

OPERATION AND MAINTENANCE MANUAL

HYDRAULIC PRESS ORIGINAL INSTRUCTIONS



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0 Index of revisions

0.1 Index of Revisions of the Manual

Rev.	Description
00	First issue

1 NORMS AND GENERAL WARNINGS

1.0 NORMS AND GENERAL WARNINGS

Read the rest of this section very carefully before proceeding to the next sections.

General CAUTION

Always be alert and attentive when working. Be cautious. Be aware of the possible dangers.

Regulation CAUTION

Observe the law, the regulations of the premises that affect you and your machine.

General clothing CAUTION

You can be injured if you do not wear suitable clothing. Loose clothing can be trapped in the machine. Wear protective clothing suitable for the job. Examples are: hard hat, safety shoes, safety goggles, close-fitting overalls and gloves. Keep your cuffs buttoned up. Do not wear a tie or scarf. If you have long hair, tie it up.

CAUTION Electric circuit

When it is necessary to work on the electrical circuit, make sure that the main switch is in the open position and locked with a safety lock and that no one can operate the switch in your absence.

CAUTION Electric cables

Do not leave the workplace until you have insulated any conductor ends that may cause accidents and short circuits.

CAUTION Tools and insulated equipment

Always check that the tools are in good condition. Check that electric tools' insulation is in good condition and adequate for the voltage of the electrical circuit on which you are operating. Do not use tools unsuitable for the type of work (e.g. do not use pliers as a hammer, etc.).

CAUTION Flames

To avoid personal injury, safety regulations prohibit the presence of naked flames and incandescent objects in the work environment.

CAUTION Compressed air (for cleaning the machine)

When using compressed air, wear protective goggles or other clothing suitable according to current safety regulations.

CAUTION pressure washers

When cleaning the outside of the machine you intend to use pressure washers or similar, wear suitable personal protective equipment, goggles, gloves, etc.

CAUTION Pins-mechanical parts

During maintenance and before using the machine, always check that there are no obvious signs of wear on the equipment and joint pins.

CAUTION Hydraulic hoses

Flexible hydraulic hoses can cause accidents if damaged, check these hoses regularly for:

Damaged or deformed fittings - Worn outer coverings due to friction - Swollen outer coverings - Bent or crushed flexible hoses - Cracked pipes - Oxidised or corroded spots - Leaks and anything else that could be a source of rupture and thus a danger.

CAUTION Pressure pipes

The flexible or metal pipes of a system can retain pressurised fluids even when the system is switched off. Before disassembling them, check on the diagram whether the section might be under pressure. In any case, loosen the fittings slowly and take great care.

CAUTION Hydraulic oil

Very fine jets of high-pressure hydraulic oil can penetrate the skin: do not use your fingers to detect any hydraulic oil leaks, nor hold your face close to them, but use a piece of cardboard to check for leaks.

If you come into contact with hydraulic oil, check the safety data sheet.

CAUTION O-rings and seals

Improperly set, damaged or worn gaskets and O-rings can lead to leaks and accidents.

Do not use thinners, solvents or acids near O-rings and seals or hoses.

CAUTION repairs

Do not carry out repairs or any other maintenance that you are not familiar with.

CAUTION tampering

It is strictly prohibited to tamper with or modify parts of the machine that will alter its normal operation.

CAUTION equipment

Do not use equipment that is dangerous, has no safety devices or guards, or is in poor condition.

CAUTION operator

Under no circumstances must the operator intervene directly while the machine is being used. All checks, inspections, controls, maintenance and anything else not specifically mentioned in this manual must be carried out with the machine switched off, with the main switch off and locked with a safety lock.

CAUTION spare parts

The use of non-original spare parts will immediately invalidate the product warranty and release the manufacturer from any liability for damage caused by the use of non-original spare parts.

CAUTION

The press is not suitable for operation in potentially explosive "ATEX" areas.

CAUTION

Failure to service the machine regularly leads to hazard for the operator and for anyone working in the vicinity. To guarantee safe, efficient machine use, check that the maintenance programme is complied with regularly.

CAUTION

Use suitable equipment to support and position the workpieces to be pressed.

CAUTION

It is strictly prohibited to press, cut, deep draw, punch, crimp workpieces whose dimensions or structure can lead to explosion or produce splinters.

CAUTION

If the operator works in a seated position, it is the employer's responsibility to purchase anthropometric and ergonomic foot supports that comply with current safety regulations and are in keeping with the operator's health.

N.B. Under the new laws, employers are required to check that operators have understood the above warnings.

THE MANUFACTURER SHALL NOT BE LIABLE FOR DAMAGE TO OBJECTS OR PERSONS CAUSED BY FAILURE TO COMPLY WITH THE SAFETY RULES DESCRIBED IN THIS MANUAL, WHICH INTEGRATE CURRENT WORKPLACE REGULATIONS.

IT IS EXTREMELY IMPORTANT FOR OPERATORS TO BE TRAINED AND TO UNDERSTAND ALL THE SAFETY RULES LISTED BELOW IN ORDER TO PREVENT PERSONAL HARM AND DAMAGE TO OBJECTS.

1.1 PRESENTATION

This document is the MANUAL of the hydraulic press.



IMPORTANT !

READ CAREFULLY BEFORE USE.

KEEP FOR FUTURE REFERENCE.

General

The purpose of this manual is to inform and guide the correct and safe use of the press. The manual is also intended as a technical guide for rational machine maintenance.

The manual is an integral part of the machine, therefore it should be kept for the entire life in operation of the system and thus follow it also in case of sale; it is therefore advisable to store it in a safe and protected place, far from elements that may cause a rapid decay.

It is therefore necessary to read this manual carefully before carrying out any type of operation.

By taking the time to read the information in this manual, you can avoid risks to the health and safety of persons involved in the use and maintenance of the machine.

Any remark made on this manual is a significant contribution to improve the services the Manufacturer offers to its customers.

Any injury to persons or damage to property resulting from failure to observe the instructions in this manual are not the fault of the manufacturer.

The information contained in this manual may not be used, reproduced or supplied to other parties without the manufacturer's written consent.

Who should read the manual?

This manual is intended for:

- installation personnel
- personnel operating the machine
- adjustment, repair and maintenance personnel.

Who should read the manual?

This manual is intended for:

- installation personnel
- personnel operating the machine
- adjustment, repair and maintenance personnel.
- machine owner
- employer
- machine operator
- mover
- cleaning operator (cleaner).

Validity of documentation

This documentation is valid for the lifetime of the machine, unless substantial changes are made to the machine, or to the system, which require a new version with updates.

In the event of deterioration or loss of the manual, a replacement copy must be requested immediately from the manufacturer.

Education and training of personnel

The organisation of instruction and training in the use of the machine before its use is of particular importance for accident prevention and to prevent misuse.

The training programme must include:

- procedures and safe use
- operating in the production phase
- settings and adjustments
- maintenance
- resolution of problems and malfunctions.

Language

The Italian copy of this manual is defined as the 'original language version'. The Italian version is therefore the original language version of the manual and has not been interpreted or changed in meaning by translations.

Other language versions are available on request.

A copy of this manual in a language other than Italian is defined as the 'translated language version'. The version is therefore a translation of the manual in the non-original language.

Documentation updates for series machines

The Manufacturer reserves the right to introduce changes and updates to this manual; therefore the data and information contained herein can be subject to changes and/or updates.



QUALITY OF ILLUSTRATIONS

Some illustrations or pictures contained in the manual may, in some cases, not fully correspond to the actual appearance of the machine, but are always reliable in relation to the information given.

For example, any guards, covers, etc. may have been omitted or removed to increase ease of understanding.



CONTENT DEVELOPMENT

The information concerning the plant in question has been dealt with as clearly and comprehensively as possible.

Consequently, all operations not expressly mentioned in this manual are to be considered prohibited and not permitted.



TERMINOLOGY FOR QUASI-MACHINES

In order to help make the manual easy to read, by convention the word 'quasi-machine' will be replaced by the word 'machine'.

1.2 HOW TO READ THE MANUAL

This manual has been structured in such a way as to make it very easy to find the desired topic.

The general index provides easy access to the relevant chapter; at the beginning of each chapter there is an additional index to facilitate finding the specific topic.

The general index identifies the edition of each chapter, which is also stated on the header of each page along with the chapter number and title.

The manual is provided with photos or drawings to facilitate understanding of the topics covered; sometimes some of these deviate slightly from the actual appearance of the machine, but this does not detract from the nature of the content, which remains reliable and correct.

Symbols are also used in the manual to draw attention to particular indications or warnings.

1.2.1 Symbols used

In the manual, symbols are used for:

- emphasise information relating to the safety of employees and the machine
- to draw attention to certain information
- to make operating procedures more immediate and readable.

The symbols used are shown below.



DANGER. It is used for information referring to dangerous situations which, if not avoided, will result in irreversible damage or death.



WARNING. It is used for information referring to dangerous situations which, if not avoided, will cause irreversible or very serious damage.



CAUTION. It is used for information referring to dangerous situations which, if not avoided, will result in moderate damage, injury and accidents.



NOTE / IMPORTANT. It is used to highlight information useful for understanding the procedures and using the documentation provided.



NOTE FOR QUASI-MACHINES. It is used to highlight information useful for the correct incorporation of the quasi-machine within the target plant.



DISCONNECT POWER SOURCES. It is used to emphasise the obligation to disconnect (disconnect) and lock out all electrical, pneumatic, etc. power sources.



PROTECT THE EYES.



WEAR A SAFETY HELMET.



USE SAFETY FOOTWEAR.



USE PROTECTIVE EARMUFFS.



USE PROTECTIVE GLOVES.



USE PROTECTIVE GLOVES FOR MECHANICAL HAZARDS.



USE PROTECTIVE GLOVES FOR COLD HAZARDS.



USE HEAT and/or FLAME PROTECTIVE GLOVES.



USE PROTECTIVE GLOVES FOR CHEMICAL HAZARDS.



USE PROTECTIVE GLOVES against CUTS AND KNIVES.



Identifies the equipment needed to perform the procedure.



Identifies the objective of the procedure.



It identifies the prerequisites for the safe execution of the procedure.



Identifies the step-by-step operational procedure.



It identifies the expected result after the completion of the procedure.

Some sections of the manual refer to specific technical information, information that, due to the nature of the topics it deals with, is mainly addressed to one type of operator.

In the manual, an attempt has been made to identify, also visually, the type of operator to whom the information that will be dealt with in the specific section is addressed.

Below are the symbols used:



OPERATOR



MECHANICAL MAINTENANCE TECHNICIAN



MAINTENANCE ELECTRICIAN



SPECIALIST MANUFACTURER TECHNICIAN

When the information is of general interest and is addressed to every level of employee, the paragraph is devoid of graphics.

The manual contains operating procedures for the installation, use and maintenance of the machine.

With a series of symbols, the equipment needed to perform the procedures is identified.
Below are the symbols used.



WRENCH



FLARE NUT WRENCH



HEXAGONAL
WRENCH



"T" HANDLE
HEXAGONAL
WRENCH



TORQUE WRENCH



SCREW DRIVER



PLIERS



NEEDLE NOSE
PLIERS



CALIPER



METRE



LEVEL



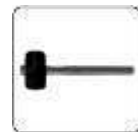
HAMMER DRILL



EXTRACTOR



EXTRACTOR



RUBBER HAMMER



IRON HAMMER



LADDER /
SCAFFOLDING



FORKLIFT TRUCKS



TRANSPALLET



LIFTING CHAINS



LIFTING BANDS



MOBILE CRANE



LUBRICANT SPRAY



GREASE LEVER GUN



GREASE



BRUSH



RUGS



HYDROCLEANER



DETERGENTS



BLOWGUN



VACUUM CLEANER

1.2.2 Guide for personnel training

Any work needed to operate and maintain the machine requires skills that are acquired through training. As stipulated in the specific standard, training must include structured education and training activities. Therefore, please refer to what is specified in the standard, in the area of preparation of documents useful for these activities.

The following is a general outline of the topics to be covered during staff training; for each topic, the type of employee is indicated and the reference section of this manual.

GENERAL PRESENTATION (for all employees)

A	General Information	
	General Information	Chapter 1
B	General description of the system	
	Definition and operation of the system and main groups.	Chapter 2
	Concepts of automatic cycle and manual cycle.	Chapter 5
	Operation and operating instructions two-hand lever-button control.	Chapter 5
	Operation and operating instructions one-hand control with lever control.	Chapter 5
	Operation and operating instructions foot control.	Chapter 5
	Operation and Operating Instructions for push button panel	Chapter 5
C	Description of the safety devices	
	Definition and description of hazardous areas.	Chapter 3
	Personnel safety protections.	Chapter 3
	Machine safety protections.	Chapter 3
	Location of emergency buttons.	Chapter 3
	Special instructions.	.

MACHINE USE (for conductor operators)

D		
	Starting the machine	Chapter 5
	Stop	Chapter 5
	Operating cycles	Chapter 5
	Operator Panel (Interface)	Chapter 5
	Troubleshooting (alarm list, restart).	Chapter 5-9
	Special instructions.	.

MECHANICAL INSTRUCTIONS (for mechanical maintenance)

E	Machine technical description	
	System configuration (hydraulic, lubricant, etc.).	Chapter 12
	External equipment (hydraulic power packs, external units, etc.).	Chapter 12
F	Adjustments	
	List of points to be adjusted (format change).	Chapter 6
	Adjustment procedures	Chapter 6
	Special instructions.	.
G	Maintenance	
	Routine maintenance procedures.	Chapter 7
	Scheduled maintenance procedures.	Chapter 7
	Special instructions.	Chapter 7
	List of points to be lubricated.	Chapter 8

Lubrication procedures.	Chapter 8
ELECTRICAL/ELECTRONIC INSTRUCTIONS (for electrical maintenance technician)	
H Electrical architecture	
Electrical diagram	Chapter 12
Interface with other communication systems.	.
Setting inverters and/or axes.	.
I Operating instructions	
Operator panel (interface) panel (optional).	Chapter 5
Operator panel accessibility levels and user/password management (optional).	Chapter 5
Work recipe management (optional).	Chapter 5
Alarm management (optional).	Chapter 5

1.2.3 Definition of practice and training needs

From the technical file and the risk assessment document, the manufacturer draws the need for education and training activities.

Particular account is taken of the difficulty in using and maintaining the machine and the presence of residual risks that cannot be eliminated.

• Definition of the minimum requirements for the operator to be able to perform the intended operations on the machine:

- secondary school leaving certificate
- knowledge or experience of similar machines
- basic knowledge of the operating logic of lever and foot controls
- basic knowledge of the use of control buttons
- basic knowledge of the use of human-machine interfaces (HMI operator panel)
- general knowledge of maintenance techniques for mechanical components
- general knowledge of techniques for using work tools.

• Critical points requiring training and in particular, practices.

- ☐ Unloading and handling of the machine and materials.
- ☐ Delivery and installation of machine
- ☐ Supply of materials.
- ☐ Format changeover
- ☐ Using the operator panel.
- ☐ Replacing (special maintenance)

1.3 LIST OF ABBREVIATIONS

List of recurrent abbreviations used in this document.

Chap:	Chapter
Par.:	Paragraph
Fig.	Figure
No.	Number
Pos.:	Position
Tot:	Total
Max	Maximum
Min	Minimum
LT	Left
RT	Right
PPE	Personal Protective Equipment (PPE)
HMI:	Man-machine interface (operator panel)
PMS:	Top dead centre
PMI:	Bottom dead centre
Step:	Stage of the procedure
SRP/CS:	Safety-related parts of control systems
PFHD:	Average probability of dangerous failure per hour

1.4 UNIT OF MEASUREMENT

The units of measurement used in this instruction manual are defined below.

kg (kilograms) mass
ton (tonnes) mass
mm (millimetres) length
kW (kilowatt) power
Nm (Newton metre) torque
A (amperes) electrical absorption
V (volts) electrical potential
Hz (hertz) frequency
Bar pressure
Nl/m (normal litres per minute) flow rate
lt (litres) capacity
dB (decibels) sound emission
°C (degrees centigrade) temperature
°F (degrees Fahrenheit) temperature

1.5 DECLARATIONS AND TAGS

TAG

A tag (Fig.1) is attached to the machine, which shows the identification characteristics; should the need arise for any intervention or inquiry, it is necessary to communicate the data on this plate in order to accurately identify the model.

1. MODEL
2. Max ton
3. Serial Number
4. Year of construction



• COSTRUTTORE: SICMI s.r.l. 	
INDIRIZZO: 43010 TRECASALI (PR) - Italy Via IV Novembre, 29 - S. Quirico TEL. 0521 873346 - e-mail: info@sicmi.it	
MODELLO:	
MATRICOLO:	ANNO:
CARATTERISTICHE	
TONN. MAX	PRESS. MAX bar
VELOCITÀ AVV. mm/sec.	
VELOCITÀ LAVORO mm/sec.	
CORSA CILINDRO mm.	
TENSIONE ELETTR. Volt	
PESO TOT. PRESSA kg	
DIMENS. MAX STAMPO mm/kg	
TEMPO RISPOSTA GLOBALE	
IMPORTANTE	
CONSULTARE IL MANUALE D'ISTRUZIONE TECNICA PER QUANTO RIGUARDA L'INSTALLAZIONE, IL FUNZIONAMENTO E LA MANUTENZIONE DELLA MACCHINA.	



Do not remove the plate for any reason.

In case of damage, request a copy from the manufacturer.

Keep the number plate clean and visible by cleaning it with neutral detergents to prevent damage to the lettering.



IMPORTANT: INFORMATION FOR PROPER INCORPORATION.

1.6 WARRANTY

The machine is delivered tested and ready to be used.

Installation and commissioning must be carried out by specialised personnel, which is a prerequisite for the validity of the warranty.

The warranty period is defined in the commercial agreements and stated in the sales contract; therefore, the manufacturer undertakes, throughout this period, to replace or repair free of charge all parts that are damaged or defective in origin.

The warranty becomes void if the instructions in this manual are not followed, if maintenance is omitted or if anything else changes the perfect integrity of the equipment.

The warranty also expires if the equipment shows problems and/or defects resulting from repairs carried out by unauthorised third parties.

No compensation is due in the event of malfunctions after a prolonged period of inactivity caused by omissions in maintenance.

The warranty only entitles replacement of defective parts.

For commercial material, the manufacturer grants the customer the same warranty conditions as those granted by the supplier.

Should the complaint prove to be unjustified, all repair and/or replacement costs will be charged.

For any further details, the agreements made when drawing up the sales contract shall apply.

1.7 MANUFACTURER'S RESPONSIBILITIES

The machine is manufactured in compliance with the safety standards in force and with the use for which it was designed and manufactured.

Consequently, any other use is considered improper and thus dangerous.

Therefore, the manufacturer cannot be deemed liable for possible damage to people or things resulting from improper, wrong or irresponsible uses. Chapter 4 of the manual contains warnings about the ways in which the machine should not be used and which experience has shown may occur.

The manufacturer cannot be considered liable for possible damage to people deriving from inadequate training on the use of the machine; this manual shall be handed out to and thoroughly read by the operator, since only duly authorised and qualified staff shall be allowed to use the machine.



Damage caused to people or things resulting from failure to abide by the instructions contained herein cannot be attributed to the manufacturer who accepts no responsibility.

1.8 MACHINE OPERATORS

	WARNING It is imperative that the machine is operated by qualified personnel who have been instructed in the safe use of all equipment. Furthermore, any type of electrical or mechanical intervention must be carried out by specialised technicians who will also be qualified for more specific types of intervention.
---	--

Various types of workers are identified for the operation and maintenance of the machine.



The operators in charge of working on and maintaining the machine must be adequately trained, competent and in good health.



The division of tasks indicated is flexible and not exhaustive. If authorised, an employee may be in charge of more tasks than those indicated.



FOR DETAILED INFORMATION PLEASE REFER TO THE SPECIFIC INSTRUCTION MANUALS ATTACHED TO THIS MANUAL.

1.8.1 Qualified Operator



Qualified operator who is in charge of the normal operation of the machine and implements those basic commands related to production and the functions of starting or restarting production; he is also assigned to operate the machine in manual mode. Operates exclusively with safety devices activated.

1.8.2 Operator



An operator without specific skills who, on the instructions of qualified technicians, only performs simple tasks such as operating machinery under normal conditions and with the guards installed and active. This operator is not authorized to operate the machine in manual mode, with guards open or disabled.

1.8.3 Mechanical maintenance technician



Qualified technician who is fully familiar with the machine and carries out maintenance, repairs, adjustments, etc. He is not qualified to work on the electrical system. The mechanical maintenance technician is also responsible for the simple functions of starting, stopping and restarting production.

1.8.4 Electrical maintenance



Qualified technician who is fully familiar with the electrical system and operation of the machine; he is qualified to carry out work of an electrical nature by carrying out maintenance, repairs or anything else, including inside the electrical cabinet.

1.8.5 Specialized Technician



Manufacturer's qualified technician who is adequately trained to intervene and fully familiar with the electrical system and operation of the machine.

1.9 GENERAL GLOSSARY

ALARM

Signals a fault and malfunction.

STOP

Voluntary action by the operator to interrupt the machine's work cycle.

SIZE CHANGE-OVER

Sequence of operations required to adjust the machine to a new type of product to be processed.

DAMAGE

Physical injury or damage to the health of persons or damage to property or the environment.

PROTECTIVE EQUIPMENT

A device (other than a guard) designed to reduce risk, alone or in combination with a guard;

P.P.E. (PERSONAL PROTECTION EQUIPMENT)

This is all the equipment (helmet, gloves, masks, etc.) that the operator must wear to protect himself from the risks of accidents at work.

OPERATING INSTRUCTIONS

Information made available by the manufacturer of a product for the user, containing all the necessary provisions for communicating the actions that must be carried out for the safe and efficient use of the product.

OPERATOR

The person(s) responsible for setup, operating, adjusting, perform maintenance, clean, repair, and handling the machine.

MANUAL

Document containing information for the use of a product.

ROUTINE MAINTENANCE

Sequence of periodic preventive interventions, to be carried out by the maintenance technician, to ensure the proper functioning and efficiency of the machine.

SPECIAL MAINTENANCE

Interventions, paid for by the maintenance technician, necessary to restore the broken or malfunctioning condition of the machine or some of its parts.

OPERATOR PANEL (optional)

Electronic display (man-machine interface) used for control and settings relating to production, operating parameters and alarm signals.

DANGER

A potential source of injury or health damage;

EXPOSED PERSON

Anyone entirely or partly standing within a hazardous area.

FIXED GUARDS

Machine element used specifically to ensure protection and which is kept closed either permanently or by means of fasteners (screws, bolts, etc.) that can only be removed using tools.

MOVABLE GUARDS

Machine element specifically used to provide protection mechanically connected to the machine structure by means of hinges and guides, and which can be opened manually or by means of manual controls. Mobile guards are integrated with an interlocking device.

INTERLOCKING SAFETY DEVICES

Device associated with a guard with the purpose of preventing the operation of dangerous parts when the guard is not closed. It can be activated mechanically or otherwise. It performs the function of controlling the position (closed/not closed) of the guard.

INTERLOCKING DEVICE WITH GUARD LOCKING

A device associated with an interlocking device that keeps the guard closed and locked until the risk of injury from the hazardous functions of the machine has ceased and the protected parts have exhausted their hazardous inertia.

RISK

Combination of probability and seriousness of an injury or health damage that can occur in a dangerous situation.

RESIDUAL RISKS

Series of problems or risks, inherent in the use of the installation, which cannot be fully resolved during the design or development phase.

INTENDED USE

Use of machine in compliance with the information provided in the operating instructions.

REASONABLY FORESEEABLE IMPROPER USE

Use of machine for functions other than those indicated in the operating instructions, but which can derive from easily foreseeable human behaviour.

HAZARDOUS AREAS

Any zone inside or near the machine where the presence of a person exposed creates a risk for the safety and health of that person.

1.9.1 GLOSSARY - sanitisation

DISINFECTION

Inactivation of all pathogenic agents and reduction of other micro-organisms to levels complying with a hygienically correct use of the system.

CLEANING

Removal of dirt.

DIRT

Any undesired substance including residues of food, micro-organisms, detergents and sanitisers.

1.9.2 GLOSSARY - Hydraulic press/quasi-machine

PUNCH

Rod cover and extensions, in models where the work table is lifted by means of chains it is used to move

PRISMS

Brackets for straightening pins

1.10 DOCUMENTATION EVALUATION REPORTS

The company places high value on the needs of its customers and it carries out continuous analysis on evaluation reports of its own work. Please find attached an evaluation report in which any discrepancies or inaccuracies found in the documentation can be pointed out.

TECHNICAL DOCUMENTATION EVALUATION REPORT

DOCUMENT CODE		TYPE OF DOCUMENT	ISSUE
ASSESSMENT			
DISCREPANCIES OR INACCURACIES DETECTED			
Chapter Ref:			
Ref. paragraph:			
Figure Ref:			
Text ref:			
DISCREPANCIES OR INACCURACIES DETECTED			
Chapter Ref:			
Ref. paragraph:			
Figure Ref:			
Text ref:			
DISCREPANCIES OR INACCURACIES DETECTED			
Chapter Ref:			
Ref. paragraph:			
Figure Ref:			
Text ref:			
DISCREPANCIES OR INACCURACIES DETECTED			
Chapter Ref:			
Ref. paragraph:			
Figure Ref:			
Text ref:			

2 DATA AND TECHNICAL SPECIFICATIONS

2.1 Supply Overview

The following is a general overview of the provision



POS.	DESCRIPTION
01	Press frame
02	Main cylinder
03	Hydraulic system
04	Electrical system
05	Safety circuits
06	Protections or guards



For detailed information on components and accessory assemblies, please refer to the documentation of the individual manufacturers and the one enclosed with this manual.

2.2 GENERAL DESCRIPTION OF THE MACHINE

The machine subject of this manual is intended exclusively for pressing operations such as:

In the PSS models, the pressing operations are as follows: straightening, insertion of inserts (e.g. bushings, bearings, bushes, etc.), removal of inserts.

In models PSS any other operation is prohibited, especially stamping, punching and bending operations.

THIS PRESS IS ONLY INTENDED FOR THE USE FOR WHICH IT WAS DESIGNED, ANY OTHER USE IS CONSIDERED IMPROPER AND THEREFORE THE MANUFACTURER CANNOT BE HELD RESPONSIBLE FOR ANY DAMAGE CAUSED BY IMPROPER USE OR USE NOT EXPRESSLY MENTIONED IN THIS USER MANUAL.

The main operating modes of the machine, depending on the model, are:

- Manual
- Semi-Automatic
-

The machine is equipped with a series of hydraulic and electromechanical components to control the pressing operations and safety devices to ensure the safety of the operators.

2.3 Safety systems

The hydraulic press is equipped with the following safety systems:

- emergency stop, the press is equipped with an emergency stop on the control panel, if the press is provided with a control panel, there is also an emergency stop on it.
- Stopflex and holding clamps that prevent the tube from ejecting in the event of breakage or release.
- 2-hand control system for presses with approach speeds $>10\text{mm/sec}$ and $<30\text{mm/sec}$
- Protective cover for lever control and motion transmission parts.
- Overpressure safety
- Simultaneous controls

2.5 TECHNICAL SPECIFICATIONS

Special press

<i>Model PSS 15 PDC n° 9024</i>		SPECIAL
<i>Press cylinder force (ton)</i>	Tonnage	15
<i>Cylinder stroke (mm)</i>	<i>mm</i>	600
<i>Distance between posts (mm)</i>	<i>mm</i>	780
<i>Clearance between stem and work table</i>	<i>mm</i>	1300
<i>Dimensions mm</i>	<i>length "L"</i>	1650
	<i>height 'H'</i>	2640
	<i>depth 'P'</i>	700
<i>Total weight</i>	<i>Kg</i>	450
<i>oil amount in control unit</i>	<i>Litres</i>	55
<i>Installed power</i>	<i>Kw</i>	7.5
<i>Approach speed</i>	<i>mm/sec</i>	30
<i>Work Speed</i>	<i>mm/sec</i>	/
<i>Lower table dimensions</i>	<i>mm</i>	/
<i>Upper table dimensions</i>	<i>mm</i>	/
<i>Global response time (hydraulic system with solenoid valves)</i>	<i>sec</i>	0.04
<i>Maximum pressure</i>	<i>bar</i>	350
<i>Acoustic pressure</i>	<i>dB(A)</i>	78.6
<i>Supply voltage</i>	<i>V (AC)</i>	400 ±10%
<i>Frequency</i>	<i>Hz</i>	50
<i>Max harmonic distortion</i>		10%
<i>Performance Level</i>		C

2.6 Noise

The machine has been designed and produced in such a way to reduce the level of noise emissions from the source. The value of the airborne noise level produced by the machine and declared by the manufacturer cannot be used directly to establish the exposure of operators; the assessment of noise risk in the working environment must be carried out according to the relevant legislation in force at the place where the machine is used.

The possible protective measures to be taken are in fact linked to other factors such as, for example:

- the presence of other work sources in the vicinity
- the characteristics of the environment
- the operator's time spent at the various workstations.



The assessment of the noise risk of the working environment, the adoption of all necessary safety measures (use of individual hearing protection devices) and the possible implementation of permanent soundproofing systems, are the obligation of the employer and are outside the responsibility of the machine manufacturer.

The measured sound pressure level L_{pA} at the operator's station is < (less) than 80 dB(A).



WARNING

Prolonged exposure above 80 dB(A) can cause damage to health.
Use protective equipment such as, ear muffs, earplugs etc.

2.7 Admissible environmental conditions

The machine is designed to operate in a closed, dry environment; furthermore, operation in an explosive or aggressive atmosphere is not intended for this machine.

If needed, the specific environmental operating conditions are reported on the data sheet in Chapter 2.



In case of installation, not foreseen in the contract, within critical environments, it is imperative to contact the manufacturer before any operation.

2.8 Vibrations

Operating the machine poses no vibration-related risks to operators.

2.9 Radiation

The machine does not involve the emission of functional radiation that can have an adverse effect on people. Using the machine poses no radiation-related risks to operators.

3 SAFETY INFORMATION AND REGULATIONS

3.1 GLOBAL ASPECTS

Many accidents and injuries occur when working on the machine during adjustment, maintenance and troubleshooting. This is due to non-compliance with the safety requirements of the working environment regulations and non-compliance with the safety instructions in the manual.

This chapter contains the main safety warnings. Other indications are given under specific procedures.

	DANGER RISK OF VERY SERIOUS ACCIDENTS AND PERMANENT INJURIES The system is equipped with a series of mechanical or electronic safety devices that make the machine safe; it is therefore forbidden to tamper with or circumvent the installed safety devices and to remove the installed guards.
	DANGER RISK OF VERY SERIOUS ACCIDENTS AND PERMANENT INJURIES It is strictly forbidden to put safety devices out of action, even temporarily. Carry out work with disabled safety devices only if this is indicated in a special procedure and with the manufacturer's authorisation.
	DANGER RISK OF VERY SERIOUS ACCIDENTS AND PERMANENT INJURIES It is forbidden to open switchboards, terminal boxes and junction boxes when the system is live.
	DANGER

	Unauthorized removal of protection equipment will be considered tampering and as such shall be prosecuted under criminal law.
	WARNING Before each start-up of the machine, make sure that there are no personnel in dangerous areas or materials obstructing the normal operation of the production cycle.
	WARNING Any maintenance, adjustment or intervention must be carried out when the machine is stopped and by qualified personnel (mechanical maintenance technician, electrical maintenance technician). Furthermore, any work on the system that changes its functionality, with additions or removal of parts, must be carried out with the manufacturer's prior authorisation.
	WARNING Do not approach the machine with open flames or anything else. Do not use the machine in areas with danger of explosion and fire. Always use the machine in suitable lighting conditions. The usage environment must be well ventilated and comply with current occupational health and safety regulations.
	WARNING In the event of machine downtime, take every precaution to prevent unauthorised operators from working on the equipment; refer to the operating procedures in this manual.
	WARNING All work on live parts must be carried out by authorized personnel.
	CAUTION Do not wear rings, jewellery, wristwatches, unbuttoned or too loose clothes and similar ones which can be caught in the moving parts of the machine.
	The system must in no way be used for any other purpose than that for which it was designed.
	The system must absolutely be operated by qualified personnel who are fully familiar with the contents of this manual.
	The personnel operating and maintaining the machine are responsible for compliance with the safety regulations and laws of the country of commissioning.
	Personnel operating and maintaining the machine must wear the appropriate personal protective equipment (PPE).
	Prior to starting all operations, focus your attention on what you are about to do. Be always alert and ready to react quickly; these are fundamental conditions for the operator.
	In case the operator is unwell or in no condition, regardless of the severity, a reduction of alertness may incur so he must not operate the machine or accessory equipment and put it straight to the person in charge of the plant. Inform the plant manager immediately.
	It is recommended that safety information from all sources be researched and analysed, including the owner's safety policy, industry procedures proven by practice, current legislation, the manufacturer's instructions and this publication.
	To this end, it is necessary for the customer to organise operator training, also using the information in this manual. Prepare each employee for the safe handling and resolution of risk situations that may arise during work activities.
	With all the safety instructions given, the manufacturer does not intend to represent itself as an expert in the safety of workplaces and personnel. It is the responsibility of the end customer to take all necessary measures to ensure safety in the working area of the plant.

3.1.1 Risks associated with live electrical components

- Work on the electrical system must be carried out by a qualified electrician, in accordance with the applicable electrical regulations and the instructions on the circuit diagrams.
- Any work of an electrical nature must only be carried out after the main switch (disconnecter) on the switchboard has been set to "0" (OFF).
- Prevent anyone from switching on the power supply while you are working on the system. Lock the '0' position of the main switch, using a padlock or safety lock.

3.1.2 General instructions for transport and installation

	DANGER Incorrect mechanical installation can cause serious malfunctions and put operating and maintenance personnel at risk. Handling, unpacking and installation operations must only be carried out by personnel specifically trained, instructed and authorised to perform the necessary specialised manoeuvres.
	• Appropriate personal protective equipment must be worn before carrying out any transport or installation of the system. • Ensure that the equipment used for lifting and transporting the machine has an adequate load-bearing capacity. • Always use the attachment points if provided on the machine. • Keep the handling area clear by means of appropriate signs; in the event of poor visibility by the transport operator, it is always advisable to have a second person to guide the manoeuvres. • When moving, always check that there are no objects or unevenness in the flooring along the route to be travelled, as these can cause accidents, resulting in personal injury or property damage. • When assembling the units and the equipment, beware of falling objects or material. • Never use the structures as a ladder. Do not climb on structures during assembly. • Always check the integrity of the machine before assembly, with particular reference to the connections made and the presence of protections. • Always check the machine's degree of stability. In particular, check that the supporting surface is horizontal, stable and of adequately strong in relation to the weight of the machine.
	(QUASI MACHINE ONLY) During the assembly of the system, if not carried out by the manufacturer, always refer to the positioning layout provided by the manufacturer; for any problems encountered, it is mandatory to contact the manufacturer.
	(QUASI MACHINE ONLY) The information given does not indicate how to design, install and use a complete system. The information provided cannot exhaustively describe all the components that contribute to the overall safety of the system. The complete system or production line must be designed and installed in accordance with the safety rules and regulations in force in the country and establishment of installation.
	Do not dispose in the environment waste materials and processing residues from work carried out. Dispose of materials in accordance with the relevant laws.

3.1.3 General instructions for use

- The press may only be operated by an operator who has been trained and instructed in its use, having also read this manual.
- The press must be operated by a single specialised operator who is adequately trained in the use of the machine.
- The key for access to the switchboard must absolutely be in the possession of the electrical maintenance technician.
- Before using the machine, make sure that any hazardous condition has been duly eliminated.
- Alert also the Head of maintenance about any possible irregular operating condition.
- Do not start the machine if it is not fully clear how it operates. If doubts arise after having thoroughly read this manual, please contact the Service Department.
- It is prohibited to lean on the machine during operation.

3.1.4 General warnings for adjustment and settings

	WARNING It is forbidden to carry out adjustment work while the machine is running or tampering with guards and safety devices. Improper intervention could lead to serious injury or accidents. Follow the instructions and procedures outlined in this chapter.
	IMPORTANT It is forbidden to carry out operations not provided for in these instructions. Carrying out unplanned work could lead to serious injury or accidents.

	For work not expressly indicated, please contact the manufacturer for details.
	CRUSHING DANGER Risk of impact to head and limbs. Pay attention to low objects you could trip on. Pay attention to protruding parts you could bang your head against.

- Any type of adjustment or maintenance on the machine must always be carried out by specialised personnel; it is also mandatory to wear all necessary personal protective equipment.
- Whenever possible, bring the equipment being worked on to the lowest and most comfortable position possible.

3.1.5 General Maintenance Warnings

- Cleaning, repair and lubrication must only be carried out when the machine is stationary.
- Cleaning must be carried out using only non-flammable, non-toxic solvents and not with petrol or other flammable fluids.
- When using compressed air to clean certain parts, it is prudent to wear safety goggles and limit the air pressure to 2 bar.
- Keep your work area clean and well lighted. Wipe off traces of water and oil immediately. Do not pile up rags greasy with oil or grease. They constitute a FIRE HAZARD; place them in a closed metal container.
- Defects or damage that are discovered during maintenance activities must be rectified immediately or reported for subsequent repair. In the event of obvious danger to the operator or the machine, the equipment must be stopped immediately; the machine must not be started up again until the defect has been rectified.
- Never work with wet hands or wet tools, while the machine is connected to the electricity supply.
- Never use the structures as a ladder. Do not climb on structures during maintenance.
- Whenever possible, bring the equipment being worked on to the lowest and most comfortable position possible.
- After machine operation, motors or certain components may be hot. Care must be taken when carrying out maintenance work on components. Direct contact could cause burns of varying severity. Before touching any supposedly overheated component, put your hand at a safe distance to check whether it radiates heat. If the potentially hot element is to be disassembled or otherwise handled, wait for it to cool down completely.
- The pressure must be released completely in the hydraulic systems before repair work is carried out on them.
- All flexible hoses, fittings and pipes must be inspected periodically for leaks and damage, which must be repaired immediately.
- The maintenance intervals given, may be subject to variation depending on the characteristics of the installation environment, the mode and frequency of use of the machine.
- Maintenance intervals are not a specification of the service life of each component.
- To ensure efficient operation of the equipment, it must be maintained regularly.
- New components replacing failed components must have the same technical characteristics and performance. If they are safety components, they must be certified and belong to the same class as the original being replaced. The adjustment of the replaced components must be done using the same values already used in the adjustment of the replaced component.
- The electrical maintenance technician is prohibited from modifying the electrical connections in the switchboards and on the line, and from modifying the wiring in the various points of the installation. Any modifications to the system and complex repairs must be authorised and agreed with the manufacturer.



Do not dispose of waste materials and processing residues from work carried out in the environment.
Dispose of materials in accordance with the relevant laws.

3.1.6 General Lubrication Warnings (WHERE REQUIRED)

- Cleaning, repair and lubrication must only be carried out when the machine is stationary.
- Keep your work area clean and well lighted. Wipe off traces of water and oil immediately. Do not pile up rags greasy with oil or grease. They constitute a FIRE HAZARD; place them in a closed metal container.
- Defects or damage that are discovered during maintenance activities must be rectified immediately or reported for subsequent repair. In the event of obvious danger to the operator or the machine, the equipment must be stopped immediately; the machine must not be started up again until the defect has been rectified.
- Never use the structures as a ladder, i.e. do not climb on the structures during lubrication.
- Whenever possible, bring the equipment being worked on to the lowest and most comfortable position possible.
- Do not mix lubricants. Mixing different types of lubricants irreparably damages components and generates malfunctions that can lead to injuries.



Only use the lubricants recommended in this chapter or equivalent lubricants, taking care to ensure compliance with the regulations of the sector in which the machine is used.

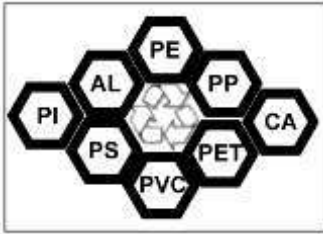


Do not mix oils of different characteristics or brands.



Do not dispose of waste materials and processing residues from work carried out in the environment.
Dispose of materials in accordance with the relevant laws.

3.1.7 General warnings for placing out of service and decommissioning



Before carrying out any kind of disassembly or disposal operation, the press must be disconnected from electrical, hydraulic, etc. connections.

When scrapping the machine, it must be borne in mind that the materials of which it is made are not of a hazardous or harmful nature.

In any case, follow the current rules for waste disposal and separate the machine's component parts in order to carry out targeted disposal for electrical cables, oils, ferrous parts, plastic parts, etc.



Existing waste legislation sets the framework for waste treatment in the Community. The directive defines some basic concepts, such as the notions of waste, recovery and disposal, and establishes the essential obligations for waste management, in particular a permit and registration requirement for an entity or undertaking carrying out waste management operations and an obligation for Member States to draw up waste management plans.

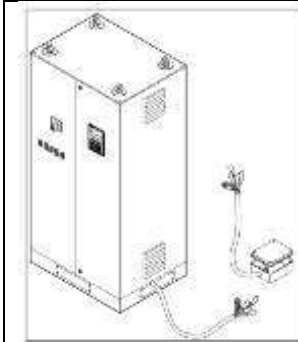


The current legislation also establishes fundamental principles such as the obligation to treat waste in a way that avoids negative impacts on the environment and human health, an incentive to apply the waste hierarchy and, according to the polluter pays principle, the requirement that the costs of waste disposal be borne by the holder of the waste, the previous holders or the producers of the product causing the waste.



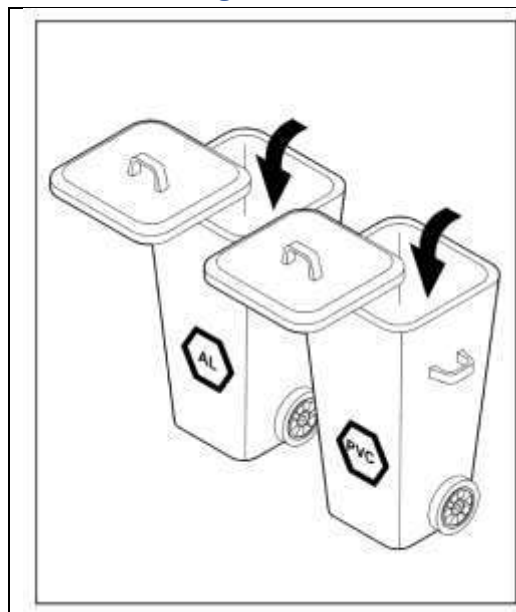
Separate collection is today the only sustainable way to dispose of our waste. Recycling was born for environmental purposes but it has positive side effects and creates value for the community, because it has a positive effect on the environment and thus the quality of life, and also on work at a long chain.

3.1.8 Dismantling the electrical installations



Disconnect the control panel and junction box wiring, consulting the machine's circuit diagram and paying attention to the markings on the terminal blocks and on each cable.

3.1. Dismantling the machine



Both the materials used in the construction of the machine and any processing waste are not of harmful origin.
Before dismantling the machine, it is good practice to wash all parts that have come into contact with the treated product (see section on 'Cleaning the machine').
When removing the machine from the plant, suitable lifting equipment must be used in advance (see section on "transporting the machine").

3.1.10 Interim Storage

The temporary storage of toxic and harmful waste is permitted depending on its planned disposal by treatment and/or final storage.

In any case, the environmental protection laws of the user's country must be observed.

3.1.11 Container characteristics

Stationary and mobile receptacles designed to contain toxic and hazardous waste must possess adequate resistance requirements in relation to the chemical and physical properties and hazardous characteristics of the waste they contain.

Containers in which dangerous or harmful products or substances are stored must, in order to make the nature of their contents known, bear indications and markings such as those shown in the figure.

3.1.12 Toxic waste disposal

The collection of special and/or toxic/harmful waste must be entrusted by contract to expressly authorised companies, and those who physically perform the transport must have the prescribed authorisations and must be registered in the hauliers' register.

3.1.13 First Aid

- The treatment of the injured person must always be carried out by competent and authorised medical personnel.
- Even in the event of a minor injury, seek medical advice immediately.
- In the event of an accident involving harmful material, hand over the safety data sheet to medical personnel.
- Avoid instinctive interventions that could worsen the injured person's condition.

3.1.14 Procedures in the event of an accident

In the event of an accident, it is recommended to proceed as follows:

- if the machine is running, immediately stop it by actuating one of the emergency mushroom buttons
- verify that the dangerous situation has ended and rescue the injured person
- notify the Department Manager who will intervene after disconnecting the power supply sources, locking them to prevent accidental start-up.



WARNING

Ensure that, in attempting to rescue the injured person, he/she does not suffer further injury.

3.1.15 Procedures in the event of fire

Should flames, even of external origin, threaten the machine, press one of the emergency buttons and disconnect all power connections.

The complete extinguishing of the fire must always be carried out by competent and authorised fire fighting personnel. Before putting the machine back into production, once the emergency situation is over, call the electrical maintenance technician and the mechanical maintenance technician to have any damage checked and arrange for repairs. A material subjected to high temperatures is likely to have lost many of its physical and mechanical properties. If in doubt, replace with new material.

	DANGER
	DANGER OF ELECTROCUTION Do not use water at equipment and electrical installations. Use only powder extinguishers.

3.1.16 EMERGENCY PROCEDURE TO FREE LIMBS OR BODY PARTS

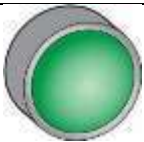
In the event of an accident due to misuse, tampering or lack of inspection and maintenance, accidents could occur due to limbs or body entrapment.

Before proceeding with the operations to free them, it is necessary to:

- call the first-aid person in charge and a person trained in the use of the press.
- notify the competent medical personnel.
- Secure the area of the accident so as not to create any further hazards.

It is now possible to carry out the disengagement operations:

1	Unlock the emergency mushroom by pulling or turning it		
2	Press the Reset button to reset the press		
			
3	Switch on the engine pump.		
	In the case of 2-hand control with maintained action (push-button lever), press and hold down the pump start button and push the lever to execute the raising of the main cylinder.		

	In the case of 2-hand control with simultaneous action, press and hold down the pump start button and push the lever to execute the raising of the main cylinder.		
4	With 2-hand or hanging control Press the cylinder up button until the limb or body is completely freed		 
	With radio control and 2-hand control system with maintained action Press and hold the enable button and push the lever		

After performing the operation, switch off the press by pressing the emergency button and follow the instructions of the medical personnel.

3.2 INTENDED USE AND REASONABLY FORESEEABLE MISUSE

3.2.1 Intended use

Intended use is use of machine in compliance with the information provided in the operating instructions.

The following is a summary of how to use the machine in accordance with the operating instructions in the manual.

☒	The machine is designed and manufactured only for the pressing operations described in §3.2
☒	The machine is designed to connect upstream and downstream (non-supply ones) systems (QUASI MACHINE).
☒	The machine is designed for manual feeding by the operator.
☒	Access for maintenance or renovation of the work area is only possible using walking platforms and ladders for the upper parts and from the inspection ports provided.
☒	The machine may only be used by professional operators who are informed and trained in the contents of this instruction manual.
☒	The machine can be operated by one operator only.
☒	The machine must be installed in an indoor industrial environment.
☒	The machine is not suitable for operation in a potentially explosive atmosphere, and it is therefore forbidden to install and use it in environments where this risk is present.
☒	Pressing operations must only be performed in the centre of the press, or in the case of a moving cylinder in the centre of the cylinder

The system is also designed to operate in maximum safety; do not deactivate or tamper with the protections and follow all warnings indicated in this manual.

	WARNING Only one person is allowed to use the machine.
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3.2.2 Reasonably foreseeable misuse

Any other type of use, other than those listed above, is not envisaged, is to be considered erroneous and highly dangerous for operators or the environment.

The following are warnings concerning the ways in which the system should not be used and which experience has shown may occur.

	Never stay within the danger zone. For minor remedial work, leave the hazardous area immediately after working conditions have been restored. For maintenance work, stop the machine and disconnect all power sources.
	Do not operate the machine by more than one person at the same time. Uncoordinated and not combined actions between two operators could result in accidents and serious injuries to the operators.
	Do not use the main cylinder (in the case of a moving cylinder) to move workpieces.
	Do not use the mobile mast (where fitted) to move workpieces.
	Do not move the mobile table (where present) if objects, tools or workpieces are resting on it.
	Only in the case of a press with a workpiece loading and unloading system: Do not get carried, get on or sit on transport. Moving people and using transport as a support surface causes people to fall and injure themselves with the risk of very serious injuries. Handling unauthorised materials could cause them to fall causing damage to structures and electronic equipment; handling people could cause them to fall with the risk of very serious injury.
	Do not climb on the internal structure while working on the machine. Using the structure to reach the intervention points could lead to falling with the risk of serious injury and permanent damage.
	Do not use the robot for the handling of non-contracted goods or objects. Handling not permitted materials could cause them to fall causing damage to structures and electronic equipment.
	Do not use the system with products other than those specified in the contract, unless previously authorised by the manufacturer. The use of not permitted materials could cause serious damage to equipment and risks to the operator that could not be foreseen at the design stage.
	For washing and sanitising procedures, do not handle substances other than those provided for in the contract. The use of not permitted materials could cause serious damage to equipment and risks to the operator that could not be foreseen at the design stage.
	Observe the time and manner indicated in the manual for routine and periodic maintenance. Failure to comply with the procedures could lead to risks of serious injury to operators and damage to parts of the machine that would cause it to malfunction.
	Do not handle toxic, corrosive or high temperature materials (unless expressly stated). Use of the machine with not permitted materials, aggressive materials, could cause serious injury to the skin and respiratory system of operators; use could also cause damage to electronic equipment.

Entrapment within the protected zone (QUASI MACHINE ONLY).

The start-up of the machine must be preceded by a light and sound signal that allows a person standing in the inner perimeter to move to a safety zone or to reach an emergency mushroom.

	DANGER RISK OF VERY SERIOUS ACCIDENTS AND PERMANENT INJURIES (QUASI-MACHINE ONLY) Only if the press is placed inside a workstation: It is forbidden to be voluntarily locked inside the protections. Getting locked inside the guards is tantamount to operating without any active protection. This could lead to accidents and serious damage to the operator.
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3.2.3 PERSONAL PROTECTION EQUIPMENT:

When operating the machine, the appropriate personal protective equipment (PPE), such as gloves, suitable footwear, etc., must be worn in accordance with country regulations and individual plant regulations.

This manual emphasises the daily use of personal protective equipment.

The correct use of protective equipment, combined with compliance with the warnings and procedures set out in this publication, can significantly reduce the risk of accidents.

In the following chapters, the recommended PPE for the various procedures are referred to with appropriate symbols.



In order to prevent possible accidents, it is mandatory to always use personal protective equipment (PPE), without underestimating any situation; any intervention on the machine, if inaccurate or clumsy, can cause accidents.



All persons working on the machine must be provided with personal protective equipment (PPE) as a minimum. The use of the PPE constituting the minimum equipment may not be described in these instructions for use.

The following is always considered misuse:

- ☐ use by operators who have not reached the minimum age for starting work laid down by the laws in force in the respective countries of use
- ☐ use by operators who have not been previously trained, instructed and informed of all risks and residual risks of the machine and trained in safety
- ☐ not using personal protective equipment (PPE) as required by the instructions and rules in force in the country of use
- ☐ even temporarily circumventing machine protection measures
- ☐ use the machine even when it shows symptoms of failure or is partially out of order
- ☐ not respecting the technical data on processing limits (materials, speed, etc.)
- ☐ simultaneous use of the machine by two or more operators who may mutually endanger themselves or other exposed persons
- ☐ the use of the machine if operated, by the only operator assigned to use it, without checking, before operating the controls, that there are no persons exposed in the danger zones of the machine
- ☐ operate the machine without having read and understood the manufacturer's instructions
- ☐ perform operations for which no information has been provided by the manufacturer
- ☐ perform operations for which the manufacturer's instructions are difficult to interpret
- ☐ perform operations other than those described in the instructions
- ☐ perform operations expressly forbidden in the instructions.

	WARNING Any modification carried out on the machine without the manufacturer's knowledge that alters the intended functionality by altering the contents of the risk analysis (generating additional or different risks) will be the full responsibility of the person carrying out such alterations. Modifications carried out without the manufacturer's authorisation will invalidate any form of warranty and invalidate the declaration of conformity with the applicable directives.
	WARNING Any use of the machine other than that described in this manual is prohibited.
	WARNING The manufacturer accepts no liability for malfunctions or damage to persons or property caused by using the machine in any other way or using materials with characteristics other than those indicated in this manual.

3.2.4 PLATES AND PICTOGRAMS

The machine bears plates and pictograms with the symbols designed to highlight possible hazards present on the machine and the rules that must be respected by staff while operating it:

Warning tags that perform a safety function must not be removed, covered or damaged. They must always be visible and readable. Failure to comply with this requirement will result in the user assuming full responsibility.



Failure to comply with any requirement, whether through deterioration, loss or failure to consult a safety sticker, can lead to accidents.



It is mandatory to know and comply with the information and warnings on the machine in accordance with the meaning and actions described in this instruction manual.



The information and warnings on the machine must be kept intact throughout the life of the machine; in this regard, specific verification instructions are given in the following paragraphs.

Label indicating the obligation to read instructions.

Shows the obligation to read and understand thoroughly the instructions for use before operating the machine.



Label indicating the obligation to protect the eyes. The obligation to wear eye protection equipment during maintenance operations is indicated.	
Label indicating danger of electric shock (electrocution). Care must be taken when accessing electrical panels as there is a danger of electrical discharges which can cause serious injury. Access the switchboards only after disconnecting the power supply.	
Label indicating the danger of hot surface. Take care when working on accessible mechanical devices, as there is a danger of crushing hands. Some mechanical assemblies or pneumatic devices could accidentally move, even when the machine is stationary, if the correct procedures are not followed.	
Label indicating no extinguishing using water. The use of water to extinguish fires on electrical equipment is prohibited. Switching off with water causes the risk of electrocution, very serious injuries and permanent damage.	
(WHERE PRESENT) Label indicating that safety devices and guards must not be removed. The prohibition of removing safety devices and guards during normal operation or with moving parts is indicated. It is also forbidden to operate the machine with safety devices and guards removed.	
Label prohibiting access and intervention by unauthorised persons. The prohibition of intervention for restoration, registration and maintenance by untrained and unauthorised personnel is indicated.	
Label indicating lifting points	

3.4 Identification of safeguards and protection devices

01	Lever protection cover (models with lever or semi-cycle control)
02	Protective covers for moving parts (motor covers, heat exchanger fan)
03	Slip-proof safety pins (models with lifting work table)
04	Spacer for foot protection against work table falling (models with lifting work table)
05	Stopflex and clamps against hydraulic hose projection
06	Exhaust valve against overpressure
07	2-hand control for presses with approach speed >10mm/sec
09	Emergency stop on switchboard
11	Safety on main switch (lockout/tagout).
12	Security on control panel (key lock).

3.4.1 Protection casing

On lever-operated presses, a fixed protective casing is installed; the casing not only protects the lever, but also prevents operation with any part of the body other than the hand, as required by current safety regulations.

3.4.2 Slip-proof pins (WHERE PRESENT)

In models where the workbench moves vertically, pins ensure a lock in position. In order to prevent them from slipping off, they are supplied with front and rear split pins.

3.4.3 Protective spacers (WHERE PRESENT)

In models where the workbench moves vertically, four spacers have been added to the bottom of the press to ensure safety against the foot being crushed in the event of the the table falling, as required by current safety regulations

3.4.4 Stopflex and anti-projection hose clamps

To avoid the risk of the hydraulic hoses being ejected, a stop-flex is installed on the upper part of the cylinder; on the lower hose, however, the stopflex is not installed because the hose is protected by the press frame.

The hoses are also fixed to the press by means of safety clamps.

3.4.5 Relief valve against overpressure

An overpressure valve was installed in the hydraulic circuit. This valve relieves the pressure in the event of overpressure.

3.4.6 Two-hand control for presses with approach speed >10mm/sec (WHERE PRESENT)

For presses with an approach speed of more than 10mm/sec, two-hand control is provided. This command requires the operator to keep both hands on the control systems.

3.4.7 Emergency stop on the switchboard

A quick-access mushroom-shaped emergency stop was installed on the switchboard. In the event of an emergency or dangerous situation: **PRESS** the button, the machine stops immediately. To restart the machine: **ROTATE or PULL** the button and re-enable the controls from the relevant panel.

	DANGER
	Before enabling again the machine's controls, make sure that the emergency or hazard situation no longer exists.
	It is forbidden to tamper with or alter the emergency buttons
	It is forbidden to use the emergency buttons to switch off the machine

3.4.8 General electric switch (disconnection switch)

The machine's electric panel is equipped with a switch that can be padlocked into the "0" position.

This safety measure allows the electrician - the only person authorized to carry the key to the padlock - to lock the general switch and stop all supply to the controls operating the machine and carry out the necessary maintenance.

	WARNING The padlock key must be removed and kept by the electrical maintenance technician for the duration of the work.
---	--

To padlock the disconnecting switch follow the instructions.

STEP	ACTION
01	Turn the selector switch to '0' (OFF).
02	Insert the padlock into the hole.
03	Lock the padlock

3.4.8.1 SECURITY PROCEDURE LOCKOUT - TAGOUT (LOTUS)



Lockout refers to a method by which equipment is prevented from starting up and posing a danger to workers. A safety switch, valve or other energy-isolating mechanism is placed in the safety position or 'OFF'; a device is placed on the energy-isolating mechanism to keep it in the safety position.

The procedure involves a lock (usually a padlock) so that the equipment cannot be started.

In a Tagout, the energy isolating device is put in the safety position and a written warning is applied. The lock can only be removed by the person who applied it, whose name appears on the tag.

When more than one person is to work on the machine, each person must attach his or her own block to the energy isolation devices and the owner of each block must be identifiable.

There are special scissor devices on the market that allow several locks to be inserted and that cannot be opened until all the locks have been removed.

Different people's locks should have different keys, for security reasons.

A Lockout/Tagout system is required whenever maintenance work is carried out in the vicinity of a machine that could cause injury due to:

- unexpected start-up of equipment
- release of stored energy.

Two situations in which a Lockout/Tagout can be very useful:

- when removing or avoiding the use of a guard or other safety device
- when it is necessary to insert a body part in a place where it is possible to be caught by the moving machine.

Some activities where Lockout/Tagout should be used:

- repair of electrical circuits
- cleaning or lubrication of machines with moving parts
- unlocking jammed mechanisms.

Lockout/tagout systems alone do not isolate the energy of the equipment. Only connect them when the machine has been isolated from power sources.



All materials for Lockout and Tagout are provided by the employer.

3.4.9 Security on control panel (key locking).

In order to prevent the switchboard from being opened during the work phases, in addition to the main switch that acts as a lock, two locks with key have been provided.

The machine's electrical cabinet is also equipped with one or more locks that can be opened with a key.

This security allows the electrical maintenance technician, the only one with a key to the switchboard, to safely access the switchboard for specific interventions.

3.4.10 Protection against Direct and Indirect Contact

In the construction of the switchboard and junction boxes, enclosures and casings were used to ensure a suitable level of separation of live parts.

Cabling of the electric system in compliance with standard EN 60204-1.

Protection against indirect contacts is provided by connecting masses to the equipotential protection circuit and automatic interruption by means of a differential and thermal-magnetic circuit breaker.

3.5 Residual risks

Electric motor - scalding

SCALDING DANGER

Danger of burns from contact with the electric motor housing.

Only intervene after the engine has cooled down.

Obstacles up high - bump or hit

HITTING DANGER

Danger of collision with obstacles up high.

Take care during repair, adjustment and maintenance work not to hit the upper structures.

Work using a protective helmet.

Falling material in transit - injuries

DANGER OF FALLING MATERIAL

Danger of falling material in transit.

Pay attention during repair, adjustment and maintenance work to parts of material in transit that could accidentally fall from above.

Use helmets, goggles and protective clothing.

Crushing

CRUSHING DANGER

Risk of crushing limbs due to improper use of the press.

Electrocution

DANGER OF CONTACT WITH LIVE PARTS

Danger of electrocution with live parts in the event of tampering with or incorrect compliance with the press safety instructions.

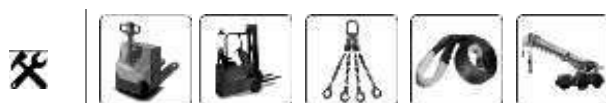
CONTACT WITH OILS AND LUBRICANTS

DANGER OF IRRITANTS

Danger of eye and skin irritation.

4 TRANSPORT AND INSTALLATION

4.1 TRANSPORT OF THE MACHINE



	DANGER RISK OF VERY SERIOUS ACCIDENTS AND PERMANENT INJURIES The use of equipment that is not in perfect condition, unsuitable and with a load capacity lower than that required, causes loads to fall and very serious and permanent injuries to workers. Only use equipment that is suitable for the job and complies with current occupational safety regulations.
	WARNING Carefully check the weights and load capacity of the equipment before each handling operation.
	WARNING The press cannot be transshipped.
	WARNING When handling and placing material, pay attention to any unevenness in the ground that could cause the load to fall accidentally.
	Do not leave packaging waste around. Dispose of the packaging complying with the legislation in force in the country of installation of the machine.
	FOR DETAILED INFORMATION, PLEASE REFER TO THE SPECIFIC INSTRUCTION MANUALS ATTACHED TO THIS MANUAL.

The packaging used for transportation is chosen according to the means of transport used and the final destination. Generally, the type of packaging is the most suitable one to ensure material integrity throughout the journey.

The following are transport instructions for the machine or the various assemblies that make up the system, with instructions on how to lift them.

Also attached is a table of the weights of the various assemblies, to enable the correct assessment of the load capacity of the equipment used in handling them.

	ITEM	DIMENSIONS (mm)	WEIGHT (Kg)
1	MACHINERY	1800x1000x2780(H)	600

The gripping points are generally identified at the top of the structure and marked with pictograms.



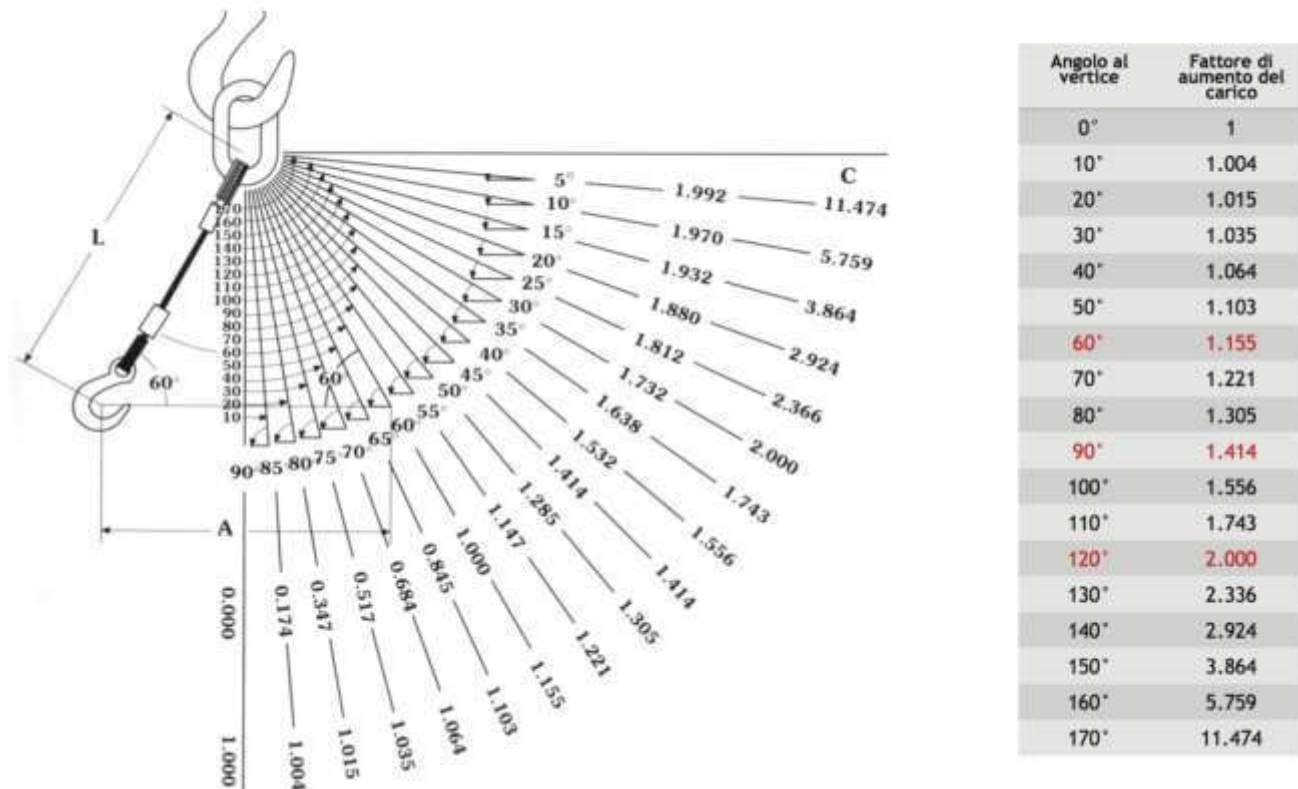
Depending on the structure of the material to be handled and the devices available, lifting bands or ropes may be necessary.

The gripping points must be defined considering the conformation of the equipment and taking into account the centre of gravity of the equipment.

Move the equipment, ensuring that it is perfectly stable.

	The equipment can be shipped in wooden boxes or wooden pallet designed to protect the product during transport. Handling must be performed by means of a fork-lift truck. Brackets must be fully inserted in the specific points of the pallet and they must be perfectly stable. For handling on the ground and only for very brief distances, a transpallet can be used as an alternative.
	Equipment may be shipped in large sized wooden boxes. Handling must be performed by a crane or gantries for unloading from the means of transport. For handling on the ground, use gantries or a fork-lift truck of suitable lifting capacity.

Below is a table of the variation in lifting capacity of lifting equipment as a function of top angle



4.2 Moving after first installation

After the first installation, it might be necessary to move the machine.

There are no indications and warnings for proper handling other than those for handling during loading and unloading.

4.3 RECEPTION AND CONTROL

Upon receipt of the machine, it must be checked immediately:

- the correspondence between the components on the transport document and the actual contents of the packaging
- the integrity of the packaging and the main components of the machine, in order to detect any damage caused during transport.

If anomalies are found on the transport document or the machine, take the goods with reserve.

In the event of proven damage to the machine, produce photographic documentation proving such damage. Notify photographic documentation and report of damage within 3 days of receipt.

4.4 STORAGE

In case of extended storage, the machine should be stored in such a way to be protected from atmospheric conditions that may damage mechanic, electric or non-protected metal parts.

It is therefore advisable to cover the various units with tarpaulins or other waterproof materials and do not use in particularly humid environments for storage; humidity may indeed cause corrosion of metal parts.

If the machine is installed after an extended period of storage, it will always need to be lubricated and undergo a general overhaul to make sure that all its components are in full operating conditions.

4.5 MACHINE ASSEMBLY AND INSTALLATION

4.5.1 Mechanical assembly



The entire assembly of the machine is the responsibility of the manufacturer, who uses its own specialised personnel.



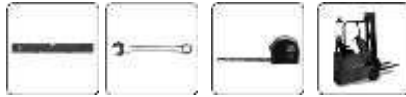
It is imperative to contact the manufacturer if there are any problems with the positioning of the machine, as problems may arise that were not easily foreseeable at the design stage.



FOR DETAILED INFORMATION, PLEASE REFER TO THE SPECIFIC INSTRUCTION MANUALS ATTACHED TO THIS MANUAL.



The machine is delivered already assembled (EXCEPT TRANSPORT REQUIREMENTS).
The machine does not require assembly of units but only the completion of work to integrate the supply to the target plant.



Positioning and assembly of the machine after unloading from the means of transport.



- Machine status: stopped.
- Disconnect the power supply by turning the switch on the switchboard to '0' and apply a padlock (LOTO). Restarting the machine must not be possible.

- No. of operators required: 1.

STEP	ACTION
01	Position the machine in the chosen position
02	Fix the press to the ground and delimit the operating area as described in §4.5.2
03	Fill the hydraulic system as described in § 4.5.3
04	Carry out the electrical connection as described in § 4.5.4
05	Perform the first start-up as described in § 6.3
06	Release the air inside the system

4.5.2 Machine zone definition

WORKING AREA (A)

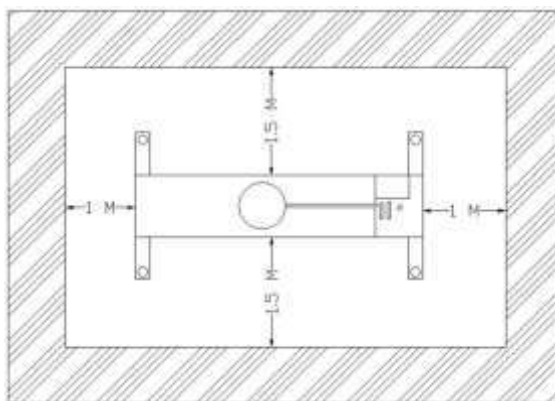
Areas within the area to which employees have free access during normal operation. In these areas, the normal operation of the machine can be checked and/or quick action can be taken on the pushbuttons. In this case, the working zones correspond to the perimeter of the machine and the indicated 'control' positions, with the minimum clearances for access by persons and/or vehicles.



With reference to the work area to be delimited, for pathways and passage of persons, provide a distance >800mm. from the limit of the control area. See image

Pss_Pss-nc_Psm-nc_Pbm-Pff-Pfc

Pcr



With reference to the work area to be delimited, for material handling routes using forklift trucks or pallet trucks, provide a distance >2500 mm. from the limit of the control area.

COMMAND ZONE (B)

Areas in which the operator is expected to conduct operations. Control station in front of the switchboard, control panels and in the material loading/unloading areas.

For partly completed machines, the zones must be defined by the person putting the final assembly into service, who bears the burden of marking.

DANGEROUS AREA (C)

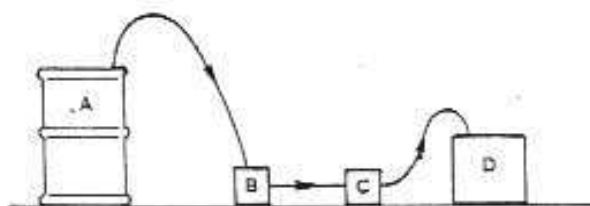
Area reserved for qualified maintenance and manufacturer's technical assistance.

These are considered to be the internal, electrical cabinet and machine areas; in these areas it is forbidden to operate (introduce limbs or other impermissible tools), pass or stand during operation.

4.5. FILLING UP THE SYSTEM

Only oils with the characteristics shown in the table or of equal reliability should be used to fill the system; the choice must be made taking into account the environmental conditions and the operating characteristics of the press.

When transferring oil from the container to the tank, use an external filter positioned as shown in the figure in order to prevent the introduction of foreign bodies when filling.



A - OIL

B - PUMP

C - FILTER

D - CONTROL BOX

For the amount of oil, see the table in §2.5 or refer to the hydraulic diagram at the end of the manual.

PAY SPECIAL ATTENTION DURING ALL FILLING AND TOPPING-UP PHASES. IN CASE OF CONTACT WITH HYDRAULIC OIL, RINSE THOROUGHLY WITH WATER.

IF THERE IS ANY REDDENING OF THE SKIN, CONSULT A DOCTOR.

OIL CORRESPONDENCE TABLE

CURVE	A	B	C
DIN 51524	H - LP 32	H - LP 46	H - LP 68

VISCOSITY			
CENTISTOKES A 50°C	16 ÷ 20	24 ÷ 28	31 ÷ 39

Choose the type of oil (column A, B, C) according to the average operating temperature, for Mediterranean climates the reference column is " B ".

For colder climates use column " A ", for warmer climates select column " C "

4.5.4 ELECTRICAL CONNECTION

4.5.4.1 WARNINGS

N.B. EVEN MINOR WORK ON THE ELECTRICAL PART REQUIRES PROFESSIONALLY QUALIFIED PERSONNEL.

➤ **All work on the electrical system must be carried out with the main switch off, Disconnect the power supply by turning the switch on the switchboard to '0' and apply a padlock (LOTO). Restarting the machine must not be possible.**

➤ For the power supply, prepare cables of sufficient cross-section according to the absorption of the electric motor.

➤ The electrical power supply must be carried out in accordance with the law.

The supply voltage is indicated on the press nameplate.

For proper functioning, a constant voltage must be ensured and must not exceed or be less than 5% of the benchmark value.

Ambient temperature: between 5 °C and 40 °C

Ambient humidity: max. 50% at 40 °C

Altitude: max 1000 m above sea level.

The presses can be connected to the mains in two ways:

- via connection to the switchboard (see 4.5.4.2)
- via plug connection (see 4.5.4.3).

4.5.4.2 ELECTRICAL SYSTEM CONNECTION



For details of the electrical connection, please refer to the enclosed wiring diagram.

Before connecting the machine to the plant's power supply, it must be checked that

- ☐ the power supply network is disconnected
- ☐ the electric system of the building can withstand the full active and reactive load.
- ☐ the socket to which the machine is connected is of higher power, or at least sufficient power, compared to the maximum power absorbed and the inrush current of the motors
- ☐ the supply line is protected from surges (e.g. atmospheric discharge).
- ☐ the supply line is protected against thermal or magnetic overcurrent
- ☐ the system is built to applicable standards and adequately protected
- ☐ the earthing are connected to the protective circuit (visual check)
- ☐ the expected short-circuit strength at the connection terminals of the main circuit breaker is compatible with its breaking capacity shown on the circuit diagram
- ☐ the machine's supply frequency and voltage values (see tag values) correspond to the supply network values
- ☐ there is continuity of protection circuits
- ☐ the section of the electric cables used is adequate
- ☐ connection points have been provided
- ☐ proper functioning of the differential devices in case they are provided
- ☐ ensure correct phase wiring.

When supplied, refit cable ducts that have been removed for transport purposes.

Before proceeding with the connections, consult the circuit diagram and follow the indicated cable numbering.

Distribute the electrical cables along the cable ducts, where applicable, up to the individual consumers and to the switch cabinet.

For the connection of the system, follow the general rules for the execution of electrical installations. The connections are normally designed for 400 volts.

For models with an external socket, the plug must be connected to the socket.

For different voltages please consult our Service Department

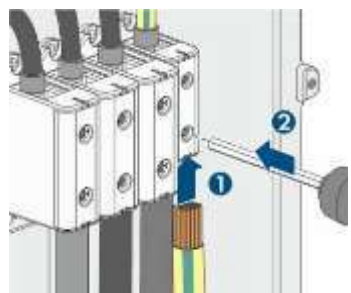
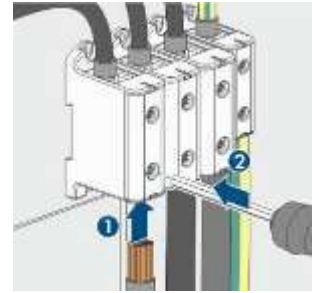
N.B. ANY DAMAGE CAUSED BY INCORRECT ELECTRICAL CONNECTION IS NOT COVERED BY THE WARRANTY.



Work on the electrical system must be carried out by a qualified electrician, in accordance with the applicable electrical regulations and the instructions on the circuit diagrams.

The following is an example of the electrical connection procedure.

The following procedure is not intended to replace the skills of the specialist technician who has to carry out the intervention.

STEP	ACTION	
1)	Bring the power cables inside the panel. The entry of power cables into the electrical panel may vary depending on the layout of the system.	-
(2)	Connect the earth cable to the corresponding terminal.	
(3)	Connect the cables to terminals L1-L2-L3 of the terminal block	
(4)	Where applicable, connect the neutral wire (N) to the respective terminal.	-
5)	At first start-up, check that the direction of rotation of the motors is correct; if the direction of rotation is not correct, adjust the position of the phases.	-

Electrical connection with plug



- Disconnect the power supply by turning the switch on the switchboard to '0' and apply a padlock (LOTO). Restarting the machine must not be possible.
- Disconnect the air supply by turning the pressure regulator on the air handling unit to 'OFF' and apply a lock (LOTO). The pressure displayed on the pressure gauge must be 0.
- No. of operators required: 1.



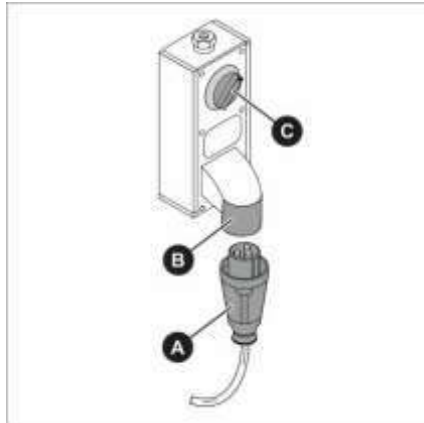
For details of the electrical connection, please refer to the enclosed wiring diagram.

Before connecting the machine to the plant's power supply, it must be checked that

- ☐ the power supply network is disconnected
- ☐ the electric system of the plant can withstand the full active and reactive load.
- ☐ the socket to which the machine is connected is of higher power, or at least sufficient power, compared to the maximum power absorbed and the starting current of the motors
- ☐ the supply line is protected from surges (e.g. atmospheric discharge).
- ☐ the supply line is protected against thermal or magnetic overcurrent
- ☐ the system is built to applicable standards and adequately protected.
- ☐ the earth are connected to the protective circuit (visual check)
- ☐ the expected short-circuit strength at the connection terminals of the main circuit breaker is compatible with its breaking capacity shown on the circuit diagram

- ☐ the values of the machine's supply frequency and voltage (see the plate attached to the electrical cabinet) correspond to the mains values
- ☐ there is continuity of protection circuits
- ☐ the section of the electric cables used is adequate;
- ☐ connection points have been provided.
- ☐ proper functioning of the differential devices in case they are provided
- ☐ ensure correct phase wiring.

STEP	ACTION
01	Insert the plug (A) into the socket (B).
02	Turn the switch (C) of the power socket to position '1'. The machine is powered by electricity.



4.5.4.3 Plug connection for console, foot pedal or lectern control

Before switching on the press, it is necessary (where applicable) to connect the plug of the console, foot pedal or control desk as shown in the figure below



4.5.5 PRELIMINARY CHECKS AND TESTS AFTER INSTALLATION



-



General inspection of equipment after assembly and installation.



- Machine status: switched on but not running.
- Machine empty and all equipment brought to rest.
- No. of operators required: 1.

STEP	ACTION
☐	Check for the absence of foreign bodies in the machine's areas of operation.
☐	Verification of the absence of fluids on the floor. Dirty floors could be caused by leaks from components or leakage from pipes.
☐	Check the correct direction of rotation of the motors.
☐	Check the efficiency of the safety devices (emergency mushroom switches, safety limit switches, etc.) involved in the operations to be carried out.
☐	Verification of the proper functioning of all working and safety equipment.
☐	Check the good condition of the machine's perimeter guards (where present).
☐	Check that the machine's fixed guards (where fitted) are correctly secured.
☐	Check and test the equipment fitted to the machine (if any).
☐	Check and test pump operation.

6 Operating instructions

6.1 OPERATORS, TASKS, WORK AREAS

- The operator's standing areas must be kept free of obstructions and ensure adequate comfort, as required by current laws on safety in the workplace.
- Areas for supply of materials must be kept free of obstructions and large enough to allow the use of necessary equipment (forklift truck, pallet truck, etc.).
- Access areas to the machine during maintenance must be kept free of obstructions and ensure adequate comfort, as required by current laws on workplace safety.



All operators must be aware of the general safety rules and refer to the internal plant regulations and the requirements set out in this manual.



The work areas and the specific tasks of operators and maintenance personnel must be defined by the person commissioning the final machine, who is responsible for the marking.

6.1 2 Tasks



WARNING

The work area must never be occupied by materials or equipment that may restrict freedom of movement and action in the area.

In the event of an emergency, immediate access to the machine by the relevant personnel must be ensured.



WARNING

Keep the work area free of all equipment and unauthorised persons at all times.

Operators must only occupy the area outside the machine, and only enter the work areas if strictly necessary and in compliance with the safety instructions in the manual. Access to the work areas for the operator is intended for simple removal of jams and cleaning operations described in this manual and only after the indicated safety requirements have been met.

Specialised and authorised maintenance personnel may enter the work areas. using the instructions in this manual. Access is only possible after having disconnected and padlocked all energy sources and dissipated any residual energy.

Access to electrical equipment for live and off-voltage work must be performed by authorised personnel as defined by current electrical safety regulations.

6.2 PUSH BUTTON PANELS AND CONTROLS



Please refer to the operator's manual enclosed with this manual for information on the control panels.

6.2.1 Electrical cabinet

6.2 PUSH BUTTON PANELS AND CONTROLS



Please refer to the operator's manual enclosed with this manual for information on the control panels.



(0)	General disconnect switch Turning the disconnecter to the right (ON) supplies voltage to the electrical panel. Turning the disconnecter to the left (OFF) removes voltage from the electrical panel.	
(1)	24 VDC indicator lamp White pilot light. When on, the panel is active and the machine is supplied with electrical power.	 
(2)	Enabling button/light button. Pressing the button enables the press to operate	
(3)	"START" push button Use the push button to start operating the pump. In the case of 2-hand lever-button control, the START button must be pressed constantly. The light is on when the machine is operating.	

(4)	"STOP" push button Red push button. Use the push button to stop operating the machine.	
(5)	EMERGENCY STOP BUTTON Red mushroom button. Use the button to stop the machine immediately in an emergency. Turn anti-clockwise to release the pressed button.	

6.3 FIRST START-UP

After filling up the tank of the control unit, you need to prime up the pump.

Make sure that all the solenoid valves are in the rest position, i.e. that they will not trigger any movement after switching on.

CAUTION: The press is designed exclusively for use by a single operator, who must stand in front of the control elements during operation.

1	To start the press, turn the line disconnecter to the right to position 1	
2	Check that the mains presence light is on	 
4	Press the reset button to reset the press	 
	Press the reset button to reset the press, the correct reset is indicated by the button going off	
5	Press the pump power button	 

To prime the pump, start the electric motor with short pulses before allowing it to accelerate up to its maximum speed.

A discontinuous noise indicates that there is air in the pump, so you should repeat the procedure.

6.4 OPERATION

6.4.1 2-Hand operation (approach speed $\geq 10\text{mm/sec}$ and $\leq 30\text{mm/sec}$)

An electrical cabinet and a lever distributor have been provided to operate the press.

To perform pressing operations, it is necessary to:

turn the line disconnect switch to the right to the ON position (0).

Correct power supply is indicated by turning on the line presence light (1).

Press the enable button (2) to enable the press to operate.

To perform cylinder descent, it is necessary to:

Press and hold the motor start button (3) and simultaneously pull the distributor lever Fig.01.



Fig.01

Releasing the lever or button results in stopping the cylinder movements.

In order to perform cylinder ascent, it is necessary to:

Press and hold the engine start button (3) and simultaneously push the distributor lever Fig.02.



Fig.02

To turn off the press, turn the line disconnect to the left to the OFF (0) position.

7 SETTINGS AND ADJUSTMENTS

7.1 DISPLAYING AND ADJUSTING WORK PRESSURE

Manual adjustment

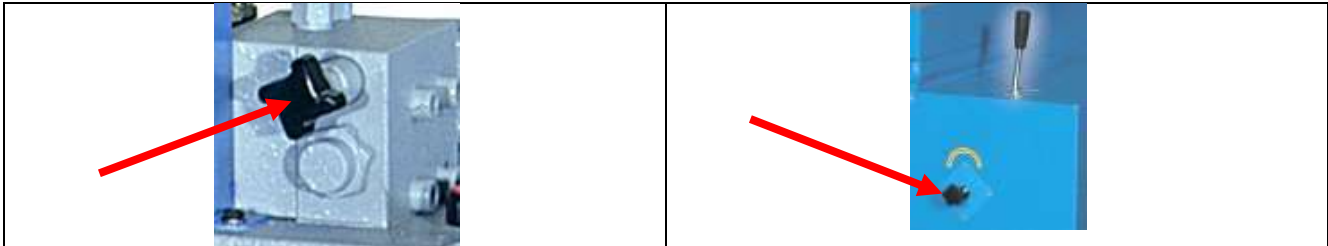
The operating pressure of the system is regulated by means of a special pressure regulating valve located next to the distributors.

On PCL - A models the valve is located at the front of the press.

Through the handwheel, the operating pressure and thus the pressing force of the cylinder can be adjusted as needed.

To adjust the maximum pressure value, you need to start from the lowest value and gradually increase it up to reaching the pressure required to perform the operation.

The pressure gauge displays the pressure value during operation.



7.5 ADJUSTMENT of MOVABLE TABLE HEIGHT

CAUTION

BEFORE POSITIONING THE MOVING TABLE, REMOVE ANY EQUIPMENT PLACED ON IT.

IT IS FORBIDDEN TO LIFT OR LOWER THE MOVING TABLE WITH EQUIPMENT OR ANYTHING ELSE PLACED ON IT.

7.6.1 MANUAL ADJUSTMENT (WHERE PROVIDED)

In order to optimise the use of the press, it is necessary to set the movable table at a convenient height depending on the operation to be performed and the equipment to be used.

In the PSS 20 and PSS 20 NC models, the work table must be lifted manually. Below is the sequence to follow:

1. Retract the cylinder rod.
2. With the help of a second person lift the moving table
3. With the help of a third person, remove the pins and position them in the holes for the height identified.
4. Slowly lower the table until it rests on the pins.
5. Check the correct positioning of the table and the pins.

CAUTION

Note: In the event that the desired working position corresponds to the maximum working span, it is not necessary to insert the pins, which must be stored in a dry place, as there are limit switches) suitably welded to the uprights. These limit switches not only support the movable table but also act as a safety device against crushing parts of the body by complying with current safety regulations

In other models, any objects placed on the work table and not supplied with the press must be removed before handling.

Before lifting the moving table, check that:

- The eyebolts attached to it are thoroughly tightened Pos.01
- The eyebolt support is screwed tightly to the cylinder rod Pos.2
- The eyebolts attached to the eyebolt holder are completely tightened Pos.03

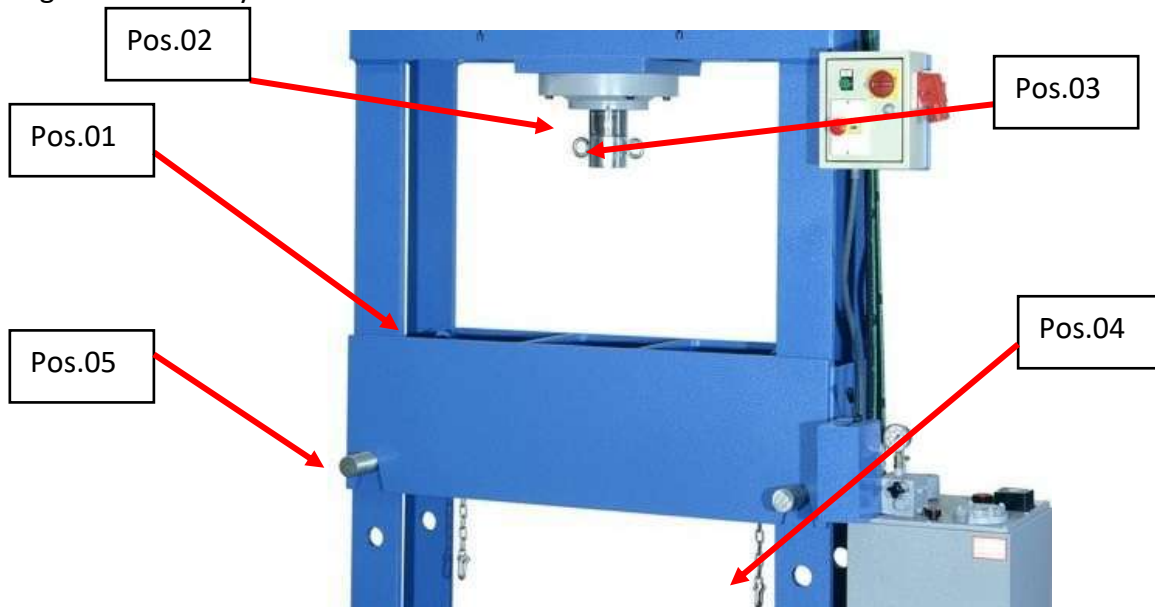
After checking the following points, you should proceed as follows:

1. Attach the chains (Pos. 04) to the respective eyebolts (Pos.3) and lift the cylinder rod (see §7.1) until the chains are tensioned.
2. Check that there is no possibility of unhooking the chains and proceed to lift the moving table.

3. Remove the split pins from the pins (Pos. 05) placed in the back of the press, then remove the pins.
4. Insert the pins at the desired working height, ensuring that the pins are positioned on the holes at the same height, insert the split pins.
5. Slowly lower the movable table until it rests on the pins.
6. Check the correct position and fitting of the pins, lower the cylinder rod further and release the chains and leave them in the upright position (item 04) .

During pallet handling operations, equipment and workpieces on the pallet must be removed.

When lifting the table, it is necessary to ensure that there are no objects that prevent the pallet from being lifted correctly.



8 MAINTENANCE

8.1 QUALIFICATION OF MAINTENANCE OPERATORS

The person who intervenes for this type of operation must be the mechanical maintenance technician, who is duly trained and instructed, having also read this manual in detail.

General regulations

- ☒ Do not carry out interventions when physically tired.
- ☒ Do not carry out work in poor lighting conditions.
- ☒ Do not use clothes or accessories that may be caught in the structure or moving parts of the machine.
- ☒ Follow the procedures and the safety instructions contained in this manual.
- ☒ Follow the rules for the prevention of accidents in the workplace.

8.2 ACCESS TO UPPER PARTS

	WARNING Extreme care must be taken during the intervention and in the subsequent descent after the work has been completed.
	Reach the upper parts of the machine.
	• Machine status: stopped • Disconnect the power supply by turning the switch on the switchboard to '0' and apply a padlock (LOTO). Restarting the machine must not be possible. • Disconnect the air supply by turning the pressure regulator on the air handling unit to 'OFF' and apply a lock (LOTO). The pressure displayed on the pressure gauge must be 0. • No. of operators required: 2.
STEP	ACTION
01	Use the appropriate equipment, such as ladders or scaffolding, and comply with all legal requirements regarding safety in the workplace.
02	Climb and descend slowly without cantilevering and maintain the stability of the ladder with the cooperation of a second person.
03	For access using a scaffold, lock the wheels (with brakes if fitted) by placing the equipment on an even, flat surface.



8.3 ACCESS TO THE ELECTRIC PANEL



	Power disconnection before any maintenance.
STEP	ACTION
01	Disconnect the power supply by turning the switch on the switchboard to '0' and apply a padlock (LOTO). Restarting the machine must not be possible.
02	Open the electrical panel using the appropriate key

8.4 ORDINARY MAINTENANCE



Routine and scheduled maintenance includes all the checks and periodic operations necessary for the proper functioning of the machine and the optimal preservation of the functional and control equipment. Full maintenance is recommended whenever production must be suspended for an extended period.



FOR DETAILED INFORMATION PLEASE REFER TO THE SPECIFIC INSTRUCTION MANUALS ATTACHED TO THIS MANUAL.

8.4.1 Summary Table of Ordinary Maintenance



The components and measures listed refer to the information in this chapter.

MAINTENANCE		   					
COMPONENT	TYPE OF PROCEDURE	DAILY	WEEKLY	EVERY WORKING HOURS 50	EVERY WORKING HOURS 200	EVERY WORKING HOURS 600	EVERY WORKING HOURS 1000
MACHINE AND EQUIPMENT	Visual checks integrity.	•					
FILTER CLOGGED	Visual indicator check.	•					
MACHINE AND EQUIPMENT	Cleaning.	•					
PLATES AND PICTOGRAMS	Cleaning and condition check; replace in the same position if necessary.		•				
HYDRAULIC OIL TANK	Level check and, if necessary, topping up.		•				
GEARMOTORS	Checking oil level and leaks.						•
HYDRAULIC SYSTEM	Filter cleaning check.						•
WHEEL GUIDES	Wear control and cleaning.						•



MAINTENANCE		   					
COMPONENT	TYPE OF PROCEDURE	DAILY	WEEKLY	EVERY WORKING HOURS 50	EVERY WORKING HOURS 200	EVERY WORKING HOURS 600	EVERY WORKING HOURS 1000
ON-BOARD COMPONENTS	Torque check		•				
ELECTRICAL AND ELECTRONIC EQUIPMENT AND DEVICES	Status check.		•				
JUNCTION BOXES AND MOTOR TERMINAL BLOCKS	Integrity check.		•				
FAN FILTERS ON PANEL	Cleaning and, if necessary, replacement.				•		
PLC BATTERY	Functional check and, if necessary, replacement.				•		
CABLES AND CONNECTIONS	Checking fastening to on-board devices.				•		



HYDRAULIC OIL		EVERY WORKING HOURS 50	EVERY WORKING HOURS 100	EVERY WORKING HOURS 300	EVERY WORKING HOURS 500	EVERY WORKING HOURS 1000	EVERY WORKING HOURS 1500	EVERY WORKING HOURS 2000
---------------	--	------------------------	-------------------------	-------------------------	-------------------------	--------------------------	--------------------------	--------------------------

TYPE OF PROCEDURE							
Check return oil filter	•		•			•	
Check hydraulic oil status			•			•	
Replace hydraulic oil							•
Change return oil filter		•		•	•		•
Replace the suction oil filter		•		•	•		•
Change air filter				•	•	•	•

8.4.2 External visual inspection

Carry out a careful visual inspection of the machine in all its parts, checking the following.

STEP	ACTION
☐	Check for cracks and missing parts.
☐	Check the wear condition of equipment and sliding components.
☐	Check the status of mobile and fixed protections.
☐	Check that the equipment fitted corresponds to the type of production required.
☐	Check the oil filling level of the hydraulic power unit.
☐	Check the function of the control panel and control button lamps.
☐	Check the floor for oil leaks, especially at the drives and hydraulic cylinders.
☐	Check the correct functioning of process control instruments (temperature probes, level probes, refractometers, etc.).
☐	Check for leaks from pump seals, fittings and pipe flanges.
☐	Check the correct attachment of the pipes to the press body.

STEP	ACTION
☐	Check the tightness of the components on board the machine (sensors, photocells, etc.).
☐	Check the condition of electrical and electronic equipment and devices.
☐	Check the integrity of the gaskets and covers of the junction boxes and motor terminal boxes.

STEP	ACTION
☐	Check the cleanliness (and replace if necessary) of the filters of the ventilation or air-conditioning systems in the switch cabinet (if present).
☐	Check the function of the PLC (and replace if necessary).
☐	Check the attachment of the cables to their respective supports, on the switchboard, junction boxes, machine components.

8.4.3 Checking Plates and Pictograms



-



Checking the integrity of information plates and safety pictograms.



- Machine status: stopped
- Disconnect the power supply by turning the switch on the switchboard to '0' and apply a padlock (LOTO). Restarting the machine must not be possible.
- Disconnect the air supply by turning the pressure regulator on the air handling unit to 'OFF' and apply a lock (LOTO). The pressure displayed on the pressure gauge must be 0.
- No. of operators required: 1.

STEP	ACTION
01	Check all plates and pictograms.
02	Replace any missing or damaged plates or pictograms.



See Chapter 3.2.4 for a detailed list and location of signs and pictograms.

8.4.4 Oil level

Check the oil level monthly through the visual level gauge located on one side of the tank or by using the graduated dipstick located on the top of the tank.



Any top-ups must be carried out with the same type of oil used when filling the system and in the same way as for cleaning the fluid.

It is recommended to note the type of oil used by means of a label on the control unit or on the last pages of this manual, where some pre-printed pages have been prepared for this purpose.

If topping up is too frequent, check the system for leaks.

8.4.5 Top ups

N.B. The oil level in the tank drops usually as a result of:

- absorption of volume by the cylinder
- absorption of volume by the system
- discharge of air bubbles from the pipes

you will need to top up the oil to restore the required level, which you can check with level indicator.

8.4.6 Air discharge

After initial start-up or after maintenance of system elements (e.g. cylinder, filters, piping) a considerable amount of air may be present in the circuit.

The presence of air is evidenced by irregular operation, noise, uneven cylinder advance.

For the removal of air from the circuit, it is sufficient to perform several end-strokes until the correct operation of the press is evident.

N.B. After draining the air, a check, and possible topping up, of the oil level in the control unit is necessary.

8.4.7 Filters

Always replace the filter after commissioning. We recommend the use of paper cartridges for commissioning, which can then be dissected and allow a good assessment of the cleanliness of the system. In cases of doubt, carry out a flushing.

For filters that are not periodically checked, replacement every 500 operating hours. Paper cartridges cannot be cleaned, metal mesh filters can only be partially cleaned and must be sent to the manufacturer for cleaning.

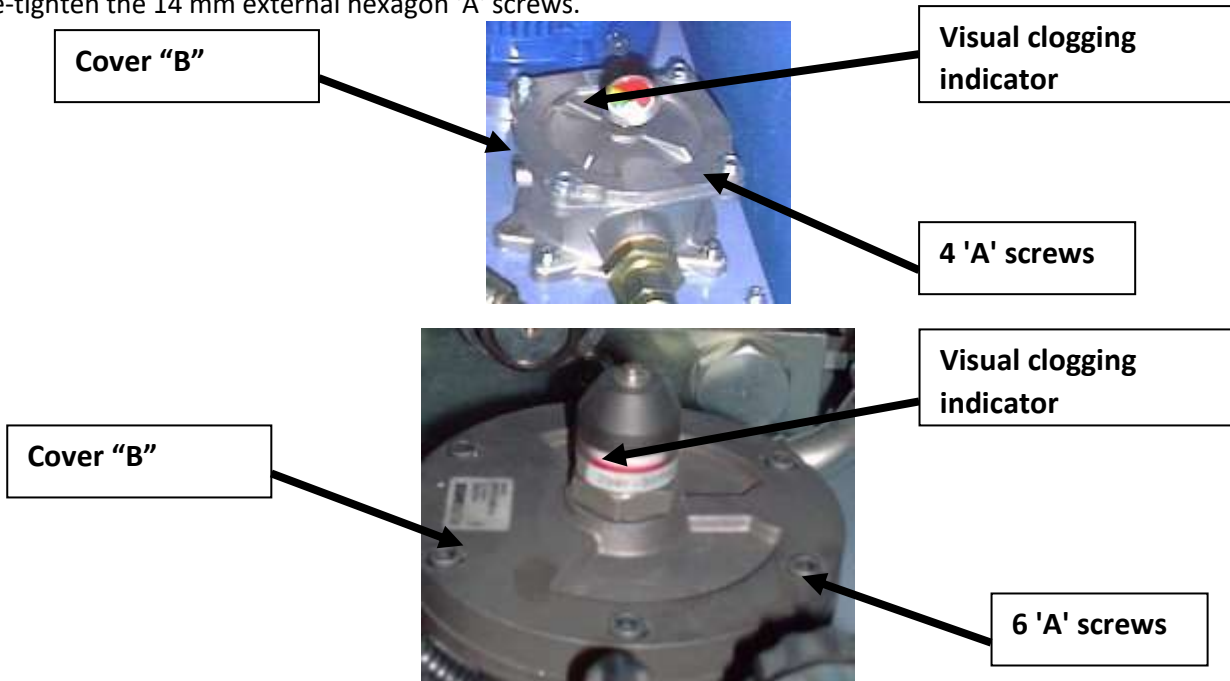
For automatically controlled filters, the cartridges must be replaced immediately at the first warning signal with a hot system.

Examine dirty cartridges carefully, if abnormal pollution is found, search for the causes. In any case, checks should be carried out at shorter intervals. If in doubt, flush the system.

Filter cartridges must be stored in their original packaging.

Replacing the oil filter cartridge

- Make sure the control unit is not ON .
- Unscrew the 14 mm external hexagon 'A' screws.
- Remove cover 'B'.
- Replace the filter cartridge with one with the same characteristics.
- Replace cover 'B', taking care to position the spring between the filter cartridge and cover.
- Re-tighten the 14 mm external hexagon 'A' screws.



N.B. FILTER CARTRIDGES SHOULD BE REPLACED WHEN THE POINTER IS IN THE RED ZONE OR THE INDICATOR HAS TURNED RED

N.B. FAILURE TO FOLLOW THE MAINTENANCE SCHEDULE WHEN CHANGING FILTERS WILL INVALIDATE THE WARRANTY.

N.B. FAILURE TO FOLLOW THE MAINTENANCE SCHEDULE WHEN CHANGING FILTERS WILL INVALIDATE THE WARRANTY.

8.4.8 Every 8 hours of operation

After the system has been put into full operation, check that the media and fittings do not exceed about 48°C and that the oil temperature does not exceed 70°C.

If the above conditions are exceeded, check that the fluid used is not excessively viscous (replace with more suitable fluid), or contact the service department.

N.B. USE OF THE CONTROL UNIT AT TEMPERATURES EXCEEDING THOSE INDICATED WILL AUTOMATICALLY INVALIDATE THE WARRANTY.

THE MANUFACTURER DISCLAIMS ALL LIABILITY FOR DAMAGE TO PROPERTY AND/OR PERSONS RESULTING FROM THE USE OF THE EQUIPMENT AT A HIGHER TEMPERATURE THAN INDICATED.

8.4.9 Machine Cleaning

	WARNING At the end of the operations, the best condition of the floor must be restored by drying the machine and the working area to avoid the danger of slipping on the wet surface.		



Complete cleaning of the machine General cleaning is also recommended at the end of each production cycle.



- Machine status: stopped.
- Disconnect the power supply by turning the switch on the switchboard to '0' and apply a padlock (LOTO). Restarting the machine must not be possible.
- No. of operators required: 1.

STEP	ACTION
☐	Clean the machine with compressed air and by manual removal of machining debris.
☐	Wash the machine using detergent and a damp cloth.
☐	Clean the machine with a vacuum cleaner to collect dust residue and any deposited fragments of material.
☐	Use a vacuum cleaner to remove dust from inside the switch cabinet and, with a dry cloth, clean the control panels and pushbuttons.



It is strictly forbidden to use acidic, abrasive and/or corrosive cleaning agents.

Use environmentally-friendly detergents with all the safety features required by specific legislation and regulations.



Do not direct water in the direction of electrical equipment to avoid the danger of electrocution and damage to equipment.



DO NOT USE WATER OR PRESSURE WASHERS

CARRY OUT CLEANING OPERATIONS WEEKLY

It is good practice to carry out periodic cleaning of the press in order to remove foreign bodies (e.g. dust, foreign and soiling substances, etc.) that could excessively wear out all moving parts of the press.

Periodically clean the air filter located above the control unit.

N.B. ALL MAINTENANCE OR CLEANING OPERATIONS MUST BE CARRIED OUT WITH THE MAIN SWITCH SWITCHED OFF.

Remove all foreign bodies from the cylinder rod that could damage both the surface of the rod and the cylinder seals.

When cleaning, use non-harmful and non-polluting cleaning agents in accordance with the law.

Extreme care must be taken during all stages of cleaning the internal parts of the press body, especially if guards are removed for practical reasons.

Avoid acting during cleaning directly with your hands, use protective gloves and brushes or oilers to lubricate the guides.

N.B. Do not use solvents or aggressive acids.

8.5 CHECKING THE SAFETY DEVICES

PERIODIC CHECKS ON SAFETY DEVICES

INTEGRITY AND EFFICIENCY CHECK	AFTER EACH USE	MONTHLY	BIANNUAL			
COMPONENT						
Fixed and movable guards		✓				
Intangible barriers.		✓				

COMPONENT	DESCRIPTION OF INTERVENTION
and movable guards	DUTIES: mechanical maintenance technician. Verify: - visually the presence of the guard before using the machine. - in the case of a movable guard, the effectiveness of the interlocking device. Verify: - the absence of damage due to impact or misuse. - sealing and tightening of support systems and fixing screws. Check the installation and efficiency of the guard after maintenance work.
REMARKS	

COMPONENT	DESCRIPTION OF INTERVENTION
Intangible barriers	DUTIES: electrical maintenance technician. Verify: check the proper functioning of intangible barriers (where present). NOTE: If necessary, enter the area safely and according to procedures indicated in this manual.
REMARKS	

INTEGRITY AND EFFICIENCY CHECK	AFTER EACH USE	MONTHLY	BIANNUAL			
COMPONENT						
Interlocking devices on movable guards (where fitted).	✓					
Light and sound signals (where present).	✓					
Electric panel keys	✓					
Safety barriers (where present).		✓				
Safety ropes (where present).		✓				
Emergency buttons			✓			

COMPONENT	DESCRIPTION OF INTERVENTION
devices on movable guards (where fitted)	DUTIES: electrical maintenance technician. Please refer to the procedure in Chapter 5, para. "OPERATING INSTRUCTIONS".
REMARKS	

COMPONENT	DESCRIPTION OF INTERVENTION
Light and sound Signals	DUTIES: electrical maintenance technician. Verify: • lamps and horns switch on properly.
REMARKS	

COMPONENT	DESCRIPTION OF INTERVENTION
Keys Electrical panel	DUTIES: electrical maintenance technician. Verify: • keys must be used for the time needed to carry out the intervention; at the end of the intervention they must be removed and guarded by the person appointed for that purpose • keys may be used only by authorised and qualified persons, identified through a written procedure • duplicating keys is prohibited. The employer is required to implement a key management procedure. Keys must be used only by experienced and qualified personnel who are aware of the risks involved.
REMARKS	

8.6 CHECKING THE FUNCTIONING OF SIGNALS AND WARNING LIGHTS



	-
	Checking the operation of signal lamps and button lights.
	- Machine status: switched on. - No. of operators required: 1.
	Verification does not require access to the protected area. Carry out the check by standing on the perimeter of the machine or in front of the control panels.
	For details of signal lamps, see Chapter 3. For details of the button lights, see Chapter 5.
STEP	ACTION
01	Check that the signal lamps are lit during the various operating states of the machine (automatic, manual, alarm, etc.).
02	Check that the button lights are on during the various operating states of the machine or after pressing them (machine start-up, alarm present, request, etc.).



	
	Fault detection after failure of signal lamps or button lights.
	- Machine status: stopped. - Disconnect the power supply by turning the switch on the switchboard to '0' and apply a padlock (LOTO). Restarting the machine must not be possible. - Disconnect the air supply by turning the pressure regulator on the air handling unit to 'OFF' and apply a lock (LOTO). The pressure displayed on the pressure gauge must be 0. - No. of operators required: 1.
STEP	ACTION
01	Check that the lamp or indicator light is not broken and replace it if necessary.
02	Check cable wiring and restore if necessary.

8.7 work on the piping circuit



- Machine status: stopped.
- Disconnect the power supply by turning the switch on the switchboard to '0' and apply a padlock (LOTO). Restarting the machine must not be possible.
- Relieve pressure from piping by moving the lever back and forth in the case of lever control. In the case of solenoid valve control, perform the upward movement.
- No. of operators required: 1.

Prior to any extraordinary maintenance work, such as dismantling/replacement of components/pipes, on the system, the power supply to the electrical circuit must be disconnected

During work, bear in mind that, even after sectioning, pipes may contain fluids.

8.7.1 In-service breakage risks

TYPES AND CRITERIA OF HYDRAULIC HOSE INSPECTIONS

1	Difficulty in assuming the natural position or performing the necessary movements
2	Traction, torsion, crushing
3	Curves with a radius smaller than the minimum radius specified by the manufacturer, stationary or in motion
4	Mechanical, thermal or chemical stresses acting from outside
5	Painted hoses
6	Damaged outer coating (chafing, cuts or tears)
7	Weakened outer coating (cracked material)
8	Crushed spots
9	Bent spots
10	Presence of bulges
11	Faulty Terminal Sealing
12	Fluid leakage
13	Hose ejected from the terminal
14	Damage or deformation on the terminal
15	Terminal corrosion
16	Evident discolouration of the surface (e.g. caused by solvents)
17	Predetermined duration of use exceeded.

FREQUENCY OF INSPECTIONS

Requirements for hydraulic hoses	Recommended control frequency
Normal requirements	12 months
Increased security requirements e.g. due to : Increased working time (e.g. multiple jobs - shift work) Strong external influences Intentional extension of service life Or provisions laid down by the manufacturer in the case of heavy loads on the axles	6 months

FREQUENCY AND CRITERIA FOR SUBSTITUTION CHECKS

Requirements for hydraulic hoses	Recommended replacement frequency
Normal requirements	6 years
Increased security requirements e.g. due to : Increased working time (e.g. multiple jobs - shift work) Strong external influences Intentional extension of service life Or provisions laid down by the manufacturer in the case of heavy loads on the axles	2 years

8.7.2 Types and criteria of gasket inspections

1	Mechanical, thermal or chemical stresses acting from outside
2	Hydraulic fluid leaks
3	Hydraulic oil too aggressive or contaminated
4	Predetermined duration of use exceeded.
5	Oil temperature too high.

FREQUENCY OF INSPECTIONS

Requirements for seals	Recommended control frequency
Normal requirements	12 months
Increased security requirements e.g. due to : Increased working time (e.g. multiple jobs - shift work) Strong external influences Intentional extension of service life Or provisions laid down by the manufacturer in the case of heavy loads on the axles	6 months

FREQUENCY AND CRITERIA FOR SUBSTITUTION CHECKS

Requirements for seals	Recommended replacement frequency
Normal requirements	6 years
Increased security requirements e.g. due to : Increased working time (e.g. multiple jobs - shift work) Strong external influences Intentional extension of service life Or provisions laid down by the manufacturer in the case of heavy loads on the axles	2 years

The seals must be replaced at the same time as the hydraulic oil change.

8.7.3 Types and criteria of hydraulic valve inspections

1	Mechanical, thermal or chemical stresses acting from outside
2	Hydraulic fluid leaks
3	Hydraulic oil too aggressive
4	Predetermined duration of use exceeded.
5	Temperature too high or contaminated

FREQUENCY OF INSPECTIONS

Requirements for hydraulic valves	Recommended control frequency
Normal requirements	12 months
Increased security requirements e.g. due to : Increased working time (e.g. multiple jobs - shift work) Strong external influences Intentional extension of service life Or provisions laid down by the manufacturer in the case of heavy loads on the axles	6 months

FREQUENCY AND CRITERIA FOR SUBSTITUTION CHECKS

Requirements for hydraulic valves	Recommended replacement frequency
Normal requirements	10 years
Increased security requirements e.g. due to : Increased working time (e.g. multiple jobs - shift work) Strong external influences Intentional extension of service life Or provisions laid down by the manufacturer in the case of heavy loads on the axles	5 years

The hydraulic valves must be replaced at the same time as the hydraulic oil change

8.8 COGWHEELS AND RACKS (WHERE APPLICABLE)



250 hours.



- Machine status: stopped.
- Disconnect the power supply by turning the switch on the switchboard to '0' and apply a padlock (LOTO). Restarting the machine must not be possible.
- Disconnect the air supply by turning the pressure regulator on the air handling unit to 'OFF' and apply a lock (LOTO). The pressure displayed on the pressure gauge must be 0.
- No. of operators required: 1.



In order to maintain the efficiency of the components, the cogwheels and their racks must be kept smooth with a light coat of lubricant.

Before lubrication, the cogwheel and rack must be cleaned by removing dirt and grease.

Use a brush to spread a film of mineral oil with a viscosity of 45 to 150 (ISO-VG).

8.9 PERIODIC LUBRICATION RECORD (where applicable)

[illegible]

8.10 MALFUNCTIONS, CAUSES AND REMEDIES

8.10.1 Main cylinder malfunctions

Malfunction	origin	Remedy
The cylinder moves erratically	Presence of air in the hydraulic system	Perform air purging
	Damaged cylinder seals	Replaced control unit
	Obstructed or damaged delivery pipe	Check pipes and where present check the choke
	Damaged or worn pump	Replaced pump
	Jammed sequence valve	Try operating the valve manually and replace it if necessary
The cylinder does not move	No power supply to valves or electric motor	Verify the correct power supply of the press and check that the electrical connections are properly secured
	Damaged pump	Overhaul or replace the pump
	Damaged motor	Overhaul or replace the engine
	In automatic or cycle mode, the lift limit switch does not send the signal	Check that the lift limit switch is in contact with the micron and that the micron is functional
		In the case of encoders, check that the actual dimension is equal to or numerically lower than the PMS and that the encoder is functioning correctly
The cylinder is leaking oil	Security pressed or gates opened	Check that there are no pressed emergencies or open gates (where applicable). In the case of gates, check the correct functioning of the safety micron
	Damaged or worn cylinder head gaskets	Gasket replacements
	Pipe loose torque	Tighten the pipes
Cylinder does not press	Mechanical breakage	Cylinder replacement
	Lack of pump pressure	Pump overhaul
	Maximum pressure control valve set low	Manually adjust the valve using the adjustment knob
	High-low pressure exchange cartridge rupture	Cartridge replacement

8.10.2 Malfunctions of the hydraulic system

Malfunction	origin	remedy
Pump cavitation	Clogged suction filter	Clean or replace
	Fluid excessive viscosity	Replacement

	Excessive weight on the moving table	Reduce the fluid using the needle valve (where fitted)
Foam formation in the fluid	Fluid level too low	Topping up
	Hydraulic oil not suitable	Replace the hydraulic oil with H-LP46 oil
Pumps	Lack of pressure	Overhaul or replace
	Excessive noise	Overhaul or replace
The press does not perform pressure exchange	Broken or clogged exchange valve	Check the valve components and replace if necessary
LITTLE OR NO CIRCULATION THROUGH THE PUMPS	Worn or damaged pumps	Replace or overhaul
THE PUMPS ARE NOT RUNNING	Broken or slipped pump coupling	Check and Replace or overhaul
UNSTABLE VALVES	Damaged valve seat	Replace or overhaul
	Non-constant pressure	Check pump or pressure relief valve
JAMMED VALVE PARTS	Dirty fluid	Drain fluid, clean system and components, refill clean and filtered fluid

8.10.2 Various malfunctions

EXCESSIVE WEAR IN PARTS	Oil containing abrasives	Replace fluid
	Insufficient lubrication	Poor quality oil, replace
	Foreign bodies in the oil not retained by the filter	Insufficient filtering, replace filters
FREQUENT TOPPING UP OF THE OIL LEVEL	Oil leak from hydraulic	Assess the integrity of piping and fittings
		Check for leaks in the cylinder
		Check for leaks in the hydraulic system

9 SPARE PARTS

9.1 GENERAL WARNINGS

The spare parts catalogue allows you to find the part number of a machine component that needs to be replaced.



Always fit original parts.



The installation, and consequent malfunctioning, of mechanical parts that are not the manufacturer's property will result in the forfeiture of the warranty and free service contract for the duration of the warranty period.



The electrical components can be identified in the circuit diagrams. The final part of the circuit diagrams provides a complete list of the electrical components with their reference code and their position on the diagram.

In the spare parts tables, components subject to maintenance or lubrication are indicated with appropriate symbols.

For detailed information, please refer to the chapters 'MAINTENANCE' and 'LUBRICATION'.



: component subject to visual inspection.



: component subject to maintenance.



: component subject to lubrication.

9.2 SPARE PARTS

Below are tables of the various assemblies that make up the machine, useful for quick identification of spare parts.

Some of the images may not perfectly correspond to the real appearance of the piece, but are nevertheless reliable for its identification within the group.



PLEASE REFER TO THE SPECIFIC INSTRUCTION MANUALS ATTACHED TO THIS MANUAL FOR DETAILED INFORMATION.

9.3 SPARE PARTS ORDER FORM

The request for spare parts shall be forwarded directly to SICMI s.r.l. who will deal with their shipment.

Requests should be addressed to:

SICMI s.r.l.

Via IV Novembre 35, 43018

San Quirico di Sissa-Trecasali (PR) - ITALY

Tel. +39 0521 873346

Mail: info@sicmi.it

Mail: uff.tecnico@sicmi.it

In the request, along with the description of the parts, the serial number, model and year of construction must always be mentioned in order to precisely identify the system.

The form for ordering spare parts is attached herewith.

9.3.1 Spare Parts Order Form

To:	From:
	Mr./Ms.

SERIAL NUMBER	MODEL	YEAR OF MANUFACTURE

UNIT DESCRIPTION			DRAWING	
POS.	CODE	DESCRIPTION	Unit of Measurement	Q.ty

REMARKS	STAMP AND SIGNATURE

10 ATTACHMENTS

10.1 FORM FOR COMPLETED TRAINING

CERTIFICATE OF EDUCATION AND TRAINING

With reference to the machine

TYPE: ...
MODEL: ...
SERIAL NUMBER: ...
YEAR OF MANUFACTURE: ...

it is hereby certified that Mr./Ms.

First name and Last name

from

Company name

attended the training project
dedicated to learning and training in the use of the machine:

same name used under TYPE

of a total duration of ___ days, from 00/00/0000 to 00/00/0000 as follows:
theory 00 hours; practice 00 hours; tests 00 hours,
held by Mr/Mrs _____ from the company _____ as _____.

INITIAL SKILLS:	- QUALIFICATION:	
	- KNOWLEDGE OF SIMILAR PRODUCTS:	
	- LICENCES OR CERTIFICATES OBTAINED:	
	- PHYSICAL OR APTITUDE LIMITATIONS:	

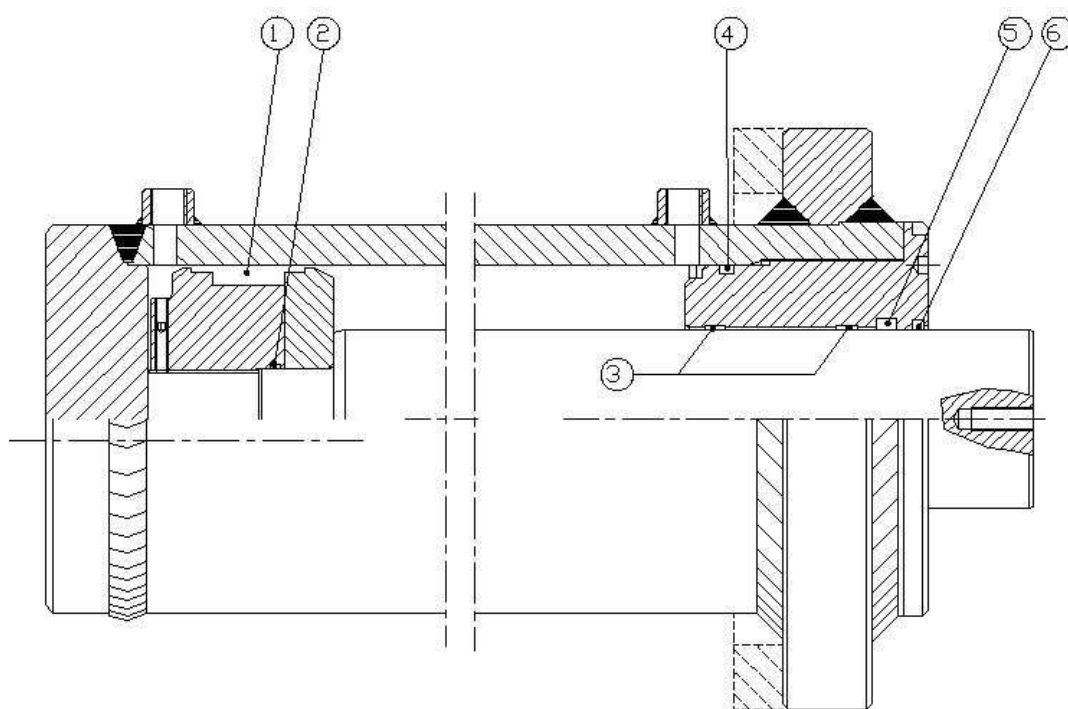
FINAL SKILLS:	TEST DESCRIPTION	ASSESSMENT
	TEST DESCRIPTION	ASSESSMENT
	TEST DESCRIPTION	ASSESSMENT
	TEST DESCRIPTION	ASSESSMENT

The following documentation accompanies it: _____.

The teacher

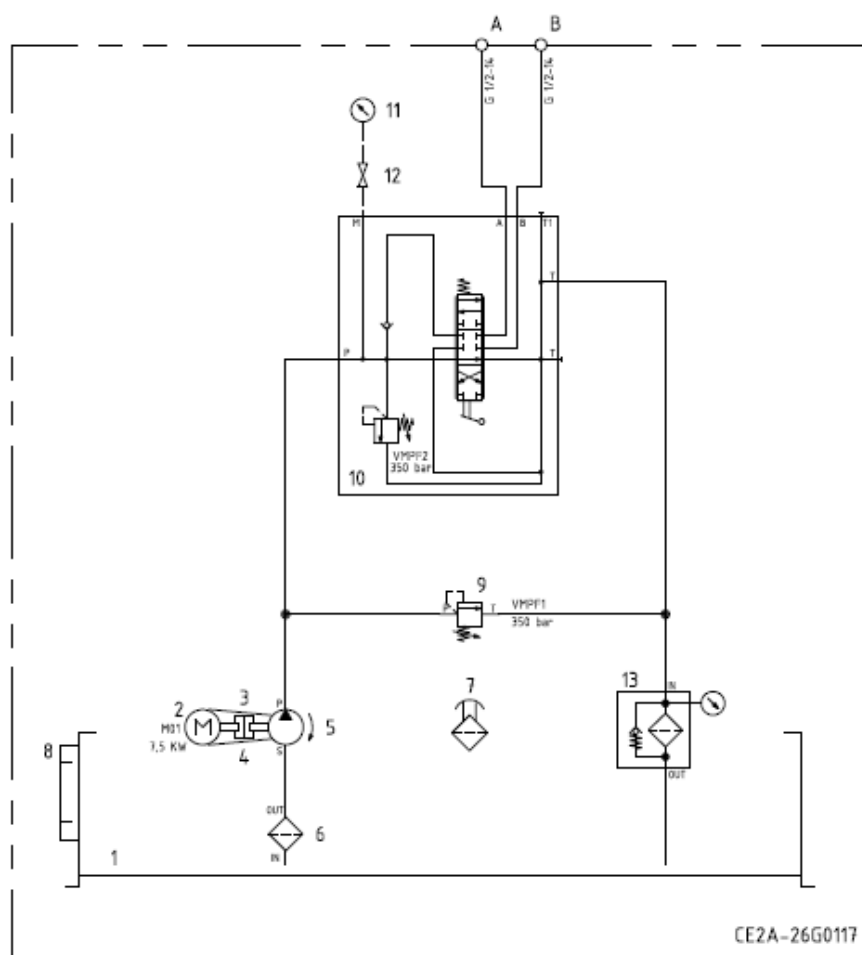
Place, 00 month 0000

10.2 CYLINDER AND SPARE PARTS SECTION



1	Piston Gasket
2	Piston O Ring
3	Head Guide Rings
4	Head O Ring
5	Head Gasket
6	Head Scraper

10.3 HYDRAULIC SYSTEM DIAGRAM AND PARTS LIST



FORMATO / SIZE: A4	DATA / DATE: 28/08/2026	DITTA / COMPANY: Sicmi	IMPIANTO / PLANT: Pressa PSS100M	ESECUTORE / EXECUTOR: M.G.
 PARMAFLUID FLUID POWER SYSTEMS		SCHEMA / HYDRAULIC DIAGRAM:	CODICE / CODE: 260717-G-0117	SOSTITUISCE / REPLACES:
		PROPRIETÀ PARMAFLUID S.p.A. - RIPRODUZIONE VIETATA A NORMA DI LEGGE / PROPERTY OF PARMAFLUID S.p.A. - REPRODUCTION FORBIDDEN BY LAW		

Company:
SICMI

PARMAFLUID
BILL OF MATERIALS

Date:
28/08/2026

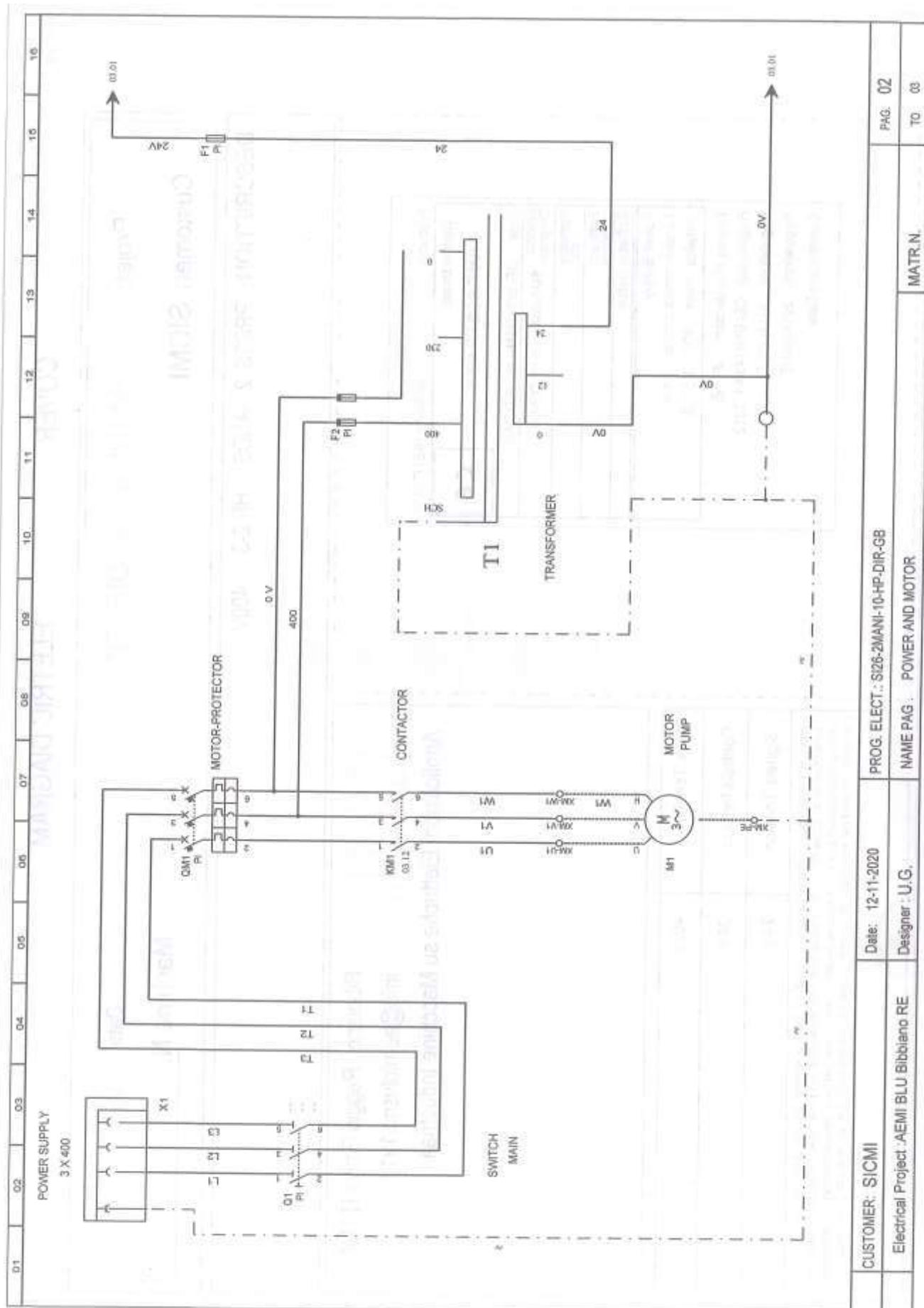
Pos.	Qty.	Description	Part Number
	1	HYDRAULIC POWER UNIT COMPRISING:	CE2A-26G0117
1	1	55 L tank	ZI-09-138-00-00-00
2	1	Electric motor 7.5 kW-4P-B5-3ph-400/690V-50/60Hz-IP55-F-IE3	JM132MA4
3	1	Coupling bell	LMG300MFS2004S
4	1	Half coupling	SGEA31M06077
4	1	Flexible Insert	EGE3
4	1	Half coupling	SGEA31FS200
5	1	6.3 cm ³ /rev gear pump	KP20.6,3 D0-82E2
5	1	Fitting	RPA1-012-M
5	1	Fitting	RPA1-036-M
6	1	90 µm suction oil filter	HF410-20.122-AS-MS090-GE-A01-B1
7	1	Filler and breather cap	CTR
8	1	Visual oil level indicator	HL91-20.T2. T-B
9	1	Pressure relief valve	VMP10V3
10	1	Directional control valve	SD11/1-P(KG4)18L/AET-PSB
10	1	Lever rod	AL01/M10x250
11	1	Glycerine-filled pressure gauge Ø 63, 0-400 bar	M63/400-R
12	1	Shut-off valve	FT290-14
13	1	25 µm return oil filter	AFR 60 C25NR
13	1	Visual clogging indicator	M40/10-R-C
		Set of internal hoses and fittings for power unit	
		Assembly and testing	

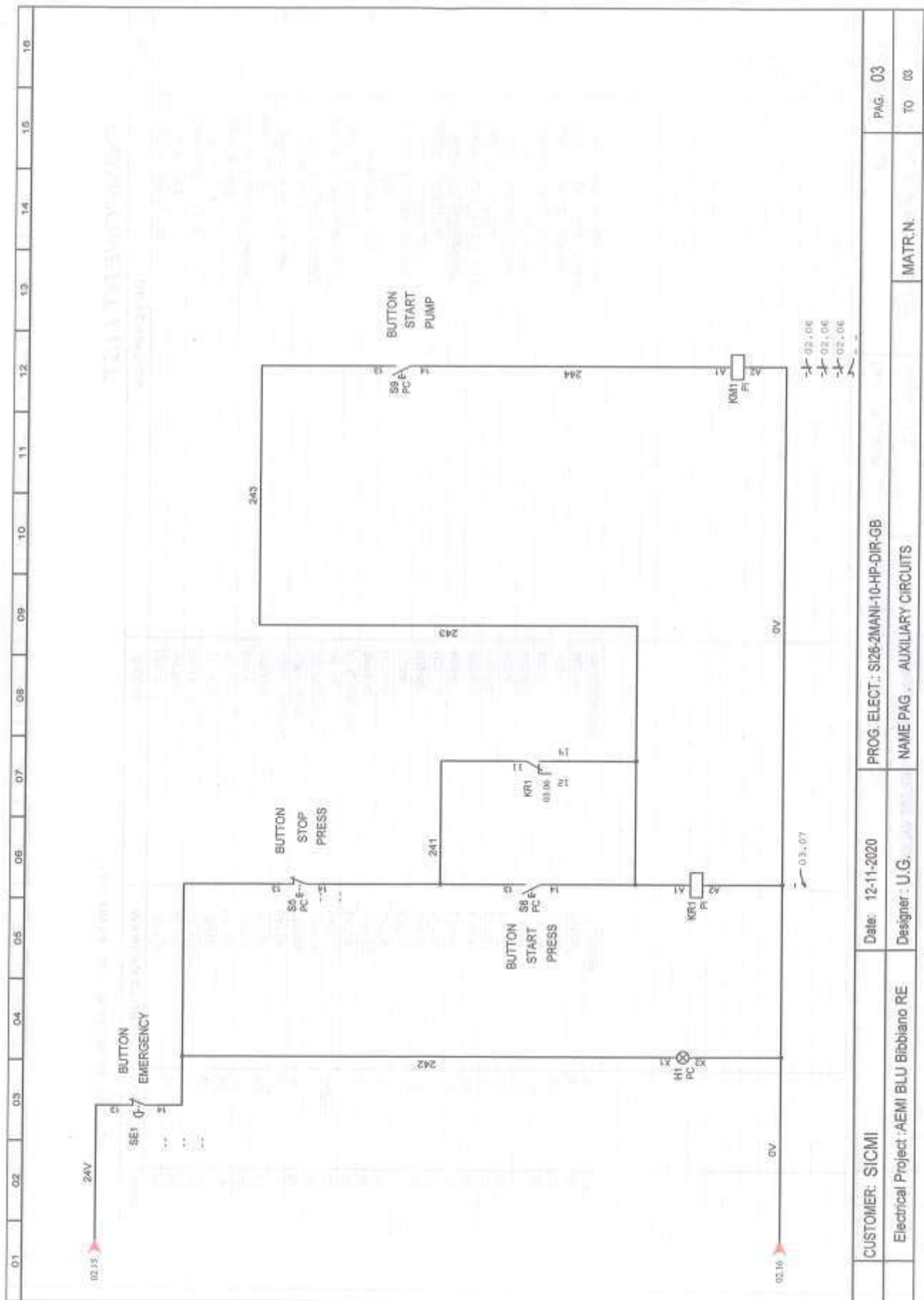
System:
PSS 100 M

Code:
CE2A-26G0117

10.4 ELECTRICAL SYSTEM DIAGRAM AND PARTS LIST

COVER		ELETTRIC DIAGRAM	
Projet: S126-2MANI-10-HP-DIR-GB Customer: SICMI		Date: 12-11-2020 Machine N.:	
DESCRIPTION: PRESS 2 HANDS HP 2-3 400V			
Producer: AEMI BLU Bibbiano (RE) ITALY Control board: 2 HANDS 2/3 HP 400 V C€ Code : OE-S126-2MANI-10-HP-DIR-GB Electric Diagram : S126-2MANI-10-HP-DIR-GB Software plc : Software viewer : Software Safety : Power Supply : Tension control circuits : 24 V Installed Power : KW 1,5-2,0 Degree of protection : IP 56 Regulations : CEI EN61439-1:2012 Regulations : 2014/35/UE Regulations : 2014/30/UE Construction Date : 12-11-2020		AEMI BLU Bibbiano Reggio Emilia ITALY info@aemiblusnc.191.it Applicazioni Elettriche su Macchine Industriali	
		Work Tension : 400 V	
		Controls tension : 24 V	
		Signals Tension : 24 V	
NON E' PERMESSO CONSERVARE A TERZI O RIPRODURRE QUESTO DOCUMENTO NE' UTILIZZARE IL CONTENUTO O RENDERSILO COMUNQUE NOTO A TERZI SENZA LA NOSTRA AUTORIZZAZIONE ESPLICITA' OGNI INFRAZIONE COMPORTA IL RISARCIMENTO DEI DANNI SUBITI E' FATTA RISERVA DI TUTTI I DIRITTI DERIVANTI DA BREVETTI O MODELLI.			





COMPONENT LIST

" DISTINTA MATERIALI 01.03 INGLESE "

CODE	DESCRIPTION	CODE	MANUFACTURER	POSITION	Page
F1	FUSE HOLDER 10 X 38	FB01 F 1P	LOVATO	PI	02
F1	FUSE 10 X 38 2A	10X38-2A	WEBER	PI	02
F2	FUSE HOLDER 10 X 38	FB01 F 2P	LOVATO	PI	02
F2	FUSE 10 X 38 2A	10X38-2A	WEBER	PI	02
H1	ORANGE LIGHT	M22-L-Y	EATON	PC	03
H1	CONTACTS HOLDER SUPPORT	M22-A	EATON	PC	03
H1	WHITE LED 24 V	M22-LED-W	EATON	PC	03
KM1	CONTACTOR 3 + 1 NO 40 AMP	DILM17-10 24 VAC	EATON	PI	03
KR1	UNIPOLAR RELAY	G2R-1-24VAC	OMRON	PI	03
KR1	SOCKET FOR OMEGA 1 SWITCH	ZOCOCLOX1SC	OMRON	PI	03
M1	MOTOR 10 HP 3 PHASES 400 V	MOT10	VARI	MACCH	02
Q1	SWITCH 32 A + KNOB	P1-32V/5VB-SW	EATON	PI	02
QM1	MOTOR-PROTECTOR 11-23 A	SM1B 48	LOVATO	PI	02
S1	RED PUSH BUTTON	M22-D-R	EATON	PC	03
S1	CONTACTS HOLDER SUPPORT	M22-A	EATON	PC	03
S1	CONTACT FOR PUSH BUTTON NC	M22-K01	EATON	PC	03
S2	GREEN PUSH BUTTON	M22-D-G	EATON	PC	03
S2	CONTACTS HOLDER SUPPORT	M22-A	EATON	PC	03
S2	CONTACT FOR PUSH BUTTON NO	M22-K10	EATON	PC	03
S3	BLACK PUSH BUTTON	M22-D-S	EATON	PC	03
S3	CONTACTS HOLDER SUPPORT	M22-A	EATON	PC	03
S3	CONTACT FOR PUSH BUTTON NO	M22-K10	EATON	PC	03
SE1	EMERGENCY PUSH BUTTON	M22-PV	EATON	PC	03
SE1	CONTACTS HOLDER SUPPORT	M22-A	EATON	PC	03
SE1	CONTACT FOR PUSH BUTTON NC	M22-K01	EATON	PC	03
T1	TRASF 110/230V400-11/024 - 3VA	OMT0250400300	ITALWEBER	PI	02

CUSTOMER: SICMI	Date: 12-11-2020	PROG. ELECT.: S126-2MANI-10-HP-DIR-GB	PAG. 01
Electrical Project :AEMI BLU Bibbiano RE	Designer : U.G.	NAME PAG . MATERIALI AEMI BLU INGLESE VALIDO	TO 01
		MATR.N.	

10.5 MACHINE MAINTENANCE SHEET

HYDRAULIC PRESS TYPE: PSS 15 PDC		SERIAL NO. 9024		
DESCRIPTION OF ROUTINE MAINTENANCE AND FREQUENCY				
DATE	TYPE INT(*)	DESCRIPTION ACTION	ACTION EXECUTED BY	NEXT ACTION
NOTES				

(*) LEGEND TYPE OF INTERVENTION: **O** = ORDINARY/PREVENTATIVE **S** = EXTRAORDINARY

USER AND MAINTENANCE MANUAL

HYDRAULIC PRESSES TYPE: PSS 15 PDC

Serial Number: 9024



SICMI S.R.L. Via IV Novembre, 35 S. Quirico
43018 Sissa Trecasali (PR) Italy - Tel. 0521 873346/44 - Fax 0521 872952/872669
info@sicmi.it - www.sicmi.it
Capitale Sociale € 50.000,00 i.v. - REA PER 127828 - Reg. Imprese, Cod. CEE - IT 00406820340

SICMI s.r.l. reserves the right to make any change deemed necessary to enhance the product and commits to updating in a timely manner this document.

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Capitale Sociale € 50.000,00 i.v. - REA PER 127828 - Reg. Imprese, Cod. CEE - IT 00606820360

"EU" CONFORMITY DECLARATION

Enclosure IIA - Directive 2006/42/CE for the approach of the member States legislations relating to the Machines security.

Producer	SICMI s.r.l. Via IV Novembre, 35 – S. Quirico 43018 SISSA-TRE CASALI (PR) Italy
Description	Hydraulic Press
Type	PSS 15 PDC
Serial No.	9024
Year of production	2026
We certify that the press is conform to the essential and relevant requirements for security; and also to the points of application of the directives on the side indicated	• Dir. MACHINES 2006/42/CE (The press doesn't concern the Annexe IV, because the closing speed is < 30 mm/s) • Dir. LOW TENSION 2014/35/UE • DIR. ELECTROMAGNETIC COMPATIBILITY 2014/30/UE
European harmonized norms here applied	• UNI EN ISO 12100-1:2010 • CEI EN 60204-1:2016
National norms applied to technical specifications	/

This declaration has no more validity in case the mentioned press is essentially modified.

Authorised person for constituting the technical issue: Mr. Cristian Lombardi – via IV Novembre, 35 S. Quirico di Sissa-Trecasali (PR)

Sissa Trecasali, 01/10/2026

Place and date

Signature
Lombardi Cristian
(The Manager)