	Manuale d'istruzioni				
Code	6996	Matr		Rev	20161202

Versione Allen - Bradley

	en	Honeypack Automatic packing machine series HP5

LEGA srl Costruzioni Apistiche – via Maestri del Lavoro 23 – 48018 Faenza
www.legaitaly.com - Tel 054626834 – Fax 054628279 – P.iva 00043230390

INDEX

DRAWINGS

1.0 GENERAL SAFETY DIRECTIONS

READ THIS HANDBOOK CAREFULLY BEFORE USING THE MACHINE
This handbook forms an integral part of the machine and should be kept with it throughout its working life. The machine includes dangerous electrically live parts and moving parts, which can cause serious damages to persons or property in case of:
- incorrect use
- removal of guards or disconnection of safety devices
- poor inspection and servicing
- tampering with the electric system

These directions must be completed and updated according to law provisions and technical safety standards.

The manufacturer may not be held responsible for failures, breaks or accidents resulting from incorrect use of the machine or failure to follow the safety directions in this handbook.

1.1 IDENTIFICATION OF THE MACHINE

The "Honey Pack – Packing Capping Labelling" machine has been designed as a single-body structure equipped with stations where the various packing steps are completed.
The "**HONEYPACK**" machine consists of 4 main assemblies (see section 4.2 "Identification of the machine components" on page 8):
1. ROTATING LOADER
2. PNEUMATIC PACKER
3. CAPPING UNIT
4. LABELLING UNIT

1.2 SPECIFICATIONS

Dimensions	mm	2800x1900x1800
Rotating plate Ø	cm	65
Worktop height	mm	820
Weight	kg	750
Capacity	kg/h	400
Tolerance	gr	± 3
Adjustment	gr	250-1000
Pump self-priming	cm	100
Input voltage	V	220

1.3 MACHINE OPERATORS

WARNING! FOR SAFETY PURPOSES THIS MACHINE MUST BE USED BY SKILLED STAFF ONLY, AWARE OF THE INSTRUCTIONS CONTAINED IN THIS HANDBOOK WHICH FORMS AN INTEGRAL PART OF THE MACHINE.

Basic technical and mechanical skills are required to correctly operate the machine and carry out maintenance and basic servicing.

1.4 RECOMMENDED/NOT RECOMMENDED USE

This machine should be exclusively used for honey jar packing, filling, capping and labelling purposes.

The manufacturer may not be held responsible for failures, breaks or accidents resulting from incorrect use of the machine or failure to follow the safety directions in this handbook
Do not tamper with the electric system.

2.0 HANDLING / TRANSPORT

Handle the machine with care. The machine can be 'exposed' (visible) or packaged (e.g. in wooden crates) during transport.
Professional forwarders are normally used for transport, under the customer's responsibility.
During transport, the crate containing the machine must be secured with ropes or belts to prevent accidental movement.
The machine can be handled with fork trucks or pallet trucks.
The machine weighs approximately 750 kg; the lifting equipment used must be suitable for lifting this weight.
WHEN HANDLING THE MACHINE, TRAVEL AT EXTREMELY SLOW SPEED!

2.1 MACHINE ASSEMBLY AND DISASSEMBLY

The machine is handled fully assembled.
No special assembly/disassembly operations are therefore required, except in the event of accessory equipment.
If any parts for which no disassembly procedure is described in this manual must be disassembled by the User, a special authorisation must be obtained from "Lega S.r.l. Costruzioni Apistiche" which will indicate the recommended procedure. Carrying out any assembly/disassembly operations not described in the present manual nor authorised by "Lega S.r.l. Costruzioni Apistiche" shall be considered tampering by the User and will have an effect on the machine safety and guarantee.

2.2 INSTALLATION

Installation must be carried out in accordance with the prescriptions contained in this manual, by skilled mechanical or electrical engineers as the case may be.
The machine can only work according to its design technical parameters if positioned at a stable location during its operation.

Before preparing the machine for installation and start-up, carry out a thorough visual inspection to detect any damages that may have been caused during the transport and handling phases.
If one or more machine components are found damaged, suspend the setting-up operations and report the observed faults to "Lega S.r.l. Costruzioni Apistiche" to agree on the best course of action.

A suitable machine working location must be selected to ensure that all the machine moving parts, including the guard doors, do not hit any walls, columns or other installations when opened. A free area not smaller than 80 cm in width must be allowed for access to all the other machine parts, too.
After positioning the machine, level it to ensure trouble-free operation.
To obtain correct machine levelling, adjust the support feet until perfect alignment is obtained.

2.3 STABILITY

The machine shape has been designed to guarantee stability when the machine is placed on the floor.
THE CUSTOMER MUST MAKE SURE THAT THE SUPPORTING SURFACE CAPACITY IS SUITABLE FOR THE MACHINE WEIGHT.

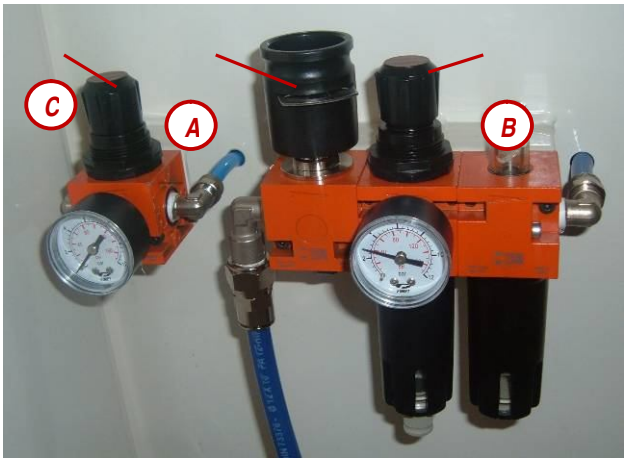
2.4 CLEANING

After installation, the machine must be cleaned with soft cloths and detergents that are not dangerous and do not damage the machine surfaces.

3.0 START-UP

3.1 PNEUMATIC CONNECTION

1. Check that the air feeding hose inside diameter is not smaller than 8 mm.
2. Check that the plant air system supplies a flow rate of 300 l/min at a pressure of 10 bars. The supplied air must be pre-filtered and condensate-free.
3. Check that the switch on the control panel is turned to OFF.
4. Carry out the machine pneumatic connection through the provided coupling next to the air treatment units in the rear part of the machine; turn on the main air supply valve (A) pressing down its middle part, adjust the main pressure adjustment valve (B) to 6 BARS and the capping pressure valve (C) to 2 BARS, variable according to cap type.



A. main air supply valve
B. main pressure adjustment valve
C. capping pressure adjustment valve

3.2 ELECTRIC CONNECTION

1. Check that the power line wires' cross-section is not smaller than 1.5 mm.
2. Check that the line voltage and frequency are in line with the values specified in the technical specifications and control panel data plate (220 V - 50 Hz - 16A).
3. Check that the grounding system is of the agreed type (TT).
4. Check that the switch on the control panel is turned to OFF.
5. Plug the machine into the power line.

3.3 HONEY FILLING CONNECTION

The machine is equipped with a volumetric system for jar filling with honey, which is fed honey from an external tank. During the filling piston loading phase, honey is automatically taken by suction into the dispensing chamber.

Connection must be carried out by following this procedure:

1. Check that the switch on the machine control panel is turned to OFF.
2. Provide a honey collector tank, according to specific user requirements, installed on the outside of the machine on a stable support and at higher level than the filling piston.
3. Prepare the tank-to-filler piston feeding system by using food-safe hose elements. The pipeline diameter and thickness must be such as to guarantee sufficient flow rate according to the product quantity and density.
4. Connect via the connector provided on the packing unit.

WARNING! THE CONNECTING PIPE MUST REACH THE MACHINE FROM THE TOP. POSITION IT AVOIDING ANY INTERFERENCE WITH ANY MACHINE MOVING PARTS.

3.4 GUARD INSPECTION

Check that all the fixed guards are in place and securely bolted, and that the mobile guards are closed.

VERY IMPORTANT NOTE:
The operator is always requested to work with correctly installed fixed guards and with closed mobile guards, and to ensure that none of the guards have been altered in any way.
The maintenance engineers must only begin working after stopping the machine and ensure that, after service completion, all the guards have been correctly re-assembled and/or closed and are operating efficiently.
The safety manager must ensure that the operator and maintenance staff have received all the necessary information in accordance with the present manual, and in particular, that all the fixed and mobile guards are correctly installed and efficiently working and have not been tampered with in any way.

4.0 OPERATION

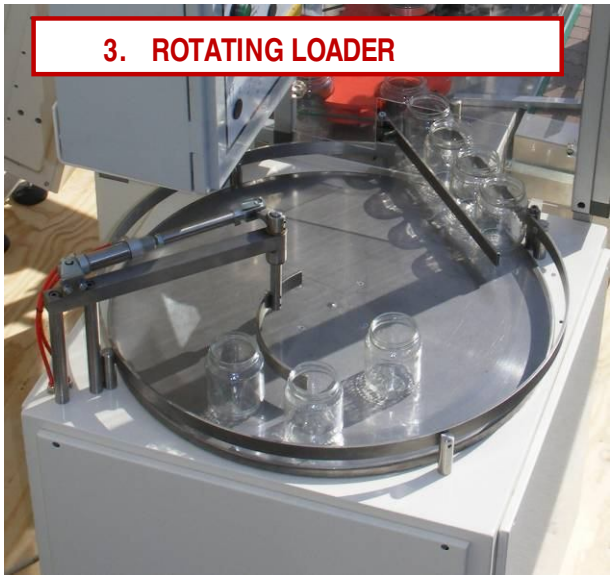
4.1 SAFETY RULES

The general safety rules described in the opening pages of the present manual apply.
Any operation that is likely to affect the machine safety must be avoided.
The operator must ensure that no unauthorized persons operate the machine (e.g. by loading/unloading jars to be processed).
The machine can only be used if it is working efficiently.
Guards may not be removed or altered.
In the event of a damaged or faulty safety device, the machine must be stopped until efficient operation is restored.
If during the machine set-up, service or maintenance any machine component must be removed, the machine must be temporarily put out of service for safety reasons, by carefully following the special instructions. After service completion, the removed components and safety devices must be re-installed and submitted to efficiency checks.
It is forbidden to use compressed air to remove any foreign matter or to blow clean the machine, as parts may be operated by the air jet causing injuries.

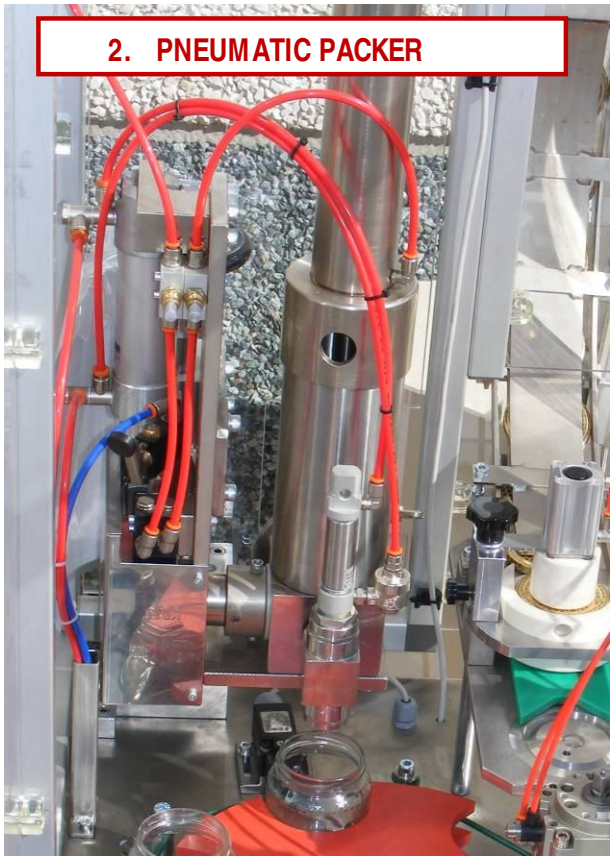
WARNING! NO SAFETY DEVICE MAY BE REMOVED OR PUT OUT OF SERVICE.
ADJUSTING OR ALTERING THE MACHINE WITHOUT PERMISSION IS FORBIDDEN ON SAFETY GROUNDS.

4.2 COMPONENT IDENTIFICATION

3. ROTATING LOADER



2. PNEUMATIC PACKER



1. CAPPING UNIT

4. LABELLING UNIT

4.3 USER INTERFACE GUIDE

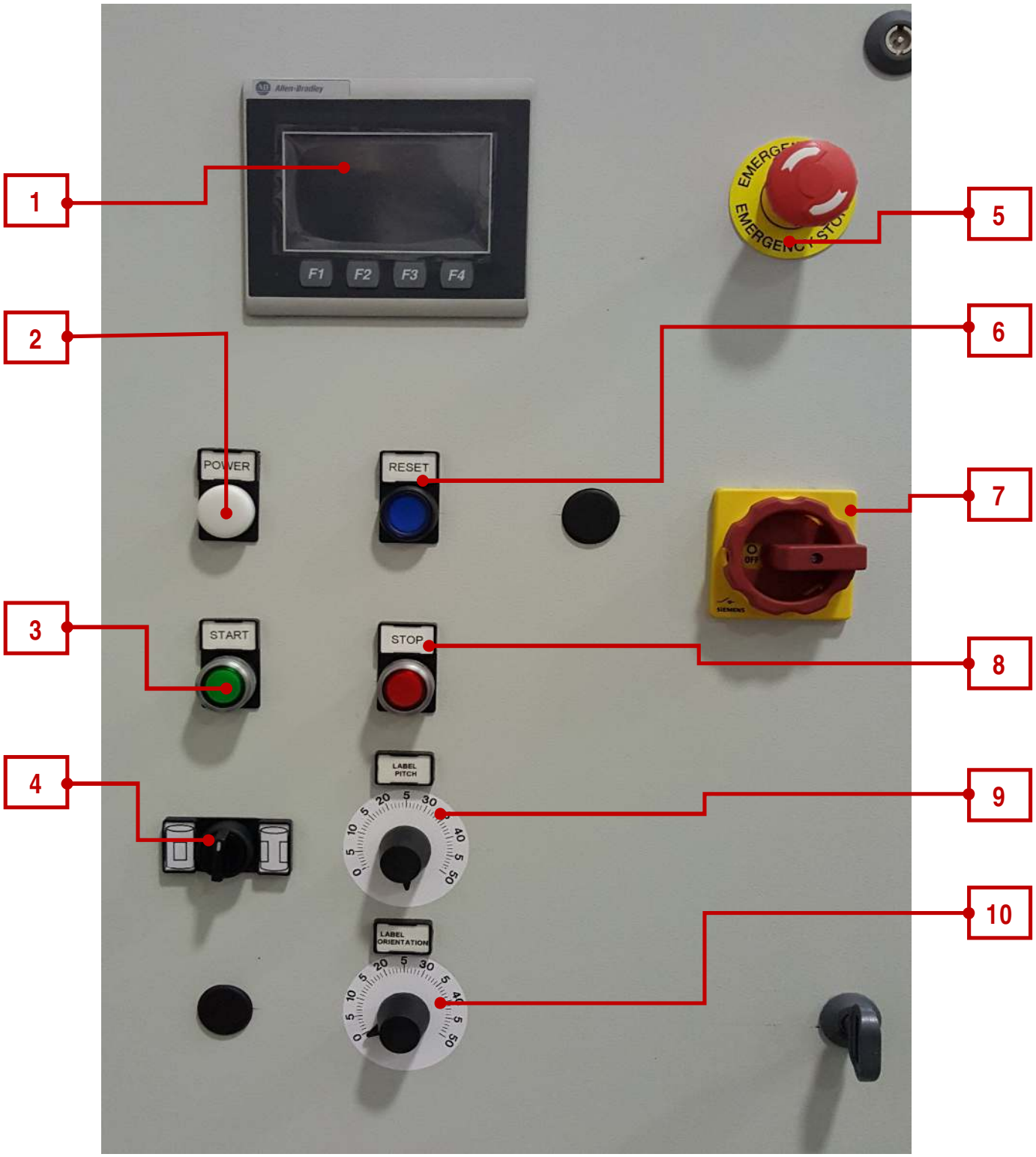
4.3.1 MACHINE STARTUP

1. Connect the machine to a 120Vac power source via the industrial plug (2P+ E).
2. Check that the air circuit is properly connected to the air supply system then adjust pressure by acting on the red lever of the main valve.
3. Make sure that the machine guards and covers are properly installed and that the control panel is perfectly closed then turn the main switch clockwise from OFF to ON.
4. Wait until initialisation is completed and the “Welcome page” is displayed.
5. Set all operating parameters via the screens displayed.
6. Check that all the fixed guards are in place and securely bolted to the machine; close all the mobile guards.
7. Release the emergency button on the control panel by turning it clockwise.
8. Press the RESET button for 1 second. If the operation is successfully completed, the button LED lights up and the machine actuators (drives, valves, etc.) are enabled and powered. If pressing the RESET button has no effect, check once again that all the mobile guards are closed and that the emergency button is released.
9. Set the system operating pressure to the desired value by acting on the adjustment valves found on the rear of the machine.

IMPORTANT!
The machine operator must always work with the fixed guards correctly installed and the mobile guards closed; he/she must make sure that none of the guards has been altered in any way.
The staff in charge with the maintenance must start working only after turning off or putting the machine in a state of emergency; they must also make sure that, after maintenance operations are completed, all the guards and other components are correctly re-installed and operate efficiently.
The safety manager must make sure that the operators have received all the necessary information as contained in this manual and that the machine safety devices are working efficiently and have not been tampered in any way.

4.3.2 CONTROL PANEL

Control panel, front view (image A):



1 Control display (HMI) used to access the system main functions. It includes the parameter menu, monitoring screens for the various operations and real-time diagnostics and error messages.

2 Power indicator When the machine is connected to power, the LED lights up.

3 START button Pressing and holding down this button activates the automatic cycle. If the "Manual" page is displayed, pressing the START button has no effect. When the automatic cycle is activated, the START button flashes.

4 "Label mode" selector

Central position: the labelling unit is deactivated.
Left position: application of one single label per jar.
Right position: application of one label and one back label per jar.

5 Emergency button To disable machine operation, immediately stop all ongoing processes and cut power to the actuators.

6 RESET button To enable machine operation, give power to the actuators and reset alarms on the control display. When the machine is working, this button light is up.

7 Main switch To connect the system to power supply.

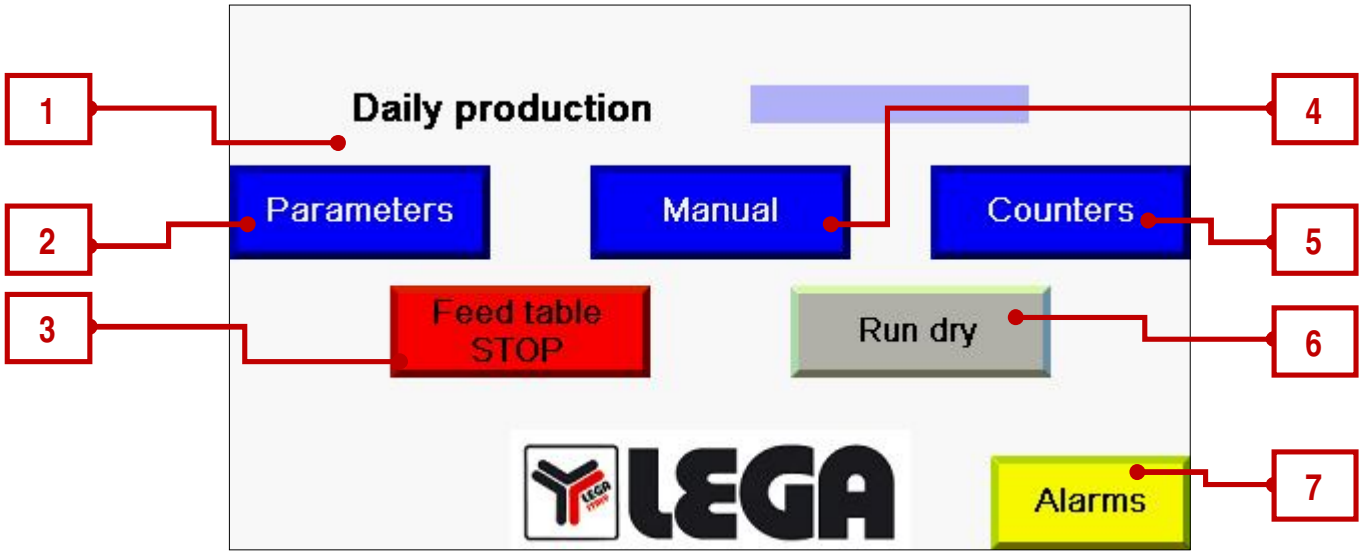
8 STOP button Pressing this button deactivates the automatic cycle, allowing however that all ongoing processes are completed. If the "Manual" page is displayed, the STOP button flashes.

9 "Label pitch" trimmer To adjust the delay of application of the back-label with respect to the application of the main label when the "label mode" selector is on the right (label + back-label) (Turning the trimmer clockwise increases the application delay and hence the distance between the labels; turning it counter-clockwise reduces the application delay.

10 "Label orientation" trimmer To adjust the delay of the piston back-stroke to determine the orientation of the label applied on the jar with respect to the "applicator of the guarantee seal". Turning the trimmer clockwise increases the delay of the piston back-stroke; turning it counter-clockwise reduces the delay.

4.3.3 HMII SCREENS

View of the "Welcome page" (image B)



1 Indicates the quantity of jars filled since the machine was last started or the counter was last reset (image E, point).

2 Go to the "Parameter" page (image C).

3 This button is used to select the operating mode of the empty jars feeding table:

Feed table STOP	When the button is turned to "Feed table STOP" (red), the rotary table is deactivated.
Feed table AUTO	When the button is turned to "Feed table AUTO" (light blue), the rotary table is activated but its rotation automatically starts only if and when necessary.
Feed table RUN	When the button is turned to "Feed table RUN" (green), the rotary table is always activated.

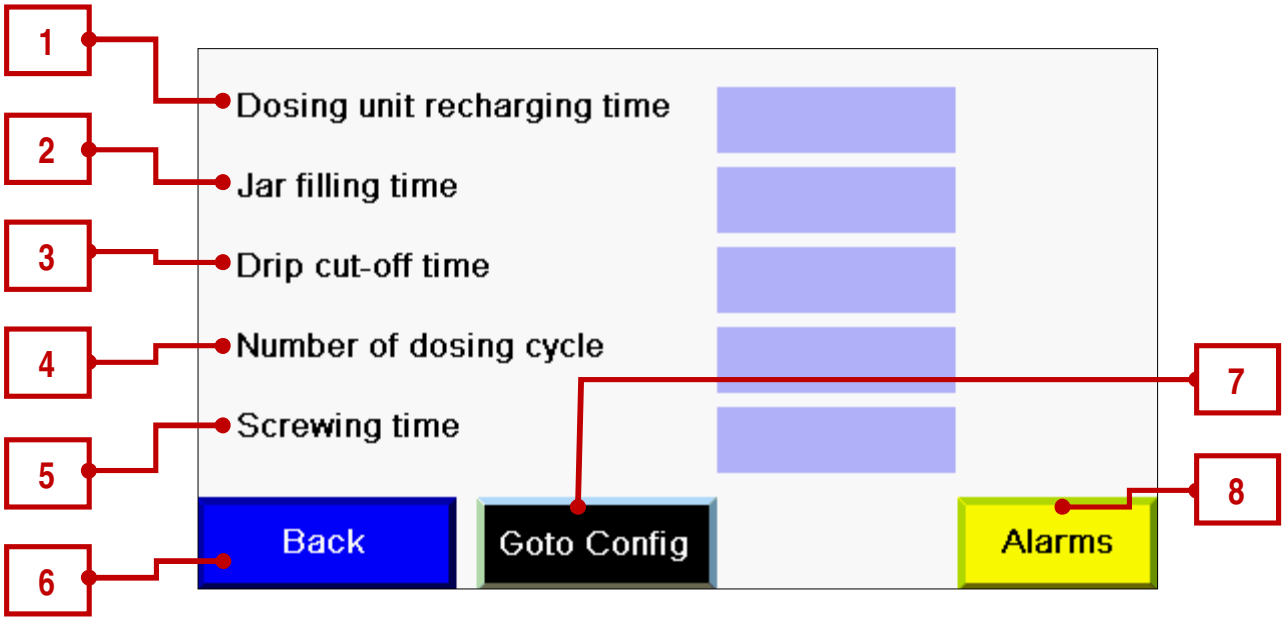
4 Go to the "Manual" page (image D).

5 Go to the "Counters" page (image E).

6 This button is used to activate the "Emptying" cycle. When this function is enabled, the system interrupts the operation of the rotary table, completes the processes on the jars that are still present on the machine and then automatically stops the cycle. To switch to this mode, press the "Emptying" button for a few seconds while the automatic cycle is running.

7 Go to the "Alarm history" page (image F).

View of the "Parameter" page (image C)



1 To edit and view the current set value of the time needed to reload the dosing unit (milliseconds).

2 To edit and view the current set value of the time needed to fill the jar (ms).

3 To edit and view the current set value of the time needed to drip excess product off at the end of the dosing (ms).

4 To edit and view the current set value of the number of filling cycles per jar.

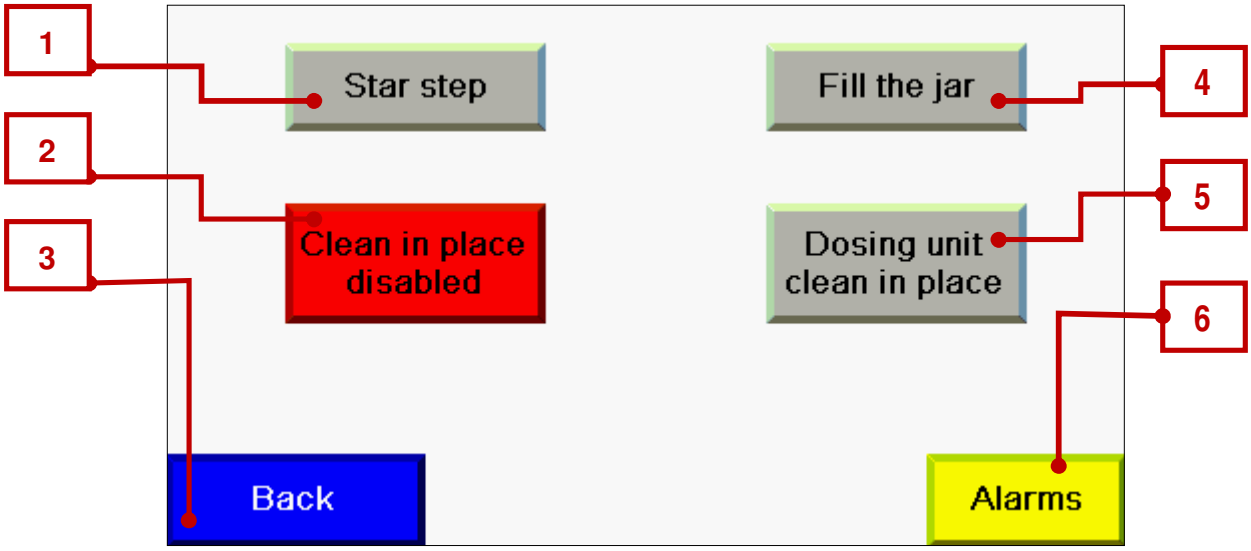
5 To edit and view the current set value of the duration of the cap tightening device holding time (ms).

6 Back to the previous page.

7 Press this button to quit the application and access the display configuration menu.

8 Go to the "Alarm history" page (image F).

View of the "Manual" page (image D):



If the "Manual" page is displayed, pressing the START button has no effect. The buttons on this screen are activated only when the automatic cycle is deactivated.

1 Press this button to move the star-wheel unit (carrying the jars to the process stations) a "step" forward. The cap tightening cycle is automatically started when a jar is detected at the cap tightening station after the star-wheel unit has moved a "step" forward. The jar ejection cycle will be carried out before and after each "step "forward of the star-wheel unit in the manual mode.

2 Press this button to enable the dosing unit cleaning cycle (point 4). Quitting the Manual page the enabling is automatically cancelled.

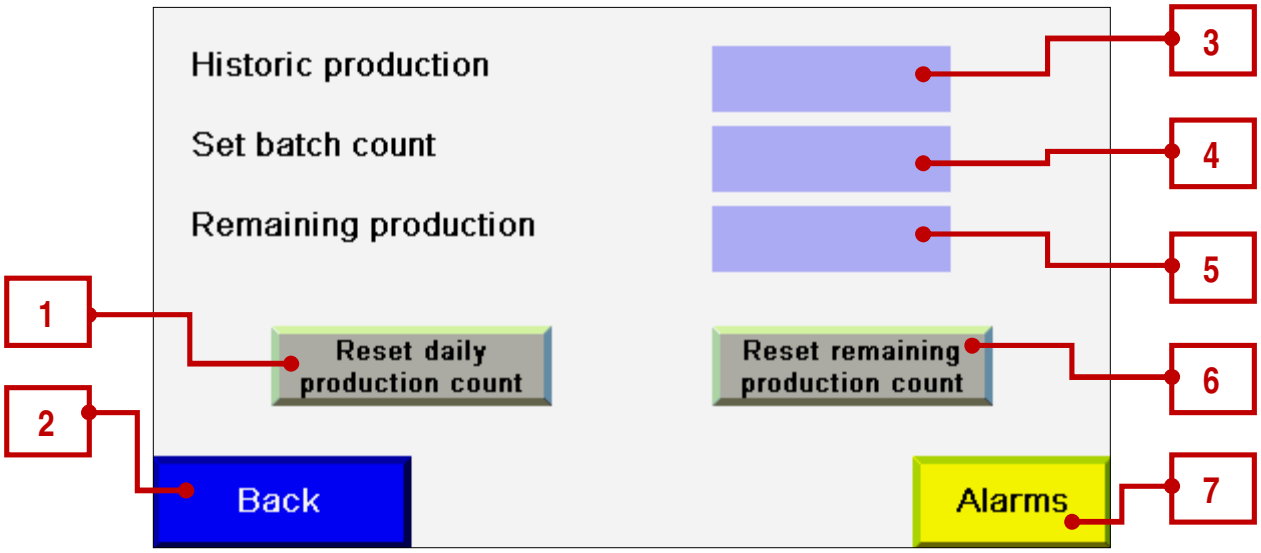
3 Back to the previous page.

4 Press this button to fill the jar present under the dosing unit. The filling cycle can be started only once per each jar. If you wish to repeat the filling cycle 'n' times per each jar, use the function "No. filling cycles" (image C, point 4) before starting the dosing cycle in the manual mode. Move the star-wheel one "step" forward (point 1), after completion of the dosing cycle, to place a new jar under the dosing unit and start the filling cycle again.

5 Press this button to start the dosing unit cleaning function. To start this function, press first the enable button to the left of this button (point 3). Connect a source of warm water to the dosing group inlet and position a container under the dosing unit nozzle to collect any waste, then press the Dosing unit cleaning button to have the warm water circulate inside the system. Repeat the procedure until the desired results are obtained.

6 Go to the "Alarm history" page (image F).

View of the "Counters" page (image E):



1 Press this button for a few seconds to reset the daily count (image B, point 1).

2 Back to the previous page.

3 Indicates the total quantity of jars filled since the machine was last started (number of fillings).

4 "Production setup": this function allows you to set the quantity of jars to fill. The machine will fill the number of jars corresponding to the value entered in this field; once filling is completed, the machine will activate the "Emptying" cycle (image B, point 6).

After the set production value is achieved, press the "Remaining production count" button for a few seconds (point 4) to re-start the "production setup" procedure then enter a new value in the field to start a new cycle.

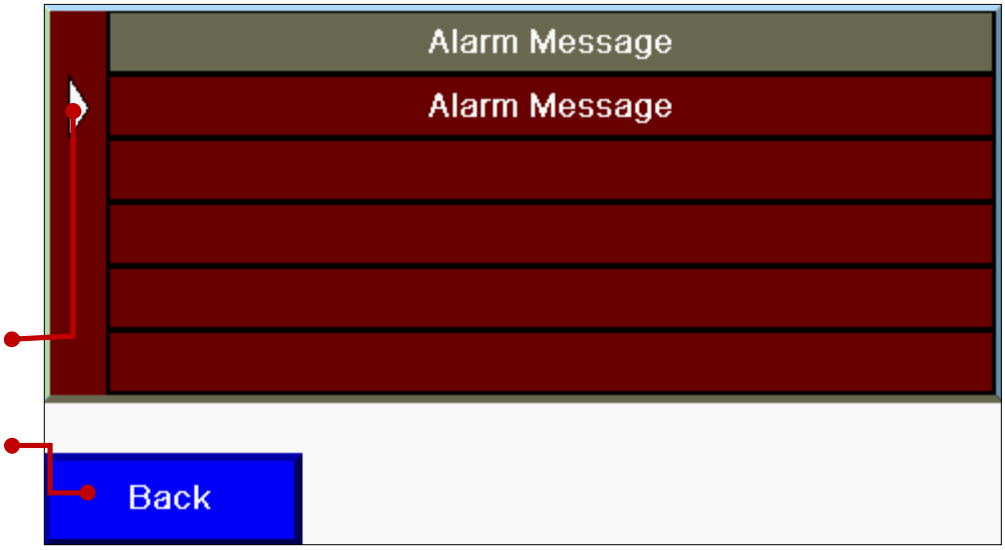
Enter "0" to deactivate the "production setup" function.

5 Indicates the quantity of remaining jars at the end of the "Production setup" procedure (point 2).

6 Briefly press this button to re-start the count of remaining jars at the end of the production setup procedure (point 3).

7 Go to the "Alarm history" page (image F).

View of the "Alarm history" page (image F):



1 The alarm history function automatically records all alarm events (Errors and Warnings) occurred while using the machine. Each message is classified according to the event source. The data in this table cannot be deleted. When all storage space is used up, the older messages are automatically overwritten.

2 Back to the welcome page

4.4 AUTOMATIC OPERATING MODE

Step by step instructions for using the machine in the automatic mode:

1 Load the empty jars onto the rotary table at machine inlet.

2 Load the hopper with the caps.

3 Connect the product feeding pipe to the inlet of the dosing unit then start feeding the product.

4 Close all the mobile guards and check that the emergency button is released *(image A, point 4*.

5 Press the RESET button for 1 second *(image A, point 5).*

6 Wait until the cap loading system has filled the chute up to the level sensor. It will not be possible to start the automatic cycle before reaching the cap minimum level.

7 Press and hold down the START button *(image A, point 6)* for a few seconds to start the automatic cycle. The automatic cycle cannot be activated if the "Manual" page is displayed *(image D)*.

8 When this function is activated, the machine fills the jars and cap them autonomously and continuously, according to the procedure parameters set by the user as described above.
The operator must ensure that there is always sufficient product to feed and a sufficient number of caps for the jars that are to be filled, also checking the messages displayed on the HMI.
When the automatic cycle is running, the START button flashes.

9 To stop the automatic cycle press the STOP button *(image A, point 7)*.
The automatic cycle will be also deactivated:

- after the “emptying” cycle is completed *(image B, point 6)*,
- when the value set using the “production setup” function *(image E, point 2)* has been achieved (i.e. at the end of the “emptying” cycle),
- when the emergency button is pressed *(image A, point 4)* or a mobile guard is open,
- when error events occur.

When the automatic cycle is not running, the START button lights up steady.

4.5 MANUAL OPERATING MODE

Step by step instructions for using the machine in the manual mode:

1 Connect the product feeding pipe to the inlet of the dosing unit then start feeding the product.

2 Close all the mobile guards and check that the emergency button is released *(image A, point 4*.

3 Press the RESET button for 1 second *(image A, point 5).*

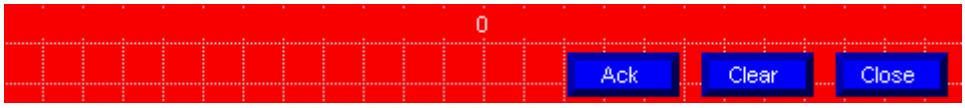
4 View the "Manual" page on the HMI *(image B, point 2/ image D)*. The STOP button starts flashing *(image A, point 7)*.

5 Perform all the desired operations by acting on the buttons displayed on the "Manual" page *(image D)*.

6 To deactivate the manual operating mode just quit the "Manual" page.

4.6 ERRORS AND WARNING

In case an alarm is triggered, the alarm message is displayed in the red area in the upper part of the display *(see image below)*.
Alarm messages can always be checked and verified by pressing the Alarms button at the bottom right angle of all the screens of the HMI.



There are two categories of system messages:

- Errors: this type of message requires that the emergency button is pressed, the alarm cause is verified by the operator or maintenance responsible and the RESET blue button is pressed *(image A, point 5)* to reset the error.
- Warnings: this type of message **does not** require that the emergency button is pressed nor that the RESET button is pressed to reset. The alarm is automatically silenced after the cause that generated it is resolved.

4.6.1 DESCRIPTION OF THE ALARMS/WARNINGS THAT MAY OCCUR WHILE USING THE MACHINE:

1 Emergency: the machine in an emergency state, check that all mobile guards are closed and that the emergency button is released, then press the RESET button (image A, point 5). (Error)

2 Capping unit error: while the cap tightening actuator is descending, the system does not receive consensus from the SQI1.0 sensor. Press the emergency button or open the mobile guard then check that the SQI1.0 inductive sensor that determines the start of the tightening unit, is in place and is working efficiently. (Error)

3 Missing jars: place new jars onto the rotary table and start the cycle (image B, point 5). If the problem continues, check that the SQI0.9 sensor under the star-wheel unit that detects the presence of the jars, is in place and is working efficiently. (Warning)

4 Caps level low: add more caps into the hopper. If the problem continues, check that there is no obstacle in the loading system. (Warning)

5.0 STARWHEEL UNIT

A special feeding starwheel must be installed to match each type of jar. Whenever a new jar format is used, its matching starwheel must be installed, so that during processing the jars are always correctly guided and centred under the various work stations.

Do not install starwheels that have not been type-approved by the manufacturer.

TO CARRY OUT A FORMAT CHANGEOVER, FOLLOW THE INSTRUCTIONS PROVIDED IN SECTION 11 "FORMAT CHANGEOVER".

6.0 ROTATING PLATE UNIT

The rotating loader consists of a metal framework supporting a slowly rotating motor-driven plate.

Special guides are used to allow the jars (fed by the machine operator to the left end of the plate) to be conveyed towards the starwheel unit.

The plate can hold up to 20/25 empty 500 gram jars.

The rotating loader is operated by the LOAD (run stop) selector switch located on the control panel (see the figure on page 10, controls description, control panel).

7.0 CAP FEEDING UNIT

The pressure adjuster which controls the cap reject air flow operates according to cap weight and dimensions.

To adjust the pressure, work the air blow pressure adjustment valve by lifting and turning the special handle.

For a 500 gram jar, set the pressure to 0.6-0.7 bars, while a 1000 g jar will require a 1.5 bar pressure setting.

The pressure setting, however, can vary according to the weight of the caps used.

7.1 CAP FORMAT CHANGEOVER

Carry out a format changeover according to the instructions supplied in section 11 "FORMAT CHANGEOVER".

8.0 PACKING UNIT

This packing machine can be used for high precision-filling of 250 to 1000 gram jars with honey.
The filling system works according to the volumetric principle: honey is sucked into a cylinder the pre-set volume of which determines the weight of the honey packed into the jar via the nozzle.
When a jar is placed under the nozzle, it activates a sensor which automatically starts the filling cycle.
The cycle length can vary according to honey density; however, an average hourly output rate of 400 kg can be expected.
All the parts in contact with honey are made of stainless steel or other non-toxic, food safe materials.

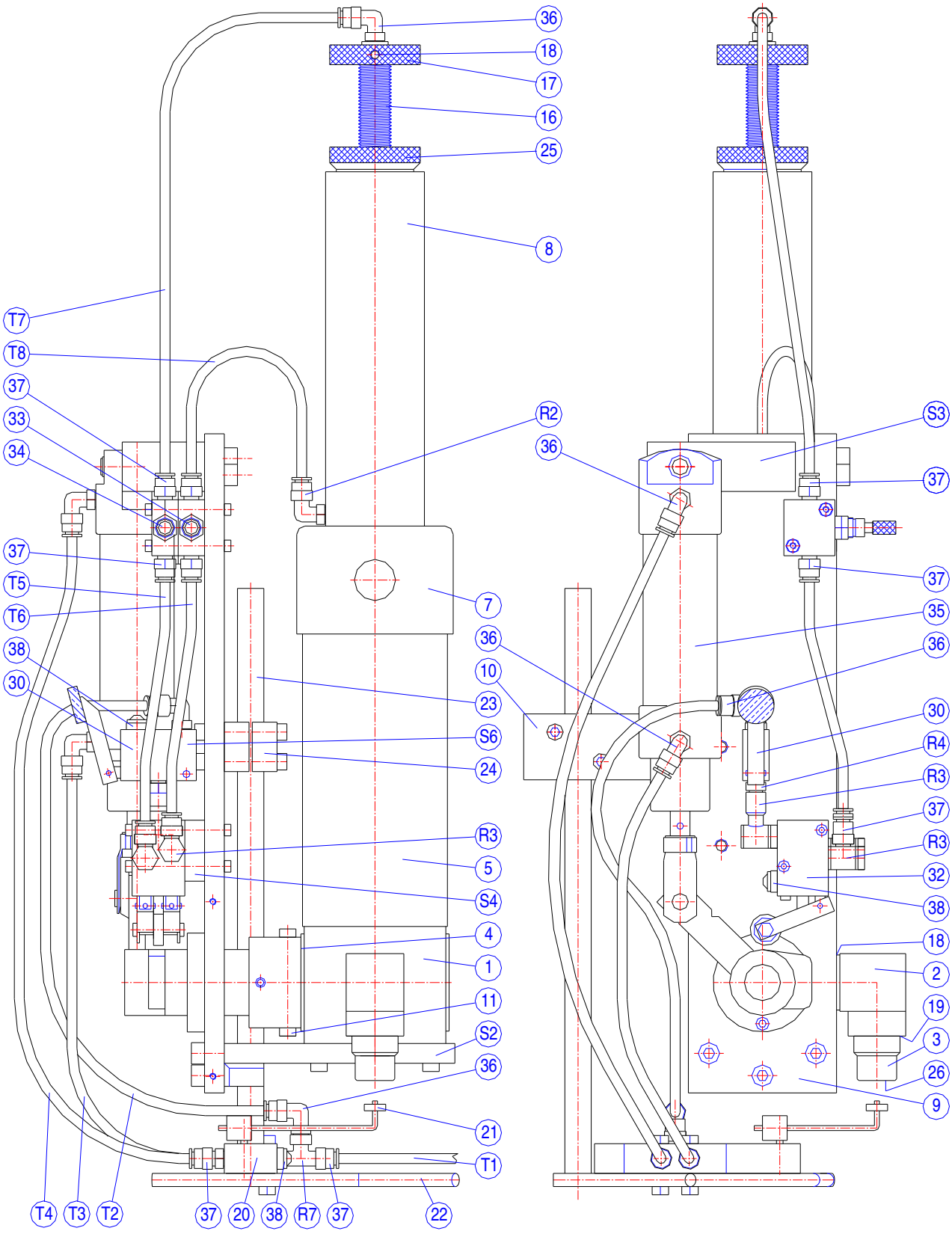
8.1 WEIGHING CYCLE ADJUSTMENT

Release the top coupling (36) by working the sliding sleeve (19). Loosen the lock nut.
Press the pressurising control override lever (31).
Turn the handwheel (17) bearing in mind that by turning in the filling weight will decrease, while by turning out the filling weight will increase, and that each handwheel turn corresponds to an approximately 20 gram difference.
Release the pressurising control override lever (31), engage the top coupling (36).
After filling a few trial jars and finding the exact filling weight, tighten the lock nut.
If the piston thrust causes a too strong or too weak honey output, turn the adjuster knob (33-34), screwing it in or out according to whether the piston speed must be decreased or increased.
The adjuster (33) will adjust the outlet, while the adjuster (34) will adjust the inlet.
Inlet adjustment should be performed when working with viscous honey, too, to prevent excessively hard suction creating vacuum inside the cylinder leading to incorrect weighing.

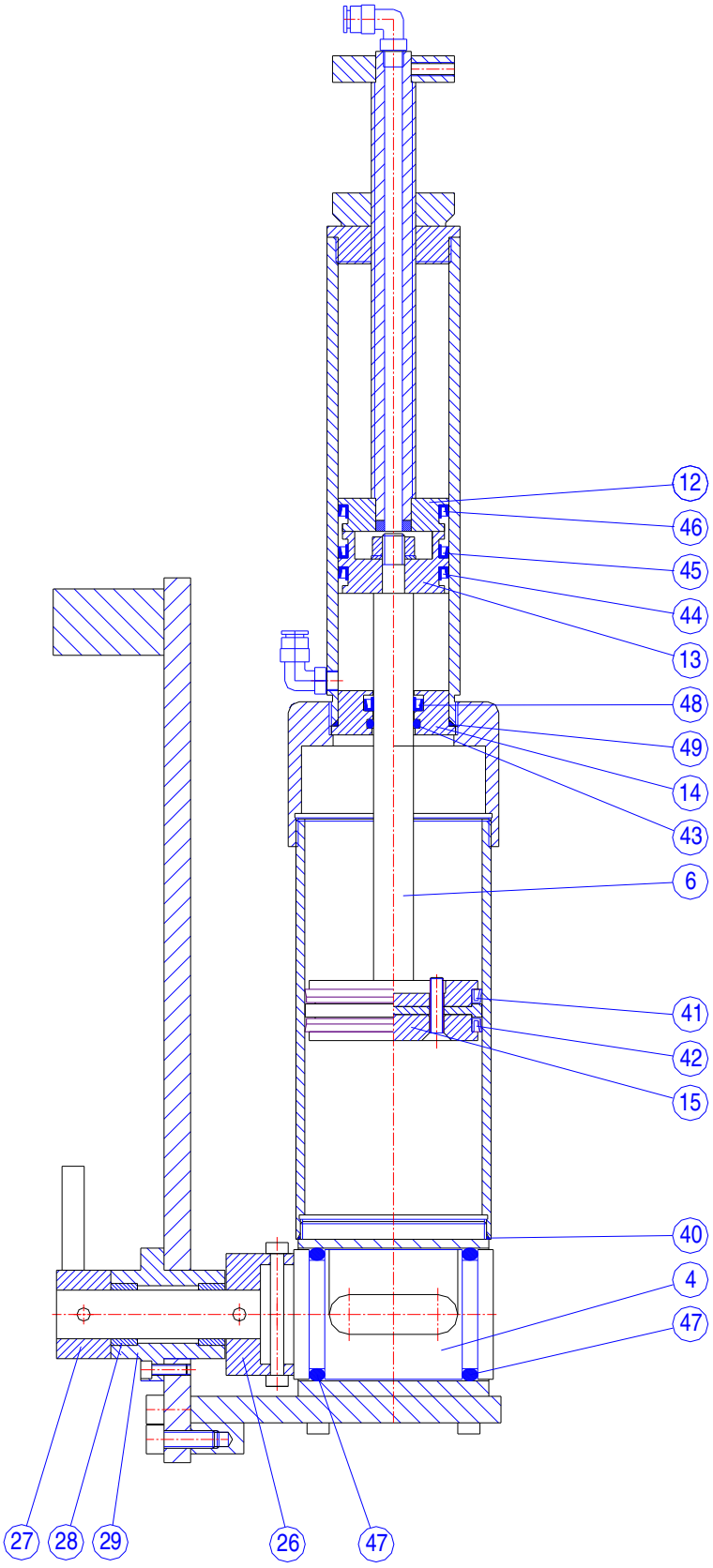
8.2 SPECIAL WEIGHING CYCLE ADJUSTMENTS

The packing machine is usually supplied by the manufacturer pre-set for average thickness honey. For more viscous honey types, different adjustments are required.

8.3 SIDE VIEW


36
18
17
16
25
8
T7
T8
37
33
34
37
T5
T6
38
30
R2
36
7
36
10
23
S6
24
R3
5
S4
4
1
11
S2
36
21
T1
T4
T3
T2
37
20
38
R7
37
22
S3
37
37
35
36
30
R4
R3
37
R3
32
38
18
2
19
3
26
9

8.4 CROSS-SECTION VIEW



8.5 PARTS TABLE

no.	Description	Serial no.	Code
1	PACKING MACHINE BODY	6950101	
2	HONEY OUTPUT ELBOW	6950102	
3	OUTLET NOZZLE	6950103	
4	IN DELRIN ROTOR	6950104	
5	HONEY END CYLINDER	6950105	
6	HONEY PISTON ROD	6950106	
7	CYLINDER CONNECTOR	6950107	
8	AIR END CYLINDER	6950108	
9	SUPPORTING STRUCTURE	6950109	
10	SUPPORT BRACKET	6950140	
11	CONNECTOR PIN	6950141	
12	AIR CYLINDER HEAD DISC	6950142	
13	AIR PISTON HEAD	6950113	
14	AIR CYLINDER FOOT PLUG	6950114	
15	HONEY PISTON HEAD (3 PARTS)	6950115	
16	ADJUSTMENT SCREW	6950116	
17	TRAVEL ADJUSTMENT HANDWHEEL	6950117	
18	OUTLET ELBOW FOOT LINING	A61104112	OR 4112
19	OUTLET NOZZLE LINING	A61100132	OR 132
20	CONTROL VALVE WITH FEELER	6950120	ATLAS COPCO VA15 WG-R5
21	STARTER	6950121	
22	JAR POSITIONING GUIDE	6950122	
23	CONTROL VALVE HOLDER STEM	6950123	
24	VALVE POSITIONING CLAMP	6950124	
25	LOCK NUT	6950125	
26	DROP STOP TUBE	6950126	
27	CAM DRIVE UNIT	6950127	
28	BUSHING	6950128	
29	FIXED BUSH	6950129	
30	RELEASE VALVE	6950130	WAIRCOM AT8
31			
32	ALTERNATE MOTION VALVE	6950132	WAIRCOM CARL8R
33	(DOWNWARD) FLOW ADJUSTMENT	6950133	WAIRCOM URG 8/5
34	(UPWARD) FLOW ADJUSTMENT	6950133	WAIRCOM URG 8/5
35	CAM CONTROL PISTON	6950135	WAIRCOM C40x100 ADEC
36	6x1/8" ELBOW COUPLING	A47581501	
37	6x1/8" STRAIGHT COUPLING	A47581511	
38	1/8" SILENCER COUPLING	A47580001	2901 1SFE
no.	**Description**	**Serial no.**	**Code**
39	HONEY PISTON LINING (MOD.1982-86)	6950110	DE 325 (BLACK)

40	HONEY CYLINDER FOOT LINING	A61103281	OR 3281
41	HONEY PISTON TOP LINING	6950141	S 59046 (BLUE)
42	HONEY PISTON BOTTOM LINING	6950142	S 5999 (WHITE)
43	OIL SCRAPER	A61130094	WRM 07/0094
44	AIR PISTON LINING	A61110200	DE 200
45	AIR PISTON LINING	A61110200	DE 200
46	LINING ON HEAD DISC (12)	A61110200	DE 200
47	LINING ON ROTOR (2 PCS)	A61106200	OR 6200
48	INT. LINING ON FOOT PLUG	A61120018	DIM 18
49	TOP LINING ON FOOT PLUG	A61100147	OR 147

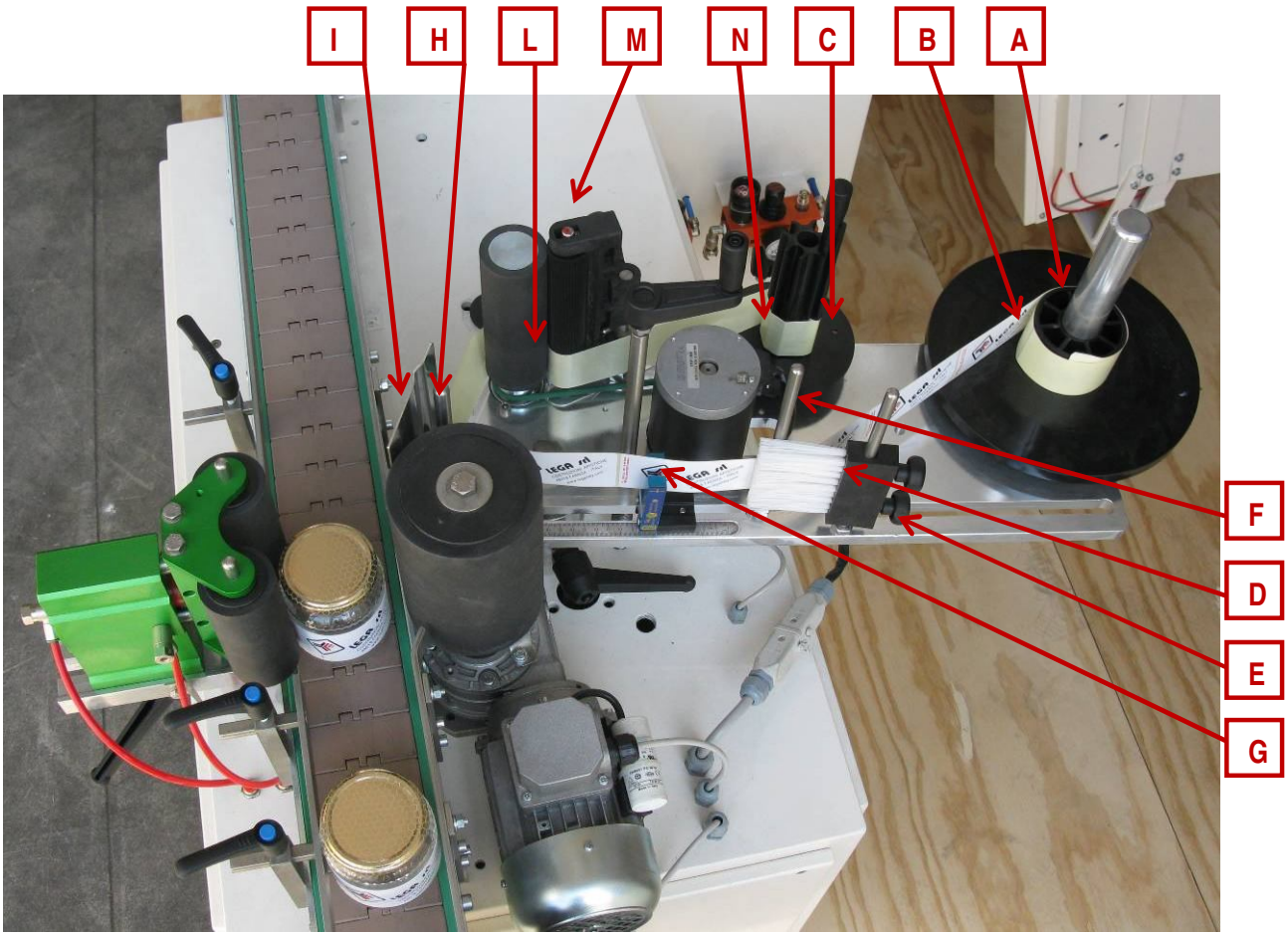
9.0 CAPPING UNIT

Carry out a format changeover according to the instructions supplied in section 11 "FORMAT CHANGEOVER".

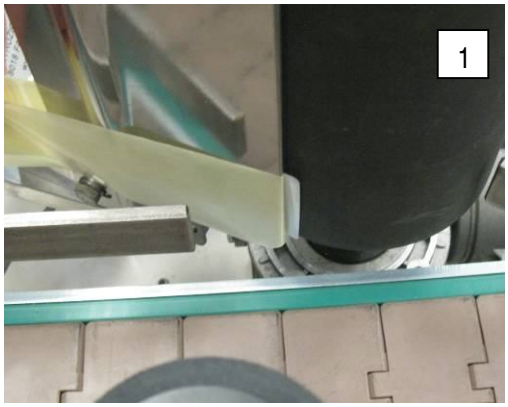
10.0 LABELLING UNIT

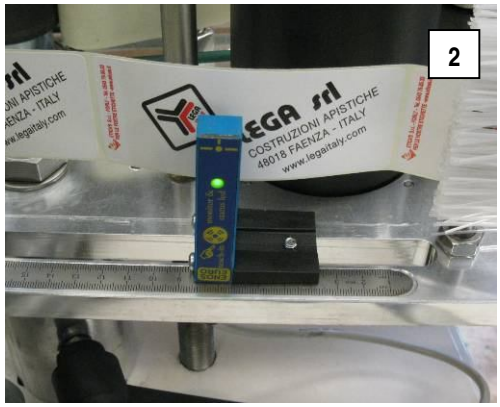
When a jar format changeover is performed or a new label roll is loaded, the applicator must be correctly positioned, and it is necessary to make sure that the label type is compatible with the jar and adjust the jar presence and label end sensors.
Before carrying out any adjustment, turn off the machine by setting the main switch located on the control panel to its "OFF" position (see the fig. on page 10 – controls description, electric control panel).
Load the label roll checking for label compatibility and orientation, bearing in mind that the rotation direction is counter-clockwise.
The label roll diameter can vary between a minimum value of 76 mm and a maximum value of 250 mm. Adjustment is carried out via the centering cone.
Load the roll to use according to the supplied instructions (fig. page 22):

- Remove the centering cone (part A)
- Remove the empty roll from the start plate (for replacement purposes) (part B)
- Remove the used paper roll from the paper collector plate (part C)
- Position a new label roll on the start plate
- Re-place the centering cone
- Open the tension adjustment device brush (part D) by turning the special knob control (part E)
- Take the leading end of a new roll and lead it through the brush (part D) and the steel column (part F)
- Lead it inside the photocell (part G) between the two sensors
- Turn right to go round the steel column (part H) until the blade edge is reached (part I)
- Wind more tape on the opposite side of the blade
- Continue until the paper driving roller is reached (part L)
- Manually open the paper press (part M) by using the special handle
- Roll round the paper driving roller (part L) in the clockwise direction
- Continue leading the tape to reach the paper collector plate (part C)
- Wind a few centimetres of the tape around the shaft (part N) of the paper collector plate
- Insert the fixing pin (top to bottom direction) in one of the 4 seats provided in the shaft
- Re-tighten the paper press (part M)
- Close the tension adjuster brush (part D) applying a light pressure against the steel column (part F).


I
H
L
M
N
C
B
A
F
D
E
G

Align the leading end of one of the labels with the blade edge (fig.1)



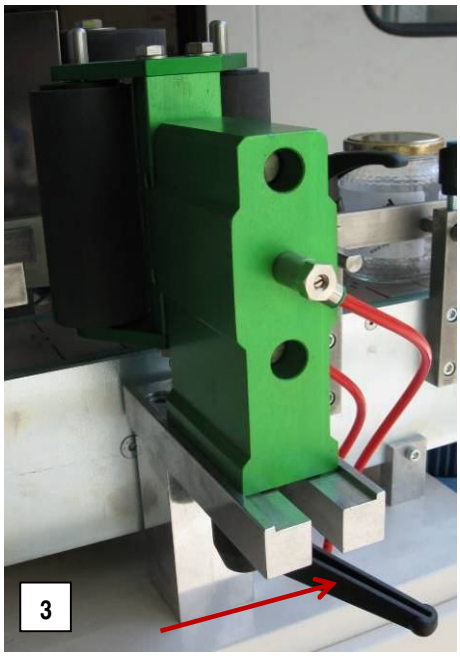


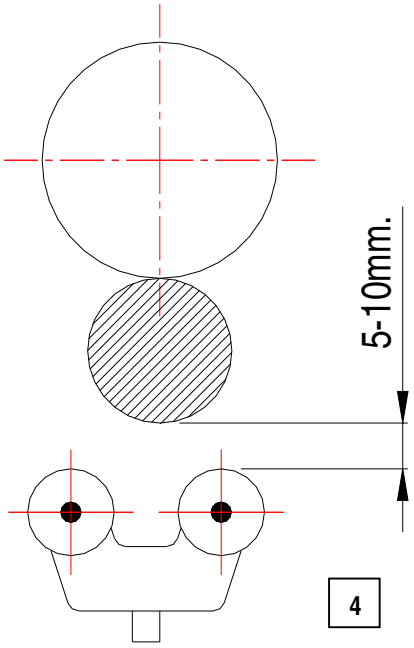
Position the label detecting photocell in the empty space between two labels. The LED must remain lit (fig.2). To do this, unlock the stop located under the photocell and adjust the photocell detector to a distance of approximately 1 cm from the label leading end (the LED lights up to indicate label start).

To start the labelling machine use the “labelling selector” control (see fig. page 8) to select label application only or label and counter-label application; then adjust the “label/counter-label timer” to set the time (in tenths of a second)
between one label and the next.

Allow the machine to complete one idle cycle (i.e. without jars).
The label must stick out by a few millimeters.
A minimum distance of 2 mm is recommended to allow correct lifting off the underlying paper (fig.2).

Adjust the jar press device position by releasing the handwheel (fig. 3), positioning a sample jar as shown in fig. 4 and checking that the distance between the two jar pressing rollers and the jar is between 5 and 10 mm. Adjust the jar guiding sideboard to a distance of approximately 3 mm from the jar to process by using the special adjustment handwheels (fig. 5).


3


5-10mm.
4


5

11.0 FORMAT CHANGEOVER

The machine is supplied equipped with one starwheel (to be chosen by the customer). Additional starwheels can be supplied separately.

Minimum jar dimensions:
height: 8 cm
diameter: 5,5 cm
weight: 250 g

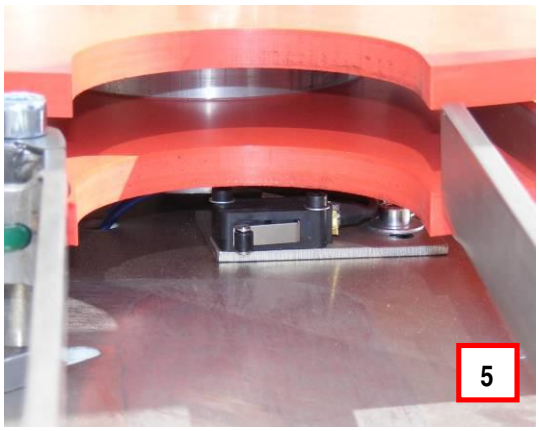
Maximum jar dimensions:
height: 14 cm
diameter: 9 cm
weight: 1000 g

To change to jar dimensions different from the original dimensions, carry out the operations described in section *"5.1 JAR FORMAT CHANGEOVER"*.

11.1 JAR FORMAT CHANGEOVER

1. Turn off the machine by setting the main switch in the electric control panel to its "OFF" position (see fig. page 10 – controls description, control panel).
2. De-activate the main air supply valve by holding down the button.
3. Rotate the jar ejector until it is led out of the starwheel.
4. Remove the starwheel by loosening the centre knob in the wheel top part. Replace with another starwheel model and re-tighten the centre knob.
5. After replacing the starwheel, adjust the position of the microswitch under the wheel so that it is pressed by the jars as they are fed in. Make sure that the microswitch is flush with the starwheel: the incoming jars must make contact to both the microswitch and the starwheel at the same time.
6. Move the capping unit so that the centring disk can be removed.
7. Loosen the knob to remove the cap stop.
8. (7-8) Empty all the caps from the guide and remove the installed PVC adapter. Replace it with another one suitable for the new format.
9. Replace the centring disc.
10. Adjust the green cap guide by turning the screws highlighted in the figure.
11. (11-12) Pull back the guide to let a jar through.
13. (13-14-15-16) Adjust the jar feeding guides and the labelling machine presser.

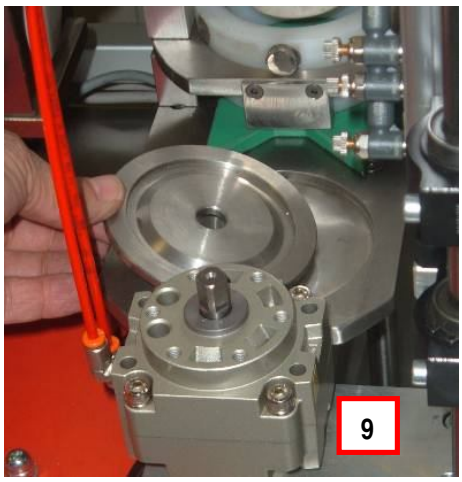
18. (17-18) It may be necessary to adjust the cap in-feed guide as shown in the figure, according to the cap thickness and width, and the guide conveying the caps on to the chute (fig.) by turning the two screws highlighted in the photo. By moving the screws to the top holes, it will be possible to use a larger cap. The hole design will be agreed with the customer in advance according to special requirements.

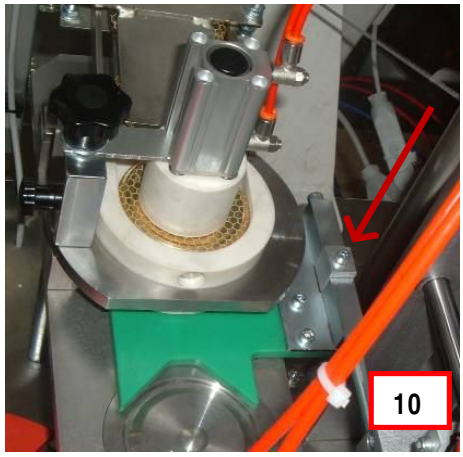

5

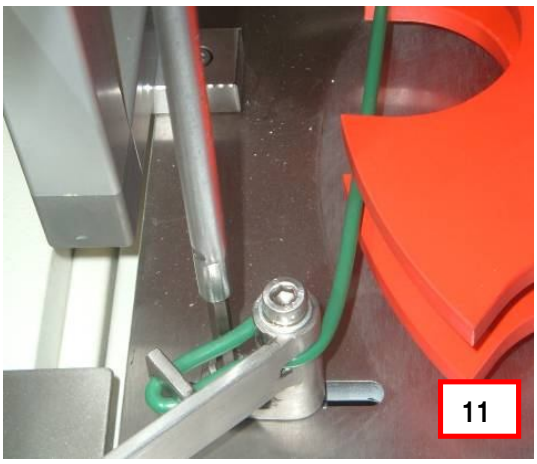

6


7


8


9

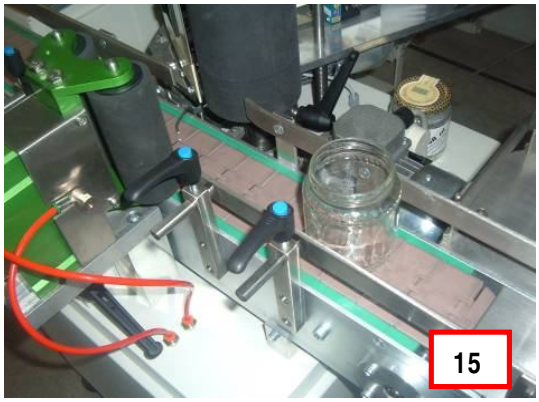

10


11


12


13

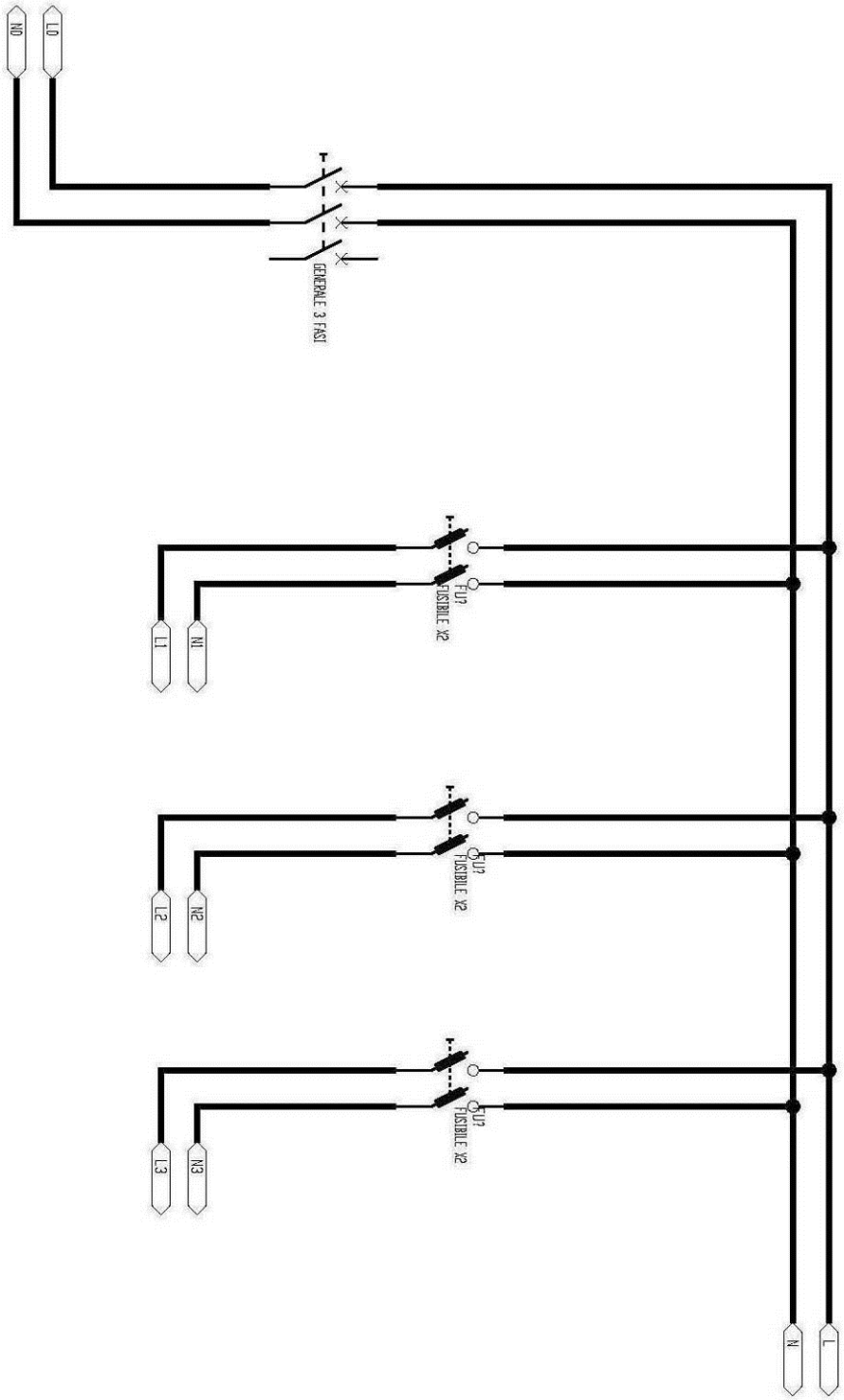

14

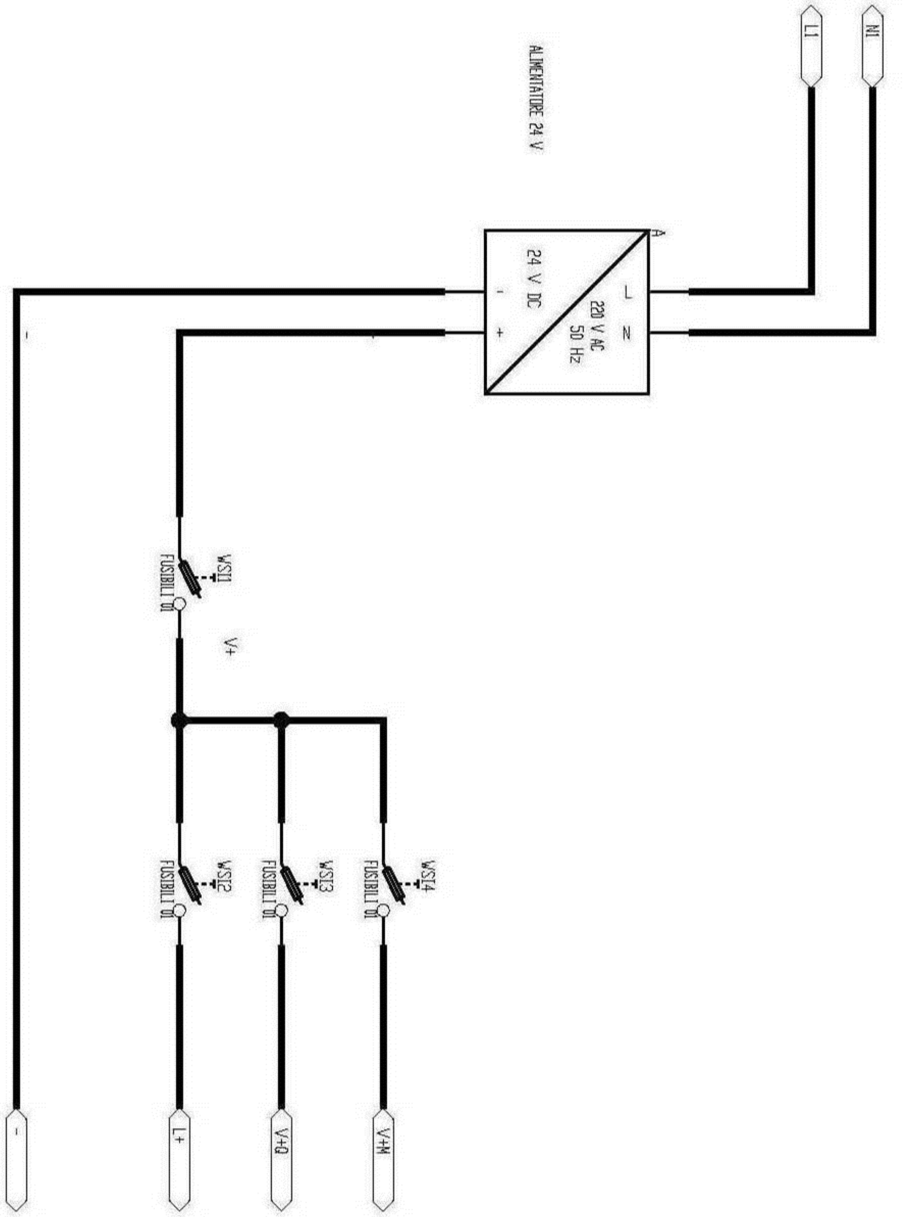

15

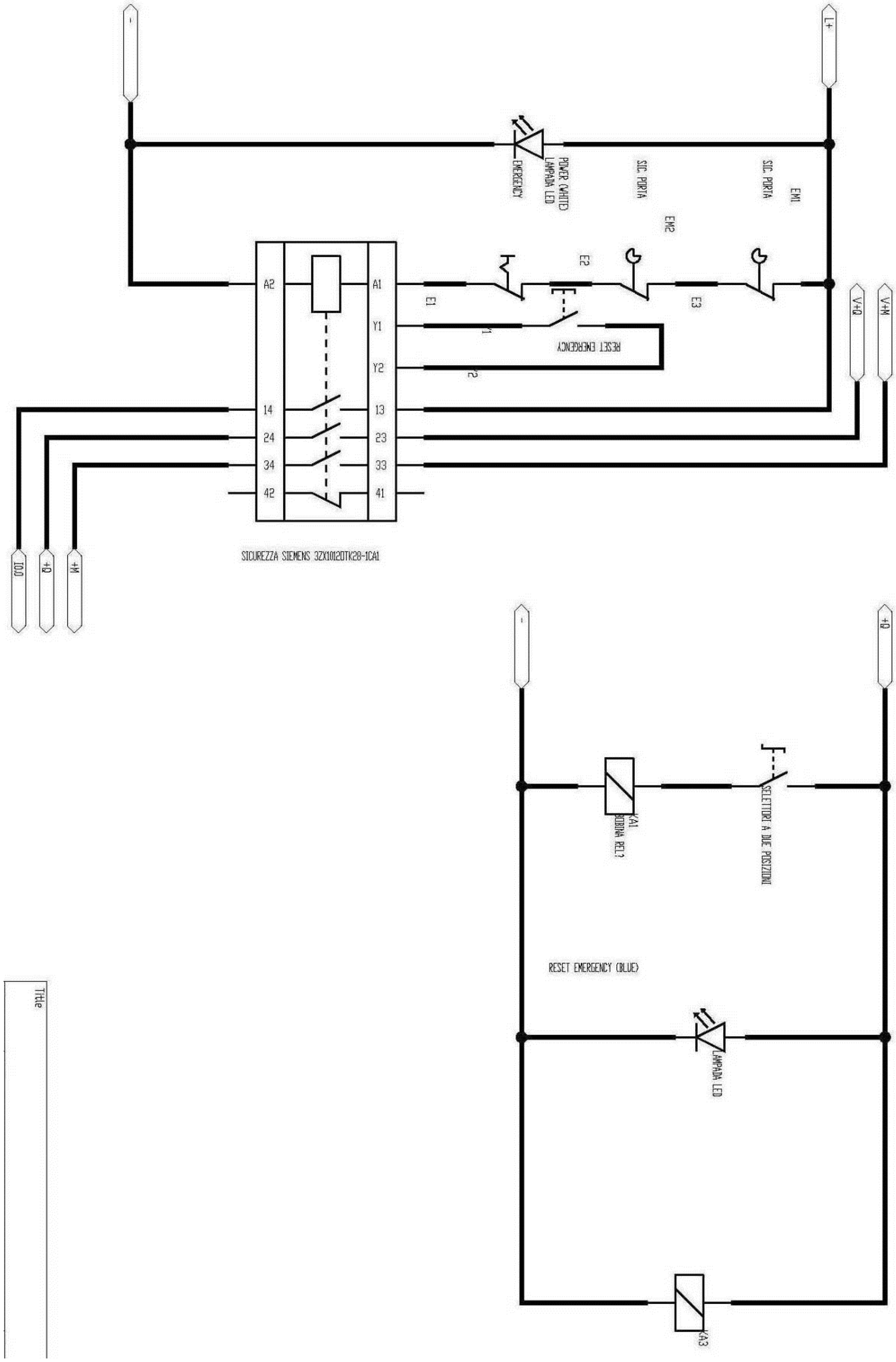

16

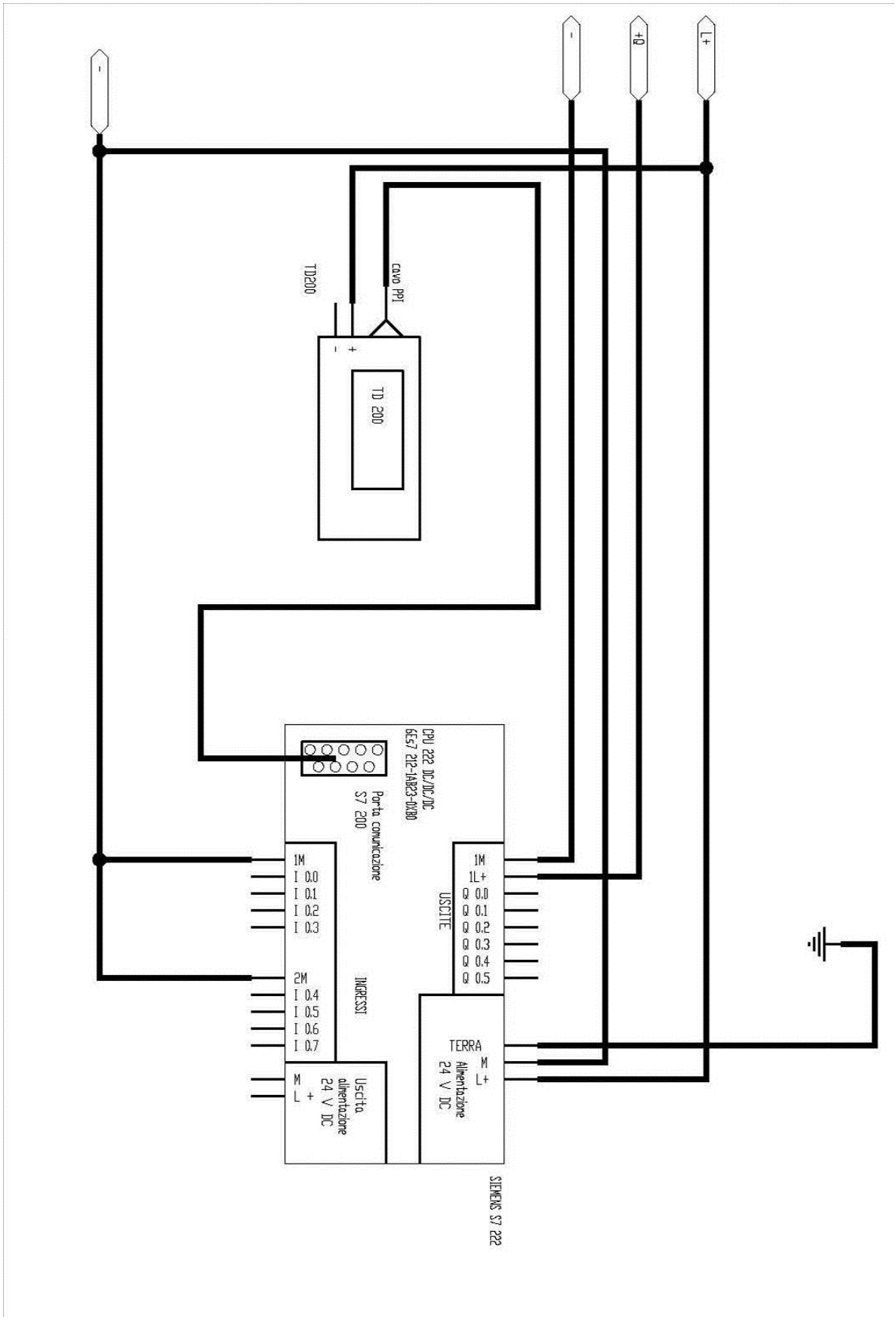

17

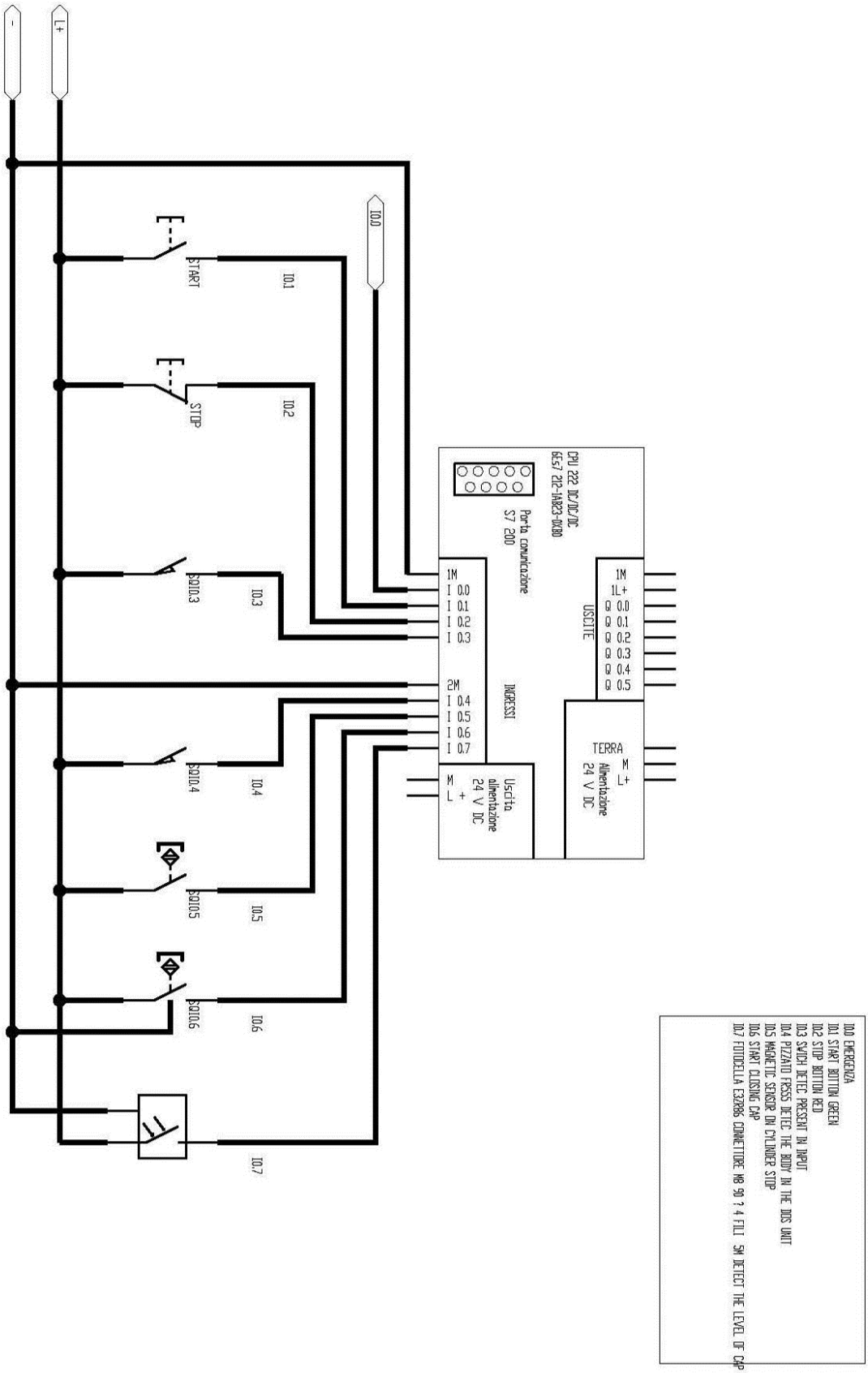

18

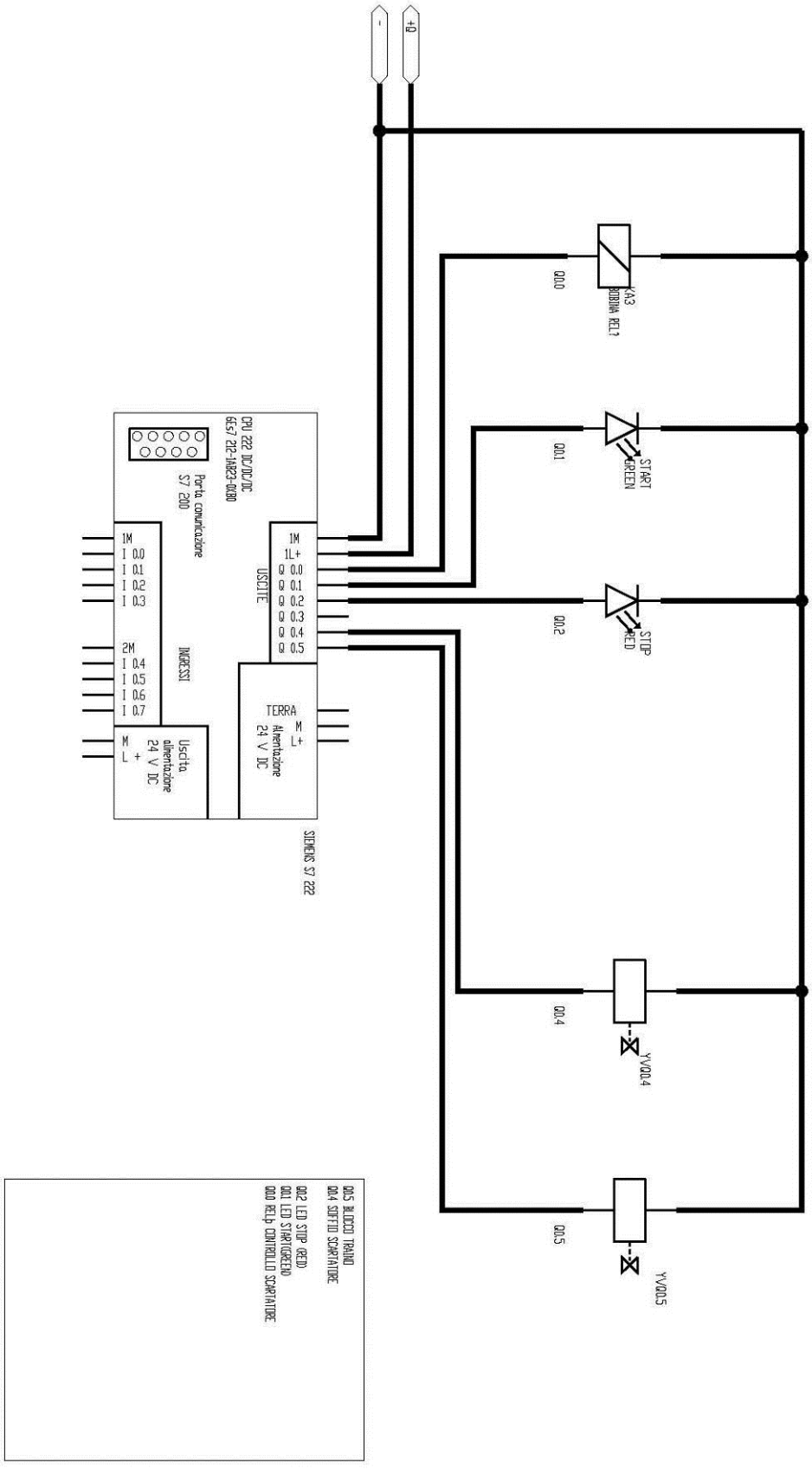

N0
L0
GENERALE 3 FASI
F1/?
FUSIBILE X2
L1
N1
F2/?
FUSIBILE X2
L2
N2
F3/?
FUSIBILE X2
L3
N3
N
L

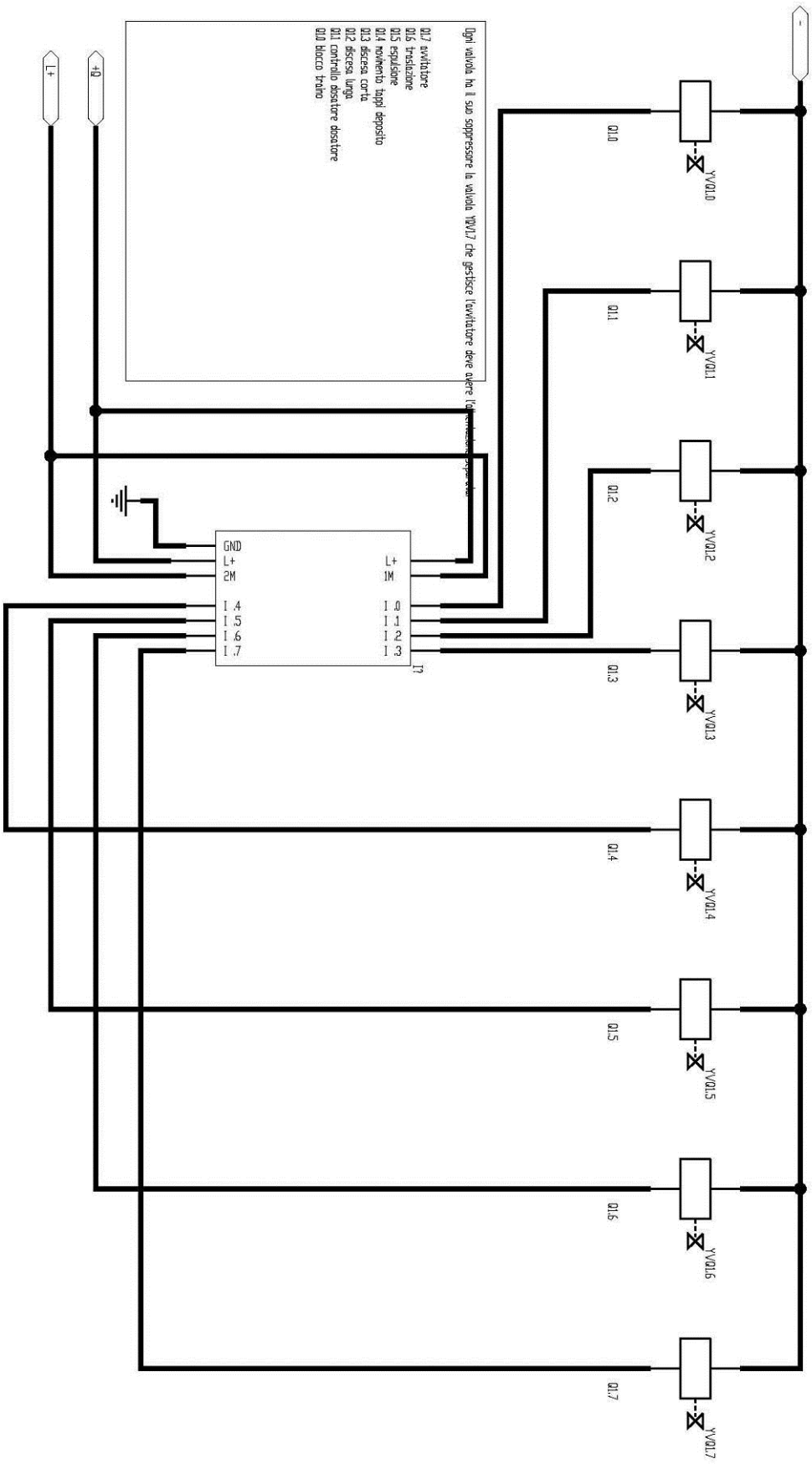

ALIMENTATORE 24 V
L1
N1
L
N
220 V AC
50 Hz
24 V DC
-
+
WSI1
V+
WSI2
WSI3
WSI4
-
L+
V+Q
V+M

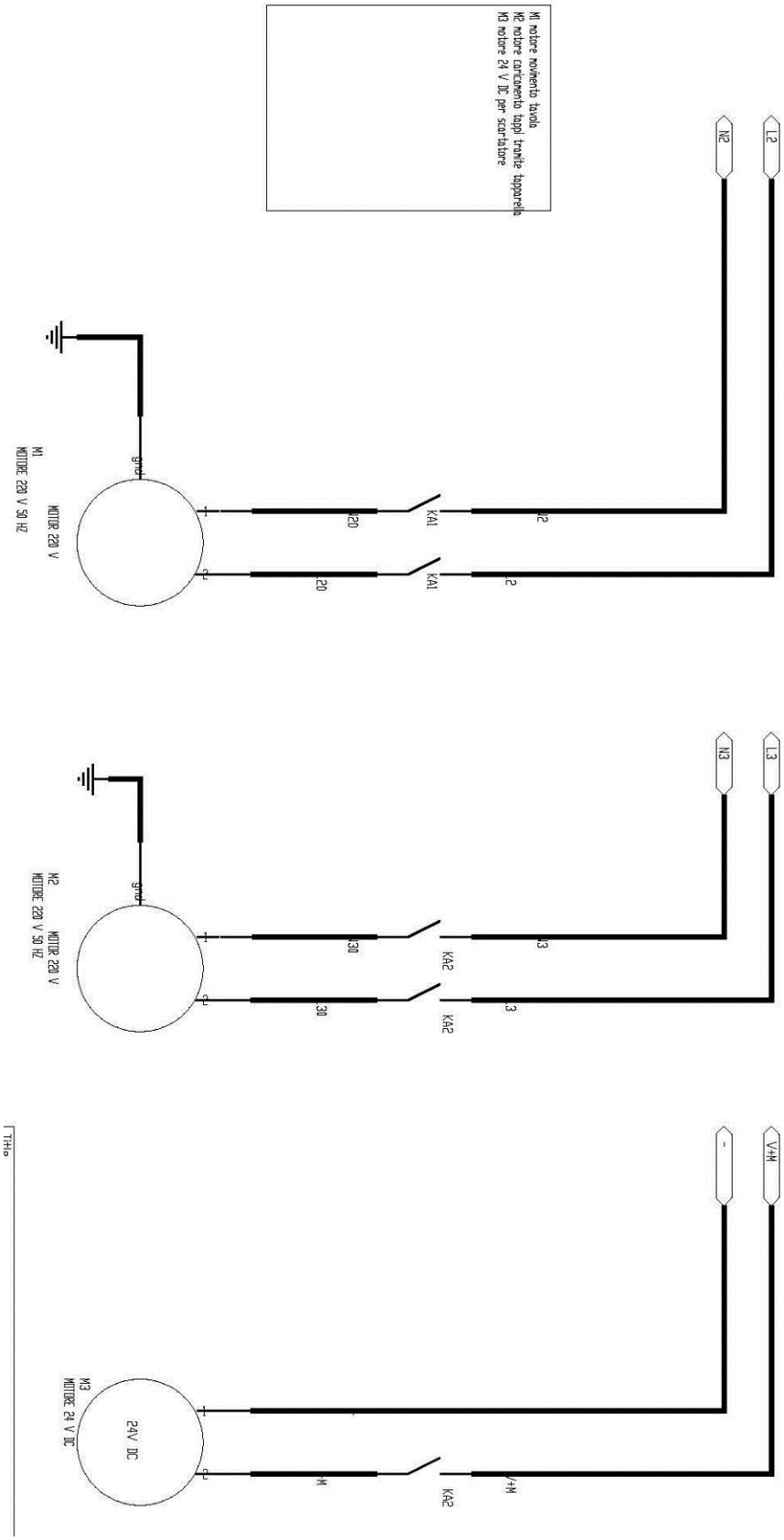

-
L+
POWER (WHITE) LAMPADA LED
EMERGENCY
SIC. PORTA
EM2
SIC. PORTA
EM1
E2
E1
E3
RESET EMERGENCY
A2
A1
Y1
Y2
14
24
34
42
13
23
33
41
V+Q
V+M
I0.0
+Q
+M
SICUREZZA SIEMENS 3ZX1012DTK28-1CA1
-
+Q
KA1
BOBINA REL?
SELETTORI A DUE POSIZIONI
RESET EMERGENCY (BLUE)
LAMPADA LED
KA3
Title

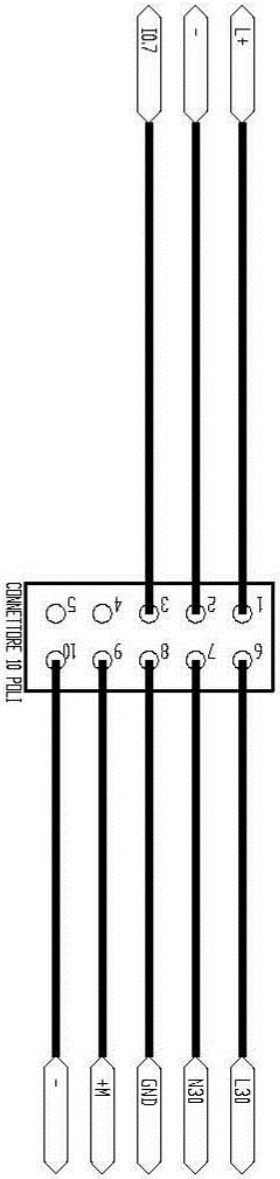

-
+Q
L+
TD200
cavo PPI
+
-
TD 200
CPU 222 DC/DC/DC
6ES7 212-1AB23-0XB0
Porta comunicazione
S7 200
1M
I 0.0
I 0.1
I 0.2
I 0.3
2M
I 0.4
I 0.5
I 0.6
I 0.7
INGRESSI
M
L +
Uscita
alimentazione
24 V DC
1M
1L+
Q 0.0
Q 0.1
Q 0.2
Q 0.3
Q 0.4
Q 0.5
USCITE
TERRA
M
L+
Alimentazione
24 V DC
SIEMENS S7 222


L+
I0.0
START
I0.1
STOP
I0.2
I0.3
I0.4
I0.5
I0.6
I0.7
CPU 222 DC/DC/DC
6ES7 212-1AB23-0XB0
Porta comunicazione S7 200
1M
I 0.0
I 0.1
I 0.2
I 0.3
2M
I 0.4
I 0.5
I 0.6
I 0.7
INGRESSI
Uscita alimentazione 24 V DC
1M
1L+
Q 0.0
Q 0.1
Q 0.2
Q 0.3
Q 0.4
Q 0.5
USCITE
TERRA
M
L+
Alimentazione 24 V DC
I0.0 EMERGENZA
I0.1 START BOTTON GREEN
I0.2 STOP BOTTON RED
I0.3 SWICH RETEC PRESENT IN INPUT
I0.4 PIZZATO FR555 RETEC THE BODY IN THE DOSS UNIT
I0.5 MAGNETIC SENSOR ON CYLINDER STOP
I0.6 START CLOSING CAP
I0.7 FOTOCELLA E3Z86S CONNETTORE M8 90 ? 4 FILI SN DETECT THE LEVEL OF CAP


-
+Q
Q0.0
KA3
BOBINA REL1
Q0.1
START
GREEN
Q0.2
STOP
RED
Q0.4
YV.Q0.4
Q0.5
YV.Q0.5
CPU 222 DC/DC/DC
6ES7 212-1AB23-0XB0
Porta comunicazione
S7 200
1M
I 0.0
I 0.1
I 0.2
I 0.3
2M
I 0.4
I 0.5
I 0.6
I 0.7
INGRESSI
M
L+
Uscita
alimentazione
24 V DC
1M
1L+
Q 0.0
Q 0.1
Q 0.2
Q 0.3
Q 0.4
Q 0.5
USCITE
TERRA
M
L+
Alimentazione
24 V DC
SIEMENS S7 222
Q0.3 BLOCCO TRAINO
Q0.4 SOFFIO SCARTATORE
Q0.2 LED STOP QRED
Q0.1 LED START/QGREEN
Q0.0 RELE' CONTROLLO SCARTATORE

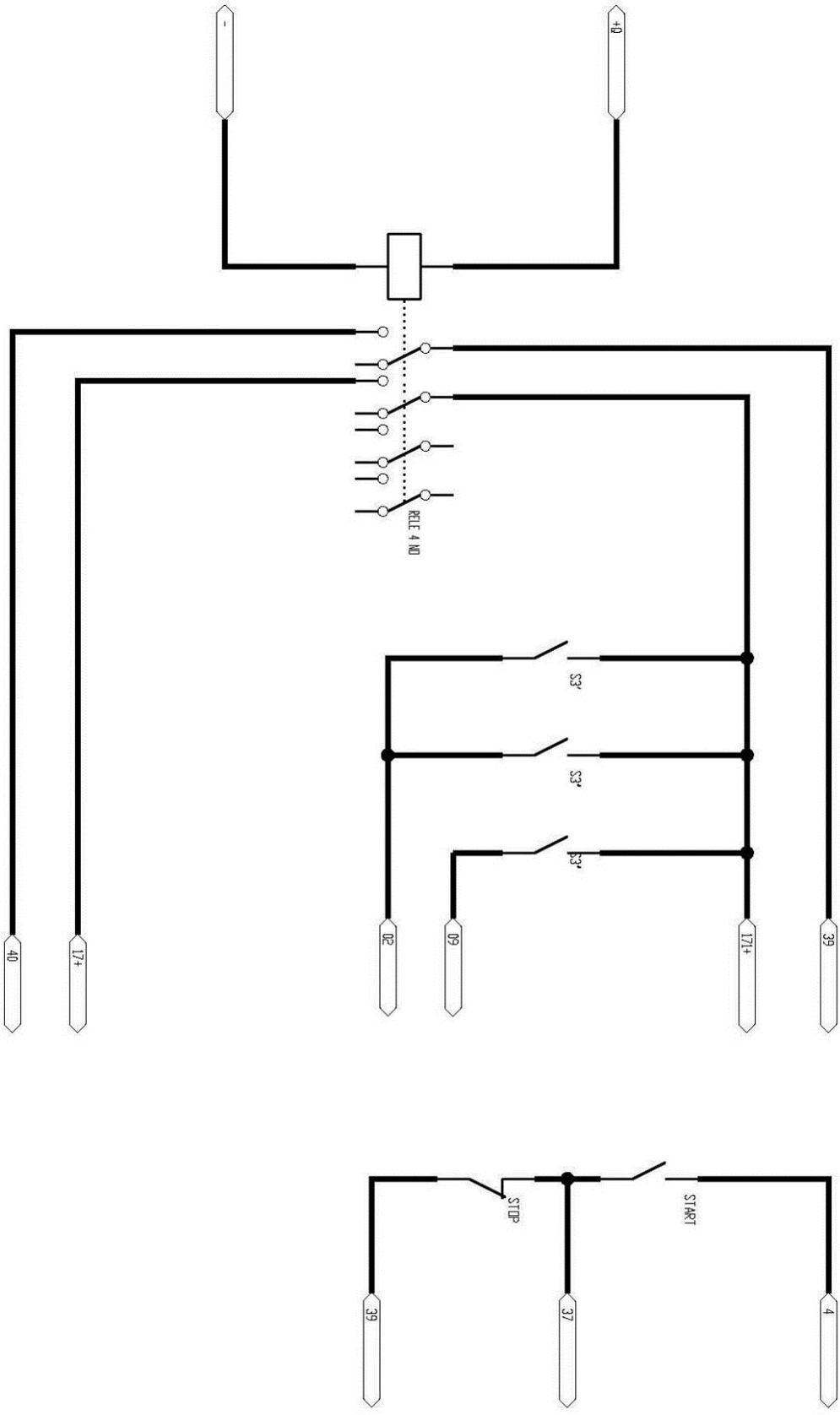

Ogni valvola ha il suo soppressore la valvola YVQ17 che gestisce l'avvitatore deve avere
Q17 avvitatore
Q16 traslazione
Q15 espulsione
Q14 movimento tappi deposito
Q13 discesa corta
Q12 discesa lunga
Q11 controllo dosatore dosatore
Q10 blocco traino
L+
+Q
-
GND
L+
2M
1M
I.4
I.5
I.6
I.7
I.0
I.1
I.2
I.3
I?
Q1.0
Q1.1
Q1.2
Q1.3
Q1.4
Q1.5
Q1.6
Q1.7
YVQ1.0
YVQ1.1
YVQ1.2
YVQ1.3
YVQ1.4
YVQ1.5
YVQ1.6
YVQ1.7

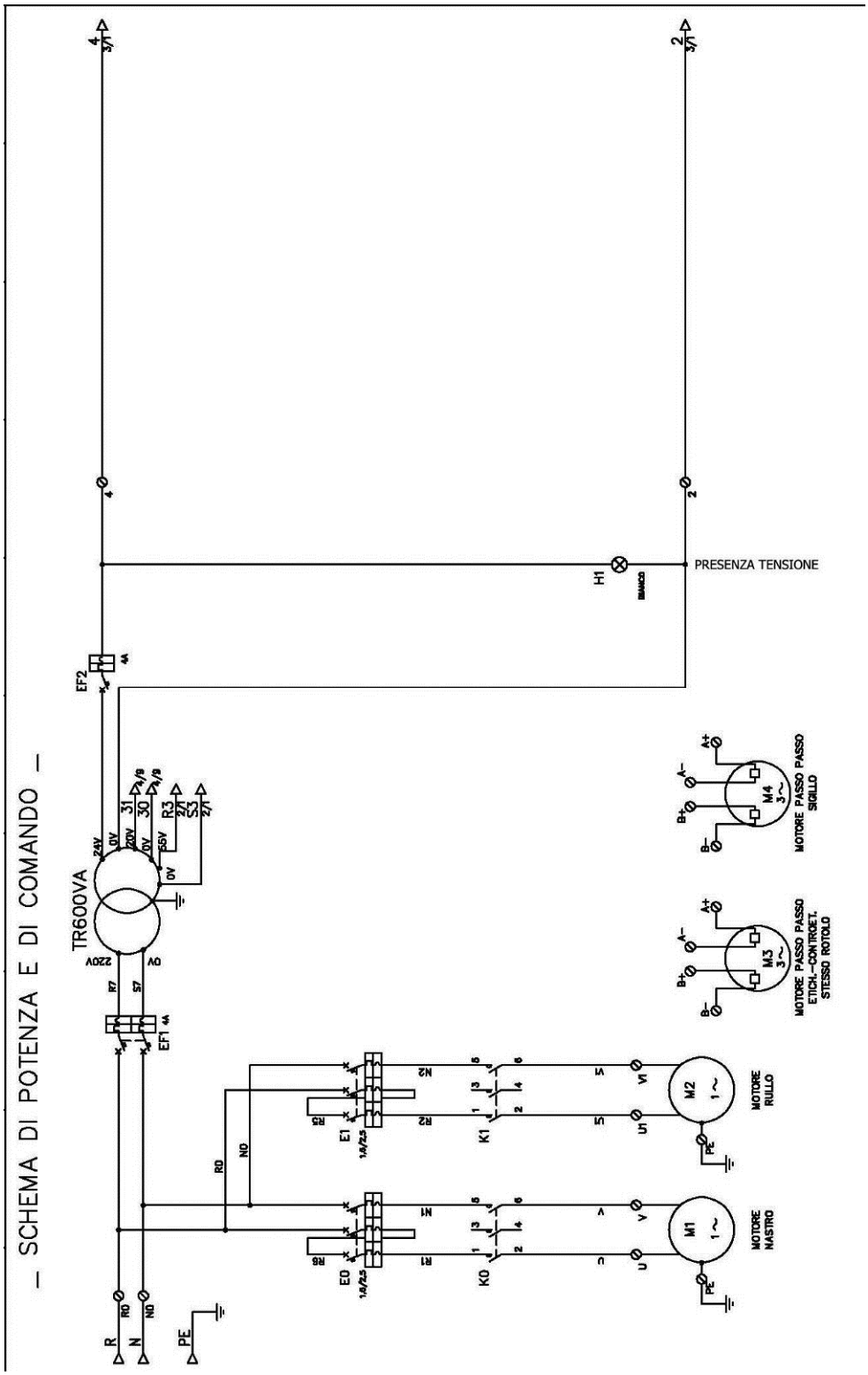

M1 motore movimento tavola
M2 motore caricamento tappi tramite tapparella
M3 motore 24 V DC per scaricatore
M1
MOTORE 220 V 50 HZ
MOTOR 220 V
GND
N2
L2
KA1
M2
MOTORE 220 V 50 HZ
MOTOR 220 V
GND
N3
L3
KA2
M3
MOTORE 24 V DC
24V DC
-
V+M
KA2

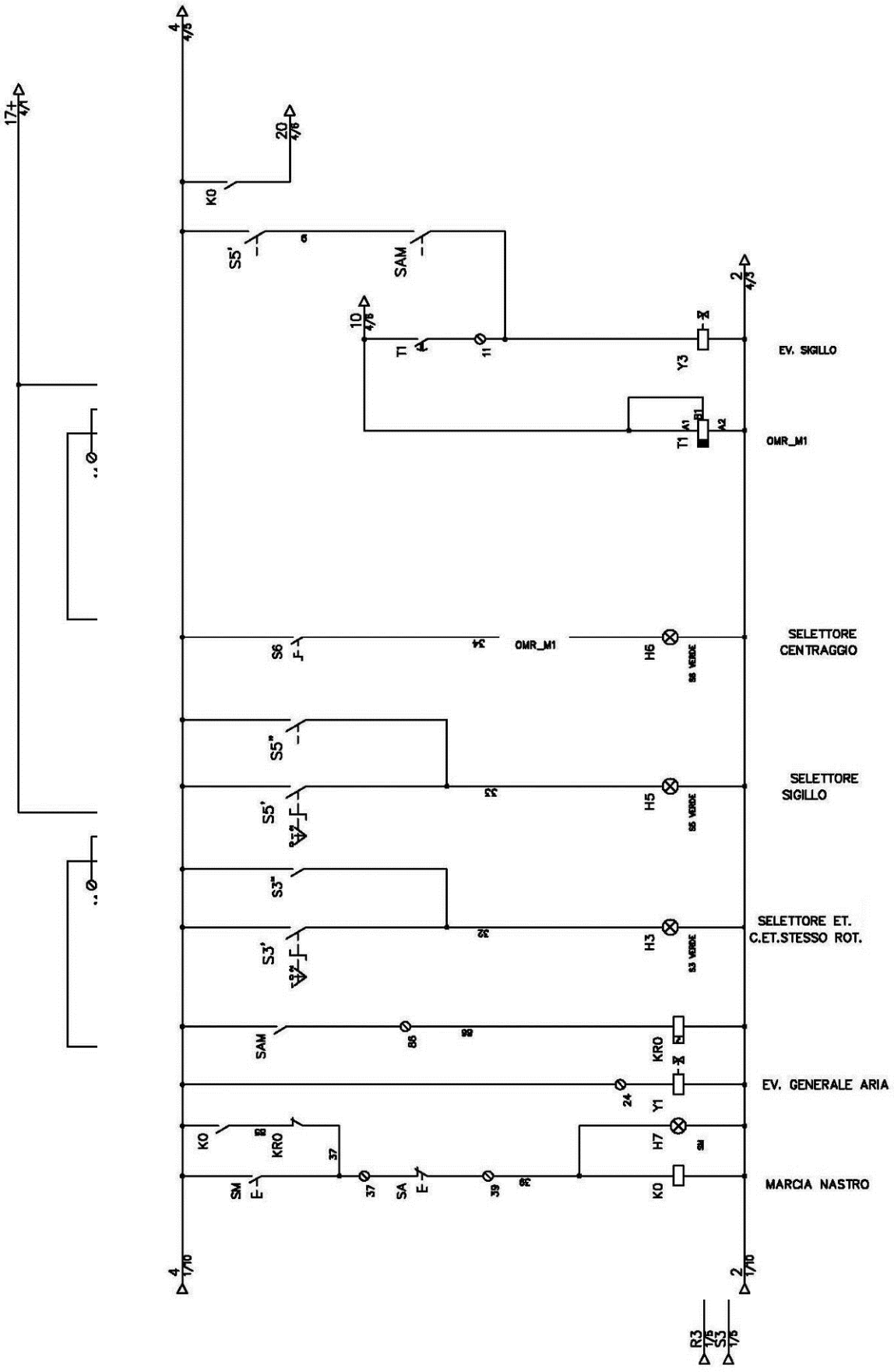


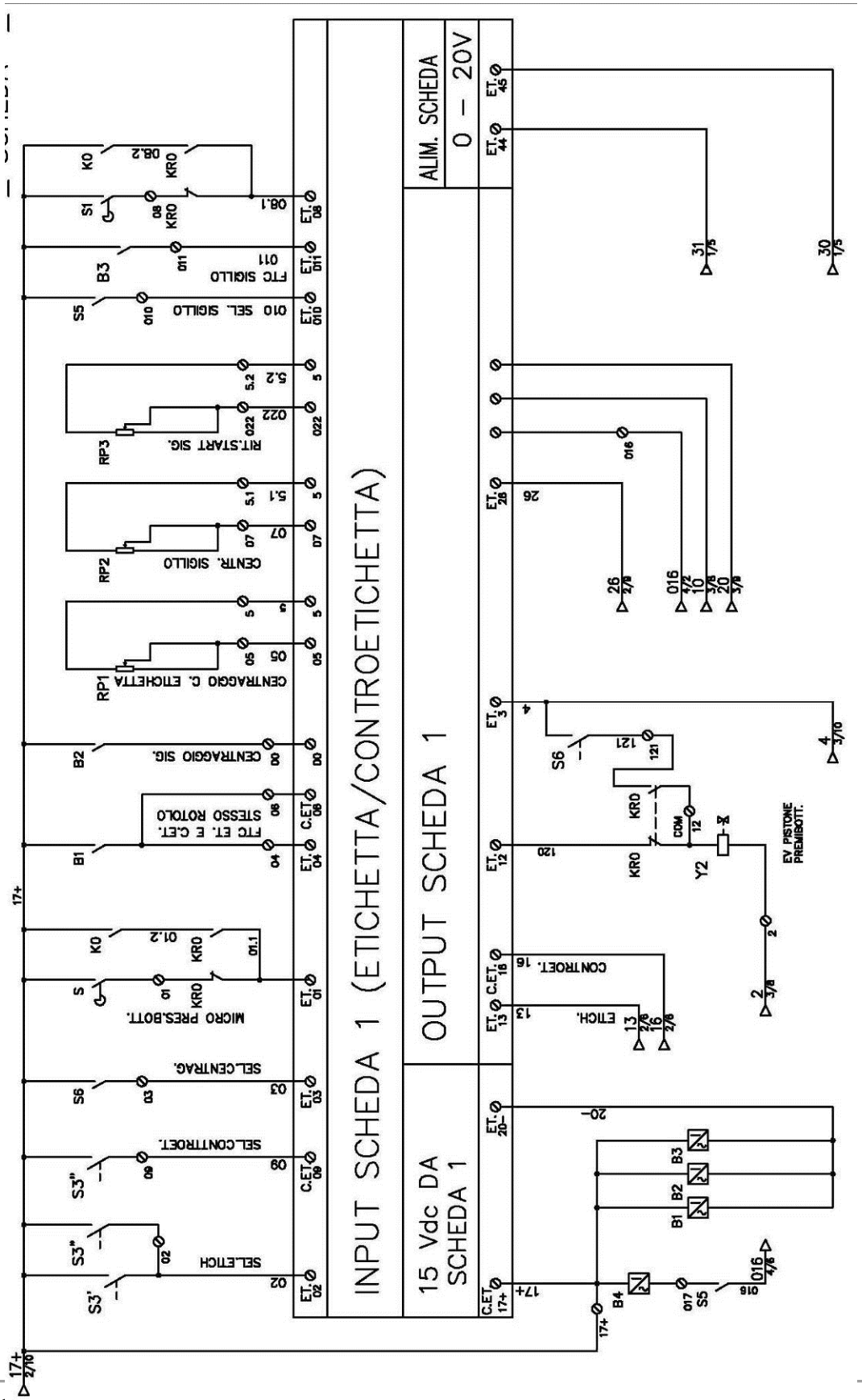
Connetore IME 10 poli per collegare macchina con caricatore:

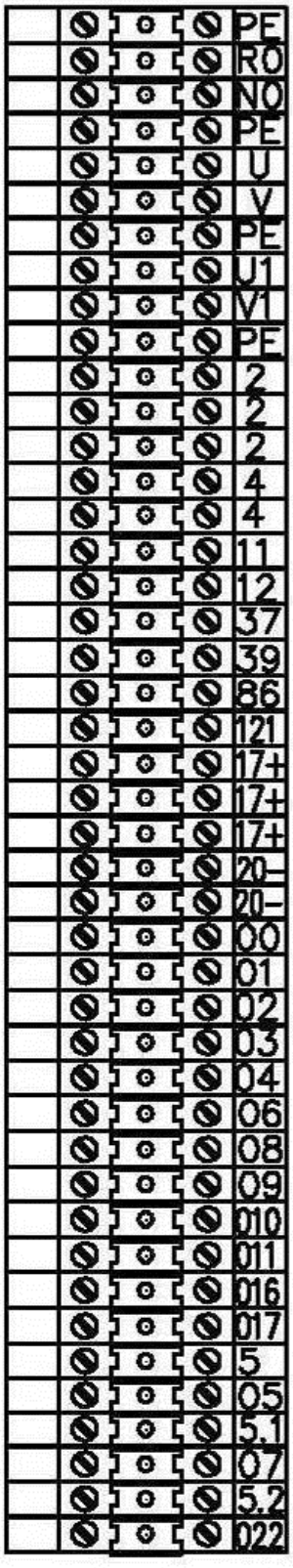
1) L+
2) -
3) I0.7 sensore E32R86 livello tappi nello scivolo
4) vuoto
5) vuoto
6) L30
7) N30 motore minimotor 220 V avanzamento tapparella
8) GND
9) +M
10) - motore scaricatore tappi tapparella 24 V DC


-
+0
RELE 4 NO
S3'
S3'
S3'
40
17+
Q2
Q9
171+
39
STOP
START
39
37
4


– SCHEMA DI POTENZA E DI COMANDO –
PRESENZA TENSIONE
H1
TR600VA
EF2
EF1 4A
M1
MOTORE NASTRO
M2
MOTORE RULLO
M3
MOTORE PASSO PASSO ETICH.–CONTROET. STESSO ROTOLO
M4
MOTORE PASSO PASSO SGOLLO
E1
E0
K1
K0
R
N
PE


EV. SIGILLO
OMR_M1
SELETTORE CENTRAGGIO
SELETTORE SIGILLO
SELETTORE ET. C.ET.STESSO ROT.
EV. GENERALE ARIA
MARCIA NASTRO


INPUT SCHEDA 1 (ETICHETTA/CONTROETICHETTA)
OUTPUT SCHEDA 1
15 Vdc DA SCHEDA 1
ALIM. SCHEDA
0 – 20V
SELETICH
SEL.CONTROET.
SEL.CENTRAG.
MICRO PRES.BOTT.
CENTRAGGIO SIG.
FTC ET. E C.ET. STESSO ROTOLO
CENTR. SIGILLO
CENTRAGGIO C. ETICHETTA
RIT.START SIG.
010 SEL. SIGILLO
FTC SIGILLO
CONTROET. 16
ETICH.
EV PISTONE PREMIBOTT.


PE
RO
NO
PE
U
V
PE
U1
V1
PE
2
2
2
4
4
11
12
37
39
86
121
17+
17+
17+
20-
20-
00
01
02
03
04
06
08
09
010
011
016
017
5
05
5.1
07
5.2
022

24 MONTHS WARRANTY

The machinery is guaranteed 24 MONTHS starting from the date of sale.
The guarantee is only valid if, when the machine is collected by our customer care or technical service staff, the owner can produce proof of purchase in the form of a fiscal receipt or invoice.

The guarantee includes free-of-charge repairing and replacement of any part of the machinery that is found to have manufacturing or material defects by the manufacturer or the manufacturer's authorised person. This guarantee shall not apply to damages caused by negligence, misuse or use not in compliance with the directions contained in the instruction manual, as well as in case of accidents, alteration, tampering, wrong repairing or repairing with non-original parts, repairing by persons not authorised by Lega s.r.l. and damages during transport to/from the purchaser's. All electric parts (electric motors, controls etc.) and parts exposed to normal wear and tear as well as aesthetic parts are also not covered by the guarantee. All labour, packing, forwarding and transport charges shall be borne by the purchaser. Any defective parts which have been replaced shall be retained by and become the property of LEGA S.R.L. Any breakdown or defect which should occur during the guarantee period or after its last date shall not in any case entitle the purchaser to suspend the payments nor to any discount off the price of the machine. In any case, Lega s.r.l. shall not be held responsible for any damages resulting from the incorrect use of the machinery.

Declaration of conformity

LEGA srl - Costruzioni Apistiche with head office in Faenza Italy, Via Maestri del Lavoro 23, declare under our sole responsibility that the products to which this declaration relates are in conformity with Directive 2006/42/EC .
Furthermore LEGA SRL declares food, hygienic and safety conformity of the materials used to produce the spare parts of these products that keep in contact with food, with accordance with DM 21/03/1973, artt. 36-37 (as modified from last DM n. 258 of 21/12/2010), with Commission Regulation 1935/2004/CE and EU 10/2011