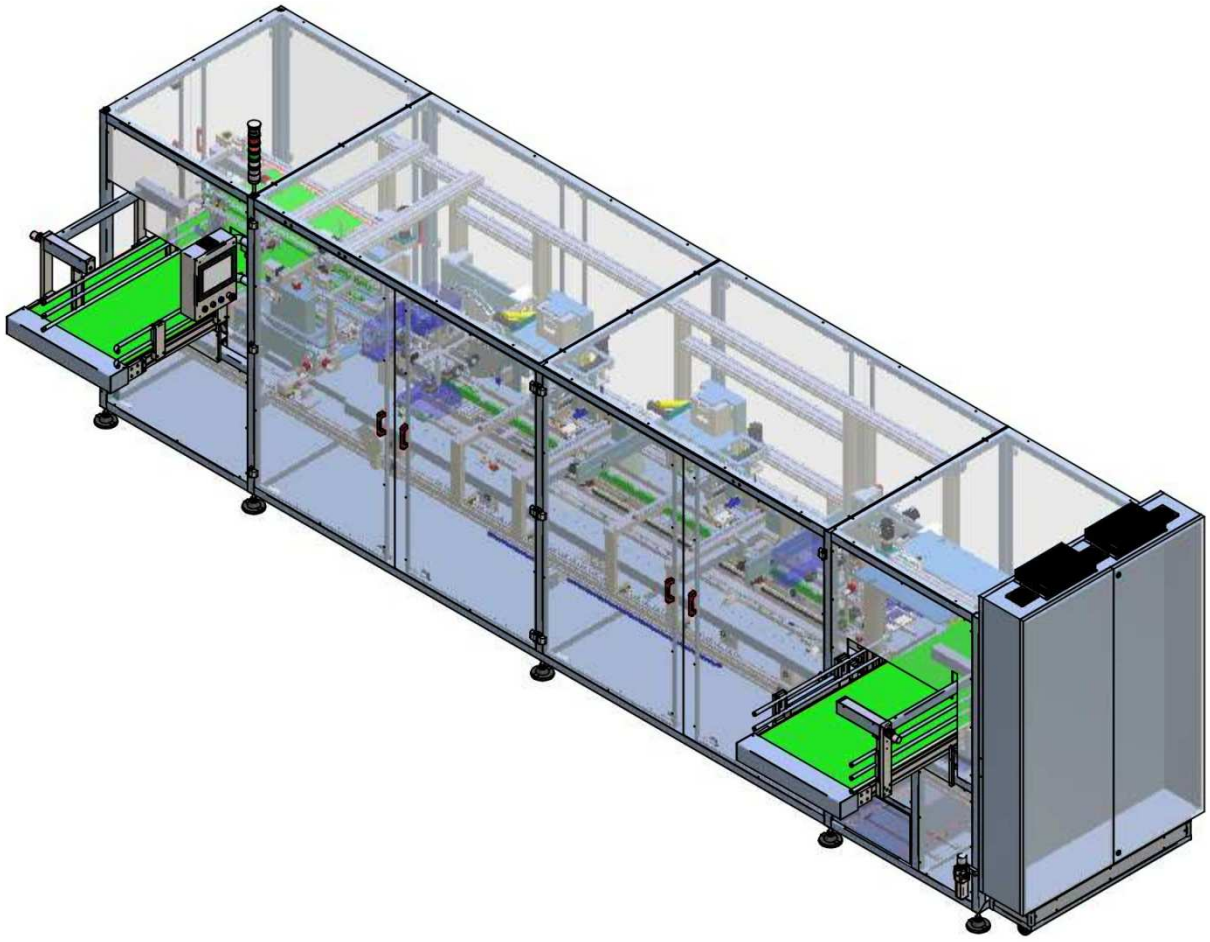
USE AND MAINTENANCE INSTRUCTION MANUAL



Model S52DD
Serial S52DD01-001

CE

REV 0.1 2021

SIROPACK ITALIA s.r.l.
Via Balitrona, 22, A, B, C, D - 47042 Cesenatico (FC) Italia

I INDEX

Revision matrix of the instructions manual and its parts

Parts of the manual		**Revision**					
Index							
Chapter	**0**	0.0					
	1	0.0					
	2	0.0	0.1				
	3	0.0					
	4	0.0					
	5	0.0					
	6	0.0					
	7	0.0					
	8	0.0					
	9	0.0					
Date		01/2019	02/2021				
Signature							

INDEX

0 INTRODUCTION

PAR	DESCRIPTION
1	**PURPOSE OF THE USE AND MAINTENANCE INSTRUCTIONS MANUAL**

The present Instructions Manual is an integral part of the Machine with the purpose of supplying all necessary information for:

- The correct awareness of the operators towards safety issues;
- The handling of the machine, packed and unpacked in safety;
- The correct installation of the machine;
- The comprehensive understanding of its functions and its limits;
- Its correct use in safety;
- To carry out maintenance operations correctly and safely;
- To dismantle the machine in safety and in accordance with the present standards for the protection of the worker's health and the environment.

The managers of the departments in which the machine is installed, in accordance with the law, must read the content of the present document and instruct the related operators and maintenance engineers to do the same, for the parts which concern them.
The time taken to do so will be compensated by the correct functioning of the machine and its use in a safe condition.

This document presumes that the present health and safety standards have been observed in the areas in which the machine is destined.

The instructions, diagrams and documentation contained in the present manual are of a reserved technical nature belonging to the manufacturer and cannot be fully or partially reproduced in any way.

Furthermore, the client is responsible to ensure that, in the event the present document is modified by the manufacturer of the machine, only the updated versions of the Manual are present in their place of application.

0 INTRODUCTION

PAR	DESCRIPTION
2	**CONSULTING THE INSTRUCTIONS MANUAL**

The manual has been divided into individual chapters, each of which aimed at a specific operator (INSTALLER, OPERATOR AND MAINTENANCE ENGINEER), for whom has been defined the responsibilities required in order to work on the machine in safety.

The sequence of the chapters corresponds to the temporal logic of the machine's lifespan.

To simplify the immediateness of understanding the content, terms, abbreviations and pictographs are used, the meaning of which is illustrated in paragraph 6.

The Instructions manual is comprised of a cover, index and a series of chapters (sections).

The first page illustrates the identification data of the machine and of the model (and possible identification number), the revision of the Instructions Manual and finally a photograph/drawing of the described machine to help the reader to identify the machine and the related manual.

From the first page of the index is the revision table of the Instructions Manual and its parts that correlates the revision level of the entire manual with that of the index and chapters, and indicates the issue date of the entire manual with a particular revision level.

PAGE NUMBERING

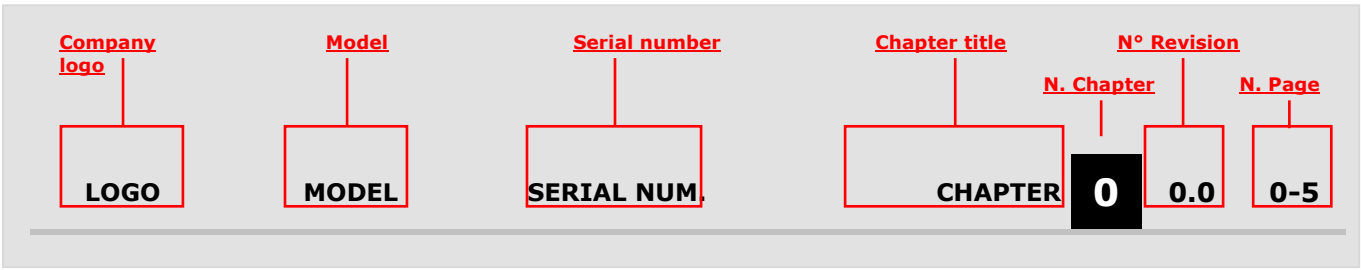


FIGURE NUMBERING

Each figure is progressively numbered.

Numbering is composed as follows:

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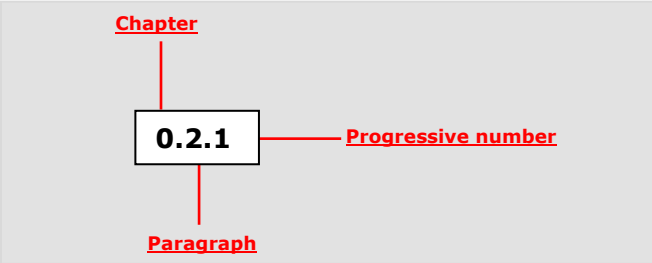

TABLE NUMBERING

Each table is progressively numbered.

The numbering starts from "1" in each section.

Numbering is composed as follows:

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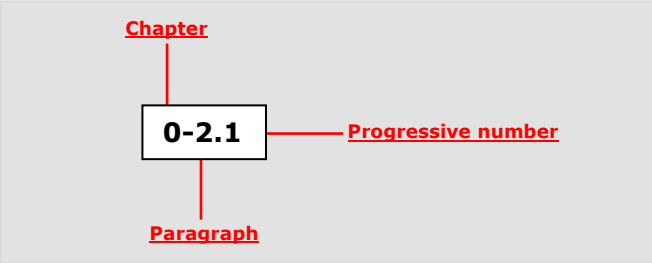


ABBREVIATIONS

Sec. = section
Chap. = chapter
Par. = paragraph
Pag. = page
Fig. = figure
Tab. = table

UNIT OF MEASURE

The units of measurement are those foreseen by the **I**nternational **S**ystem (**IS**).

0 INTRODUCTION

PAR	DESCRIPTION
3	**PRESERVATION OF THE INSTRUCTIONS MANUAL**

The Instructions Manual must be carefully preserved and must accompany the Machine in its change of hands throughout its lifespan.

Preservation must be favoured handling it with care, with clean hands and without placing it on dirty surfaces.

The various parts must not be removed, torn or modified on an arbitrary basis.
The Manual must be stored in a dry and cool location and close to its related machine.
On the request of the user, the manufacturer of the machine can supply additional copies of the Machine's Instructions Manual.

0 INTRODUCTION

PAR	DESCRIPTION
4	**INSTRUCTIONS MANUAL UPDATE METHOD**

The Machine Manufacturer reserves the right to modify the design and make improvements to machine without communicating them to the customers, and without updating the Manual already delivered to the user.

Moreover, the manufacturer of the machine is responsible for sending to holders of the Instructions Manual involving the Chapters affected by amendments, with the new comprehensive review of the Manual in case of modifications to Machine installed at the customer, agreed with the Manufacturer of machine and involving the modification of one or more chapters of the Instructions Manual.

It is the responsibility of the user, following the directions accompanying the updated documentation, to replace all copies with the old chapters with the new ones, the first page and index with those of new revision level.

The manufacturer of the machine is deemed responsible for the descriptions given in Italian; translations cannot be verified in full, so if an inconsistency is detected, it is necessary to pay attention to the Italian language and if necessary contact our sales office that will carry out the necessary modifications.

0 INTRODUCTION

PAR	DESCRIPTION
5	**RECIPIENTS**

This Manual is aimed at: the installer, the operators and the qualified personnel trained for the maintenance of the machine

EXPOSED PERSON

It is intended any persons who are entirely or partly in a dangerous zone;

OPERATOR

It is intended the person or persons responsible for installing, operating, adjusting, maintaining, cleaning, repairing or moving machinery and to perform maintenance;

QUALIFIED PERSONNEL or **QUALIFIED OPERATOR**

Are intended as personnel that have taken specialisation, training courses etc. and have experience in installation, commissioning and maintenance, repair and transportation of the machine.

Qualification of recipients (see PAR. 0.6)

The machine is intended for industrial, professional and non-general use, therefore its use can be entrusted to qualified profiles that:

- have reached the age of consent;
- are physically and psychologically fit to perform work of particular technical difficulty;
- have been properly trained to the use and maintenance of the machine;
- have been deemed suitable by the employer to perform the task entrusted to them;
- are able to understand and interpret the operator's manual and safety instructions;
- knows emergency procedures and their implementation;
- possesses the ability to operate the specific type of equipment;
- are familiar with the specific rules applicable;
- have understood the operating procedures defined by the machine manufacturer.

0 INTRODUCTION

PAR	DESCRIPTION
6	**GLOSSARY AND PICTOGRAPHS**

The present paragraph lists the uncommon terms or rather terms with means that are different than normal.
Below is explained the useful abbreviations and the meaning of the pictographs used to indicate the operator qualification and the condition of the machine. There use allows the information required for the correct use of the machine in safety to be supplied rapidly and in a univocal manner.

GLOSSARY (All. I p. 1.1.1 Dir. 2006/42/CE)

DANGER
A potential source of lesion or damage to the health.

DANGER ZONE
Any zone within and/or close to the machine in which the presence of a person constitutes a risk for the safety and health of the said person.

EXPOSED PERSON
Any person completely or partially inside the danger zone.

OPERATOR
The person or persons responsible for installing, operating, adjusting, maintaining, cleaning, repairing or moving machinery and carry out maintenance.

RISK
Combination of the probability and the gravity of a lesion or a damage for the health that can rise up in a dangerous situation.

PROTECTION
element of the machine specifically used for guaranteeing the protection through a material barrier.

PROTECTION DEVICE

device (different from a protection) that reduces the risk, alone or in partnership to a protection.

INTENDED USE

The use of the machine according to information provided in the instructions for use.

REASONABLY FORESEEABLE MISUSE

Use of machinery in a manner different from that stated in the instructions for use, but which may result from readily predictable human behaviour.

OTHER DEFINITIONS

MAN-MACHINE INTERACTION

Any situation in which an operator has to integrate with the machine in any of the operating phases throughout the lifespan of the machine.

OPERATOR QUALIFICATION

Minimum level of expertise that the operator must possess in order to carry out the described operations.

NUMBER OF OPERATORS

Suitable number of operators to correctly carry out the operations described and deriving from an in-depth analysis of the machine by the manufacturer, for which the use of a different number of operators could prevent the expected results or could compromise the safety of the persons involved.

CONDITION OF THE MACHINE

Condition of the machine is intended as the operating mode: automatic running, maintained action command (jog), stop, etc.; the safety conditions on the machine: including shelter, shelter excluded, emergency stop activated, type of insulation of the energy sources, etc.

RESIDUAL RISK

Risks that remain despite being adopted protective measures incorporated into the design of the machine and despite the protections and additional protective measures taken.

SAFETY DEVICE

Component:

- is used to ensure a safety function;

- the failure or ineffective function of which would prejudice the safety and/or the wellbeing of those exposed (e.g. lifting equipment, fixed, mobile or adjustable guards, etc., electrical, electronic, optical, pneumatic, hydraulic devices that slave or rather interlock a protection device, etc.).

PICTOGRAPHS

Descriptions following this symbol contain:

extremely important information/regulations particularly concerning safety.

The non compliance could result in:

- danger for the operator's safety;
- loss of the contractual warranty;
- declension of the manufacturer of the machine's responsibility.

PICTOGRAPHS RELATED TO THE OPERATOR'S QUALIFICATION

Sym.	Description
	**General unskilled worker:** operator without any particular skills, capable of carrying out simple tasks only on the instructions of qualified personnel.
	**Drivers of lifting and handling means:** operators qualified to use means for the lifting and handing of materials and machines (carefully following the instructions of the machine's manufacturer), in compliance with the laws of the country in which the machine is used.
	**Level 1 machine operators:** operators without any specific skills, capable of carrying out simple tasks, or rather the operation of the machine through the use of push-buttons on the push-button panel, loading and unloading operations of materials used during production, with safety devices installed and active; they are not qualified to use the machine with the JOG function (command with maintained action).
	**Level 2 machine operators:** personnel capable of performing the tasks of the level 1 operator and also capable of operating the machine in the JOG function (command with maintained action), to carry out simple operations of production start-up or its reset following a pause or regulation.
	**Mechanical Maintenance Engineer:** qualified engineer able to operate the machine under normal conditions, operate in the JOG function (command with maintained action), with the safety devices deactivated, to work on the mechanical parts for necessary adjustment, maintenance and repair. **He is not qualified to work on live electrical systems.**
	**Electrical Maintenance Engineer:** qualified engineer able to operate the machine under normal conditions, operate in the JOG function (command with maintained action), and intended for all adjustment, maintenance and repair operations of an electrical nature. **He is capable of working inside live electrical cabinets and junction boxes.**
	**Engineer of the machine's manufacturer:** qualified engineer made available by the manufacturer of the machine to carry out complex operations under hazardous conditions or in any case agreed upon with the user. The skills depend on each individual case, be it mechanical and/or electrical and/or electronic and/or software.

Tab. 0-6.1

PICTOGRAPHS RELATED TO THE CONDITION OF THE MACHINE

The pictograph inside a square / rectangle supply INFORMATION.

Sym.	Condition of the machine
	**Machine off:** with the electrical and pneumatic energy cut.
	**Machine on:** with the electrical and pneumatic energy connected and in a safety arrest condition by means of open mobile guards (specifying which); JOG inactive; fixed guards closed.
	**Machine on:** with the electrical and pneumatic energy connected and in a safety arrest condition by means of an emergency push-button in a restrained position or other command parts for the same end, located close to the operating area (specifying the emergency button or part to use).
	**Machine running:** with automatic function, mobile guards closed with related interlock devices active and fixed guards closed.
	**Machine running:** with JOG function (command with maintained action), mobile guards closed with related interlock devices active and fixed guards closed.
	**Machine running:** with JOG function (command with maintained action), one or more excludible mobile guards open (specifying which) with related interlock devices deactivated, possible remaining mobile guards closed with related interlock devices active and fixed guards closed.
	**Machine on:** idle and ready to run (stand-by) through the activation by operating consent (e.g. product present), mobile guards closed with safety devices active and fixed guards closed.

Tab. 0-6.2

PICTOGRAPHS RELATED TO SAFETY

- **Pictographs inside a triangle indicated DANGER.**
- **Pictographs inside a circle impose an OBLIGATION/RESTRICTION.**

P.	Name
	Danger high voltage.
	Crushing of upper limbs.
	Trapping.
	Dragging.
	General hazard.
	Access prohibited to unauthorised persons.
	Do not remove the safety devices.
	Cleaning, oiling, greasing, repairing or adjusting moving parts is prohibited.
	Prohibition of contract work before removing the voltage.
	Protective gloves compulsory.
	Safety shoes compulsory.
	Safety helmet compulsory.

Tab. 0-6.3

1 GENERAL INFORMATION

PAR	DESCRIPTION
1	**MANUFACTURER'S IDENTIFICATION DATA**

MANUFACTURER

SIROPACK ITALIA s.r.l.
Via Balitrona, 22/C - 47042 Cesenatico (FC) Italy

REGISTERED OFFICE

Via Balitrona, 22/C - 47042 Cesenatico (FC) Italy

HEAD OFFICE AND OPERATIVE

Via Balitrona, 22, A, B, C, D - 47042 Cesenatico (FC) Italy

AFTER-SALES/SPARE PARTS SERVICE

Tel.: 0039 0547 671116

Fax: 0039 0547 671007

CONTACT

www.siropack.com/it

info@siropack.it

1 GENERAL INFORMATION

PAR	DESCRIPTION
2	**IDENTIFICATION DATA AND PLATES OF THE MACHINE**

Each machine is identified with a CE plate on which are indelibly indicated the machine's reference data.

Always quote these references when communicating with our company and assistance department.

1.2.1

The position of the plate on the machine may vary from machine to machine.

1 GENERAL INFORMATION

PAR	DESCRIPTION
3	**DECLARATIONS**

The machine is made in accordance with the relevant and applicable European Directives when it was introduced on the market.

ANNEX IV Directive 2006/42/EC
The machine is not among those mentioned in Annex IV of Directive 2006/42/EC.

ANNEX IV Directive 2006/42/EC
Categories of machinery to which one of the procedures referred to in Article 12(3) and (4) must be applied
1. Circular saws (single- or multi-blade) for working with wood and material with similar physical characteristics or for working with meat and material with similar physical characteristics, of the following types:
1.1. sawing machinery with fixed blade(s) during cutting, having a fixed bed or support with manual feed of the work piece
or with a demountable power feed;
1.2. sawing machinery with fixed blade(s) during cutting, having a manually operated reciprocating saw-bench or carriage;
1.3 sawing machinery with fixed blade(s) during cutting, having a built-in mechanical feed device for the work pieces, with manual loading and/or unloading;
1.4. sawing machinery with movable blade(s) during cutting, having mechanical movement of the blade, with manual loading and/or unloading.
2. Hand-fed surface planning machinery for woodworking.
3. Thicknesses for one-side dressing having a built-in mechanical feed device, with manual loading and/or unloading for woodworking.
4. Band-saws with manual loading and/or unloading for working with wood and material with similar physical characteristics
or for working with meat and material with similar physical characteristics, of the following types:
4.1. Sawing machinery with fixed blade(s) during cutting, having a fixed or reciprocating-movement bed or support for the work piece;
4.2. Sawing machinery with blade(s) assembled on a carriage with reciprocating motion.
5. Combined machinery of the types referred to in points 1 to 4 and in point 7 for working with wood and material with similar physical characteristics.
6. Hand-fed tenoning machinery with several tool holders for woodworking.
7. Hand-fed vertical spindle moulding machinery for working with wood and material with similar physical characteristics.
8. Portable chainsaws for woodworking.
9. Presses, including press-brakes, for the cold working of metals, with manual loading and/or unloading, whose movable working parts may have a travel exceeding 6 mm and a speed exceeding 30 mm/s.
10. Injection or compression plastics-moulding machinery with manual loading or unloading.
11. Injection or compression rubber-moulding machinery with manual loading or unloading.
12. Machinery for underground working of the following types:
12.1. Locomotives and brake-vans;
12.2. hydraulic-powered roof supports.
13. Manually loaded trucks for the collection of household refuse incorporating a compression mechanism.
14. Removable mechanical transmission devices including their guards.
15. Guards for removable mechanical transmission devices.
16. Vehicle servicing lifts.
17. Devices for the lifting of persons or of persons and goods involving a hazard of falling from a vertical height of more than three metres.
18. Portable cartridge-operated fixing and other impact machinery.
19. Protective devices designed to detect the presence of persons.
20. Power-operated interlocking movable guards designed to be used as safeguards in machinery referred to in points 9, 10 and 11.
21. Logic units to ensure safety functions.
22. Roll-over protective structures (ROPS).
23. Falling-object protective structures (FOPS).

EC DECLARATION OF CONFORMITY

(Ann. IIA DIR. 2006/42/EC)

THE MANUFACTURER

Siropack Italia s.r.l.
Company

Via Balitrona, 22/C | 47042 | Fc
Address | *ZIP code* | *Province*

Cesenatico | Italia
City | *State*

DECLARES THAT THE MACHINE

Labelling machine for clamshell, lids, etc. with double carousel. | S52DD
Description | *Model*

S52DD01-001 | 2019
Serial n° | *Year of constr.*

Labels applicator.
Trade name

Labelling machine for clamshell, lids, etc. with double carousel.
Intended use

CONFORMS TO THE DIRECTIVES

Directive 2006/42/EC of the European Parliament and the Council of 17 May 2006 on machinery and amending Directive 95/16/EC.
Directive2014/30/UE of the European Parliament and the Council of 26 February 2014 on the harmonization of laws of the Member States relating to Electromagnetic Compatibility.
Directive2014/35/UE of the European Parliament and the Council of 26 February 2014 on the harmonization of laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits relative.

AND AUTHORIZING

Barbara Burioli
Nominative

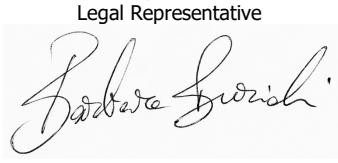
Via Balitrona, 22/C | 47042 | Fc
Address | *ZIP code* | *Province*

Cesenatico | Italia
City | *State*

TO FORM THE TECHNICAL FILE FOR IT

Place and date of the document
Cesenatico, 11/03/2019

The holder
Signature
Legal Representative



D.C.: DC N-007/000009

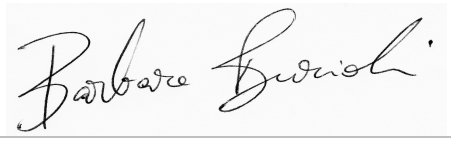
Directive 2006/42/EC – Ann. IIA
A. EC DECLARATION OF CONFORMITY OF THE MACHINERY
This declaration and translations thereof must be drawn up under the same conditions as the instructions (see Annex I, section 1.7.4.1(a) and (b)), and must be typewritten or else handwritten in capital letters.
This declaration relates exclusively to the machinery in the state in which it was placed on the market, and excludes components which are added and/or operations carried out subsequently by the final user.
The EC declaration of conformity must contain the following particulars:
1. business name and full address of the manufacturer and, where appropriate, his authorised representative;
2. name and address of the person authorised to compile the technical file, who must be established in the Community;
3. description and identification of the machinery, including generic denomination, function, model, type, serial number and commercial name;
4. a sentence expressly declaring that the machinery fulfils all the relevant provisions of this Directive and where appropriate, a similar sentence declaring the conformity with other Directives and/or relevant provisions with which the machinery complies. These references must be those of the texts published in the Official Journal of the European Union;
5. where appropriate, the name, address and identification number of the notified body which carried out the EC type-examination referred to in Annex IX and the number of the EC type-examination certificate;
6. where appropriate, the name, address and identification number of the notified body which approved the full quality assurance system referred to in Annex X;
7. where appropriate, a reference to the harmonised standards used, as referred to in Article 7(2);
8. where appropriate, the reference to other technical standards and specifications used;
9. the place and date of the declaration;
10. the identity and signature of the person empowered to draw up the declaration on behalf of the manufacturer or his authorised representative.

COMMISSIONING PROHIBITED

The machine cannot be commissioned after having undergone constructional alterations or additions of other components not covered by the routine or extraordinary maintenance without it being again declared in conformity with the requirements of Directive 2006/42/EC, and other reference directives and the relevant standard.

Cesenatico, 11/03/2019

The holder



1 GENERAL INFORMATION

PAR	DESCRIPTION
4	**SAFETY RULES**

The machine has been designed according to the **Technical Standards** listed below:

UNI EN ISO 12100	Safety of machinery - General principles for design - Risk assessment and risk reduction.
UNI EN ISO 13857	Safety of machinery - Safety distances to prevent danger zones being reached by the upper limbs and lower.
UNI EN ISO 13850	Safety of machinery - Emergency stop system, functional aspects.
CEI EN 60204-1	Safety of machinery – Electrical equipment of machines - Part 1: General requirements.
EN ISO 4414	Safety of machinery - Safety requirements for systems and their components for hydraulic and pneumatic transmissions. Pneumatic.
UNI EN 953	Safety of machinery - Guards - General requirements for the design and construction of fixed and movable guards.
UNI EN 349	Safety of machinery - Minimum gaps to avoid crushing of parts of the human body.

Tab. 1-4.1

Directive 2006/42/EC
Article 7. Presumption of conformity and harmonised standards
1. Member States shall regard machinery bearing the CE marking and accompanied by the EC declaration of conformity, the content of which is set out in Annex II, part 1, Section A, as complying with the provisions of this Directive.
2. Machinery manufactured in conformity with a harmonised standard, the references to which have been published in the Official Journal of the European Union, shall be presumed to comply with the essential health and safety requirements covered by such a harmonised standard.
3. The Commission shall publish in the Official Journal of the European Union the references of the harmonised standards.
4. Member States shall take the appropriate measures to enable the social partners to have an influence at national level on the process.

1 GENERAL INFORMATION

PAR	DESCRIPTION
5	**TECHNICAL ASSISTANCE INFORMATION**

The machines are covered by a warranty as foreseen in the general sales conditions. If a malfunction or breakdown of parts of the machine occurs during the validity period, which fall within the situation indicated by the warranty, the MANUFACTURER, after the necessary checks on the machine, will repair or replacement the defective parts.

It is recalled that interventions made by the user, without the express written permission of the manufacturer, shall invalidate the warranty and relieve the manufacturer from any liability for damages caused by defective product.

This is particularly true when those changes are conducted on safety devices, degrading their effectiveness.

The same considerations apply when spare parts are used that not original or different from those explicitly indicated by the manufacturer as "SAFETY DEVICES."

For these reasons we recommend our customers to always contact our Customer Assistance.

1 GENERAL INFORMATION

PAR	DESCRIPTION
6	**PREPARATION BY THE CLIENT**

Unless otherwise stipulated in the contract, the Client is normally responsible for:

- preparation of the premises, including any masonry and/or ducting requests;
- the machine’s power supply in accordance with the present laws of the country of use;
- Air pneumatic supply

2 SAFETY

PAR	DESCRIPTION
1	**GENERAL SAFETY WARNINGS**

Before starting the machine, read the instructions contained within the present manual carefully and carry out the indicated instructions.

The manufacturer has made the greatest efforts in designing this machine and INTRINSICALLY SAFE as was possible.
All necessary protections and safety devices have been implemented and, finally, has provide sufficient information so it can be used safely and properly.

To this end following information has been indicated, in each chapter, when necessary, and for each man-machine interaction:

- minimum operator qualification required;
- number of operators required;
- condition of the machine;
- residual dangers;
- necessary or advised personal protection equipment;
- human error previsions;
- prohibitions/obligations concerning reasonably foreseeable misconduct.

This information must be meticulously respected.

To contribute to the safe use of the machine, the user can suitably integrate the information provided by the manufacturer of the machine with additional work instructions, obviously not at odds with those presented in this instructions Manual.
For example, great care must be taken in the clothing worn by those working on the machine:

- avoid using clothing with parts that could become hooked to parts of the machine;
- avoid using neck ties or other loose parts of clothing;
- avoid wearing cumbersome rings or bracelets that could entangle the hands in the machine parts.

When necessary additional recommendations will be specified in the manual by the user concerning the prevention measures, personal protection equipment, information aimed at preventing human error and restrictions concerning reasonably foreseeable misconduct.
The following instructions must nevertheless be followed carefully:

- it is prohibited to start the machine in automatic with the fixed and/or mobile guards dismantled;
- it is prohibited to block the safety devices installed on the machine;
- do not modify parts of the machine for any reason whatsoever; the manufacturer is not held responsible in the event of a malfunction cause by the non-compliance of that mentioned above. Modifications should ideally be requested directly to the manufacturer of the machine;
- clean the covers, panels and commands with soft and dry clothes or slightly damp with a weak blend of detergent; do not use any type of detergent, such as alcohol or petrol, which could damage the surfaces;
- place the machines as established when the order according to the diagrams provided by the manufacturer, otherwise it is not responsible for any inconvenience.

IMPORTANT

The manufacturer of the machine is not held responsible for damages caused by the machine to persons, animals or property in the event of:

- **use of the machine by inadequately trained personnel;**
- **improper use of the machine;**
- **electrical supply defects;**
- **incorrect installation;**
- **lack of foreseen maintenance;**
- **unauthorised modifications or operations;**
- **use of spare parts that are not original or not specific for the model;**
- **total or partial disregard of the instructions;**
- **use contrary to the specific national standards;**
- **natural disasters and exceptional events.**

General instructions

The mobile parts must always be used in accordance with the manufacturer's instructions, as indicated in this manual, that must be available at all times in the place of work.
All safety equipment on the mobile parts to avoid accidents and to maintain safety, can't be modified, or removed, but must be suitable safeguarded.
The user must inform the employer or his superior in a timely fusion concerning possible defects or faults on the mobile parts.

Controls and verifications

They must be controlled as indicated in the chapter three of the present manual. If the worn or defective parts are not timely replaced, the manufacturer assumes no responsibility whatsoever for damages from accidents that may occur.

Controls must be carried out by qualified personnel; they must be both visual and functional, aimed at guaranteeing the safety of the machine.

These include:

- control of al supporting structures that must be free of cracks, breakage, damage, deformation, corrosion, wear or alterations in relation to the original characteristics;
- control of all mechanical parts;
- control of all safety devices installed on the machine;
- control of all connections with pins or screws;
- functional control of the machine;
- control of the machine's condition.

The results of these controls must be reported on a specific card.

WARNING!

If faults are detected, they must be removed before the machine is started again, and the expert carrying out the control must indicate the repair carried out on the card thereby giving the use approval of the machine.

If the person carrying out the control finds dangerous cracks or faults, he must give timely communication to the manufacture of the machine.

Place the machine out-of-service if operational faults are verified carrying out suitable controls and/or repairs.

Ensure there are no objects between the parts of the machine.

Check that after any maintenance operation on the machine, there are no objects between the moving parts.

In order to ensure maximum safety in the handling of the machine, the following is PROHIBITED:

- tampering with any part of the machine;
- leaving the mobile parts of the machine unattended;
- using the machine when not fully efficient;
- modifying the machine to change its original use, without the explicit authorisation of the manufacturer or without undertaking full responsibility established by the Machine Directive 2006/42/EC;
- manually move the mobile parts in the absence of power.

2 SAFETY

PAR	DESCRIPTION
2	**FORESEEN USE**

Level 1 machine operator: operator without any specific skills, capable of carrying out only simple tasks, i.e. the operation of the machine through the use of the buttons on the button panel, loading and unloading operations of materials used during production, with safety devices installed and active; he is not qualified to use the machine with the JOG function (maintained action command).

The S52DD is an automatic machine, designed for automatic labels applicationon to the bottom of trays for food, lids and/or clamshell; it is also able for perform laser marking and for pluriball and/or absorbent paper application on the bottom of food trays, lids and/or clamshell.

It is incorrect or improper to use different products/materials from the ones specified by the manufacturer, which may cause damage to the machine and dangerous conditions for the operator and/or people close to the machine.

2 SAFETY

PAR	DESCRIPTION
3	**CONTRAINDICATIONS DURING USE**

The machine must not be used:

- for uses other than those indicated in 2.2, for uses that are different or that are not mentioned in the present manual;
- in explosive (Not applicable ATEX) or corrosive atmospheres or with high concentrations of dust or oily substances suspended in the air;
- in atmospheres with a risk of fire;
- exposed to the elements;
- with excluded or malfunctioning safety devices;
- bridges with electrical and / or mechanical means excluding utilities / shares of the machine.

2 SAFETY

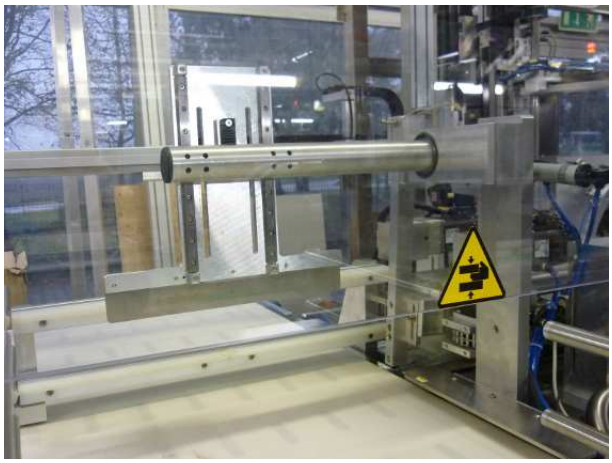
PAR	DESCRIPTION
4	**DANGEROUS ZONES**

The machine has the following dangerous areas (**see fig. 2.5.1**):

1. **ENTRANCE BELT** (**A**): danger of dragging the conveyor belt into the trays at the entrance to trays.

2.4.1

2. **STOP SYSTEM FOR THE ROWS OF ENTRY TRAYS** (**B**): danger of crushing close to the inserting electronic axis of the row and of the stop system of entry trays rows.



2.4.2

1. **ROW EJECTOR (C**): danger of crushing close to the electronic axis of ejection row.

2.4.3

2. **EXIT TRAYS** (**D**): danger of dragging in the conveyor belt for exit trays.

2.4.4

5. **LABELING MACHINE** (**E**): danger of crushing and dragging in the traction rollers; the motor that drives the label strip drive roller, even with the carter open, can be operated to allow the label to be dispensed manually. Be very careful as the rotation of the traction roller can take up to about 60 seconds.

2.4.5

2 SAFETY

PAR	DESCRIPTION
5	**SAFETY DEVICES**

The machine is equipped with the following safety devices:

1. The **EMERGENCY SWITCH** it is placed in the door of the main electrical panel.

The activation of the emergency switch involves general electrical voltage fall on the machine and compressed air exclusion.

It must be used:

- in case of electric hazards;
- in case of any type of electric operation.

N.B. To open the main switchboard door is essential to turn off the emergency switch.

2. Four **EMERGENCY STOP** buttons, one located on the left line control panel, one on the right line control panel; one is located on left line pushbutton panel and one on the right line pushbutton panel.

They must be used:

- in case of imminent hazard or mechanical accident;
- for short operations with the machine already stopped (to ensure that the machine remains stopped).

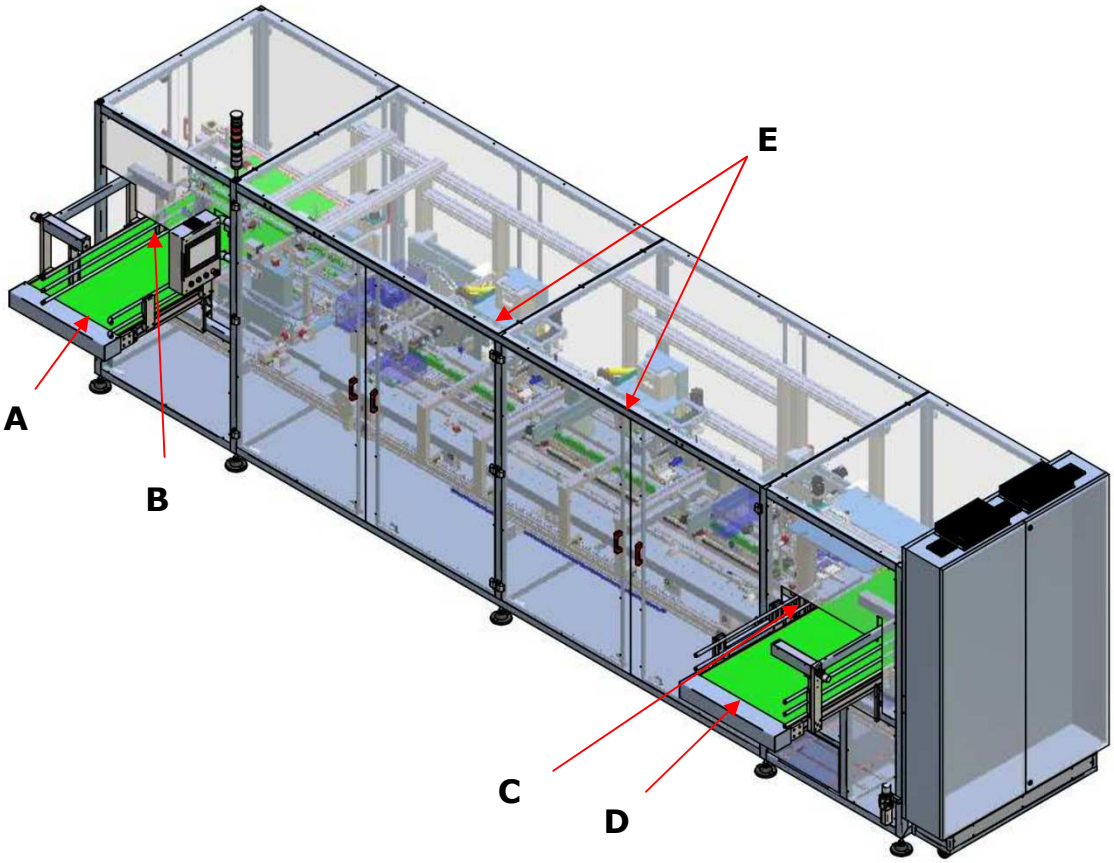
Pressing the EMERGENCY button, will interrupt the power supply of all motors of machine.

3. **TEN MOBILE PROTECTIONS AND FIXED GUARDS**:

L'S52DD machine is equipped with ten mobile protections and is provided with fixed guards.

The opening of the mobile protections, which are equipped with RFID safety sensors, causes the disconnection of the electric motors and the fall of compressed air in every group of the machine.

N.B. *It is strictly forbidden to climb or seat on mobile or fixed protections or on any other part of the machine.*



2.5.1

2 SAFETY

PAR	DESCRIPTION
6	**SIGNS**

The signs which must be installed near the machine and the work area of the same is as follows:

Prohibition signs

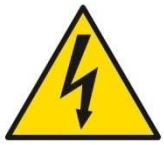
- a sign indicating the prohibition to remove the machine safety devices or protections;
- a sign indicating the prohibition to perform repairs and/or adjustments when the machine is running.

Sign 1	Sign 2
	

Tab. 2-6.1

Danger signs

- a sign indicating the danger of dragging;
- a sign indicating the risk of crushing of hands;
- a sign indicating the risk of crushing of hands between rollers,
- a sign indicating the electrical dangers;
- a sign indicating the general danger.

Sign 1	Sign 2	Sign 3	Sign 4	Sign 5
				

Tab. 2-6.2

The machine is also equipped with two light column (one per each line) with 6 lights:

2.6.1

White light	= **machine on**
Green light	= **machine in automatic mode**
Fixed orange light	= **presence of alarms**
Fast flashing orange light	= **machine in repositioning**
Slow flashing orange light	= **controls excluded**
Red light	= **safety circuit open** (guards open and/or emergency button pressed)

And 2 acoustical:

Continuous sound: **start button is pressed and the machine is going to start in automatic mode.**

Intermittent sound:

1. **transition from the start status to the stop status upon the occurrence of an alarm or to stop button pressing***;*
2. **glue is almost finished***.*

2 SAFETY

PAR	DESCRIPTION
7	**RESIDUAL RISKS**

Attention must be given to the following residual risks that are present when starting the machine and that can not be eliminated.

WARNING: DANGEROUS MOVEMENTS

Persons other than the operator must not be present in the vicinity of the machine. If third parties are present, stop the movements immediately and ensure they move away.

WARNING: ELECTRICAL RISKS DUE TO LIVE PARTS

Operations on the machine's general electrical panel must be carried out only by qualified personnel and anyway, with the power supply device disconnected.

WARNING: RISK OF DRAGGING

The operator must be extremely careful handling of drive belts and chains..

WARNING: RISK OF CRUSHING OF HANDS

The operator must be extremely careful handling the feeder tray and ejector row.

WARNING: RISK OF CRUSHING OF HANDS BETWEEN ROLLERS

The operator must be extremely careful to the movement of the rollers of the labelling machines.

Directive 2006/42/EC Ann. I p. 1.7.4.2
l) information about the residual risks that remain despite the inherent safe design measures, safeguarding and complementary protective measures adopted;

3 INSTALLATION

PAR	DESCRIPTION
1	**TRANSPORT AND HANDLING**

Drivers of lifting and handling means: operators qualified to use means for the lifting and handing of materials and machines (carefully following the instructions of the machine's manufacturer), in compliance with the laws of the country in which the machine is used.

The machine can be transported with normal means capable of supporting its weight (**3250Kg**) and its dimension; being that it is supplied fully assembled it is simply placed in its operating position.

Having to be placed on an existing line, leave space for installation, and any areas of operation for handling.

Ideally the machine should by lifted with a forklift truck (**Fig. 3.1.1**), with lifting capacity of at least **4000 kg**, with forks that sport the two sides. The "forks" must be **1600mm** and rest completely on the supporting surface and beyond the machine itself.

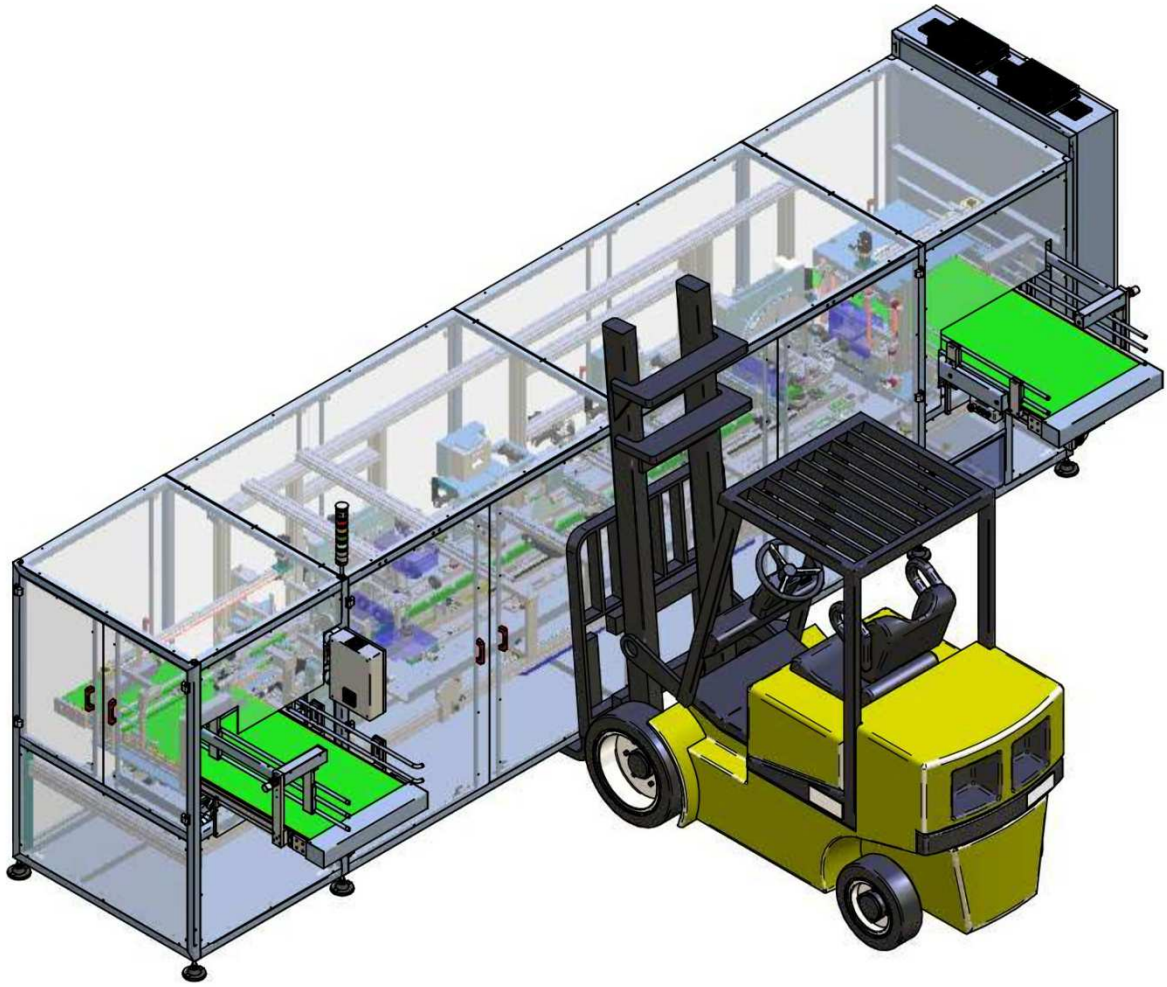
To ensure more stability, "forks" must be spaced as much as possible and must be in the center of the machine

3.1.1

Always check the proper balance of the weight of the machine when it is transported by truck to prevent unexpected trips or falls on the floor of the Machine.

Always use transport that can carry the weight (**3250 Kg**) and the dimension of the machine, to avoid damage to itself or to surrounding persons or property.

For transportation within the plant, transport the machine with two transpallet, after removing the reel holder that can be moved easily by its wheels, putting on correctly, with adequate lifting, depending on the weight of the machine.



3.1.2

The Manufacturer is not responsible for damages to persons or property through the use of lifting systems different from that described above.

3 INSTALLATION

PAR	DESCRIPTION
2	**STORAGE**

In case of inactivity, the machine must be stored taking the following precautions:

- disconnect the electrical connection;
- disconnect the pneumatic connection;
- remove the label reels;
- remove the absorbent paper reels from the reel holders;
- remove the support material (trays);
- purge the glue from piping;
- thoroughly clean the entire machine;
- lubricate the guides and pneumatic piston rods;
- store the machine in a closed place;
- protect the machine from bumps and stresses;
- protect the machine from humidity and high ranges of temperature;
- ensure that the machine does not get into touch with corrosive substances.

3 INSTALLATION

PAR	DESCRIPTION
3	**PREPARATION**

Installation preparation

An area must be made available for installation suitable for the dimension of the machine and for the chosen lifting means.

The preparation of the machine must be carried out so as to make the ergonomics and safety of the working area as good as possible: leave an area around the machine sufficient to allow easy use and handling operations of material to be processed and for the maintenance operations and adjustments.

Electrical Maintenance Engineer: qualified engineer able to operate the machine under normal conditions, operate in the JOG function (command with maintained action), and intended for all adjustment, maintenance and repair operations of an electrical nature. **He is capable of working inside live electrical cabinets and junction boxes.**

Preparation of the electrical system

The connection to the electrical system that supplies and creates the synchrony with the other machines, is made by specialized and qualified personnel in accordance with the electrical diagram and the provision laid down by Law and/or in the technical safety standards of the working areas and electrical systems.

Adequate safety must be prepared for its operation as prescribed for the safety of workplaces.

The Company are not responsible for damages to property, persons and/or animals caused by the non-observance of the said prescription.

To achieve an **adequate level of safety**, the electrical system to which the machine is attached must have a grounding system in accordance with the provisions of the country of the user, and so on for a correct implementation in a workmanlike manner, according to the Law and/or technical standards in matters of safety for the workplaces and electrical installations. Provide links to the grounding of the machine casing.

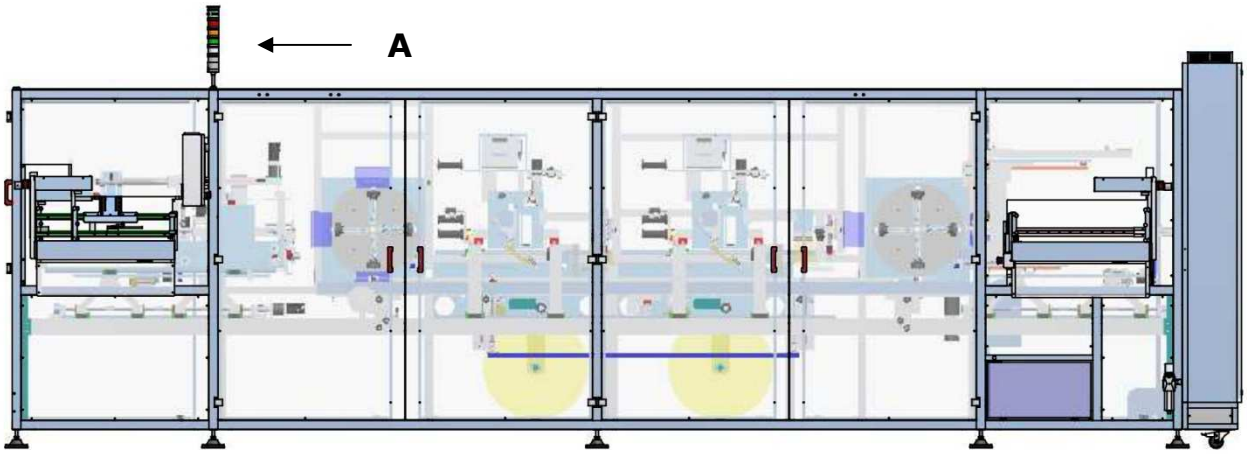
WARNING

These precautions must be taken by the user under his/her own responsibility. The manufacturer shall not be liable for any damage to things, people and/or animals resulting from bad electrical connection.

3 INSTALLATION

PAR	DESCRIPTION
4	**ASSEMBLY**

The assembly of the machine requires the following operations:



3.4.1

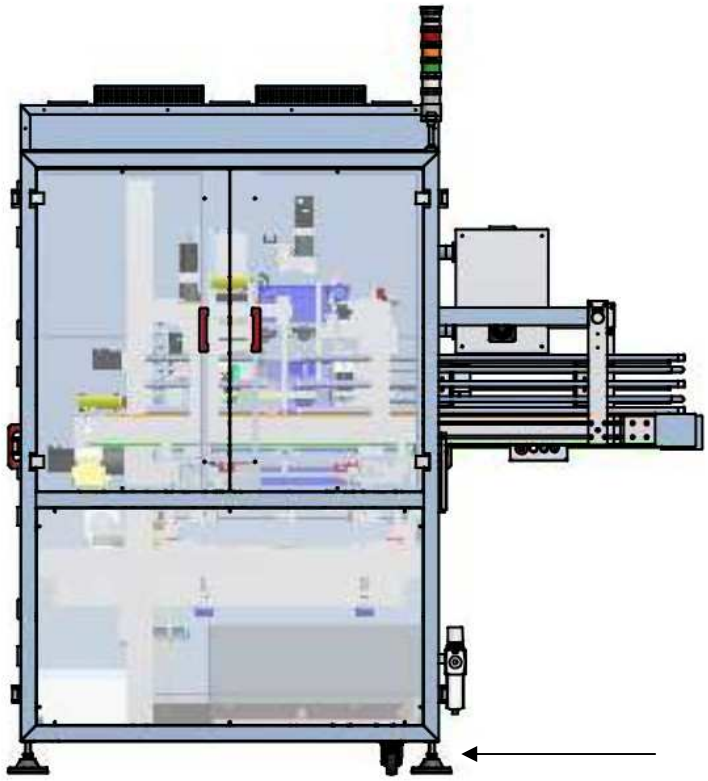
3.4.2

- connection of the light columns (A): the "triangle" and "open padlock" symbols must be aligned, after which the light body must be screwed in a clockwise direction;
- join the two parts of the machine (*reel holder group; machine group*) (**B**): **this action must be carried out by manufacturer's technicians.**.

3 INSTALLATION

PAR	DESCRIPTION
5	**PLACEMENT**

The machine must always be positioned in a perfectly leveled area: leveling can be done by adjusting by screwing or unscrewing the support feet of the machine.



3.5.1

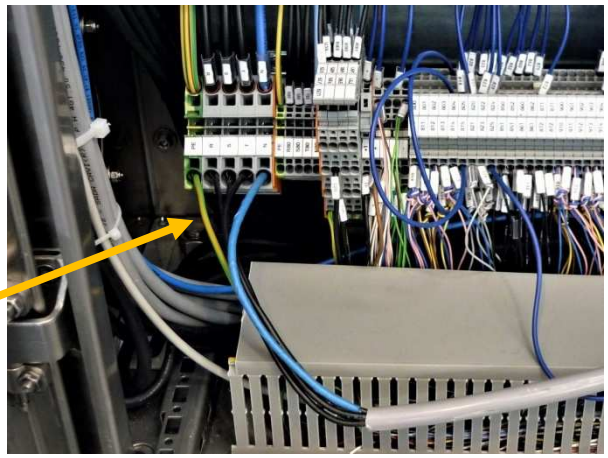
3 INSTALLATION

PAR	DESCRIPTION
6	**CONNECTIONS**

Engineer of the machine's manufacturer: qualified engineer made available by the manufacturer of the machine to carry out complex operations under particular conditions or in any case agreed upon with the user. His skills depend on each individual case, be it mechanical and/or electrical and/or electronic and/or software.

Electrical connection

The function of the main switchboard is to power the machine. The main switchboard is located at the exit of the machine line.



3.6.1

The power supply data are as follows:

- Voltage: 400V 50Hz (3P + N + T).
- Maximum absorption: 40 A.

Above the switchboard, one on the left side and one on the right side, there is two extraction fans located above the driver assembly to ensure perfect cooling.

The internal connections of the machine are made by skilled personnel of the manufacturer

The electrical connection between the machine switchboard and the customer's power supply line must be made by skilled personnel of the Customer.

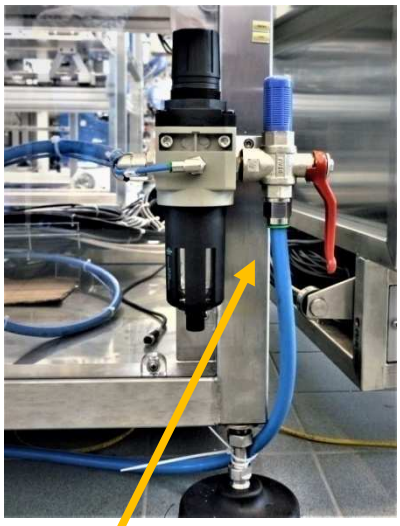
The electrical connection must be made inside the switchboard (**point A, fig. 3.6.1**) through the appropriate terminal box by connecting the 5 terminals marked R, S, T, N and PE.

The correct connection of the phase must be made following the order R, S, T.

Check that the frequency and voltage values of the system (see the plate on the side of the panel) comply with the values of the power supply line.

The cross section of connection cables must be between 4 mm^2 and 6 mm^2.

Pneumatic connection



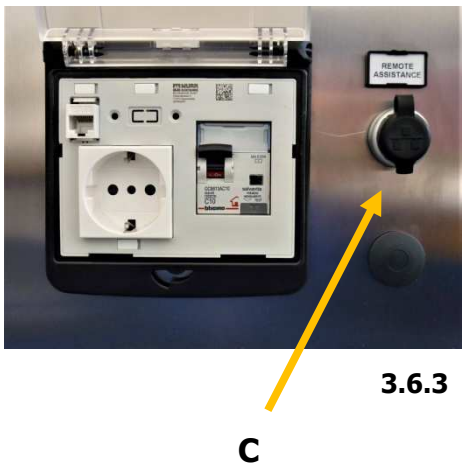
3.6.2

The pneumatic connection must be made in **point B fig. 3.6.2**, outside the electrical panel, on the opposite side of the machine operator, at the exit belt.

The connection diameter is ½ gas (the pipe must have an external diameter of at least 16 mm and an internal diameter of at least 14 mm).

The supply pressure range must be between 4.6 and 7.4 bar (outside this range it goes into alarm: the recommended pressure is 6 bar).

Connection for remote assistance



3.6.3

The connection in case of remote assistance must be carried out in **point C fig. 3.6.3**, outside of the the main electrical panel, next to the point where the pneumatic connection is made.

To connect, simply use a normal Ethernet cable (RJ45) cat. 5e or higher.

3 INSTALLATION

PAR	DESCRIPTION
7	**PRELIMINARY CONTROLS**

First level machine operator: operator without specific skills, able to perform only simple tasks, that is the operation of the machine through the use of buttons on the panel, the loading and unloading operations of the materials used during production, with the protections installed and active; it is not enabled to use the machine with control over a maintained action (JOG).

The following operations must be carried out prior to each commissioning of the machine:

- control of all safety systems;

- control of the emergency button's efficiency: when the machine is stopped and then the machine is in "automatic", insert the emergency button. The supply of air and voltage to the line must be interrupted. Perform these checks for each emergency button on the machine;
- control of the protections:

  - with the machine in idle, open the protections and check that by pressing the reset button, no electric or pneumatic movement is activated;

  - with the machine in automatic mode open the mobile protections: the machine must stop immediately and show on the display, located on the control panel, the "open door" alarm message. Then check the absence of air in the machine by manually moving one of the pistons of the picking group;

- closure of the protections;
- control of the signs;
- check of the messages displayed on the control panel and the correct setting of the parameters of the format in the works and the machine settings.

Before starting the machine, a series of checks must be performed to prevent errors or accidents during the commissioning phase:

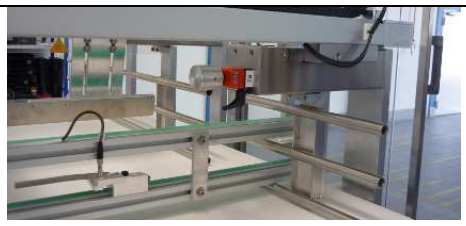
- check that the machine has not been damaged during the installation;
- check, with particular care, the integrity of the electrical panel, control panel and electrical cables;
- check the exact connection of all external energy sources and switch on the main switch;
- check the free movement and possible free rotation of all moving parts;
- check that the pneumatic connections are tightened in order to prevent dangerous leaks;
- check the presence of pneumatic pressure, after repositioning the machine with the reset button, viewing the pressure switch on the side of the electrical panel;
- check that the support materials are present;
- press the reset button;
- check that there are no alarm messages on the display and press the start button;
- check the correct rotation of the motors;
- try the machine in the various operating modes to check its perfect efficiency.

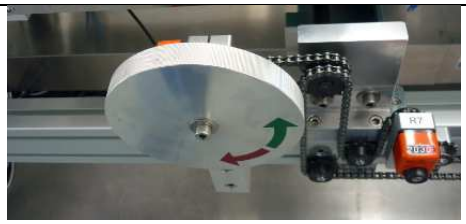
3 INSTALLATION

PAR	DESCRIPTION
8	**ADJUSTMENTS**

Second Level Machine Operator: personnel capable of carrying out the tasks of the 1st level operator and, moreover, able to operate with the machine with a maintained action control (JOG), to perform simple start-up functions production or its restoration following a standstill and regulation.

The following adjustments can be made on the machine:

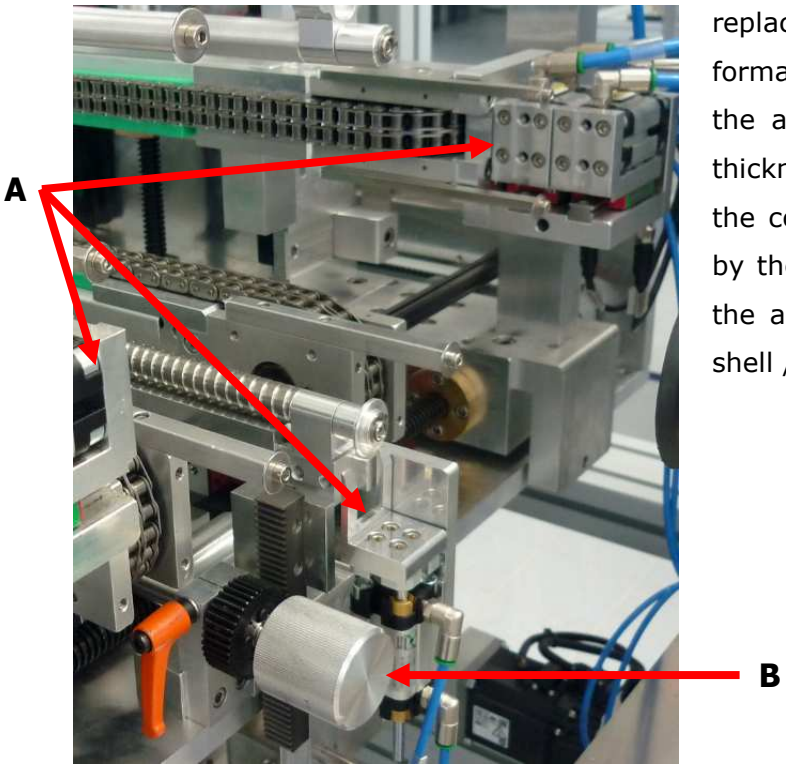
POSITION	REG.	FUNCTION
	**R1**	Height regulator for row of punnets / clamshells / lids on the entrance belt.
	**R2**	Height regulator for row of punnets / clamshells / lids.
	**R3**	Height regulator for depot chain of operator side picking group.
	**R4**	Height regulator for depot chain of opposite operator side picking group.
	**R5**	Depot depth regulator of picking group.

POSITION	REG.	FUNCTION
	**R6**	Width regulator for side chains of depot picking group.
	**R7**	Width regulator for lower chains of depot picking group.
	**R8**	Width regulator for transport chains.
	**R9**	Guide height regulator on the operator side transport chain.
	**R10**	Guide height regulator on the opposite operator side transport chain.
	**R11**	Depot depth regulator of deposit group
	**R12**	Depot height regulator for deposit group.
	**R13**	Depot width regulator for deposit group.

POSITION	REG.	FUNCTION
	**R14**	Height regulator for row of punnets / clamshells / lids on the exit belt.

Tab. 3-8.1

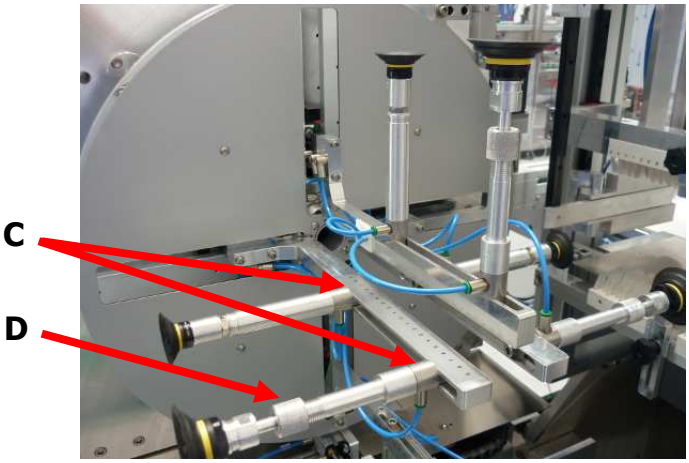
1. Angular adjustment for release of picking group:



3.8.1

replace the release angles according to the format to be processed, using a wrench on the allen screws **A fig. 3.8.1** and using a thickness slightly higher than the height of the collar of the tray being processed. Then by the knob it is possible to raise and lower the auger progress for the row of punnet / shell / lids.

2. Adjustment of the carrousel arms (entrance and exit):

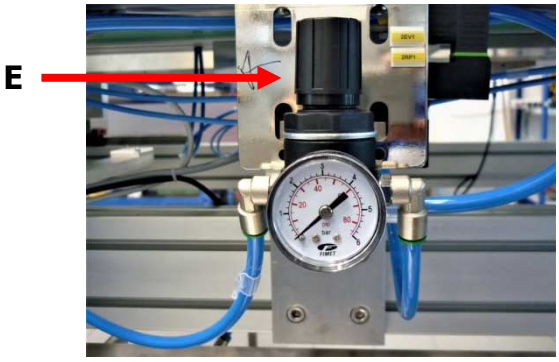


3.8.2

to adjust the carousels picking arms (entrance and exit carousels) it is necessary to loosen the allen screws at the point **C fig. 3.8.2** for each group of arms; at this point, it will be possible to move horizontally each arm with its suction cup support, so as to better adapt to the format being processed. The metric bars allow fine adjustment of the group.

By screwing and unscrewing the suction cup holder collar **D fig. 3.8.2** it is possible to vary the height of the suction cup on the gripping surface.

3. Adjustment of pneumatic pressure to the carousel groups:

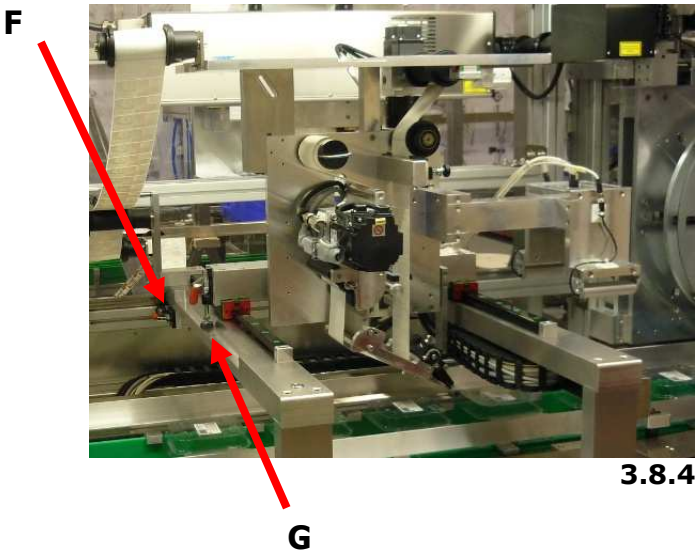


3.8.3

it is possible to adjust the pneumatic pressure of the single carousel groups (entrance and exit); there, are in fact, two regulators, one per group, placed at the back of the group; each is equipped with a pressure gauge (**E fig. 3.8.3**). The knobs set, respectively, the pressure for releasing the vacuum of the punnet to picking and the pressure for releasing the vacuum of the punnet on depot.

For a proper operation, the pressure must be set to approximately 2 bar.

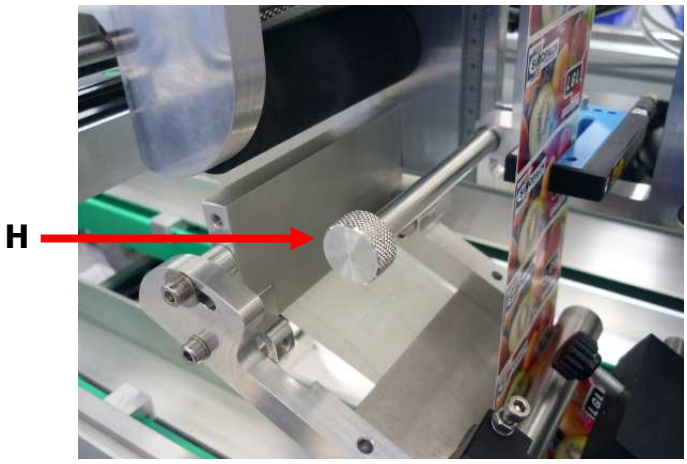
4. Labelling group adjustment:



3.8.4

through the control panel it is possible to adjust the height of the labeling unit, in order to carry the peel-off blade close to the bottom of the punnet. Instead, it is possible to move each labeling machine in the remaining directions, simply by sliding the group on the rails and fix its position with the appropriate lock levers **F fig. 3.8.4** for movement along the run direction and **G fig. 3.8.4** for operator side movement – opposite operator side.

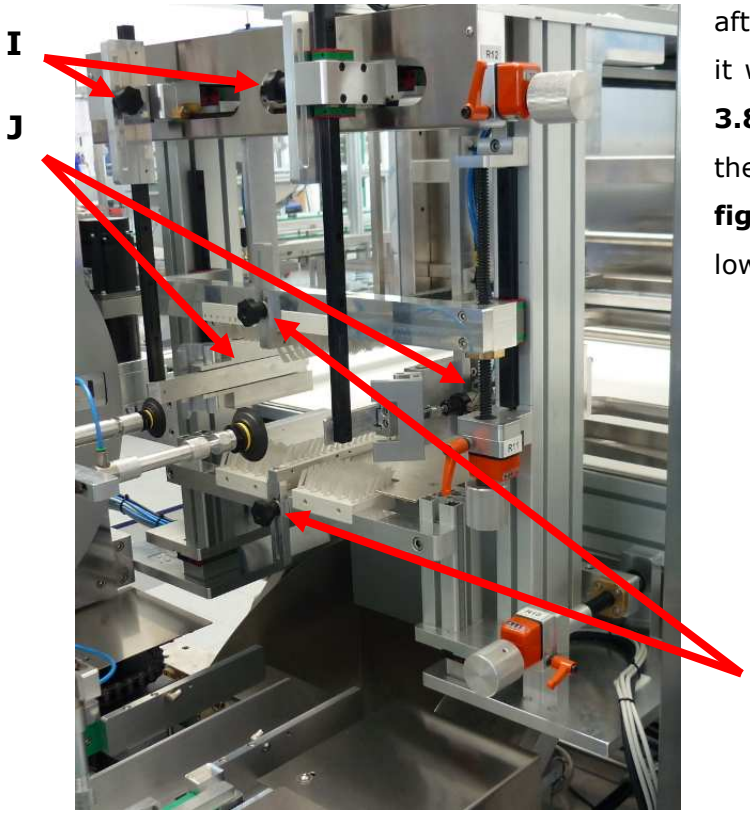
5. Fork adjustment for label pre-issue:



3.8.5

by loosening the knob **H fig. 3.8.5** and with the aid of the millimeter bar, it is possible to move the fork sensor that reads the labels step; in this way, it will be possible to stop the label on the peel-off blade.

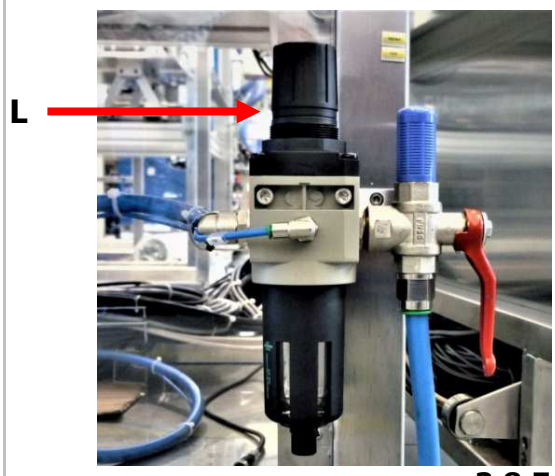
6. Adjustment of depot group:



3.8.6

after loosening the allen screws **J fig. 3.8.6** it will be possible to loosen the knobs **I fig. 3.8.6** to raise and lower the side guides of the storage depot. Loosening the knobs **K fig. 3.8.6** it will be possible to raise and lower the two central brushes independently.

7. Pressure adjustment of pneumatic system:



3.8.7

the pressure of the pneumatic system must be set to a maximum value of 7.4 bar and a minimum of 4.6 bar: outside this range the machine goes into alarm. The optimal pressure with which the machine must work is 6 bar. The pressure regulator is located outside of the machine, on the operator side, in the lower part, close to the punnets entry area, **L fig. 3.8.7**.

To set the correct pressure it is necessary to screw or unscrew the pressure regulator adjustment knob until reaching a value of 6 bar in the pressure gauge located on the side of the electrical panel.

N.B. All set-up and adjustment operations, except where specified, must be carried out with the machine in a safe stop state. Therefore, except for special specifications, working with the mobile protection (controlled by an RFID safety sensor) open and the emergency buttons inserted, there are no dangerous conditions for the operator.

3 INSTALLATION

PAR	DESCRIPTION
9	**VACUUM TESTS**

Before carrying out the operations carried out, carry out a vacuum test in order to check for any anomalies, expecially of the direction of rotation of the vacuum pump motor, etc.

It is also possible to make the machine in automatic mode without the support material, to check the correct setup. For this purpose it is necessary to exclude the controls trought the display.

4 MACHINE DESCRIPTION

PAR	DESCRIPTION
1	**OPERATING MODE**

The S52DD is a machine designed for the automatic application of labels on the bottom of trays for food, lids and/or clamshell. The operation is totally automatic. It is a sequential system with pneumatic and electric energy, controlled by a programmable logic controller.
The machine provides the possibility to use containers of different depth (min 10mm-max 100mm), length (min 100mm-max 155mm) and width (min 120mm-max 270mm).

4 MACHINE DESCRIPTION

PAR	DESCRIPTION
2	**PRINCIPAL COMPONENTS**

The operative flow is listed in processing steps:

1. **SUPPLY AND PICKING**
2. **ENTRY CAROUSEL**
3. **LABELLING AND CONTROL**
4. **EXIT CAROUSEL**
5. **DEPOT**

2.1 **(Group 1) SUPPLY AND PICKING GROUP:** represents the first processing step in which the rows of trays (height of each row: min 500 mm and max 700 mm), arranged by the operator inside the storage stacks, go forward on a transport system and are entered, one row at a time, as needed, inside the central guide of the unpiler **A fig. 4.2.1**. Here the trays are individually taken and introduced into the processing chains. The tray's picking is obtained through the four-arm carousel with suction cups, driven by a brushless motor: this allows picking up trays of different height with a simple setting selected from the display. The automated supply group is adjustable and must not be replaced in any format changes: it can host containers of different depths (min 10mm-max 100mm), length (min 100mm-max 155mm) and width (min 120mm -max 270mm); this means that the machining changes can be carried out very quickly.

4.2.1

After positioning the trays for a first operation of the line, check the absence of signals on the display and start it in "automatic" mode.

2.2 **(Group 2) ENTRY CAROUSEL GROUP:** This station is composed by a rotary circular structure and four mobile arms with a suction cup. The arms are orthogonal to each other. They move from the center to the outside, and vice-versa, thanks to a system of racks and toothed wheels, driven by a brushless motor. The rotating structure, thanks to another brushless motor, makes steps of 90 degrees clockwise; in first position the tray is taken from the entry stack; the second position is prepared for gluing phase; the third position is prepared for the in-line labelling; finally in the fourth position, deposit is made on chain. The arms perform their movement outwards and return, synchronously, in first and third position and in second and fourth position.

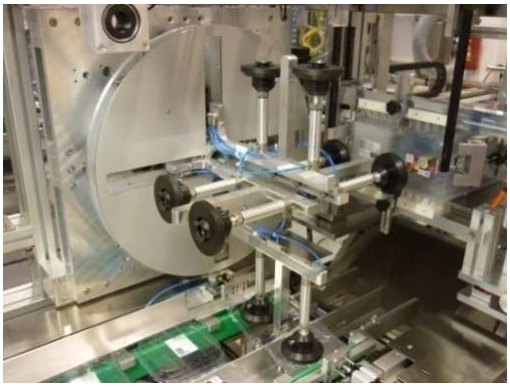
4.2.2

2.3 (Group 3) LABELLING GROUPS: the groups have the purpose to apply a label to the external part of the bottom of the basket/lid. In the machine there are two completely identical labelling groups which can be managed independently of one another. Each group consists of three parts: the reel holder with its unwinder, the peeler and the control camera. The reel holder is placed on the back side, close to the labelling group and allows the use of high diameter reels (maximum 600 mm). The peeler is the part of the group that applies the label on the tray.

4.2.3

This element is composed of a 750 W (2.4 Nm) brushless motor of the HG-KR series produced by Mitsubishi Electric, a series of rollers for the channeling of the strip labels, a peeling blade and a roller. for waxed paper recovery. Finally, two **FH-SM02** cameras (one for each labeling group) combined with the **FH-1050** vision system, both produced by **Omron Electronics s.p.a.**, control the presence and position of the label. The entire labelling system is completely managed by the PanelPC, thanks to which it is possible to set all the necessary parameters for processing, memorize them in the "format" and transmit them to the PLC.

2.4 (Group 4) EXIT CAROUSEL GROUP: this station, at the same to the entrance carousel group, is basically composed of a rotating structure, with a circular shape and four mobile arms with a suction cup. The arms are orthogonal to each other and move from the center to the outside and vice versa, thanks to a system of racks and toothed wheels, driven by a brushless motor. The rotating structure, througth another brushless motor, make 90° steps in a clockwise direction; in the first position the tray is taken from the chain; in the second position no processing takes place; the third position is prepared for absorbent material application; finally, in the fourth position the tray is released in the stacking depot. The arms perform their movement outwards and return, synchronously, in first and third position and in second and fourth position.



4.2.4

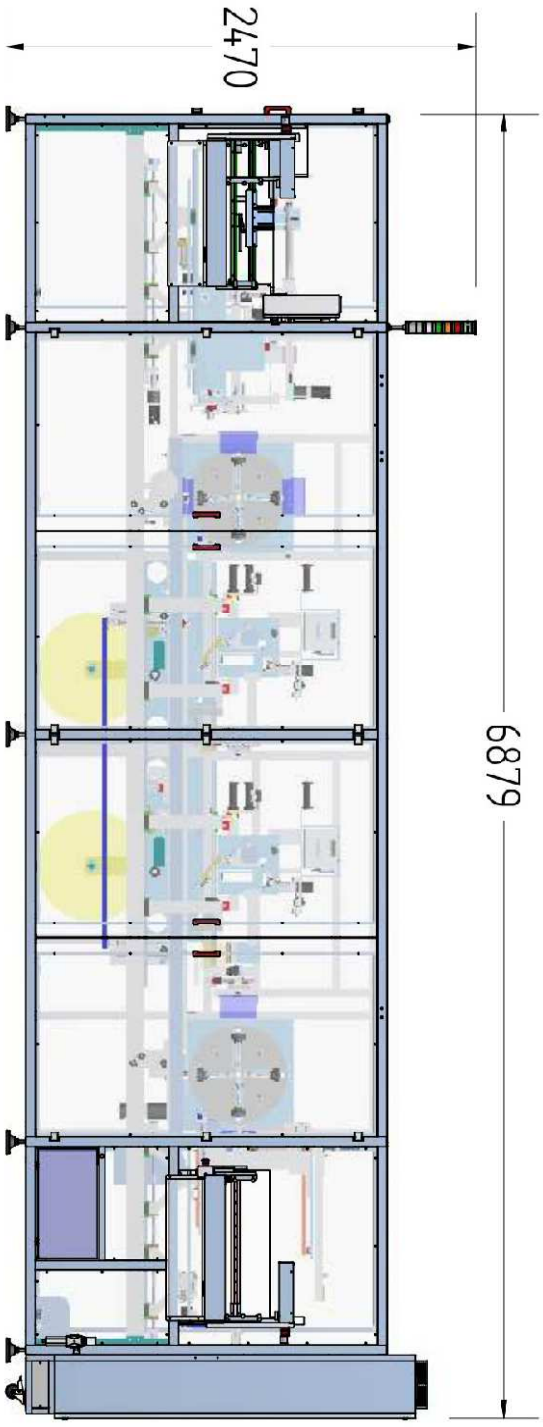
2.5 (Group 5) DEPOT GROUP: here the trays are individually taken and stacked in the depot. The trays are re-stacked until the operator pre-setted number has been reached (height of each row min 500mm-max 700mm): at this point the ejector's sled push the row of trays on the output belt. When the rows are going out, the machine is slowed down. The automated emptying unit is also adjustable and must not be replaced in any format changes: it can host containers of different depths (min 10mm-max 100mm), length (min 100mm-max 155mm) and width (min. 120mm-max 270mm); as mentioned earlier this means that the working changes can be carried out very quickly.

4.2.5

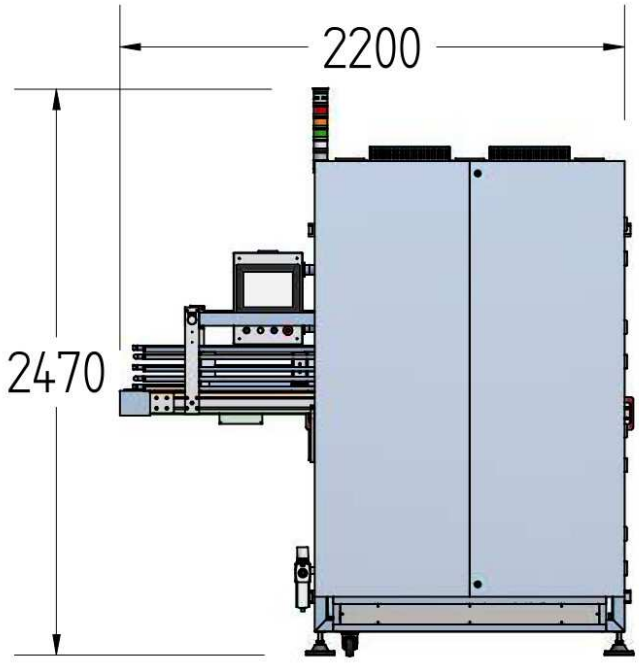
4 MACHINE DESCRIPTION

PAR	DESCRIPTION
3	**DIMENSIONS**

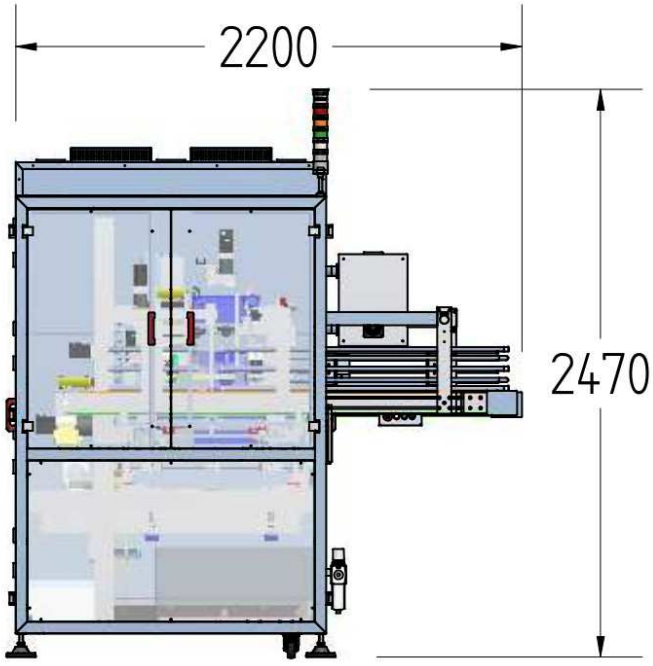
A	Lenght	6879 mm
B	Width	2200 mm
C	Height	2470 mm



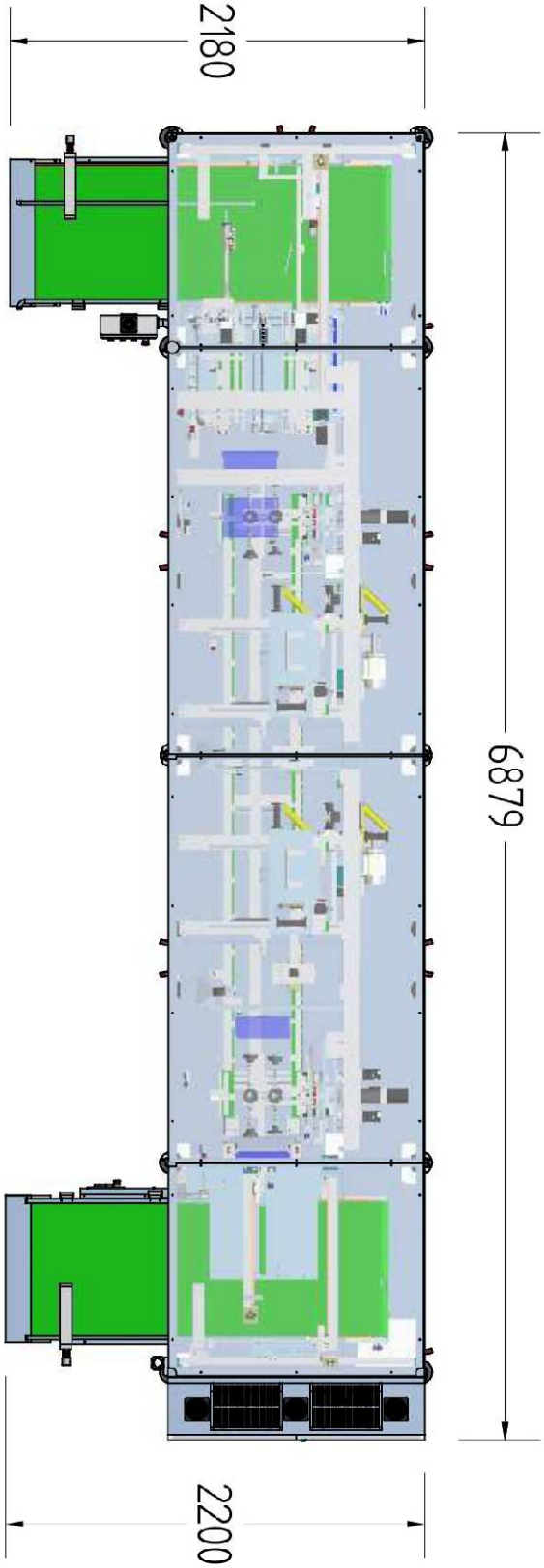
4.3.1



4.3.2



4.3.3



4.3.4

4 MACHINE DESCRIPTION

PAR	DESCRIPTION
4	**ENVIRONMENTAL CONDITIONS**

The machine does not require particular environmental conditions. It must be installed in an illuminated, aired industrial building with a solid and leveled floor.
Temperatures allowed from 5 ° to 40 ° C, with humidity not higher than 50% at 40 ° C or, not higher than 90% at 20 ° C (not condensed).
Attention: the machine is not suitable to work in environments with an explosive or corrosive atmosphere or with excessive presence of powders.

The machine is suitable for operating in environments with:

1. altitude not higher than 1500 m s.l.m .;
2. temperature between + 5 ° and + 40 ° C with average temperature around 35 ° C;
3. relative humidity between 30 and 95% (not condensed).

It is forbidden to use the machine in environments that are:

4. dusty;
5. in corrosive atmosphere;
6. at risk of fire;
7. in an explosive atmosphere (ATEX Directive not applicable).

4 MACHINE DESCRIPTION

PAR	DESCRIPTION
5	**LIGHTING**

The lighting of the installation room must comply with the laws in force in the country where the machine is installed and in any case it must guarantee good visibility at all points, do not create dangerous reflections and allow a clear reading of the control panels, as well as the emergency identification buttons.

The machine is not equipped with independent light sources and it is therefore necessary that the work environment is equipped with a general lighting that guarantees values between 200 and 300 lux on each point of the machine.

4 MACHINE DESCRIPTION

PAR	DESCRIPTION
6	**VIBRATIONS**

In conditions of use that comply with the instructions for correct use, the vibrations are not such as to create dangerous situations.

4 MACHINE DESCRIPTION

PAR	DESCRIPTION
7	**SOUND EMISSIONS**

A-weighted equivalent continuous sound pressure level and the C-weighted instantaneous sound pressure level in the workplace is not such as to create danger for the operators.
Anyway noise measurements in the work environment must be made in accordance with the provisions of the regulations in force in the Country of use.

Machinery Directive 2006/42/EC All 1.7.4.2
(u) the following information on airborne noise emissions:
- the A-weighted emission sound pressure level at workstations, where this exceeds 70 dB(A); where this level does not exceed 70 dB(A), this fact must be indicated,
- the peak C-weighted instantaneous sound pressure value at workstations, where this exceeds 63 Pa (130 dB in relation to 20 μPa),
- the A-weighted sound power level emitted by the machinery, where the A-weighted emission sound pressure level at workstations exceeds 80 dB(A).

These values must be either those actually measured for the machinery in question or those established on the basis of measurements taken for technically comparable machinery which is representative of the machinery to be produced.
In the case of very large machinery, instead of the A-weighted sound power level, the A-weighted emission sound pressure levels at specified positions around the machinery may be indicated.
Where the harmonised standards are not applied, sound levels must be measured using the most appropriate method for the machinery. Whenever sound emission values are indicated the uncertainties surrounding these values must be specified. The operating conditions of the machinery during measurement and the measuring methods used must be described.
Where the workstation(s) are undefined or cannot be defined, A-weighted sound pressure levels must be measured at a distance of 1 metre from the surface of the machinery and at a height of 1,6 metres from the floor or access platform. The position and value of the maximum sound pressure must be indicated.
Where specific Community Directives lay down other requirements for the measurement of sound pressure levels or sound power levels, those Directives must be applied and the corresponding provisions of this section shall not apply;

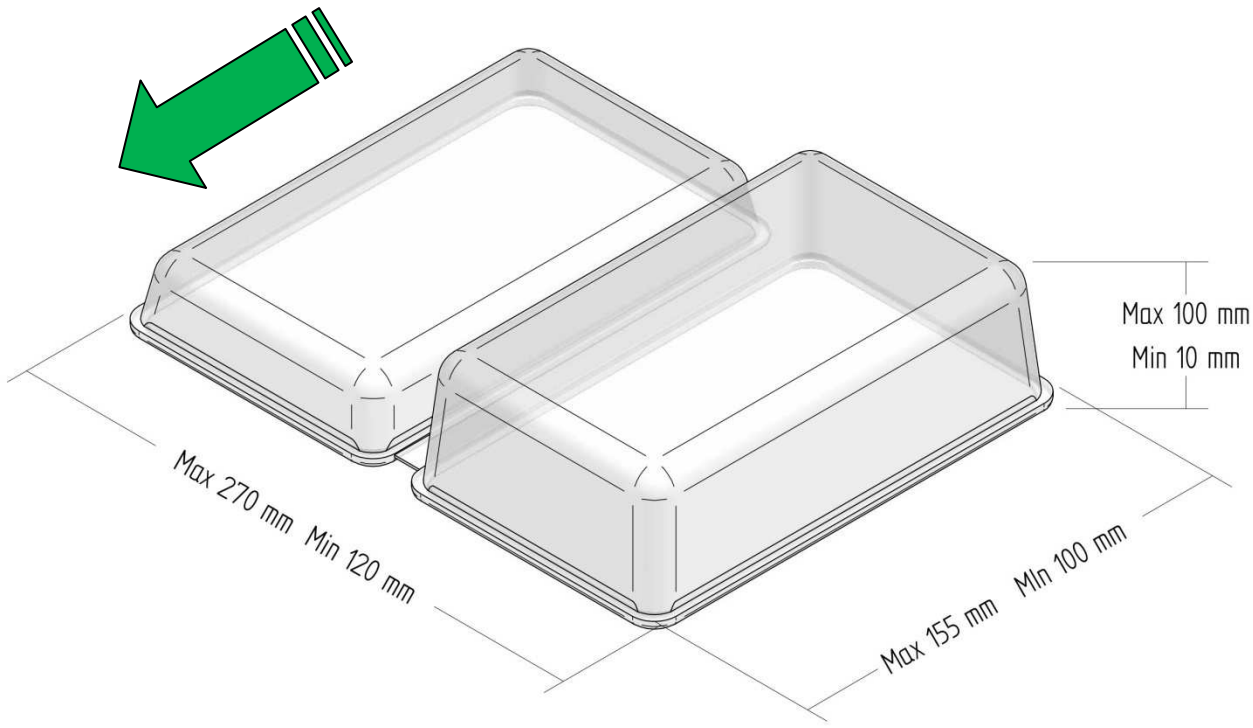
4 MACHINE DESCRIPTION

PAR	DESCRIPTION
8	**TECHNICAL DATA**

The following are the main technical data concerning the machine in question:

Descrizione	**U.M.**	**Valore**
Installed power	**A**	40
Power supply	**V**	400 – 3P+N+T
Compressed air pressure	**Bar**	6
Pneumatic energy	**L./min.**	1200
Machine weight	**kg.**	3250

Tab. 4-8.1



4 MACHINE DESCRIPTION

PAR	DESCRIPTION
9	**CONTROL PANEL AND BUTTONS**

The machine is equipped with a panel for managing commands and signals.

The **control panel** it is placed at the machine entrance, close to the picking group.

4.9.1

DESCRIPTION OF CONTROLS:

1. **Control panel**, its function is to display the status of the line, to setting the production parameters, adjusting and storing the processing statistics (hours worked, etc.).
2. **Emergency pushbutton**, immediately stops the line, removing compressed air and power supply.
3. **Start button**, starts the automatic operation of the line, if no alarms are present.
4. **Stop button**, stops the line.
5. **Reset button,** performs an alarm reset in the line: it must be pressed to reset the alarms memory after that alarm cause has been removed

The panel buttons is located next to the exit belt.

4.9.2

DESCRIPTION OF CONTROLS:

1. **Emergency button**, immediately stops the line, removing compressed air and voltage.
2. **Start button**, starts automatic line operation, if no alarms are present.
3. **Stop button**, stop the line.
4. **Reset button**, performs an alarm reset in the line: it must be pressed to reset the alarm memory after the alarm cause has been removed.

4 MACHINE DESCRIPTION

PAR	DESCRIPTION
10	**STANDARD SUPPLY**

The machine is supplied complete for commissioning.

It is supplied with:

- Risk analisys
- Technical file
- Manual for use and maintenance;
- Plate with CE marking;
- Declaration of conformity.

4 MACHINE DESCRIPTION

PAR	DESCRIPTION
11	**ELECTROMAGNETIC ENVIRONMENT**

The machine is designed to operate correctly in an industrial-type electromagnetic environment, within the limits of Emission and Immunity provided for by the following harmonized standards:

CEI EN 61000-6-2 Electromagnetic compatibility (EMC)

Generic standards - Immunity for industrial environments

CEI EN 61000-6-4 Electromagnetic compatibility (EMC)

Generic standards - Issue for industrial environments.

5 USE OF MACHINE

PAR	DESCRIPTION
1	**CONTROL PANEL**

The machine is supplied with one Panel PC, which has multiple functions: display the status of the machine, set the production and adjustment parameters.

A series of messages informs to the operator for any anomalies present on the line or simple line states that do not affect the operation (see also **chap. 5 par. 2**).
Below a complete list of the alarms present in the system with explanations.
The presence of one or more of these alarms causes immediate stop of the line on which it appears.

Control panel messages

ALARM	DESCRIPTION
(100) PLC COMMUNICATION ERROR	There is a communication error between the PanelPC (operator panel) and the PLC.
(101) EMERGENCY INSERTED	The emergency button located in the operator panel is been pressed. Turn this button in clock wise to unlocked.
(102) EMERGENCY 2 INSERTED (OPTIONAL)	The emergency button located in the keyboard is been pressed. Turn this button in clock wise to unlocked.
(104) ALARM IN RELEASE SYSTEM BELOW THE WITHDRAWAL GROUP	The "release" cylinder, located under the row of trays in the picking group, does not work properly. Possible causes: sensor anomaly, valve fault, incorrect sensor adjustment or cylinder stroke impediment.
(105) ALARM IN STACK EJECTOR SYSTEM	The cylinders that drive the angular ejectors do not work properly. Possible causes: sensor anomaly, valve fault, incorrect sensor adjustment or cylinder stroke impediment.
(106) ALARM IN CONTRAST FOR STACK'S EJECTION	There is an alarm in the contrast for stack's ejector. Check sensors or solenoid valve (5EV2) of the cylinder (5C2).
(107) THERMAL ALARM IN SUCTION	The motor protection of the aspirator has tripped (33Q3). Check that the motor of the aspirator is not blocked and that does not work under stress. Make sure the real current absorption of the motor does not exceed the value of plaque.
(108) ALARM IN INVERTER OF UNROLLER 1	There is a problem in the inverter of the unroller 1 (probable thermal intervention). Press the emergency pushbutton and wait 10-15 seconds before reactivate it and press reset to reset the alarm.
(109) ALARM IN INVERTER OF UNROLLER 2	There is a problem in the inverter of the unroller 1 (probable thermal intervention). Press the emergency pushbutton and wait 10-15 seconds before reactivate it and press reset to reset the alarm.
(110) ALARM IN TTO 1 MARKER	Error in the TTO1 thermal transfer marker error placed at entry. Check that the printer is closed and the ribbon is not finished.
(111) ALARM IN TTO 2 MARKER	Error in the TTO2 thermal transfer marker error at the output. Check that the printer is closed and the ribbon is not finished.

ALARM	DESCRIPTION
(112) ALARM IN LASER MARKER	The laser marker is not ready or in alarm.
(113) ALARM FOR CUTTING GROUP OPENED	The cutting unit is raised. Pull down the unit and check that the handle is well linked.
(114) ERROR IN UNROLLER PAD	Error in the pad /pluriball unwinder motor. Verify that the contrast roller is closed and that the pad/pluriball reel is not finished.
(115) CONTROL UNIT DISABLED	The Control unit of the security system located in the main switchboard (8A7) is disabled. This alarm is a normal consequence of the opening of the safety circuit (emergencies, carter, etc.) but it can signal an anomaly to the system or to the control unit itself if the safety circuit is closed.
(116) OUT OF RANGE AIR PRESSURE VALUE	The air pressure machine supply is out of range (must be between the 4,5-7,5 bar). Adjust and maintain the pressure of 6 bar approximately.
(117) ALARM IN FEEDER STACK STOP SYSTEM	Movement error for the feeder stack stop system cylinder. Possible causes: 25S3 and 25S4 sensors fault; 34Y2 valve fault; cylinder stroke impediment.
(118) GLUE SYSTEM NOT READY	The gluer may be off, it may not have reached the set temperature or there is an anomaly.
(119) REEL EXHAUSTED FOR PAD/PLURIBALL	The reel of pluriball/absorbent paper is exhausted.
(120) ALARM IN STOP SYSTEM OF TRAYS/PUNNET	The stop cylinder sensor is not read. Possible causes: sensor fault or valve fault or incorrect sensor adjustment or cylinder stroke impediment..
(121) ALARM IN RELEASE SYSTEM OF TRAYS/PUNNET	The release cylinder sensor is not read. Possible causes: sensor fault or valve fault or incorrect sensor adjustment or cylinder stroke impediment.
(122) CONSECUTIVE ERRORS ON ENTRY DEPOT	The number of consecutive errors due to uncorrect depot of the tray on chain has been reached. Check that the air is active in the carousel unit and the properly operation of the suction cups.
(123) INPUT BELT INVERTER ALLARM	There is a problem with the entry belt inverter (probable thermal intervention). Press the emergency pushbutton and wait 10-15 seconds before disengaging it and reset the alarm.
(124) OUTPUT BELT INVERTER ALLARM	There is a problem with the output belt inverter (probable thermal intervention). Press the emergency pushbutton and wait 10-15 seconds before disengaging it and reset the alarm.
(125) ALARM ROW TOO LONG (EJECTOR)	In the group of the ejector there is a too long row and it is impossible to manage. Check that there are no overturned trays and if necessary reduce the number of pieces per row in the recipe. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.
(126) REEL EXHAUSTED FOR LABELLING MACHINE 1	The reel of labels is exhausted (labeler 1).

ALARM	DESCRIPTION
(127) REEL EXHAUSTED FOR LABELLING MACHINE 2	The reel of labels is exhausted (labeler 2).
(128) UNROLLING INVERTER ALLARM	There is a problem on the unroller group inverter (probable thermal intervention). Press the emergency pushbutton and wait 10-15 seconds before disengaging it and reset the alarm.
(130) CAMERA 1 ERROR	Camera 1 (95A2) went in error. Reset the vision sensor by turning it off and on again. If the problem persists, contact Siropack technical assistance.
(131) CAMERA 2 ERROR	Camera 2 (95A3) went in error. Reset the vision sensor by turning it off and on again. If the problem persists, contact Siropack technical assistance.
(132) CONSECUTIVE PICKUP ERRORS	The number of consecutive errors in the tank picking phase has been reached. Make sure that there is no impediment to the correct operation of the machine in the picking area (carousel and chain).
(133) CONSECUTIVE ERRORS IN CAMERA 1 CONTROL	The number of consecutive errors in camera 1 control has been reached: camera 1 has detected a number of consecutive discards equal to the maximum quantity set. Verify that the labels are applied correctly and, if necessary, re-apply the label template to be checked.
(134) CONSECUTIVE ERRORS IN CAMERA 2 CONTROL	The number of consecutive errors in camera 2 control has been reached: camera 2 has detected a number of consecutive discards equal to the maximum quantity set. Verify that the labels are applied correctly and, if necessary, re-apply the label template to be checked.
(135) CONSECUTIVE ERRORS IN EXIT PICK-UP ARM	The number of consecutive errors in the exit pick-up arm has been reached. Check the correct operations of the chain, the arms and the suction cups.
(136) CONSECUTIVE ERRORS IN APPLICATION	The number of consecutive errors for uncorrect pad/pluriball application was reached. Check the presence of the reflector in the sides of the applicator pad, that the pad/pluriball is not stuck in the cutter and the correct position of the straps.
(137) CONTRAST OF LABELS'S UNROLLER 1 OPEN	The contrast roller of the label's unroller 1 is open. Close it.
(138) CONTRAST OF LABELS'S UNROLLER 2 OPEN	The contrast roller of the label's unroller 2 is open. Close it.
(139) COLLISION ALARM WITH APPLICATOR	The applicator axis collided with the exit carousel arm. Check that the suction cup placed on the carousel arm is of the correct height, that the collision detection sensor (23S7) is not damaged, that the compensation spring on the applicator arm is not broken.
(140) REAR CARTER 1 OPEN	Rear carter 1 (door in lexan) is open.
(141) REAR CARTER 2 OPEN	Rear carter 2 (door in lexan) is open.
(142) REAR CARTER 3 OPEN	Rear carter 3 (door in lexan) is open.
(143) REAR CARTER 4 OPEN	Rear carter 4 (door in lexan) is open.

ALARM	DESCRIPTION
(144) REAR CARTER 5 OPEN	Rear carter 5 (door in lexan) is open.
(145) REAR CARTER 6 OPEN	Rear carter 6 (door in lexan) is open.
(148) FRONT CARTER 1 OPEN	Carter 1 (door in lexan) is open.
(149) FRONT CARTER 2 OPEN	Carter 2 (door in lexan) is open.
(150) FRONT CARTER 3 OPEN	Carter 3 (door in lexan) is open.
(151) FRONT CARTER 4 OPEN	Carter 4 (door in lexan) is open.
(159) HIGH LABELLING MACHINE 1	The labeller machine 1 is in the upper position: lower it to start the machine automatically.
(160) HIGH LABELLING MACHINE 2	The labeller machine 2 is in the upper position: lower it to start the machine automatically.
(161) IONIZER ALARM 1	The ionizer 1 is in alarm. After cutting power supply, clean the electrode or, if necessary, replace it.
(162) IONIZER ALARM 2	The ionizer 2 is in alarm. After cutting power supply, clean the electrode or, if necessary, replace it.
(163) OPEN PANEL (HINGE TO THE FRAME)	The main electrical panel is unhooked from the frame (hinge). Close it and reset the machine to restart.
(164) ALARM FOR OS CHAIN (AXIS 1)	There was an alarm to the engine or the drive axis 1 (OS chain). If the alarm occurs again check into the display 50G1 the drive error code and inform technical support Siropack.
(165) ALARM FOR OOS CHAIN (AXIS 2)	There was an alarm to the engine or the drive axis 2 (OOS chain). If the alarm occurs again check into the display 51G1 the drive error code and inform technical support Siropack.
(166) ALLARM IN LIFT MOTOR DRIVE FOR INSERTER GROUP (AXIS 3)	There was an alarm to the engine or the drive axis 3 (lifter for insertering group). If the alarm occurs again check into the display 52G1 the drive error code and inform technical support Siropack.
(167) ALARM IN INSERTER STACK OF THE ENTRY TRAYS (AXIS 4)	There was an alarm to the engine or the drive axis 4 (inserter stack of the entry trays). If the alarm occurs again check into the display 53G1 the drive error code and inform technical support Siropack.
(165) ALARM FOR OOS CHAIN (AXIS 2)	There was an alarm to the engine or the drive axis 2 (OOS chain). If the alarm occurs again check into the display 51G1 the drive error code and inform technical support Siropack.
(166) ALLARM IN LIFT MOTOR DRIVE FOR INSERTER GROUP (AXIS 3)	There was an alarm to the engine or the drive axis 3 (lifter for insertering group). If the alarm occurs again check into the display 52G1 the drive error code and inform technical support Siropack.
(167) ALARM IN INSERTER STACK OF THE ENTRY TRAYS (AXIS 4)	There was an alarm to the engine or the drive axis 4 (inserter stack of the entry trays). If the alarm occurs again check into the display 53G1 the drive error code and inform technical support Siropack.

ALARM	DESCRIPTION
(168) ALARM IN THE LOWER SUPPLY CHAIN (AXIS 5)	There was an alarm to the engine or the drive axis 5 (lower supply chain). If the alarm occurs again check into the display 54G1 the drive error code and inform technical support Siropack.
(169) ALARM IN THE OS SUPPLY CHAIN (AXIS 6)	There was an alarm to the engine or the drive axis 6 (OS supply chain). If the alarm occurs again check into the display 55G1 the drive error code and inform technical support Siropack.
(170) ALARM IN THE OOS SUPPLY CHAIN (AXIS 7)	There was an alarm to the engine or the drive axis 7 (OOS supply chain). If the alarm occurs again check into the display 56G1 the drive error code and inform technical support Siropack.
(171) ALARM IN ENTRY CAROUSEL PICKING ARM (AXIS 8)	There was an alarm to the engine or the drive axis 8 (picking arm of the entry carousel). If the alarm occurs again check into the display 57G1 the drive error code and inform technical support Siropack.
(172) ALARM IN ENTRY CAROUSEL CANESTER ARM (AXIS 9)	There was an alarm to the engine or the drive axis 9 (entry carousel canester arm). If the alarm occurs again check into the display 58G1 the drive error code and inform technical support Siropack.
(173) ALARM IN ENTRY CAROUSEL ROTATION (AXIS 10)	There was an alarm to the engine or the drive axis 10 (entry carousel rotation). If the alarm occurs again check into the display 59G1 the drive error code and inform technical support Siropack.
(174) ALARM IN THE LIFTER OF LABELER 1 (AXIS 11)	This is an alarm on the engine or to the drive of axis 11 (lifter of labeler 1). If the alarm occurs again check into the display 60G1 the drive error code and inform technical support Siropack.
(175) ALARM IN LABELER 1 (AXIS 12)	This is an alarm on the engine or to the drive of axis 12 (labeler 1). If the alarm occurs again check into the display 61G1 the drive error code and inform technical support Siropack.
(176) ALARM IN THE LIFTER OF LABELER 2 (AXIS 13)	This is an alarm on the engine or to the drive of axis 13 (lifter of labeler 2). If the alarm occurs again check into the display 62G1 the drive error code and inform technical support Siropack.
(177) ALARM IN LABELER 2 (AXIS 14)	This is an alarm on the engine or to the drive of axis 14 (labeler 2). If the alarm occurs again check into the display 63G1 the drive error code and inform technical support Siropack.
(178) ALARM IN COCLHEA OF CENTRAL MOVING ON (AXIS 15)	This is an alarm on the engine or to the drive of axis 15 (coclhea of central moving). If the alarm occurs again check into the display 64G1 the drive error code and inform technical support Siropack.
(180) ALARM IN OUTPUT CAROUSEL PICKING ARM (AXIS 17)	There was an alarm to the engine or the drive axis 17 (output carousel picking arm). If the alarm occurs again check into the display 66G1 the drive error code and inform technical support Siropack.
(181) ALARM IN OUTPUT CAROUSEL CANESTER ARM (AXIS 18)	There was an alarm to the engine or the drive axis 18 (output carousel canester arm). If the alarm occurs again check into the display 67G1 the drive error code and inform technical support Siropack.
(182) ALARM IN OUTPUT CAROUSEL ROTATION (AXIS 19)	There was an alarm to the engine or the drive axis 19 (output carousel rotation). If the alarm occurs again check into the display 68G1 the drive error code and inform technical support Siropack.
(183) ALARM IN UNROLLING FOR CUTTING (AXIS 20)	There was an alarm to the engine or the drive axis 20 unrolling for cutting). If the alarm occurs again check into the display 69G1 the drive error code and inform technical support Siropack.

ALARM	DESCRIPTION
(184) ALARM IN UNROLLING FOR POSITIONING (AXIS 21)	There was an alarm to the engine or the drive axis 21 (unrolling for positioning). If the alarm occurs again check into the display 70G1 the drive error code and inform technical support Siropack.
(185) ALARM ON CUTTER (AXIS 22)	There was an alarm to the engine or the drive axis 22 (cutter). If the alarm occurs again check into the display 71G1 the drive error code and inform technical support Siropack.
(186) ALARM ON PAD APPLICATOR (AXIS 23)	There was an alarm to the engine or the drive axis 23 (pad applicator). If the alarm occurs again check into the display 72G1 the drive error code and inform technical support Siropack.
(187) ALARM IN TRAY ROW COMPACTOR (AXIS 24)	There was an alarm to the engine or the drive axis 24 (tray row compactor). If the alarm occurs again check into the display 73G1 the drive error code and inform technical support Siropack.
(188) ALARM IN EJECTOR OF TRAYS'S ROW (AXIS 25)	There was an alarm to the engine or the drive axis 25 (ejector of trays's row). If the alarm occurs again check into the display 74G1 the drive error code and inform technical support Siropack.
(189) ALARM IN LIFT OF THE EJECTOR GROUP (AXIS 26)	There was an alarm to the engine or the drive axis 26 (lift of the ejector group). If the alarm occurs again check into the display 75G1 the drive error code and inform technical support Siropack.
(196) BACKWARD OVERRUN FOR OS CHAIN (AXIS 1)	The axis 1 (OS chain) went backward over the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.
(197) FORWARD OVERRUN FOR OS CHAIN (AXIS 1)	The axis 1 (OS chain) went ahead, beyond the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.
(198) BACKWARD OVERRUN FOR OOS CHAIN (AXIS 2)	The axis 2 (OOS chain) went backward over the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.
(199) FORWARD OVERRUN FOR OOS CHAIN (AXIS 2)	The axis 2 (OOS chain) went ahead, beyond the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.
(200) BACKWARD OVERRUN FOR LIFTER OF SUPPLY GROUP (AXIS 3)	The axis 3 (lifter for supply group) went backward over the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.
(201) FORWARD OVERRUN FOR LIFTER OF SUPPLY GROUP (AXIS 3)	The axis 3 (lifter for supply group) went ahead, beyond the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.
(202) BACKWARD OVERRUN FOR INSERTER ROW ENTRY TRAYS (AXIS 4)	The axis 4 (supply unit lower chain) went backward over the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.

ALARM	DESCRIPTION
(203) FORWARD OVERRUN FOR SUPPLY UNIT LOWER CHAIN (AXIS 4)	The axis 4 (supply unit lower chain) went ahead, beyond the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.
(216) HIGHER OVERRUN FOR LIFTER OF LABELER 1 (AXIS 11)	The axis 11 (lifter for labeler 1) went up over the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and than reset.
(217) LOWER OVERRUN FOR LIFTER OF LABELER 1 (AXIS 11)	The axis 11 (lifter for labeler 1) went down over the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and than reset.
(220) HIGHER OVERRUN FOR LIFTER OF LABELER 2 (AXIS 13)	Axis 13 (lifter for labeler 2) went up over the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and than reset.
(221) LOWER OVERRUN FOR LIFTER OF LABELER 2 (AXIS 13)	Axis 13 (lifter for labeler 2) went down over the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and than reset.
(240) HIGHER OVERRUN FOR PAD APPLICATOR (AXIS 23)	The axis 23 (pad applicator) went up over the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.
(242) BACKWARD OVERRUN FOR TRAY ROW COMPACTOR (AXIS 24)	The axis 24 (tank row compactor) went backward over the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.
(243) FORWARD OVERRUN FOR TRAY ROW COMPACTOR (AXIS 24)	The axis 24 (tank row compactor) went ahead, beyond the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.
(244) BACKWARD OVERRUN FOR EJECTOR OF THE ROW OF TRAYS (AXIS 25)	The axis 25 (ejector for the row of trays) went backward over the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.
(245) FORWARD OVERRUN FOR EJECTOR OF THE ROW OF TRAYS (AXIS 25)	The axis 25 (ejector for the row of trays) went ahead, beyond the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.
(246) BACKWARD OVERRUN FOR LIFTER OF EJECTING GROUP (AXIS 26)	The axis 26 (lifter for ejecting group) went backward over the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.

ALARM	DESCRIPTION
(247) FORWARD OVERRUN FOR LIFTER OF EJECTING GROUP (AXIS 26)	The axis 26 (lifter for ejecting group) went ahead over the allowed ride. Check that the joint between motor shaft and gearbox is tight. Re-perform a partial repositioning by pressing and releasing the emergency pushbutton and pressing reset.

Tab. 5-1.1

The list of messages that follows indicates the state of the machine of conditions not considered critical and therefore its operation will not be stopped.

NOTIFICATION	DESCRIPTION
(900) GLUE ABSENT (MINIMUM LOAD)	The glue level in the glue tank is low. Add glue.
(901) MINIMUM TRAYS/PUNNETS AMOUNT	The rows of trays present in the supply and in the picking depot are finished.
(903) LOW LEVEL PLC BATTERY ALLARM	The PLC battery is low. You need to replace it to avoid losing machine parameters.
(904) PLC ANOMALIES	A PLC fault has been detected (burnt fuses, etc.). Report the error to Siropack technical assistance.
(905) WAITING FOR TRAY EJECTOR CONTRAST OPENING	The tray repository arm (carousel exit) is waiting for the tray stack ejector contrast to return to its stand-by state.

Tab. 5-1.2

5 USE OF MACHINE

PAR	DESCRIPTION
2	**THE DIGITAL DISPLAYER**

First Level Machine Operator: operator without any specific skills, capable of carrying out simple tasks, or rather the operation of the machine through the use of push-buttons on the push-button panel, loading and unloading operations of the materials used during production, with safety devices installed and active;it is not qualified to use the machine with the JOG function (command with maintained action).

The Advantech PPC3100S operator panel shows the status of the machine and allows the operator to set the parameters necessary for correct operation of the machine and to manage the manual cycles of the groups. Below a list of the available commands explained in detail and related by images.

5.2.1

Each page always has at the top the Toolbar through which it is possible to access the following sections:

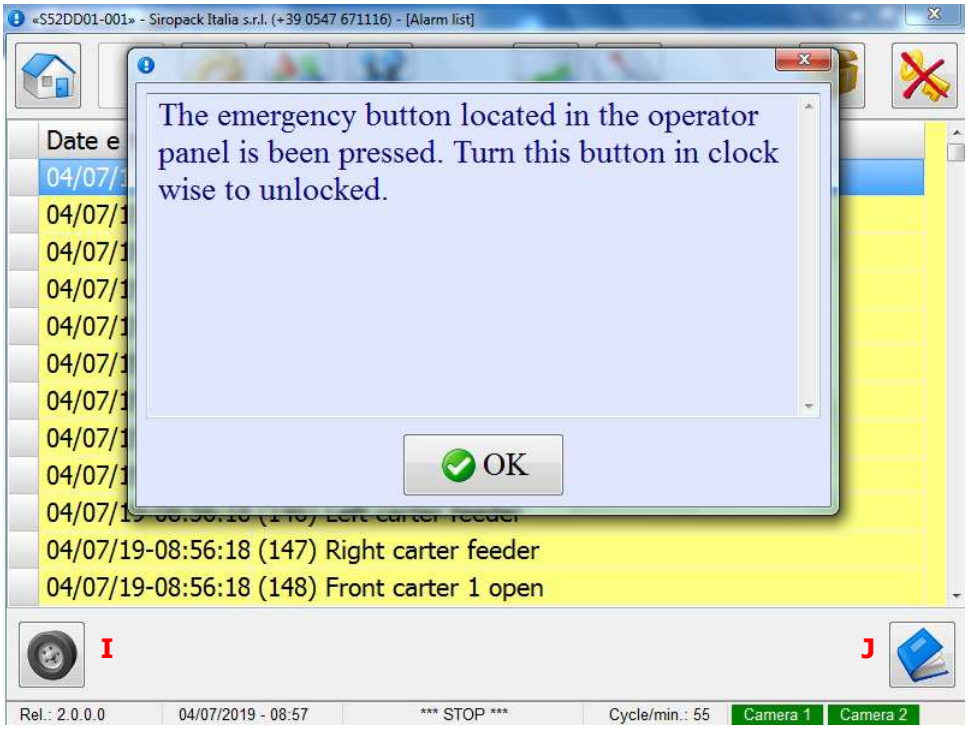
1. ***HOME PAGE***
2. ***ALARMS***
3. ***SETTINGS***
4. ***FORMATS***
5. ***MANUAL***
6. ***STATISTICS***
7. ***START LASER PROGRAM***
8. ***DOCUMENTATION (eg electrical diagram, pneumatic diagram, etc.)***
9. ***OPERATOR LOGIN/LOGOUT***

Each page always presents at the bottom the Status Bar:

10. ***SOFTWARE RELEASE NUMBER***
11. ***DATE AND TIME***
12. ***STATE OF THE LINE (Automatic or Stop or Repositioning)***
13. ***LINE SPEED (in cycles per minute)***

HOME PAGE (1):

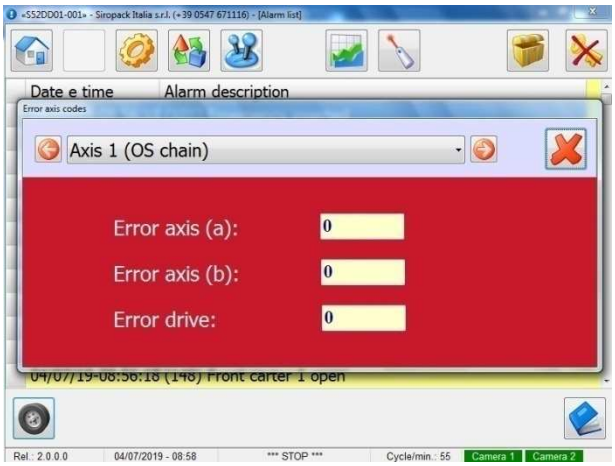
- **A.** Machine lighting;
- **B.** Backup formats;
- **C.** Restore formats;
- **D.** Line emptying;
- **E.** Language selection;
- **F.** Machine status. One of the following options appears: Automatic, Stop, Repositioning;
- **G.** Line speed expressed in cycles per minute;
- **H.** Upward/Downward of group 1 and group 2 labelers;



5.2.2

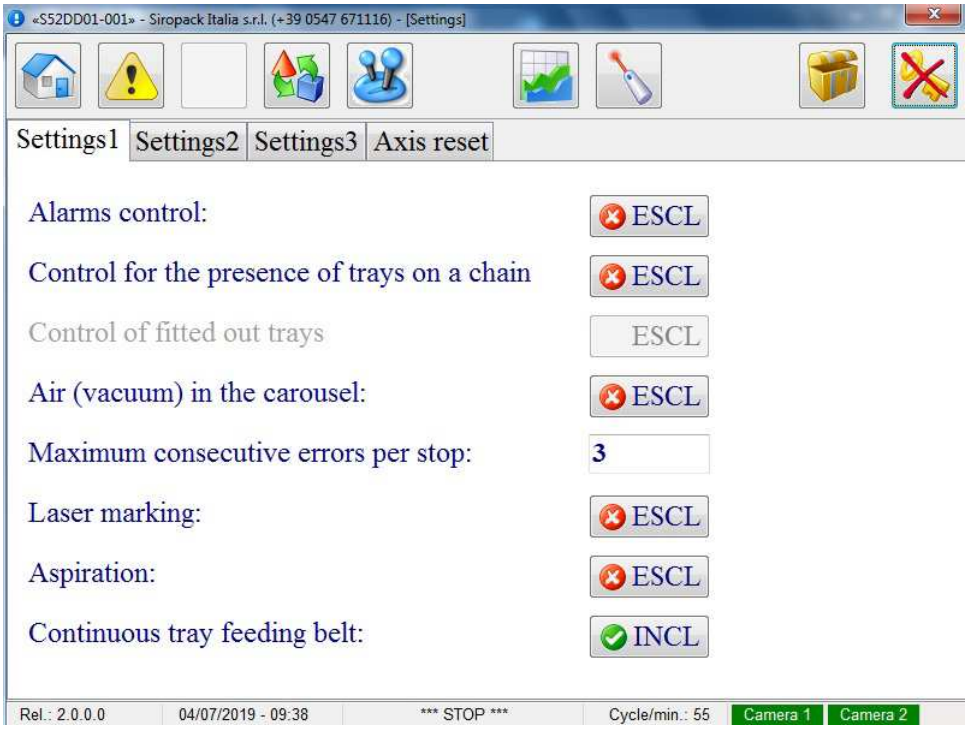
ALARMS:

It is possible to monitor the alarms or the signals present on the line (see also **chapter 5, par.1**): through an help window (by click on the alarm), a brief description of the alarm or warning is provided and any advice for possible solution. Through the **I** button it is possible to view the data related to the errors present on each axis and relative drive (**Fig. 5.2.3**); you can select the axis of interest from the drop-down menu or by moving with the two arrow buttons to the left (back) and right (forward). Finally, you can view the alarm history by pressing the **J** button (**Fig. 5.2.4**).



5.2.3

5.2.4



5.2.5

SETTINGS:

SETTINGS 1:

Alarm control: excluding this function (ESCL), it is possible to prevent the line stopping when minor alarms are presents (eg end of reel, low temperature of glue, etc.);

Control for the presence of trays on chain: if excluded (ESCL), it inhibits the function of the sensor that controls the real loading of the trays on the working chain, always simulating their presence;

Control of fitted out trays (optional): if excluded (ESCL) the soak pad/pluriball presence in the trays will not be verified and all the outgoing trays will be considered properly fitted;

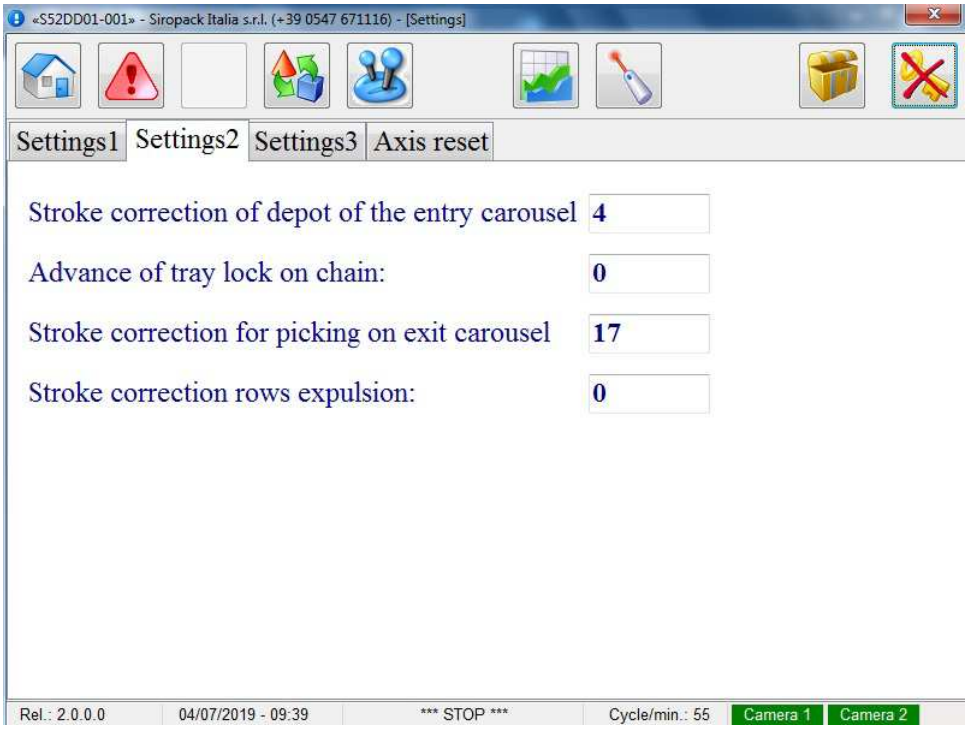
Air (vacuum) in the carousel: *if excluded (ESCL), it inhibits the control of the vaccum in the carousel;*

***Maximum consecutive errors per stop*:** maximum number of consecutive errors after that the machine stops;

Laser marking: includes (INCL) or excludes (ESCL) the laser marking feature;

Aspiration: includes (INCL) or excludes (ESCL) the cutting aspiration feature;

Continuous tray feeding belt: includes (INCL) or excludes (ESCL) the continuous functioning of the tray feeding belt.



SETTINGS: 5.2.6

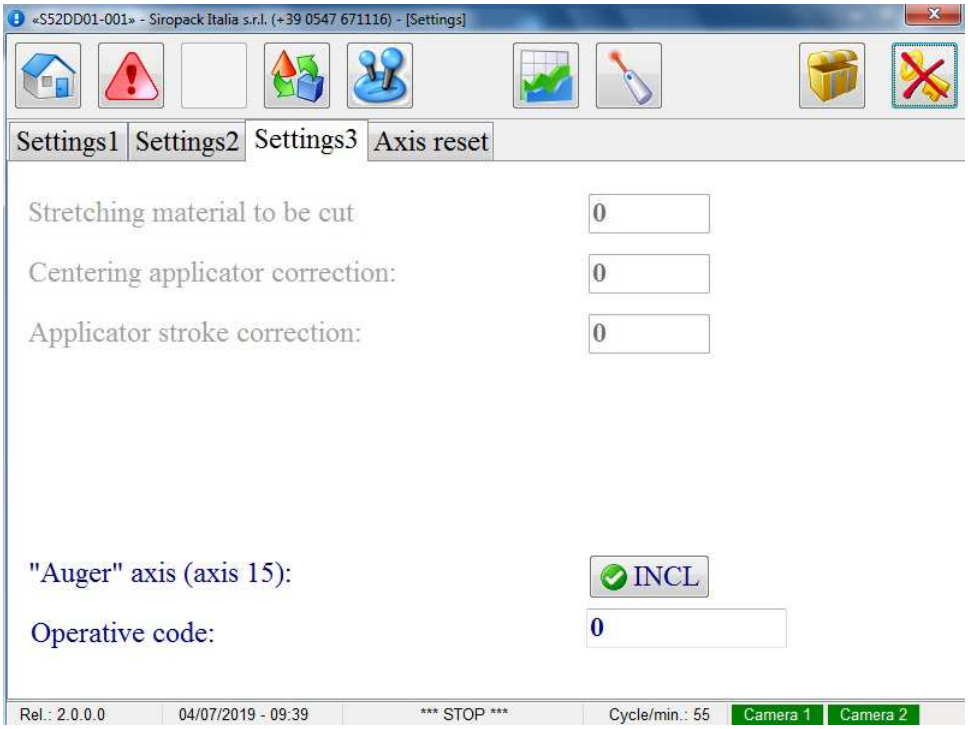
SETTINGS 2:

Stroke correction of depot of entry carousel: this value, in millimetres, allows to reduce or increase the stroke of *depot of entry carousel axis*;

Advance of tray lock on chain: this value, expressed in seconds, allows to anticipate the closing of the exit cylinders. This function is inhibited by setting as 0;

Stroke correction for picking on exit carousel: this value, in millimetres, allows to change the stroke for trays picking on exit *carousel axis*;

Stroke correction rows expulsion: this value, in millimetres, allows to change the stroke for row expulsion axis.



SETTINGS: **5.2.7**

SETTINGS 3:

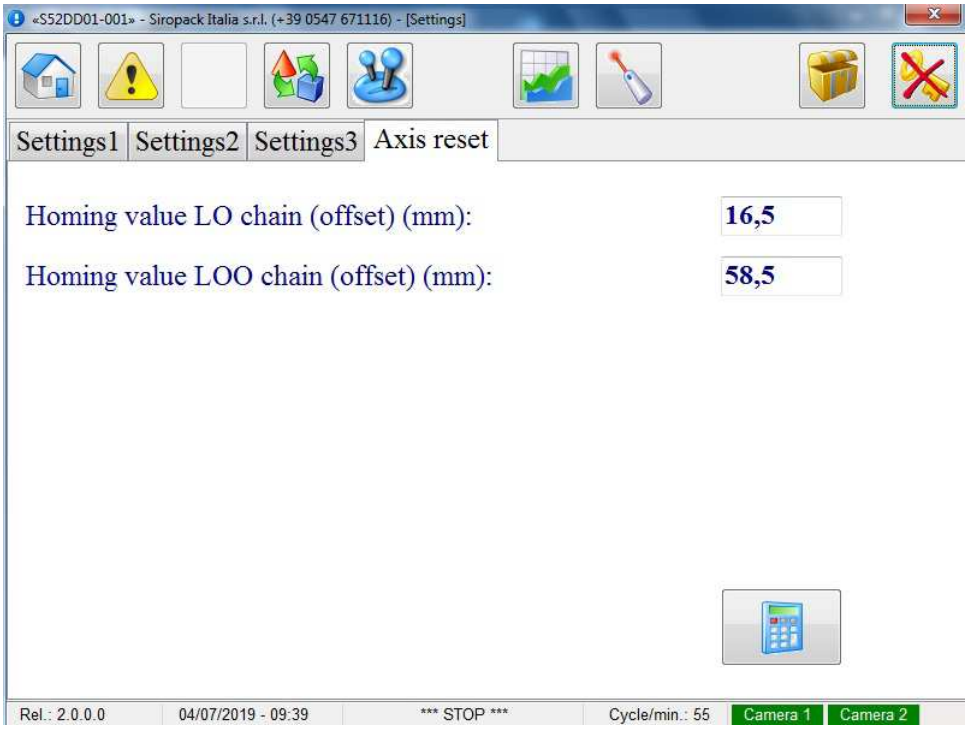
***Stretching material to* be cut *(opzional)*:** this parameter serves to improve the quality of the cut, making sure that the belts located between the applicator carry the material (pad/pluriball) of the measurement expressed in this parameter more than the "measure to cut". In this way, before the blade falls, the material will be pulled tight (the value is expressed in millimetres);

***Centering applicator correction (optional)*:** this value, expressed in millimeters, allows to center the strip of the absorbent/pluriball to be applied, with respect to the tray below;

Applicator stroke correction (optional): this value, in millimetres, allows to increase/decrease the pressure of the applicator during the application of the absorbent/pluriball in tray;

***"Auger" axis (axis 15)*:** includes (INCL) or excludes (ESCL) the axis of the "auger" (axis 15);

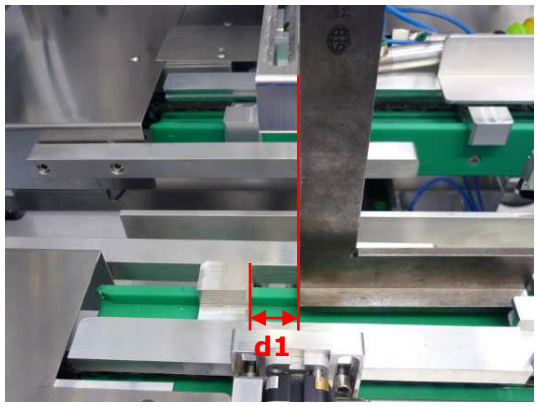
Operative code: field for service use.



5.2.8

SETTINGS:

AXES RESET:
The homing operation is performed during the first installation by the technicians of Siropack or after a change chains; for this reason, in this section can only be accessed by entering the password ***siropack***.

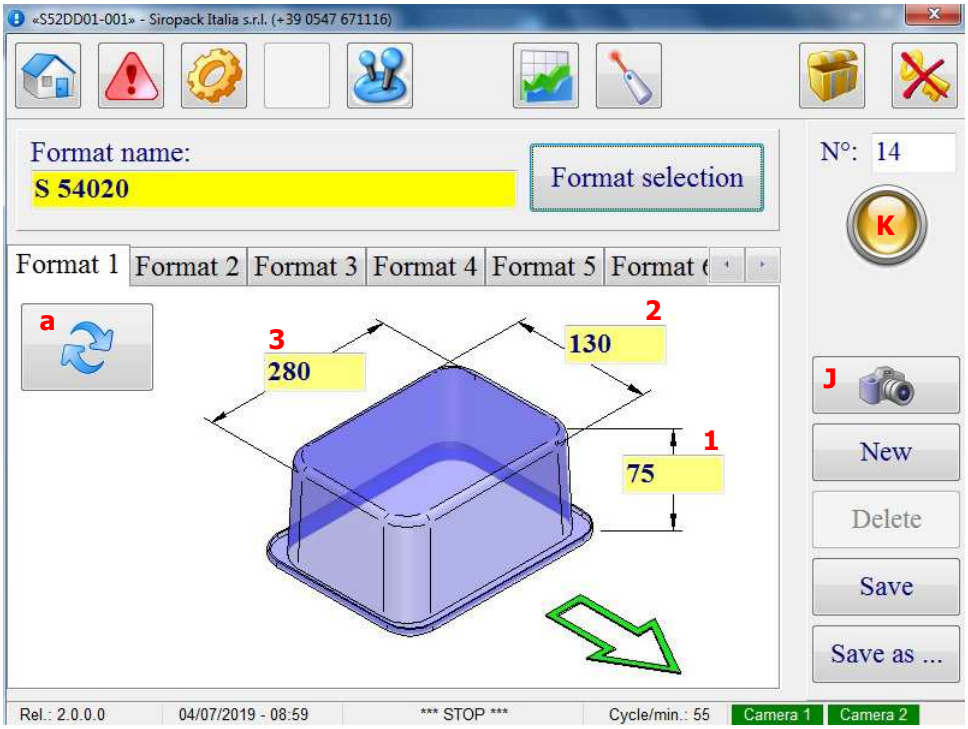


5.2.9

To perform the homing of the axes, it is necessary to load the "ZERO CATENE" format (see **Fig. 5.2.24**); press the emergency button, release it and press the RESET button to send the data to the PLC. Now, from the "Homing" section, set the two chains offset values to zero (0) (to pass the value, push emergency and then reset).
Starting from the LO chain, measure the distance **d1** from the batting side of the porter to the outer side of the entry carousel arm; this value should be half of the punnet's lenght + 7,5mm. In case of differences, this is the value to be entered in the "Homing chain LO (offset) (mm)" field (to pass the value, push emergency and then reset). Repeat the same procedure for the opposite operator side chain. You can help yourself in the calculations by pressing the "calculator" button at the bottom right.

LO chain homing value (offset): this value, expressed in millimeters, indicates the deviation of the porters from the center of the depot for the LO chain (operator side);

LOO chain homing value (offset*)*: this value, expressed in millimeters, indicates the deviation of the porters from the center of the depot for the LOO chain (opposite operator side);



5.2.10

FORMATS:
Common data for all sections (Format 1, Format 2, Format 3, Format 4, Format 5, Format 6, Labelling 1, Labelling 2, Camera 1, Camera 2, Regulators 1, Regulators 2):
***NAME FORMAT*:** allows you to set the name of the new format;
***FORMAT SELECTION*:** allows you to choose the format from those previously stored (see **Fig. 5.2.24**);
N°: indicates the number of the displayed format;
K: this button is active when the format shown corresponds to the one being processed;
J: this button open the vision and learning system section;
NEW: reset all fields in the format;
DELETE: delete the selected format;
SAVE: save the new format inserted or the changes made; transfers the displayed values to the line and, if the line is in STOP, changes the format being processed;
SAVE AS...: allows you to create a new format by copying the displayed data;
EXPORT: copy/upgrade the format displayed on the other operator panel;

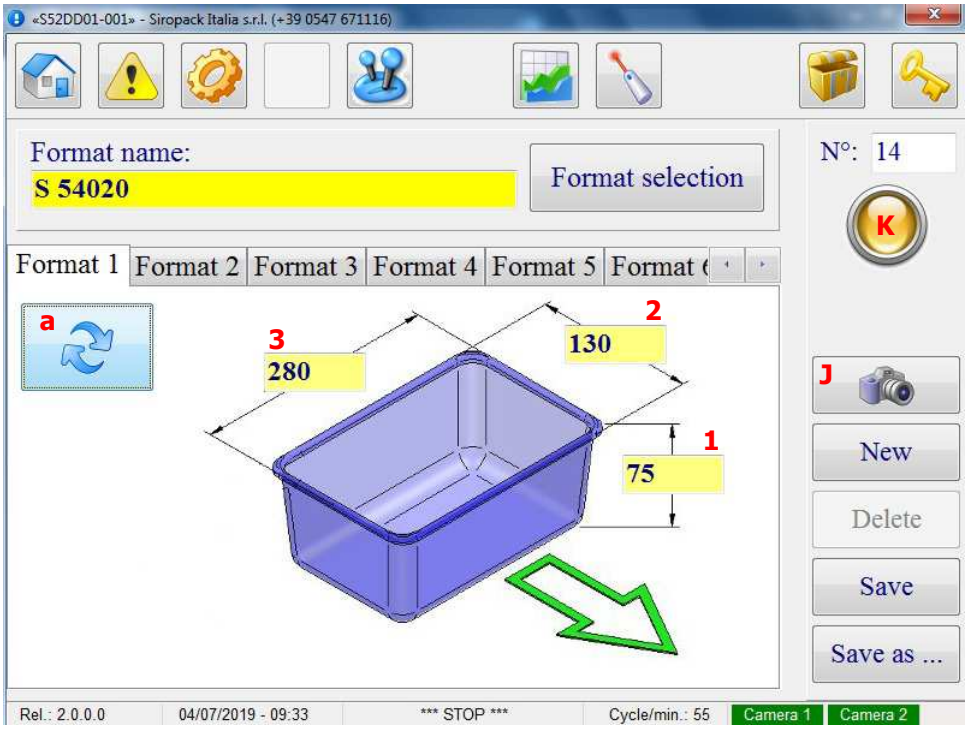
***FORMAT 1*:**

***1: Punnet height (mm)*:** sets the height of the tray to be placed in processing (see **fig. 5.2.10**);

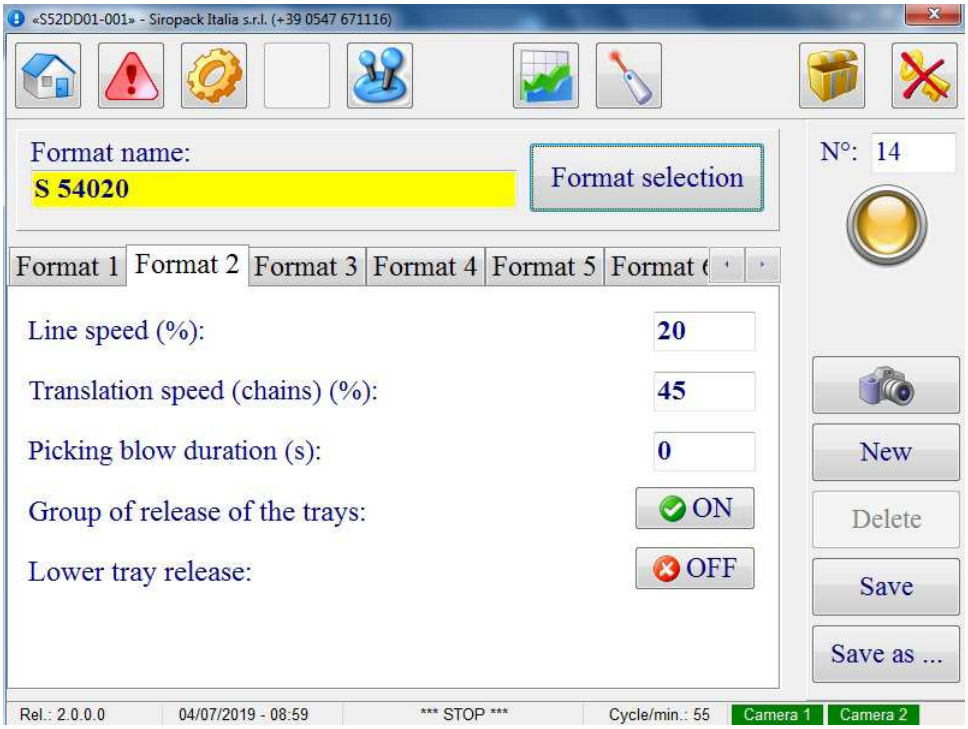
2: Punnet width (mm): sets the width of the tray to be placed in processing (see **fig. 5.2.10**);

3: Punnet depth (mm): sets the depth of the tray to be placed in processing (see **fig. 5.2.10**);

a: this button allows to switch between the two types of processing: unstacking from the bottom (see Fig. **5.2.10**) and unstacking from the top (see Fig. **5.2.11**);


«S52DD01-001» - Siropack Italia s.r.l. (+39 0547 671116)
Format name:
S 54020
Format selection
N°: 14
K
Format 1
Format 2
Format 3
Format 4
Format 5
a
3
280
2
130
1
75
J
New
Delete
Save
Save as ...
Rel.: 2.0.0.0
04/07/2019 - 09:33
*** STOP ***
Cycle/min.: 55
Camera 1
Camera 2

5.2.11



5.2.12

FORMATS:

See to previous page *Common data for all sections (Format 1, Format 2, Format 3, Format 4, Format 5, Format 6, Labelling 1, Labelling 2, Camera 1, Camera 2, Regulators 1, Regulators 2):*

***FORMAT 2*:**

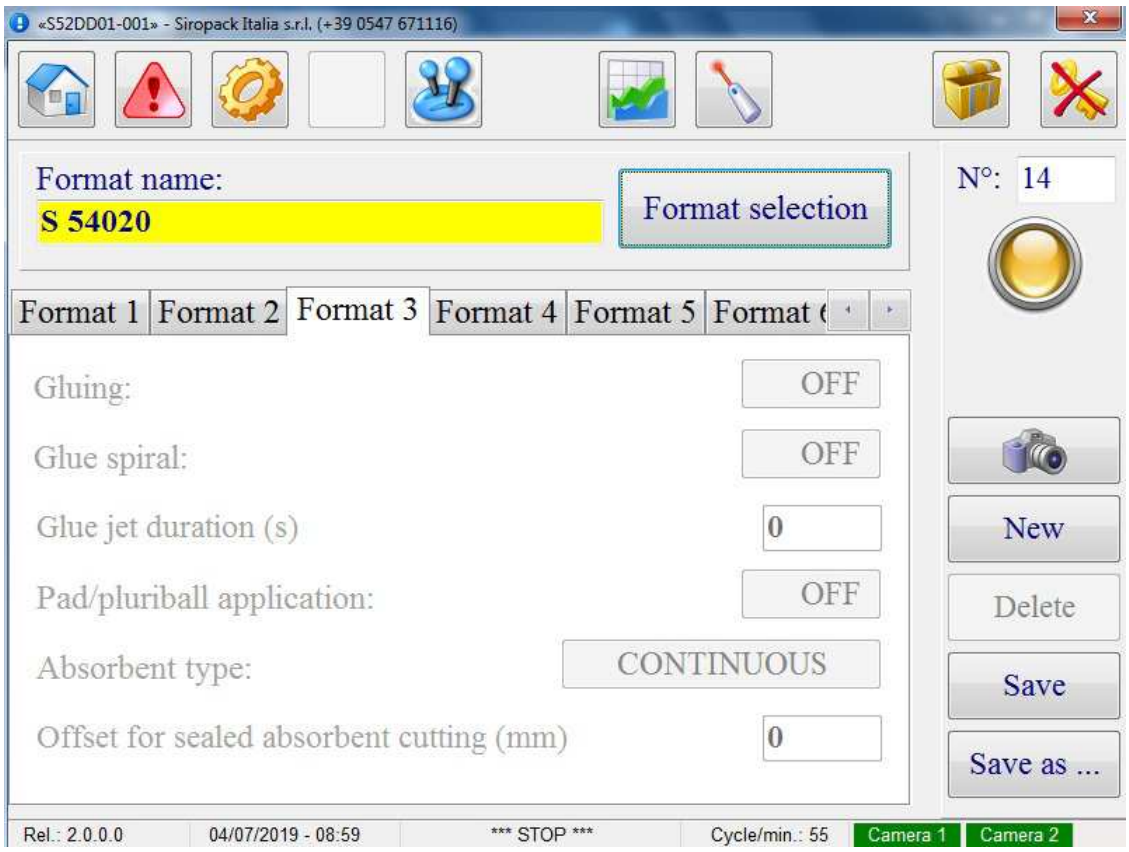
Line speed: this data, expressed in percent, indicates the speed of the line. The change in this value does not apply to the chains, the ejector and the absorbent applicator;

Translation speed (chains): this data, expressed in percent, indicates the speed of the chains and the stack ejector of the fitted out trays;

Picking blow duration: this value, expressed in seconds, sets the picking blow duration;

Group release of the trays: enable (ON) or disable (OFF) the trays release group in the process;

Lower tray release: enable (ON) or disable (OFF) the lower tray release feature in the process.



5.2.13

FORMATS:

See to previous page *Common data for all sections (Format 1, Format 2, Format 3, Format 4, Format 5, Format 6, Labelling 1, Labelling 2, Camera 1, Camera 2, Regulators 1, Regulators 2):*

***FORMAT 3*:**

Gluing (optional): it includes or excludes glue casting into the tray;

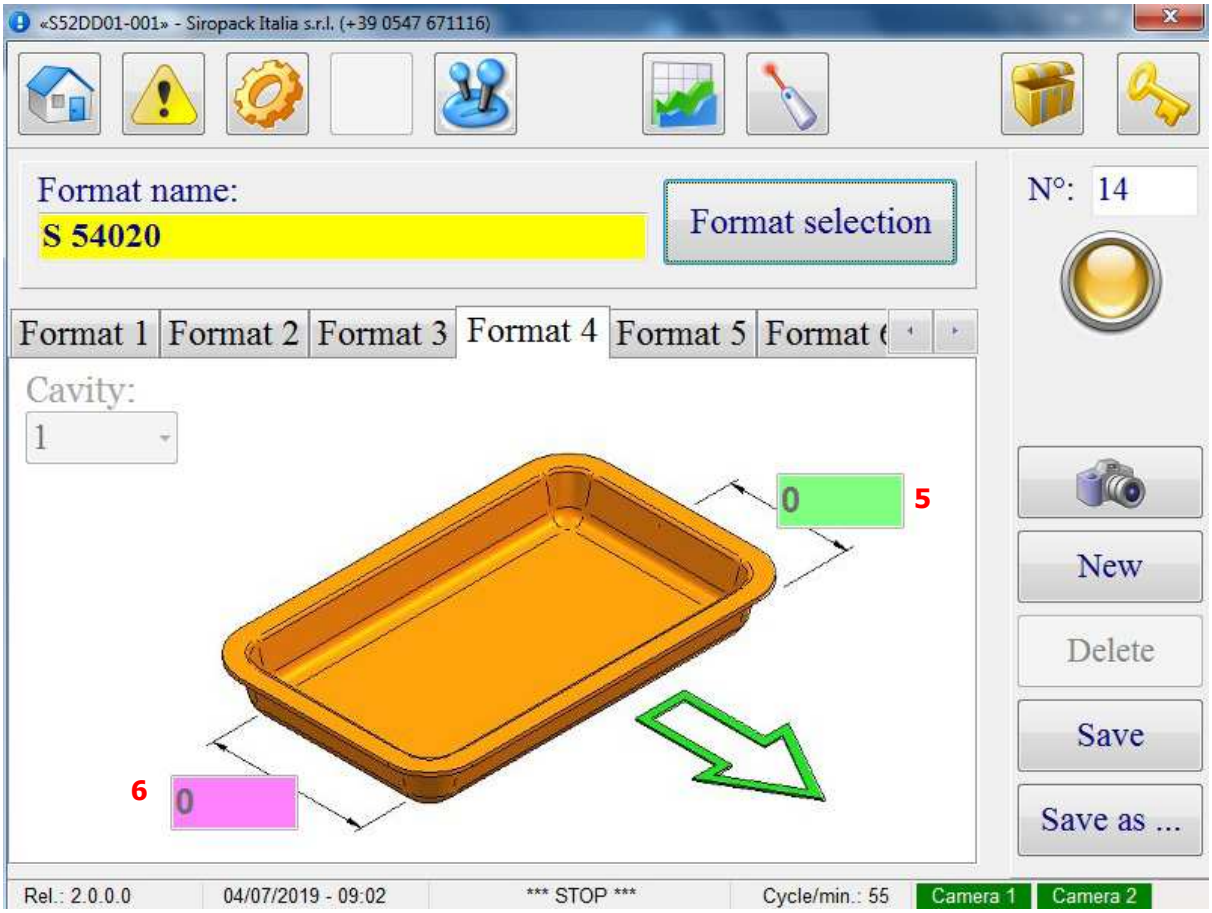
Glue spiral (optional): this setting allow to enable or disable a spyral gluing mode***;***

Glue jet duration (optional): this value espress in seconds, determines the jet duration of glue;

Pad/Pluriball application (optional): this setting allows to enable or disable pluriball/soak pad applicator on the line;

Absorbent type (optional): it selects the type of absorbent CONTINUOUS or SEALED (absorbent sealed);

Offset for sealed absorbent cutting (optional): sets the displacement measurement that the conveyor belts must still perform when the sensor detects the cutting zone of the absorbent. This measure, expressed in millimetres, is required to make the cut in phase;



5.2.14

FORMATS:

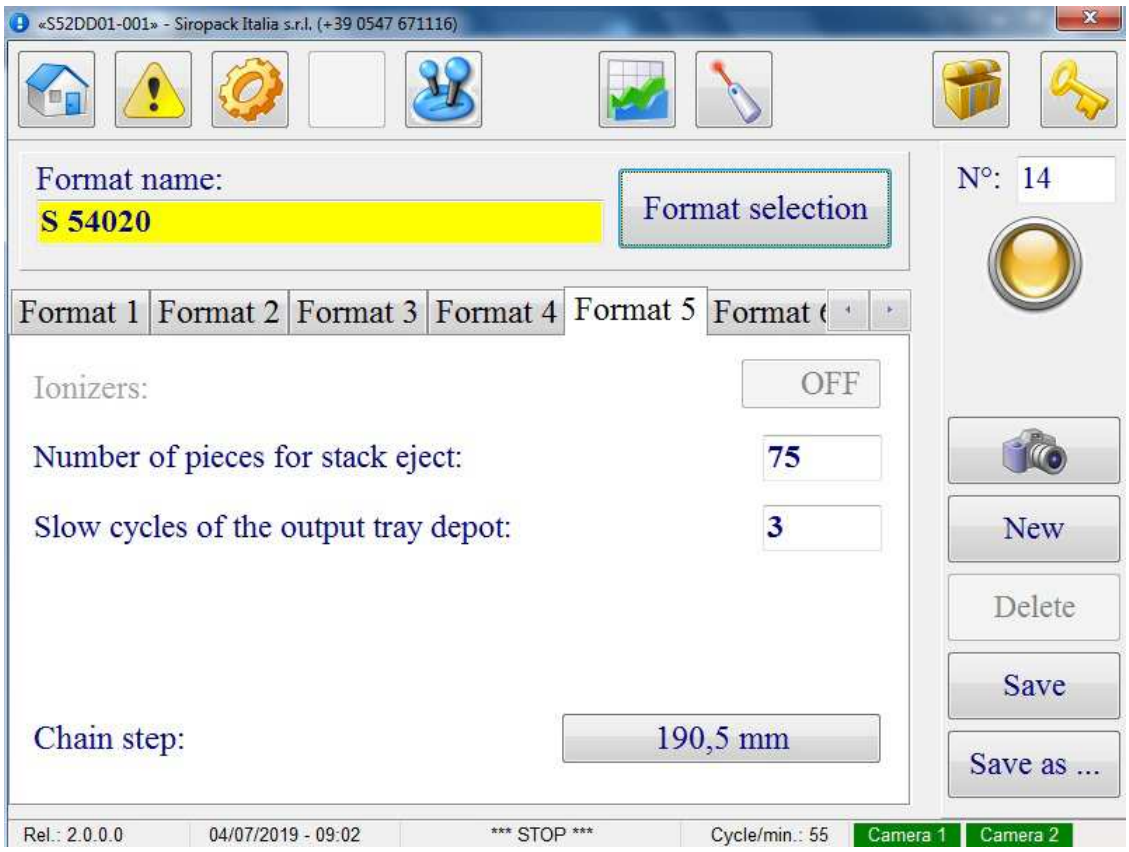
See to previous page *Common data for all sections (Format 1, Format 2, Format 3, Format 4, Format 5, Format 6, Labelling 1, Labelling 2, Camera 1, Camera 2, Regulators 1, Regulators 2):*

***FORMAT 4*:**

Cavity (optional): when the multi-application is enable you can choose the number of cavities (1, 2 or 3) in which apply the soakpad/pluriball; in case of absorbent sealed or in case is not enabled the multi-application (optional), you can choose only one cavity;

***5*: Distance from edge/center-to-center wheelbase:** sets the distance between the edge of the tray and the center of the application and/or the distance between two application centers. This value is expressed in millimetres (see **fig. 5.2.14**);

***6*: Cutting width:** sets the size of the absorbent/pluriball to be cut with the use of the absorbent-type "continuous" or the step (distance between the two cutting zones) with the use of the absorbent sealed. This value is expressed in millimetres (see **fig. 5.2.14**).



5.2.15

FORMATS:

See to previous page *Common data for all sections (Format 1, Format 2, Format 3, Format 4, Format 5, Format 6, Labelling 1, Labelling 2, Camera 1, Camera 2, Regulators 1, Regulators 2):*

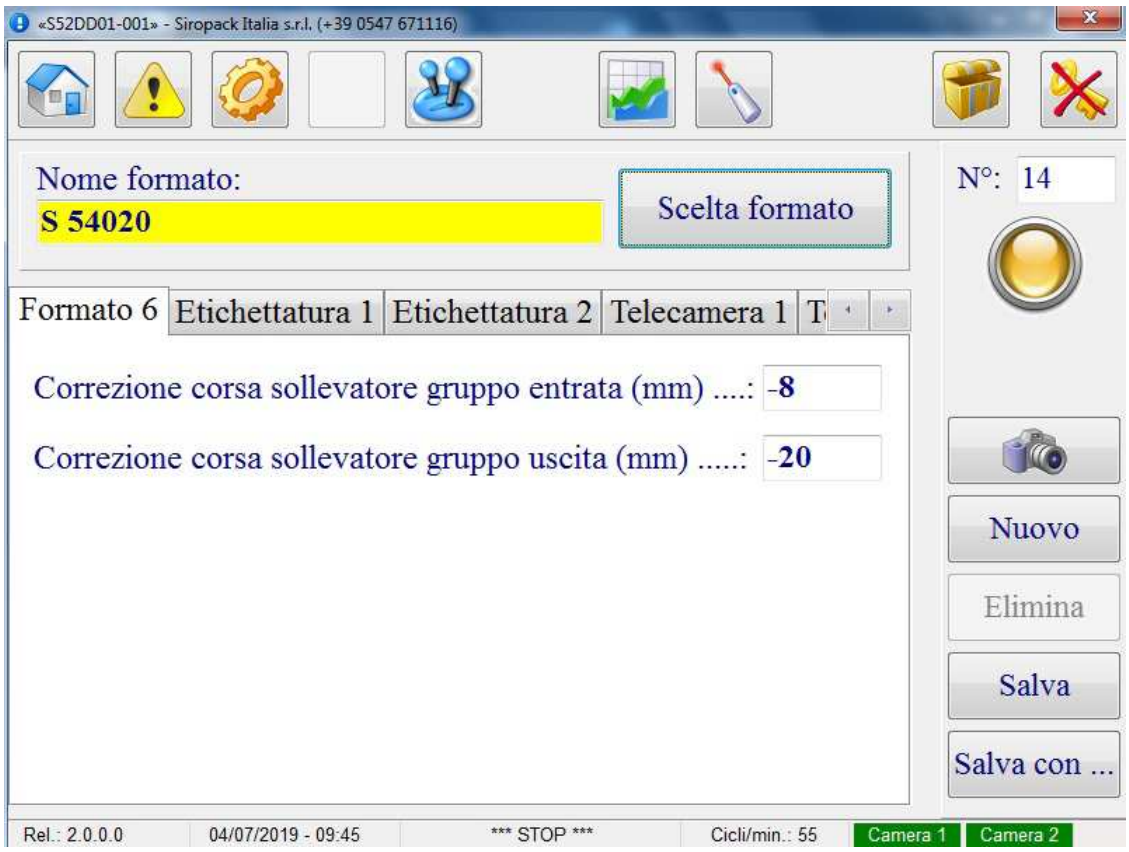
***FORMAT 5*:**

Ionizers (optional): if selected (ON), the system use the ionizing units during processing;

Number of pieces for stack eject: sets the number of pieces to be composed of the row to be ejected at the end of processing.

***Slow cycles of the output tray depot*:** it sets the number of cycles to be performed at reduced speed after complete row's ejection; if the value is set to 0 the function is disabled;

Chain step: this setting allows to choose the chain step between 190,5 mm and 381 mm values.



5.2.16

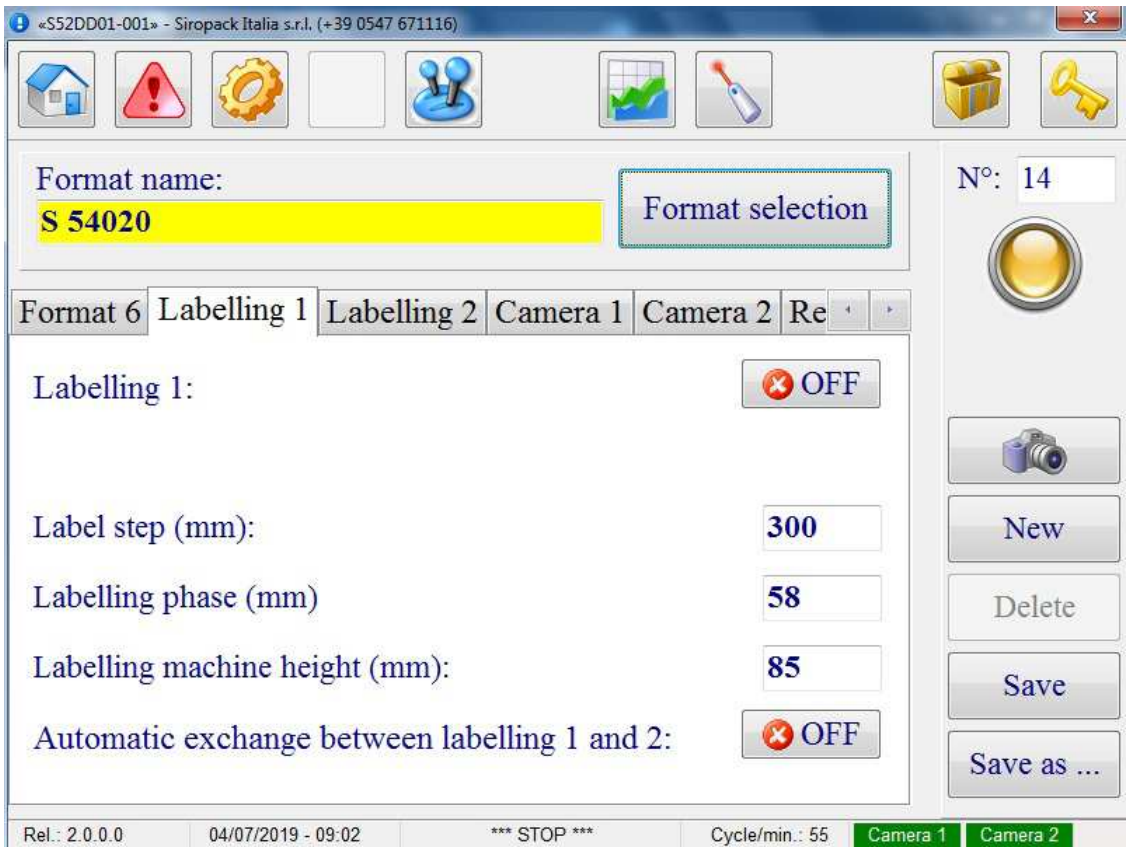
FORMATS:

See to previous page *Common data for all sections (Format 1, Format 2, Format 3, Format 4, Format 5, Format 6, Labelling 1, Labelling 2, Camera 1, Camera 2, Regulators 1, Regulators 2):*

***FORMAT 6*:**

Stroke correction for lifter of entry group: this value, in millimetres, allows to change the stroke for lifter of entry group *axis*;

Stroke correction for lifter of exit group: this value, in millimetres, allows to change the stroke for lifter of exit group *axis*.



5.2.17

FORMATS:

See to previous page *Common data for all sections (Format 1, Format 2, Format 3, Format 4, Format 5, Format 6, Labelling 1, Labelling 2, Camera 1, Camera 2, Regulators 1, Regulators 2):*

***LABELLING 1*:**

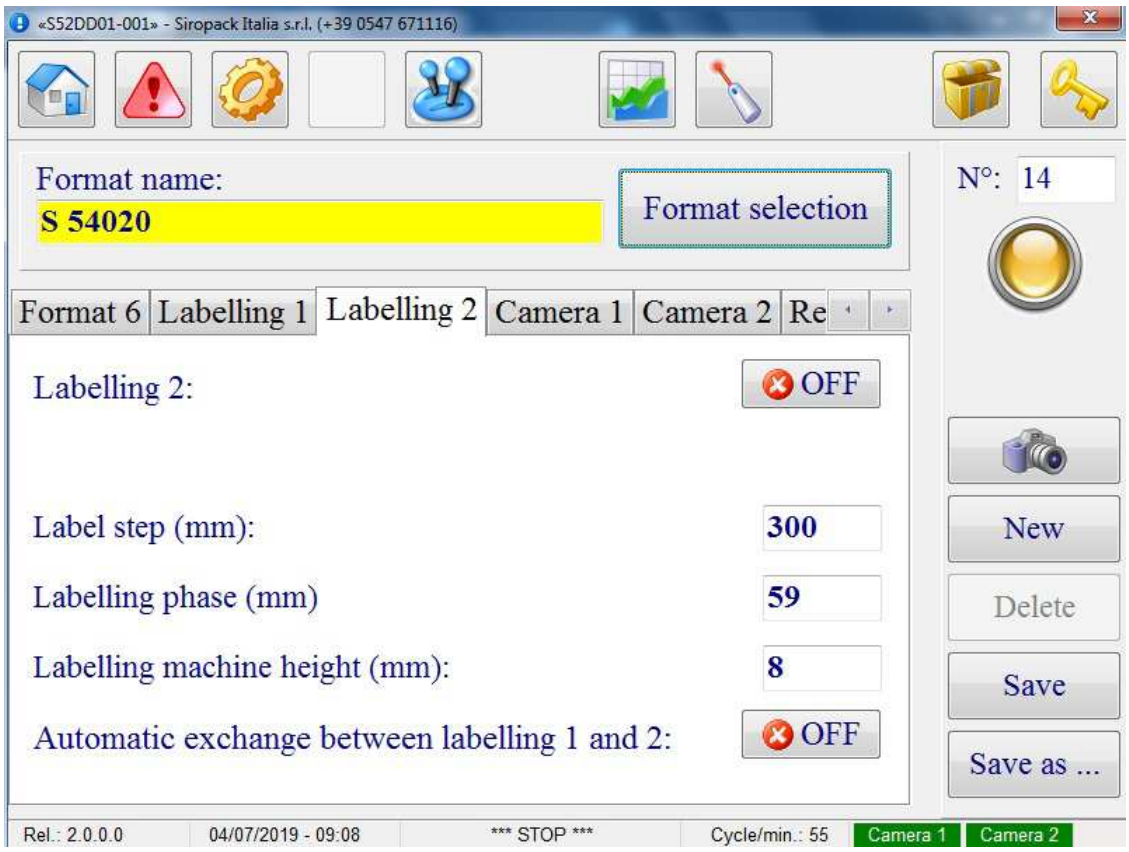
Labelling 1: if set to ON, it indicates to the system to use the labelling group 1 during processing;

Label step: this parameter, expressed in millimeters, indicates to the system the step's measure between two labels in order to allow the recovery of a possible missing label. The label step must be measured from the upper edge of the label to the upper edge of the label that follows;

***Labelling phase*:** set the label application point on the lid / tray, measured from the edge of the lid / tray that rests on the porter and the most distant edge of the label;

***Labelling machine height**:* this value expressed in millimeters, sets the peel-off blade height from the green polyizene sliding plane;

***Automatic exchange between labelling 1 and 2*:** if selected (ON), it sets the system to automatically switch to the labeller 2 at the end of the labels reel of the labelling 1 and vice versa.



5.2.18

FORMATS:

See to previous page *Common data for all sections (Format 1, Format 2, Format 3, Format 4, Format 5, Format 6, Labelling 1, Labelling 2, Camera 1, Camera 2, Regulators 1, Regulators 2):*

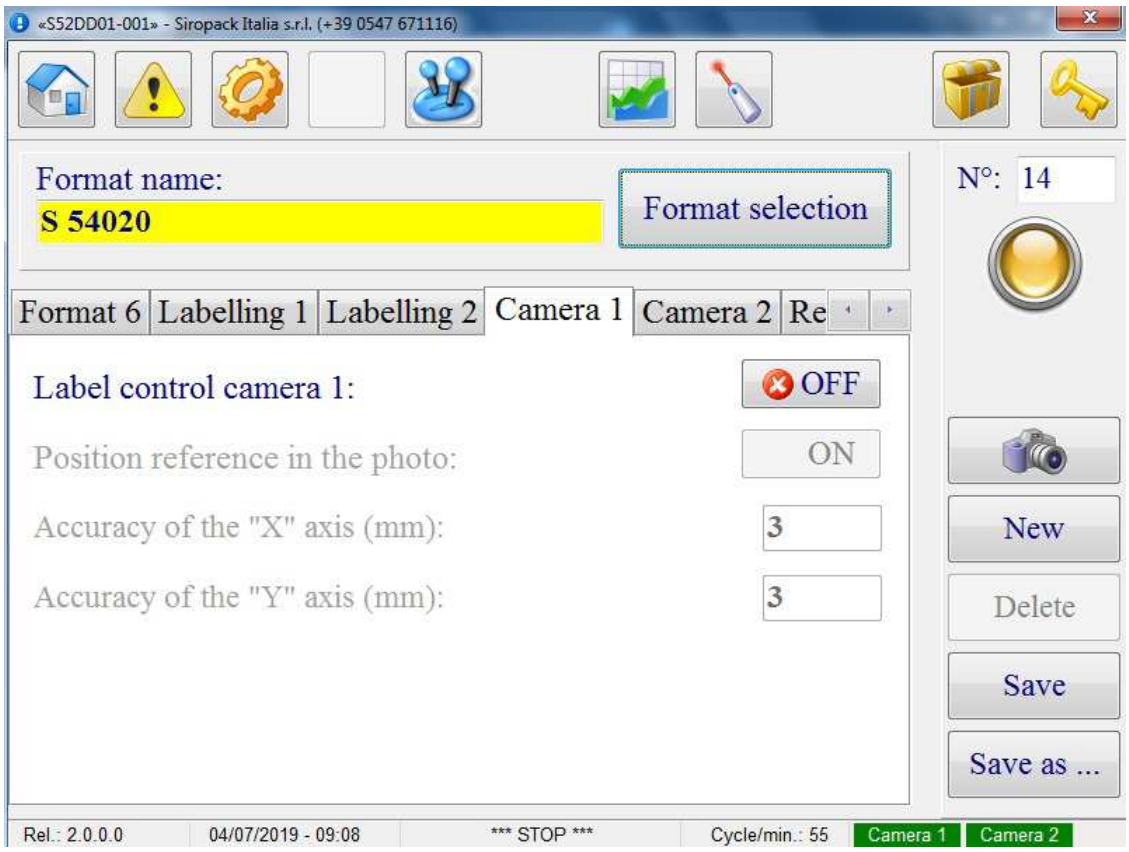
Labelling 2: if set to ON, it indicates to the system to use the labelling group 2 during processing;

Label step: this parameter, expressed in millimeters, indicates to the system the step's measure between two labels in order to allow the recovery of a possible missing label. The label step must be measured from the upper edge of the label to the upper edge of the label that follows;

Labelling phase**:** set the label application point on the lid / tray, measured from the edge of the lid / tray that rests on the porter and the most distant edge of the label;

Labelling machine height*:* this value expressed in millimeters, sets the peel-off blade height from the green polyizene sliding plane;

Automatic exchange between labelling 1 and 2**:** if selected (ON), it sets the system to automatically switch to the labeller 2 at the end of the labels reel of the labelling 1 and vice versa.



5.2.19

FORMATS:

See to previous page *Common data for all sections (Format 1, Format 2, Format 3, Format 4, Format 5, Format 6, Labelling 1, Labelling 2, Camera 1, Camera 2, Regulators 1, Regulators 2):*

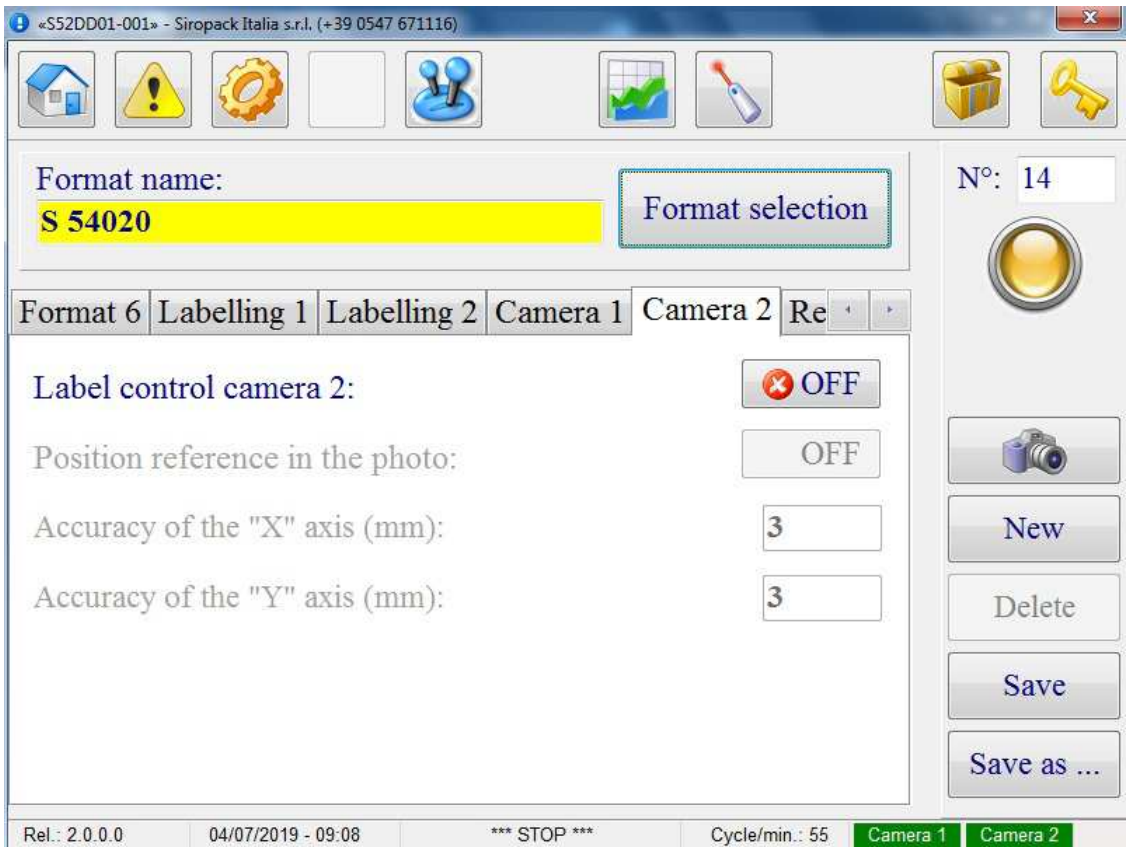
***CAMERA 1*:**

Label control camera 1: *if selected (ON), it indicates to the system to use the control camera 1 during processing;*

Position reference in the photo: *if selected (ON), the system control the position reference in the photo;*

Accuracy of "X" axis: this value, expressed in millimeters, sets the precision for the "X" axis.

Accuracy of "Y" axis: this value, expressed in millimeters, sets the precision for the "Y" axis.



5.2.20

FORMATS:

See to previous page *Common data for all sections (Format 1, Format 2, Format 3, Format 4, Format 5, Format 6, Labelling 1, Labelling 2, Camera 1, Camera 2, Regulators 1, Regulators 2)*

***CAMERA 2*:**

Label control camera 2: *if selected (ON), it indicates to the system to use the control camera 2 during processing;*

Position reference in the photo: *if selected (ON), the system control the position reference in the photo;*

Accuracy of "X" axis: this value, expressed in millimeters, sets the precision for the "X" axis.

Accuracy of "Y" axis: this value, expressed in millimeters, sets the precision for the "Y" axis.

5.2.21

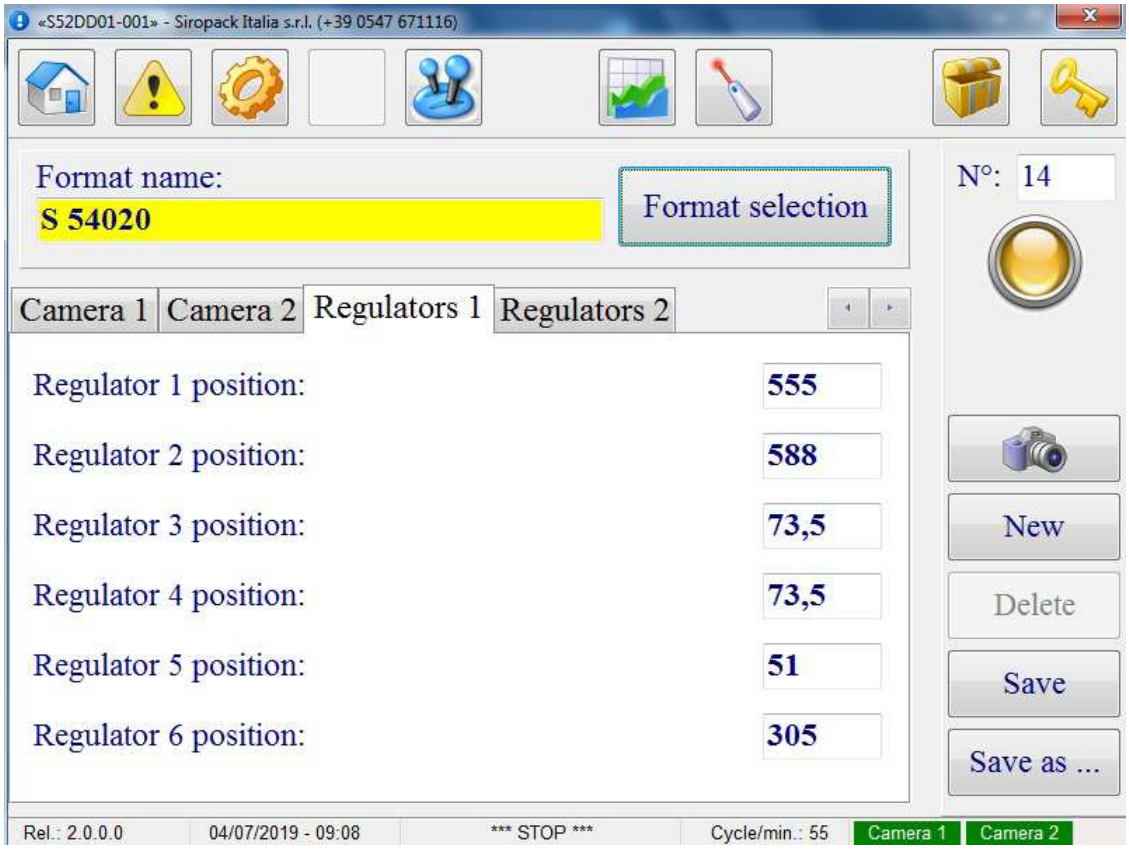
FORMATS:

See to previous page *Common data for all sections (Format 1, Format 2, Format 3, Format 4, Format 5, Format 6, Labelling 1, Labelling 2, Camera 1, Camera 2, Regulators 1, Regulators 2).*

NEW SAMPLE ACQUISITION:

From this section it is possible to learn the sample label to be used at each check for discriminate the product to be discarded. To perform this, pass some trays properly labeled under the control cameras and enter in this section by pressing the button indicated at point **J** in **fig 5.2.10 and 5.2.11**. From this section, it will be possible to access two subsections: "Camera entry" and "Camera exit". In each of these two subsections, the last photo acquired from the related camera will be visible.
Place the yellow area on the label to be checked, simply holding touch it and "dragging" it in desired point; to resize it, similarly, press at the right edge or the bottom edge and "drag" it to increase or decrease the search area.

Repeat the operation for both cameras; at the end, press the button on the top right (check symbol) to save the sampling.



5.2.22

FORMATS:

See to previous page *Common data for all sections (Format 1, Format 2, Format 3, Format 4, Format 5, Format 6, Labelling 1, Labelling 2, Camera 1, Camera 2, Regulators 1, Regulators 2):*

***REGULATORS 1*:**

Regulator 1 position: number specified by the regulator 1;

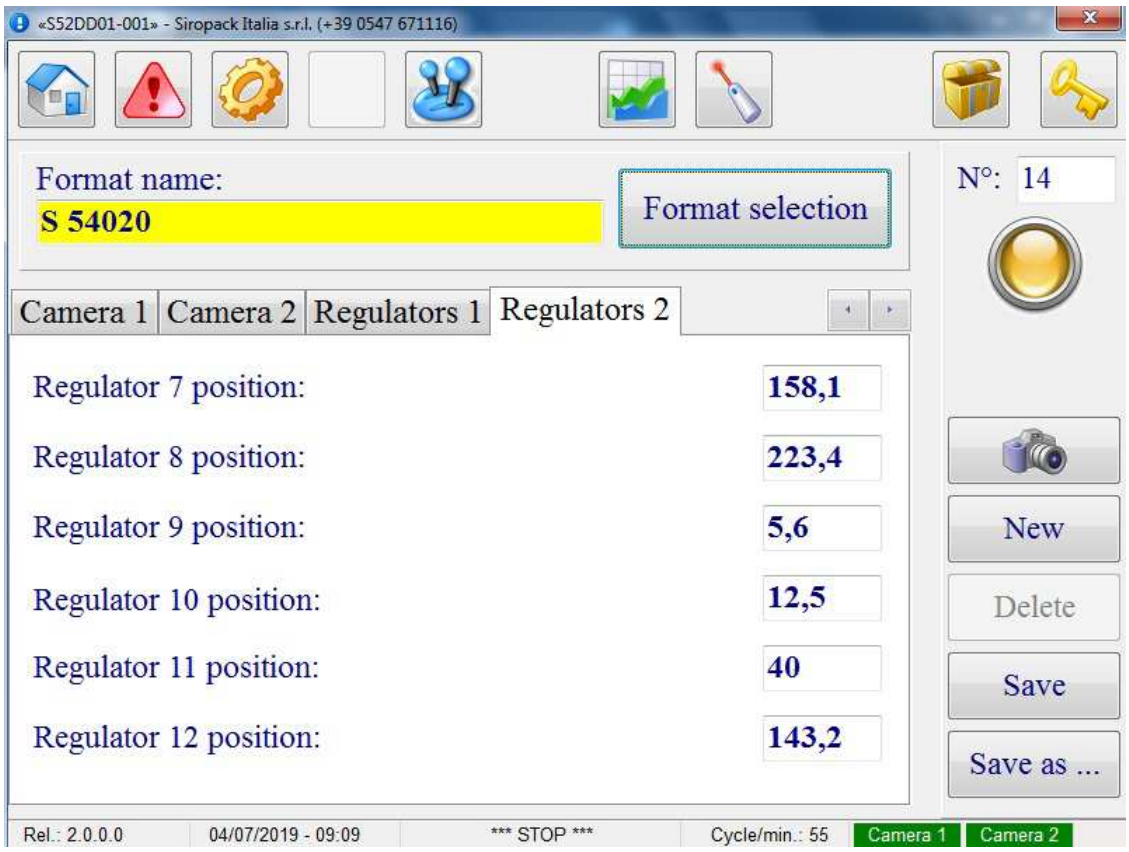
Regulator 2 position: number specified by the regulator 2;

Regulator 3 position: number specified by the regulator 3;

Regulator 4 position: number specified by the regulators 4;

Regulator 5 position: number specified by the regulator 5.

Regulator 6 position: number specified by the regulator 6.



5.2.23

FORMATS:

See to previous page *Common data for all sections (Format 1, Format 2, Format 3, Format 4, Format 5, Format 6, Labelling 1, Labelling 2, Camera 1, Camera 2, Regulators 1, Regulators 2):*

***REGULATORS 2*:**

Regulator 7 position: number specified by the regulator 7;

Regulator 8 position: number specified by the regulator 8;

Regulator 9 position: number specified by the regulator 9;

Regulator 10 position: number specified by the regulators 10;

Regulator 11 position: number specified by the regulator 11.

Regulator 12 position (optional): number specified by the regulator 12.

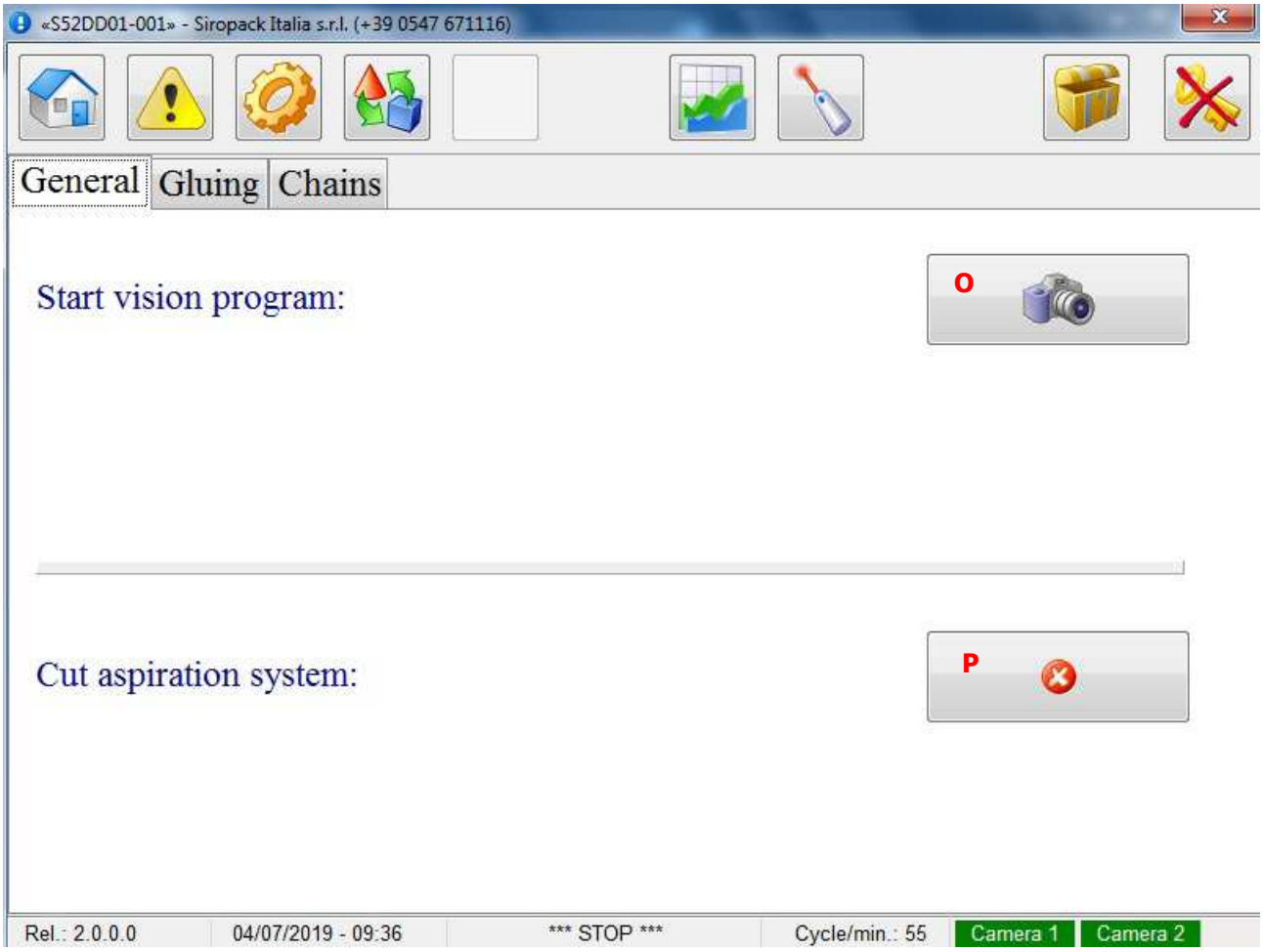
5.2.24

FORMATS LIST:

It allows to select the format to be processed by pressing the corresponding button.

L (back) and **N** (forward): scroll the list;

M: closes the window.



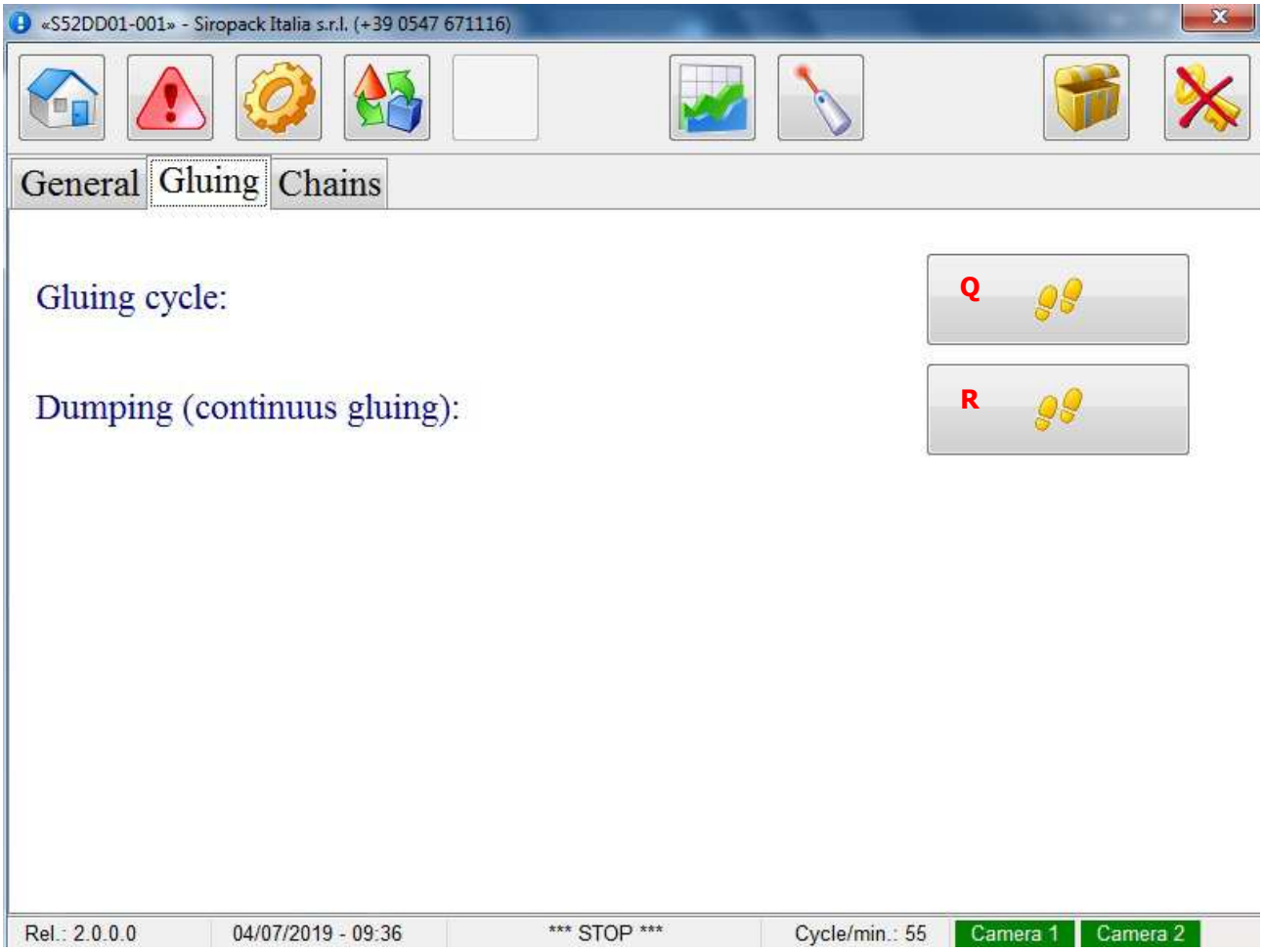
5.2.25

MANUALS:

GENERAL:

O Start vision program: *when* this button has been pressed, the vision program will start.

P *Cut aspiration system:* toggle to activates or deactivates the cut aspiration system.



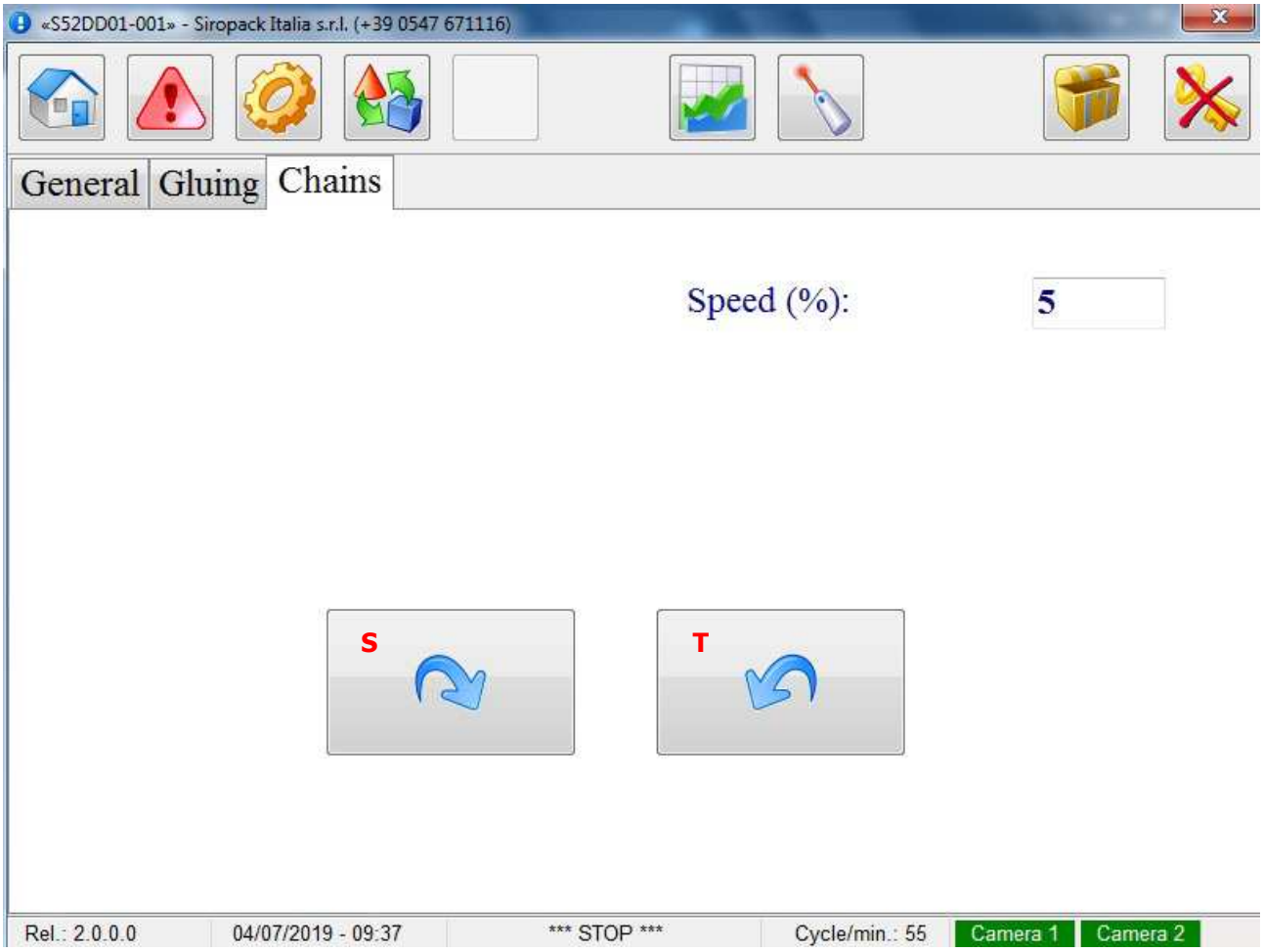
5.2.26

MANUALS:

GLUING:

Q *Gluing cycle:* to each press of the button *cycle gluing* is carried out a cycle of gluing on the line, this cycle is of the same length set for the automatic cycle in *Glue casting duration*.

R *Dumping (continuus gluing):* by pressing this button the continuous glue jet occurs until it is released.



5.2.27

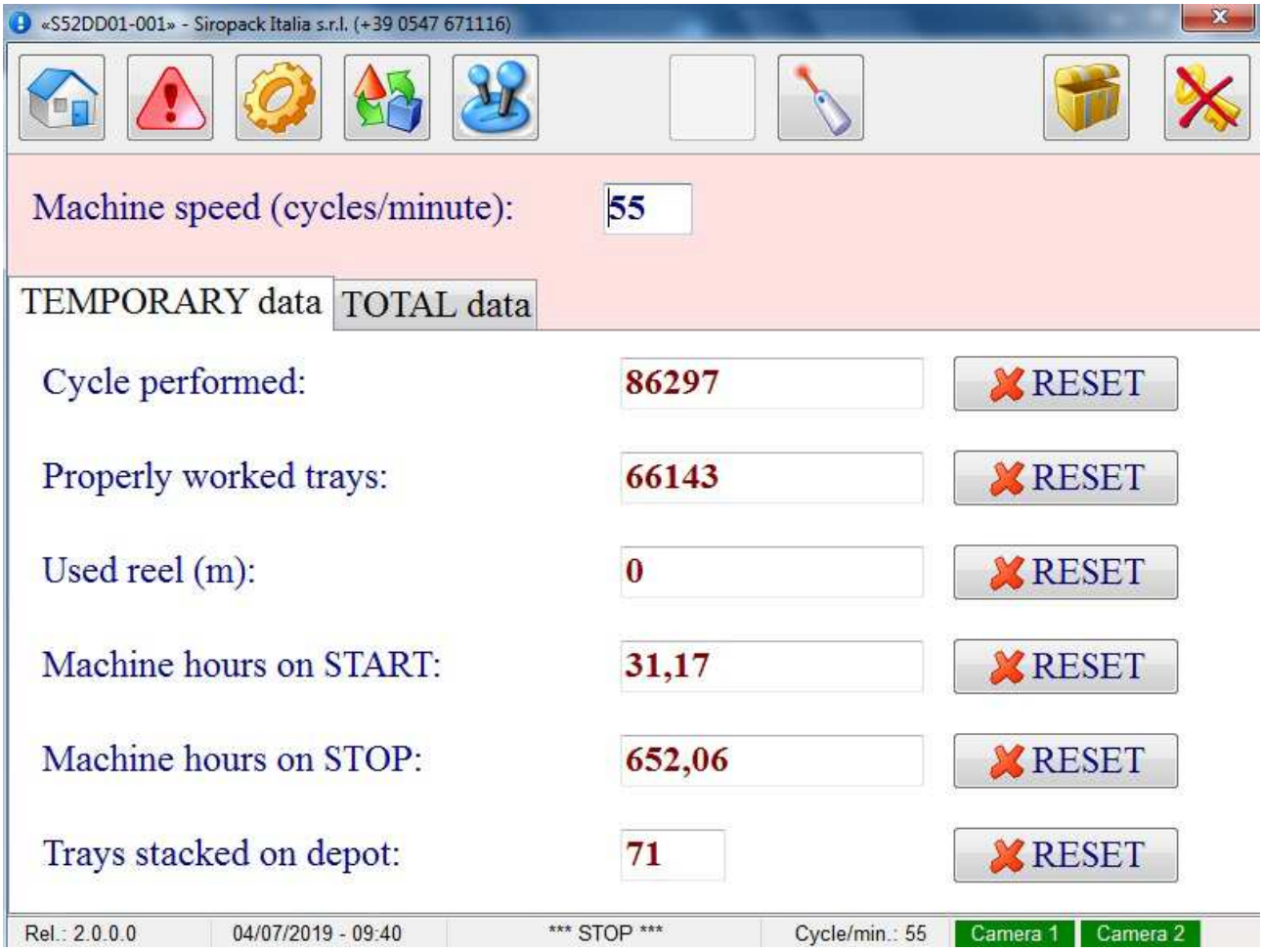
MANUALS:

CHAINS:

Speed: *allows to set the speed of the axes on manual mode (expressed as a percentage).*

S ***Forward rotation:*** by pressing and holding the button, the conveyor motors are rotated forward until the button is released.

T ***Reverse rotation:*** by pressing and holding the button, the transport chain motors are turned backwards until the button is released.



5.2.28

STATISTICS:

MACHINE SPEED (CYCLE/MINUTE): it displays the line speed expressed in cycles per minute, as in the start page;

TEMPORARY DATA: all values, in this section, can be reset using the appropriate button on the side;

Cycles performed: number of cycles performed by the line;

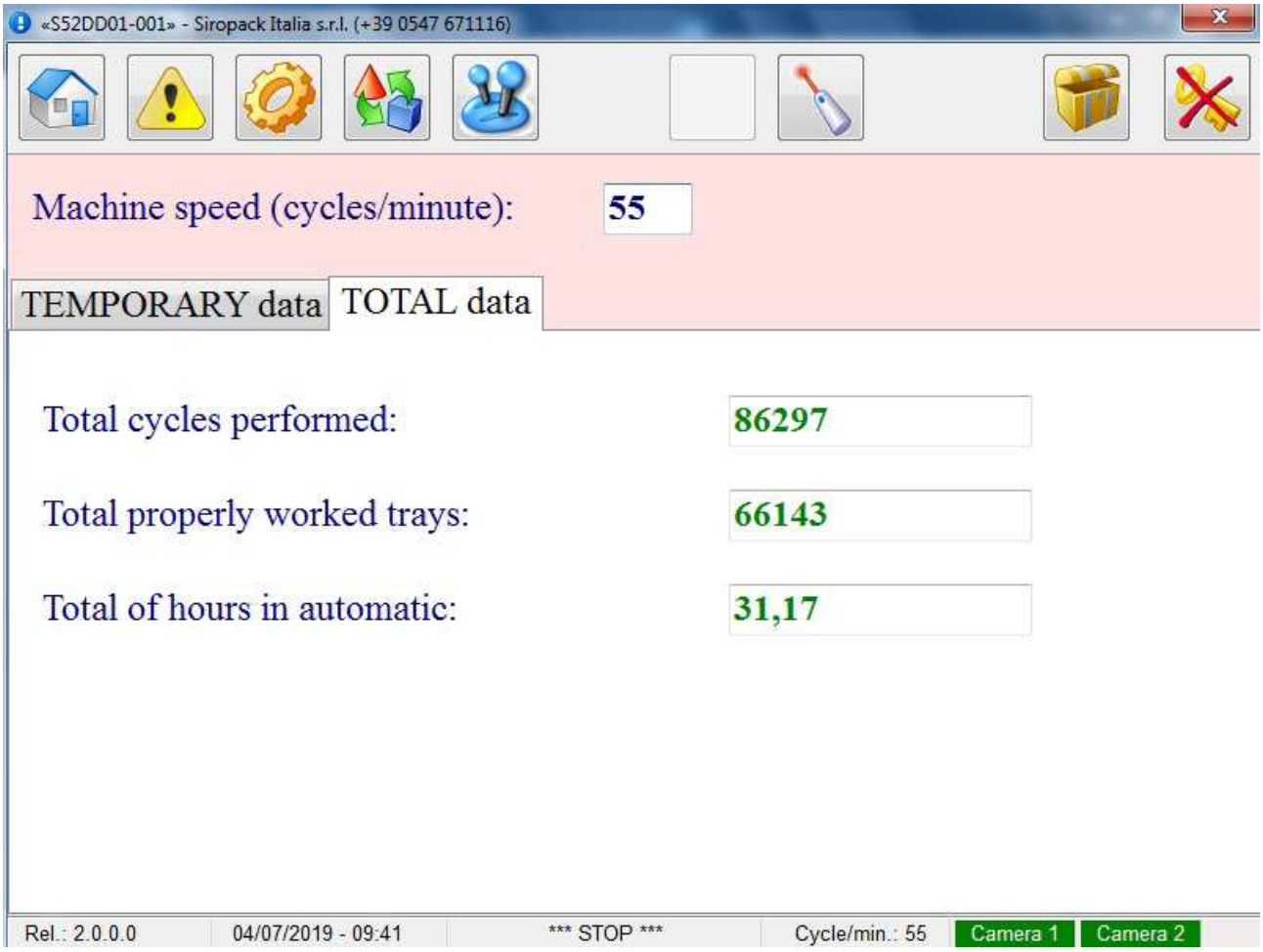
Properly worked trays: number of trays deposited in the warehouse of the line;

Used reel (m): total count of the absorbent/pluriball actually used on the line;

Machine hours on START: hour of the line in Automatic;

Machine hours on STOP: hour of the line in Stop;

Trays stacked on depot: number of trays present in the stacker. Pressing the RESET button, as well as reduced to zero, it effects the expulsion of the trays in depot.



5.2.29

STATISTICS:

MACHINE SPEED (CYCLE/MINUTE): it displays the line speed expressed in cycles per minute, as in the start page;

TOTAL DATA: all values in this section are NOT resettable;

Total cycles performed: total number of cycles performed by the line;

Total properly worked trays: total number of trays deposited in the warehouse of the line;

Total of hours in automatic: total hours of the line in Automatic mode.

5 USE OF MACHINE

PAR	DESCRIPTION
3	**COMMISSIONING**

First Level Machine Operator: operator without any specific skills, capable of carrying out simple tasks, or rather the operation of the machine through the use of push-buttons on the push-button panel, loading and unloading operations of the materials used during production, with safety devices installed and active;it is not qualified to use the machine with the JOG function (command with maintained action).

Proceed as follows after feeding the machine:

carry out an accurate visual inspection of the whole machine and make sure that there are no persons or materials that could be bulk for normal operation or objects left inadvertently over the machine.

Check that all the machine safety devices are enabled, if necessary restore them, in particular:

- emergencies stop unlocked;
- correct functioning of the safety barriers if present or protections not removed;
- protective carter.

Data setting

Provide the data setting, according to the procedures provided by the manufacturer.

General checks before start-up

- Verify the inclusion of Controls;
- check the messages displayed on the control panel and the correct setting of the variables in the various sections;
- see chapter **5** paragraph **4**, for starting the machine.

5 USE OF MACHINE

PAR	DESCRIPTION
4	**OPERATING MODES**

The machine works in the following modes:

- REPOSITIONING
- AUTOMATIC

REPOSITIONING serves to bring the various groups back to their initial positions, in order to create the necessary conditions at the start.
The machine needs repositioning in the following cases:

- whenever the machine services are reset (after an emergency or when the machine is switched on);
- after executing some functions Manuals;
- after closing all the mobile safety guards, to restore air to the various groups.

Operations to perform for start-up:

- check the correct connection of the machine and insert the main switch;
- close all mobile guards and check the emergency shutdown;
- press the reset button.

In AUTOMATIC mode the machine works according to a logical sequence of operation suitable for reaching the production. Before starting the machine, see chapter **3** paragraph **7** (Preliminary checks) and chapter **5** (Use of machine).

Operations to be carried out for automatic start-up:

- check the correct connection of the machine and insert the main switch;
- close all mobile guards and check the emergency shutdown;
- press the reset button;
- check that the support materials are present;
- check that there are no alarm messages on the display and press the start button.

It is also possible to operate the machine automatically without the support material, to check the correct setup. For this purpose it is necessary to exclude the controls trought the display.

Operations to be performed for start-up:

- check the correct connection of the machine and insert the main switch;
- close all mobile guards and check the emergency shutdown;
- perform a reset;
- enter the MANUAL menu;
- press the function keys (on the display) related to the subgroups that you want to move.

5 USE OF MACHINE

PAR	DESCRIPTION
5	**NORMAL STOP**

The operator can stop the machine by one of the STOP buttons, located in the control panels or push-button panels to let to the operator to stop the machine from all the positions in which it is located (see chapter **4** paragraph **9**).

5 USE OF MACHINE

PAR	DESCRIPTION
6	**EMERGENCY STOP**

The machine Emergency Stop is carried out by pressing the red push button (Fig. 5.6.1) of *Emergency*. This action immediately stops all moving parts (see also Par. **2.5.2**).

5.6.1

5 USE OF MACHINE

PAR	DESCRIPTION
7	**STOP FROM PLC**

When certain alarms occur, the PLC stop the line, (see chapter **5** paragraph **1**, control panel messages).

The alarms are divided in two categories: **relative and absolute**. Relative ones differ from absolutes by the fact that they intervene only if control (trought display) is included.

Relative alarms:

LEAK OF VACUM;

GLUER NOT READY;

LABELLER MACHINE ALARM;

END OF REEL TO LABELLER MACHINE;

Absolute alarms:

EMERGENCIES INSERTED;

DOORS OPEN;

CARTER OPEN;

CONTROL UNIT DEACTIVATE;

AXIS OVERRUN;

AXIS ALARM;

THERMAL INTERVENTION;

AIR PRESSURE NOT CORRECT;

ALARM TO INVERTER;

ALARM TO TRAY ON STOP;

ALARM TO TRAY RELEASE;

The intervention of an alarm is always reported by the display, located on the control panel.

5 USE OF MACHINE

PAR	DESCRIPTION
8	**RECOVERY**

Recovery from Emergency

After manually re-arming of emergency push button by turning it clockwise approximately 30 degrees, the machine can normally be restarted according to the appropriate procedure.

5 USE OF MACHINE

PAR	DESCRIPTION
9	**WORKING CHANGE**

Operations to perform for format change:

1. select throught the display the format to be processed, see **5.2**;

Whenever a format change is made, before starting the line, it is necessary to make a series of adjustments and registrations of all the groups, where necessary. This in order to optimize the operation of the line based on the characteristics of the chosen format.

To this purpose it is necessary to read par. **3.8** that explains all necessary settings for the proper functioning of the line.

Once the format has been correctly changed and all the necessary adjustments have been carried out, the machine can be started up. For this purpose see par. **5.4** about starting the machine.

5 USE OF MACHINE

PAR	DESCRIPTION
10	**DECOMMISSIONING**

Electrical Maintenance Engineer: qualified engineer able to operate the machine under normal conditions, operate in the JOG function (command with maintained action), and intended for all adjustment, maintenance and repair operations of an electrical nature. **He is capable of working inside live electrical cabinets and junction boxes.**

Mechanical Maintenance Engineer: qualified engineer able to operate the machine under normal conditions, operate in the JOG function (command with maintained action), with the safety devices deactivated, to work on the mechanical parts for necessary adjustment, maintenance and repair. **He is not qualified to work on live electrical systems.**

During long periods of inactivity, it is necessary to disconnect the power supply from the general electrical panel, and all the other power supplies (pneumatics, etc.) that the machine needs, in addition it is necessary:

- • extract the label reels from the reel holders;
- • remove any support material (trays) on the machine;
- • carry out an accurate cleaning of the whole machine.

6 MAINTENANCE

PAR	DESCRIPTION
1	**MAINTENANCE STATUS**

Electrical Maintenance Engineer: qualified engineer able to operate the machine under normal conditions, operate in the JOG function (command with maintained action), and intended for all adjustment, maintenance and repair operations of an electrical nature. **He is capable of working inside live electrical cabinets and junction boxes.**

Mechanical Maintenance Engineer: qualified engineer able to operate the machine under normal conditions, operate in the JOG function (command with maintained action), with the safety devices deactivated, to work on the mechanical parts for necessary adjustment, maintenance and repair. **He is not qualified to work on live electrical systems.**

Maintenance operations must be carried out with the machine in the conditions described in the *MACHINE STATUS* in **Table 6-6.1** of Scheduled Maintenance.

6 MAINTENANCE

PAR	DESCRIPTION
2	**INSULATION OF THE MACHINE**

Electrical Maintenance Engineer: qualified engineer able to operate the machine under normal conditions, operate in the JOG function (command with maintained action), and intended for all adjustment, maintenance and repair operations of an electrical nature. **He is capable of working inside live electrical cabinets and junction boxes.**

Mechanical Maintenance Engineer: qualified engineer able to operate the machine under normal conditions, operate in the JOG function (command with maintained action), with the safety devices deactivated, to work on the mechanical parts for necessary adjustment, maintenance and repair. **He is not qualified to work on live electrical systems.**

Before carrying out any type of maintenance or repair, it is necessary to isolate the machine from the power supply, then stop the pneumatic connection from the external piping.

6 MAINTENANCE

PAR	DESCRIPTION
3	**SPECIAL PRECAUTIONS**

Electrical Maintenance Engineer: qualified engineer able to operate the machine under normal conditions, operate in the JOG function (command with maintained action), and intended for all adjustment, maintenance and repair operations of an electrical nature. **He is capable of working inside live electrical cabinets and junction boxes.**

Mechanical Maintenance Engineer: qualified engineer able to operate the machine under normal conditions, operate in the JOG function (command with maintained action), with the safety devices deactivated, to work on the mechanical parts for necessary adjustment, maintenance and repair. **He is not qualified to work on live electrical systems.**

In carrying out the maintenance or repair work, it is advisable to apply the following recommendations:

- before starting the work, expose a MAINTENANCE MACHINE/LINE sign in a clearly visible position;
- do not use solvents and flammable materials;
- to access the highest parts of the machine, use the means suitable for the operations to be carried out;
- do not climb on the machine/line organs, as they have not been designed to support people;
- when the work is complete, reset and correctly secure all protections and guards removed or opened.

The manufacturer of the machine is not responsible for the non-observance of the listed recommendations and for any other use different or not mentioned in the present instructions.

6 MAINTENANCE

PAR	DESCRIPTION
4	**CLEANING**

Generic unskilled worker: operator without any particular skills, capable of carrying out only simple tasks only on the instructions of qualified technicians.

The machine must be cleaned with a soft and dry cloth, with hot water or with help of the following chemicals:

3M stainless steel cleaner & Polish: a mixture containing isobutane, it is therefore recommended to avoid contact with the eyes and to use the safety glasses during the whole cleaning phase;

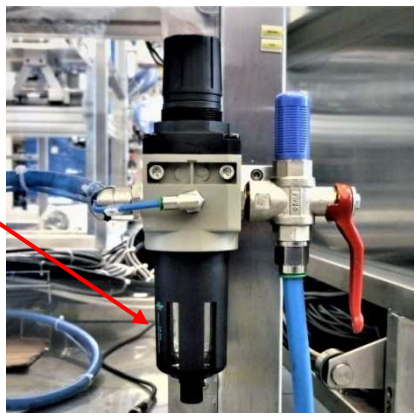
Tego: disinfectant soap with water (quaternary ammonium compound);

Halamid: chlorine disinfectant compound usually used for floor cleaning, can be used for the feet and the bases of the machine.

The use of compressed air is also recommended.

The use of any chemical solvent is forbidden.

Perform the operation by isolating the machine from energy sources.



6.4.1

Pneumatic system is equipped with a filter, wich has the function to filtrate the air that it will go in all the power circuit of machine. To replace the air filter close the entry air and unscrew the glass of the counter-pressure switch **A fig. 6.4.1**; remove the filter and replace it.

Then there are 2 silencers for each battery of valves and one exhaust filter in the quick exhaust valve with progressive starter, which are located inside the frame. Periodically it is opportune to replace them.

Finally, it is advisable to clean the *sensors* and *photocells* with a soft, dry cloth.

6 MAINTENANCE

PAR	DESCRIPTION
5	**LUBRICATION**

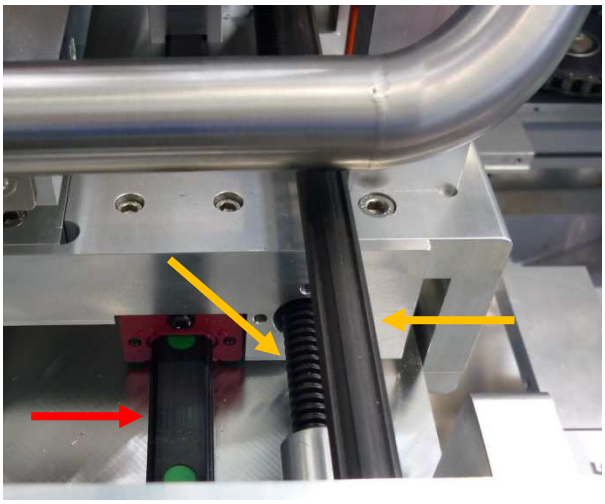
Mechanical maintenance engineer: qualified engineer able to operate the machine under normal conditions, to operate in the JOG function (maintained action command) with the safety devices deactivated, to work on the mechanical parts for necessary adjustment, maintenance and repair. **He is not qualified to work on live electrical systems.**

Periodically lubricate/grease the mechanical parts involved in the movement of the mobile parts of the machine, that is:

- **Grease (yellow arrows):** use a brush to grease all trapezoidal screws and gears with standard bearing grease;
- **Greasing points (green arrows):** there are no greasing points to lubricate with greaser;
- **Lubricating spray (red arrows):** lubricate with HHS DRYLUBE lubricant all guides with carriage, shafts and piston rods.

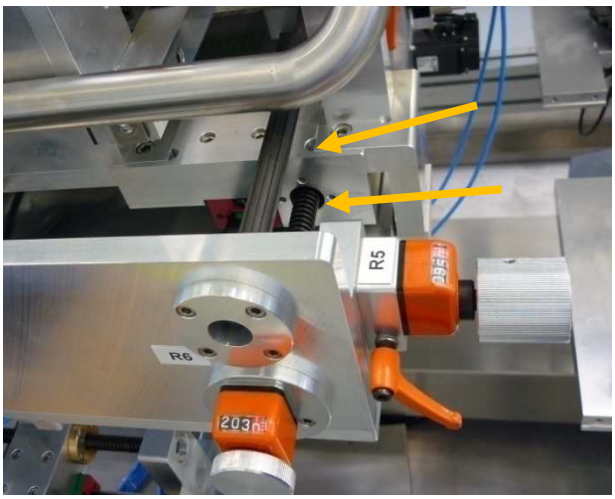
The Scheduled Maintenance Plan described in **Tab. 6-6.1** must in any case be implemented to keep the machine functioning efficient.

Entry side



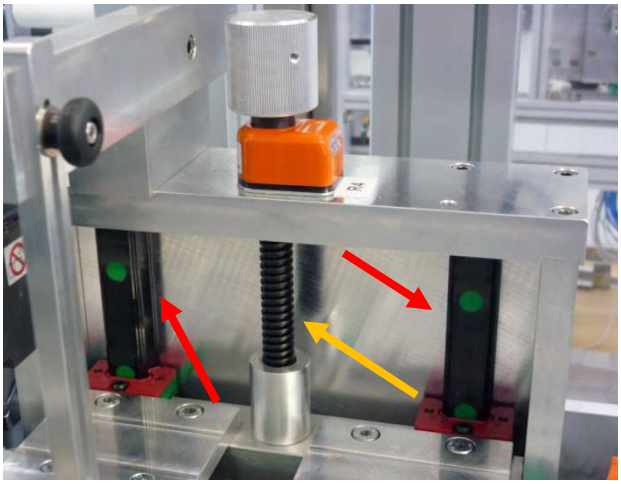
6.5.1

Entry side



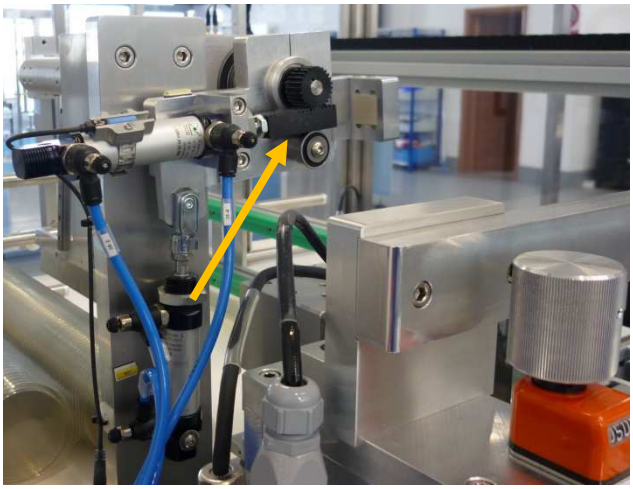
6.5.2

Entry side



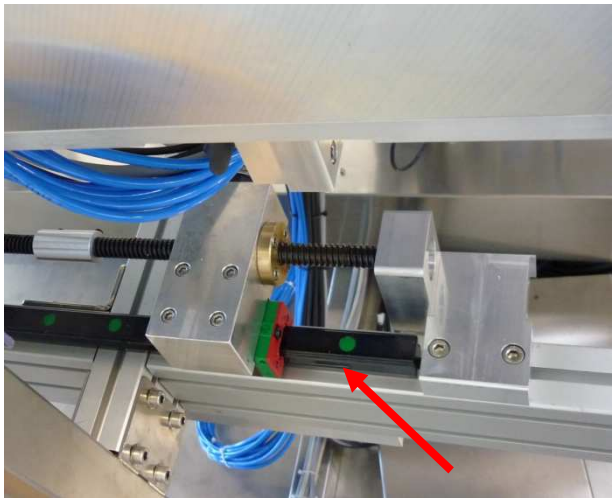
6.5.3

Entry side



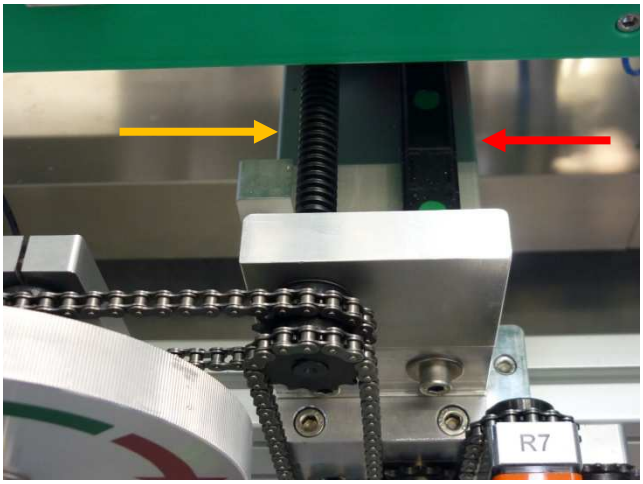
6.5.4

Entry side



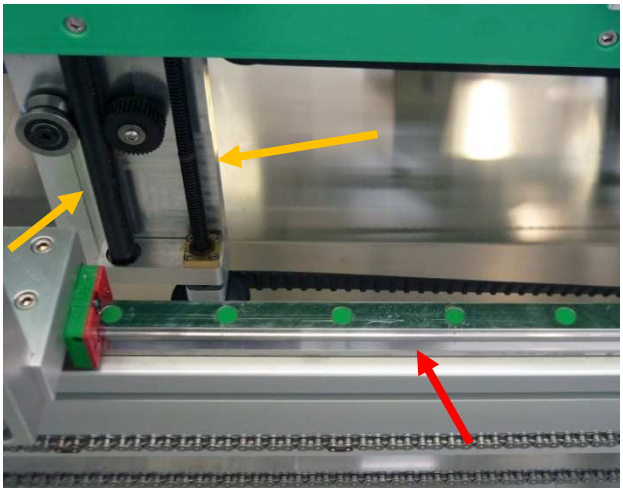
6.5.5

Entry side



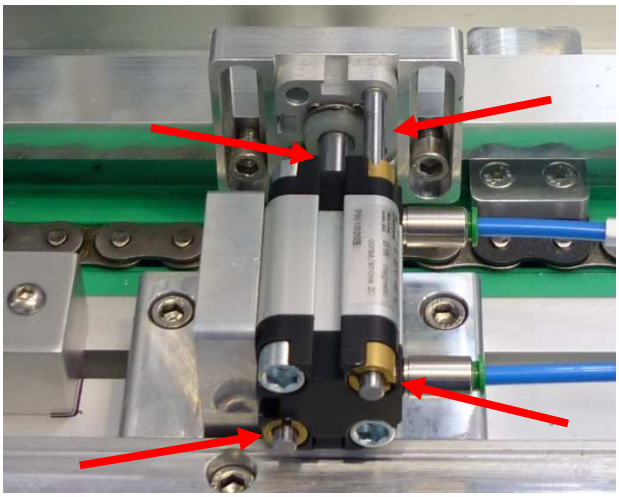
6.5.6

Entry side



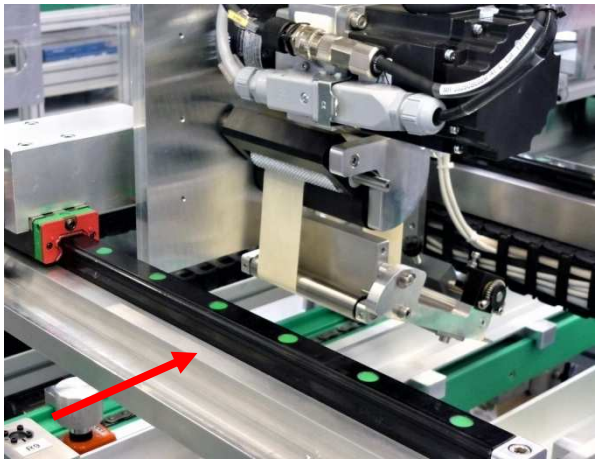
6.5.7

Piston rods



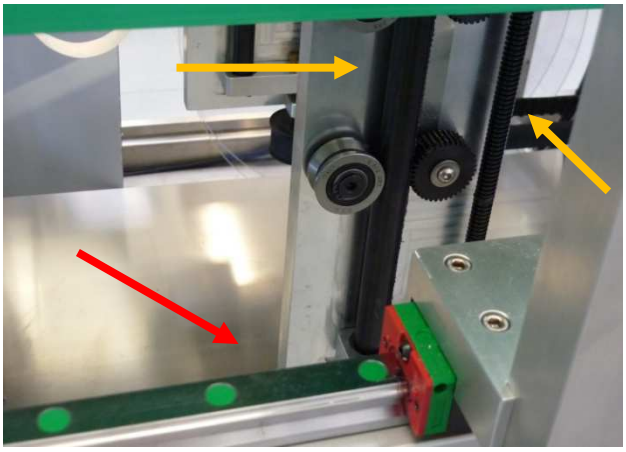
6.5.8

Guide close to the labeller



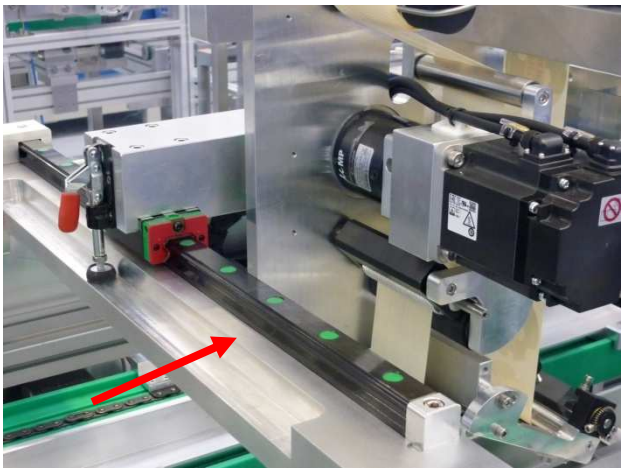
6.5.9

Guide close to the labeller



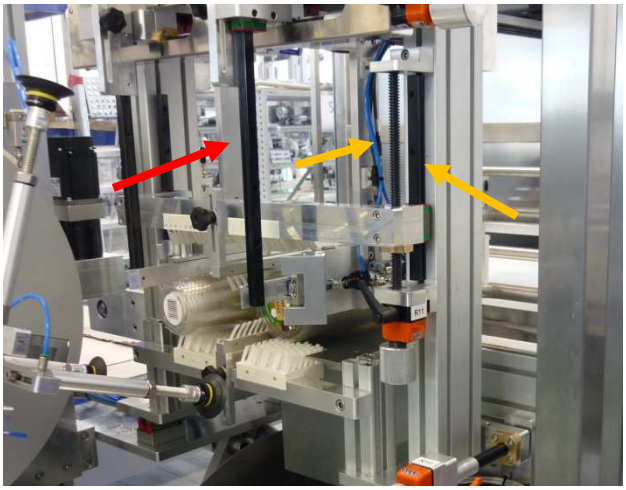
6.5.10

Guide close to the labellers



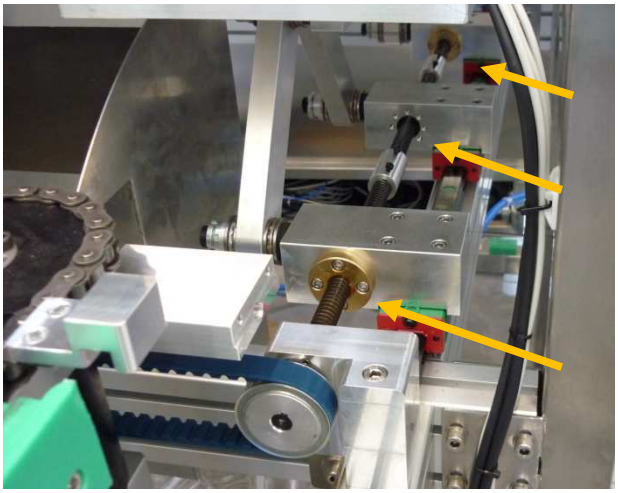
6.5.11

Exit side



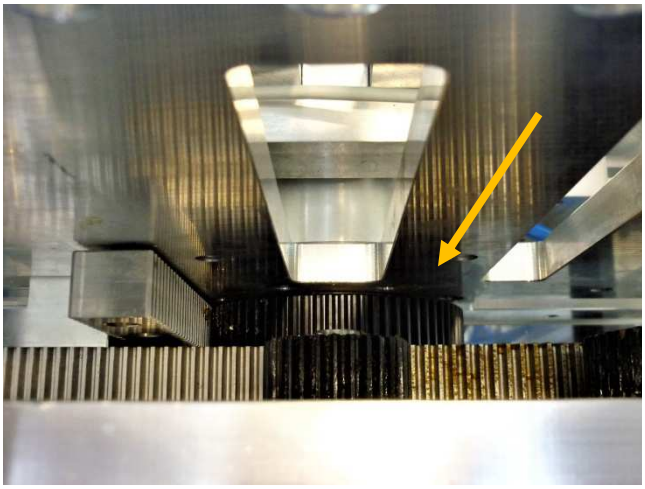
6.5.12

Exit side



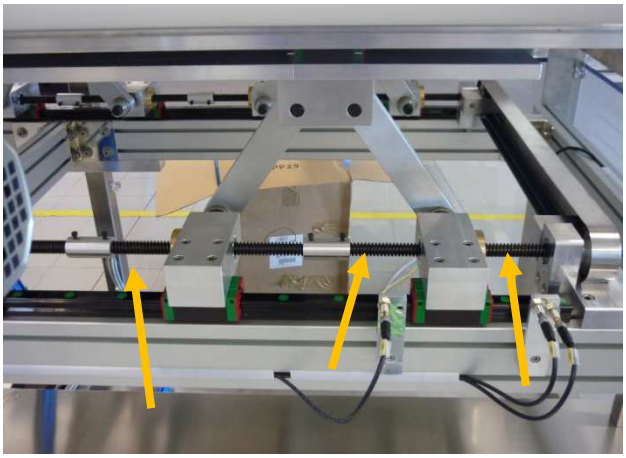
6.5.13

Carousels (vertical plane behind)



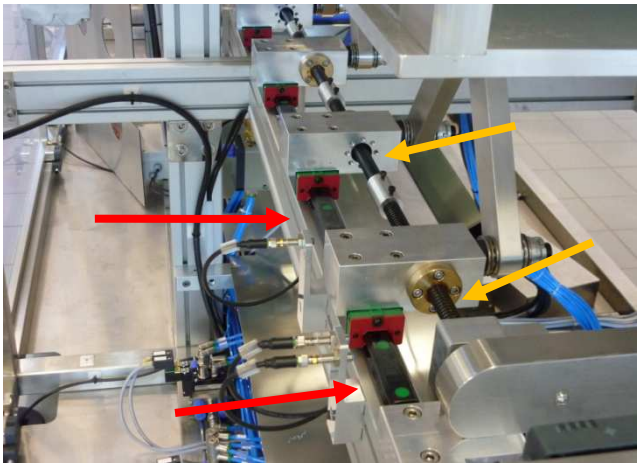
6.5.14

Exit side



6.5.15

Exit side



6.5.16

6 MAINTENANCE

PAR	DESCRIPTION
6	**REPLENISHING**

Mechanical maintenance engineer: qualified engineer able to operate the machine under normal conditions, to operate in the JOG function (maintained action command) with the safety devices deactivated, to work on the mechanical parts for necessary adjustment, maintenance and repair. **He is not qualified to work on live electrical systems.**

There are no devices in the machine that need oil replenishing or replacing.

6 MAINTENANCE

PAR	DESCRIPTION
7	**ORDINARY MAINTENANCE**

Electrical Maintenance Engineer: qualified engineer able to operate the machine under normal conditions, operate in the JOG function (command with maintained action), and intended for all adjustment, maintenance and repair operations of an electrical nature. **He is capable of working inside live electrical cabinets and junction boxes.**

Mechanical maintenance engineer: qualified engineer able to operate the machine under normal conditions, to operate in the JOG function (maintained action command) with the safety devices deactivated, to work on the mechanical parts for necessary adjustment, maintenance and repair. **He is not qualified to work on live electrical systems.**

General prescriptions

Once a month check the functioning of the emergency stops present and try the correct intervention (suspension of operations) of the same Emergency stops.
In the event of a malfunction, the fault searching should be carried out only by qualified personnel or by the technical assistance of the manufacturer of the electrical panel.

Every 2 years check the continuity of the ground circuit, making the continuity measurement according to the CEI 44 - 5 standard III art. 19.

The machine has been designed to minimize ordinary maintenance, it is up to the operator to judge the status and its suitability for use.
It is recommended to stop the machine and to intervene with the maintenance every time not optimal operation is performer; this will allow to have always the maximum of the efficiency.

Visually check the status of the individual parts that make up the machine, checking that there are no changes due to sagging or deformation.

For all the maintenance that does not require voltage to the power components, stop the system by disconnecting the power supply from the main switch disconnector, locking it in the "O" position with the appropriate padlock.

CAUTION

Before any maintenance operation, the maintenance technician must exclude the power supply by acting on the main isolator, close the lock supplied with the electrical panel and keep the key in his pocket.

Always use the appropriate D.P.I - Personal Protective Equipment:

- anti-slip shoes;
- adequate clothing.

Scheduled maintenance

The operations described below must be carried out at indicated periodicity.

Failure to comply with the requirements, exonerates the manufacturer from any liability for the effects of the Warranty.

These operations, although simple, must be performed by Qualified Personnel.
Scheduled routine maintenance includes inspections, checks and interventions which, to prevent stops and breakdowns, keep the status of the parts subject to wear under systematic control.

Scheduled Maintenance Table:

MAINTENANCE	PERIODICITY	STATE OF THE MACHINE	SYMBOL
Control 1 **General cleaning of machine**	Daily	Insulation for Maintenance	
Control 2 **Dumping of condensation from the tank of the compressed air**	Weekly	Insulation for Maintenance	
Control 3 **Clean air filters and vacuum pneumatic system**	Weekly	Insulation for Maintenance	
Control 4 **Check the correct tire pressure of pneumatic system**	Weekly	Moving Machine	
Control 5 **Check of emergency buttons' efficiency**	Weekly	Moving Machine	
Control 6 **Lubricate Chains**	Weekly	Insulation for Maintenance	
Control 7 **Lubricate guide ways, sleds and ball recirculation skates**	Weekly	Insulation for Maintenance	
Control 8 **Check of safety devices' efficiency**	Monthly	Moving Machine	
Control 9 **Cleaning of photocells, optical fibres, sensors**	Monthly	Insulation for Maintenance	

Tab. 6-6.1

For good efficiency of the whole system, as well as to prevent the voiding of the warranty, **it is expressly forbidden to modify the applications on the machine**.

6 MAINTENANCE

PAR	DESCRIPTION
8	**EXTRAORDINARY MAINTENANCE**

Engineer of the machine's manufacturer: qualified engineer made available by the manufacturer of the machine to carry out complex operations under particular conditions or in any case agreed upon with the user. His skills depend on each individual case, be it mechanical and/or electrical and/or electronic and/or software.

For any other maintenance operation, such as the relevant *improvement maintenance* and *preventive maintenance* (e.g. overhauls which usually increase the machine value and/or extend the service life), you can contact our customer assistance service.

6 MAINTENANCE

PAR	DESCRIPTION
9	**DIAGNOSTICS AND TROUBLESHOOTING**

For defects or machine malfunctions not described in this manual, please contact the Manufacturer.

ANOMALY	SOLUTION
The machine does not "turn on" (power failure):	• Check the correct connection to the power supply ; • Check that the main switch is in the "ON; • Check that the magnetothermics are activated
The line does not start automatically:	• Check if all movable guards are perfectly closed; • Check for alerts on the display; • *Reset* the line.
The labelling group does not work:	• Check on the display that the group is included.
Depot group doesn't works:	• check throught the display that it is included;

Tab. 6-9.1

7 SPARE PARTS ACCESSORIES

PAR	DESCRIPTION
1	**ASSISTANCE**

For any information regarding use, maintenance and installation of the machine, the Manufacturer is always available.
On the Client's side, it is advisable to ask the questions in clear terms, with references to this Manual and to the instructions listed.

Contacts:

+39 0547 671116 (Main phone) info@siropack.it

Rocco De Lucia	rdelucia@siropack.it	+39 3392253804
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7 SPARE PARTS ACCESSORIES

PAR	DESCRIPTION
2	**SPARE PARTS**

For any spare part contact the manufacturer.
ALWAYS USE ORIGINAL SPARE PARTS.

The manufacturer is not liable for breakages, malfunctioning or damage to persons or things resulting from the use of non-original parts.

For spare parts management, subsequently there is a form prepared by the Manufacturer, for a quick identification of the component to order. Non-original spare parts should not be used; if this does occur, the warranty (if still valid) and the Manufacturer’s responsibility for using the machine and for possible damages to persons and/or property will be deemed null and void.

RECOMMENDED SPARE PARTS LIST

SUPPLY/ENTRY

4 CATQRC3/8-06B2 Chain QRC 3/8-06B2 double inox process 1238,5mm

4 GIUQRC3/8-06B2 Joint QRC 3/8-06B2 double inox

1 Belt T1050025 Progress tape T10 500x25

1 Belt AT5110016G Progress belt AT5 1100x16

1 Belt AT572016 Regolation belt AT5 720x16

1 MP060 2 35 STD 60AH CD11 S5 OR SB KE Bonfiglioli epicycloidal gearbox

1 2M8 U0-U0 Closed loop tape width 710mm / process 4120mm

1 MPG053 2 9 STD 50C CD14 S5 OR SB KE Bonfiglioli epicycloidal gearbox

1 MP053 1 9 STD 50C CD14 S5 OR SB KE Bonfiglioli epicycloidal gearbox

4 GHMGN12C-Z0HM Smart car HIWIN angular release movement

1 1581.16.15.01 Release cylinder

3 1581.16.10.01 Stop cylinder

CAROUSEL

1 Belt AT1089032 Transmission belt AT10 890x32

4 705.32.2.1/1V Pneumax valve 3/2 shutter type for vacuum on carousel

4 M00800004_00 Vacuum pump Siropack Coax Micro Bi03-2

SLEDS M.

5 meters 16AT5 Open belt AT5/16

TRACTION

1 Kit 2 Renold chains AS 10B1 di 456P c/att.M every 12P complete with joint.

2 S.52A.CATE.M.024 Spliced crown to crankshaft

2 S.52A.CATE.M.A24 Pinion with bearings

LABELLING MACHINE

2 Chiorino green strap ES 230 PUR RU.6 process 370 diam.5

2 XL140 Toothed belt XL140 Larg.10 MEGADYNE ISORAM

2 S.52A.ETIC.M.012 Rubberized traction roller Trito 100 complete with pulley

2 EPACK.TRIT.M.007 Trito 100 knurled contrast roller

1 S.13X.ETIC.T.001 C40 Steel reduction from D19 to D14

AIR/VACUUM

2 Pneumax 2411.53.31.24.09 complete with bracket, reducer, pressure gauge and fittings Valve for vacuum group/pressure

2 Pneumax 2431.52.00.36.09 Valve pistons and puffs

4 RK1900/0021 Filter element for filter 19F06.L.02

MOTORS/GEARS

2 Mitsubishi HG-KR43 Low inertia brushless motor 400W - 1,3 Nm (x MR-J4)

1 MP080 2 16 STD 70B1 CD19 S5 OR SB KE Bonfiglioli epicycloidal gearbox

1 MP060 1 7 STD 50C CD14 S5 OR SB KE Bonfiglioli epicycloidal gearbox

SENSORS

5 Sick IME08-02BPOZT0K Inductive sensor completely shielded NC

5 Sick IME08-02BPSZT0K Inductive sensor completely shielded NO

1 Sick IME08-04NPSZT0K Inductive sensor partially shielded NO

2 Sick MZT7-03VPS-KP0 magnetic sensor

To request spare parts, fill the attached form, following the instructions provided there.

It is recommended to faithfully reproduce the form in question (also photocopying it) to avoid errors.

Fill in the table references with the heighest accuracy and send the form to the Manufacturer.

To interact in the most effective way with our technicians for the order of spare parts, please follow the procedure below:

a. **call the Company's spare parts service and describe the type of fault found;**
b. **describe the non-functional detail if necessary;**
c. **trace the group of the machine in which the particular is located;**
d. **order the details using the Order Form on the next page.**

REPLACEMENT PARTS REQUEST FORM

MACHINE DATA

Name machine:	
Model:	
Serial:	
Year of construction:	

LIST OF PARTS TO ORDER

Code	Description	Quantity

8 ADDITIONAL INSTRUCTIONS

PAR	DESCRIPTION
1	**WASTE DISPOSAL**

It will be the user's responsibility, according to the laws in force in his own country, to verify the correct disposal of the waste that the machine produces during processing.

Disposal of the replaced parts must be carried out in compliance with the regulations in force in the country where the machine is used.

8 ADDITIONAL INSTRUCTIONS

PAR	DESCRIPTION
2	**DECOMMISSIONING AND DISMANTLING**

On dismantling it is necessary to separate the plastic parts, metal parts and electrical components, which must be sent to separate waste collection in compliance with current legislation.
About the metal mass of the machine is concerned, the subdivision between the ferrous parts and those in other metals or alloys is sufficient for a correct sending to recycling by merger.

8 ADDITIONAL INSTRUCTIONS

PAR	DESCRIPTION
3	**SAFE WORKING PROCEDURES**

Instruct the specific procedures and to properly inform the employees for:

- safe use of the machine;
- emergency situations.

9 ANNEXES

PAR	DESCRIPTION
1	**RISK ANALYSIS**

1.1.1 Have been evaluated and applied the definitions of danger zone, exposed person and operator?

YES NO NA NOTE ( )

1.1.2 In the definition of the measures being considered all phases of the life of the machine, and the consequences of foreseeable abnormal situations?

YES NO NA NOTE ( )

When designing and constructing machinery, and when drafting the instructions for use was defined the normal use of the machine and was considered the reasonably use foreseeable?

YES NO NA NOTE ( )

In the selection of measures was applied the principle of integration of security?

YES NO NA NOTE ( )

Instructions for use: has been called attention to the contraindication of use?

YES NO NA NOTE ( )

In the design and construction have been considered the obligations imposed by the use of personal protective equipment?

YES NO NA NOTE ( )

In the design and construction have been considered the principles of ergonomics?

YES NO NA NOTE ( )

The machine is equipped with special equipment and accessories essential to be able to adjust, maintain, and use it without risk?

YES NO NA NOTE ( )

1.1.3 Care was taken to eliminate or reduce the risks to people due to the use of dangerous products, especially those used in the construction of the machine, used during operation and created by processing?

YES NO NA NOTE ( )

Have been eliminated or reduced the relative risks due to filling, use, recovery and evacuation of any fluid?

YES NO NA NOTE ( )

1.1.4 It was provided to illuminate built the machine (ambient lighting too low)?

YES NO NA NOTE ( )

Have been eliminated shadows, glare and dangerous stroboscopic effects due to the lighting provided?

YES NO NA NOTE ( )

Have been provided lighting for the organs and areas of adjustment and maintenance to be inspected frequently?

YES NO NA NOTE ( )

1.1.5 The machine has been designed and built to be transported and stored safely?

YES NO NA NOTE ( )

The machine (not movable by hand) was equipped with accessories that allow you to grab with a lifting device and these accessories are shaped such that standard lifting gear can easily be attached?

YES NO NA NOTE ( )

The machine (to carry by hand) is easily transportable and is equipped with accessories that allow the transport security?

YES NO NA NOTE ( )

1.2.1 Control systems have been built to withstand normal operating stresses and external factors?

YES NO NA NOTE ( )

The control systems are designed and constructed so as not to lead to dangerous situations in case of errors in logic?

YES NO NA NOTE ( )

1.2.2 Are the control devices:
clearly visible?

YES NO NA NOTE ( )

marked where appropriate?

YES NO NA NOTE ( )

arranged so as to ensure safe manoeuvring, and without ambiguity?

YES NO NA NOTE ( )

designed so that the movement of the control device is consistent with the action of the command?

YES NO NA NOTE ( )

located as far as possible, outside danger zones?

YES NO NA NOTE ( )

arranged so that their operation can't cause additional risk?

YES NO NA NOTE ( )

designed or protected so that the desired effect, where a risk is involved, can not occur without an intentional operation?

YES NO NA NOTE ( )

constructed so as to withstand foreseeable strain?

YES NO NA NOTE ( )

When the action is not unique, e.g. use of buttons, the action is clearly indicated and if necessary confirmed?

YES NO NA NOTE ( )

In the design and construction of the devices were taken into account ergonomic principles and obligations for the use of personal protective equipment (e.g. gloves)?

YES NO NA NOTE ( )

The machine was equipped with the signalling devices and directions of the knowledge of which is necessary for safe operation?

YES NO NA NOTE ( )

The signalling devices are visible from the control panel?

YES NO NA NOTE ( )

From the main control position, the operator is able to ensure that no exposed persons in the danger zones?

YES NO NA NOTE ( )

Where it is not possible to make the request to the previous question has been provided a warning signal audible and/or visual signal that precedes the start-up?

YES NO NA NOTE ( )

The start-up of the machine, restarting after a stop and changing operating conditions are possible only with deliberate action on a control provided for this purpose? (Note: restarting and changing operating conditions resulting from normal automatic sequence does not apply to this question)

YES NO NA NOTE ( )

Have been foreseen to avoid that in case of presence of several control devices intended to multiple operators, these may provide one another in danger?

YES NO NA NOTE ( )

The throw-in automatic operation following an arrest of an automated system can be restarted easily after they have met the conditions of security?

YES NO NA NOTE ( )

1.2.4 Normal stop

The machine is equipped with a control device that allows the general stop safely?

YES NO NA NOTE ( )

Each command place is equipped with a stop?

YES NO NA NOTE ( )

The stop command has priority over the start command?

YES NO NA NOTE ( )

Been halted, power is interrupted to the actuators?

YES NO NA NOTE ( )

Emergency stop

The machine is equipped with an emergency stop? (Note: it is excluding hand-held and hand-guided machines where the emergency stop does not reduce the overall risk than arrest)

YES NO NA NOTE ( )

The emergency stop:
is clearly identifiable, clearly visible and quickly accessible?
YES NO NA NOTE ( )

Will stop the dangerous process as quickly as possible, without creating additional risks?
YES NO NA NOTE ( )

If necessary, allows you to start certain safeguard movements?
YES NO NA NOTE ( )

Is it latching?
YES NO NA NOTE ( )

Prevents that you can get the hang of Latching Alarm without generating a stop order?
YES NO NA NOTE ( )

Expected that the release of the emergency stop device takes place only by an appropriate operation?
YES NO NA NOTE ( )

Allows only restarting the machine, preventing the latter can be initiated without operator intervention on the appropriate control device?
YES NO NA NOTE ( )

Complex systems
In the case of large systems is expected that in addition to this machine are locked equipment upstream and/or downstream, if their continued operation poses a danger?
YES NO **NA** NOTE ( )

Is adopted a possible function mode selector?
YES NO **NA** NOTE ( )

The selector of the mode of operation has been realized:
so that the selected command has priority over all other commands, except the emergency stop?
YES NO **NA** NOTE ( )

In order to be able to be locked in each position of operation, if the various modes of operation provide for different levels of security? (Note: The selector may be replaced by another selection method which restricts the use of certain functions of the machinery to certain categories of operators, e.g. pass codes for numerical controls)
YES NO **NA** NOTE ( )

1.2.5 It is envisaged that for some operations may be neutralized protection devices?
YES **NO** NA NOTE ( )

With neutralized devices, the mode selector realizes simultaneously the following conditions:
Excludes automatic control?
YES NO **NA** NOTE ( )

Authorizing movements only by using control devices that require sustained action?

YES NO NA NOTE ( )

Authorizing the movement to the dangerous moving parts only in enhanced safety conditions (e.g.: Reduced speed, reduced power, intermittently)?

YES NO NA NOTE ( )

Prevents any dangerous movement originated by voluntary or involuntary action on the machine's internal sensors?

YES NO NA NOTE ( )

From the maneuver place, the operator has mastered the operation of the elements on which it operates?

YES NO NA NOTE ( )

1.2.6 In case of interruption, establishment after an interruption or change in supply is avoided the possibility of:
Start unexpected?

YES NO NA NOTE ( )

impediment stopping of the machine if the command has already been given?

YES NO NA NOTE ( )

fall or be ejected from a moving part of the machine or of a piece?

YES NO NA NOTE ( )

impediment of automatic or manual stopping of the moving parts?

YES NO NA NOTE ( )

inefficiency of protective equipment?

YES NO NA NOTE ( )

1.2.7 In the event of a fault in the logic control circuit, or of failure or deterioration of the control circuit, is avoided the possibility of:
Start unexpected?

YES NO NA NOTE ( )

impediment stopping of the machine if the command has already been given?

YES NO NA NOTE ( )

fall or be ejected from a moving part of the machine or of a piece?

YES NO NA NOTE ( )

impediment of automatic or manual stopping of the moving parts?

YES NO NA NOTE ( )

inefficiency of protective equipment?

YES NO NA NOTE ( )

1.2.8 The software between the operator and the command and control system is easy to use?

YES NO NA NOTE ( )

1.3.1 Machinery, equipment and components are designed and constructed to avoid the risk of overturning, falling or unexpected movement?

YES NO NA NOTE ( )

If the machine does not guarantee sufficient stability, are provided appropriate means of anchorage?

YES NO **NA** NOTE ( )

Instructions for use:
the fixings above are indicated in the instructions for use?

YES NO **NA** NOTE ( )

1.3.2 The elements of the machine and the connecting members are dimensioned so as to withstand the stresses provided during use?

YES NO NA NOTE ( )

The materials used have sufficient characteristics as regards the phenomena of fatigue, aging, corrosion and abrasion?

YES NO NA NOTE ( )

Instructions for use: shows the type and frequency of inspections and maintenance required for safety reasons?

YES NO NA NOTE ( )

Instructions for use: are the parts subject to wear and the criteria for replacement?

YES NO NA NOTE ( ))

If there is a risk of explosion of mobile elements (e.g. mole), these elements have been mounted and positioned so that any fragments are retained?

YES NO **NA** NOTE ( )

Piping containing fluids: they are able to withstand the foreseen internal and external stresses?

YES NO NA NOTE ( )

Are firmly attached and/or protected from any external damage or precautions were taken to prevent a rupture is present a risk?

YES NO NA NOTE ( )

In the case of automatic feeding of the material to be machined to the tool are the following conditions:
at the time of contact tool/work piece, the tool has reached its normal working conditions?

YES NO NA NOTE ( )

At the time of starting and/or stops, the movement of feeding of the material and the tool movement are coordinated?

YES NO NA NOTE ( )

1.3.3 We have taken the necessary precautions to avoid falling or ejected objects (e.g. work pieces, tools, cuttings, etc..) That may pose a risk?

YES NO NA NOTE ( )

1.3.4 The elements of the machine, within the limits of their functions, are free of sharp edges, sharp angles and no rough surfaces likely to cause injury?

YES NO NA NOTE ( )

1.3.5 If the machine can perform various operations with automatic transfer of work piece between each operation (combined machinery), it is expected that each element to be used separately without the other elements constituting a danger or risk for the exposed person, in particular, possible to start or stop individual not protected items?

YES NO NA NOTE ( )

1.3.6 If the machine can perform operations under different conditions of use (e.g.: about speed or power supplies of energy), has been designed and constructed in such a way that selection and adjustment of these conditions of use is feasible in a safe and reliable?

YES NO NA NOTE ( )

1.3.7.1 The moving parts are designed, constructed and arranged so as to avoid the risks?

YES NO NA NOTE ( )

If there are risks, these elements are fitted with guards? (if the answer is affirmative answer to the questions referred to in 1.3.8)

YES NO NA NOTE ( )

Arrangements were made to prevent accidental blockage of moving parts work?

YES NO NA NOTE ( )

If the risk referred to in the previous question can't be deleted have been provided specific protection devices, special tools, instructions or directions on the machine to allow you to unlock the car without risk?

YES NO NA NOTE ( )

1.3.7.2 The transmission is protected by guards?

YES NO NA NOTE ( )

Using fixed guards?

YES NO NA NOTE ( )

Using mobile guards?

YES NO NA NOTE ( )

Using adjustable guards?

YES NO NA NOTE ( )

Using protective devices (e.g. two-hand controls, light curtains)? (Depending on the type of protection used must satisfy the relevant requirements set out in section 1.4)

YES NO NA NOTE ( )

1.4.1 Guards and protective devices:
are of robust construction?

YES NO NA NOTE ( )

avoid additional risks?

YES NO NA NOTE ( )

prevent it from being easily removed or rendered ineffective?

YES NO NA NOTE ( )

are located at a sufficient distance from the dangerous zone?
YES NO NA NOTE ( )

allow the observation of the working cycle?
YES NO NA NOTE ( )

allow necessary operations for the installation and/or replacement of tools and for maintenance work?
YES NO NA NOTE ( )

1.4.2.1 Fixed guards:
are securely held in place?
YES NO NA NOTE ( )
their fastening is obtained with systems that require the use of tools for their opening?
YES NO NA NOTE ( )
fixed guards are made in such a way as to prevent that they remain in their place in the absence of the fixing means?
YES NO NA NOTE ( )

1.4.2.2 Mobile guards:
In the case of protecting the moving parts of the transmission gate:
when they are open they remain united to the machine?
YES NO NA NOTE ( )

are fitted with a device that prevents the moving parts starting to open shelters and controls the stop when the guards are no longer in the closed position?
YES NO NA NOTE ( )

In the case of protecting the moving parts involved in the process, the mobile guards:

prevent starting moving parts until the operator's reach?
YES NO NA NOTE ( )

prevent the exposed person has access to the moving parts?
YES NO NA NOTE ( )

require a voluntary intervention for the adjustment, (e.g., with the use of a tool, key, etc.)?
YES NO NA NOTE ( )

prevent starting or cause the arrest of the moving parts in the event of their absence or failure of one of its components?
YES NO NA NOTE ( )

There is an obstacle, or the shelter itself is proper nature, such as to protect against any risk of ejection of material?
YES NO NA NOTE ( )

1.4.2.3 Adjustable guards for restricting access
Adjustable guards:
can be adjusted manually or automatically?
YES NO NA NOTE ( )

can be adjusted without the use of a tool?

YES NO NA NOTE ( )

educe, as far as possible, the risk of projection of the material?

YES NO NA NOTE ( )

1.4.3 Protection devices
protection devices are designed and incorporated into the control circuit so that:
the setting in motion of the moving parts while they are within the operator's reach?

YES NO NA NOTE ( )

the exposed person can not reach moving parts?

YES NO NA NOTE ( )

their regulation of an intentional action (e.g., use of key, tool)?

YES NO NA NOTE ( )

their absence or failure of one of their components prevents starting or stops the moving parts?

YES NO NA NOTE ( )

1.5.1 The machine is designed, constructed and equipped to prevent the risk from electricity?

YES NO NA NOTE ( )

1.5.2 The machine is designed and constructed so as to avoid or reduce the formation of dangerous electrostatic charges and is provided with means that a discharging?

YES NO NA NOTE ( )

1.5.3 The machine is powered by an energy other than electricity has been designed, constructed and equipped so as to prevent risks that may result from this type of energy?

YES NO NA NOTE ( )

1.5.4 Sono state adottate soluzioni per ridurre gli errori connessi al montaggio e al rimontaggio, quali:
progettazione opportuna degli elementi della macchina?

SI NO NA NOTE ( )

Oppure mediante indicazioni figuranti sui pezzi mobili e/o sul carter?

SI NO NA NOTE ( )

The particulars referred to in the previous question are also on moving parts and/or carter, where it is necessary to know the sense of motion to avoid risk?

YES NO NA NOTE ( )

The information given on the tabs and/or terminal connections are such as to avoid incorrect?

YES NO NA NOTE ( )

Instructions for use: there are any additional recommendations in the instructions?

YES NO NA NOTE ( )

1.5.5 Have been taken appropriate steps to avoid the risk aken appropriate steps to avoid the risk of injury caused by contact and/or proximity to machinery parts or materials at high or very low temperature?

YES NO NA NOTE ( )

Have been taken measures to eliminate or reduce the risk of material being ejected hot or cold?

YES NO NA NOTE ( )

1.5.6 The machine has been designed and constructed to avoid the risk of fire or overheating?

YES NO NA NOTE ( )

1.5.7 The machine has been designed and constructed to avoid the risk of explosion, in particular, have been taken the necessary measures to:
avoid a dangerous concentration of products?

YES NO NA NOTE ( )

to prevent the ignition of explosive atmospheres?

YES NO NA NOTE ( )

reduce the consequences of a possible explosion?

YES NO NA NOTE ( )

If it is intended for use in potentially explosive atmospheres, the electrical equipment is in conformity with the directives and specific rules?

YES NO NA NOTE ( )

1.5.8 Has the machine been designed and constructed that risks resulting from the emission of airborne noise are reduced to a minimum?

YES NO NA NOTE ( )

1.5.9 Has the machine been designed and constructed that risks resulting from vibrations are kept to a minimum?

YES NO NA NOTE ( )

1.5.10 Has been the machine designed and constructed that any emission of radiation from the machine is limited to what is necessary for its operation and its effects on people are non-existent or reduced to non-dangerous levels?

YES NO NA NOTE ( )

1.5.11 Has the machine been designed and constructed that its operation is not disturbed by external radiation?

YES NO NA NOTE ( )

1.5.12 When using lasers have been taken into account, the following provisions:
Have the laser equipment of machines been designed and constructed so as to prevent any accidental radiation?

YES NO NA NOTE ( )

Have the laser equipment on machinery been protected so that effective radiation or radiation produced by reflection or diffusion and secondary radiation do not damage health?

YES NO NA NOTE ( )

Are the optical equipment for the observation or adjustment of laser equipment on machinery such that the laser beams do not create any health risk?

YES NO NA NOTE ( )

1.5.13 Has the machine been designed, constructed and/or equipped so as to minimize the risks due to gases, liquids, dust, vapours and other waste products?

YES NO NA NOTE ( )

If there is a risk that the question before was the machine equipped as to be contained and/or evacuated waste products?

YES NO NA NOTE ( )

If the machinery is not enclosed during normal operation, are the devices for containment and/or intake located as close as possible to the place of issue?

YES NO NA NOTE ( )

1.5.14 Has the machine been designed, constructed and equipped with means to prevent a person to being enclosed within it or allow, however, that it can ask for help?

YES NO NA NOTE ( )

1.5.15 Are the parts of the machinery where persons are liable to move about or stand people designed and constructed so as to prevent them from slipping, tripping or falling on or off these parts of them?

YES NO NA NOTE ( )

1.6.1 Are the points of adjustment, lubrication and maintenance located outside danger zones?

YES NO NA NOTE ( )

With the machine stopped, can you always perform any adjustments, maintenance, repair and cleaning?

YES NO NA NOTE ( )

If the two situations above are not feasible, however, are these operations run without risk? (see also 1.2.5)

YES NO NA NOTE ( )

It is expected possibly a connection device that allows to mount a device for diagnosis and research failures?

YES NO NA NOTE ( )

The Automated machine components that must be changed frequently or are subject to deterioration and wear, are easily removed and replaced safely?

YES NO NA NOTE ( )

1.6.2 Are provided the means of access (stairs, walkways, etc..) That allow access in safety to all areas in which they must be manufacturing operation, adjustment and maintenance?

YES NO NA NOTE ( )

1.6.3 Is the machine fitted with means to isolate it from all power sources?

YES NO NA NOTE ( )

The devices mentioned in the previous question are:
clearly identified?

YES NO NA NOTE ( )

Lockable in the open position?

YES NO NA NOTE ( )

Is it possible to dissipate the energy remaining or stored, after cutting machine?

YES NO NA NOTE ( )

Were taken appropriate measures to ensure the safety of the operators, in the case in which it provides for the possibility of not dissect some circuits it from?

YES NO NA NOTE ( )

1.6.4 Was it decided to limit the reasons for intervention of operators, also providing for ensure that it is carried out in safe conditions?

YES NO NA NOTE ( )

1.6.5 Has the machine been built so that the cleaning of internal parts which have contained dangerous substances can be achieved without entering them, especially emptying is possible from the outside?

YES NO NA NOTE ( )

If it is impossible to avoid penetrating in these internal parts, have been granted measures to allow cleaning to take place with the minimum of danger?

YES NO NA NOTE ( )

1.7.0 There are provided information devices connected to the machine?

YES NO NA NOTE ( )

The information provided by these devices and needed to control the machine are clear and easy to understand?

YES NO NA NOTE ( )

The information is in a quantity that does not bear in mind the operator?

YES NO NA NOTE ( )

If the machine works without supervision is expected to be an audible alarm or light, if such a situation arises danger?

YES NO NA NOTE ( )

1.7.1 If the machine is equipped with warning devices, are these understandable unambiguous and easily understood?

YES NO NA NOTE ( )

Have been taken appropriate measures to enable the operator to check the operation of the alarm?

YES NO NA NOTE ( )

Have been applied directives concerning colours and safety signs?

YES NO NA NOTE ( )

1.7.2 The machine instructions have been provided for the residual risks?

YES NO NA NOTE ( )

Such warnings use readily understandable pictograms and/or be drawn up in one of the languages of the country of use?

YES NO NA NOTE ( )

1.7.3 The machine brings readable and indelibly the following indications:
Manufacturer's name and address?

YES NO NA NOTE ( )

CE marking?

YES NO NA NOTE ( )

Designation of series or type?

YES NO NA NOTE ( )

Possibly serial number?

YES NO NA NOTE ( )

Year of construction?

YES NO NA NOTE ( )

If it is expected to be used in an explosive atmosphere is given an indication?

YES NO NA NOTE ( )

Does the machine contain all the information essential for safe operation?

YES NO NA NOTE ( )

If an item is to be moved during use by lifting equipment, is its mass indicated legibly, indelibly and unambiguously?

YES NO NA NOTE ( )

Do the interchangeable equipments report the particulars referred to above?

YES NO NA NOTE ( )

1.7.4.1.1 *Instructions for use*:
Is the machine accompanied by instructions for use?

YES NO NA NOTE ( )

Do these instructions provide the following information:
Summary directions of marking (see 1.7.3)?

YES NO NA NOTE ( )

the intended conditions of use (point 1.1.2)?

YES NO NA NOTE ( )

The jobs occupied by operators?

YES NO NA NOTE ( )

the instructions to run no risk:
- commissioning?

YES NO NA NOTE ( )

- utilization?

YES NO NA NOTE ( )

- the carriage with the indication of the mass?

YES NO NA NOTE ( )

- the installation?

YES NO NA NOTE ( )

- assembly and dismantling?

YES NO NA NOTE ( )

- adjustment?

YES NO NA NOTE ( )

- maintenance and repair?

YES NO NA NOTE ( )

if necessary instructions for training?

YES NO NA NOTE ( )

if necessary, the essential characteristics of tools which may be fitted to the machine?

YES NO NA NOTE ( )

The contraindications of use are recalled in the instruction? (also see 1.1.2)?

YES NO NA NOTE (

The instructions for use are in the language of the country of use?

YES NO NA NOTE ( )

The instructions that were not translated are only those for specialized personnel of the manufacturer or his authorized representative?

YES NO NA NOTE ( )

In the instructions for use are attached:
the drawings and diagrams necessary for putting into service, maintenance, inspection, checking of correct operation, the repair?

YES NO NA NOTE ( )

any other warnings necessary for safety?

YES NO NA NOTE ( )

Does the instructions give the requirements relating to installation and assembly for reducing noise and vibration?

YES NO NA NOTE ( )

About aerial noise, the instructions include the following information:
- indication of the measured value of the sound pressure level weighted equivalent continuous "A" in the workplace? (*Note: if the level is less than or equal to 70 dB (A), is sufficient to provide the generic indication, without reporting the measured value)*

YES NO NA NOTE ( )

- *indication of the maximum value of weighted instantaneous sound pressure "C" in the workplaces, if this exceeds 63 Pa (130 dB in relation to 20 Pa)*?

YES NO NA NOTE ( )

- indication of the value of sound power emitted by the machine, if the sound pressure level weighted equivalent continuous in the workplace exceeds 85 dB (A)?

YES NO NA NOTE ( )

- the followed measurement method and the conditions of operation of the machine during the measurement?

YES NO NA NOTE ( )

If you plan the use in an explosive atmosphere, the instructions contain all the necessary information?

YES NO NA NOTE ( )

In case the machine can be intended also to non-professional, account has been taken in the preparation and presentation of the instructions for use of the level of general education and acumen that can reasonably be expected from such operators?

YES NO NA NOTE ( )

In the preparation of documentation describing the machinery was avoided to introduce elements in contrast with what is specified in the instructions for use, with regard to the safety aspects?

YES NO NA NOTE ( )

The technical documentation describing the machinery provides information regarding the aerial noise emissions?

YES NO NA NOTE ( )