

SPIDER

USER AND SERVICE MANUAL



PREFACE

SELMI S.r.l. would like to thank you for purchasing our "SPIDER".

This manual is to be considered an integral part of the machine and its purpose is to allow use of the machine throughout its life, from delivery until demolition. Therefore, we suggest that you read it carefully. Everyone working with the machine must read this manual. It is also necessary to keep the manual in a place accessible to operators at all times.

In the event of loss or damage of this manual, please ask SELMI S.r.l. to send you a replacement copy.

The technical information contained in this manual belongs to SELMI S.r.l. and must be considered proprietary.

The total or partial reproduction of the graphic design, text and illustrations is forbidden

With a view to constant technical improvement, the company reserves the right to make any necessary amendments to the content of the manual, to the machine or to parts thereof. Consequently, some of the illustrations may differ slightly from your machine.

This document is an integral part of the "SPIDER", as described in section 1.7.4 of annex I of directive 2006/42/EC.

The Italian edition of this manual contains the original instructions. The foreign language editions are to be considered as translations of the original instructions.

© Copyright SELMI S.r.l.
Edition July 2018



EC DECLARATION OF CONFORMITY

The manufacturing company SELMI S.r.l., with main office in S. Vittoria D'Alba (CN) Italy – Via Statale, 151, in its capacity as manufacturer, declares, under its own responsibility, that the machine named:

"SPIDER"

Serial number:

is compliant with all the provisions contained in the following directives: 2006/42/EC (machine directive), 2014/30/UE (electromagnetic compatibility) 2014/35/UE (low voltage directive) and EC regulation 1935/2004 (contact with foodstuffs).

The norms adhered to that are used as a reference for the design, realization and testing of the machine are listed in the technical files archived at Selmi Srl.

The manufacturer also wishes to inform you that the technical file may, in the cases envisaged by the directive, be put together by the manufacturing company.

Year of construction:

Date:



The liable person

1. General information	1		
1.1. Structure of the manual	1		
1.2. Messages Used	1		
1.3. Aim and contents	1		
1.4. Preservation of the manual	1		
1.5. Main external components	2		
1.6. Internal components	4		
1.7. Details of the manufacturer	6		
1.8. Identification plate of the machine	6		
1.9. Identification plate of the CE marking	6		
1.10. Inteded use	6		
1.11. Operating environment	6		
1.12. Noise level	6		
1.13. Technical characteristics	7		
1.14. Dimensions	7		
1.15. Storage	8		
1.16. Disposal	8		
1.17. Warranty	8		
1.18. person qualified to operate	9		
2. Safety section	10		
2.1. Safety information	10		
2.2. Safety limitations	10		
2.3. Safety symbols and plaques	11		
2.4. Safety and protection devices	13		
2.5. Client's safety measures	16		
2.6. Personal protection equipment	17		
2.7. Residual risks	17		
2.8. Applied Directives	18		
2.9. Harmonized technical norms	18		
3. Moving and transportation section	19		
3.1. General norms	19		
3.2. Packaging	19		
3.3. Transportation	20		
3.4. Removal of the packaging	20		
		4. Installation section	21
		4.1. Positioning	21
		4.2. Electrical connections	21
		4.3. Assembly instructions	19
		4.4. Installation procedure	19
		4.5. Accessoires	23
		5. Operation section	29
		5.1. Preparation for use	29
		5.2. Regulation of the tail-cutting roller	29
		5.3. Blower hight setting	29
		5.4. Grill vibration setting	30
		5.5. Installation of the chocolate distributor	30
		5.6. Description of control zones	31
		5.7. Using the machine	31
		5.8. End of working cycle	33
		5.9. Position of the user	33
		5.10. Alarm messages	34
		6. Maintenance section	25
		6.1. General information	28
		6.2. General safety practice	28
		6.3. Cleaning external parts	36
		6.4. Emptying and cleaning the machine	36
		6.5. Maintenance of mechanical parts	36
		6.6. Maintenance of electrical system	37
		6.7. Planned preventive maintenance	38
		6.8. Belt tension control	40
		7. Technical diagrams section	41
		7.1. Electrical circuit diagram	41
		8. Spare part section	53

1. General information

1.1. Structure of the manual

To simplify the reading and understanding of the information contained in this manual and to make searches quicker, it has been divided into sections, each dedicated to a specific subject.

1.2. Messages used

Attention

This type of message is used to draw the reader's attention to more delicate or particular procedures which, if not carried out correctly, may pose a risk to the safety of the operator and cause damage to parts of the machine.

Warning

This type of message is used to draw the reader's attention to procedures which, if not carried out correctly or at pre-set intervals, may cause damage to the machine or its parts, as well as to the product being processed.

Environment

Messages relating to the environment draw the operator's attention to the rules to be followed to prevent the risk of environmental damages deriving, directly or indirectly, from use of the machine.

Note

These messages highlight instructions, advice and notes that can be particularly helpful during the various uses of the machine.

1.3. Aim and contents

This manual has been drawn up in consideration of the requirements of directive 2006/42/EC and paying particular attention to describing all the procedures necessary to obtain the best working conditions for the machine and its operators, without neglecting product quality:

The aim of this manual is, therefore, to provide the user with all the information necessary for the correct use and maintenance of the machine. Consequently it is absolutely necessary:

- to meticulously follow the instructions given in the manual during every phase of the machine's life, from transportation to demolition;
- for every machine operator to thoroughly read the contents of this manual;
- for the company's safety officer to make sure that all machine operators have clearly understood how the machine works

Attention

In case of doubts on the correct interpretation of the instructions please contact the manufacturer to obtain the necessary clarifications. All those carrying out any kind of operation on the machine must have thoroughly read and understood the contents of this instruction manual.

Warning

If this manual is damaged or lost, please ask the manufacturer or the authorized distributor in the country where the machine is being used for another copy.

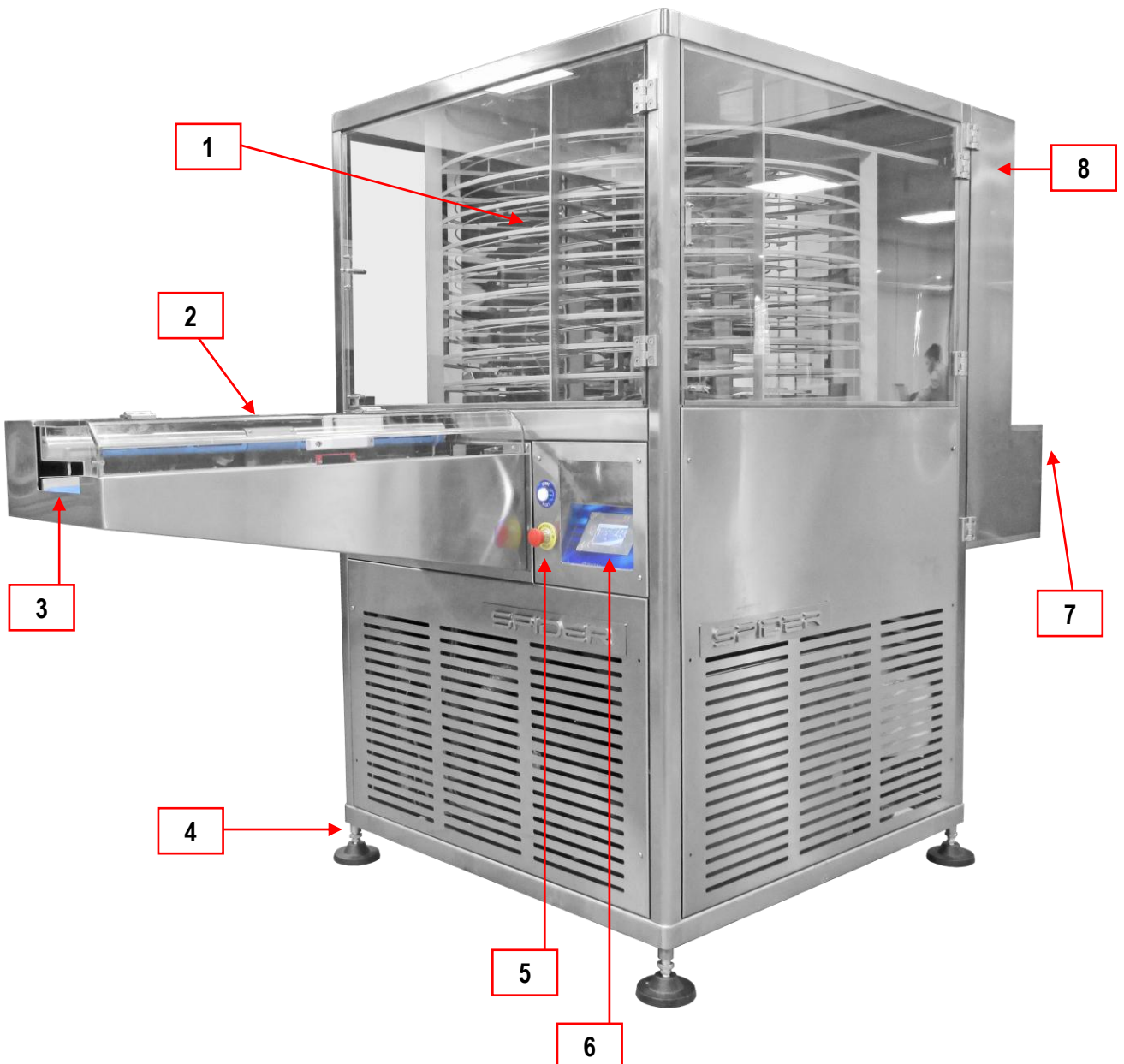
1.4. Preservation of the manual

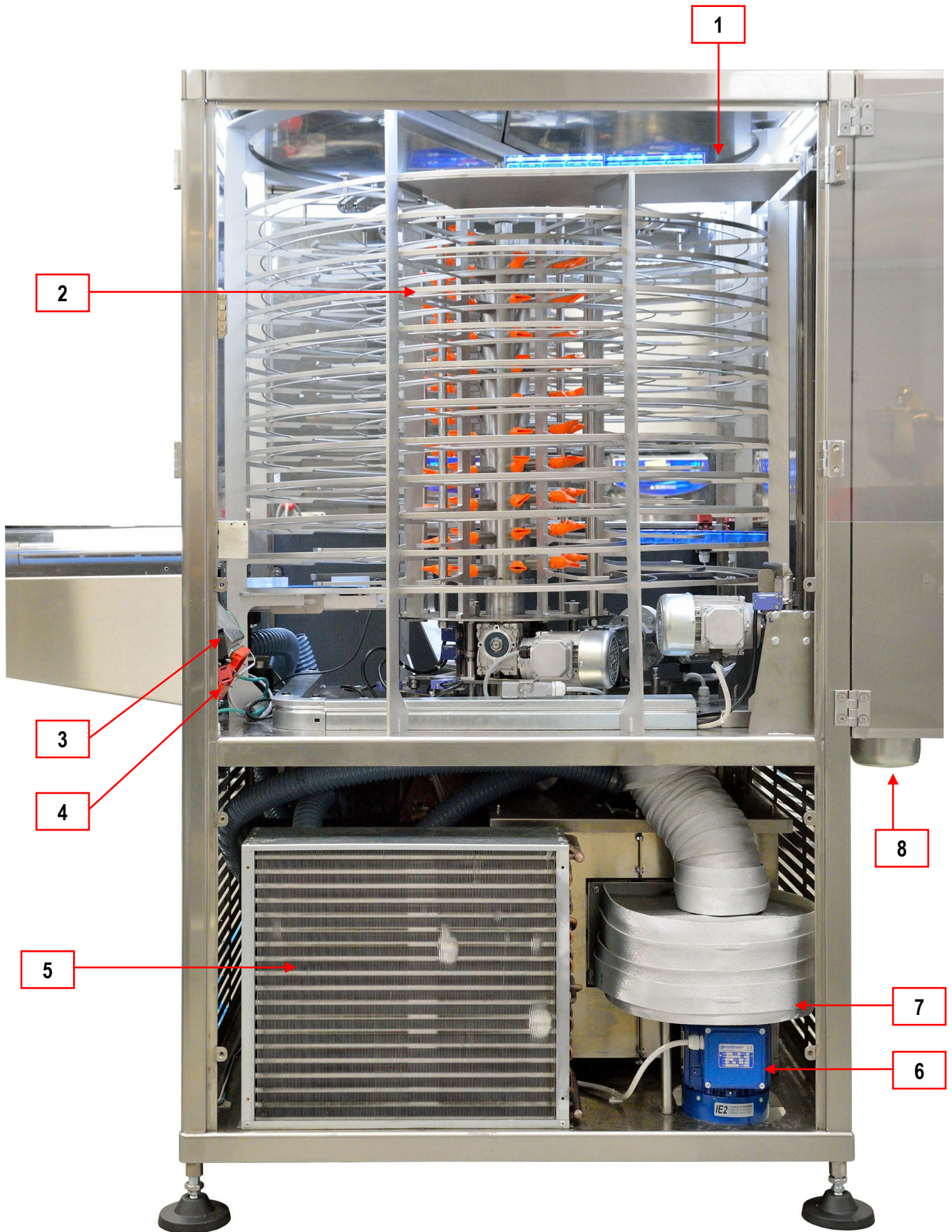
The instruction manual is an integral part of the machine and must be used to train and inform professional figures operating on the machine. Consequently, it is necessary to follow certain simple instructions regarding its preservation, as follows:

- store the manual in areas protected from humidity and heat, so as not to jeopardize the quality or legibility of any part of the publication;
- keep the manual in an easily accessible place known to the machine operators;
- avoid handling the manual with dirty or greasy hands;
- if you think it is necessary to highlight important steps of the manual, use non-permanent systems, to preserve its legibility;
- do not remove, rip or rewrite any parts of the manual for any reason.

1.5. Main external components

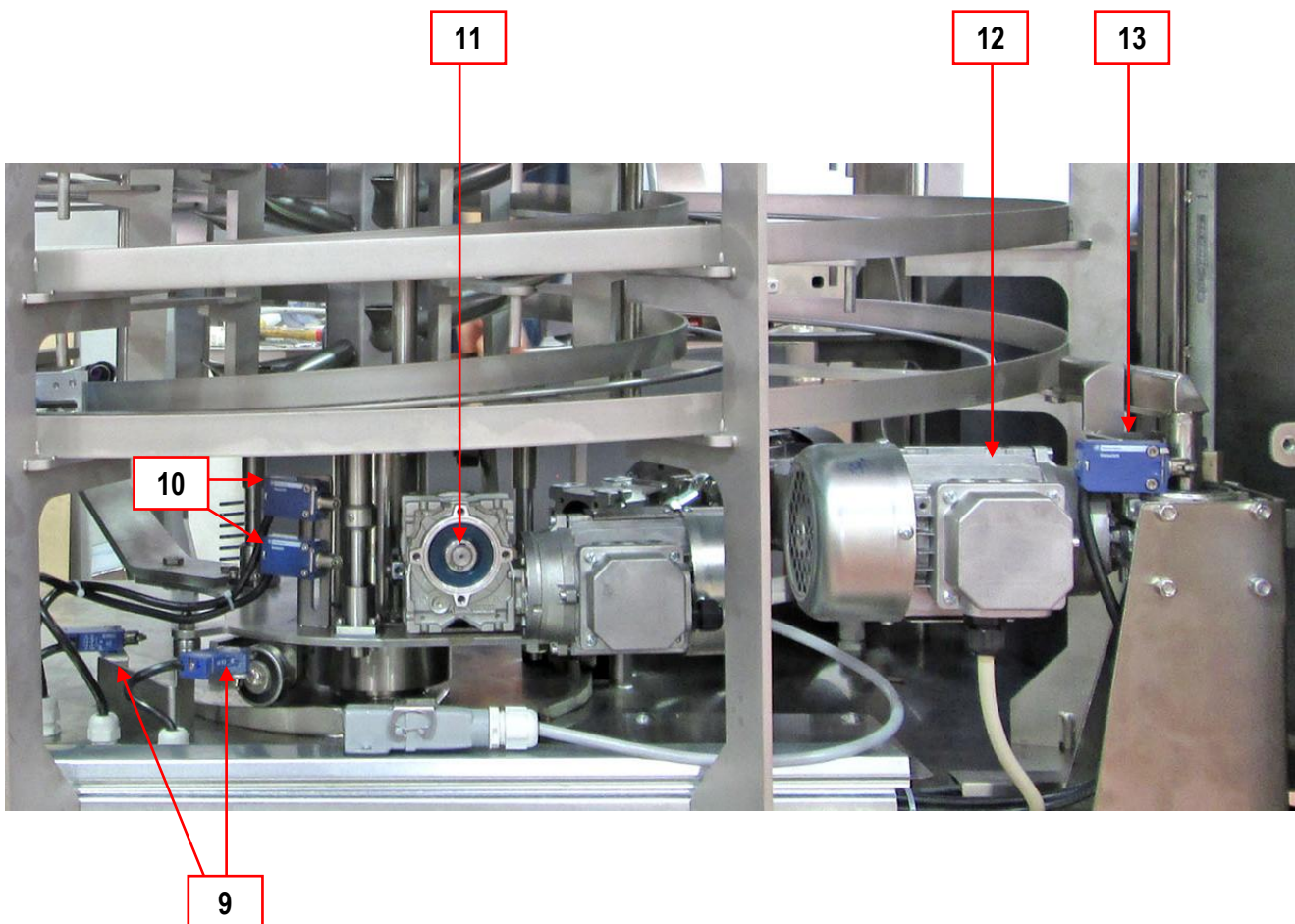
1. Spirals
2. Entrance tunnel cover
3. Moulds entrance belt
4. Machine feet
5. Emergency button/reset
6. Control touch screen
7. Mould exit platform
8. Mould lift for discens





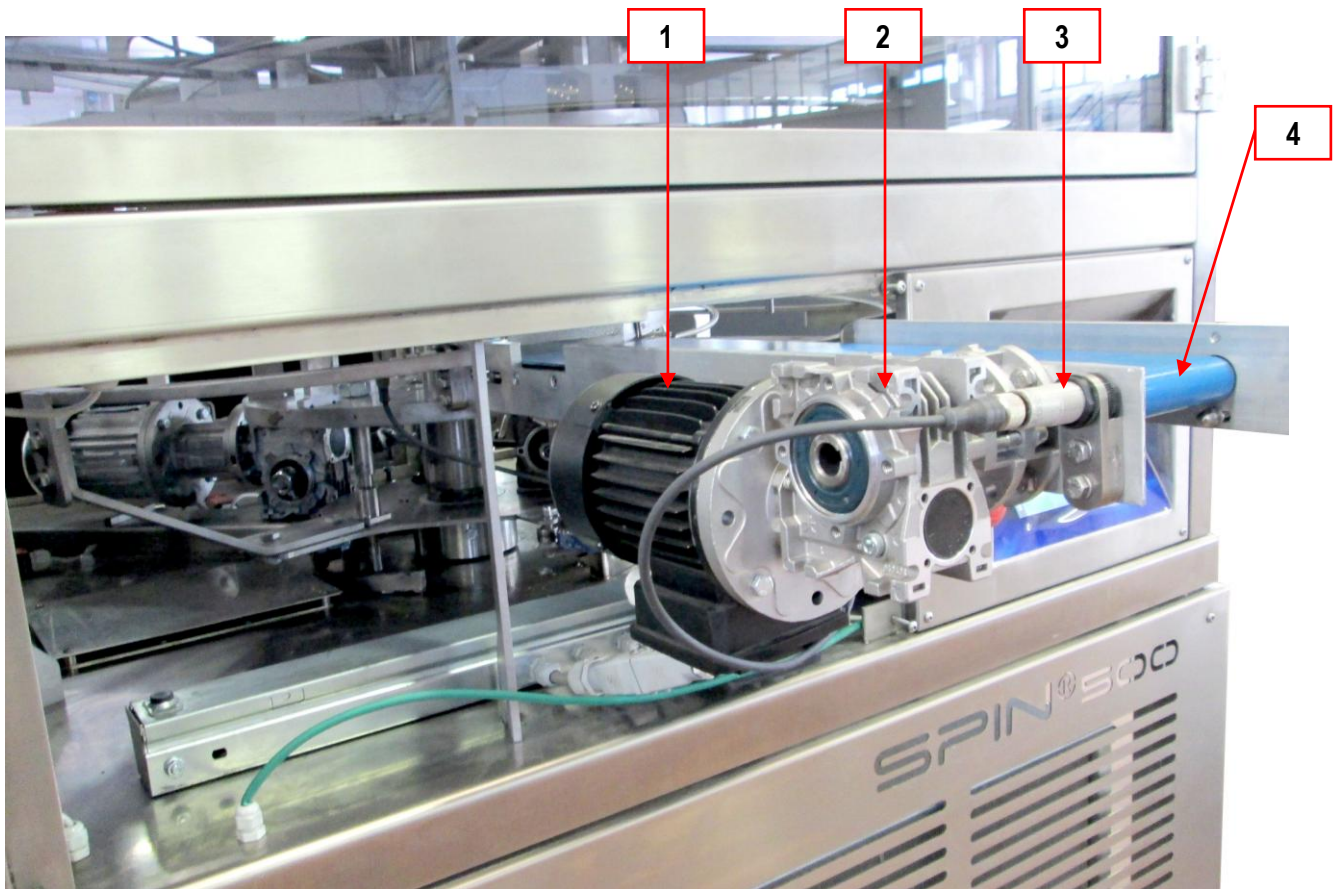
1.6. Internal components

1. Final part of the spirals
2. Spirals
3. Display touch screen
4. Micro security windows opening
5. Condensator
6. Fan motor
7. Fan
8. Motor discens moulds
9. Sensor start and end cycle ROTATION
10. Sensor start and end cycle LIFT UP
11. Motoreducer LIFT UP
12. Motoreducer EXPULSION
13. Sensor start and end cycle EXPULSION



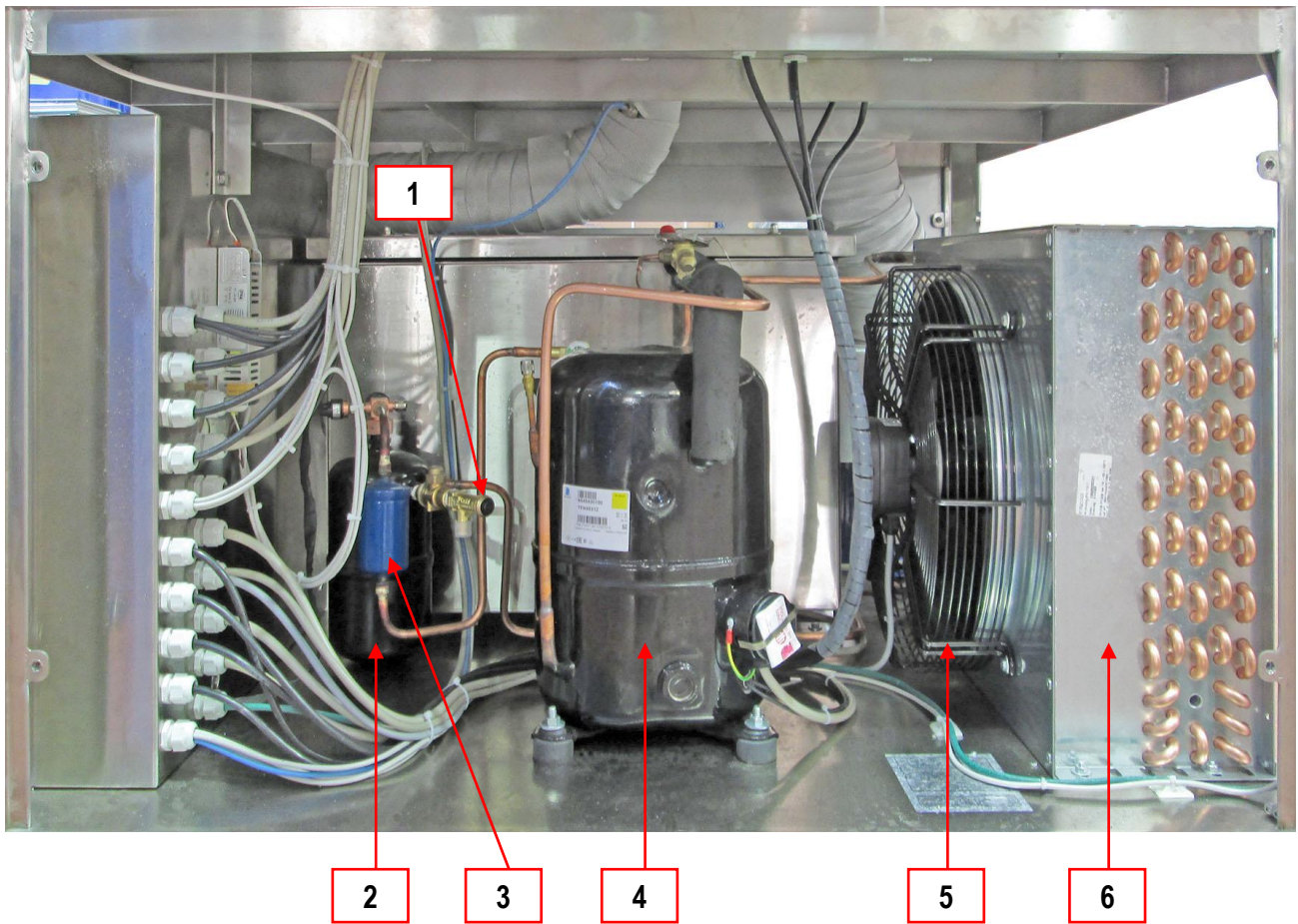
NASTRINO INGRESSO STAMPI

- 1. Belt motor
- 2. Belt reducer
- 3. Sensor for entrance moulds
- 4. Transportation belt



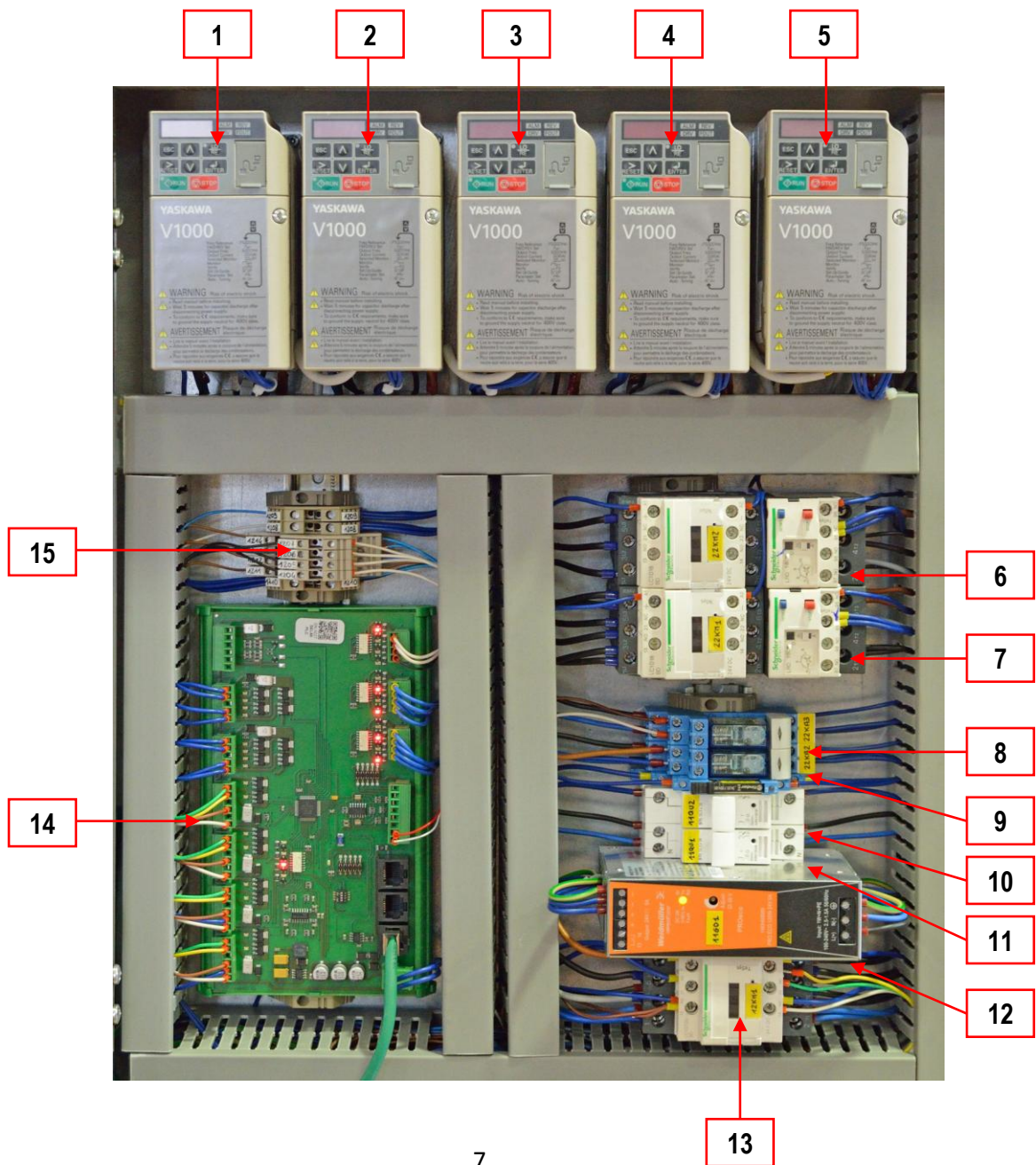
Internal components

1. Gas charge point
2. Gas reserve
3. Filter
4. Compressor
5. Exchanger fan
6. Exchanger

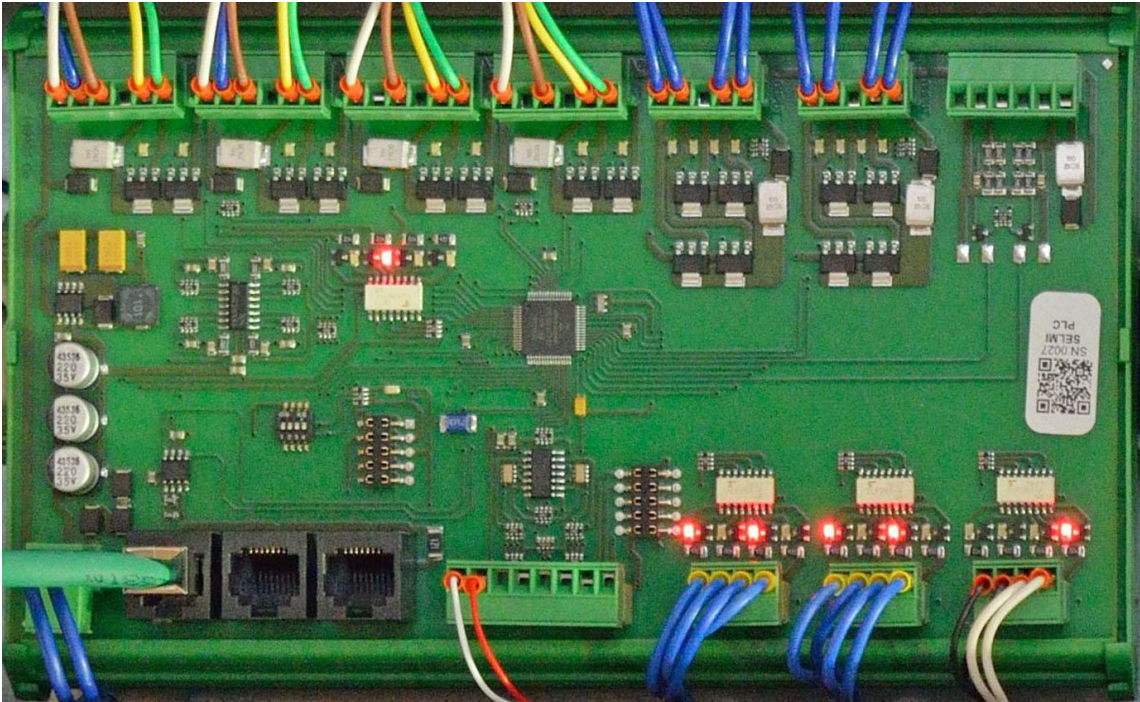
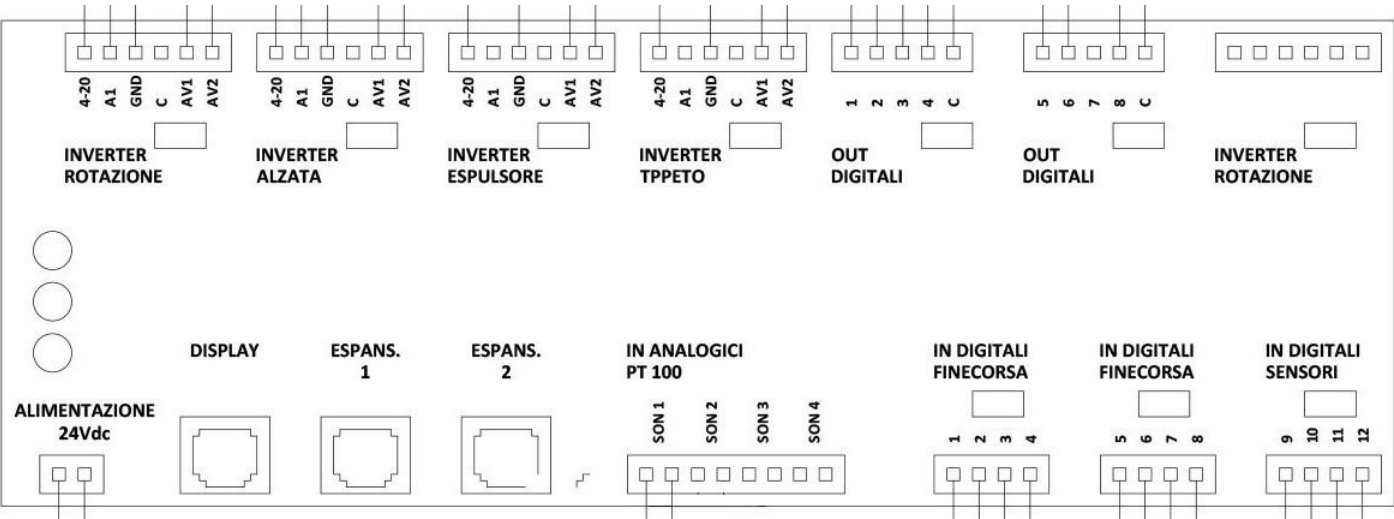


Componenti quadro elettrico

1. Disens motor inverter (for mould exit from the spider)
2. Inverter Rotation
3. Inverter lift up/down
4. Inverter Expulsion
5. Inverter belt
6. Contactor fridge compressor and exchanger fan
7. Contactor fridge recirculation fan motor
8. Relay led lights
9. Relay resistance fridge compressor
10. Fuseholder protection + 24V dc
11. Fuseholder protection 220V ac supply
12. 24 V dc Supply
13. Main contactor
14. PLC board
15. Clamps for micro security doors



Electronic Board



1.7. Details of the manufacturer

The machine described in this instruction manual was built by:

SELMI S.r.l.
Via Statale, 151 – 12069 – S. Vittoria D’Alba (CN) Italia
Tel. 0172.479273 - 0172.479275 - Fax 0172.477814
www.selmi-group.it - info@selmi-group.it

1.8. Identification plate of the machine (CE marketing)

There is a plate, similar to the one shown here, on the machine, indicating details of the manufacturer, the CE conformity mark and the machine’s serial number. Always state this number when communicating with the manufacturer.



Example of identification plate on the machine structure

- TYPE
- SERIAL NUMBER
- YEAR
- WEIGHT

1.9. Identification plate of the CE marking electric panel (low voltage)

Example of identification plate on electrical panel. For the correct data, see the data shown in the section on the machine’s technical specifications.



1.10. Inteded use

Tunnel for moulds with vertical spirals. The essential properties of this machine are the compact dimensions, functionality and high production yields. Selmi has created an innovative handling of the moulds that allows for maximum exposure of the same to the cooling flow.

Warning

A use other than that specified is considered improper. The machine is intended for professional use only.

Attention

Do not place any small objects near the control panel or the tank: they could fall and enter the tank, which would contaminate the product.

1.11. Operating environment

To guarantee proper functioning the machine must be protected from atmospheric agents. Its ambient operational temperature should be between 15C° and 35C° with relative humidity not exceeding 70%. The working environment must be clean, sufficiently illuminated and away from an explosive environment. The environmental characteristics of the installation site are specified in section 4.

Attention

The machine’s fixed guards have a variety of openings to allow the internal units to cool. When the machine is running, make sure that these openings are not covered by cloths or objects that obstruct proper air flow.

1.12. Noise level

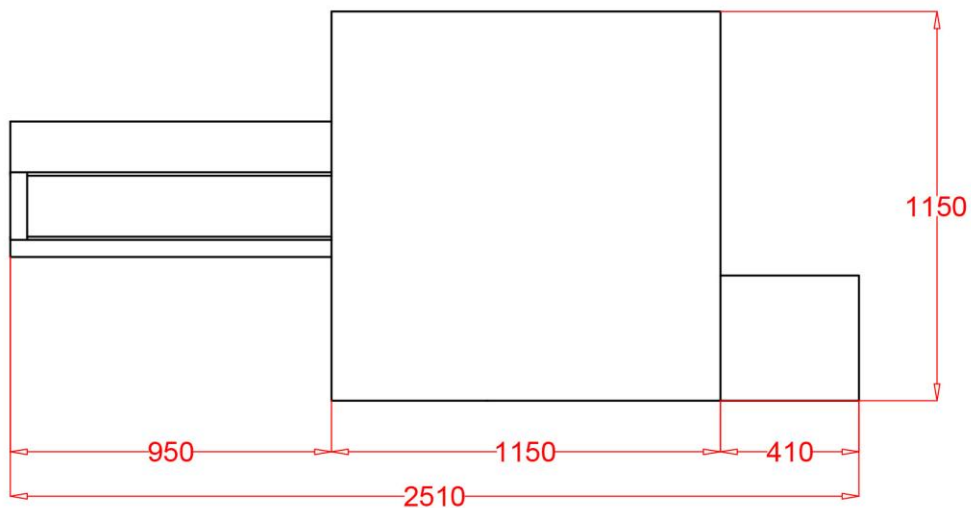
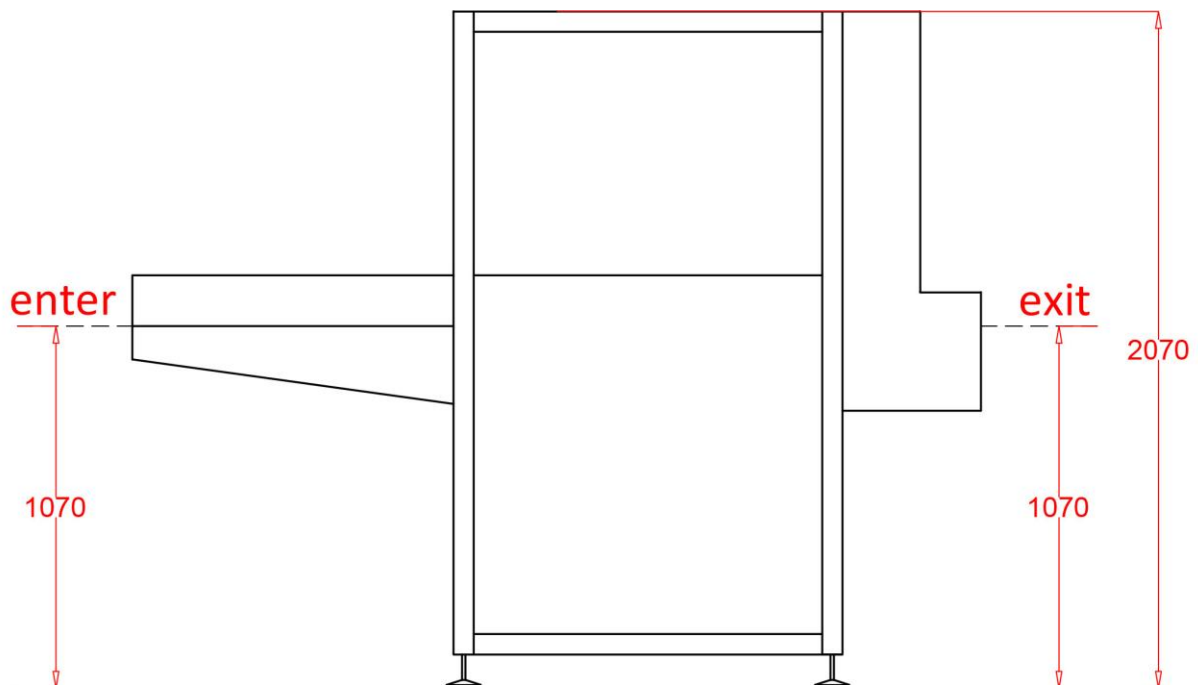
The phonometric tests carried out on this specific machine model show an acoustic pressure lower than 70 dB(A).

1.13 Technical data

Power consumption	4 kW
Mains voltage	380V - 220V *
Phases	3
Frequency	50 Hz / 60 Hz *
Gas	R448A
Total weight	650 kg

* This data can change according to the contractual installation conditions. For correct data refer to the plate inserted inside the electric panel.

1.14 Dimensions



1.15. Storage

Remove the remaining product left in the machine following the instructions in the appropriate section. Stop the machine using the main switch and disconnect it from the electricity main. Move it to a spacious place (it is necessary to work all around the machine).

Clean the tank, the removable components (i.e. screw pump, mixer, nozzle) and the pipes as described in the appropriate section.

Attention

It is absolutely necessary to follow the instructions in order to insure the safety of the operators and to avoid damaging the machine's removable parts.

Use a brush to cover the movable components and the mechanical moving parts with a thin layer of food grade lubricant. This can later be removed with an alkaline de-greaser (Sodium Hydroxide) if the machine needs to be re-installed.

Carry out the same operation on the machine surfaces, taking care of avoiding the heating elements located in the inner part of the machine.

Gather the parts (use as reference the delivery packing list) and put them in the original packaging. Place packets of hygroscopic salt based on silica gel in the packaging.

Store all the parts in a sheltered place away from atmospheric agents and in temperatures from 0° C to 40° C. Cover the parts with nylon in order to prevent the accumulation of dust.

1.16. Disposal

Disposal will occur at the end of the working life of the machine, which under normal conditions of use and maintenance will be over ten years.

In the case of disposal all the components of the machine will have to be disposed of in adequate waste yards according to the legislation in force.

Before disposal it will be necessary to separate the plastic or rubber parts and the electrical and electronic material.

Environment

Parts made solely of plastic, aluminium and steel can be recycled in the appropriate collection centres.

According to the RoHS regulations electronic boards and electric material should be recycled separately in authorized collection centres.

1.17. Warranty

The manufacturer offers a warranty on this machine model for a period of 24 months from the purchase date, as shown on the fiscal document issued at the time the machine is delivered.

The warranty will be void if the machine is repaired by a third non authorized party or if fixtures and accessories not supplied by or recommended or approved by the manufacturer are used.

The warranty will also be void upon removal or alteration of the plate showing the serial number and other data.

Within the warranty period the manufacturer will repair or replace, free of charge, parts that are faulty due to manufacturing.

In case the repair has to take place at the manufacturer's site, the machine will have to be sent to the manufacturer in its original packaging.

Transportation expenses will be covered by the manufacturer during the warranty period.

The warranty does not cover the cleaning of the functioning parts.

Defects not clearly attributed to the material or the manufacturing will be examined. If the claim should turn out to be unjustified all repair expenses, changed parts and transportation will be charged to the buyer.

The warranty does not cover damage caused by the following:

- accidental damage during transportation
- damage due to lack of care or procedures carried out incorrectly
- damage due to improper use not conforming to the warnings of the user and service manual
- components subject to wear and tear; a detailed list is available in the components section.

Structural damage, modifications, improper alterations or repairs can affect the functioning of the safety mechanisms, thus making the declaration of conformity and warranty void. Alterations on the machine can be carried out solely by technicians authorized by the manufacturer.

1.18. Professional personnel qualified to operate the machine

The machine must only be used by authorized and purposely trained personnel; the same precautions are also applicable to personnel who carry out maintenance.

Personnel who do routine and extraordinary maintenance must be specially trained professionals; good knowledge of the machine is needed for extraordinary maintenance.

Attention

Do not permit others to approach the machine during its use or maintenance.

The following professional people, after having received all the necessary instructions, are the only ones allowed access to the machine:

Safety officer

The safety officer is responsible for protection and prevention of risks in the workplace, as is mentioned in European Directive 89/391/EEC (Safety in the workplace), introduced in Italy with the 12/11/1994 Legislative Decree.

It is the responsibility of the safety officer to make sure that all personnel who use/maintain the machine have received all the instructions regarding their relative roles contained in this manual.

Operator (user of the machine)

Operator trained and qualified for the use of the machine (working cycle, potential adjustments, etc.).

He/she can only carry out the specific tasks described in this manual reserved for this role.

Mechanical maintenance technician

The technician is qualified to use the machine as the OPERATOR and furthermore to use it with the protection disabled, to attend to the mechanical parts for adjustments, maintenance and reparations.

He/she is not qualified to act on live electrical installations.

The mechanical maintenance technician must have a generic knowledge of the machine and a specific knowledge on this machine model.

Electrical maintenance technician

The technician is qualified to use the machine as the OPERATOR and furthermore to use it with the protection disabled, to attend to the adjustments and electrical installations for the purposes of maintenance and repair.

If qualified, he/she may work when the electrical panels, control devices, are live, provided he/she uses appropriate personal protective devices.

The electrical maintenance technician must have a generic understanding of the electrical panels and specific knowledge on the electrical panel and components of this machine.

Manufacturer

The manufacturer's personnel are qualified to perform all of the above-described operations.

Any operations not described in this manual may be performed ONLY by personnel authorized by the manufacturer.

2. Safety section

2.1. Safety information

Attention

The safety officer has the obligation to inform the workers on the risks related to the use of the machine.

Furthermore the employer must inform, educate and train the user according to statutory laws.

The lack of compliance with the basic norms or precautions could result in accidents during the functioning, maintenance or reparations of the machine. Accidents can often be avoided by acknowledging potential hazardous situations before they materialise. The operator must pay attention to the potential dangers and have the training, the competence and the necessary equipment to deal with these tasks correctly.

The manufacturer cannot be held responsible for accidents or damages resulting from the use of the machine by personnel not adequately trained or having used the machine improperly, as well as the lack of, even partial, compliance to the safety norms and interventions procedures contained in this manual.

The safety precautions and the warnings messages, the operator could be subject to accidents with serious consequences for himself and for other people.

In cases where tools, procedures, work methods or working techniques not explicitly suggested by the manufacturer are used, it will be necessary to make sure that no dangers are present for the individual carrying them out and to other alike.



Use exclusively original SELMI spare parts. The manufacturer will take no responsibility for accidents or damages in the case of use of non-original spare parts.

If a tool not supplied by the manufacturer is installed on the machine, the client needs to make sure that the norms stated in Directive 2006/42/EC are adhered to. If this new tool introduces new risks to the system then the new system must be re-certified. In any case the manufacturer cannot be held responsible for accidents or damages caused by the machine if it has been modified or equipped with non original accessories.

2.2. Safety limitations

Attention

The indications mentioned hereafter cannot completely safeguard from all dangers that one might encounter while using the machine; they must be used in conjunction with common sense and the experience of the operator, the only indispensable measures for the prevention of injury.

Every section has a list of specific safety measures for different operations. The safety measures mentioned here below are generic and should be followed for all procedures on the machine.

The responsibilities assigned to specific people concerning the use of the machine must be clearly defined as stated in the "Qualified Personnel" section.

Attention

The use of the machine is forbidden to personnel who have not been authorized or trained by the safety officer.

Consult the manufacturer before carrying out procedures that are not mentioned in this manual.

Prolonged overloads or anomalies can cause the electric motors and electrical appliances to overheat with resultant harmful fumes. In such cases immediately disconnect the machine from the mains and do not approach the machine until such fumes have been dispersed via adequate ventilation. In case of fires do not use water jets on the machine – use CO2 extinguishers instead.

The operator, any helping technician and the maintenance technician must use the appropriate personal protection equipment when working on the machine.

It is forbidden to climb on the machine.

Do not touch the electrical wires, switches, buttons etc. with wet hands.

The parts subject to wear and tear during the functioning of the machine must be checked and replaced as soon as they present noticeable signs of wear and tear.

The manufacturer has designed and built the machine to last for a reasonable time with the Client's normal conditions of use in mind; it is however necessary to periodically check the components and the structure of the machine, paying attention to any anomalous conditions, such as, for example, cracks or deformations. If necessary, contact the manufacturer to ask for a complete check of the machine.

Please consult Section 4 (Installation) for the working environmental conditions of the machine.

2.3. Safety symbols and plaques

The machine has a number of plaques with symbols and/or safety messages stuck to it.

Attention

Make sure that all the safety messages are legible and in good condition.

Replace the damaged plaques with the new ones from the manufacturer. If a plaque happens to be on a part that is being replaced, make sure that a plaque is present on the new piece.

ATTENTION

THE PERFORMANCE OF WORK ON ELECTRICAL EQUIPMENT CONNECTED TO THE POWER SUPPLY IS STRICTLY FORBIDDEN

- ANY EXCEPTIONS MUST BE AUTHORIZED BY THE EXECUTIVE MANAGER
- IN PARTICULARLY DANGEROUS SITUATIONS, ANOTHER PERSON MUST BE PRESENT IN ADDITION TO THE PERSON PERFORMING THE WORK

WORK MAY ONLY BEGIN WHEN THE SAFETY MEASURES HAVE BEEN IMPLEMENTED

IN OBSERVANCE OF PRESIDENTIAL DECREE 543 ON THE PREVENTION OF ACCIDENTS



(positioned on the door of the electrical panel)



Label indicating compulsory reading of the manual
(positioned on the front of the machine)

2.4. Safety and protection devices

Attention

The components shown here are particularly important for safety. In cases of malfunction or wear and tear they must be replaced with spare parts supplied or authorized by the manufacturer. While the machine is in use all the protection features must be correctly installed.

The safety devices present on the machine are:

Emergency push button with mechanical unblock mechanism.

The emergency button stops all motors of the machine.

Fuses

The fuses, located within the electric panel, are for the protection of the electrical circuits of the machine. A possible voltage spike could blow the fuses. When a fuse blows one should act as follows:

- switch on the machine and disconnect it from the mains;
- open the electric panel and with the help of a tester locate the blown fuse. Replace it with a new one of the same ampere rating.



Warning

If fuses keep blowing it may be an indication of a fault of the electrical apparatus, in this case contact Technical Support.

Thermal circuit breakers

These are located inside the electric panel and have the task of preventing the overheating of the motors. When one of these protections is activated, follow this procedure to reset it:

- set the main switch to the OFF position;
- open the electric panel; every circuit breaker has a button that springs out if the protection is activated.

To unblock it one must press the reset button located on its side. If this does not stay pressed wait a few minutes for the protection to cool down and then re-press the button.

Protective plates

The machine is equipped with removable protective plates (A) that can be removed with the appropriate tool, thus allowing access to the internal parts of the machine for maintenance procedures.

The machine also has fixed protective plates, held in place by holding screws that can be loosened with the appropriate tool. If the screws are removed the fixed protective plates will not remain in place and must be placed on the floor.

All the protective plates have smoothed and rounded edges for the safety of the exposed individual and of the operators.

Attention

Do not switch the machine on if the protective panels are removed or not correctly fixed into position with the appropriate screws.

Do not forget to remove cloths, keys or utensils used for the maintenance operation from within the machine. Before closing the protective panels and switching on the machine check carefully and if necessary remove any foreign objects which may be present inside the machine.

2.5. Client's safety measures

The client must arrange for the following safety measures to be in places:

Provision of an adequate location for installation, paying particular attention to the characteristics below:

- Adequate flooring
- Normal and emergency lighting
- Adequate ventilation
- Clearly signposted emergency exits
- Provision of mains voltage connection with associated safety devices, conforming with the norms in force and the characteristics of the machine
- Adequate means for the collection and subsequent disposal of residues, even hazardous or special ones (oils and grease, broken or waste material, etc.).
- Adequate fire safety systems and equipment
- Prohibition of entry into the installation area to non authorized personnel

The customer must also provide for:

- Training of the operators and the maintenance technicians
- Training for the operators on the basic functioning of the machine and emergency devices
- Provision of personal safety equipment to protect the operator and the hygiene of the product
- Checking the qualifications of external maintenance technicians potentially called to work on the machine
- Keeping of a maintenance log book

The employer is also responsible for checking that the operators correctly carry out the procedures explained in this manual.

2.6. Personal protection equipment

The operators who carry out functions on the machine must receive appropriate instructions on the use of personal protection equipment such as shoes, gloves, etc... which will protect them from residual risks derived from the execution of various activities. The operators must furthermore be equipped with protection equipment for hygiene purposes (caps or hair nets, gown, etc...).

If the noise level in the working environment surpasses 85dB(A) appropriate ear protection must be used.

Warning

The clothing of whoever operates or carries out maintenance on the machine must conform to the essential safety requirements defined by European directive and the laws in force in the country in which the machine is installed.

Attention

During maintenance operations individuals must wear adequate clothing to prevent the occurrence of accidents.

In order to avoid mechanical risks such as snagging or dragging, it is prohibited to wear particular objects such as bracelets, watches, rings or necklaces during the working cycle and during maintenance operations.

2.7. Residual risks

The accurate risk analysis carried out by the manufacturer and archived in the technical file has eliminated most of the residual risks, which are nevertheless present during the use of the machine, to acceptable levels.

The manufacturer's recommendation is to meticulously adhere to the instructions, procedures and recommendations contained in this manual.

Attention

It is strictly prohibited to carry out any type of mechanical or electrical modification so as not to create added dangers and unforeseen risks.

Attention

During cleaning and maintenance operations and during the work cycle, do not allow the product inside the tank to come into contact with water or other fluids.

Attention

If the machine remains unused for long periods of time please take note of the expiry date of the product remaining inside the machine. Upon restarting the processing only insert new chocolate if the product already in the machine has not expired. If the old product has expired, proceed to empty and clean the machine before inserting the new product.

Attention

Keep the machine with the residual chocolate inside the tank in an adequate environment with temperatures ranging from 10 °C to 25 °C.

The residual risks present on the machine are:

Risks during machine transportation

It is recommended to fasten the machine, or its parts, at the dedicated locations and lift it with appropriate means to the minimum permitted height, proceed at low speeds and make sure that the people helping with the moving are at a safe distance from the moving object. Before moving the machine make sure that the passage is clear and that there are no objects placed on the machine. It is important that the means of support and transportation is controlled by a person qualified for such a role, so as to avoid unforeseen movements which may be dangerous to the people in the vicinity who are helping with the moving.

Risks of faults to the circuits of signalling, safety, protection and emergency stop

In the case of a circuit fault, the safety and signaling circuits, the anti-injury protections and the emergency stop can lose their effectiveness, therefore it is asked that their functionality is periodically checked.

Identified residual risks and information plaques

The manufacturer has placed on the machine danger and/or warning plaques, based on the residual risks, with pictograms in compliance with the norm pertaining to the display of graphic symbols on the machine.

The user should immediately replace these plaques if they are not clearly legible.

Attention

It is expressly forbidden to remove the safety and/or warning plaques placed on the machine. The manufacturer will not take any responsibility on the safety of the machines if this is not observed.

Risk to life (electrolocation)

Before commencing work on any electrical appliance it is necessary to disconnect the machine from the mains. If it were to become necessary to work within the electric panel by bypassing the electricity cut off devices, then the work must be carried out exclusively by specialized personnel.

Risk of spreading fire

In case of fire never use jets of water in the vicinity of the apparatus. Disconnect all connections to the mains and use the appropriate CO2 extinguishers located in the building.

2.8. Applied Directives

The following directives apply to the machine described in this manual:

- 2006/42/EC machinery Directive
- 2014/30/UE Directive for electromagnetic compatibility
- 2014/35/UE low voltage Directive

And the regulation:

- 1935/2004 EC regulation for materials in contact with foodstuffs

2.9. Harmonized technical norms

The machine was designed and tested to conform to the “essential requirements to health and safety” present in attachment I of European Directive 2006/42/EC.

The norms used as reference for the design, the realization and the testing of the machine are listed in the technical file archived by the manufacturer.

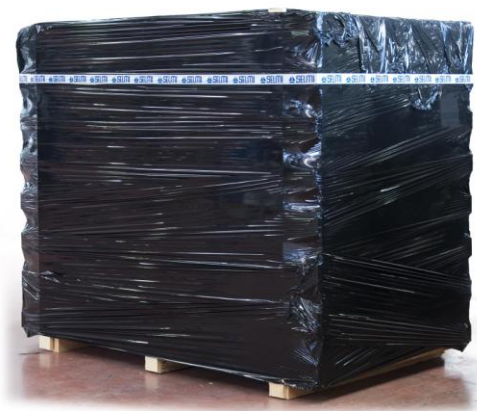
3. Moving and transportation section

3.1. General norms

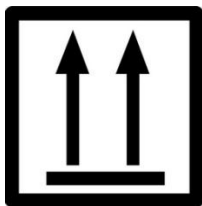
Before moving the machine always check the weight and general instructions shown on the packaging. Personnel not responsible for the movement of the machine must not remain in the area needed for movement.

3.2. Packaging

The machine is delivered on a platform, secured by means of straps and placed inside a cardboard packaging which is also secured to the platform by means of straps. An example of the machine packaging is shown in the picture below.



Instructions for transportation are on the sides of the packaging



The first symbol shows the correct upright position of the packaging;



the second symbol shows that the packaging must be protected from the rain;



the third symbol shows that the content of the packaging is fragile and must be handled with care. On two sides of the packaging there is a device called "TILTWATCH", which can determine if the packaging has been tilted to such an extent that the content may have been damaged; it is necessary to pay attention to the instructions given on the adhesive label. If the machine has been excessively tilted during transportation (the dot at the centre of the TILTWATCH device will be red) some components could have been damaged.



Attention

The manufacturer's warranty does not cover damage during transportation; the buyer should follow the instructions on the adhesive label in order to avoid disputes.

3.3. Transportation

To transport the machine it is necessary to use a suitable vehicle equipped with a platform to lift the load; the platform must be adequate for the weight of the machine, which is stated in the technical characteristics section (section 1.13).

When the machine, still in its packaging, is in the body of the lorry, it can be carried to the lifting platform only by means of a manual transportation trolley for euro pallets.

The lifting platform has to be equipped with side rails in order to prevent the machine from falling when it is still high off the ground.

The machine can be lowered to the ground from the platform only after having lowered the manual trolley. The machine should be lowered slowly from the platform, avoiding shaking and sudden stops which could cause a loss of stability.

After having completed the unloading procedures, the machine should be moved exclusively by means of a manual transportation trolley adequate for euro pallets; the platform should only be lifted to the height needed to move the machine.

Before moving the machine verify that the passage to the final destination is clear.

Attention

Do not go on very steep ramps which could cause the loss of control of the trolley.

3.4. Removal of the packaging

Cut the straps that anchor the cardboard to the platform; remove the cardboard and put it out of the way.

Cut the straps that hold the machine to the platform, remove the machine's plastic cover and unravel the accessories provided.

Carefully lift the front of the machine and remove the wooden slat blocking the front wheels; subsequently remove also the wooden slat blocking the rear wheels by lifting the back of the machine.

Very carefully lower the machine from the platform.

Note

Keep the original packaging; it may be necessary to use it if the machine needs to be sent to the manufacturer for extraordinary maintenance or repairs.

4. Installation section

4.1. Positioning

Warning

Before positioning the machine check that the machine, the associated accessories and the parts supplied separately have not been damaged during transportation.

It is the task of the Client to make sure that the strength of the supporting surface, at the point of installation, is adequate for the weight of the machine.

The flooring at the point of installation must be sufficiently level.

Isolate the machine from any potential vibrations coming from other nearby machinery.

In the case where the machine or any of the associated accessories are found damaged it is important to alert the manufacturer of the found anomaly so as to agree on the actions to be taken.

Attention

The machine must be placed on a level surface; for the other environmental requirements necessary for optimal functioning of the machine please see sections 1.11 and 2.5..

4.2. Electrical connections

Attention

The connection to the mains must be carried out by specialized staff who must respect the aspects of the law dedicated to safety and prevention of injury in the workplace. Use the necessary personal protection equipment while connecting the machine to the mains

The connection to mains electricity must be carried out following the safety norms in force in the country in which the machine is to be used.

Before connecting the machine to a voltage supply make sure that the voltage supply values match values shown on the apposite plaque.

CE	
SCHEMA ELETTRICO	N°
POTENZA INSTALLATA	kW
TENSIONE	V
FASI	N°
FREQUENZA	Hz
CORRENTE PIENO CARICO	A
CORRENTE CARICO MAGGIORE	A
POTERE INTERRUZIONE	kA
PROTEZIONE	IP

5. Operation section

5.1 Preparation for use

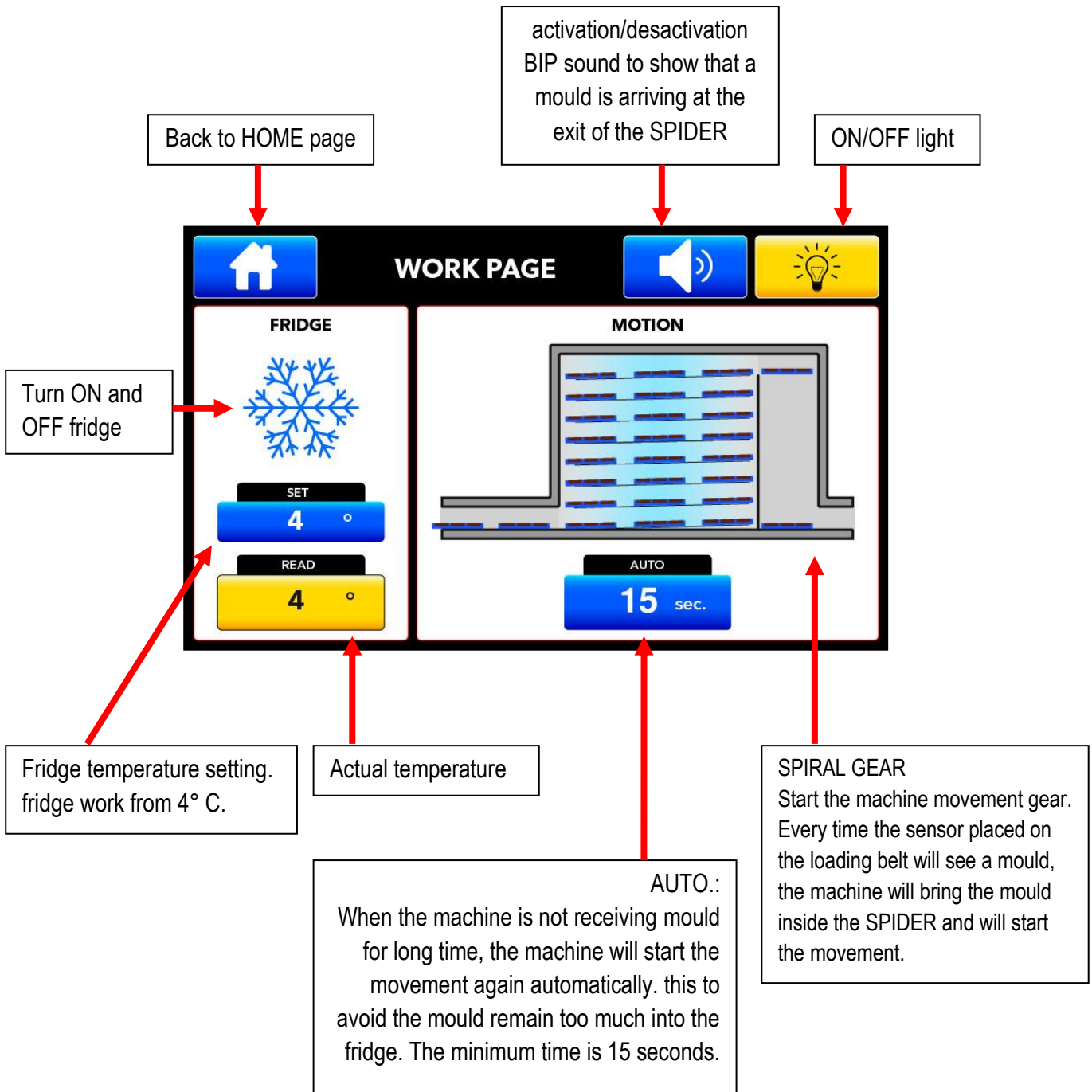
5.6. Description of control zones

When the machine is switch ON this is the HOME page.

Press to enter in the WORK page



WORK PAGE

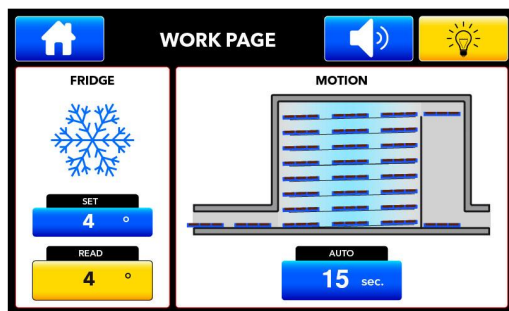



HOW TO WORK WITH THE MACHINE

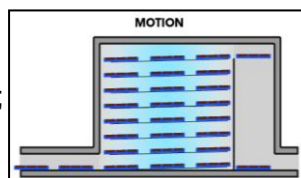
- Connect the SPIDER with the electrical supply;
- Control that the emergency are disactivated;
- Press START/RESET button;
- The display will show the HOME page;



- Press to go to the work page;



- Set the fridge temperature;
- Switch ON the fridge; 
- Wait until the fridge is at the right temperature;
- Set the working time AUTO sec.;
- Press START to start the movement of the SPIDER;
- Insert the moulds;
- Wait the cooled moulds at the exit point.



EMPTYING

At the end of the working cycle, to empty the machine:

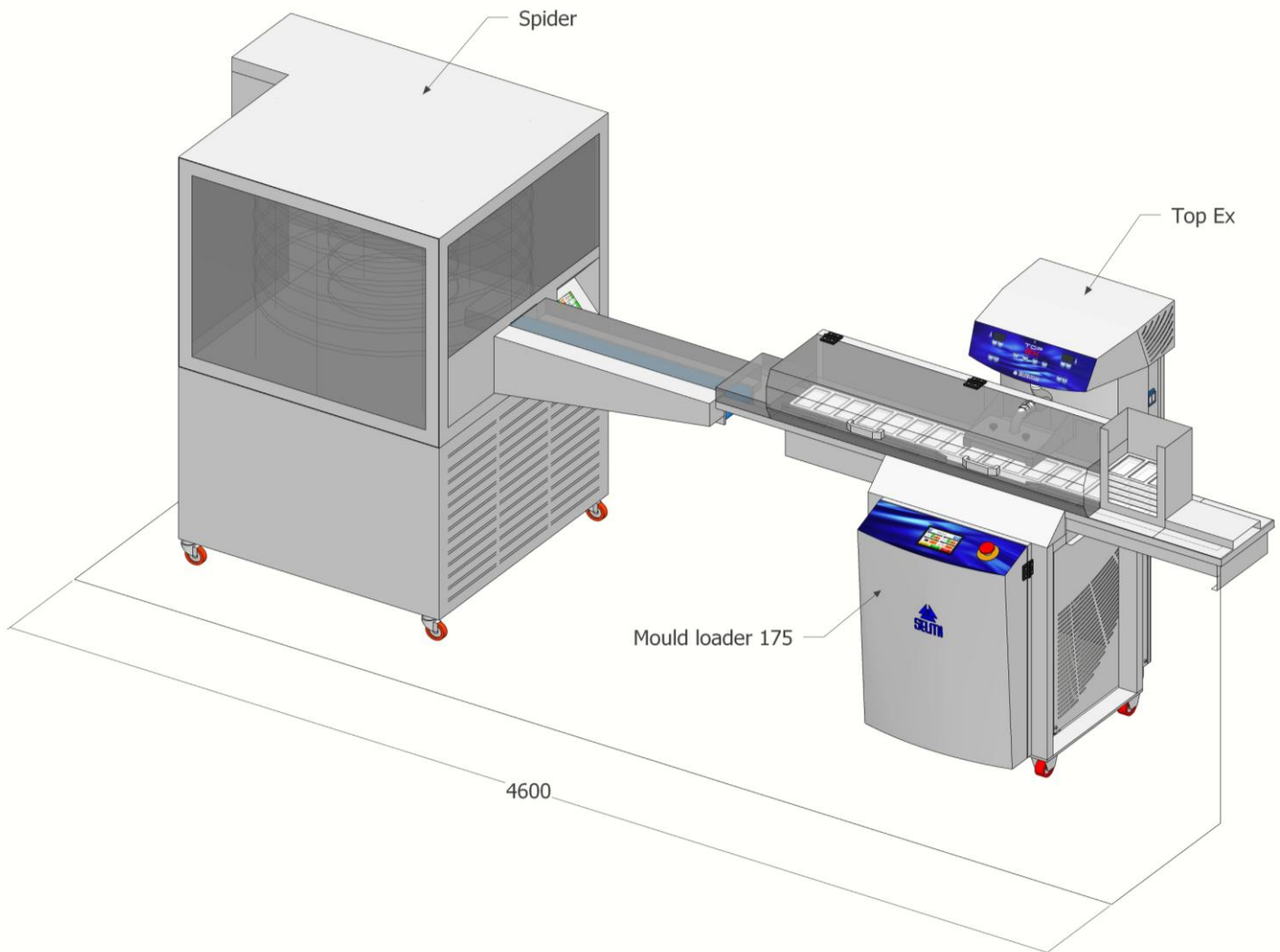
- Set the AUTO sec. to ZERO
- In this way the machine will move in loop to empty the machine from the moulds.

EMERGENCY

When the emergency will occur, to reset the working cycle:

- Wait 15 seconds;
- Rotate the emergency butto to disactivate it;
- Press START/RESET button;
- Return to the HOME page
- Press START to go to the work page;
- Switch ON the fridge and press START to restart work.

Configuration SPIDER + MOULD LOADER 175



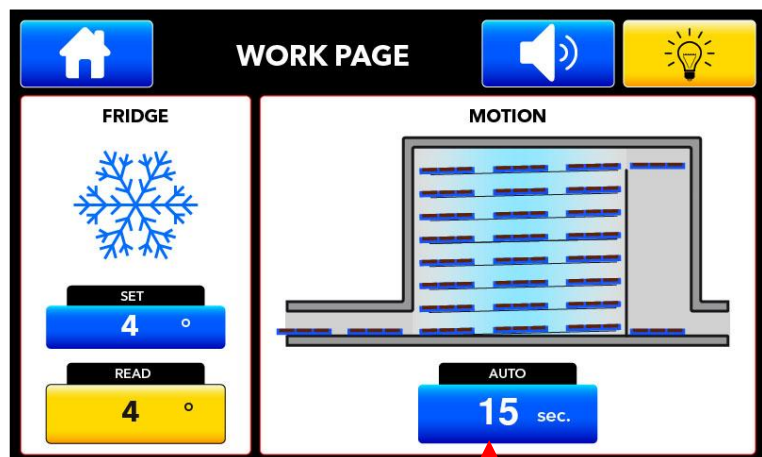
WORK PAGE MOULD LOADER 175

The SPEED value must not be under 5 moulds/min



ATTENTION: the mould loader speed must not be less than SPIDER;
EXAMPLE: 30 sec. = 2 moulds/minute < 5 stampi/min

WORK PAGE SPIDER



When the two machines are connected the working speed is decided by the SPIDER speed.

6. Maintenance section

6.1. General information

Attention

The product present in the tank or internally to the machine must NEVER come into contact with water or other liquids: this may lead to the formation of moulds and bacterial loads.

Attention

If a bacterial presence is found on the product derived from the processing carried out with this machine model it will be necessary to stop production immediately and contact the manufacturer for the disinfection procedures.

Before carrying out maintenance or cleaning procedures on the machine, cover the tank with the supplied lid.

Never clean or lubricate components in motion.

Warning

Extraordinary maintenance on the machine is exclusively carried out by the technicians approved by the manufacturer. The training course carried out only gives the client the base instructions for ordinary maintenance. The manufacturer suggests carrying out a full service every two years to guarantee the safety conditions.

Note

The maintenance technician must note on an appropriate logbook all the interventions carried out on the machine. This section describes the ordinary checking and maintenance procedures needed to guarantee the correct functioning of the machine.

Any other intervention that may be necessary to eliminate anomalies or faults must be expressly authorized by the manufacturer.

For major repairs it is recommended to turn to the manufacturer whose specialized personnel, possessing the technical expertise acquired from the original manufacturing in the factory, are always reachable and able to intervene quickly.

For maintenance or replacement of commercial components installed on the machine keep to the instructions provided directly by the manufacturers. Such instructions are normally attached to the components or obtainable via catalogues or manuals provided by the manufacturers.

Environment

The components replaced during maintenance operations must be disposed of according to the laws in force concerning waste materials. If necessary, they can be sent to the manufacturer, who will dispose of them in the most appropriate manner.

6.2. General safety practice

Attention

Before starting a maintenance procedure disconnect the machine from the mains and put in place all the necessary safety measures.

Attention

During maintenance procedures place on the machine, preferably on the control panel but in any case in a clearly visible location, a sign with the text: "MACHINE UNDER MAINTENANCE, DO NOT SWITCH ON".

Maintenance work must be carried out by specialized technicians who are trained in specific sectors, which for this machine are:

- mechanical maintenance technicians;
- electrical maintenance technicians.

It is the duty of the Safety Officer to ascertain the professionalism and competence of the maintenance technicians.

Before starting a maintenance procedure the safety officer must:

- 1) Clear the working area of extraneous materials and people.
- 2) Make sure that the necessary tools are conveniently available to the maintenance technician and that they are in good condition.
- 3) Make sure that the lighting is sufficient and provide, if necessary, portable low voltage lights.
- 4) Make sure that the maintenance technician is equipped with the necessary approved personal protection equipment for the specific operation (gloves, safety glasses, shoes, etc.).
- 5) Make sure that the maintenance technician has carefully read the instructions contained in this manual and has excellent knowledge of how the machine works.

At the end of every maintenance intervention the following procedures need to be carried out before restarting the machine:

- 6) Carefully clean the floor in the work area, removing any residues that may cause slippage
- 7) Lock the protective panels back into place, check the functionality of the interlocking parts and of the safety devices. Make sure to re-activate them if they were previously deactivated
- 8) Make sure that no extraneous components have been left in the machine, especially mechanical parts, utensils or components used for maintenance that could cause damage to the machine or put personnel at risk.
- 9) Before switching the machine back on make sure that all personnel are at a safety distance.
- 10) Before restarting the processing, the maintenance technician must check the entire working cycle, the functionality of the safety mechanisms and the integrity of the fixed protective panels.
- 11) before restarting the working cycle the machine must be cleaned according to the instructions in section 6.3.

Attention

Following every maintenance intervention it is the Safety Officer duty to ascertain that the machine is working properly and that all the safety devices are present and functional.

Unless expressly required for the solution of a breakdown, never interfere with the adjustments and positioning of the limit microswitches; their tempering can cause serious damage to the machine and pose risks to the operator.

Before assembling a block always cover with a thin layer of alimentary grade oil the internal parts and coupled surfaces. replace all the seals and gaskets with original parts before reassembling the components.

Note

Before reinstalling the machine components that have been washed with water or other liquids, check that they are completely dry.

Work on electrical components must only be carried out by the electrical maintenance technician specially trained and authorized by the Safety Officer.

6.3. Cleaning external parts

Attention

The chocolate present inside the tank and inside the machine must not come into contact with water or other liquids: there is a risk of mould formation leading to bacterial presence.

Attention

Use appropriate personal safety equipment while carrying out the cleaning of the machine.

Clean persistent stains with dry and soft clothes that do not fray or use flexible bristle brushes.

If the stains are incrustated and hard to remove with dry clothes or brushes use a liquid solvent appropriate for use in an alimentary environment. Avoid the use of flammable or toxic solvents.

Clean the signalling plaques with a cloth, soap and water or any other mild liquid; avoid using chemical solvents.

Before beginning and at the end of every maintenance operation it will be necessary to vacuum away the dust and other residues, recurring to using appropriate solvents if necessary but avoiding the use of compressed air jets which can create zones of dirt accumulation and may cause injury to the individuals present in the area.

6.4. Emptying and cleaning the machine

6.4.1 Emptying the machine

To clean the parts of the machine in contact with or in proximity of the product it will first be necessary to completely empty the tank by following these steps:

1. remove the rear protective panel as described in section 6.5.1 in order to access the chocolate discharge point
2. start the machine and wait for the product to reach the right temperature
3. turn on the mixer and the ascension pump motor and drain from the nozzle as much chocolate as possible till the tank is empty. Collect the chocolate in a container suitable for foodstuffs
4. turn off the ascension pump motor and the mixer motor
5. place a container suitable for foodstuffs underneath the chocolate draining point making sure it is big enough to contain all the product inside the machine
6. open the tap of the discharge point and start the mixer and wait for all the chocolate to exit the machine
7. stop the machine by opening the top grill and check that there is little residual product left;

8. use an alimentary grade spatula to move as much product as possible towards the centre of the tank
9. once the residual product in the tank is at a minimum, close the tap of the discharge point and proceed with the removal of the mixer and wash it in warm water

When there is a really minimum amount of product in the tank, the mixer is removed and washed in hot water.

Warning

To easily remove drops and traces of product wait for the warming elements of the machine to have cooled down.

6.5. Maintenance of mechanical parts

If detailed diagrams are not available take note of every item and mark its location so as to avoid errors in reassembling.

Always use spanners of the correct size.

Immediately replace screws or bolts which show signs of wear on the threads and the heads. When screwing and unscrewing do not use the spanners in conjunction with extensions to augment the torque. If dynamometric spanners and special tools are used verify that the calibration is appropriate for the component.

Special care must be taken when using pneumatic or hydraulic tools.

Before dismantling heavily oxidized components spray them with deoxidising agents.

Before reassembling cover thinly with oil all the coupled surfaces.

During reassembly pay particular attention to anti-slip devices used by the manufacturer (flat washers, elastic washers, etc.), always replacing the worn out elements.

The ring nuts and anti-slip nuts with plastic blocking rings must be replaced at every reassembly since the fatigued material will deform and lose its functionality.

Attention

During maintenance procedures always use appropriate personal protection equipment.



Use exclusively original SELMI spare parts.

The manufacturer will take no responsibility for accidents or damages in the case of use of non-original spare parts.

6.6. Maintenance of electrical system

Attention

Before taking any action on electrical components disconnect the machine from the mains.

Always carefully check the isolating covers, the clamps and the grip of the sheaths; seal gaskets cannot guarantee the IP level of protection declared by the manufacturer if they are not correctly positioned or if they are damaged.

Replace sheaths and cables if their isolating covers are ruined or damaged.

Check and restore, if necessary, the identification labels and stickers of the wires and of the components keeping to the indications shown in the electrical diagrams.

Make sure that the identification plate of the electric panel (see section 1.9) and the adhesive electric hazard plaque (see section 2.3) are perfectly legible and firmly attached; otherwise replace them by requesting new ones from the manufacturer.

The replacement of faulty control components must always be carried out according to the norms in force, using components with technical characteristics complying with those of the components that need to be replaced.



Use exclusively original SELMI spare parts

The manufacturer will take no responsibility for accidents or damages in the case of use of non-original spare parts.

6.6.1 Disconnection and reconnection of the motor

If the motor needs to be replaced an electrical technician will need to intervene. He will firstly have to disconnect the damaged motor and then connect the new motor.

Follow these steps to disconnect the motor:

- 1) Remove the lateral fixed protective panels
- 2) Remove the screws of the connection terminal protective box
- 3) Disconnect the wires paying attention to the terminal each wire is connected to. You will need to remember this when you come to reconnect the wires
- 4) Free the cable from the cable holder that holds it to the motor and pull it out

Attention

Never connect the power supply when one or more of the electrical components of the machine are disconnected and the conductors are not correctly isolated.

To connect the new motor follow these steps:

- 1) Make sure that the electrical characteristics of the new motor are compatible with the original one's
- 2) Unscrew the protective box of the connection terminal
- 3) Reinstall the motor power cable into the appropriate cable holder
- 4) Tighten the cable holder until it has a good grip of the cable, paying attention not to use too much force, as there is danger of damaging the cable or the cable holder
- 5) Reconnect the wires into the connection terminal
- 6) Remount the protective box of the connection terminal and fix it in place with the screws.

6.7. Planned preventive maintenance

Emptying the condensation collecting tray.
Remove the tray and empty it.

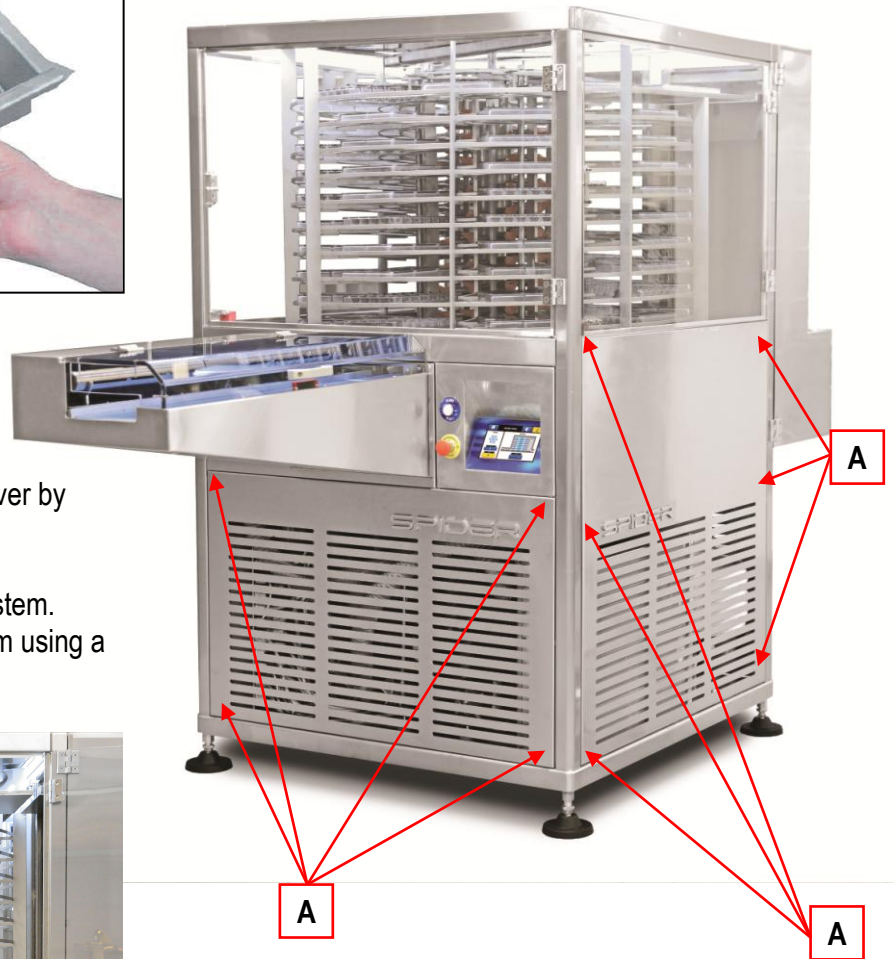


Fridge cleaning

To make the cleaning of the cooling unit components, proceed as follows:

- Remove the cover of the cooling unit cover by unscrewing the four screws (A);

Cleaning the condenser of the cooling system.
Clean the condenser of the cooling system using a vacuum cleaner.

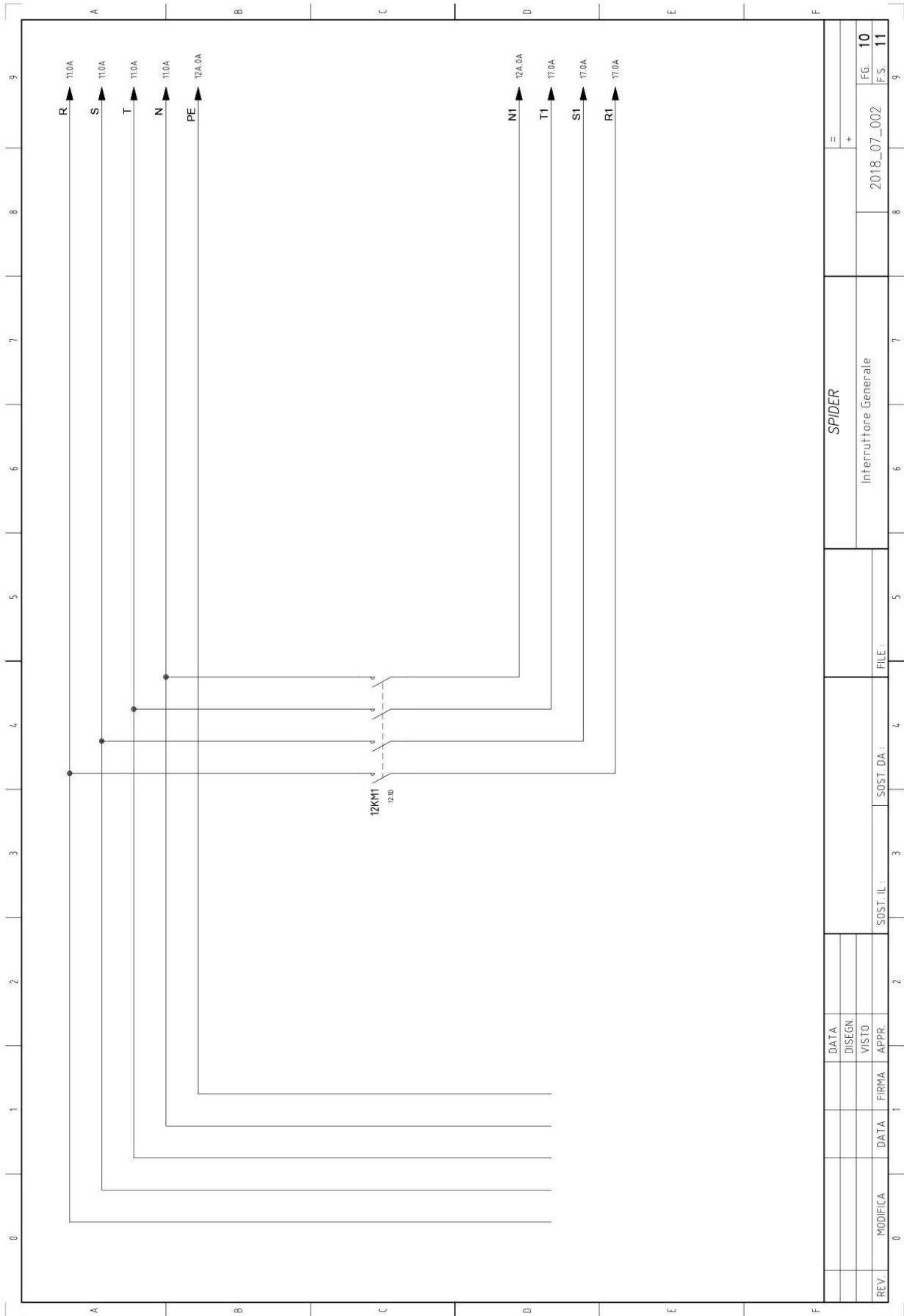


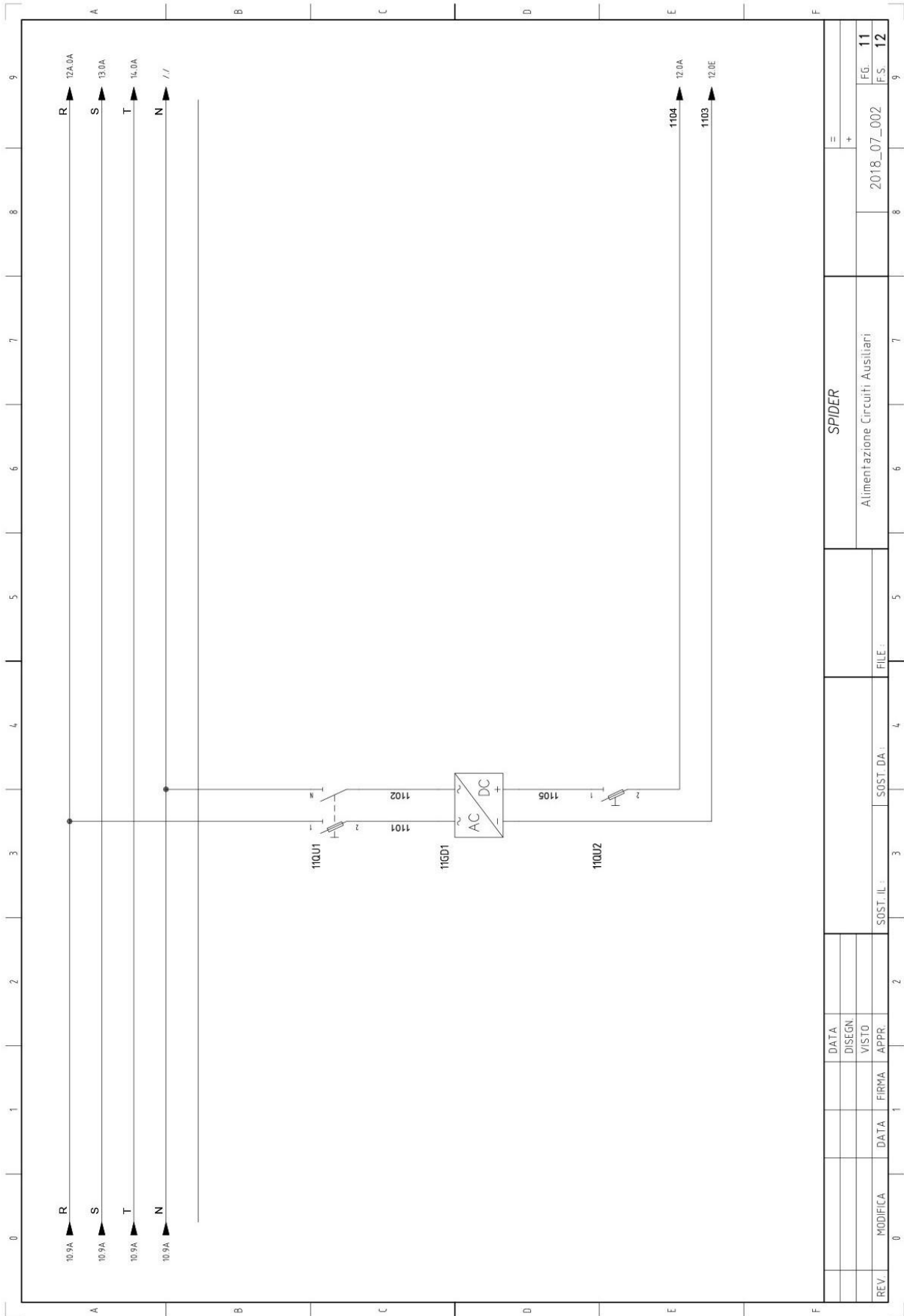
A		B		C		D		E		F												
0	1	2	3	4	5	6	7	8	9													
<p>Progettazione e Costruzione Macchine</p> <p>Schema Elettrico</p> <p>SPIDER</p>																						
<div style="border: 2px solid black; padding: 10px; width: fit-content; margin: 0 auto;"> <p>COMMESSA</p> <p>2018_07_002</p> </div>																						
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <table border="1"> <tr> <td>SERIAL</td> <td>2018_07_002</td> </tr> <tr> <td>RATED VOLTAGE</td> <td>380 V</td> </tr> <tr> <td>PHASES</td> <td>3PH+N+Pe</td> </tr> <tr> <td>FREQ.</td> <td>50 Hz</td> </tr> <tr> <td>FULL LOAD CURRENT</td> <td>16 A</td> </tr> <tr> <td>DRAW NUMBER</td> <td>2017_05_002_01</td> </tr> </table> </div>											SERIAL	2018_07_002	RATED VOLTAGE	380 V	PHASES	3PH+N+Pe	FREQ.	50 Hz	FULL LOAD CURRENT	16 A	DRAW NUMBER	2017_05_002_01
SERIAL	2018_07_002																					
RATED VOLTAGE	380 V																					
PHASES	3PH+N+Pe																					
FREQ.	50 Hz																					
FULL LOAD CURRENT	16 A																					
DRAW NUMBER	2017_05_002_01																					
REV.		MODIFICA		DATA		FIRMA		APPR.		DATA												
										SPIDER												
										Coperlina												
										2018_07_002												
										FG. 1												
										F.S. 2												
										=												
										+												
										FILE :												
										SOST. IL :												
										SOST. DA :												

0	1	2	3	4	5	6	7	8	9			
ELECTRICAL CHARACTERISTIC					WIRING CHARACTERISTIC							
CURRENT <input checked="" type="checkbox"/> AC <input type="checkbox"/> DC		NOMINAL FREQUENCY			CIRCUIT		TYPE		COLOUR		MINIMUM CROSS SECTION	
Ue		400 Vac			PHASES		N07V-K		BLACK		2,5 mmq (4 mmq AWRY OF THE PROTECTION)	
Ui		690 V			NEUTRAL		N07V-K		LIGHT BLUE		2,5 mmq (4 mmq AWRY OF THE PROTECTION)	
Ue		24 Vac			EARTH CONNECTION		N07V-K		G/V		2,5 mmq	
In		32 A			AUXILIARY C.A. (TO TRANSFORMER)		N07V-K		ROSSO		2,5 mmq (PHASES) 1,5 mmq (CONTROL - INDICATOR)	
Icw		- kA			AUXILIARY C.C.		N07V-K		BLU		2,5 mmq (PHASES) 1,5 mmq (CONTROL - INDICATOR)	
					MEASURING		N07V-K		NERO		4 mmq (AMPER.) 2,5 mmq (VOLT.) (4 mmq AWRY OF THE PROTECTION)	
NORMAL OPERATING CONDITIONS					CONSTRUCTION FEATURESE							
INSTALLATION <input checked="" type="checkbox"/> INTERNAL <input type="checkbox"/> EXTERNAL		DA -5 A +40 °C		DA -25 A +40 °C		BOARD TYPE		<input checked="" type="checkbox"/> PAINTED METAL <input type="checkbox"/> STAINLESS STEEL <input type="checkbox"/> POLYESTER <input type="checkbox"/> OTHER TYPE		WEIGHT - Kg		
AMBIENT TEMPERATURE		35 °C		35 °C		OVERALL DIMENSIONS (HxLxP)		500x400x200 mm				
AVERAGE VALUE TEMPERATURE		≤ 50 % (40 °C)		≤ 100 % (25 °C)		IP PROTECTION (OPEN DOOR)		IP20				
RELATIVE HUMIDITY		≤ 2000 m		≤ 2000 m		IP PROTECTION (CLOSE DOOR)		IP55		TRANSPARENT DOOR <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
ALTITUDE ABOVE SEA LEVEL		CLEAN				ACCESSIBILITY		<input checked="" type="checkbox"/> FRONT <input type="checkbox"/> BACK <input type="checkbox"/> CABLE ENTRY <input type="checkbox"/> HIGHER <input checked="" type="checkbox"/> BOTTOM				
ATMOSPHERE												
					SPIDER							
					Foglio di note							
REV. MODIFICA					FILE							
					2018_07_002							
					Pg. 2							
					F.S. 3							

LISTA FOGLI \ INDEX										
Foglio Sheet	Descrizione Description	Revisione Revision							Foglio Sheet	Descrizione Description
		1	2	3	4	5	6	7		
1	Copertina									
2	Foglio di note									
3	Lista Fogli									
10	Interruttore Generale									
11	Alimentazione Circuiti Ausiliari									
12	Circuito Emergenza									
12A	Inverter Ascensore									
13	Inverter Rotazione									
14	Inverter Alzata									
15	Inverter Espulsore									
16	Inverter Tappeto									
17	Alimentazione Utenze Gruppo Frigo									
18	Alimentazione Tappeto e Illuminazione Macchina									
19	Fincorsa Rotazione-Alzata-Espulsore-Ascensore									
20	Sonda PT100 Frigo									
21	Sensori Capacitivi e Pressostato Frigo									
22	Comandi Gruppo Frigo e Illuminazione									
40	Scheda Elettronica									
41	Morsettiere									

REV.	MODIFICA	DATA	FIRMA	APPR.	SOST. IL	SOST. DA	FILE	SPIDER	Lista Fogli	2018_07_002	Fg. 3	F.S. 10
------	----------	------	-------	-------	----------	----------	------	--------	-------------	-------------	-------	---------

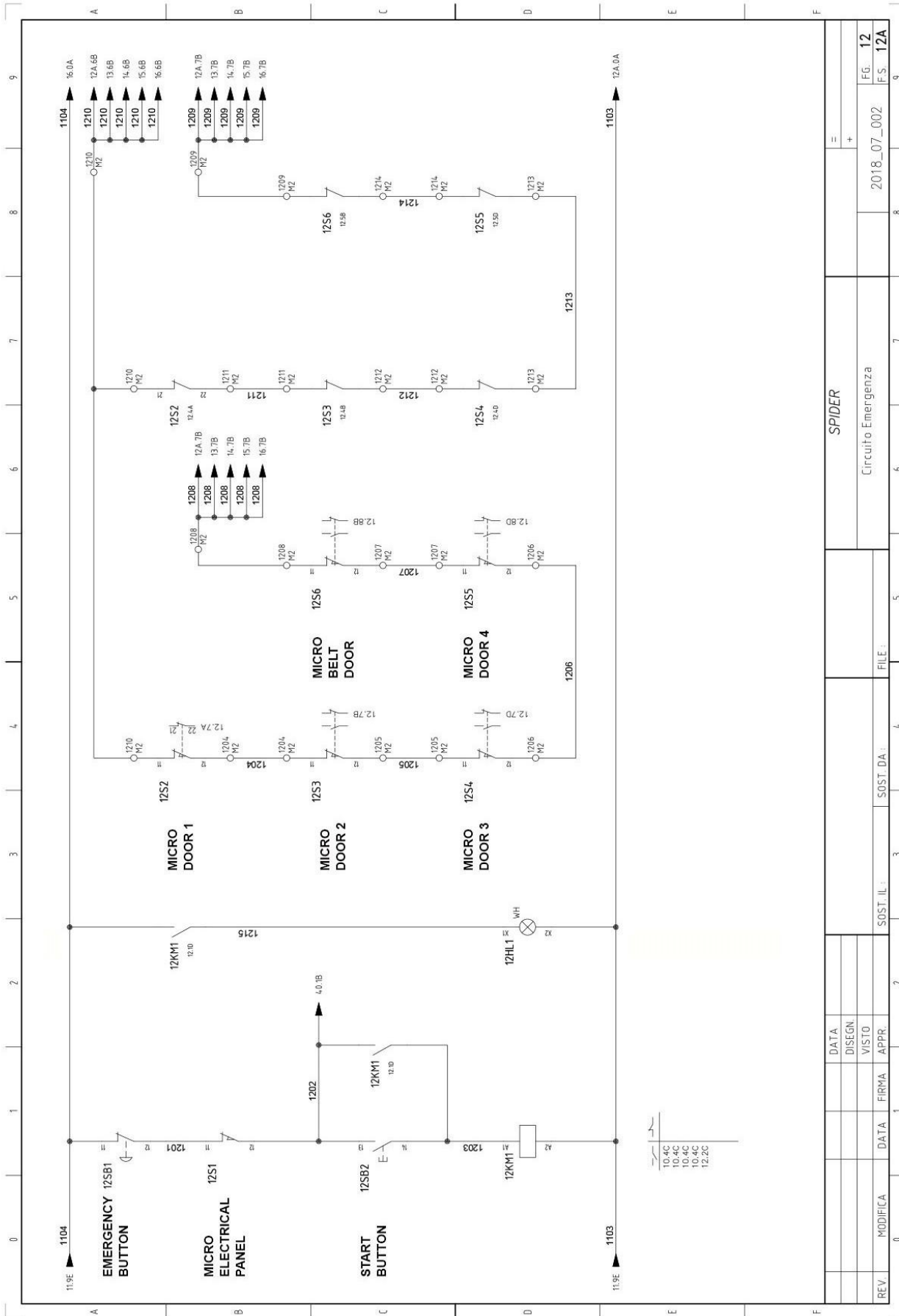




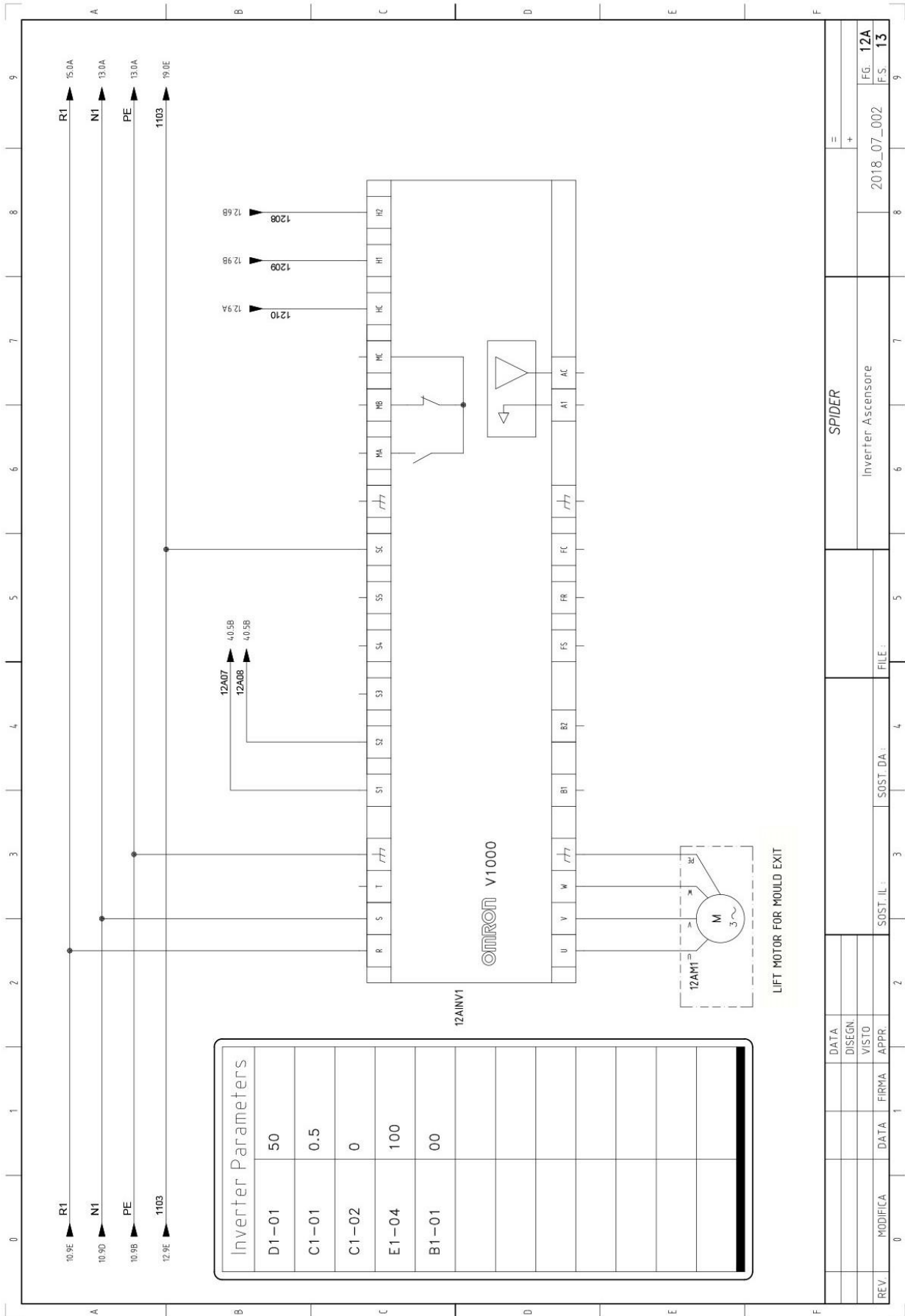
SPIDER

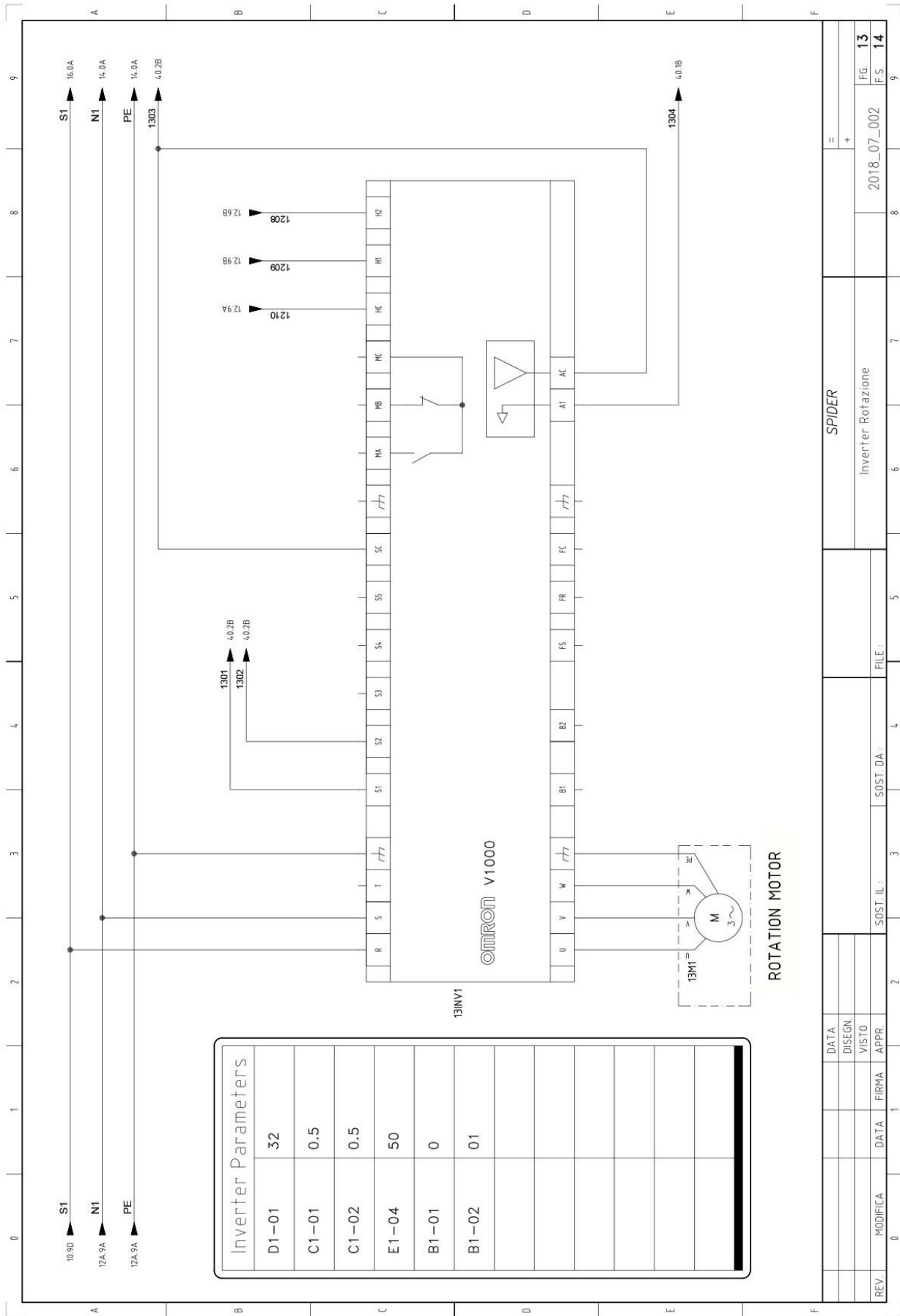
Alimentazione Circuiti Ausiliari

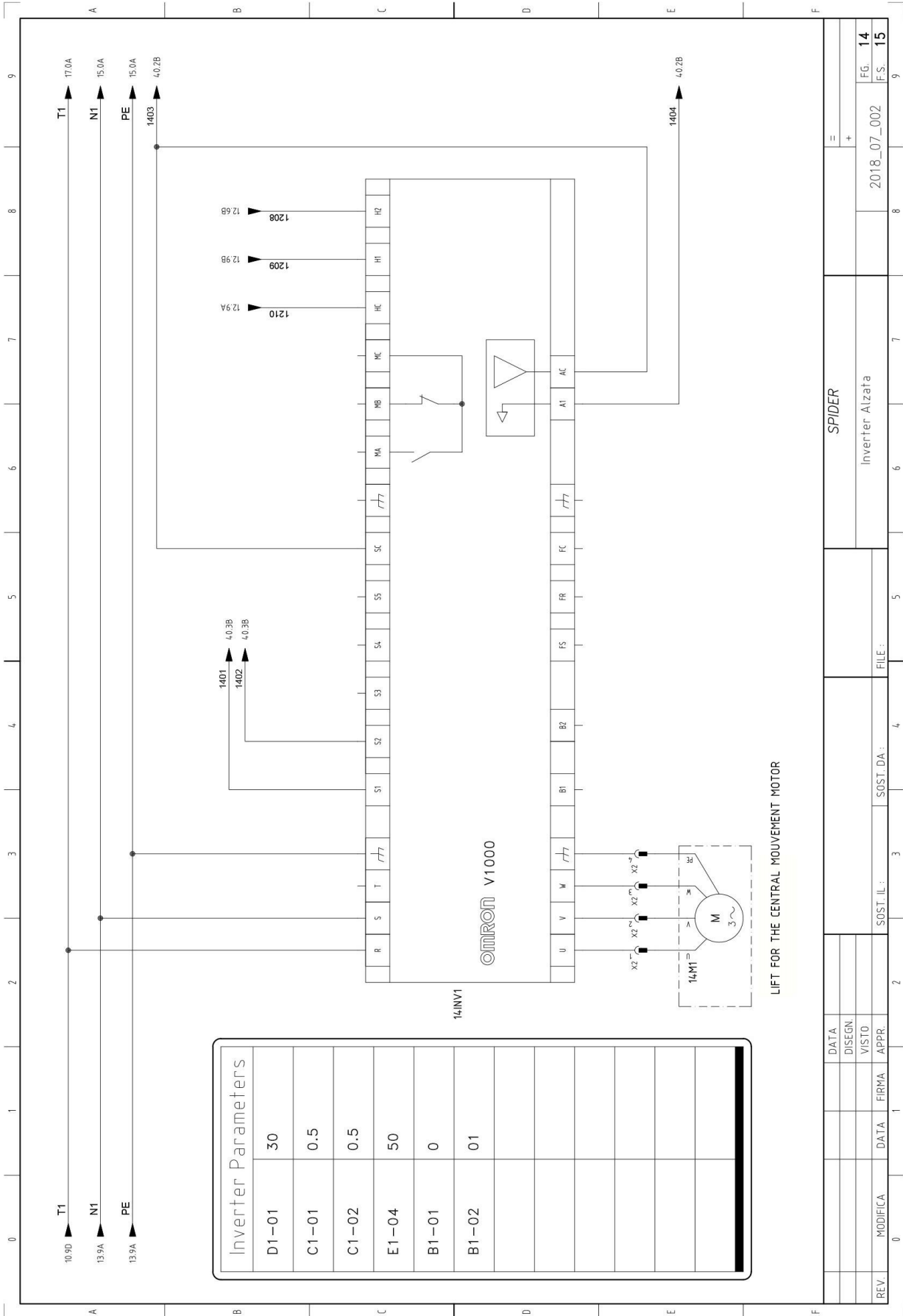
REV.	MODIFICA	DATA	FIRMA	APPR.	SOST. IL	SOST. DA	FILE	2018_07_002	FG. 11	F.S. 12
------	----------	------	-------	-------	----------	----------	------	-------------	--------	---------



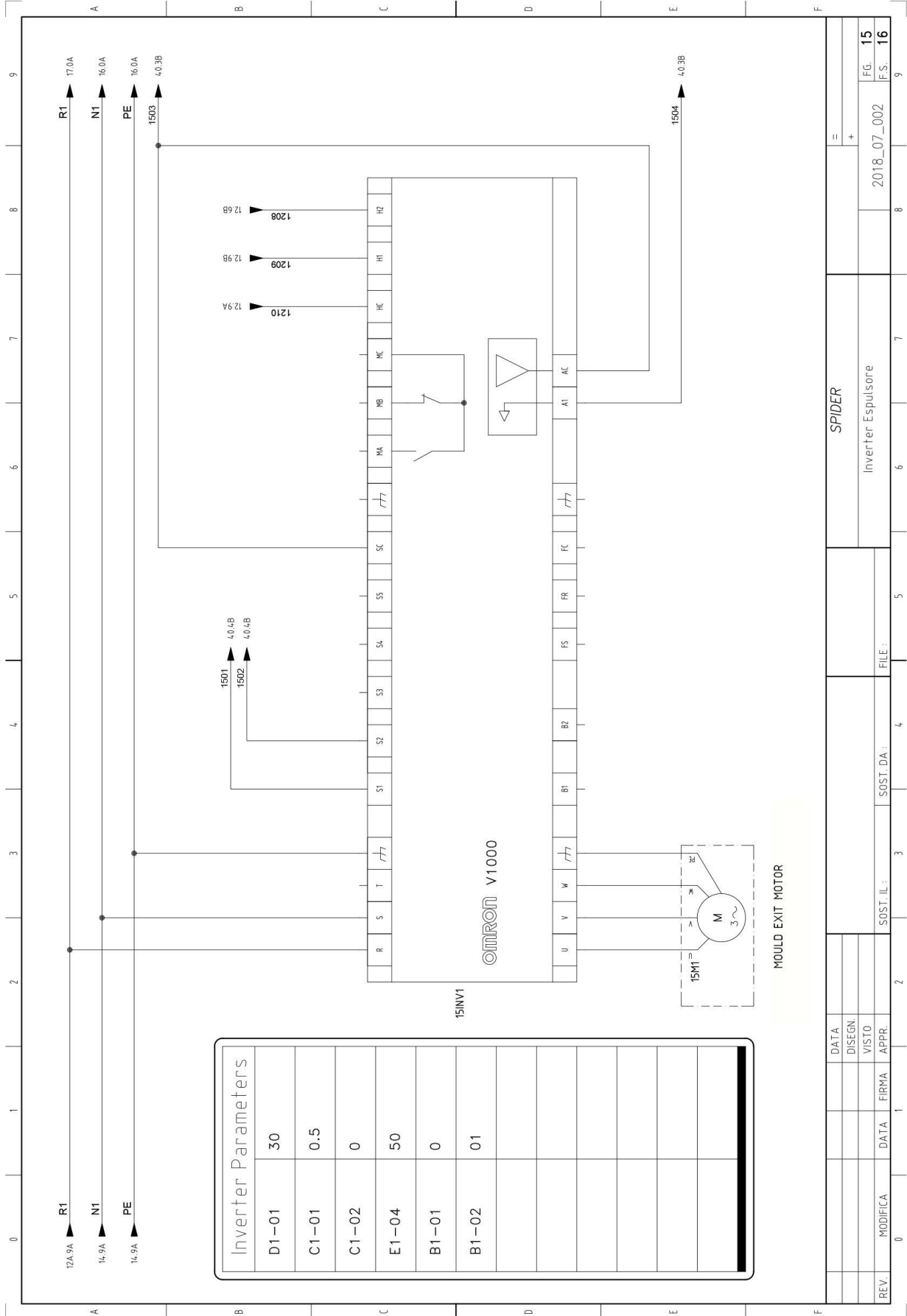
REV.	MODIFICA	DATA	FIRMA	APPR.	VISTO	DISIGN.	DATA	SOST. IL	SOST. DA	FILE	Ciruito Emergenza	SPIDER	2018_07_002	Fg. 12
														F.S. 12A



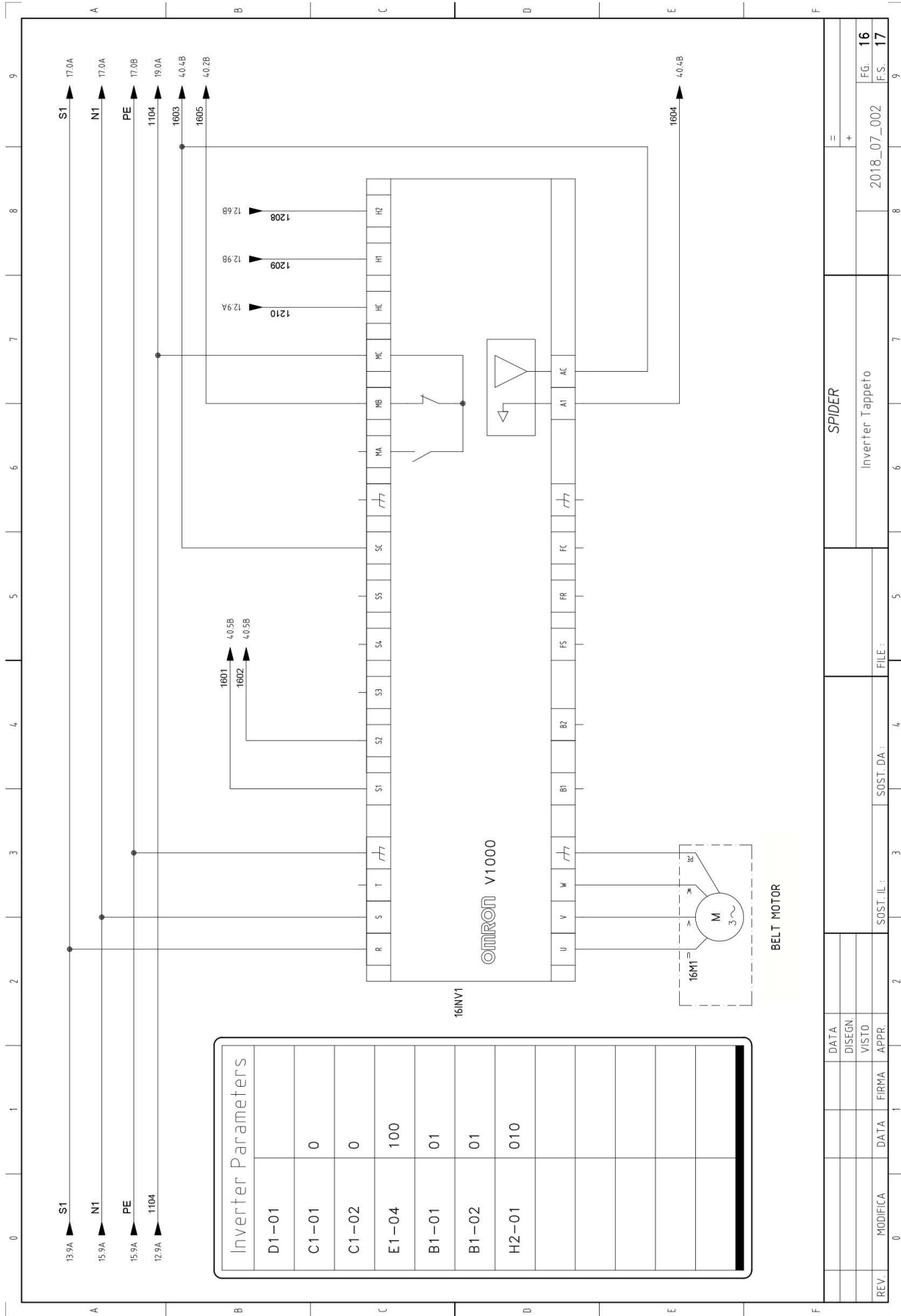




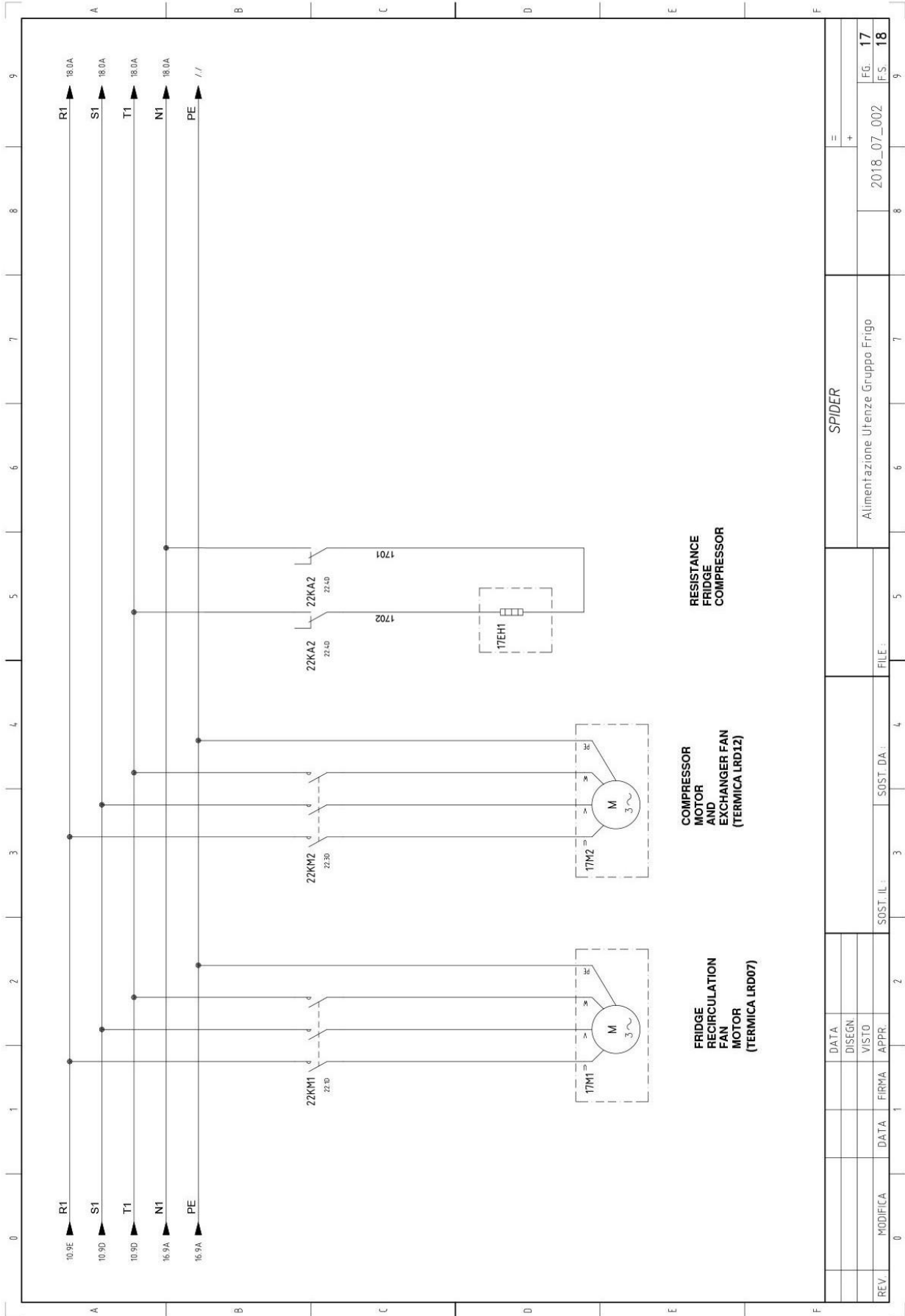
LIFT FOR THE CENTRAL MOVEMENT MOTOR

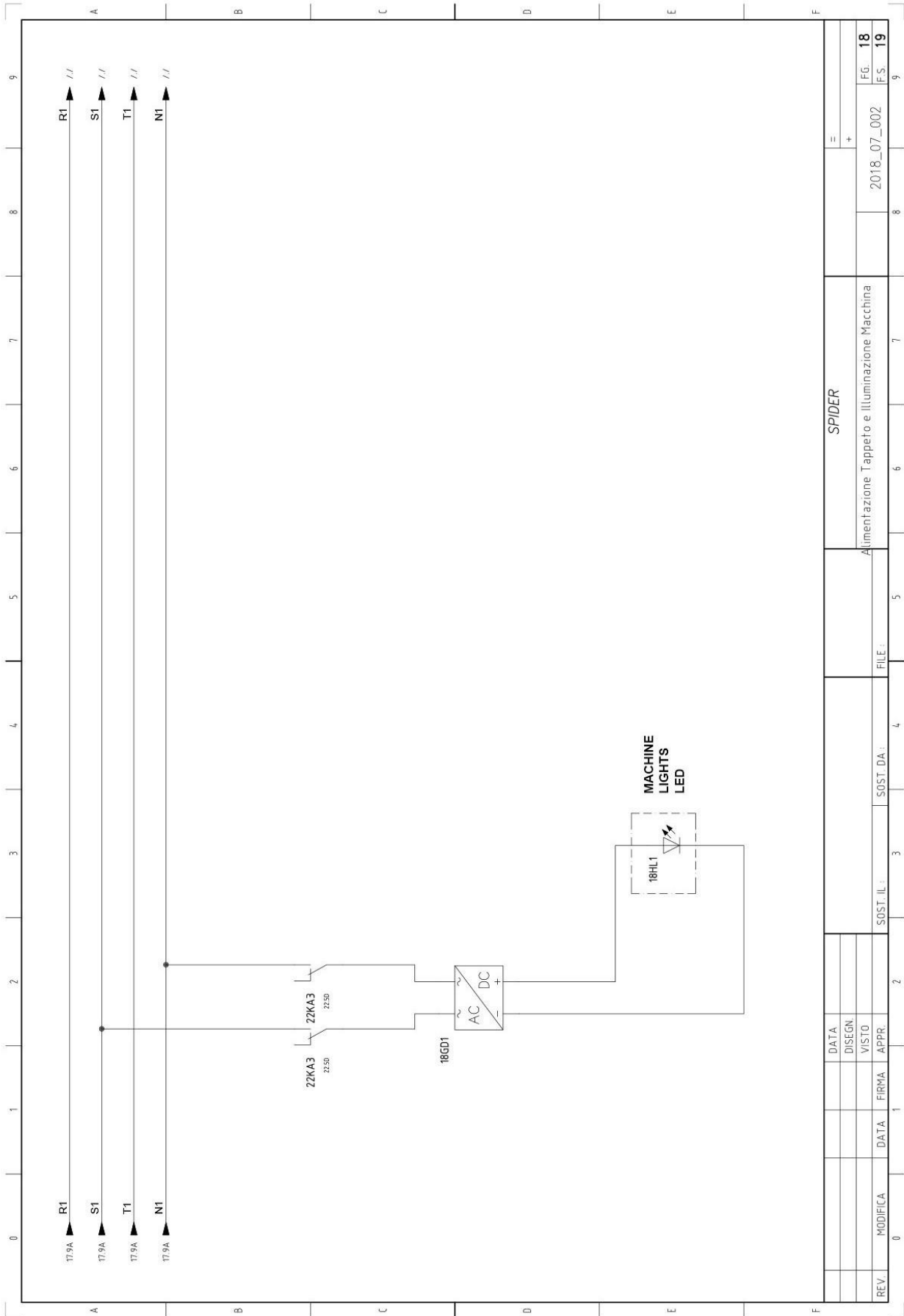


REV.	MODIFICA	DATA	FIRMA	APPR.	SOST. IL:	SOST. DA:	FILE:
SPIDER							Inverter Espulsore
						2018_07_002	Fg. 15 F.S. 16

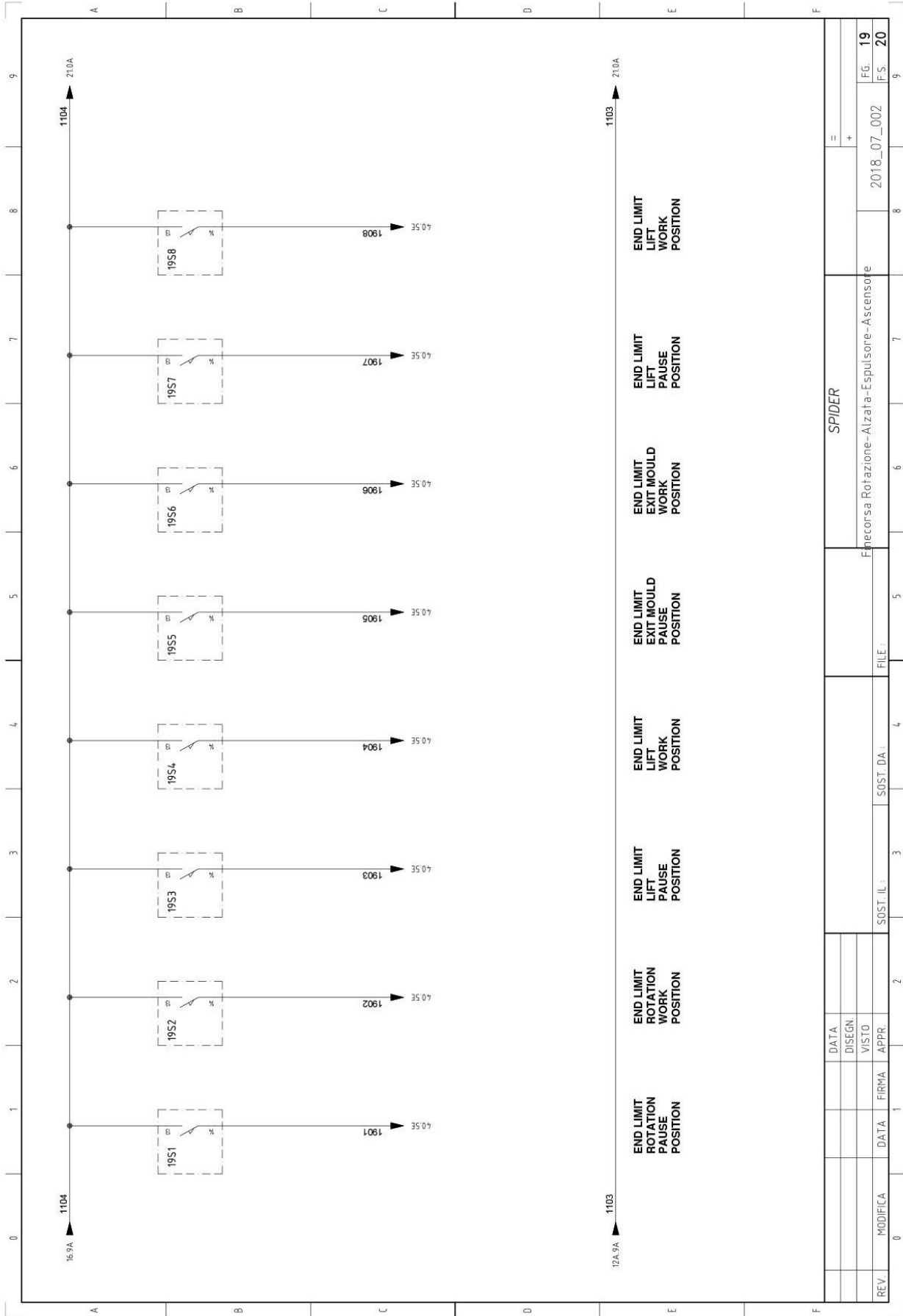


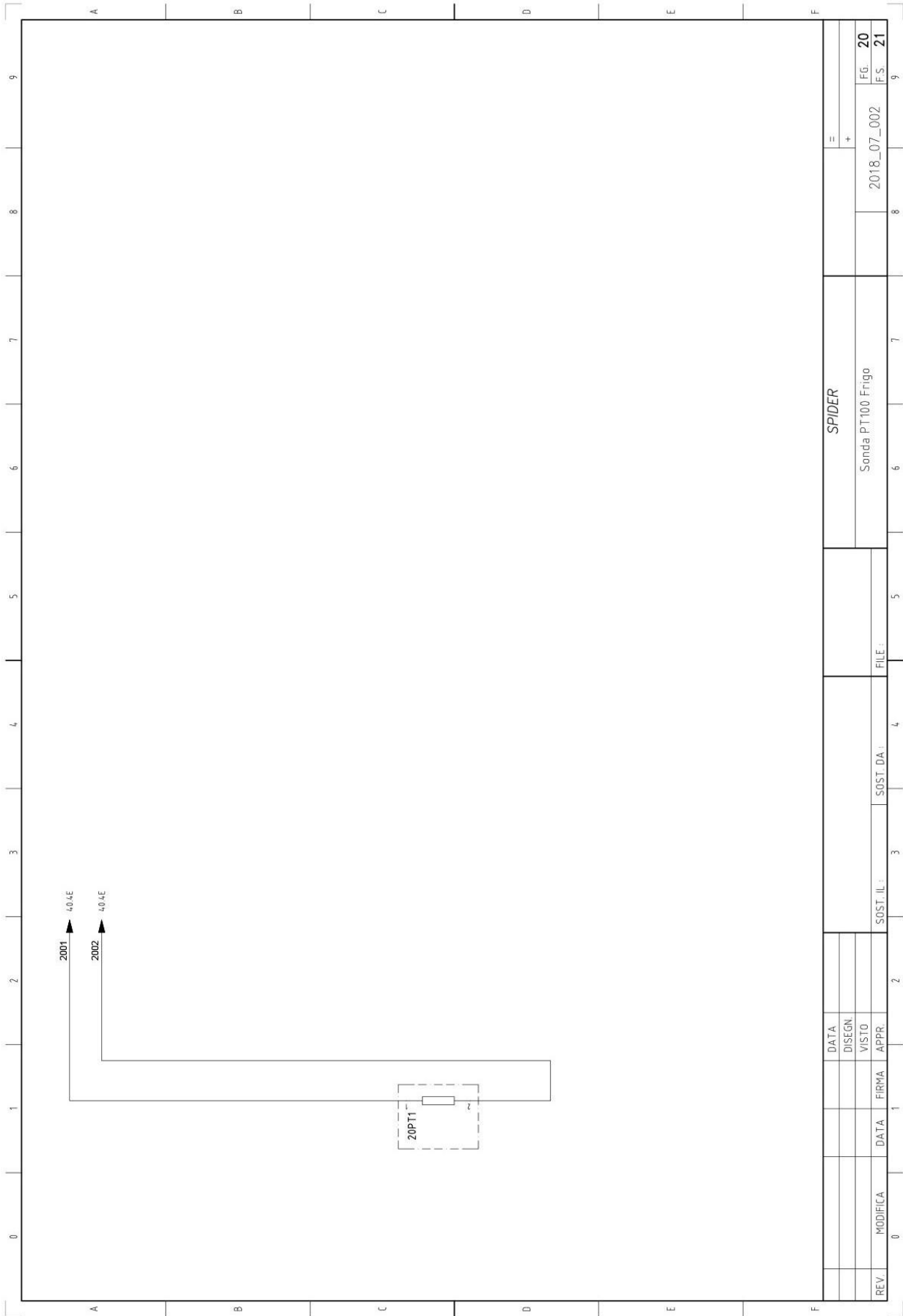
REV.		MODIFICA	DATA	FIRMA	APPR.	SOST. IL:	SOST. DA:	FILE:	SPIDER		Inverter Tappeto	2018_07_002	Fg. 16	F.S. 17
=														

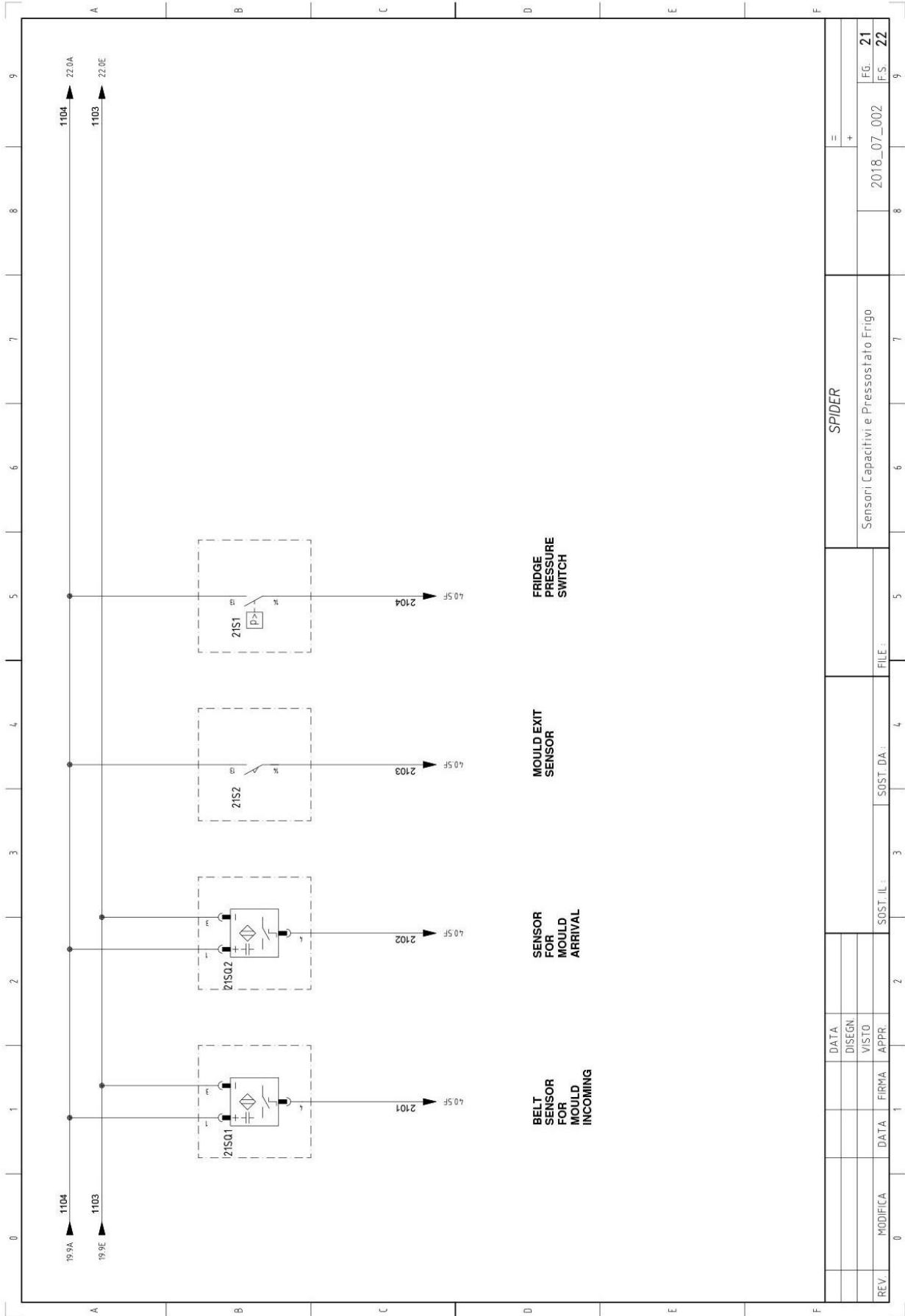




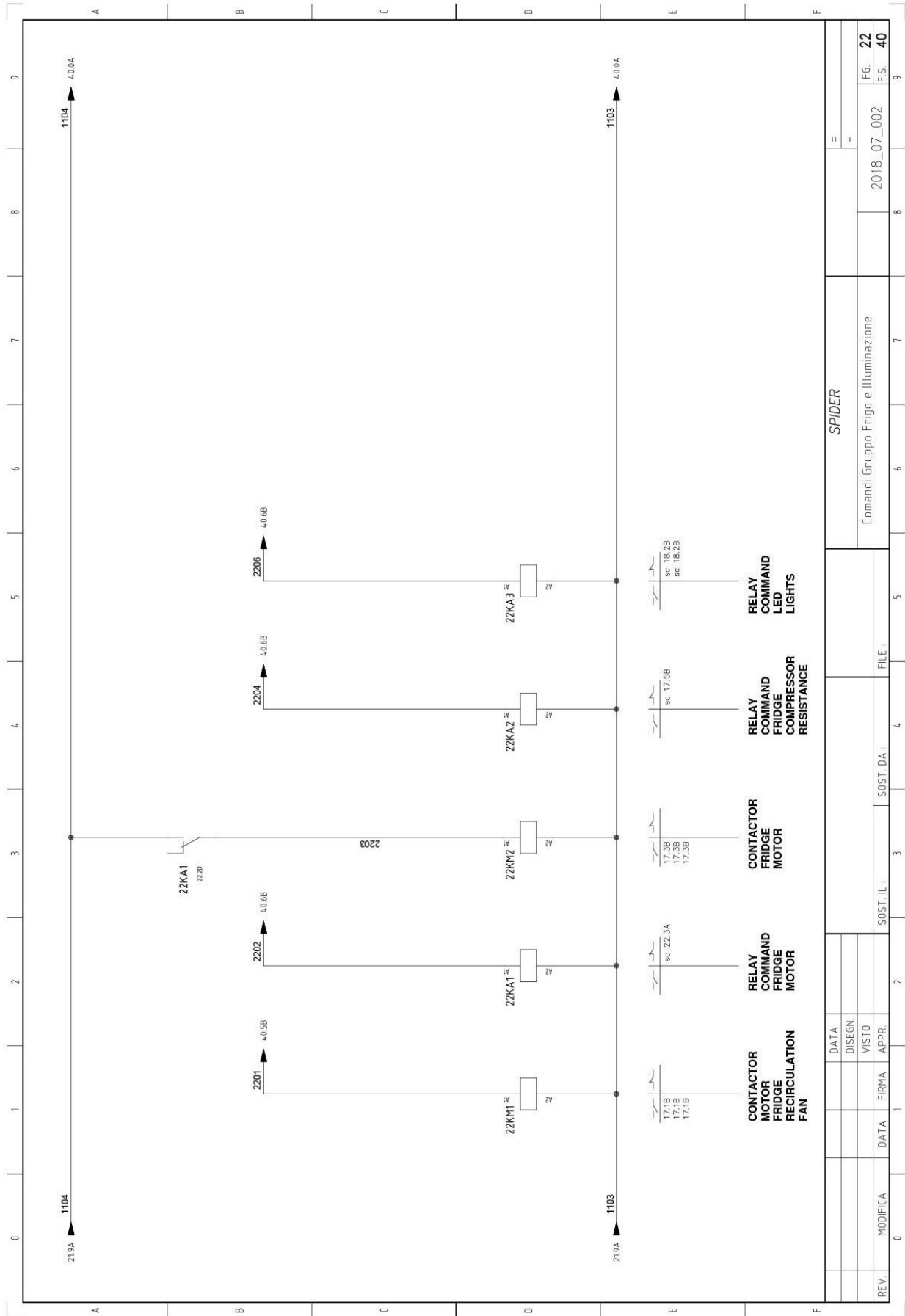
REV.	MODIFICA	DATA	FIRMA	APPR.	SOST. IL:	SOST. DA:	FILE:	Alimentazione Tappeto e Illuminazione Macchina	SPIDER	2018_07_002	Fg. 18	F.S. 19
------	----------	------	-------	-------	-----------	-----------	-------	--	--------	-------------	--------	---------



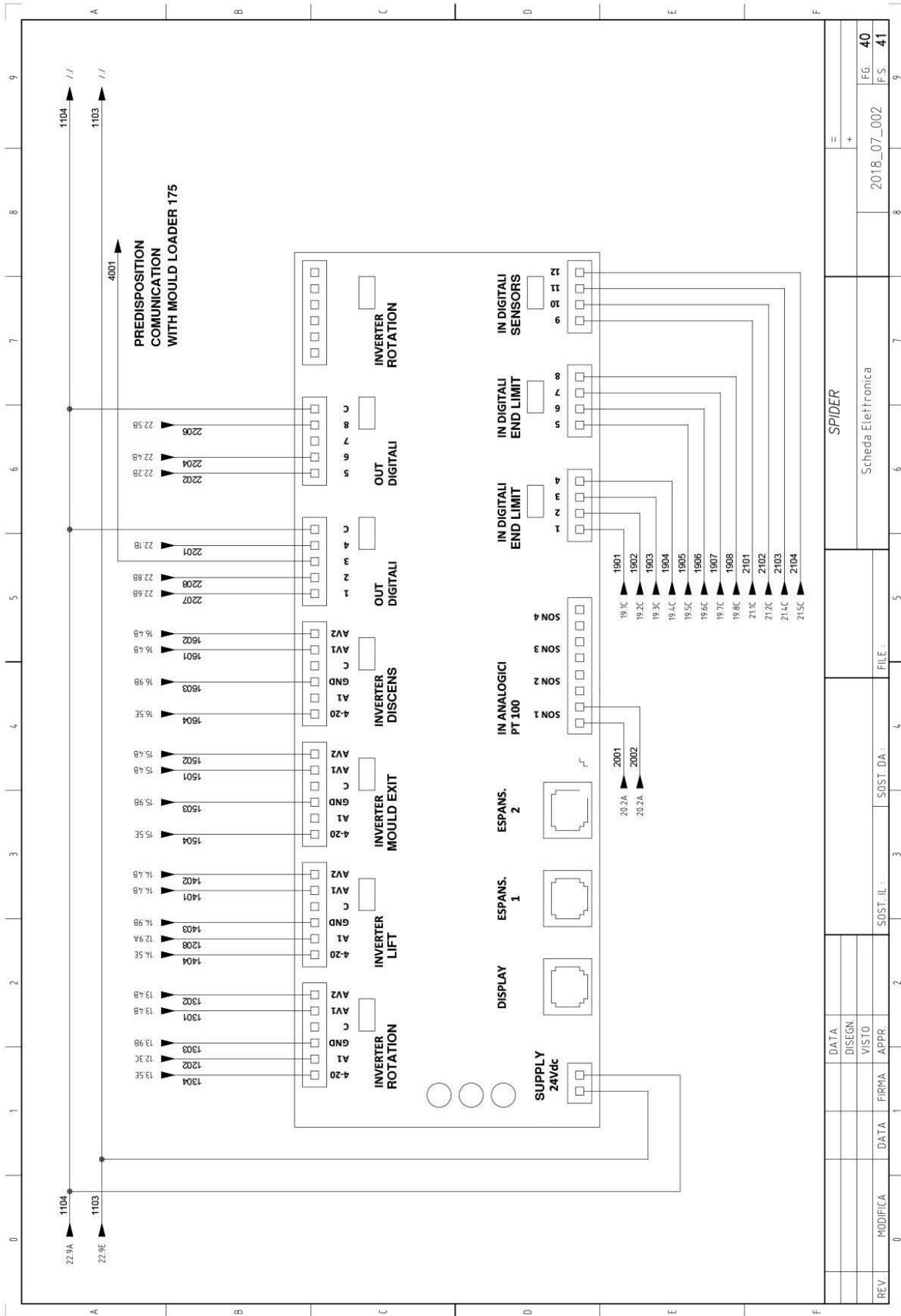


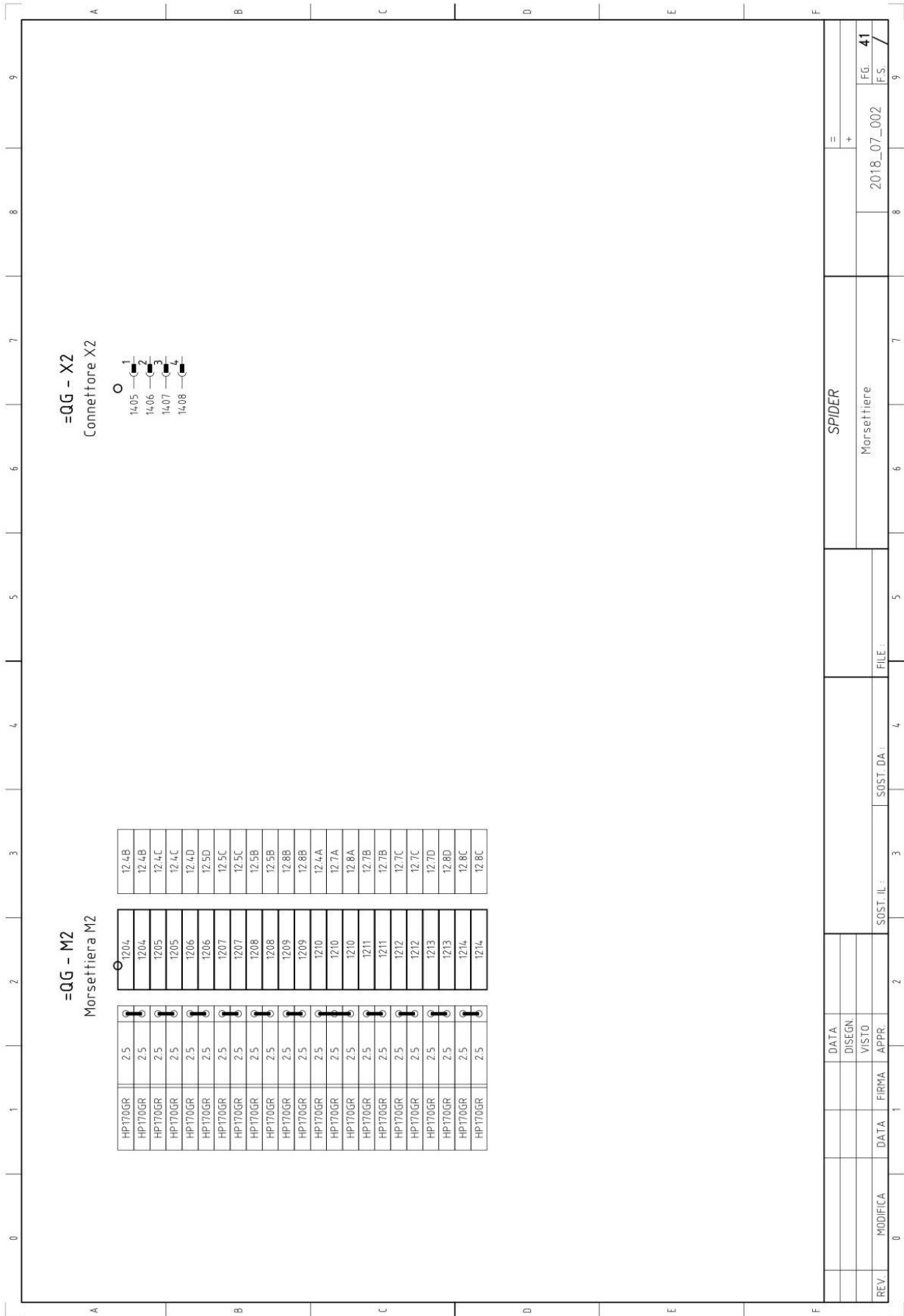


REV.	MODIFICA	DATA	FIRMA	APPR.	SOST. IL:	SOST. DA:	FILE:	SPIDER		2018_07_002	Fg. 21	F.S. 22
								Sensori Capacitivi e Pressostato Frigo				



REV. MODIFICA		DATA FIRMA APPR.	SOST. IL :	SOST. DA :	FILE :	Comandi Gruppo Frigo e Illuminazione		SPIDER		2018_07_002		Fg. 22	F.S. 40





8. SPARE PART SECTION

	<p>SPIDER 001 Leveling element feet</p>		<p>SPIDER 010 Proximity sensor</p>
	<p>SPIDER 002 Emergency button</p>		<p>SPIDER 011 Motor fan</p>
	<p>SPIDER 003 Touch screen display</p>		<p>SPIDER 012 Contactor</p>
	<p>SPIDER 004 Compressor</p>		<p>SPIDER 013 24V dc Supply</p>
	<p>SPIDER 005 Electric compressor starter box</p>		<p>SPIDER 014 Led light supply</p>
	<p>SPIDER 006 Condensator</p>		<p>SPIDER 015 Micro security door opening</p>
	<p>SPIDER 007 Fan fridge</p>		<p>SPIDER 016 Fuse kit</p>
	<p>SPIDER 008 Inverter for electrical motors</p>		<p>SPIDER 017 Flat cable</p>
	<p>SPIDER 009 Contactor fan, belt, fridge</p>		<p>SPIDER 018 Probe Temperature</p>

	SPIDER 019 Motor rotation
	SPIDER 020 Motor raise up
	SPIDER 021 Motore lift
	SPIDER 022 Motore expulsion
	SPIDER 023 Motore belt
	SPIDER 024 Relay

	SPIDER 025 Reducer rotation
	SPIDER 026 Reducer raise up
	SPIDER 027 Reducer lift
	SPIDER 028 Reducer expulsion
	SPIDER 029 Reducer belt
	SPIDER 030 Evaporator
	SPIDER 030 Power board
	SPIDER 031 Belt