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COMPANY WITH QUALITY SYSTEM
CERTIFIED BY CSQ
UNI EN ISO 9001: 2008
UNI EN ISO 14001: 2004

Operating and maintenance manual

<< translation of the original instructions>

ELECTRONIC PASTEURIZER

Machine identification details

- **Machine** ELECTRONIC PASTEURIZER
- **Model** PTE 10/2
- **Serial number** 646/15
- **Year** 2015

SUMMARY

1 INTRODUCTION

1.1 Preface

This manual is organised so that the user can find the necessary information to operate and maintain the machine quickly and easily.

The buyer must ensure that the user of the machine reads the entire manual very carefully, and that he/she has assimilated all the information contained herein.

This manual is a reference and consultation document, and must be used whenever it is necessary to perform a procedure and/or operation. Accordingly, it must always be kept available to personnel assigned to operating and maintaining the machinery so they can consult it at any time.

The consultation of this manual has been facilitated by using the table of contents, which allows you to immediately locate the chapter of the topic that interests you.

For the sake of clarity some safety symbols have been included next to certain paragraphs to highlight their importance and make them easy to identify.

Please pay particular attention to these notes.

1.2 Guarantee

The guarantee period is twelve months from the date of commissioning of the machine and, in any event, does not extend to more than fifteen months from the date of delivery.

Tecnolat S.p.A. solely guarantees from any defects coming from manufacturing faults.

The guarantee is only applied to the machine or to the faulty parts of it, for which a real manufacturing defect or a bad quality of materials have been ascertained (by an unappealable decision by Tecnolat) and then the possibility by the commissioner to appeal for damages derived from the non working of the machine, is excluded.

Tecnolat S.p.A. commits itself to repairing and/or replacing, as soon as possible, the faulty mechanic, electric or electronic parts.

However the labour costs for such an intervention, as well as travelling, board and lodging costs, are not included in the supplied guarantee.

Guarantee terms are not applied:

- in the case the fault or malfunction has been caused by negligence, wrong or improper use and installation;
- electric discharges and voltages not conforming with the product characteristics, described in the handbook or in the reference plates;
- use of not conforming accessories and consumption material;
- in the case of tampering of the product or of any intervention by customers on products on guarantee still in course.

The parts not included in the guarantee are consumption materials and the parts subject to natural wear.

1.3 General provisions

The staff being appointed to the installation and maintenance of the machine is obliged to report possible faults or wear which could compromise the operator's safety or the right working of the machine.

The use and maintenance handbook is an integral part of the machine, for this reason it shall be given to any user or owner of the machine.

1.4 Symbols and definitions

In this handbook, as regards safety, the following symbols shall be used:

Danger Area: any area within and/or near the machine, in which the presence of an exposed person represents a risk for the safety and health of this person.

Exposed person: any person who finds himself or herself wholly or partly within a danger area.

Operator: the person being appointed for the installation, the operation, adjustment, maintenance, cleaning, repair and transportation of the machine.

Safety component: a component which has been specially planned by the manufacturer, and that could be also marketed separately from the machine, in order to fulfil safety functions; it is then considered a safety component when the failed functioning of the component is prejudicial to the safety of the exposed person.

Danger

The non observance of prescriptions can cause damages to equipments, people or objects.

Danger of electric voltage

Warning of dangerous electric voltage with death risk. Be cautious in order to avoid damages to people or objects.

Warning

Important information or additional notes about the machine working.

Prohibition

Impossibility of carrying out the operations shown.

Notes

1.5 Service

For the service, maintenance and repair of the machine or of some of its components, both within the guarantee period and after it, refer to Tecnolat S.P.A. The address and telephone number are the following:

Manufacturer	TECNOLAT SpA
Address	Zona Industriale Località Fosso Imperatore, Lotto 12
	84014 Nocera Inferiore (SA)
Tel.	081 9371301
Fax	081 9371350
e-mail	info@tecnolatspa.it

Tecnolat S.p.A. declines all responsibilities for any damages to people or objects caused by a technical intervention carried out by unauthorized people.

1.6 Plate and EC marking

On the frame of the machine a plate is fixed which reports the main identification data of the machine:

Note: according to the Directive on Machines 2006/42/EC and its later updating, the mark EC is fixed on the machine.

Note: the data reported on the plate cannot be changed or cancelled.

Note: the exact specification of technical identification data of the machine shall allow our service department to provide rapid and accurate answers.

2 MACHINE DESCRIPTION

2.1 Use

The machine has to be used only for dairy processing.

The machine shall be only operated for the uses for which it has been manufactured. Any other use is to be considered improper; Tecnolat S.p.A. declines any responsibility for possible damages deriving from not proper uses.

The improper use of the machine can be dangerous for the operator's safety and can cause damages to the machine itself. The machine shall not be tampered in any way. Otherwise the manufacturer declines any responsibility for the wrong working of the machine or for possible causes caused by the machine.

The machinery is designed and constructed according to health and safety requirements and must be used according with the content of the operating and maintenance manual.

Manufacturer cannot be held responsible if:

- the machine has been used inappropriately
- the machine has been used by unqualified personnel without any personal protection equipment (D.P.I. – Individual Protection Device)
- machine components have to be changed regularly; **non-original** spare parts are forbidden.

The operator must be responsible for the followings:

- verify that safety regulations contained in this manual must be fully respected
- make sure that only qualified and trained personnel carry out maintenance work
- inform specialised personnel about usage, maintenance and residual risks of the machinery

2.2 Technical characteristics

The pasteurizer mod. PTE is made entirely in stainless steel. The structure is made in stainless steel AISI 304, while the plates are made in stainless steel AISI 316.

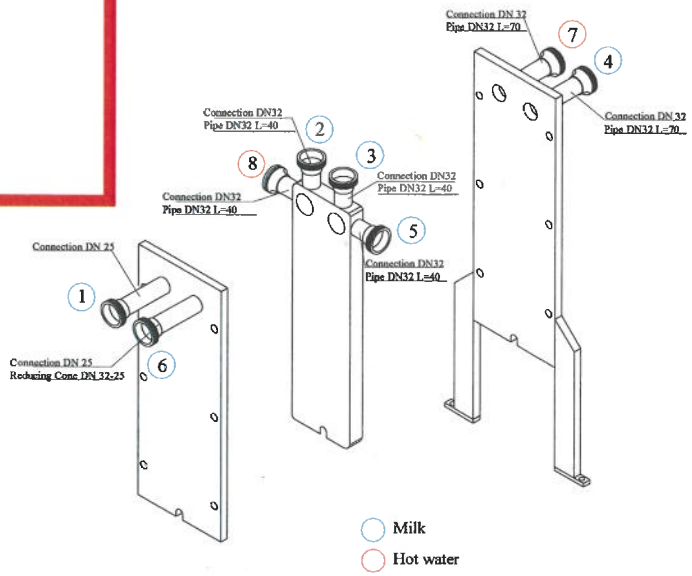
The materials used ensure high system reliability and prolonged service life.

Electric power supply: 400/230 V, 50 Hz
Rated power: 4 kW

Dimensions:
length: mm 1800 ; width: 1000 mm ; height:2200 mm

Sections: 2
Milk flowrate: 1.000 l/h
Thermal cycle:
- Milk inlet : +4°C / +25°C
- Pasteurisation : +72°C
- Milk outlet : + 36°C

Plates: n°26 NT50
Tightening:
MIN: 147 mm
MAX: 146 mm



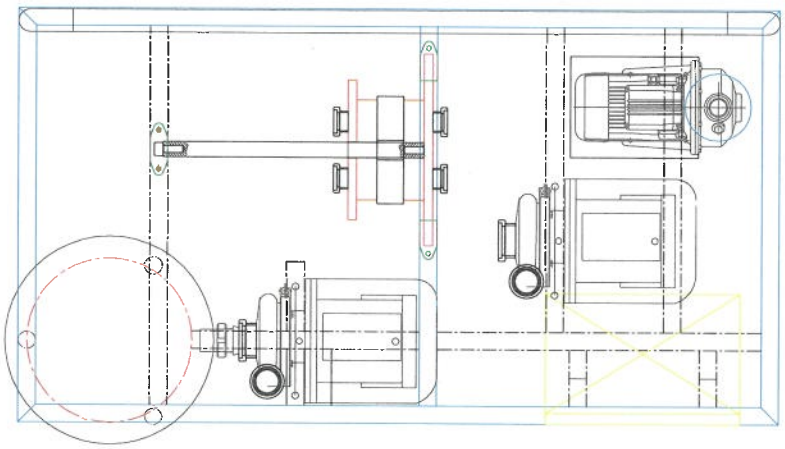
2.2 Description and working

The machine allows the heating of the milk to a temperature of 72°C by means of heat exchangers.

The product is subjected to two stages of heating which carry two jumps thermal predetermined and controlled so as to ensure the achievement of the final temperature while preserving the quality of the product.

The machine consists of the following elements:

- stainless steel skid;
- electrical panel that controls the pneumatic valves, and pumps;
- balance tank (100 liters) with semi-openable lid, with floating group
- hot water group equipped with modulating valve for the regulation of steam, steam-water mixer and barrel;
- milk and hot water pumps
- plate heat exchanger with 2 sections
- holding tube (20 seconds)



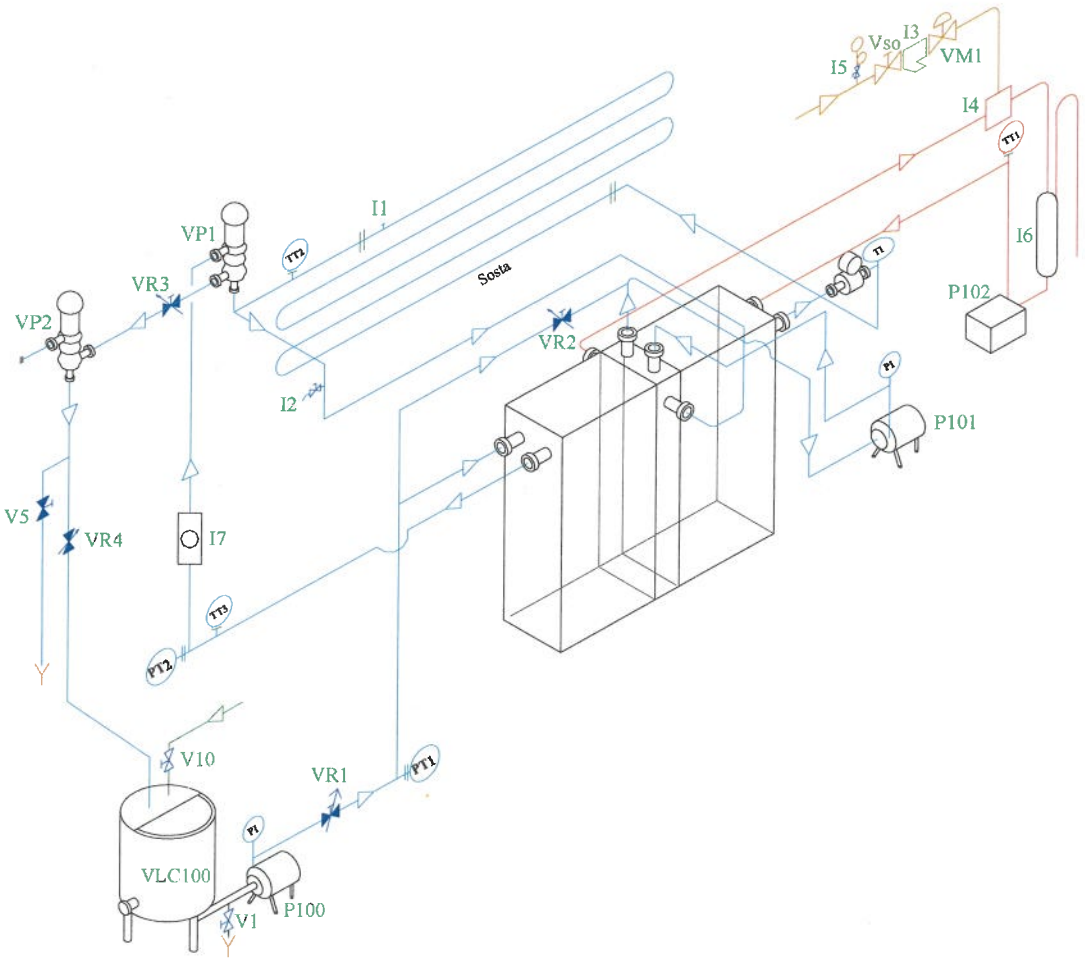
Milk which has to be pasteurized, coming from refrigerated tanks or tank truck, enters the pasteurization unit through the balance tank VLC.

The centrifugal pump P100 feeds with raw milk the heat recovery section of the plate-type heat exchanger, where milk is pre-heated in countercurrent with pasteurized milk.

Pre-heated milk then passes through heating section of the plate heat exchanger where, by means of a heat exchange with hot water in counter-current, reaches the pasteurization temperature. Before flowing in this part of the equipment, milk is pressurized by a centrifugal pump P101.

Milk at the pasteurization temperature enters the holding tube where remains for a predetermined time (20 seconds).

Pasteurized milk, after it has flown in the holding tube, enters the heat recovery section of the heat exchanger where it is cooled in counter-current with the raw milk.



3 GENERAL SAFETY RULES

3.1 Safety devices

The moving parts of the machine are equipped with mechanical safety guards.

It is strictly prohibited to remove these guards and safety devices, even temporarily.

If, for work reasons, they must be removed, steps must immediately be taken to highlight and minimize potential danger. The guards and safety devices must be immediately put back in place as soon as the reasons requiring their temporary removal have ceased.

The machine is equipped with several mechanical, electrical and electronic safety features that allow the machine to operate safely and without risks for the operator. Namely:

- **protective casings** made of stainless steel and secured accordingly with screws to protect the motors and moving parts inside;
- **safety feature for access to the electrical panel** the machine is equipped with a main power switch with a mechanical safety catch that prevents access to the electrical panel if the main power switch has not been turned off (position 0);
- **emergency stop mushroom button** the emergency stop mushroom button is located on the control panel of the machine, and immediately stops all machine functions;
- **rubber seal on the electrical panels** to protect the parts inside the panel.

3.2 Residual risks

Although were evaluated every possible cause of risk, you might consider that, in addition to those resulting from misuse, may occur residual risks, that remain despite the inherent safe design measures, safeguarding and complementary protective measures adopted.

RESIDUAL RISK DUE TO THE REMOVAL OF A FIXED REPAIR, OR TAMPERING WITH A SAFETY DEVICE

For any need the operator must never try to open or remove a fixed repair or tampering with a safety device.

During tooling, working, maintenance and cleaning phases, and during all manual operations that take place introducing hands or others body parts in dangerous areas, it remains a residual risk due to impact, cutting, shearing, crushing with constructive parts of the machine.

RESIDUAL RISK DUE TO LIFTING AND HANDLING OPERATIONS

Lifting and handling of the machine, are operations that involve a residual risk mainly due to impact, crushing and abrasion.

RESIDUAL RISK DUE TO POSSIBLE SLIDING AND/OR FALLING

To avoid dangers of sliding and/or falling on the floor, during normal operation of the machine and during cleaning/maintenance procedures, the operator and the maintenance technician must be adequately informed and trained, and they must use proper protection equipment such as non-slip footwear.

RESIDUAL RISK DUE TO BURN

Working temperatures are higher than the burning limit indicated into UNI EN 563.

3.3 Reference rules

TECNOLAT machines are made according to the following directives and norms:

- **DIRECTIVE 2006/42/EC** - Directive on machinery, and amending Directive 95/16/EC (recast).
- **LEGISLATIVE DECREE nr. 17 dated January 27th 2010** - Enforcing the EC directive 2006/42/EC, concerning machines and modifying the directive 95/16/EC concerning lifts.
- **DIRECTIVE 2006/95/EC** - Directive on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits.
- **DIRECTIVE 2004/108/EC** - Directive on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC.
- **DIRECTIVE 2003/10/EC** - Directive on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (noise).
- **REGULATION (EC) Nr. 1935/2004** - Regulation on materials and articles intended to come into contact with food and repealing Directives 80/590/EEC and 89/109/EEC.
- **ECI EN 60204-1: 2006** - Safety of machinery - electrical equipment of machines. Part 1: General requirements.
- **UNI EN ISO 12100: 2010** - Safety of machinery - General principles for design - Risk assessment and risk reduction.
- **UNI EN ISO 13857: 2008** - Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs.
- **UNI EN 349: 2008** - Safety of machinery - Minimum gaps to avoid crushing of parts of the human body.
- **UNI EN ISO 13850: 2008** – Safety of machinery - Emergency stop - Principles for design.

4 INSTALLATION

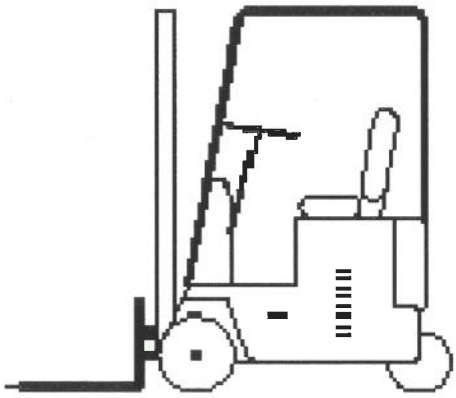
4.1 Handling and transportation

Even if the machine is packed, it has to be transported with care and with proper means.

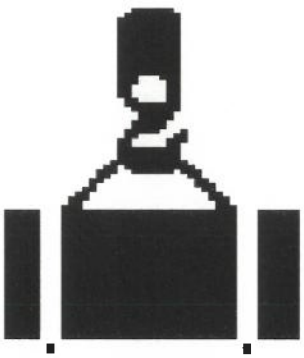
Transportation operations must be carried out by qualified personnel (hook-up men, truck operators, etc.).

During hoisting and positioning phases it is necessary to pay particular care to delicate parts, and in special way: adjustable feet, wires and pipes connections.

Before proceeding with the machine handling, check that the personnel does not stand within the forklift truck maneuvering area. If the operator does not have visibility enough because of the load sizes, it is necessary to foresee the assistance on the ground of a person charged of signalling.



YES



NO

4.2 Unpacking and positioning of the machine

Before unpacking the machine, make sure that the goods received correspond to the goods that were ordered and/or reported on the transport document.

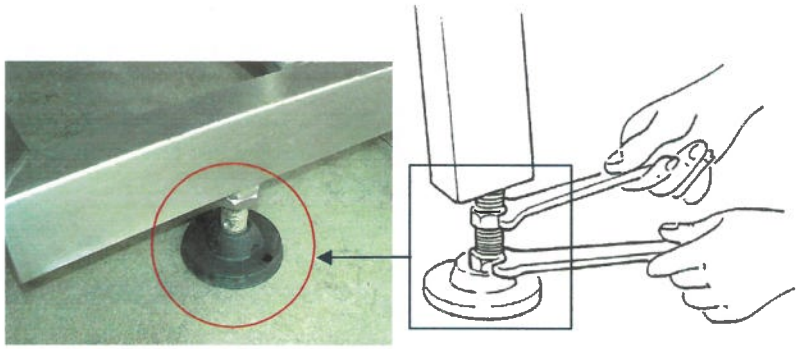
Bring the machine close to where it will be installed.

Remove the packaging materials and dispose of them according to regulations in force, in the location where the machine will be installed.

In order to properly install the machine the customer must check that the floor is built to support the weight of the machine.

Once the machine has been positioned in the designated area it will need to be levelled by adjusting the heights of the feet attached to the supporting structure.

This operation must be carried out using an optical level.



The machine must be located into the factory taking care of the real dimension. It is necessary to foresee the accessibility during usage (from the operators) and during routine and preventive maintenance (from authorized operators).

4.3 *Working environment*

The machine shall be placed in a covered and dry place. The humidity values for a good working of the machine are not over 90%, with temperatures ranging between 0 ÷ +45 °C.

The choice of the machine installation place shall take into account the health safety of the operator who shall remain on the working place for the use and/or maintenance time.

The noise of the machine has been kept as low as possible and absolutely below the maximum values allowed by the laws in force.

The machine is also not provided with its own lighting, therefore the purchaser has the responsibility to place the machine in a suitably lighted place, specially as regards maintenance operations.

4.4 *Connections*

4.4.1 Electric connection

The machine must be properly connected to the electric power source through the terminals found inside the electrical panel.

Provide for a differential relay, being suitably calibrated, to be set upstream of the machine.

Follow these instructions:

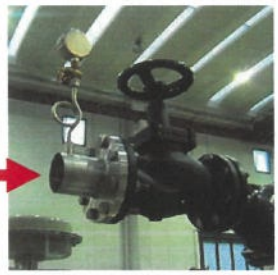
- check that the electric data (voltage, frequency, absorption) reported on wiring diagram are consistent with those of the electric power supply system;
- check that the selector placed on the machine board is set on (0) = off;
- check that the system is designed according to the technical norms of this sector (ECI rules);
- to carry out the electric connection of the machine, refer to the enclosed electrical diagram.

The above mentioned operations shall be carried out by a qualified technician electrician.

4.4.2 Steam connection

The pasteurizer is equipped with a group of flanged valves DN25 PN16.

Pressure: 1 bar
Flowrate: 75 kg/h
Connection: DN25 PN16



5 START-UP

5.1 Preliminary controls and start-up

Before switching the machine on, carry out the following controls:

- check if the feet are firmly placed on the floor;
- check if all the components of the machine are perfectly clamped;
- check if the machine is connected with the electric power supply system;
- check if the machine is connected with the steam line;
- check if there are foreign bodies within the balance tank;
- check the correct connection inlet/outlet of the product.

TESTING

- ensure there is water in the hot water circuit. NOTE: to fill the circuit you have to disassemble the pipe union above the barrel **I6**, and then using a hose pipe you have to put water inside the barrel; while to empty the circuit you have to disassemble the pipe union of the pump **P102.**
- check the required pressure on the steam line
- check that switches AUT-0-MAN are in stand-by position "0", in order to prevent undesired movements when you switch on the electrical control panel
- switch on the electrical control panel, turning the main switch on "1"
- check that "POWER ON" led **B8** is on
- check that emergency stop button is in the rest position, and then you have to press the button **C8** "restoring mains 24 V AC"
- set working and alarm setpoints on the instrumentations present on the electrical control panel. **NOTE** (see section SETPOINT SETTING)
- rotate opportunely the handwheel of the bellow valve **Vso**
- put water in the balance tank **VLC100**. (**NOTE:** during testing at first start-up it is advisable to prepare separately the water at a temperature similar to milk inlet temperature)
- turn selectors **F6** and **G6** (related to diverting valves VP1 and VP2) to position "MAN". Make sure that, downstream of the pasteurization plant, the water flows to a discharge point

- start pumps **P100,P101** and **P102**
- to regulate the flowrate and pressure differential you have to operate on **VR3**. You have to close VR3 until you get the desired flow (about 1000 l/h)
- turn selector **F7** to "Production", and close completely valve **VR2**
- leave selector **G6** (related to VP1) to position "MAN", and turn selector **F6** (related to VP2) to position "0"
- in order to make sure that pasteurizer returns by itself from alarm conditions, you have to simulate "diverting proof" (turn selectors **G6** and **F6** to position "0") and you have to close **VR4** until you get desired flow (about 1000 l/h)
- turn selectors **G6** and **F6** to position "MAN"
- wait until the pasteurization temperature is reached (value that can be read from recorder)
- to regulate outlet temperature from the pasteurizer you have to act on **VR2**. If VR2 is completely closed you get the lower temperature, while if VR2 is completely opened you get the higher temperature. After that desired outlet temperature is reached, you have to wait some minutes so to be sure that system is stable.
- if system is not able to stabilize itself, because there are high variation of the pasteurization temperature, you must proceed with PID parameters adjustment
- to modify alarms setpoints (temperature and pressure), you must act on **E&H RSG35** recorder; while to modify PID parameters on **Ascon X5** you have to refer to the quick guide of the instrument. It is advisable to run the "autotuning", through Tune parameter, and then, according to the experience, you have to modify PID parameters (Pb, ti, td).

START-UP

Daily start-up of the plant has to be made by potable water. The inlet of milk to be pasteurized will take place just when the steady-state conditions are reached.

This phase has the task to heat the pasteurizer until pasteurization temperature is reached.

You have to carry out operations listed in the previous section "TESTING", and when TT2 >= SPTT (pasteurization temperature alarm) and DP >= SPDP, the pasteurizer will be ready to go to next step.

PASTEURIZATION

- close city water valve **V10**, and wait for emptying of the balance tank **VLC100**
- let enter milk, as soon as you notice a pressure dropping on manometer present on pump **P100**
- when from the sightglass you see milk, after few seconds you have to turn selectors **G6** and **F6** (related to VP1 and VP2) to "AUT", in order to enable temperature, flowrate and differential pressure alarms (if during pasteurization, it occurs that pasteurization temperature, flowrate and differential pressure are lower than setpoint values, the valves VP2 and VP1 switches the milk to the balance tank until pasteurization temperature and differential pressure are reached again).
- immediately after the end of the pasteurization and without changing the steady-state conditions potable water has to be put in the plant to push the remaining milk down to the working section. In particular you have to wait for the achievement of minimum level inside the balance tank **VLC100**, and then you have to open city water valve **V10**.

  This phase must be carried out with selectors **G6** and **F6** to position "MAN".

SETPOINTS SETTING

SP1 CIP acid.
It allows to the pasteurizer, during CIP acid, to work according to the preset temperature (60°C)

SP2 CIP soda
It allows to the pasteurizer, during CIP soda, to work according to the preset temperature (65°C)

SP3
2nd pasteurization temperature setpoint (approximately >4°C than pasteurization temperature)

SPlocal
Hot water temperature setpoint. For hot water you have to set a temperature setpoint approximately >2°C than desired pasteurization temperature.

To set SP1, SP2, and SP3

- push  until to SP
- push  until to SP1, SP2 or SP3
- modify  until the desired value
- confirm the value 
- exit 

While to set SPlocal you have to act directly on  until the desired value.

5.2 Control machine area

The adjustment of devices and the setting up of working functions shall be carried out by an only operator.

The control machine area shall be placed on the panel of the electric board, in an area without any risks for the operator managing the machine running.

Manufacturer cannot be held responsible if the machine has been used by unqualified personnel without any personal protection equipment (D.P.I).

Tecnolat S.p.A is not responsible if the machine has undergone unauthorised modifications to working or safety system.

5.3 Electrical control panel

A4 – Flashing light

B8 – White led: it signals the connection of the machine with the electric power supply system.

C2 – Recorder: records the pasteurization temperature, the pressure differential, flowrate and any alarms.

C5 – Temperature controller: it allows to display and set the hot water temperature.

C8 – White illuminated button: it signals that the 24V mains is activated, and it allows to restore the operation, after activation of the alarms.

D8 – Red coloured mushroom emergency stop button: if it is pressed, it allows the immediate stop of all the machine motor drives. To unlock the emergency state of the machine, it is necessary to rotate the button head towards the direction indicated on it and restart the start-up controls of the machine.

F1 – Yellow led: it signals the release of the magneto-thermal switch, caused by malfunction of the pumps.

F3 – Buzzer: acoustic alarm (temperature or pressure alarm)

F6 – Three position green illuminated selector: it allows to set up the working functions of the diverting valve VP2

AUT = operation in automatic mode

0 = stand-by (the flow returns to the balance tank)

MAN = operation in manual mode (the flow goes into production).

F7 – Three position selector: it allows to set up the work cycle

PASTEURIZATION = it allows to the pasteurizer, during production phase, to work according to the preset temperature (74°C) on the thermoregulator C5.

CIP acid = it allows to the pasteurizer, during washing, to work according to the preset temperature (60°C) on the thermoregulator C5.

CIP soda = it allows to the pasteurizer, during washing, to work according to the preset temperature (65°C) on the thermoregulator C5.

NOTE: These values, entering the setup menu of the temperature

controller, can be modified.

G1 – Three position selector: it allows to start and stop the hot water pump P102.

G3 – Three position selector: it allows to start and stop the milk pump P100.

G4 – Three position selector: it allows to start and stop the milk booster pump P101.

G6 – Three position green illuminated selector: it allows to set up the working functions of the valve VP1

AUT = operation in automatic mode

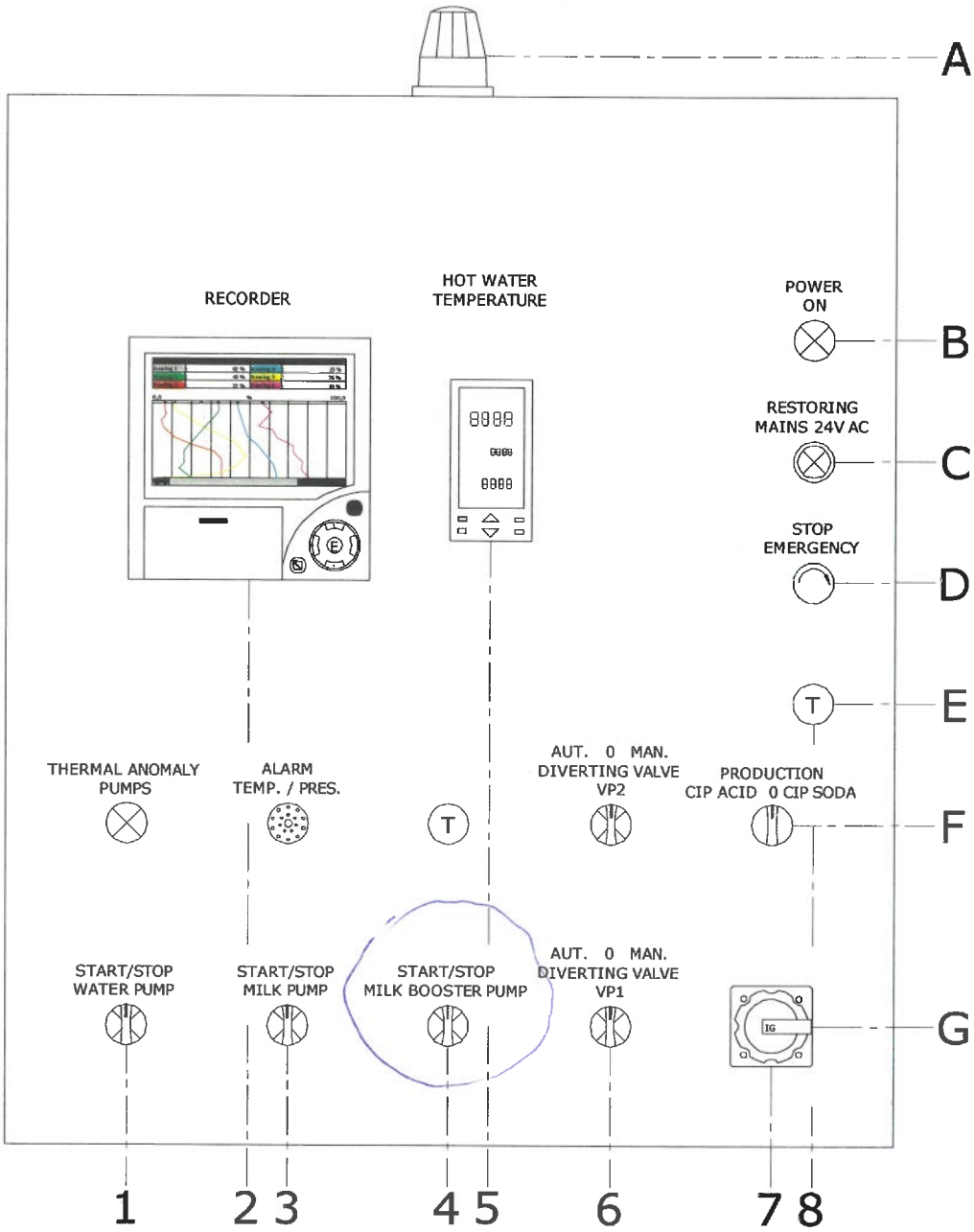
0 = stand-by

MAN = operation in manual mode

G7 – Main switch: red coloured with a yellow background (door lock)

Pos. 0 (OFF) – disconnected line

Pos. 1 (ON) – connected line.


A
RECORDER
HOT WATER TEMPERATURE
POWER ON
B
RESTORING MAINS 24V AC
C
STOP EMERGENCY
D
E
THERMAL ANOMALY PUMPS
ALARM TEMP. / PRES.
AUT. 0 MAN. DIVERTING VALVE VP2
PRODUCTION CIP ACID 0 CIP SODA
F
START/STOP WATER PUMP
START/STOP MILK PUMP
START/STOP MILK BOOSTER PUMP
AUT. 0 MAN. DIVERTING VALVE VP1
G
1
2 3
4 5
6
7 8

6 CLEANING

6.1 Washing

Do not wet the electric system.

Cleaning procedures shall be carried out by the authorized personnel.

During compressed air and water jet cleaning procedures, protect your eyes by suitable individual protection devices.

Cleaning shall be carried out by low pressure water jets, using suitable washing solutions.

Before using a washing detergent, you must read carefully warnings and usage precautions indicated on product data sheet. Operators must be properly informed about the risks arising from the use of detergents and products.

It is important that cleaning operations are made immediately after the end of pasteurization. Prerinsing with water should always be carried out immediately after the production run. Otherwise the milk residues will dry and stick to the surfaces, making them harder to clean.

Washing phases:

- Pre-Rinsing with cold water for 5 ÷ 8 minutes;
- Washing with soda (solution at 2 ÷ 3 %) at 65°C for 15 ÷ 18 minutes;
- Intermediate rinsing with hot water (35 ÷ 40°C) for 5 ÷ 8 minutes;
- Washing with acid (solution at 2 ÷ 3 %) at 60°C for 15 ÷ 18 minutes;
- Final rinsing with cold water for 8 ÷ 10 minutes.

Temperatures and times suggested for each washing phase are relative to standard procedures. It is advisable to adjust these features according to specific needs.

Each phase of washing must include a rinse cycle.

Dump solutions in conformity with the rules in force as regards liquid waste.

Washing prescriptions:

1. Rinsing:
   1.1. Turn the main switch to position 1, in order to switch on the machine.
   1.2. Turn the selector **G6** to position "MAN", and leave the selector **F6** to position "0"
   1.3. Close all manual valves
   1.4. Add water in the balance tank **VLC100** through the city water valve **V10**.
   1.5. Open completely control valves **VR1** and **VR3**, and open discharging valve **V05**
   1.6. Start milk pump **P100** and booster milk pump **P101**.
   1.7. When from the discharge the water will flow clear, you have to close discharging valve **V5**, and open valve **VR4** so that the water will go into recirculation.
2. SODA[1]/ACID[2] WASHING
   2.1. Fill the balance tank **VLC100** with water to 80% capacity.
   2.2. Add the washing product (soda or acid) equivalent to 2-3% of the water volume considering also the water already present in the machine.
   2.3. Turn the selector **F7** on CIP acid or CIP soda.
   2.4. Start milk pump **P100** and milk booster pump **P101**.
   2.5. Ensure there is water in the hot water circuit, and start hot water pump **P102**
   2.6. Open completely valve **VR2**, and wait until outlet temperature TT3 is close to that set for the specific washing phase (approximately 5°C less). At this point you have to close completely **VR2**, and keep the solution in recirculation for 15/20 minutes.

[1] The washing with alkaline solutions must be carried out at each machine use.
[2] The washing with acid must be carried out every 7-10 days of use of the machine.

2.7. After this time, discharge to the ground the solution opening the valve **V5**, and closing the valve **VR4**.

2.8. Open the water valve **V10** and start the rinsing phase.

2.9. Rinse until the cleaning solution is removed.

During washing and rinsing phases the mixing valve **VR2** must be closed, and must be opened for 5÷10 seconds every 5 minutes.

During washing and rinsing phases the sampling cock **I2** must be closed, and must be opened for 5 seconds every 10 minutes.

At the end of washing operations, you have to place all selectors on "0" (stand-by).

7 MAINTENANCE

7.1 Ordinary maintenance

Before carrying out ordinary maintenance procedures, ensure that the machine is disconnected from the electric power supply system.

It is forbidden adjusting, lubricating and cleaning the machinery while it is in action.

Before carrying out ordinary maintenance procedures on the service fluids lines, ensure that the shut-off valves are closed.

Maintenance operations shall be carried out by trained personnel.

During maintenance operations, protect your hands by protection gloves.

Before carrying out ordinary maintenance procedures on the service fluids lines, ensure that the shut-off valves are closed.

Maintenance is the most dangerous operation for personnel involved in the work. Maintenance operations shall be carried out by trained and qualified personnel. Shall be carried out by trained and qualified personnel.

In order to guarantee the machine efficiency, carry out the ordinary maintenance of the machine.

Carry out the cleaning and control of the main units of the machine, in order to keep it always efficient.

Check frequently the correct working of safety devices.

In order to allow a suitable cooling of engines, it is necessary to periodically remove dirt deposits from the casings and cover fan caps of engines.

7.2 Extraordinary maintenance

Before carrying out maintenance procedures, ensure that the machine is disconnected from the electric power supply system.

Maintenance procedures shall be carried out by the authorized personnel.

During maintenance operations, protect your hands by protection gloves.

Before carrying out ordinary maintenance procedures on the service fluids lines, ensure that the shut-off valves are closed.

Open the plate pack, check all seals and wash with a suitable solution all the surfaces of the plates.

Tighten the plate pack with the tightening indicated into § 2.2.

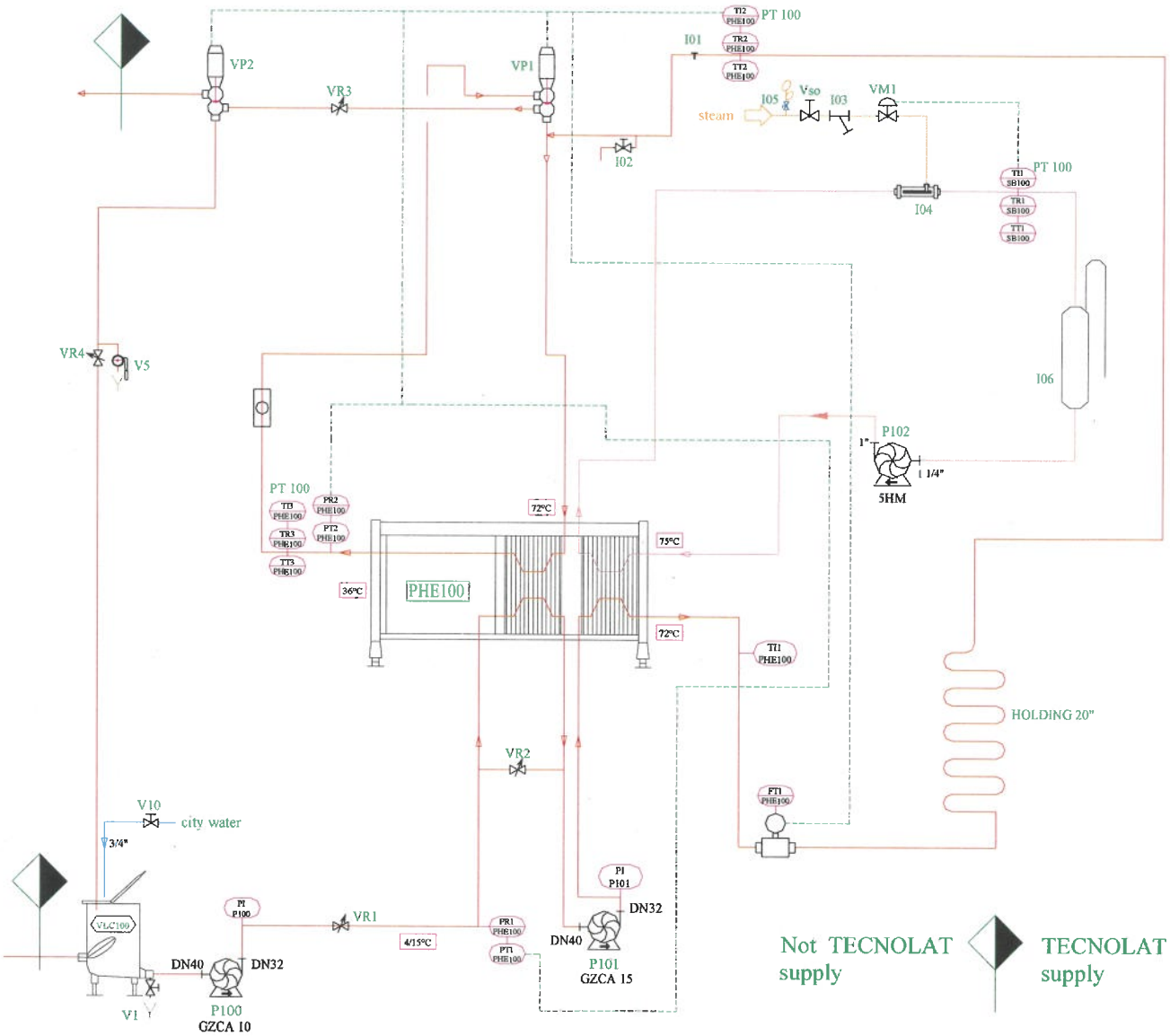
8 DEMOLITION

8.1 Demolition of the machine

The machine is mainly composed of stainless steel, a recyclable raw material.

The electrical equipment should be disposed of in accordance with the existing legislation in force.

9 SPARE PARTS



Pos	Type	Brand	Description	Code
VP1	VALVE	TASSALINI	LL PNEUMATIC BUTTERFLY VALVE A.316 DN25	VALPNB3V0025
VP2	VALVE	TASSALINI	LL PNEUMATIC BUTTERFLY VALVE A.316 DN25	VALPNB3V0025
VM1	VALVE	IMEVA	MODULATING VALVE SBS10 A13 DN20 GH TP	VALMSBS27020
VR1	VALVE	TASSALINI	BUTTERFLY VALVE F/F 304 DN25 HANDLE 20POS.	VALFA0000025 MANIA0000020
VR2	VALVE	TASSALINI	BUTTERFLY VALVE F/F 304 DN25 HANDLE 20POS.	VALFA0000025 MANIA0000020
VR3	VALVE	TASSALINI	BUTTERFLY VALVE F/F 304 DN25 MICROMETRIC HANDLE 25/100 304L	VALFA0000025 MANIA000000M
VR4	VALVE	TASSALINI	BUTTERFLY VALVE F/F 304 DN25 HANDLE 20POS.	VALFA00SS028 MANIA0000020
Vso	VALVE	IMEVA	CAST IRON BELLOW VALVE DN25	VALSGHK00025
V1	VALVE	VAR ITALY	BALL VALVE A.316 D.1/2"	VALSBLG00012
V5	VALVE	TASSALINI	BUTTERFLY VALVE F/F 304 DN25 HANDLE 20POS.	VALFA0000032 MANIA00ONOFF
V10	VALVE	VAR ITALY	BALL VALVE A.316 D.3/4"	VALSBLG00034
I1	ITEM	TCL	WELL FOR TEMPERATURE FAST MEASUREMENT	POZZMISVELOC
I2	ITEM	TASSALINI	SAMPLING COCK 304 1/4	RUPCA0G00014
I3	ITEM	IMEVA	Y FILTER TP.ECO DN25 PN16	FILYGH000025
I4	ITEM	TCL	STEAM/WATER MIXER A304 DN50	MIAVA0000050
I5	ITEM	IMEVA	MANOMETER x STEAM 3/8" BRONZE COCK D.3/8" COPPER SERPENTINE D.80 0-6 BAR RAD.3/8"	SERPRCRA0038 RUBPBR0MAN38 MANV08038016
I6	ITEM	TCL	BARREL A304 D.154 VT10	BARIA154VT10
I7	ITEM	TASSALINI	SIGHTGLASS F.F. 304 DN 25	SPSPA00FF025
PI	STRUMENT AZIONE	FRAT. MAGNI	MANOMETER C/GLYCERINE D.60 0-6 BAR CONN. DN25	MANG08025006

PT	STRUMENT AZIONE	IFM	PL2054 PRESSURE TRANSMITTER 4-20mA "IFM"	TRASMIFM2420
TT	STRUMENT AZIONE	ITALCOPPIE	THERMORESISTANCE PT100 CL A D.6x150mm	TERMPT150D06
TI	STRUMENT AZIONE	FRAT. MAGNI	THERMOMETER D.80 SCALE 0/100°C L=100	TERMR0010081
FT1	STRUMENT AZIONE	GEA	INDUCTIVE MAGNETIC FLOWMETER	MISURMAGDN32
P100	PUMP	GZ	CENTRIFUGAL PUMP A316 GZ/CA 10	ELETB0GZCA10
P101	PUMP	GZ	CENTRIFUGAL PUMP A316 GZ/CA 15	ELETB0GZCA15
P102	PUMP	LOWARA	ELECTROPUMP A5HM04S05T5RV BV 220-240/380-415 50	ELETA05HM04S

10 CONFORMITY CE

CE Conformity declaration

The technical file is available at the TECNOLAT S.p.A. and the person authorized to compile the dossier is the legal representative, Mr. Carmine Mari domiciled in Nocera Inferiore (SA).

According to:

- UNI CEI EN ISO/IEC 17050-1:2010 – Conformity assessment - Supplier's declaration of conformity - Part 1: General requirements.
- UNI CEI EN ISO/IEC 17050-2:2005 – Conformity assessment - Supplier's declaration of conformity - Part 2: Supporting documentation.

Tecnolat S.p.A. signing this statement, states upon its sole liability, that the machine being the subject of this statement:

Machine	ELECTRONIC PASTEURIZER
Model	PTE 10/2
Serial. Nr.	646/15
Year	2015

Is conforming with what prescribed by the following directives and norms:

- **DIRECTIVE 2006/42/EC of 17 May 2006** on machinery, and amending Directive 95/16/EC (recast)
- **LEGISLATIVE DECREE** nr. 17 dated January 27th 2010 - Enforcing the EC directive 2006/42/EC, concerning machines and modifying the directive 95/16/EC concerning lifts.
- **DIRECTIVE 2006/95/EC** - Directive on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits.
- **DIRECTIVE 2004/108/EC** - Directive on the approximation of the laws of the Member States relating to electromagnetic compatibility and repealing Directive 89/336/EEC.
- **DIRECTIVE 2003/10/EC** - Directive on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (noise).
- **REGULATION (EC) Nr. 1935/2004** - Regulation on materials and articles intended to come into contact with food and repealing Directives 80/590/EEC and 89/109/EEC.
- **EN 60204-1:2006** - Safety of machinery - electrical equipment of machines. Part 1: General requirements.
- **UNI EN ISO 12100: 2010** - Safety of machinery - General principles for design - Risk assessment and risk reduction.
- **UNI EN ISO 13857: 2008** - Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs.
- **UNI EN 349: 2008** - Safety of machinery - Minimum gaps to avoid crushing of parts of the human body.
- **UNI EN ISO 13850: 2008** – Safety of machinery - Emergency stop - Principles for design.

Nocera Inferiore, 03.04.2015

In witness whereof
The Technical Manager
Carmine Mari

TECNOLAT® S.p.A.

PTE10/2 CEE

SCHEMA ELETTRICO
WIRING DIAGRAM - ELEKTROSCHEMA

CLIENTE/CUSTOMER
MOZZARELLA PAOLELLA GMBH

La TECNOLAT spa declina ogni responsabilità in caso di mancanza o non idoneità dell'impianto di terra del caseificio e di relativo collegamento alla morsettiera della macchina TECNOLAT.

TECNOLAT spa does not accept responsability if in the dairy industries there is not a correct earth apparatus or their connection to the machine terminal board are not proper.

DIS./Draw:	VISTO-APPR./Che.-App.:	DATA/Date:	
C. Immacolato	C. Mari	18/03/2015	TECNOLAT

IMPIANTO/Plant: PTE10/2 CEE

QUADRO/Panel:	COMM./Job:	SCALA/Scale:	FORMATO/Format:
KQ01	TE/15/0065	1:1	A4

HOME PAGE

REV. 00

DISEGNO NR./Drawing nr.: PTE102IMP065 - 001/E

INFORMAZIONI PER L' INSTALLAZIONE
INFORMATION FOR THE CONNECTION

POTENZA NOMINALE RATED POWER	3	kW	INTERRUTTORE CONSIGLIATO REQUIRED MAIN SWITCH	AUTOMATIC DIFFERENTIAL MAGNETOTHERMIC 10A 30mA
TENSIONE DI ALIMENTAZIONE SUPPLY VOLTAGE	400/230	V	CAVO DI ALIMENTAZ. CONSIGLIATO REQUIRED SUPPLY CABLE	5G2,5 mm²
FREQUENZA NOMINALE RATED FREQUENCY	50	Hz	MACCHINA MACHINE	PT10/2 CEE
ASSORBIMENTO INPUT CURRENT	7	A	MATRICOLA MACCHINA MACHINE SERIAL NUMBER	*/2015
NUMERO DI FASI NUMBER OF PHASES	3 PHASES + N + PE		NUMERO SCHEMA DIAGRAM NUMBER	PTE102IMP065

N.B. In rispetto alla Normativa vigente,la protezione contro i contatti indiretti sulla macchina deve essere realizzata con interruttore automatico differenziale inserito a monte del cavo di alimentazione e con un efficace collegamento al conduttore di protezione PE .

N.B. According to IEC Standards the protection for indirect contact on the machine must be made with differential switch inserted before the supply cable and with a good earth apparatus.

DIS./Draw: C. Immacolato	VISTO-APPR./Chc.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT S.p.A.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
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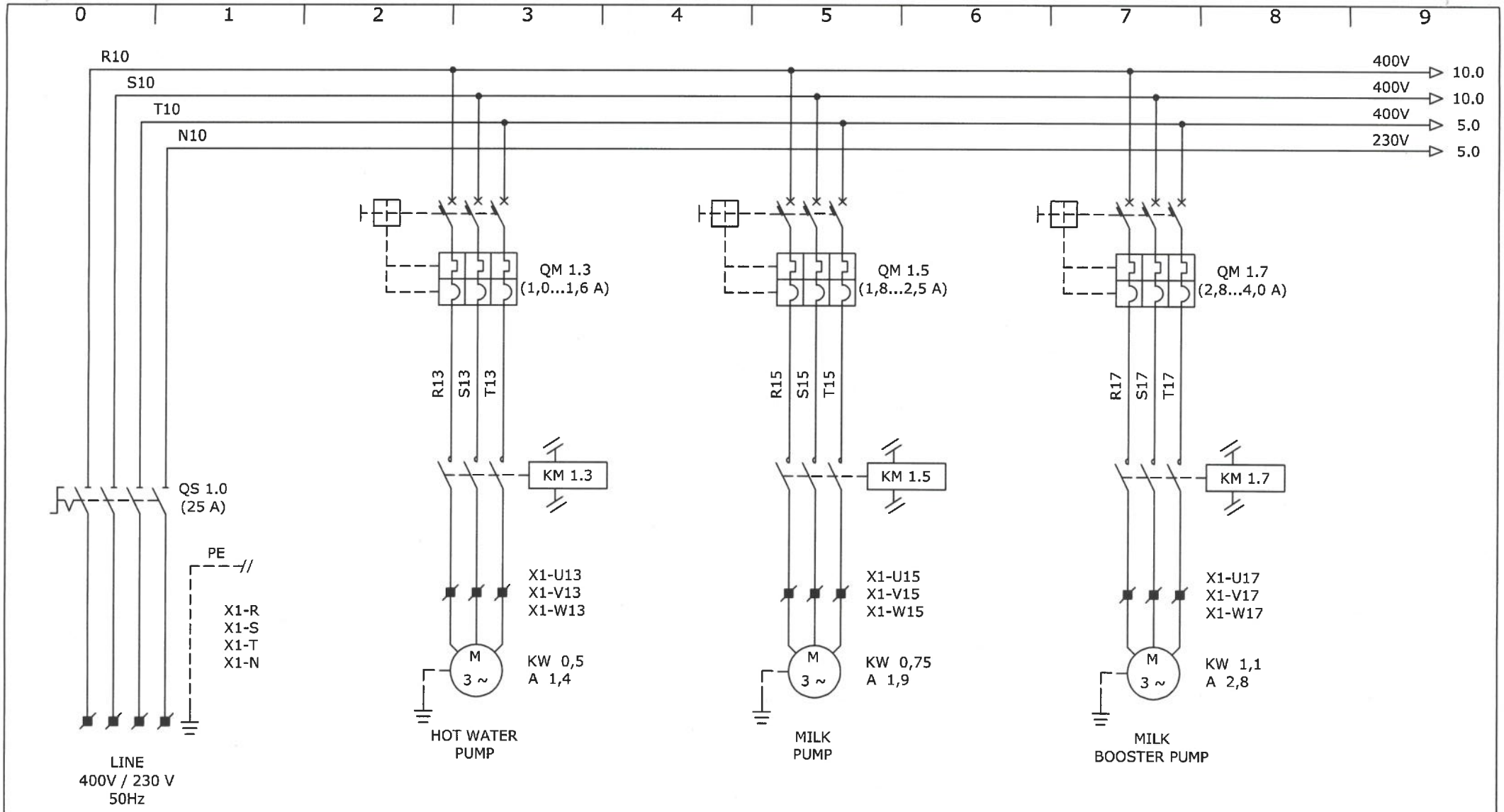
INFORMATION FOR THE CONNECTION		SCALA/Scale: 1:1	FORMATO/Format: A4
	REV 00	DISEGNO NR./Drawing nr. PTE102IMP065 - 002/E	



NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale e parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
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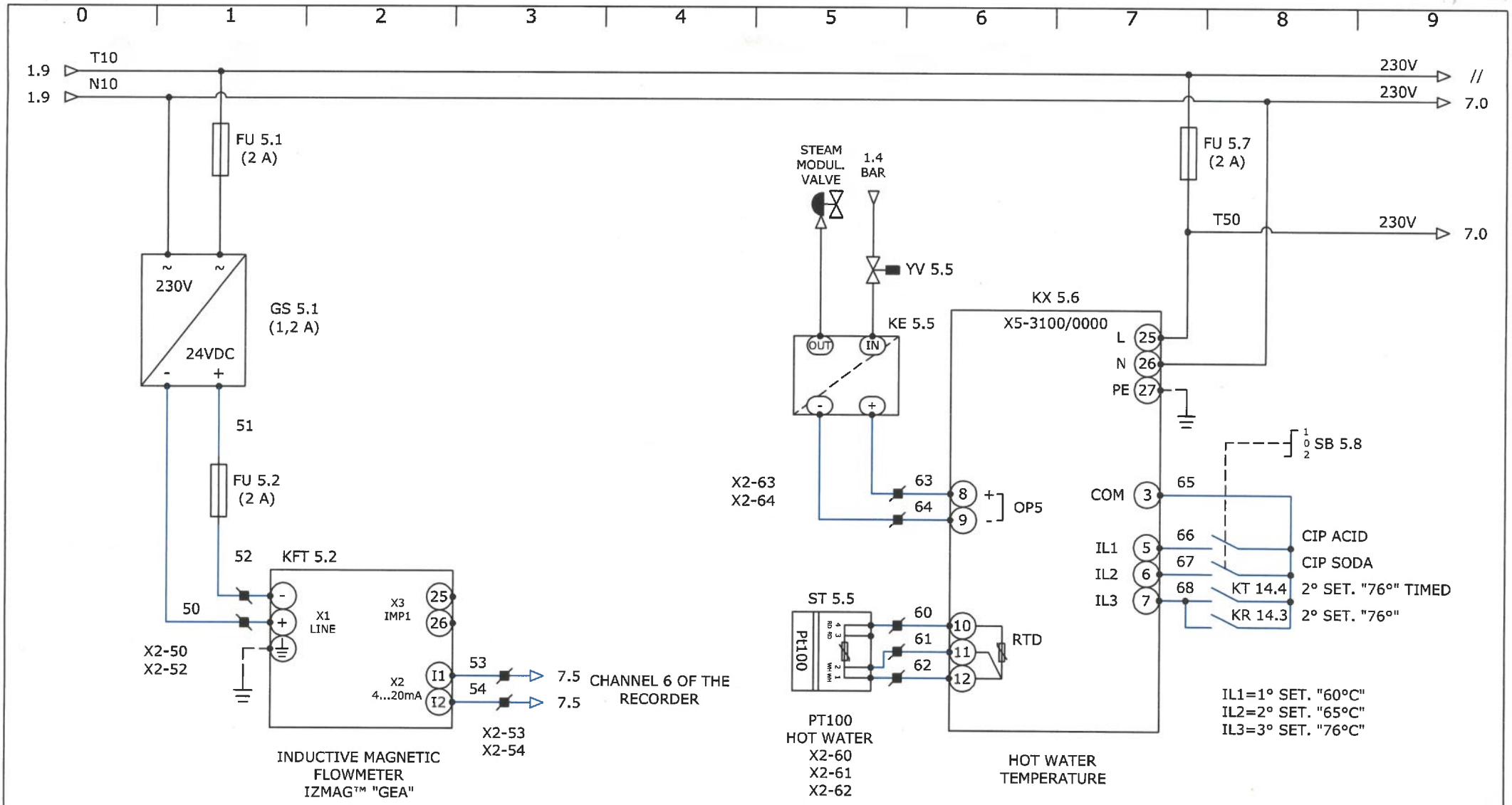

NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
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GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolata	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT S.p.A.
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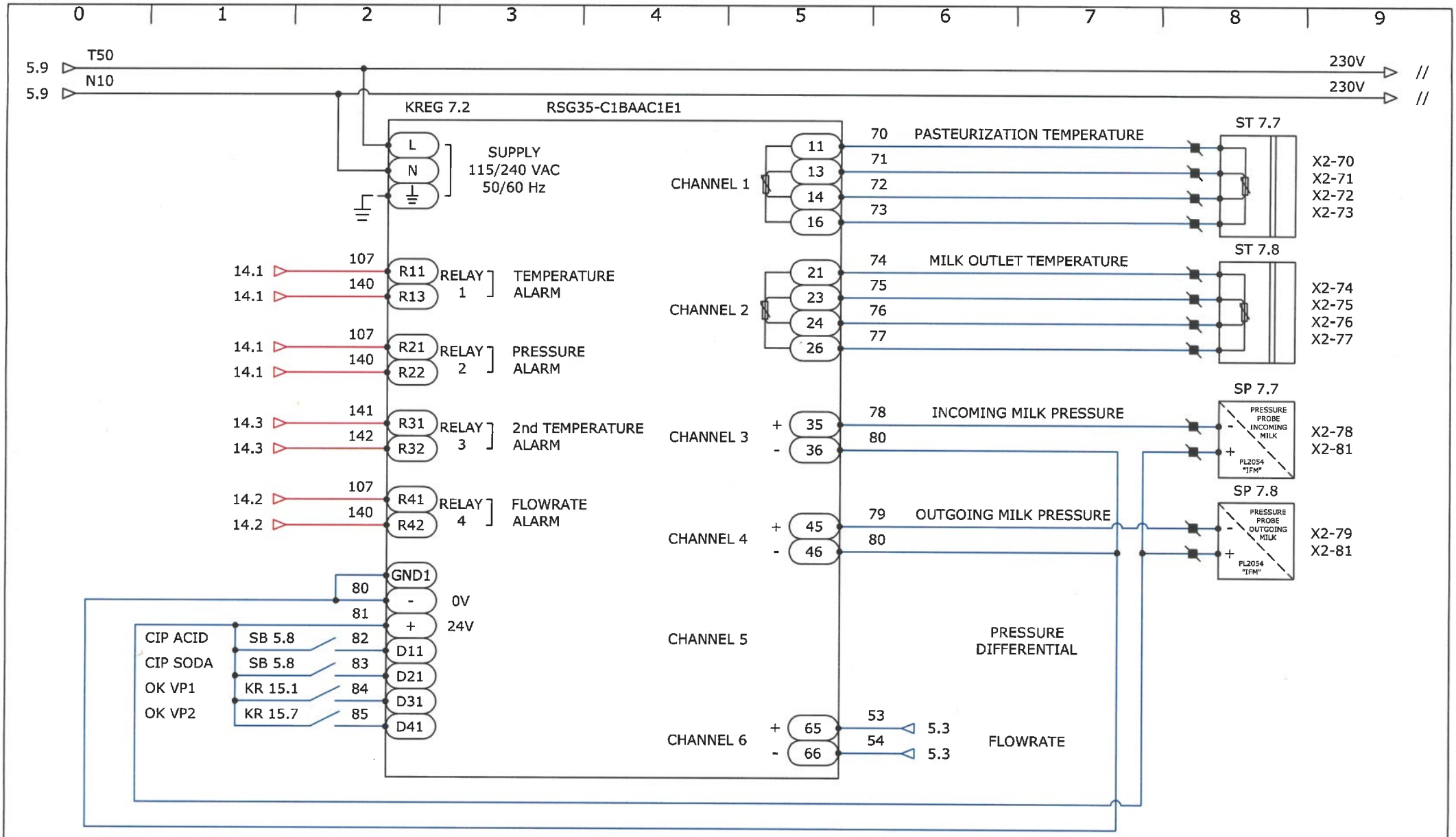

NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAM S.r.l.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAM procederà ai sensi di legge.	
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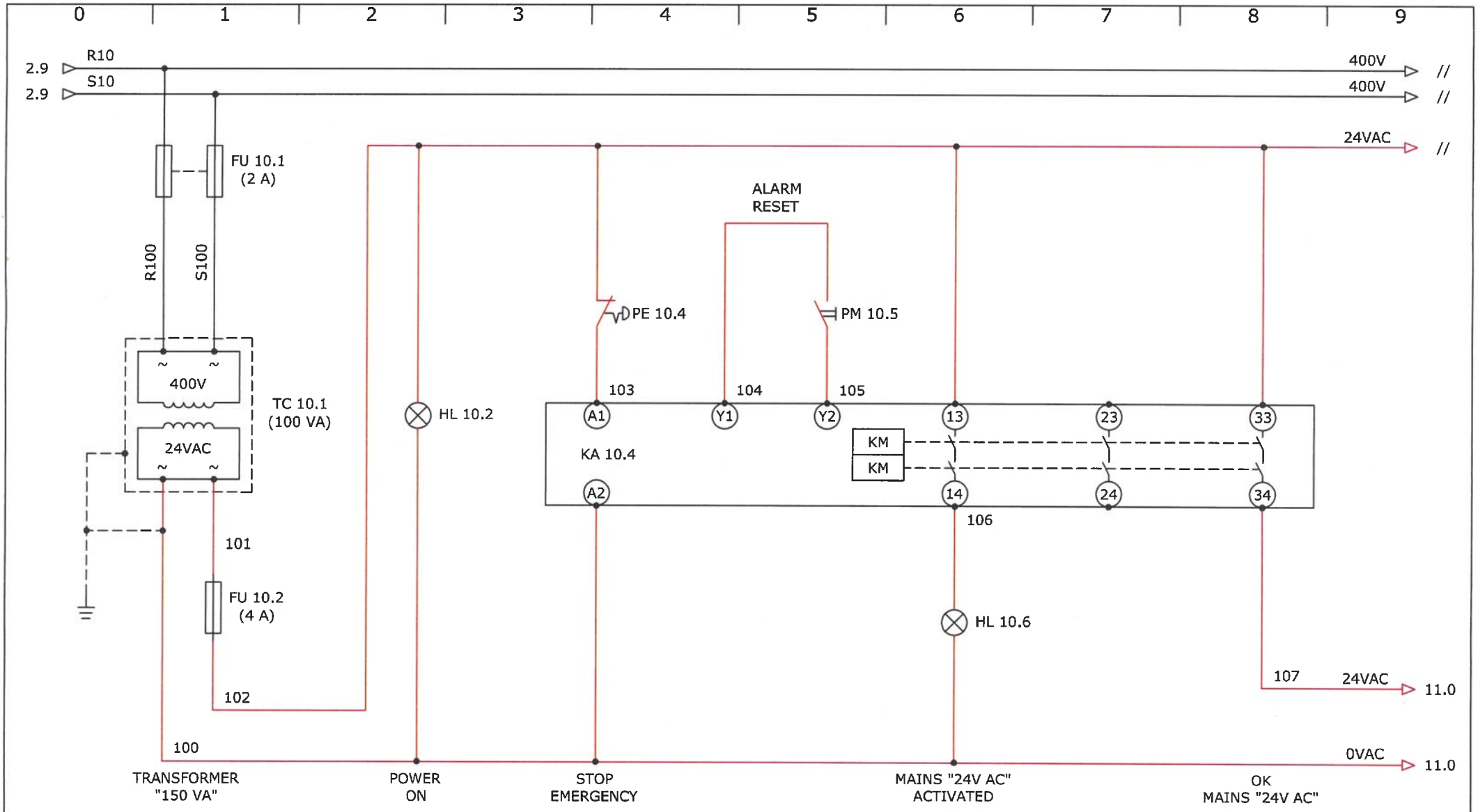

NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
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GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT S.p.A.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
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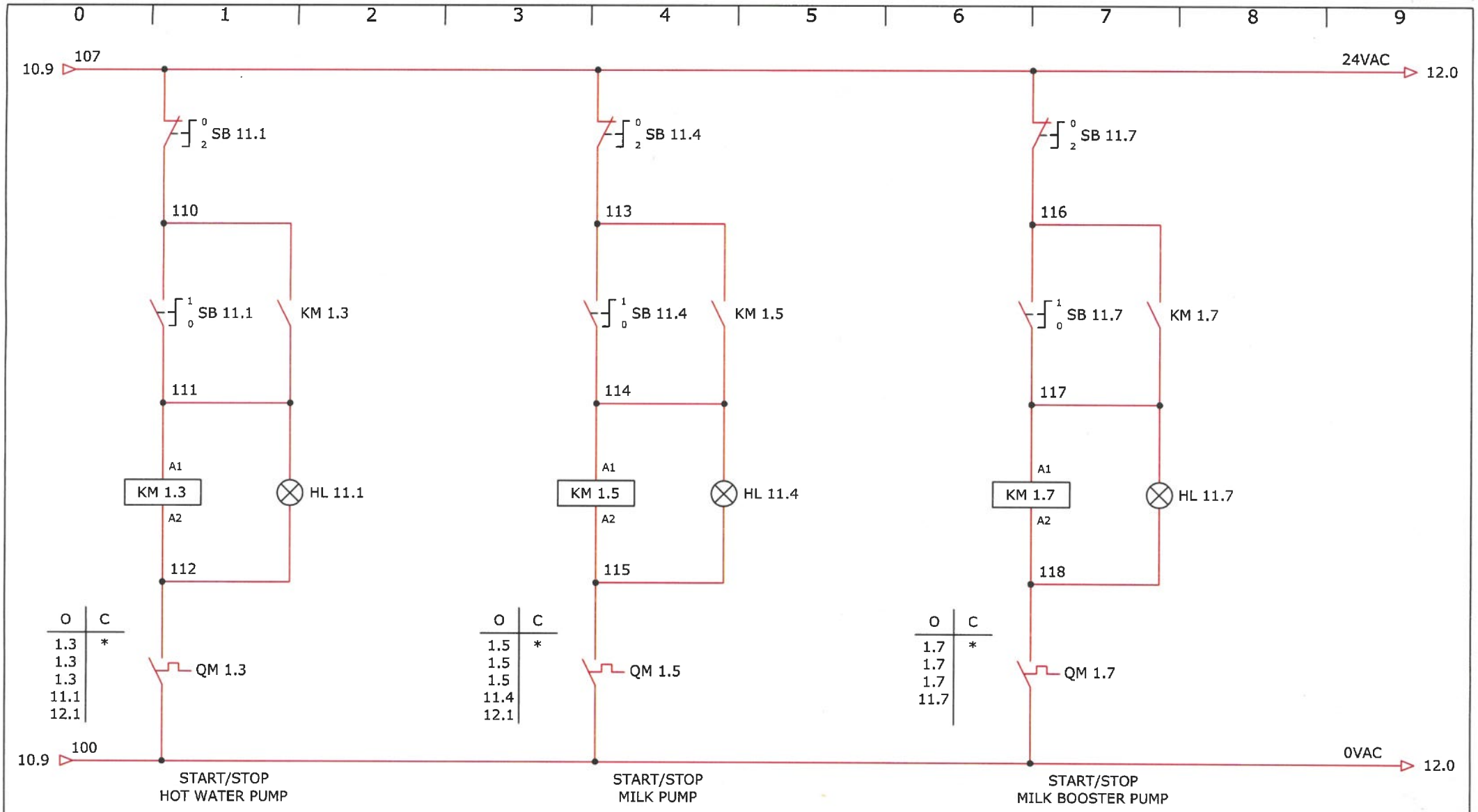

NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
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DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT S.p.A.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
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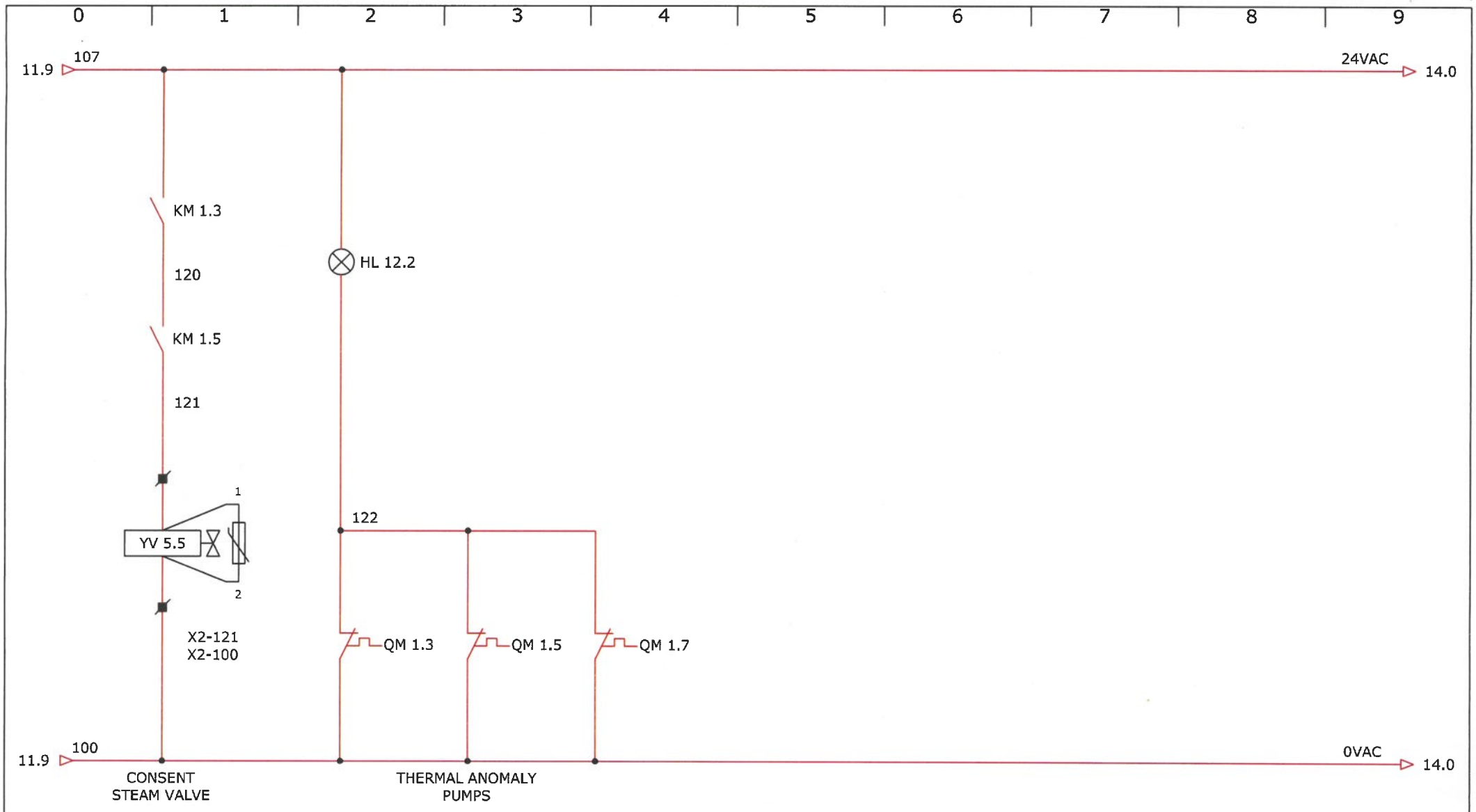

NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
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DIS./Draw: C. Immacolato	VISTO-APPR./Chc.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT S.p.A.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
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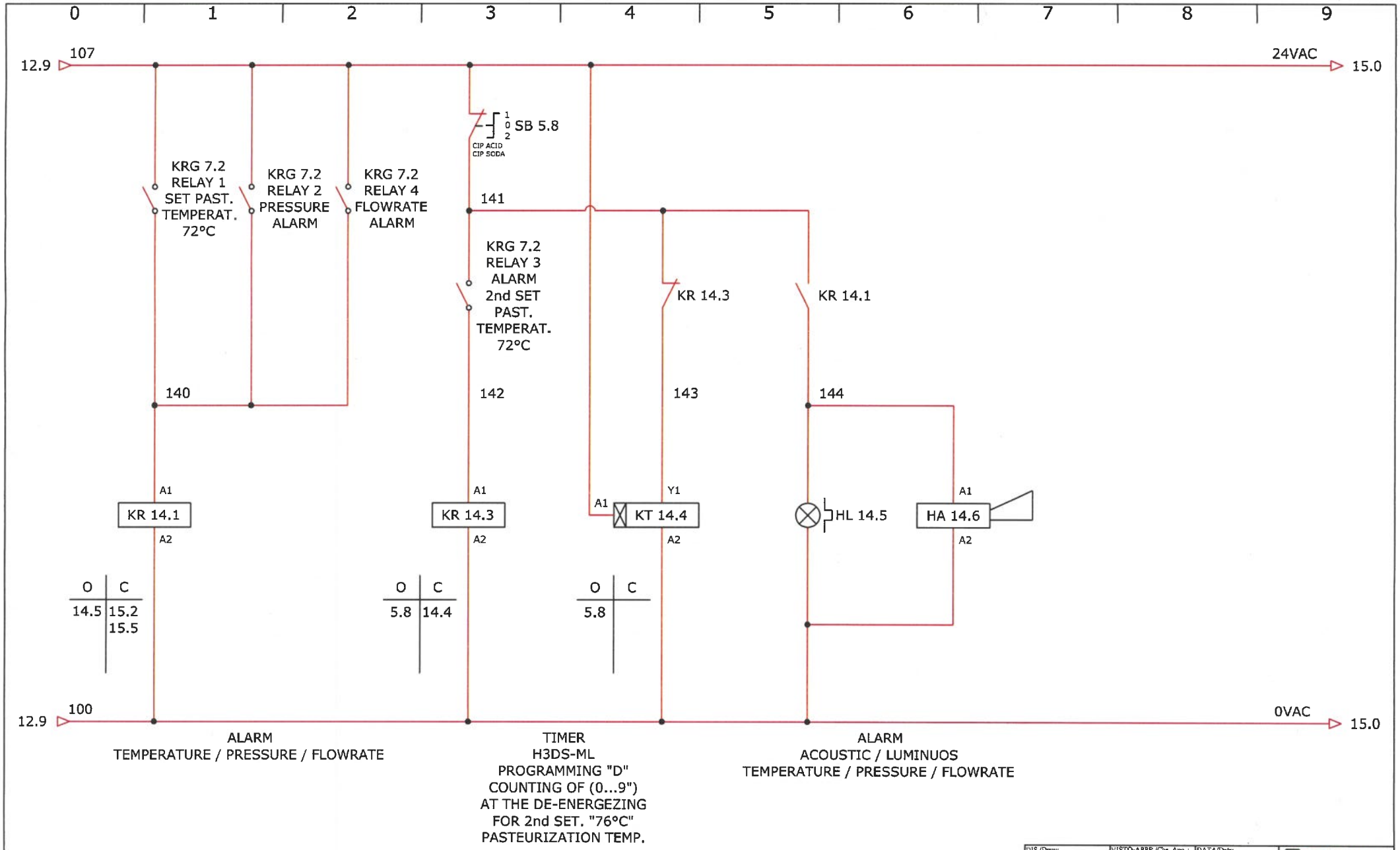

NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
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IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
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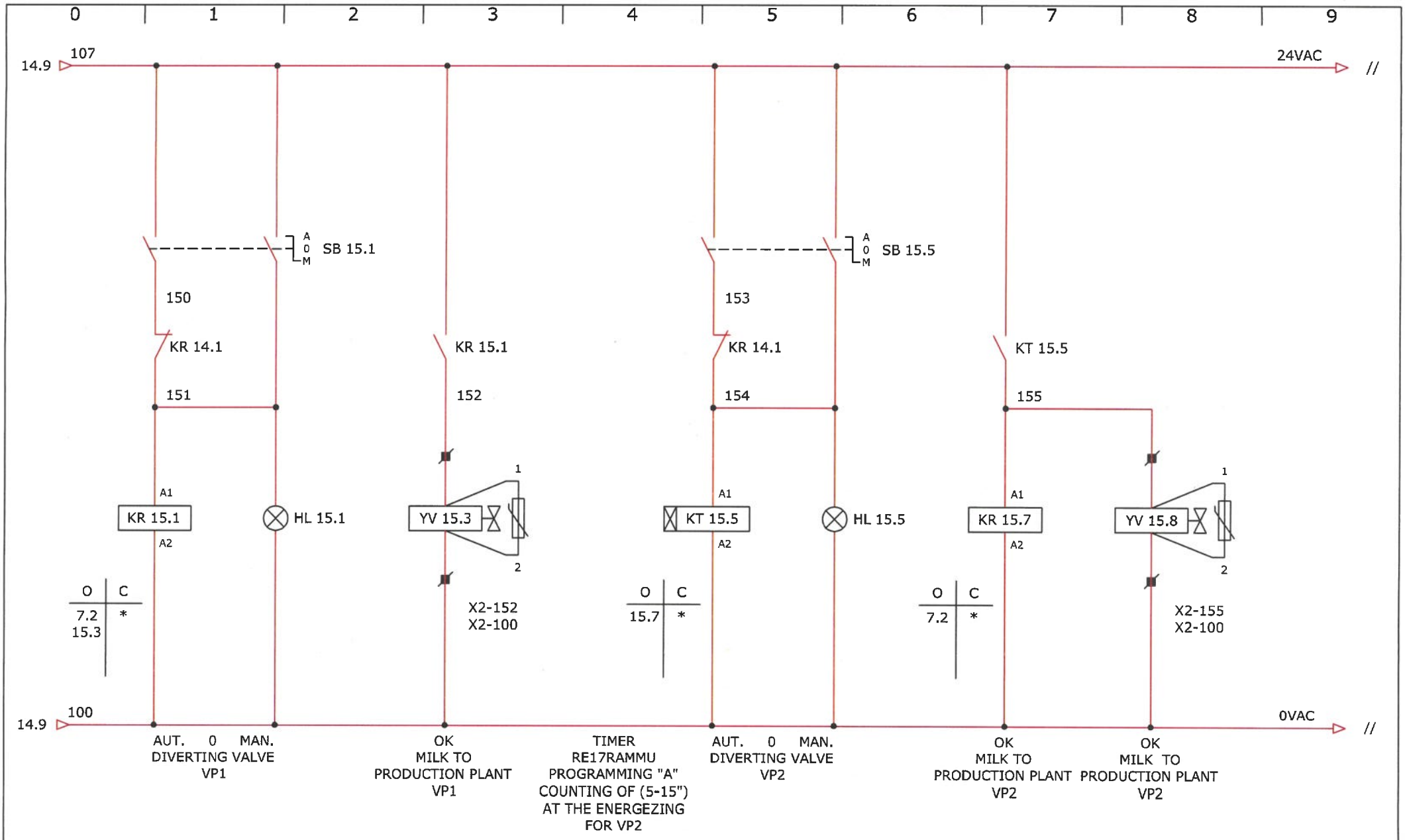

NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
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BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT S.p.A.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo. In caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
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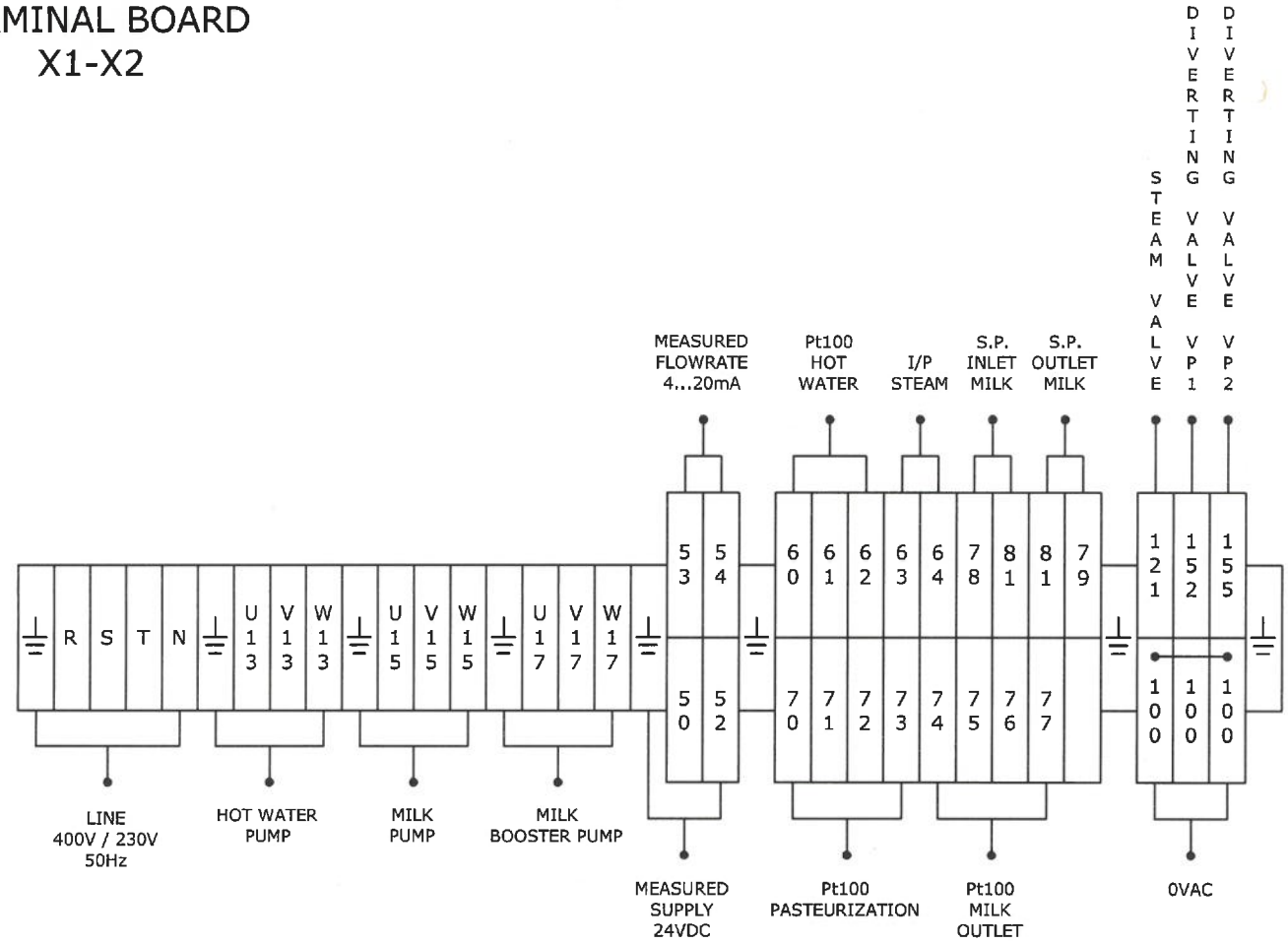
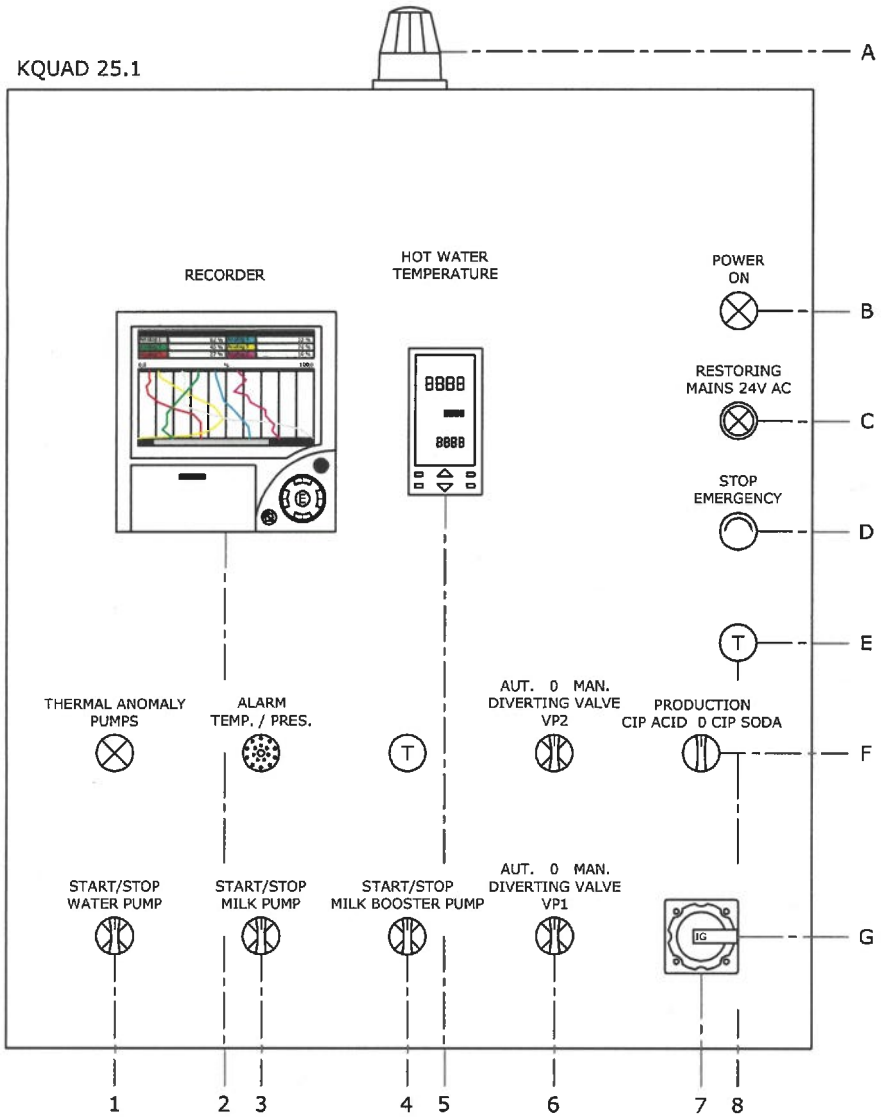
TERMINAL BOARD
X1-X2



NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAM S.r.l.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
PAGINA/Page: 20	SEGUE/Follow: 25	REV. 00	SCALA/Scale: 1:1 — FORMATO/Format: A4
			DISEGNO NR./Drawing nr.: PTE102IMP065 - 011/E

CABINET



BUTTONS LIST

A4= Flashing	(HL 14.5)
B8= White Led	(HL 10.2)
C2= Recorder	(KREG 7.2)
C5= Temperature controller	(KX 5.6)
C8= White illuminated button	(PM 10.5 - HL 10.6)
D8= Mushroom emergency stop button	(PE 10.4)
E8= Cap Ø22	
F1= Yellow Led	(HL 12.2)
F3= Buzzer	(HA 14.6)
F4= Cap Ø22	
F6= Green 3-position selector	(SB 15.5 - HL 15.5)
F7= Green 3-position selector	(SB 5.8)
G1= Green 3-position selector	(SB 11.1 - HL 11.1)
G3= Green 3-position selector	(SB 11.4 - HL 11.4)
G4= Green 3-position selector	(SB 11.7 - HL 11.7)
G6= Green 3-position selector	(SB 15.1 - HL 15.1)
G7= Main switch	(QS 1.0)

NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
PAGINA/Page: 25	SEGUE/Follow: 30	REV. 00	SCALA/Scale: 1:1 FORMATO/Format: A4
			DISEGNO NR./Drawing nr. PTE102IMP065 - 012/E

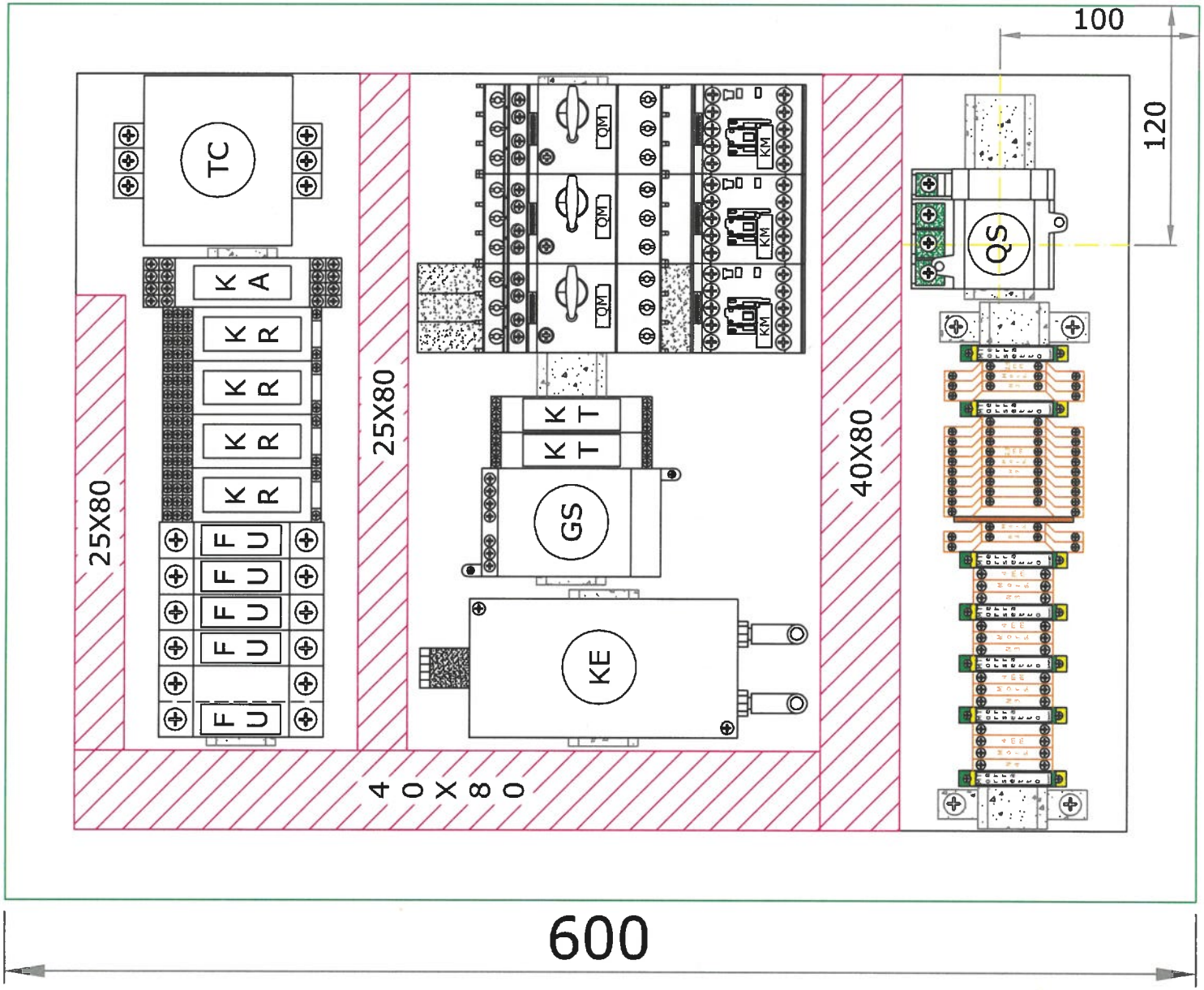
0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9

DISTINTA MATERIALE / MATERIAL LIST

SIGLA / SYMBOL	DENOMINAZIONE / DENOMINATION	CODICE / CODE	MARCA / BRAND
KQUAD 25.1	STAINLESS STEEL CABINET AISI 304 (450X600X300)	AK456030	IRINOX
QS 1.0	3POLE SWITCH "25A"	3LD2113-OTK53	SIEMENS
QM 1.3	AUTOMATIC 3POLE SWITCH "1,0...1,6A"	3RV2011-1AA15	SIEMENS
QM 1.5	AUTOMATIC 3POLE SWITCH "1,8...2,5A"	3RV2011-1CA15	SIEMENS
QM 1.7	AUTOMATIC 3POLE SWITCH "2,8...4,0A"	3RV2011-1EA15	SIEMENS
KM 1.3/KM 1.5/KM 1.7	LINE CONTACTOR "4KW/24VAC"	3RT2016-1AB01	SIEMENS
FU 10.1	CYLINDRICAL FUSE BASE 2X32A "10,3x38"	3NW7023	SIEMENS
FU 5.1/FU 5.2/FU 5.7/FU 10.2	CYLINDRICAL FUSE BASE 1X32A "10,3x38"	3NW7013	SIEMENS
KTF 5.2	INDUCTIVE MAGNETIC FLOWMETER IZMAGTM	7626-032-100	GEA
KX 5.6	TEMPERATURE CONTROLLER	X5-3100/0000	ASCON
ST 5.5/ST 7.7/ST 7.8	THERMORESISTANCE Pt100 CLASS "A" Ø6X150mm	TRMP1A60150X	ITALCOPPIE
KE 5.5	ELECTROPNEUMATIC CONVERTER "4...20mA"-"0...15PSI"	IPC015	CONFLOW
YV 5.5/YV 15.3/YV 15.7	PILOT VALVE "10W/24VAC"	ULCRV/R02450-60	WAIRCOM
KREG 7.2	RECORDER	RSG35-C1BAAC1E1	ENDRESS+HAUSER
SP 7.7/SP 7.8	PRESSURE TRANSMITTER 4-20mA	PL2054	IFM
TC 10.1	TRANSFORMER 100VA "400V/24VAC"	TMS1K0.10	NEW CTA
GZ 5.1	STABILIZED SUPPLY "100-240V / 24VDC - 1,2A"	ABL8MEM24012	SCHNEIDER
KA 10.4	SAFETY RELAY "24VAC/DC"	XPSAC5121	SCHNEIDER
KR 14.1/KR 14.3/KR 15.1/KR 15.7	RELAY, 4 CO, 24VAC, WITH LED	RXM4AB2B7	SCHNEIDER
KT 14.4	TIMER 24VAC/DC-240VAC, 1 CO	H3DS-ML	OMRON
KT 15.5	TIMER 24VAC/DC-240VAC, 1 CO	RE17RAMMU	SCHNEIDER
T	CAP Ø 22	LOV8LM2TA130	LOVATO
HL 10.2	WHITE LED "24VAC/DC"	XB4BVB1	SCHNEIDER
HL 12.2	YELLOW LED "24VAC/DC"	XB4BVB5	SCHNEIDER
PE 10.4	MUSHROOM EMERGENCY STOP BUTTON	ZB4BS54	SCHNEIDER
PM 10.5-HL 10.6	WHITE ILLUMINATED BUTTON "24VAC/DC"	XB4BW31B5	SCHNEIDER
SB 5.8	3-POSITION SELECTOR	XB4BD33	SCHNEIDER
SB 15.1-HL 15.1/SB 15.5-HL 15.5	GREEN ILLUMINATED 3-POSITION SELECTOR "24VAC/DC"	ZB4BK1333	SCHNEIDER
SB 11.1-HL 11.1/SB 11.4-HL 11.4/SB 11.7-HL 11.7	GREEN ILLUMINATED 3-POSITION SELECTOR "24VAC/DC"	ZB4BK1533	SCHNEIDER
HL 14.5	LAMP L MT N 24/240V CA ROSSO	SIR79613	SIRENA
HA 14.6	BUZZER BIP 92 24VAC/DC	SIR 42319	SIRENA

NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT S.p.A.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
PAGINA/Page: 30	SEGUE/Follow: 35	REV. 00	SCALA/Scale: 1:1 / FORMATO/Format: A4
			DISEGNO NR./Drawing nr. PTE102IMP065 - 013/E



NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
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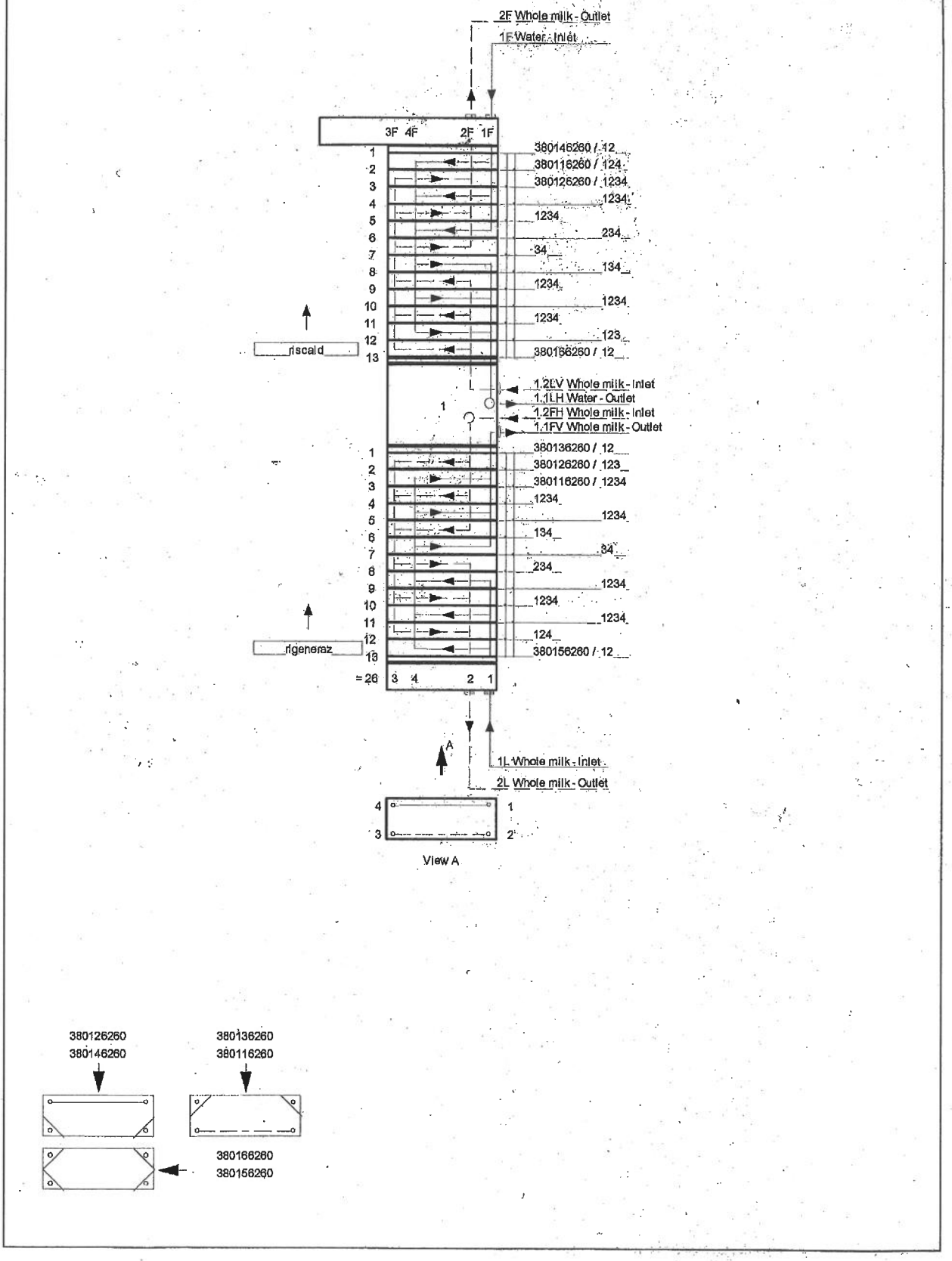

2F Whole milk - Outlet
1F Water - Inlet
3F 4F 2F 1F
1
2
3
4
5
6
7
8
9
10
11
12
13
380146260 / 12
380116260 / 124
380126260 / 1234
1234
1234
234
34
134
1234
1234
1234
123
380156260 / 12
riscald
1.2LV Whole milk - Inlet
1.1LH Water - Outlet
1.2FH Whole milk - Inlet
1.1FV Whole milk - Outlet
1
380136260 / 12
380126260 / 123
380116260 / 1234
1234
1234
134
34
234
1234
1234
1234
124
380156260 / 12
rigenerez
= 26
3 4 2 1
A
1L Whole milk - Inlet
2L Whole milk - Outlet
4
3
1
2
View A
380126260
380146260
380136260
380116260
380166260
380156260

A-Max: 147 mm
A-Min: 146 mm

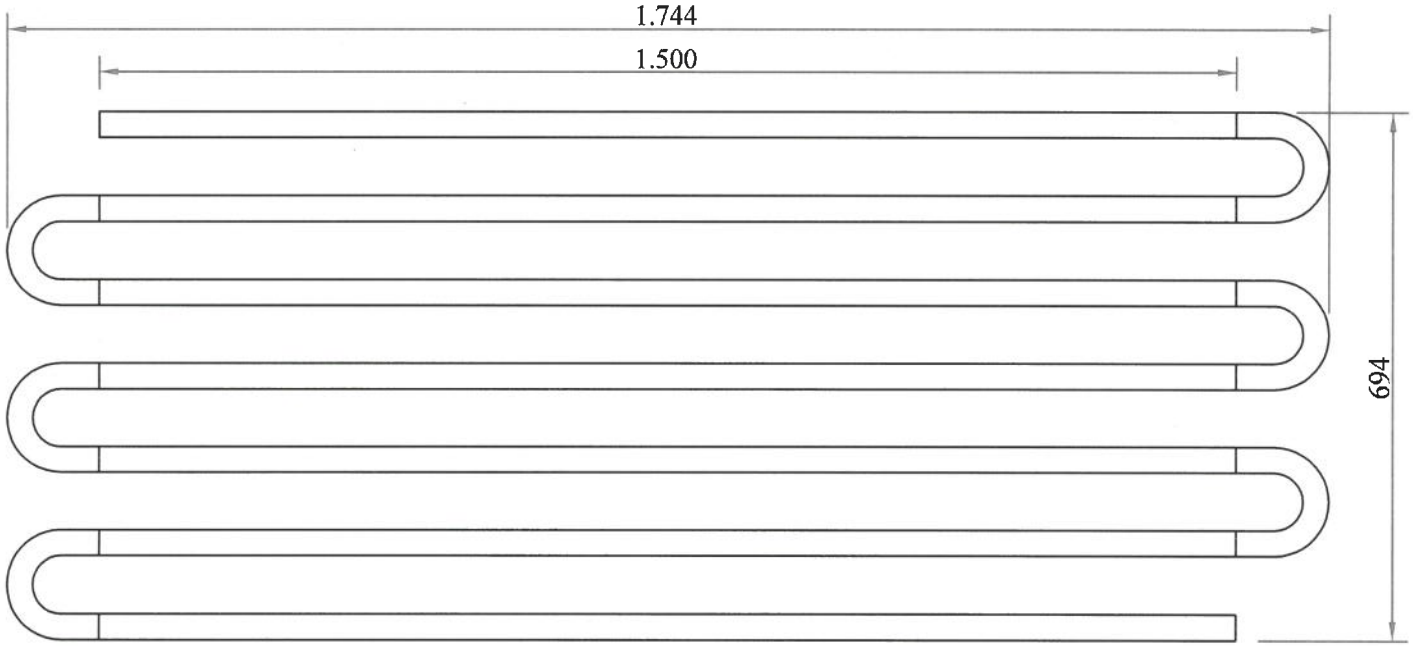
Design Pressure Min (pri/sec):	0,00	0,00 barg
Design Pressure Max (pri/sec):	6,00	6,00 barg
Design Temperature Min (pri/sec):	0,00	0,00 °C
Design Temperature Max (pri/sec):	73,00	73,00 °C
Test Pressure (pri/sec):	7,80	7,80 barg

Section: riscald
Plates: 13 NT50M H, AISI316L, 0,60 mm, NBR
Gasket: glueless
Internal flow: Primary: 2 x 3 Secondary: 2 x 3
Temperature program: 2,00 m³/h Water from 73,00 °C to 57,76 °C
1,00 m³/h Whole milk from 39,90 °C to 72,00 °C

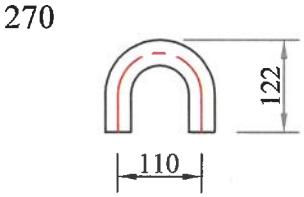
Section: rigeneraz
Plates: 13 NT50M H, AISI316L, 0,60 mm, NBR
Gasket: glueless
Internal flow: Primary: 2 x 3 Secondary: 2 x 3
Temperature program: 1,00 m³/h Whole milk from 72,00 °C to 35,41 °C
0,55 m³/h Whole milk from 4,00 °C to 69,27 °C

REV. N°	DESCRIZIONE	DATA REV.	Firma d'ispezione

Modello :	PTE 10/2	
Portata :	1.000 l/h	
Fluido :	Latte	
Piastra :	NT 50	n° 26
Cliente :	PAOLELLA	
Matricola :	646/15	
Serraggio :	Min. 147	Max.146



MATERIALE: Tubo Ø34x1.5 AISI 304	
PORTATA:	1000 l/h
LUNGHEZZA:	10000 mm
TEMPO DI SOSTA:	20 secondi



1				
N°	DESCRIZIONE	DIMENSIONI	MATERIALE	Q.TA'

DISEGNATORE	CONTR. / APPROVATO	DATA EMISSIONE
F. Filippo	C. Mari	16/04/2009

Per tolleranza non indicata: RIFERIRSI NORMA UNI 7226

TITOLO

PASTORIZZATORE 1000 l/h
2 SEZ NC PT10/2

Le quote sono espresse in millimetri.

DESCRIZIONE

SCHEDA TECNICA SOSTA TUBOLARE

SCALA	SCALA
/	A4

REV.	DISEGNO N°
00	PASTNC000102-004

PTE10/2 CEE

SCHEMA ELETTRICO
WIRING DIAGRAM - ELEKTROSCHEMA

CLIENTE/CUSTOMER
MOZZARELLA PAOLELLA GMBH

La TECNOLAT spa declina ogni responsabilità in caso di mancanza o non idoneità dell'impianto di terra del caseificio e di relativo collegamento alla morsettiera della macchina TECNOLAT.

TECNOLAT spa does not accept responsability if in the dairy industries there is not a correct earth apparatus or their connection to the machine terminal board are not proper.

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso ci trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
QUADRO/Pannel: KQ01	COMM./Job: TE/15/0065		
HOME PAGE		SCALA/Scale: 1:1	FORMATO/Format: A4
	REV. 00	DISEGNO NR./Drawing nr. PTE1021MP065 - 001/E	

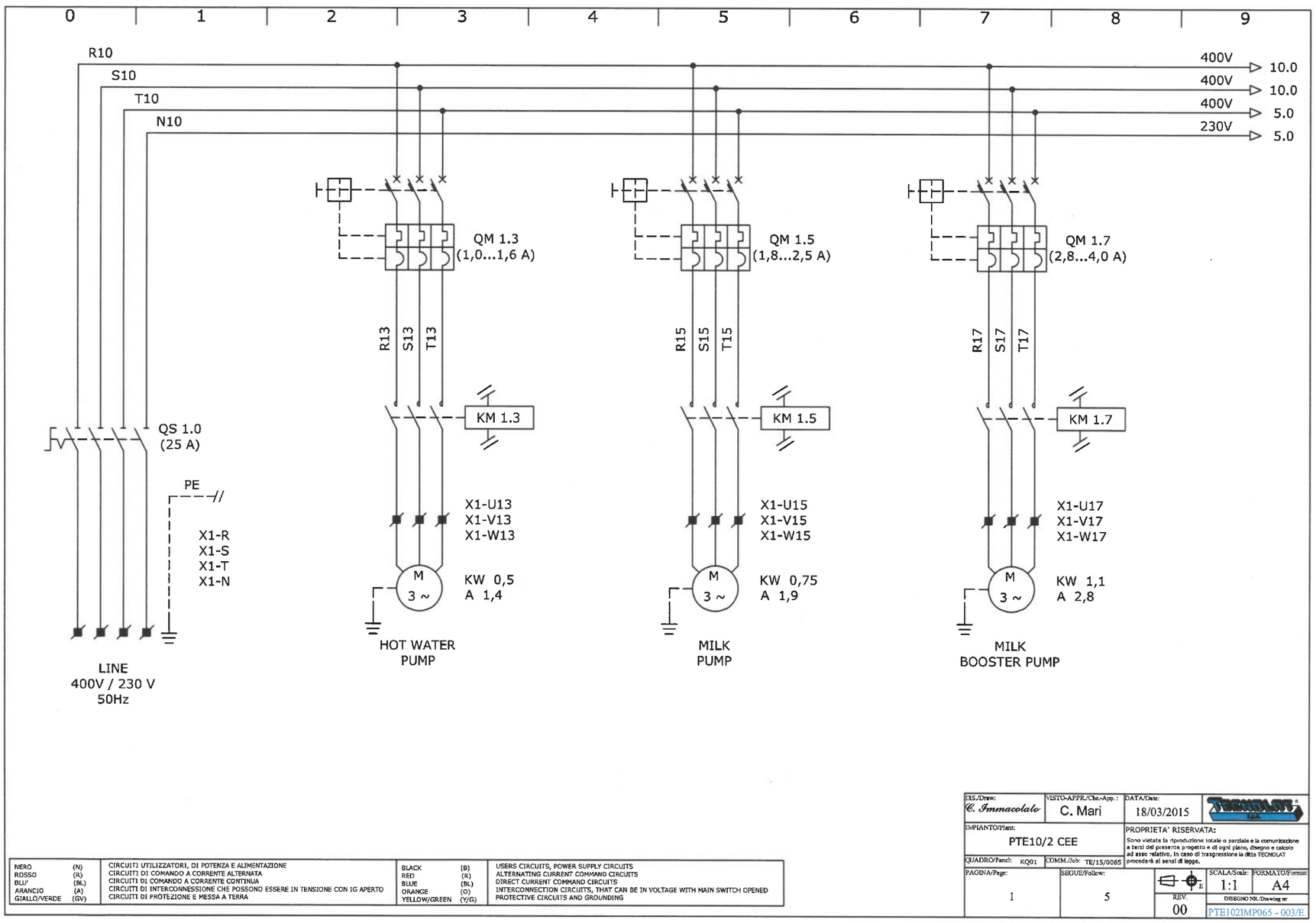
INFORMAZIONI PER L' INSTALLAZIONE
INFORMATION FOR THE CONNECTION

POTENZA NOMINALE RATED POWER	3	kW	INTERRUTTORE CONSIGLIATO REQUIRED MAIN SWITCH	AUTOMATIC DIFFERENTIAL MAGNETOTHERMIC 10A 30mA
TENSIONE DI ALIMENTAZIONE SUPPLY VOLTAGE	400/230	V	CAVO DI ALIMENTAZ. CONSIGLIATO REQUIRED SUPPLY CABLE	5G2,5 mm²
FREQUENZA NOMINALE RATED FREQUENCY	50	Hz	MACCHINA MACHINE	PT10/2 CEE
ASSORBIMENTO INPUT CURRENT	7	A	MATRICOLA MACCHINA MACHINE SERIAL NUMBER	*/2015
NUMERO DI FASI NUMBER OF PHASES	3 PHASES + N + PE		NUMERO SCHEMA DIAGRAM NUMBER	PTE102IMP065

N.B. In rispetto alla Normativa vigente,la protezione contro i contatti indiretti sulla macchina deve essere realizzata con interruttore automatico differenziale inserito a monte del cavo di alimentazione e con un efficace collegamento al conduttore di protezione PE .

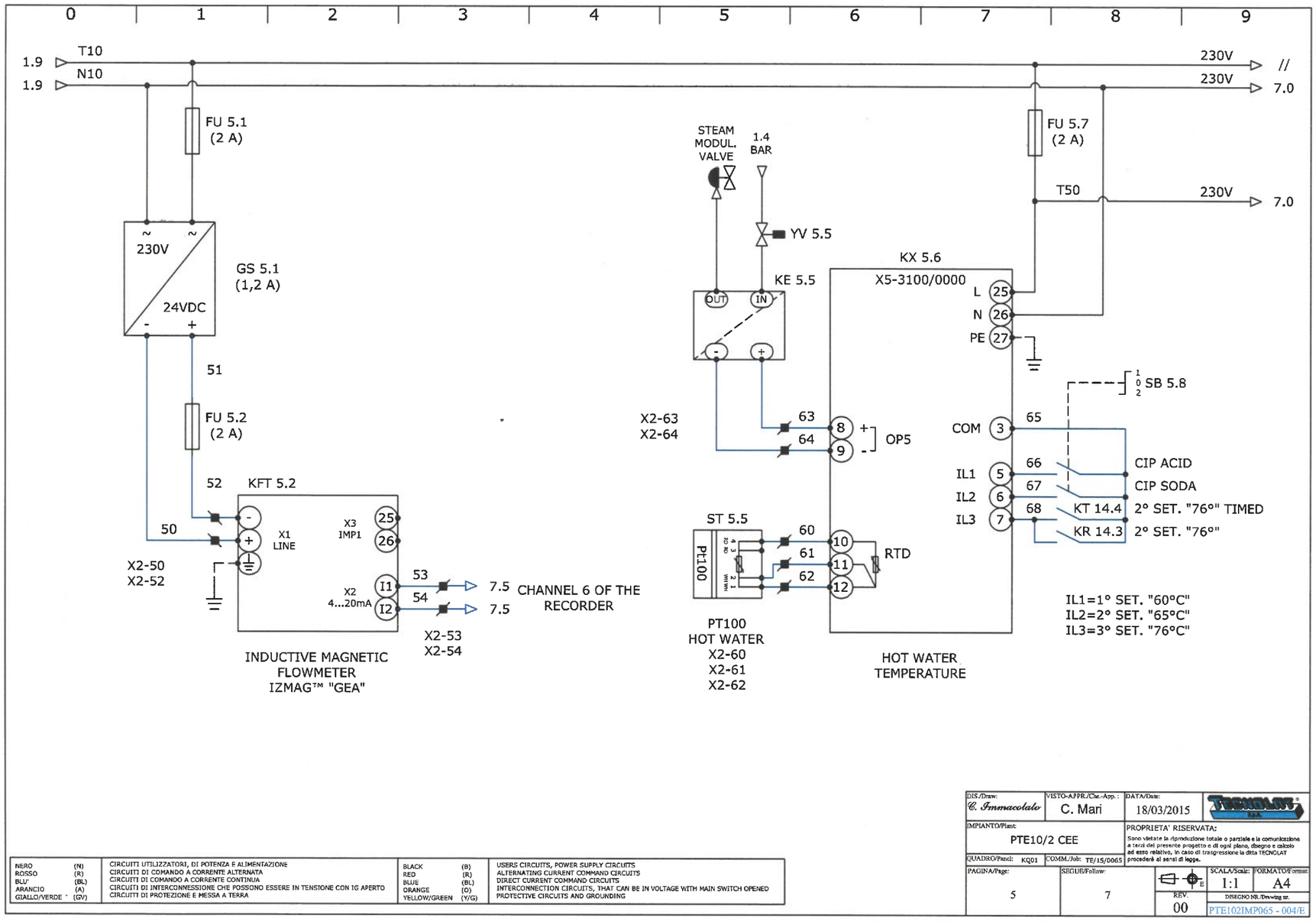
N.B. According to IEC Standards the protection for indirect contact on the machine must be made with differential switch inserted before the supply cable and with a good earth apparatus.

ELS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT S.r.l.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo. In caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
INFORMATION FOR THE CONNECTION		SCALA/Scale: 1:1	FORMATO/Format: A4
	REV. 00	DISEGNO NR./Drawing nr. PTE102IMP065 - 002/E	



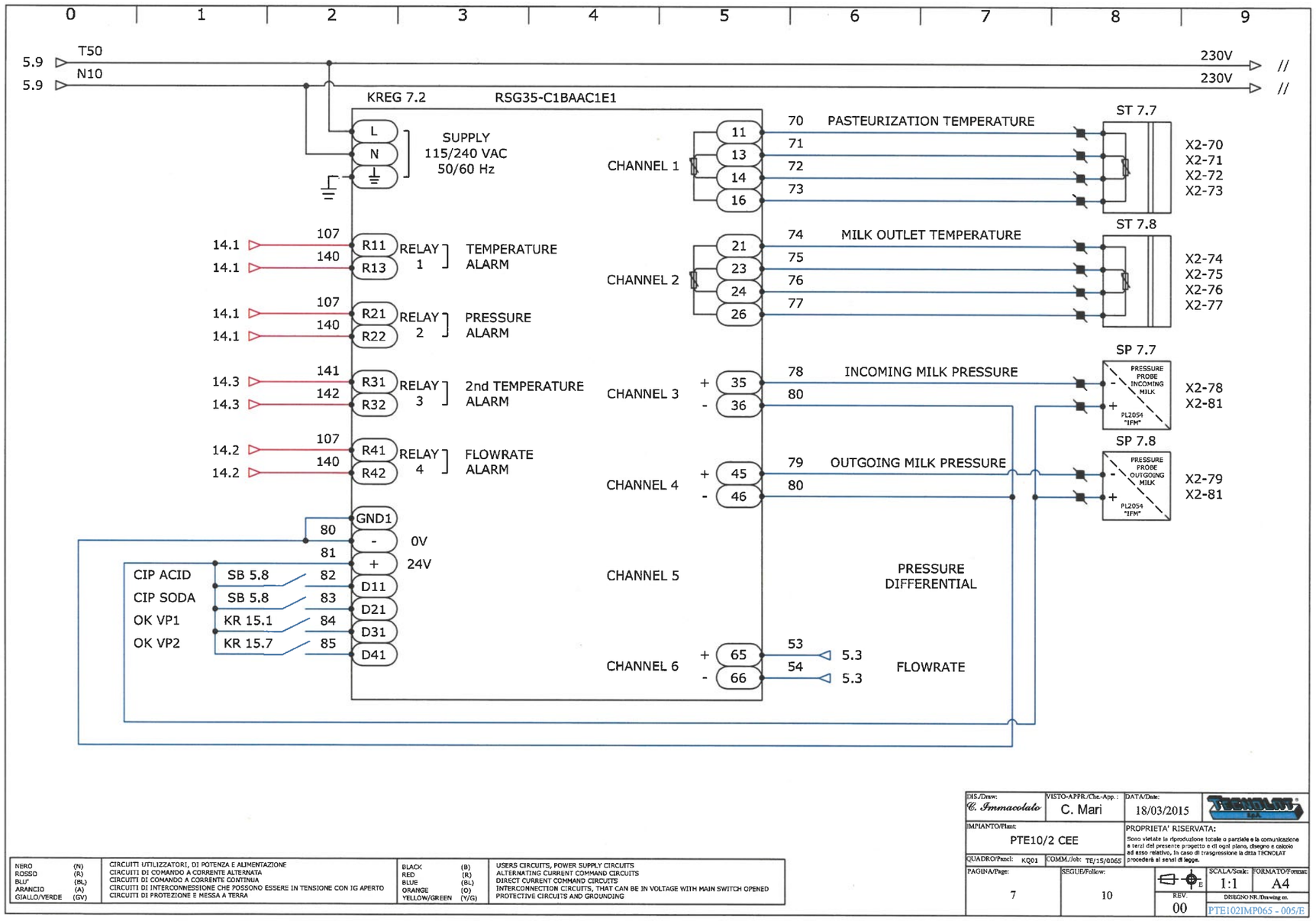
NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Drew: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT S.r.l.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo. In caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
PAGINA/Page: 1	SEGUE/Follow: 5	REV. 00	SCALA/Scale: 1:1 — FORMATO/Format: A4
			DISEGNO NR./Drawing nr.: PTE102IMP065 - 003/E



NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAV S.r.l.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAV procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
PAGINA/Page: 5	SEGUE/Follow: 7	REV. 00	SCALA/Scale: 1:1 — FORMATO/Format: A4
			DISEGNO NR./Drawing nr.: PTE102IMP065 - 004/E



NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(V/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT
IMPIANTO/Plant: PTE10/2 CEE	PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.		
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
PAGINA/Page: 7	SEGUE/Follow: 10	REV. 00	SCALA/Scale: 1:1 / FORMATO/Format: A4
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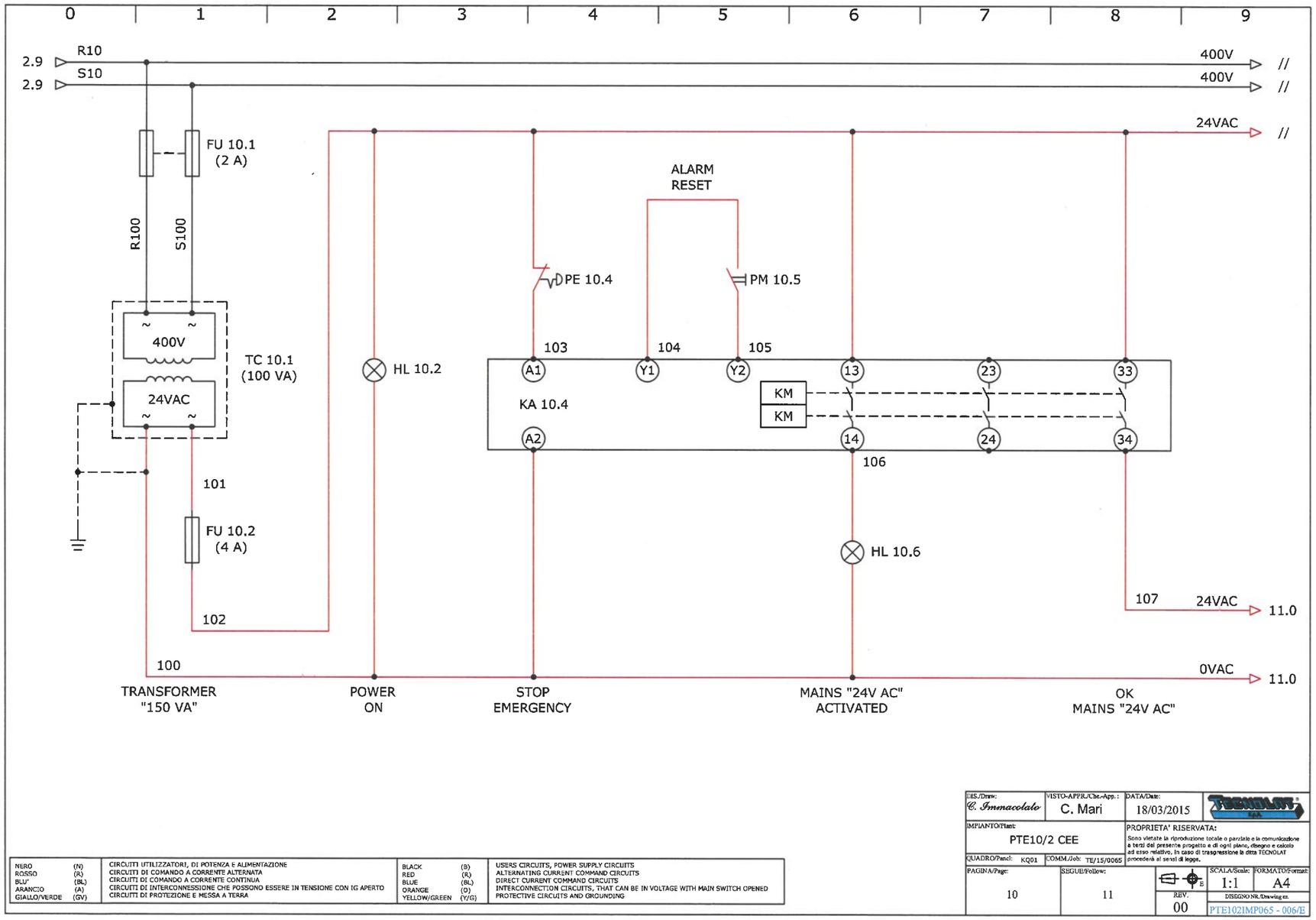

NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Chc-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT S.r.l.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo. In caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
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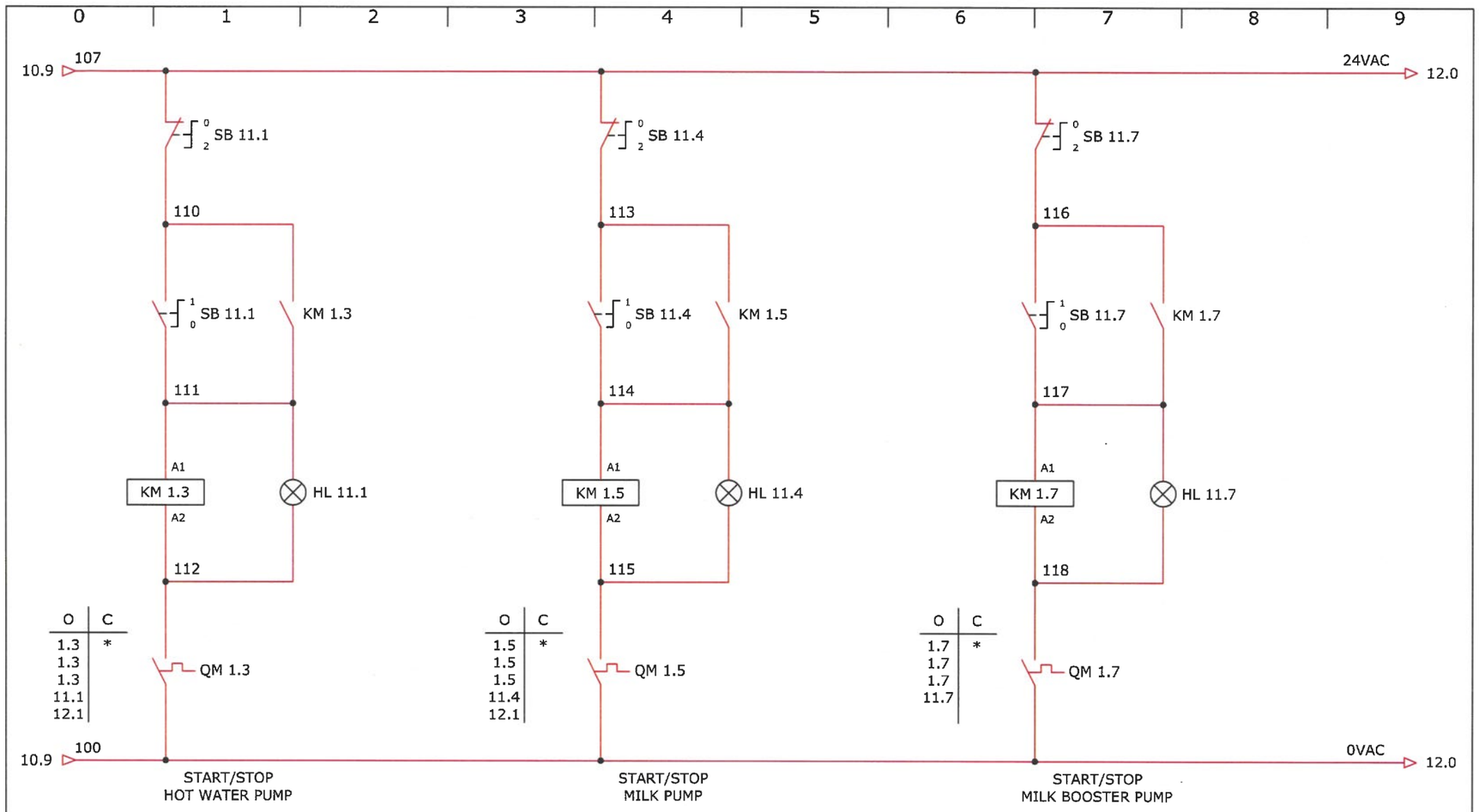
			DISEGNO NR./Drawing nr.: PTE102IMP065 - 006/E



NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Chc.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
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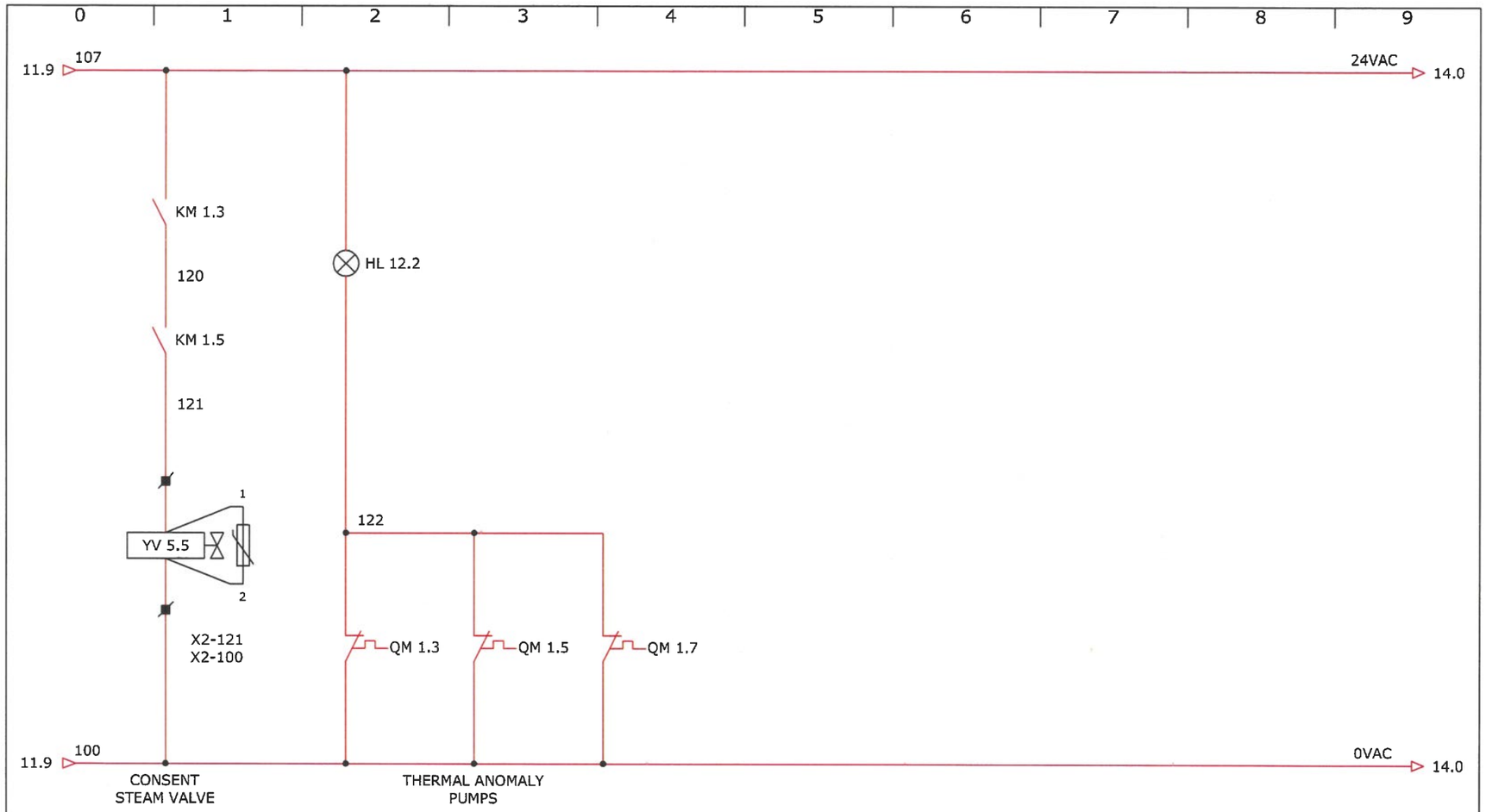
			DISEGNO NR./Drawing nr.: PTE102IMP065 - 007/E



NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT S.r.l.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
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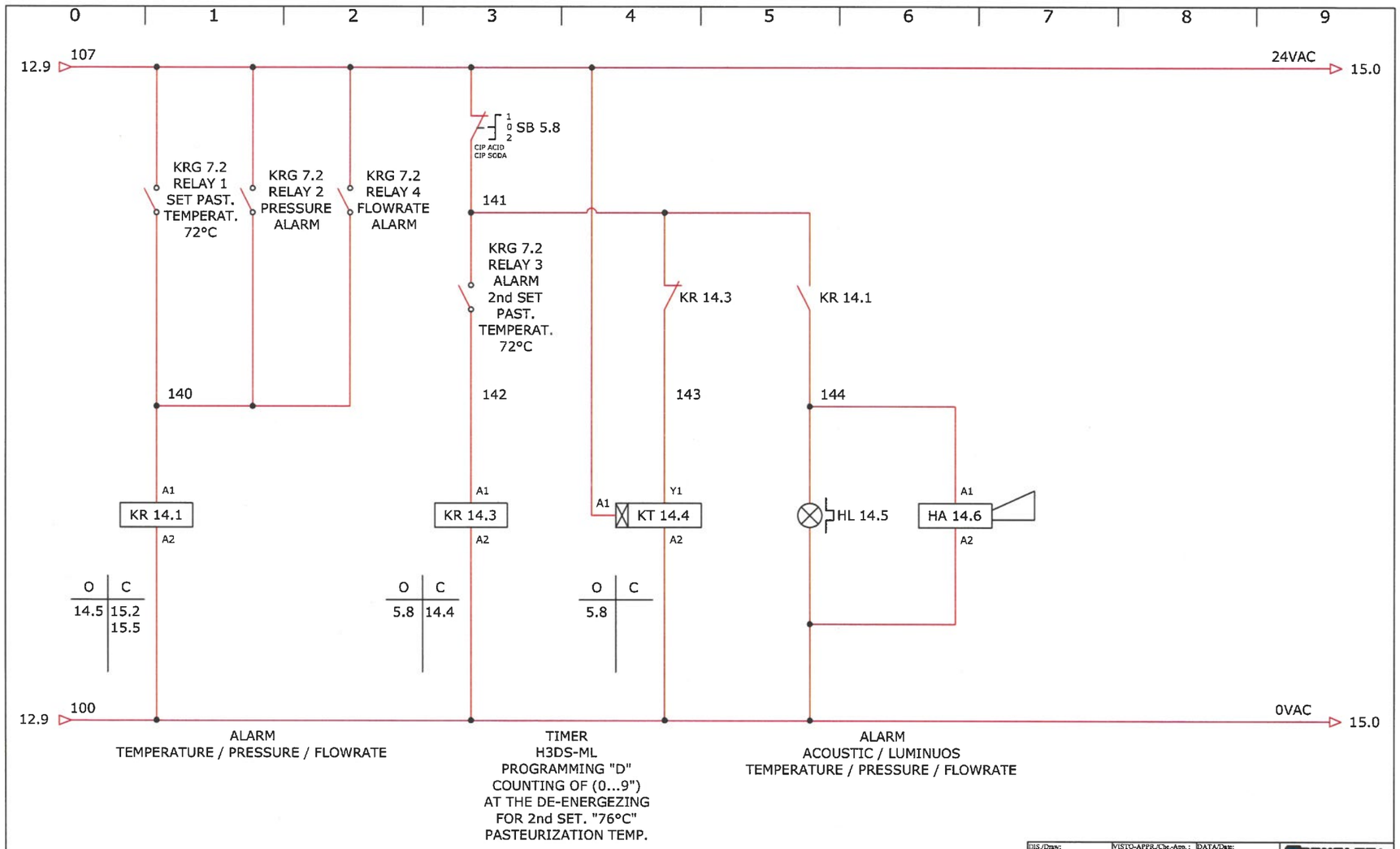
			FORMATO/Format: A4
			DISEGNO NR./Drawing nr. PTE1021MP065 - 008/E



NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT	
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo. In caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.		
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065			
PAGINA/Page: 14	SEGUE/Follow: 15	REV. 00	SCALA/Scale: 1:1	FORMATO/Format: A4
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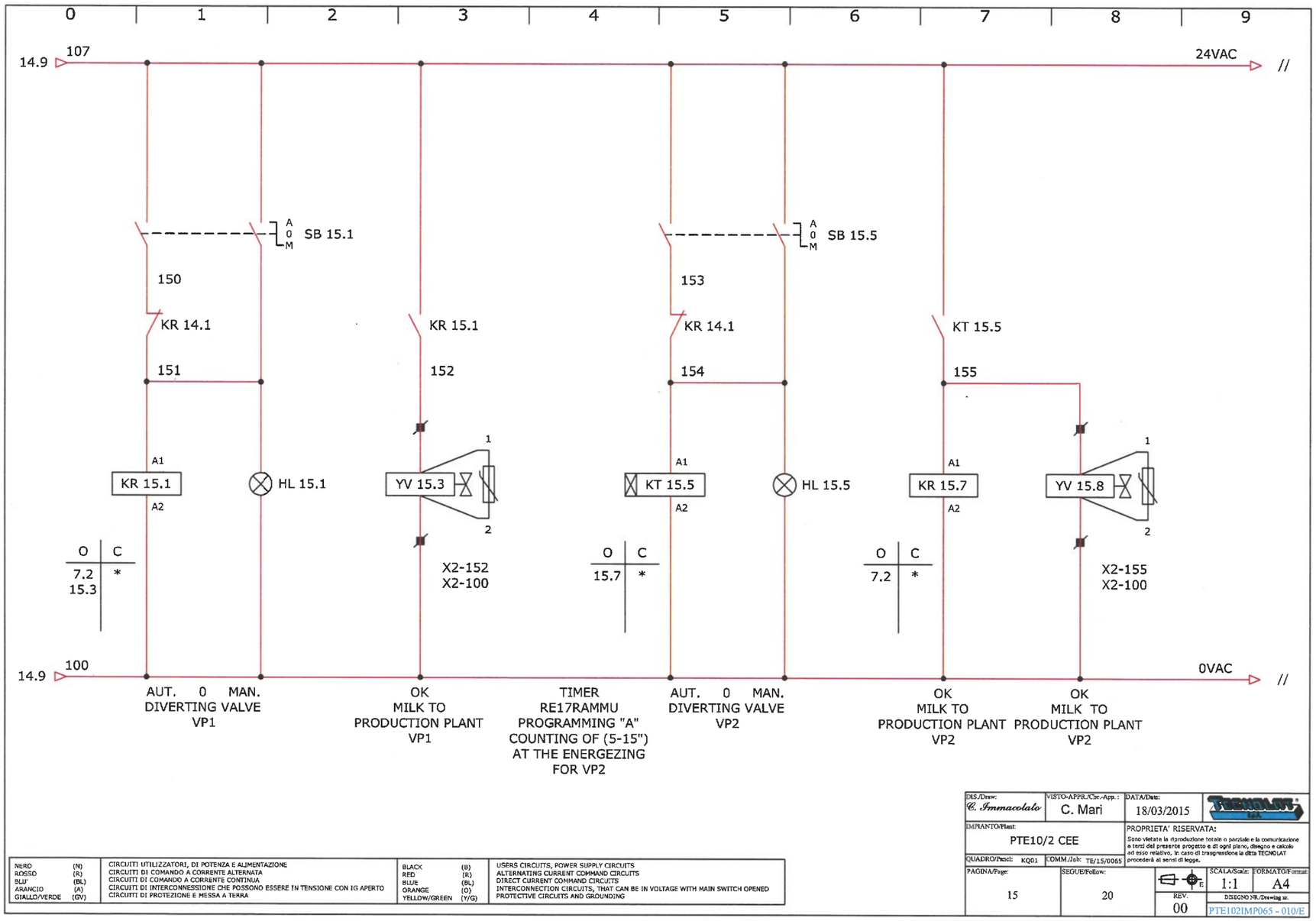
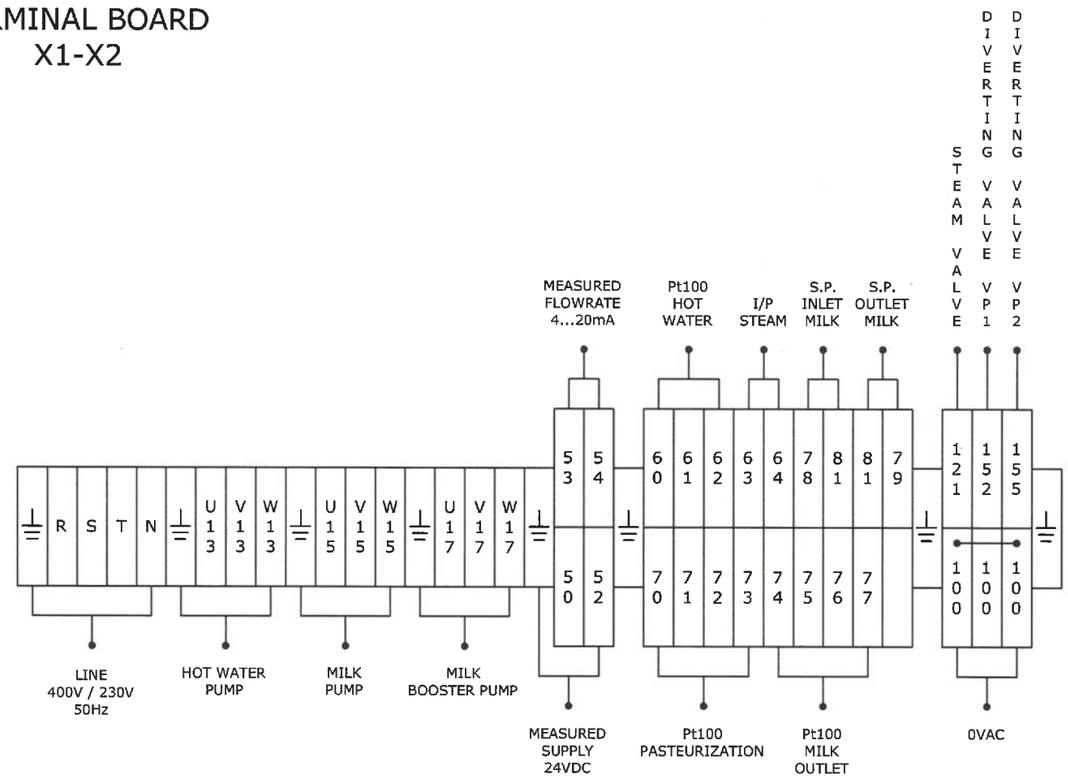


NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Drew: C. Immacolato	VISTO-APPR./Chc.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo. In caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
PAGINA/Page: 15	SEGUE/Follow: 20	REV. 00	SCALA/Scale: 1:1 — FORMATO/Format: A4
			DISEGNO NR./Drawing nr.: PTE102IMP065 - 010/E

0 1 2 3 4 5 6 7 8 9

TERMINAL BOARD
X1-X2

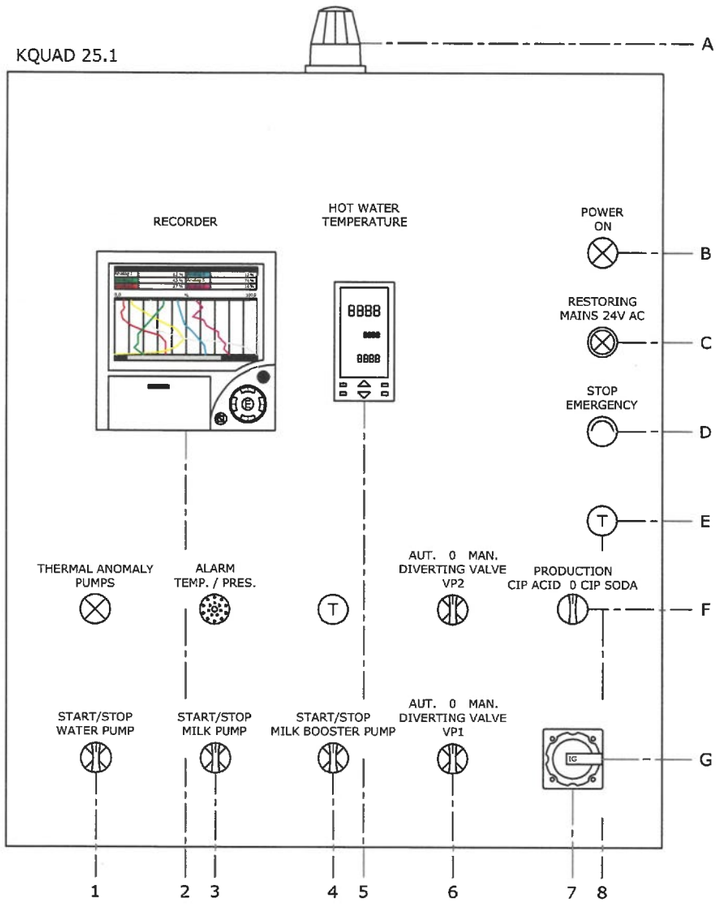


NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT S.r.l.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo. In caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
PAGINA/Page: 20	SEGUE/Follow: 25	REV. 00	SCALA/Scale: 1:1 — FORMATO/Format: A4 — DISEGNO NR./Drawing nr. PTE102IMP065 - 011/E

0 1 2 3 4 5 6 7 8 9

CABINET



BUTTONS LIST

A4= Flashing	(HL 14.5)
B8= White Led	(HL 10.2)
C2= Recorder	(KREG 7.2)
C5= Temperature controller	(KX 5.6)
C8= White illuminated button	(PM 10.5 - HL 10.6)
D8= Mushroom emergency stop button	(PE 10.4)
E8= Cap Ø22	
F1= Yellow Led	(HL 12.2)
F3= Buzzer	(HA 14.6)
F4= Cap Ø22	
F6= Green 3-position selector	(SB 15.5 - HL 15.5)
F7= Green 3-position selector	(SB 5.8)
G1= Green 3-position selector	(SB 11.1 - HL 11.1)
G3= Green 3-position selector	(SB 11.4 - HL 11.4)
G4= Green 3-position selector	(SB 11.7 - HL 11.7)
G6= Green 3-position selector	(SB 15.1 - HL 15.1)
G7= Main switch	(QS 1.0)

NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Che-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT S.r.l.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
PAGINA/Page: 25	SEGUE/Follow: 30	REV. 00	SCALA/Scale: 1:1 — FORMATO/Format: A4 — DISEGNO NR./Drawing nr.: PTE1021MP065 - 012/E

0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9

DISTINTA MATERIALE / MATERIAL LIST

SIGLA / SYMBOL	DENOMINAZIONE / DENOMINATION	CODICE / CODE	MARCA / BRAND
KQUAD 25.1	STAINLESS STEEL CABINET AISI 304 (450X600X300)	AK456030	IRINOX
QS 1.0	3POLE SWITCH "25A"	3LD2113-OTK53	SIEMENS
QM 1.3	AUTOMATIC 3POLE SWITCH "1,0...1,6A"	3RV2011-1AA15	SIEMENS
QM 1.5	AUTOMATIC 3POLE SWITCH "1,8...2,5A"	3RV2011-1CA15	SIEMENS
QM 1.7	AUTOMATIC 3POLE SWITCH "2,8...4,0A"	3RV2011-1EA15	SIEMENS
KM 1.3/KM 1.5/KM 1.7	LINE CONTACTOR "4KW/24VAC"	3RT2016-1AB01	SIEMENS
FU 10.1	CYLINDRICAL FUSE BASE 2X32A "10,3x38"	3NW7023	SIEMENS
FU 5.1/FU 5.2/FU 5.7/FU 10.2	CYLINDRICAL FUSE BASE 1X32A "10,3x38"	3NW7013	SIEMENS
KTF 5.2	INDUCTIVE MAGNETIC FLOWMETER IZMAGTM	7626-032-100	GEA
KX 5.6	TEMPERATURE CONTROLLER	X5-3100/0000	ASCON
ST 5.5/ST 7.7/ST 7.8	THERMORESISTANCE Pt100 CLASS "A" Ø6X150mm	TRMP1A60150X	ITALCOPPIE
KE 5.5	ELECTROPNEUMATIC CONVERTER "4...20mA"-"0...15PSI"	IPC015	CONFLOW
YV 5.5/YV 15.3/YV 15.7	PILOT VALVE "10W/24VAC"	ULCRV/R02450-60	WAIRCOM
KREG 7.2	RECORDER	RSG35-C1BAAC1E1	ENDRESS+HAUSER
SP 7.7/SP 7.8	PRESSURE TRANSMITTER 4-20mA	PL2054	IFM
TC 10.1	TRANSFORMER 100VA "400V/24VAC"	TMS1K0.10	NEW CTA
GZ 5.1	STABILIZED SUPPLY "100-240V / 24VDC – 1,2A"	ABL8MEM24012	SCHNEIDER
KA 10.4	SAFETY RELAY "24VAC/DC"	XPSAC5121	SCHNEIDER
KR 14.1/KR 14.3/KR 15.1/KR 15.7	RELAY, 4 CO, 24VAC, WITH LED	RXM4AB2B7	SCHNEIDER
KT 14.4	TIMER 24VAC/DC-240VAC, 1 CO	H3DS-ML	OMRON
KT 15.5	TIMER 24VAC/DC-240VAC, 1 CO	RE17RAMMU	SCHNEIDER
T	CAP Ø 22	LOV8LM2TA130	LOVATO
HL 10.2	WHITE LED "24VAC/DC"	XB4BVB1	SCHNEIDER
HL 12.2	YELLOW LED "24VAC/DC"	XB4BVB5	SCHNEIDER
PE 10.4	MUSHROOM EMERGENCY STOP BUTTON	ZB4BS54	SCHNEIDER
PM 10.5-HL 10.6	WHITE ILLUMINATED BUTTON "24VAC/DC"	XB4BW31B5	SCHNEIDER
SB 5.8	3-POSITION SELECTOR	XB4BD33	SCHNEIDER
SB 15.1-HL 15.1/SB 15.5-HL 15.5	GREEN ILLUMINATED 3-POSITION SELECTOR "24VAC/DC"	ZB4BK1333	SCHNEIDER
SB 11.1-HL 11.1/SB 11.4-HL 11.4/SB 11.7-HL 11.7	GREEN ILLUMINATED 3-POSITION SELECTOR "24VAC/DC"	ZB4BK1533	SCHNEIDER
HL 14.5	LAMP L MT N 24/240V CA ROSSO	SIR79613	SIRENA
HA 14.6	BUZZER BIP 92 24VAC/DC	SIR 42319	SIRENA

NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	

BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS	
RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS	
BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS	
ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED	
YELLOW/GREEN	(V/G)	PROTECTIVE CIRCUITS AND GROUNDING	

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAB
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo. In caso di trasgressione la ditta TECNOLAB procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
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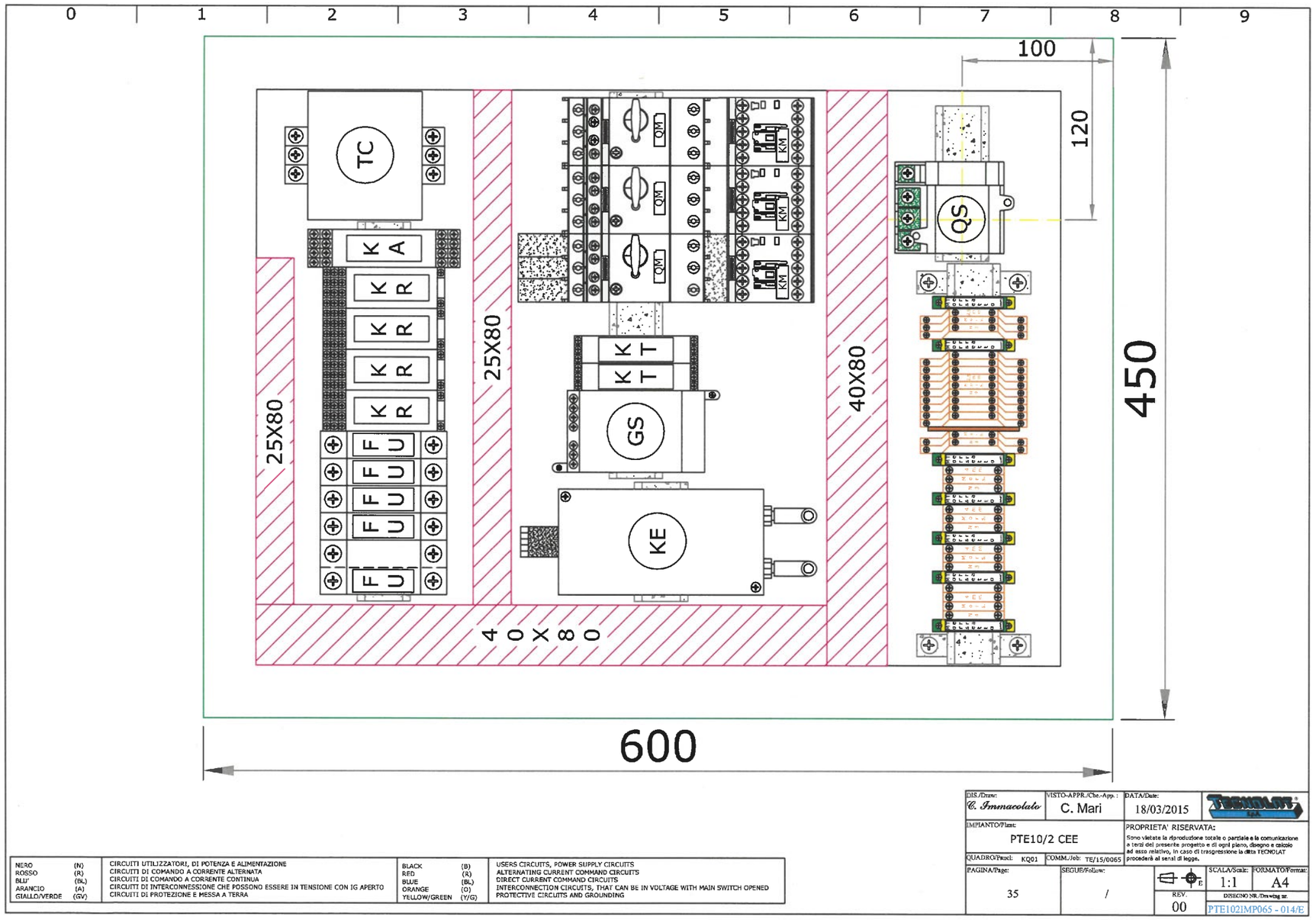

NERO	(N)	CIRCUITI UTILIZZATORI, DI POTENZA E ALIMENTAZIONE	BLACK	(B)	USERS CIRCUITS, POWER SUPPLY CIRCUITS
ROSSO	(R)	CIRCUITI DI COMANDO A CORRENTE ALTERNATA	RED	(R)	ALTERNATING CURRENT COMMAND CIRCUITS
BLU'	(BL)	CIRCUITI DI COMANDO A CORRENTE CONTINUA	BLUE	(BL)	DIRECT CURRENT COMMAND CIRCUITS
ARANCIO	(A)	CIRCUITI DI INTERCONNESSIONE CHE POSSONO ESSERE IN TENSIONE CON IG APERTO	ORANGE	(O)	INTERCONNECTION CIRCUITS, THAT CAN BE IN VOLTAGE WITH MAIN SWITCH OPENED
GIALLO/VERDE	(GV)	CIRCUITI DI PROTEZIONE E MESSA A TERRA	YELLOW/GREEN	(Y/G)	PROTECTIVE CIRCUITS AND GROUNDING

DIS./Draw: C. Immacolato	VISTO-APPR./Che.-App.: C. Mari	DATA/Date: 18/03/2015	TECNOLAT S.p.A.
IMPIANTO/Plant: PTE10/2 CEE		PROPRIETA' RISERVATA: Sono vietate la riproduzione totale o parziale e la comunicazione a terzi del presente progetto e di ogni piano, disegno e calcolo ad esso relativo, in caso di trasgressione la ditta TECNOLAT procederà ai sensi di legge.	
QUADRO/Panel: KQ01	COMM./Job: TE/15/0065		
PAGINA/Page: 35	SEGUE/Follow: /	REV. 00	SCALA/Scale: 1:1 — FORMATO/Format: A4 — DISEGNO NR./Drawing nr. PTE102IMP065 - 014/E